THE ARCHITECTS' JOURNAL

standard contents

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

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THE ARCHITECTURAL PRESS
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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/. . 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. 11, Gower Street, W.C.1.	Museum 9200
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	MARS 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's 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.	Abbey5111
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. 14, Moorgate, London, E.C.2.	Central 4444
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
TGC	The Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 69, Cannon Street, E.C.4.	City 4444
WDC	War Damage Commission. Devonshire House, Mayfair Place, Piccadilly, W.1.	Mayfair 8866
WEDA	Welfare Equipment Development Association. 74, Victoria St., S.W.1.	Victoria 5783
ZDA	Zinc Development Association. Lincoln House, Turl Street, Oxford.	Oxford 47988

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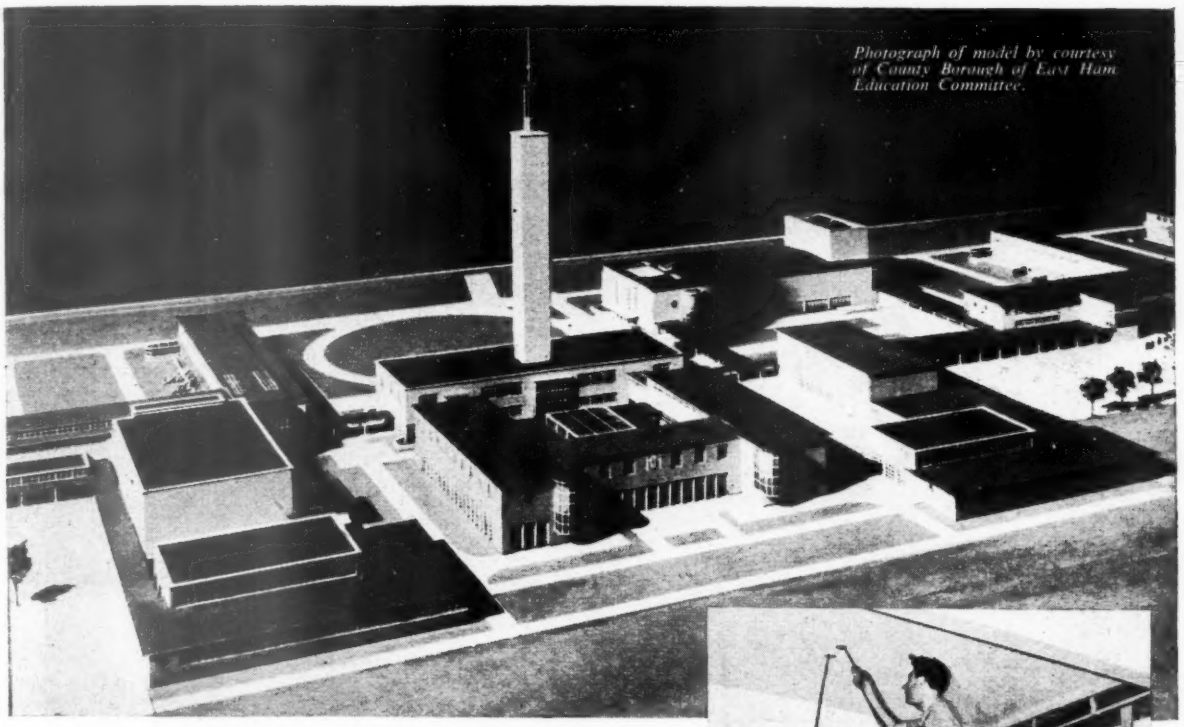
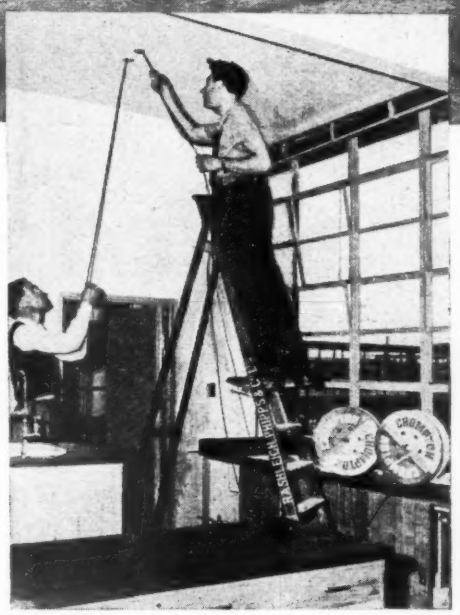
EAST HAM SCHOOLS PROJECT

takes 70 miles of Crompton Cable



Photograph of model by courtesy of County Borough of East Ham Education Committee.



This fine modern schools scheme designed for the East Ham Education Authority comprises three Secondary Schools for a total of 1,700 pupils, central administration block, dining rooms and kitchen.

For the electrical installation in this major building project, 70 miles of Crompton rubber cable are to be used in addition to 5,000 yards of Crompton paper insulated cable. Crompton lamps, fluorescent tubes and lighting fittings are also being supplied.

More and more leading contractors are specifying Crompton cable for every kind of scheme because its consistent quality means easier, quicker wiring.

The schools were designed in the department of the Borough Engineer & Surveyor, Mr. F. C. Ball, B.Sc., A.M.Inst.C.E., Chief Assistant Architect, Mr. J. W. Taylor, A.R.I.B.A., General Contractors, W. & C. French, Ltd. Consultant for mechanical and engineering services, E. Wingfield Bowles & Partners. Electrical Installation by Rashleigh Phipps & Co., Ltd.

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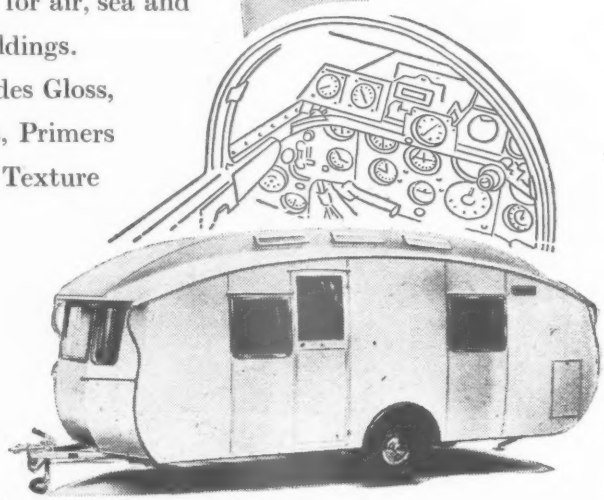

CERRUX

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CVS-724

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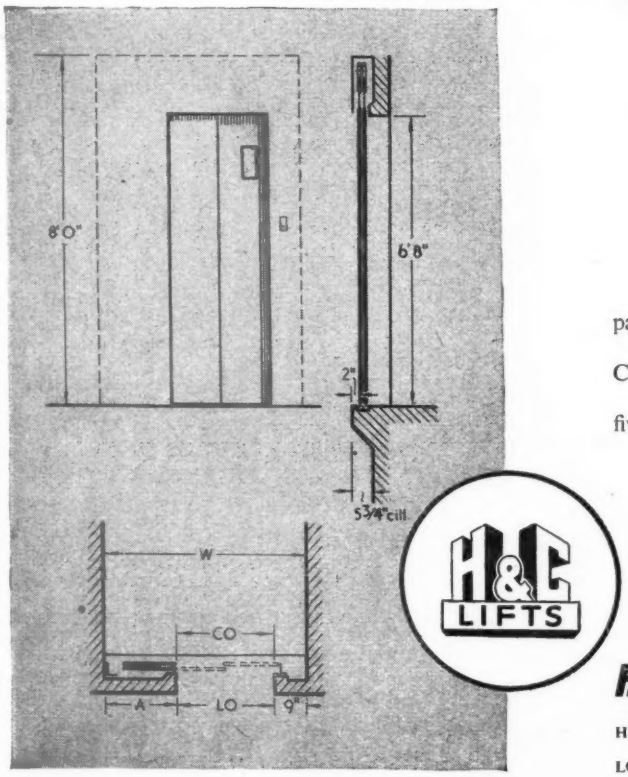
OXFORD STREET,
LONDON, W.1.

LIFTS FOR A SHOE STORE

Architects: Lewis Solomon & Son, F.F.R.I.B.A.
Consulting Architect: Michael Egan, A.R.I.B.A., A.A. Dipl.



A two speed H. & C. passenger lift has been installed for the Saxone Shoe Company in their Oxford Street premises. The lift serves five floors and is fitted with full automatic push-button control. Two speed sliding doors to the landings provide a wide entrance in proportion to the well width and are quiet and swift in operation.

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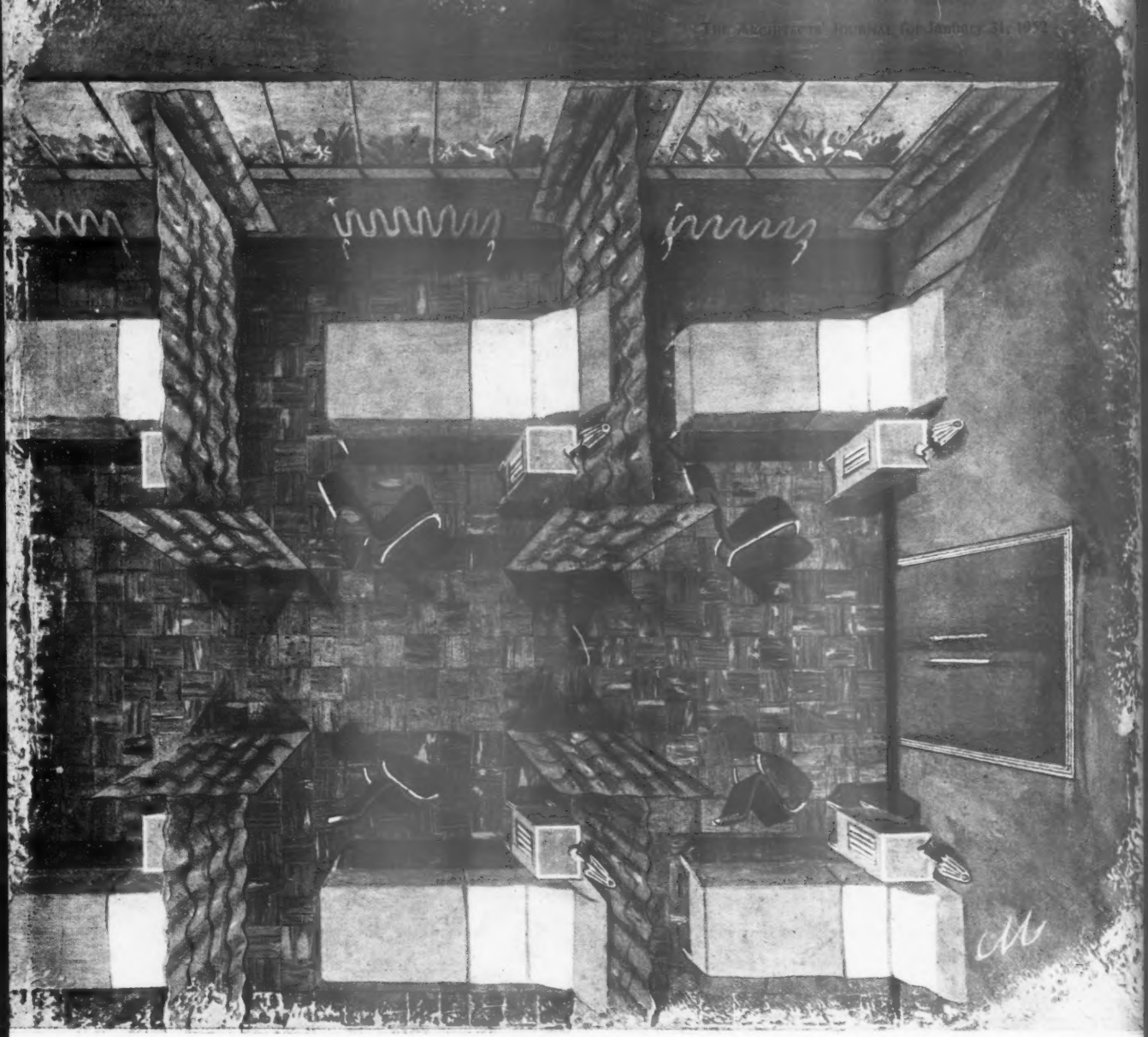
HEAD OFFICE & WORKS: GNOME HOUSE, BLACKHORSE LANE, LONDON, E.17. Telephone: LARkswood 1071



Design for a floor in a Hospital Ward · *From the original Collage by* R. MYERSCOUGH-WALKER

In Hospitals, and all places where cleanliness is of first importance, Marley Floor Tiles provide the ideal flooring. They are quiet, non-slippery, resilient, durable, hygienic, waterproof and easy to clean. The wide range of colours permits the carrying out of colour schemes previously impracticable in Hospital work.

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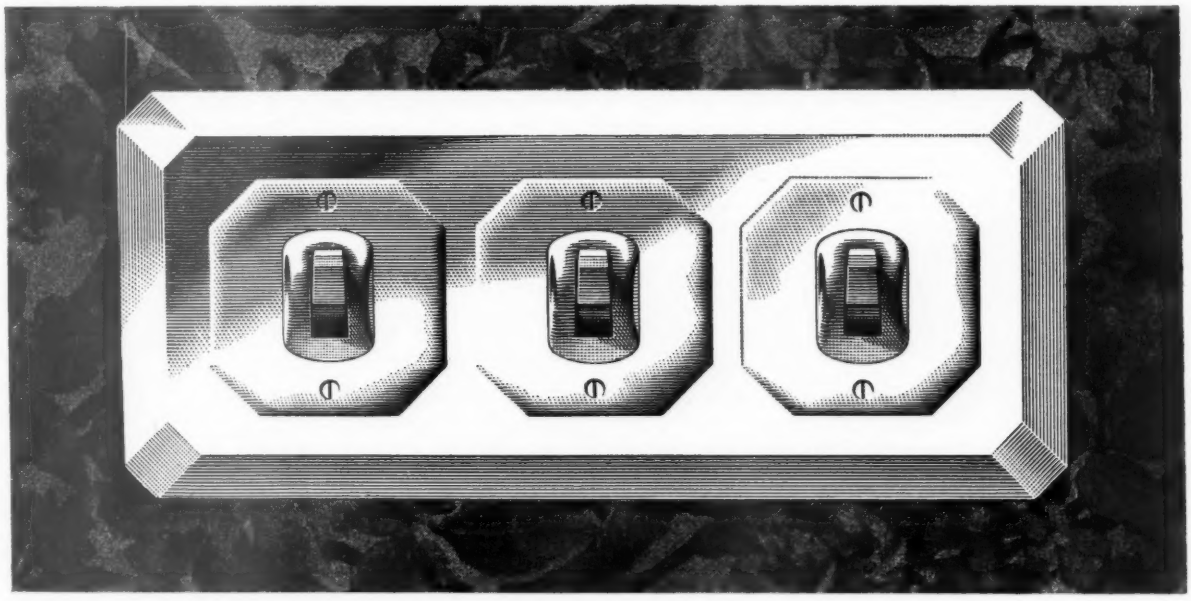

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Switch, fuse and motor control gear, electric fires and localised lighting equipment

Send for list with full details of the range: 5 amps, 250 volts, one and two way, surface, semi-recessed and flush mounting—also flush plates and wood and iron boxes.

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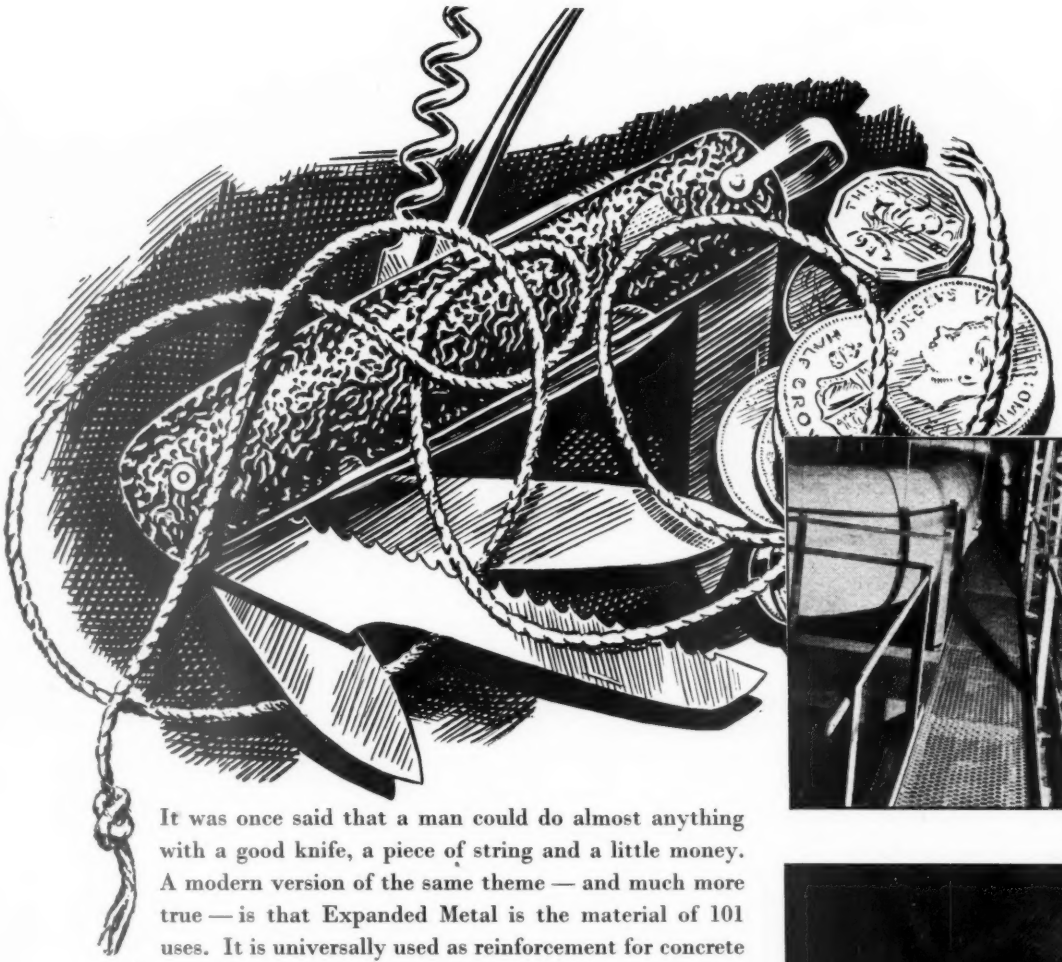
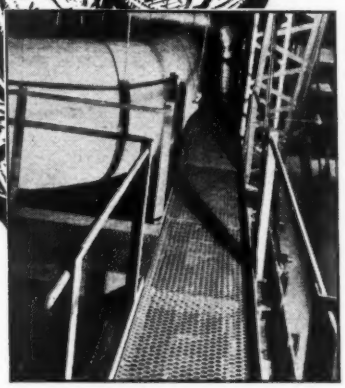
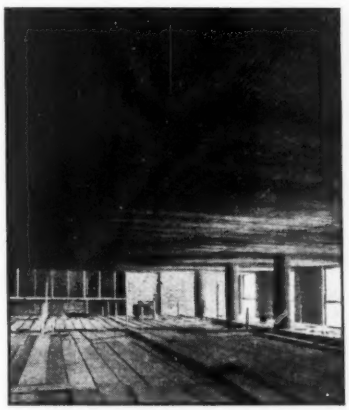
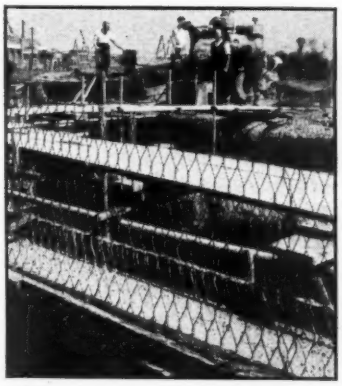
Branches in London and Manchester









It was once said that a man could do almost anything with a good knife, a piece of string and a little money. A modern version of the same theme — and much more true — is that Expanded Metal is the material of 101 uses. It is universally used as reinforcement for concrete or lathing for plasterwork and it is equally successful as a decorative ceiling of colour-anodised Expanded Aluminium. From walkways to letter trays; reinforcement to décor; openwork partitions to loudspeaker grilles; bedlamps to guards for machinery — such diversity of use provides evidence of the hundred and one ways in which men take advantage of the remarkable adaptability of Expanded Metal.

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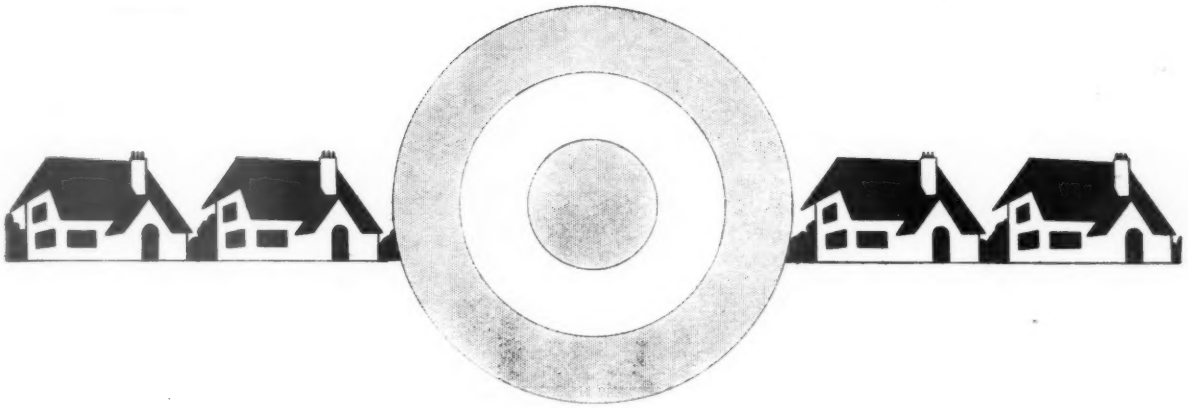
● *Photographs illustrate (Top) Expanded Metal walkways in the Royal Festival Hall. (Centre) "BB" Lathing ceiling at Bow Road Methodist Church, London. Architects: Messrs. Mauger & May, F/F.R.I.B.A. (Bottom) Reinforcement for concrete — Electricity Sub-station, Brentford, for the Southern Electricity Board.* (64)



BRITAIN'S NEW HOUSING TARGET

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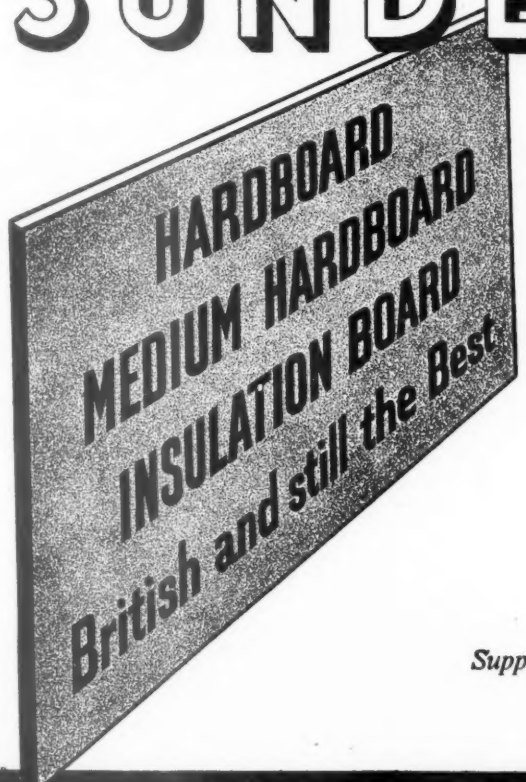

Entirely home-produced by the world's pioneer manufacturers of fibre building boards, Sundeala Boards are unsurpassed for every interior and exterior building need. Waterproofed throughout during manufacture, Sundeala will not deteriorate through exposure to damp, whilst its super-smooth surface will accept and retain any decorative finish. The Sundeala range includes Medium Hardboards, Hardboards, Ultra Hardboards, Insulation Boards, Flameproofed Boards & Metal Fixings, in an unequalled range of sizes and thicknesses.

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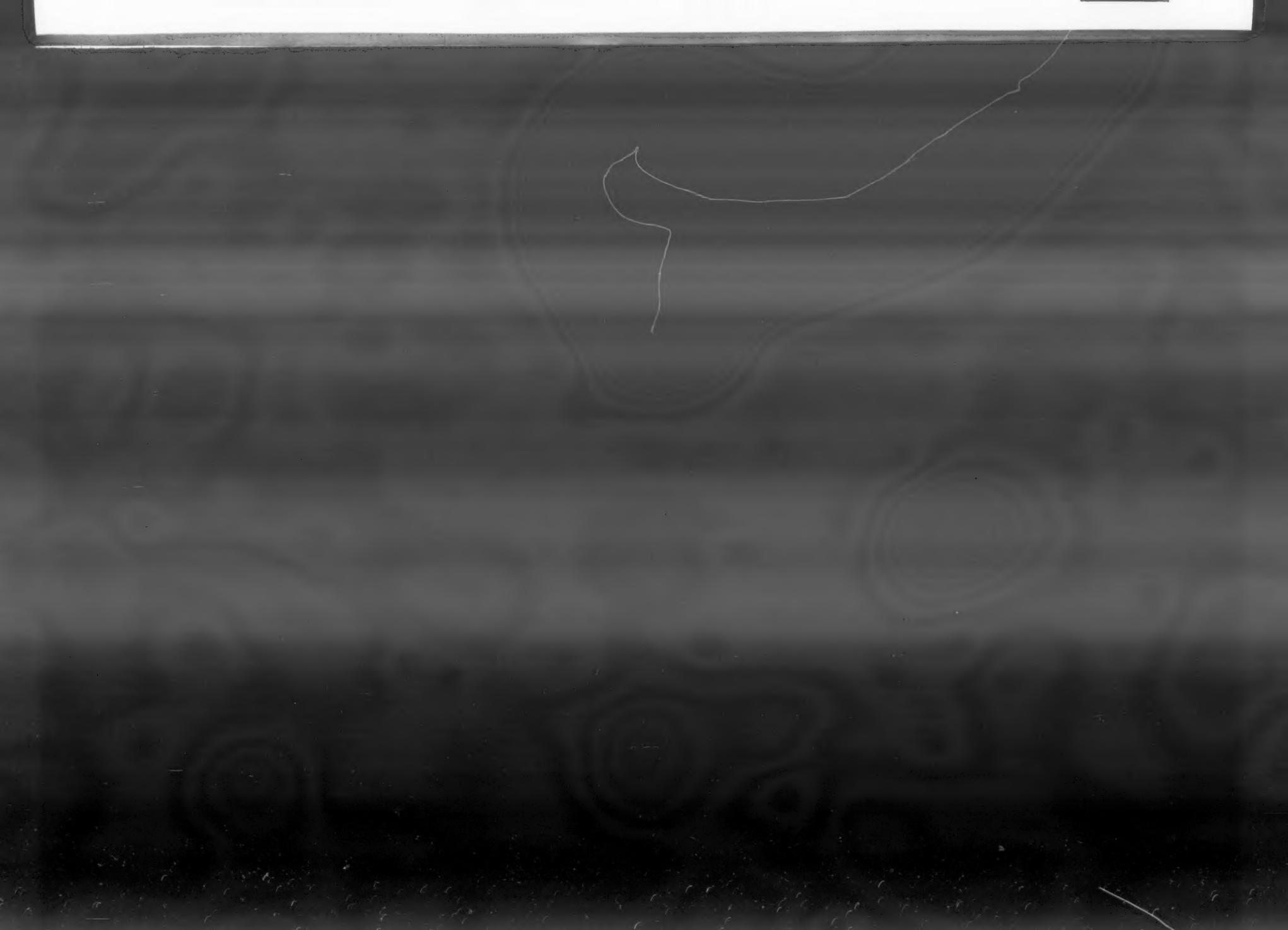
GLASGOW: BALTIC CHAMBERS · 50 WELLINGTON STREET C2 — NEWCASTLE-UPON-TYNE: NORTHUMBRIA HOUSE · PORTLAND TERRACE 2



"TURNALL"

REGD. TRADE MARK

Asbestos-Cement CAVITY DECKING

PAT. NO. 620012

LIGHT WEIGHT
IMPRESSIVE STRENGTH
DRY CONSTRUCTION
NON-CORRODIBLE

Providing in one operation
Roof Deck,
Ceiling and
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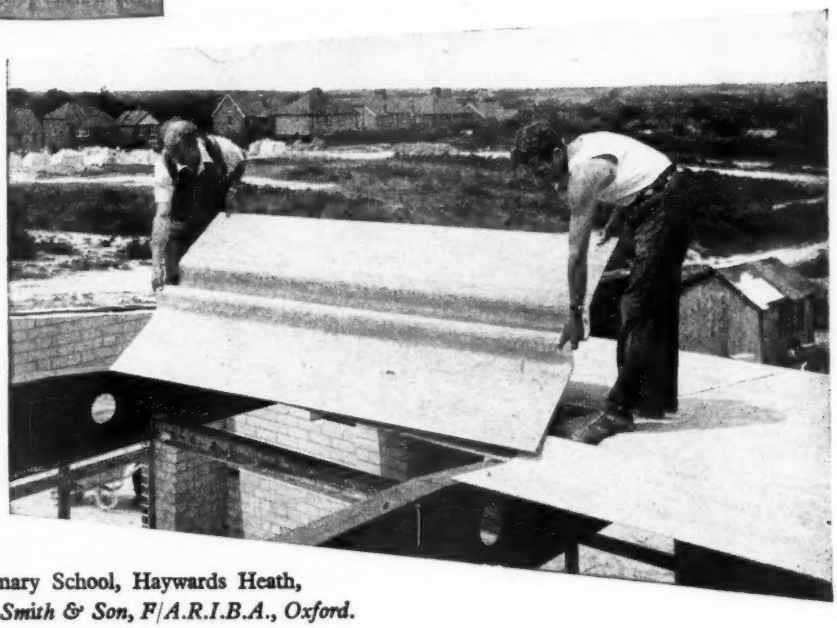
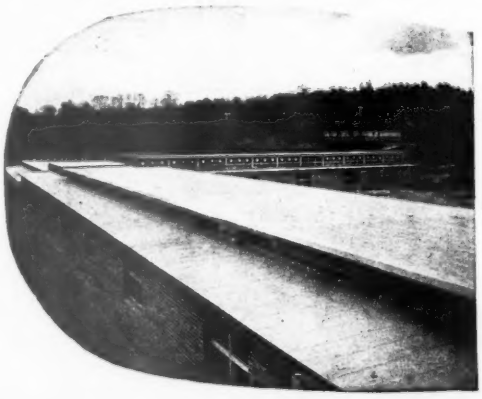


The illustrations emphasize the simplicity in erection and fixing of "TURNALL" Cavity Decking, and show the extensive flat roof system at St. Wilfreds's Voluntary Primary School, Haywards Heath, Sussex. *Architects : Harry W. Smith & Son, F/A.R.I.B.A., Oxford.*



Weight as laid 10·8 lb. per sq. ft.
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Supports at 8′ 0″ or 8′ 3″ centres.

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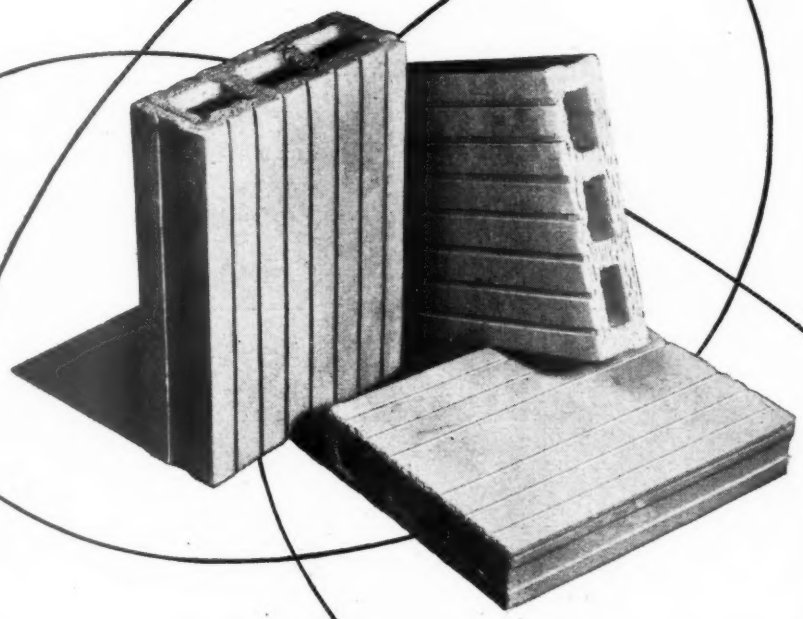

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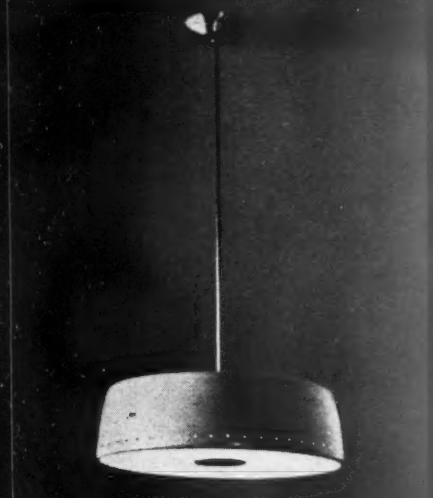
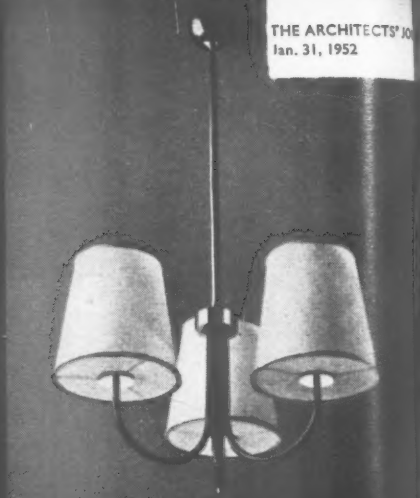
CELLACTITE BUILDING PRODUCTS

TAS/CL.421



F.830 PENDANT. Finishes: metal sides and ceiling plate, off-white; remainder, satin brass. Glass: white flashed opal. Lamps: 3 x 40 watts.

F.859 CEILING. Finishes: off-white with glass ring, gilt anodised aluminium. Bowl: peach or white Perspex. Dish: obscured rimpled glass. Lamp: 150 150 watts.



F.630B PENDANT. Dimensions: 16½ diameter x 26 overall. Finish: chromium. Shades: ivory or peach plastic. Lamps: up to 3 x 60 watts.

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F.673 WALL BRACKET. Dimensions: 10½ x 5 x 5 projection. Finish: chromium. Glass: white flashed opal. Lamp: 60 watts.

F.911 RECESSED CEILING. Finishes: reflector, anodised aluminium; glass support, off-white. Glass: obscured rimpled. Lamp: 200 watts.

F.595S WALL BRACKET. Dimensions: 9¾ diameter x 10 projection. Finish: brushed copper. Lamp: 100 watts.

Just as the labour of the individual tends to be overlooked in the work of the gang, so does the value of each separate bag of cement come to be forgotten in the broad conception of a finished job.

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'Grams: "Ketco, Sheffield"

K/8

THE KETTON PORTLAND CEMENT CO., LTD.
KETTON, Nr. STAMFORD

Illustration: Store of A. de Gruchy and Co. Ltd. *Architect: A. Nigel Biggar, A.R.I.B.A.* *Contractors: Charles Le Quesne Ltd.*

A new store in Jersey with 5,000 square yards of **MARBOLITH Composition Flooring**

MARBOLITH Composition Flooring was chosen for the floors and staircases because it was known to be satisfactory from the point of view of appearance, comfort under-foot and ease of cleaning. MARBOLITH is not cold or tiring to the feet and minimizes fatigue for staff and customers alike. It is particularly easy to keep clean as it takes equally kindly to dry or wet sweeping and needs no special treatment to maintain its attractive surface finish. It can be laid direct on to concrete subfloors, no screeding being necessary and there is a wide choice of plain or marbled colours. The Marbolith Flooring Company Limited offers a comprehensive flooring service, and is equipped to supply and fix, either itself or through its associated companies, almost any type of floor finish, including asphaltic tiles, cork, rubber, linoleum, clay tiles, terrazzo, marble, etc. For this reason it is able to advise without bias on all problems involving floor finishes.

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One of the Carter Group of Companies

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Estate Roads...'dirt cheap'!

The photograph shows a section of the roads recently completed by the Yiewsley and West Drayton U.D.C. on the Philpots Farm Housing Estate, West Drayton. The roads were constructed by *stabilising the naturally occurring brick earth and hoggin* to a depth of 6″ with 10% by weight of cement, employing the "mix-in-place" method. The soil-cement, surface dressed with tar and shingle, will carry all the builders' traffic. The method is both speedy and economical, 12,000 square yards having been completed in 15 working days at an approximate cost of 7/- per square yard. Kerbs and a 1″ gravel asphalt carpet will be added upon completion of the building operations. Observe the SISALKRAFT Prefabricated Curing Blankets used throughout for the curing and protection of these roads.

Photograph by kind permission of the Yiewsley and West Drayton U.D.C. (Engineer, Surveyor and Architect, W. T. Morgan, F.R.I.C.S., M.I.Mun.E., L.R.I.B.A.), Town Hall, West Drayton, Middlesex.

Such structures suggest

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AJ

THE ARCHITECTS' JOURNAL

No. 2970 31 JANUARY, 1952 VOL 115

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

Subscription rates: by post in the U.K. or abroad, £2 10s. 0d. per annum. Single copies, 1s.; post free, 1s. 3d. Special numbers are included in Subscriptions; single copies, 2s.; post free, 2s. 3d. Back numbers more than 12 months old (when available), double price. Half-yearly volumes can be bound complete with index in cloth cases for 25s. 0d.; carriage, 1s. extra.

HAIL FERRO AND FAREWELL

"The Minister has therefore decided that the total allocation of steel for buildings of this class during the year ending March, 1953, must not exceed . . . " (virtually nothing at all). One cannot bear to look at the original circular again, but that is the gist of it.

*

People little know what they do. That tiny group of officials with grave, kindly eyes and slightly fraying cardigans who, from the basement of MOS or MOW, drafted that circular, probably thought they were striking a blow for their country. At least we can be sure that not one of them realized they were running a bulldozer through the architectural æsthetics of a generation. Where are our multi-floors, big windows, canopies, cantilevers and panel walls? What use now is the already well thumbed pattern book of Mr. Gibberd's? All gone . . . during the run of a duplicating machine. The new empiricism has joined the old functionalism on the scrap-heap.

*

So far only certain classes of building have been pushed back into the non-ferrous age. (Some of the lucky exemptions can use steel as wastefully as ever, and that is more than somewhat.) But the idea is catching. A great deal of steel could be saved if the ban were extended to the carcassing of all buildings. ASTRAGAL has been spending an idle hour—which may increase in number—trying to foresee the results. Stone arches and gauged brick arches would be too expensive as lintels. So would single stones. Moreover, timber is not likely to become more plentiful. So mass concrete seems the best solution, with 3 ft. openings and barrel vaulted floors and roofs.

*

The idea should not be pettishly frowned upon. Many towns are entirely built in this style. Look at North Africa and the Middle East. Out of the East, we are told, comes wisdom—as well as the "brise-soleil"—and no doubt the editors of *The Architectural Review* are already grinding their cobblestones in happy anticipation of a number on "Casbah-scape."

*

If indeed we are to be inveigled into this fascinating maze of thick-walled possibilities, we could find no more elegant and coaxing guide than Mr. Eccles, to judge at least by his two public performances last week. They left me—as a true professional guide should always leave his clients—bemused, tantalized and blissfully half-informed.

BUILDING CENTRE

Recently, you may remember, the opening of the new Building Centre in Store Street was referred to in these pages. Frank Yerbury, never a man to do things by halves, opened it again last week—this time officially, with Mayor (of Holborn) and Minister (of Works).

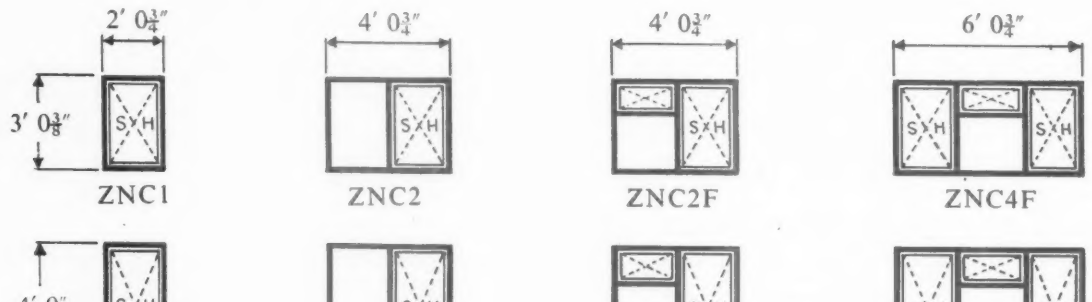
*

ASTRAGAL, ushered sheep-like into the ranks of Press-goats, tried to recover his breath (lost after climbing the stairs; when *will* that lift be installed?) while reading an advance press notice of the Minister's speech. "The reinforced and prestressed concrete in the roof and on the stairs of this building are a fine example . . . ." No time to read further, for everyone (there seemed to be hundreds present) rose to their feet as the Mayor and Minister entered. Surely, some of us thought—as we settled down to the speech-making—surely this roof isn't *prestressed*? Concrete, certainly, but not today a *fine* example. What did the Minister say in reality? I cannot tell you. He did not read his speech at all, although what he said tallied closely to it. It was so fascinating to see a man speaking, school-boy crib in hand, so to speak, and not by a flicker of an eyelid so much as glancing at it, that those vital words didn't reach me at all. *The Daily Telegraph* reporter credited him with them though. Anyway, they are wrong. The roof is pre-prestressing. Still, one knows what the Minister was getting at, and he certainly put it over with skill and charm.

AND BUILDING CIRCLE

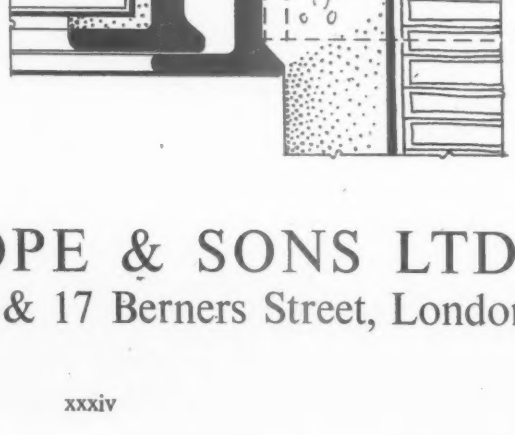
Two days or so later he matched this smooth performance at the LMBA

HOPE'S 'Z' STANDARD WINDOWS



A NEW RANGE BASED ON A 2′ 0¾″ WIDE MODULE: A FEW TYPES ARE SHOWN ABOVE: FOR COMPLETE RANGE SEND FOR LIST No. 264

Special heavy section for the wider side-hung casements



HENRY HOPE & SONS LTD

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luncheon. Mr. Eccles knows how to talk to builders, but his programme of an expanding industry with continuity of work and material supplies keeping in step with output is much easier to describe than to translate into practice. Builders will doubtless wait until something happens before they start looking too cheerful.

*

Mr. Macmillan, on the other hand, has announced the setting up of Local Housing Production Boards, which seem to me to be no more than the old Regional Productivity Committees. We already have Regional Advisory Committees for the Building and Civil Engineering industries. What the industry really needs, in my opinion, is fewer committees and more materials.

*

Mention of the LMBA reminds me that this institution now has a new president, David Woodbine Parish, an Old Etonian, and husband, too, of an architect. He has been campaigning most earnestly over several years for the proper training of both foremen and management, and has, if anything, been even more vociferous than last year's president, Dudley Cox, who spent most of his time agitating for more apprentices. Architects so often look on contractors simply as people who are interested in nothing less than 12½ per cent. that it may be almost a shock to find the men at the top thinking of their industry rather than of themselves.

TRIBUNAL TROUBLE

The training of architects, too, remains in the news and considerable correspondence has come to this office about the tricky question of the RIBA and post-graduate experience. Everyone seems to agree that the standard of practical training leading to associateship should be raised, but many people —the older members particularly—are very uneasy about the present impasse into which the Institute has got itself. Among my correspondents is Robert Jordan who, during the last three years, must have known pretty well what was being said and thought among students, and at Portland Place. He writes:

*

"With reference to the RIBA regulations regarding twelve months post-graduate office experience prior to the granting of the Associateship, and the Institute's refusal to set up a tribunal to deal with hardship cases: is not ASTRAGAL a little unfair to the RIBA? I took some part in the relevant discussions at an earlier stage and I think the RIBA statement that a tribunal is 'impracticable' must be accepted. What would such a tribunal do? Would it compensate financially those who—relying on specific assurances given to them when they entered upon their training—now find that their salary is to be about half what it would have been? Alternatively, would the Institute grant the Associateship — a qualification based on merit—to some graduates twelve months sooner than to others. Both courses seem to be impossible. The idea of a tribunal never was very practical. Its consideration by the Board of Architectural Education—its 'exhaustive' consideration—is, however, an extremely clear admission that there *is* a 'moral issue' and that that issue is very much on the conscience of the Board; perhaps all the more so because it could have been foreseen and wasn't. Very well then. Let the RIBA and ARCUK behave like gentlemen; let them admit their blunder, rescind the regulation and then reintroduce it with application to all students entering the schools on or after September 1, 1951. If that is done the educational position will be largely retrieved and the Institute's breach of faith with its new generation of Associates will be wiped out."

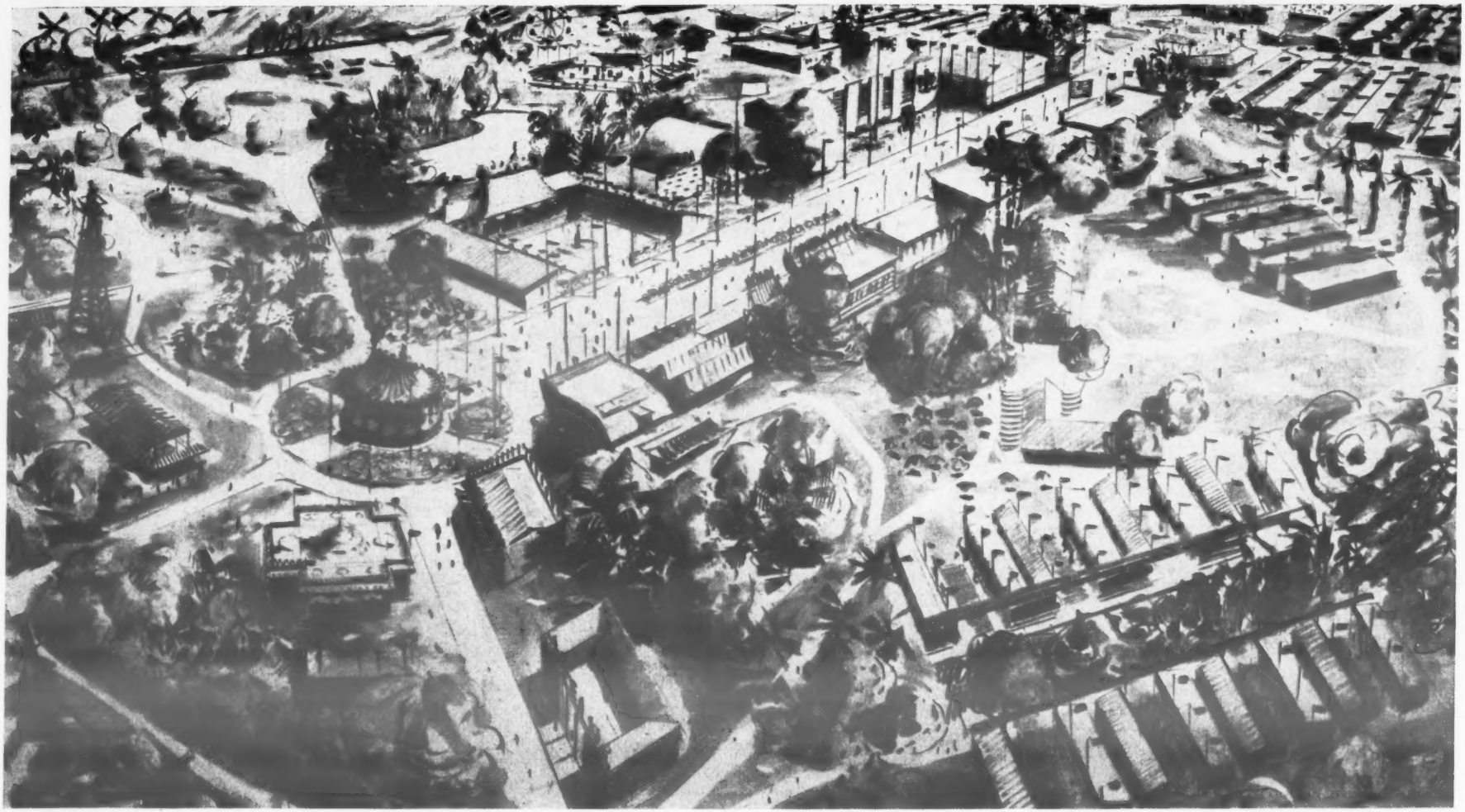
This photograph, reproduced from a recent issue of The Times, *is of a design by Mr. Aslan—*a *not* i ; *readers' eyebrows can return to the horizontal—for the laying out of Hyde Park Corner as a gigantic Rond-Point. This is the third and most ambitious Hyde Park Corner scheme* ASTRAGAL *has seen in the last ten years (earlier ones were by Lutyens and the Minister of Transport) and it is, in his opinion, the most unwanted. St. George's Hospital and Gas House have been replaced by a curved building in the International Conference style. The RA memorial guards the Burton screen like a door scraper, a nameless column splits Piccadilly—and could that be the Skylon in the centre of a formal, but very steeply sloping "place"? It could not, for the design has lain dormant since* 1945 *and interest in it has been revived only as a result of a recent suggestion by the Air League that the Battle of Britain should be commemorated in London by some "permanent feature" suitable for the holding of an annual ceremony.*

*

It is easy to see the point about the difficulty of having a tribunal, but the RIBA has got to do something and Jordan is, surely, optimistic in imagining that the Institute will make the big gesture. The Board would feel that they were eating humble pie, although it's not likely that anyone else would see it that way. Anyhow, "what Parliament has done, Parliament can undo"—and so can the RIBA and ARCUK.

MONEY FOR STONE

A modest donor, who wishes to remain anonymous, is giving £11,500 as prize money for an international sculpture competition. Such generosity is really magnificent. Henry Moore is announcing the full details at the ICA today. At the time of writing seventy-four countries (did you know that there were so many?) have agreed to take part (so far) and there are nine judges —from Asia (you know where), the UK, Australia, France, Germany, North and South America and Russia. The sub-



The First Post-War International Exhibition

The Colombo Plan Exhibition, the first international exhibition to be held since the war, will be opened by Princess Elizabeth on February 16 and will close on March 16. This exhibition, which will cover 36 acres in Victoria Park, Colombo, among existing trees and flowering shrubs, was planned and designed with the help of Misha Black, who has been acting as consultant with the Government of Ceylon in the planning and designing of the exhibition as a whole. He has also designed the UK Pavilion. The executive architect is T. N. Wynne Jones, Ceylon Government Architect. The avenue running from left to right is flanked by the pavilions of nations taking part. On the left, in the centre, is the reception pavilion. Each country has been free to erect the type of building that expresses its own ideas, provided it conforms with the over-all plan. The British contribution (see page 150) can be seen to the left of the avenue at the top of this picture.

ject for the sculpture—" The Unknown Political Prisoner "—is an inspiring one and should result in some very exciting and moving work. Sculptors have had a discouraging time in the last few years —there was no memorial boom after World War II—and this competition should start the stone dust flying again.

A HARD NUT TO CRACK

Equally fogging clouds of speculation will soon be rising in many countries around the subject of the successor to Professor Gropius at Harvard. This is almost the only post in architectural education which has acquired an international status. Walter Gropius himself will no doubt have views as to who his successor will be; Dean Hudnut and the Senate will no doubt also have theirs! It is said to be no means certain that an American will be appointed. When Harvard needs a new principal it will scour the world—as a great school should—in order to get the right man.

*

It has been said that the job was, more or less, Professor Holford's for the asking. Whether this was true or not, he has accepted an invitation to go out and advise Harvard on the problem. To have Holford as a kind of unofficial one-man selection committee seems an admirable idea. He may or may not be a great creative artist, but he has most definitely made a well-deserved corner for himself in the field of clear thinking, common sense, and wise judgment. Our best wishes to him on this new and difficult assignment.

BRISTOL FASHION

No one can complain these days that architecture does not get its fair share of the air. The monthly Third Programme " Prospect," recent talks by Basil Spence, Pevsner and others—to say nothing of TV—are beginning to blow the dust off architecture in just the right way. Now the Western Region is joining in with a monthly programme called " Apollo in the West "—a series on the creative arts in the West of England—in which architecture, already affectionately stroked from time to time from the West by John Betjeman, will receive its share of attention from Robert Townsend. Let's hope Apollo sends a few encouraging beams into other, and so far darker, regions.

ASTRAGAL

POINTS FROM THIS ISSUE

The JOURNAL's *team of guest editors, announced last week on this page, describe below their programme for the year. From left to right : Donald Gibson, city architect and planning officer of Coventry ; Robert Gardner-Medwin, chief architect and planning officer to the Department of Health for Scotland ; Stirrat Johnson-Marshall, chief architect to the MOE and Robert Matthew, architect to the LCC.*

The Guest Editors

PUBLIC ARCHITECTURE : THE PROGRAMME DESCRIBED

IN setting out to examine a problem of such magnitude it is as well to begin by defining what we mean by the words " Public " and " Architecture." " Public " refers to the type of client who commissions the work. In our case the work will be that for which the public, acting through the various agencies of Central and Local Government, or other public body, is in the position of client, and which is executed by an architectural office organized for this purpose. When we speak of " Public Architecture " we mean not only individual designed buildings and groups of buildings, but all aspects of urban design. Thus most of the significant architecture and urban design of our time comes into this category of " Public Architecture." The vast housing programmes which now dominate the scene, and with them the revolutionary development of new schools and other education centres ; the building of new towns and the reconstruction of bombed and derelict city areas ; the creation of new villages for foresters ; the building of Government research laboratories for a new and astonishing phase of science ; and the design of hospitals and health centres for the new health services : all these, and more, constitute Public Architecture. We have made our definitions as inclusive as possible because we intend to keep to broad principles. It would, of course, be impossible, in a preliminary study of this kind, to deal with all the defects of the existing system or to attempt to make suggestions of a *very* detailed nature. However, we think that our suggestions will be of some assistance in the future development of public architectural offices. We also

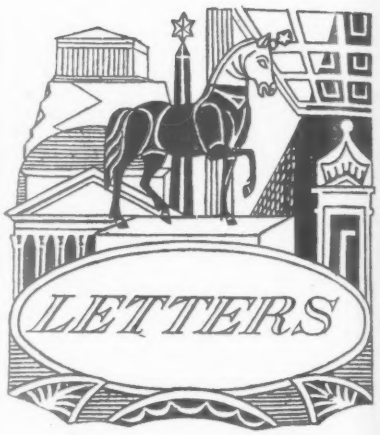
Each country has been free to erect the type of building that expresses its own ideas, provided it conforms with the over-all plan. The British contribution (see page 150) can be seen to the left of the avenue at the top of this picture. He has also among existing trees and flowering shrubs, was planned and designed with the help of Misha Black, who has been acting as consultant with the Government of Ceylon in the planning and designing of the exhibition as a whole.

feel that we should say what we consider to be the broad aims of public architecture. These we take to be the creation of architecture of the highest quality and, where necessary, the maximum quantity, in the right place, at the right time, and at the right price. To fulfil these desirable aims, which, of course, are not confined to either public or private architecture, we would draw attention at the outset to one fundamental need, which is that the size and responsibility of the executive unit should be such as to give the best conditions for the carrying out of creative work. It is hoped that conclusions on this and other aspects of the problem will emerge as a result of our study. No one can deny the increasing importance of public architecture in the life of the community today, and the current trends all point to a continuation of this state of affairs. In our opinion, this is—and will be caused as much by—a growing public recognition of the duties and responsibilities of the architect in society, as it is by developments coming from recent legislation—such as the New Towns Act.

In fact, the great increase in building and urban planning which has been commissioned by public agencies of one kind or another has created what amounts to a new situation in so far as the architect is concerned, parallel, in certain respects, to that caused in civil engineering by the Public Health Acts of the 19th century, and in the medical profession by the new health services. In short, it is the recognition of architecture as an essential public service. An assessment of this situation, coupled with any proposals which may be thought advisable in order to increase the public architect's fitness for the tasks which lie ahead, is very desirable.

We propose, therefore, to examine briefly the scope of the work as it appears to be developing, especially in relation to the large planned programmes of buildings to meet social needs, such as dwellings and schools, and in relation to the rediscovered role of the architect as urban designer. We shall then look at the main types of public offices which have been set up to meet the new demands, and see what facts of importance can be deduced from them which may be of general application.

Our suggestions will outline the improvements which, we feel, are desirable in the form and organization of public architectural offices, and in their conditions of work. We hope also to deal with problems such as the ways in which close collaboration can develop between public and private offices and greater possibilities be found for the interchangeability of personnel and information between the various offices. We shall also examine the implications of such improvements on the building industry, on technical education and on the responsibilities of the public agencies concerned. We hope that our study will generate a lively discussion based on the great reservoir of experience in this and other countries, and that more detailed studies will be made into the many aspects of what we believe to be one of the most important issues confronting architects today.



Clifford Holliday, F.R.I.B.A., Chief Architect and Planner, Stevenage Development Corporation.

Norah R. Glover, A.R.I.B.A.

Stevenage: Journal's Progress Figures Unfair

SIR,—In your issue of the JOURNAL for January 3, I note that you set out details of the production of dwellings quoted from the annual report of the New Towns published, as you point out, six months late.

I feel that the figures given relating as they do to dates early in last year give a very distorted impression.

The number of dwellings in contracts in progress on December 31, 1951, was 1,100 houses and 110 flats. The corresponding figures for December 31, 1952, will be 2,600 houses and 194 flats. By the end of 1952 Stevenage New Town will have produced for occupation over one thousand dwellings, of which approximately eight hundred will have been completed during this year.

CLIFFORD HOLLIDAY.

Stevenage.

In Defence of the Ideal Village

SIR,—Come, come, ASTRAGAL—you have risen beautifully! As if you could compare desirable modern village layout (even in tweed) with the Ideal Home Exhibition Village (see AJ, January 24).

However deplorable it may be, commerce is the root and dictator of any self-paying exhibition of this nature—as opposed to subsidized and purely trade shows.

A village feature was asked for. The problem was one of fitting five houses and sixteen shops on to a very limited grid-iron site—governed by LCC regulations for gangways and obstructions—and giving shopkeepers as much exhibition frontage as possible where every square foot has commercial value. Under these circumstances it would be absurd to consider "housing layout."

Now for the village style, which cannot be judged from a roof-top photograph. After all, the shops which are paid for by individual firms have basically the same purpose and publicity needs as exhibition stands, and you can be comforted that any suggestion of blatant Olde Worlde and plate-glass Suburbia was strenuously opposed!

NORAH R. GLOVER.

London.

Last week, following the opening of the Building Centre's new offices and showrooms in Store Street, the directors of Building Centres abroad visited the JOURNAL'S *private pub,* The Bride of Denmark, *at 9, Queen Anne's Gate. Top left, from left to right, Arch. Kai Christensen, director of Byggecentrum, Copenhagen; Ing. Ingvar Karlen, director of Byggtjanst, Stockholm, and Mrs. Neville Conder. Left, Colonel Gardner McLean, president of the Scottish B.C. and Ing. J. van Ettinger, director of Boucentrum, Rotterdam. Above, A. B. Campbell, deputy director of Glasgow B.C. (reflected in glass, left), Mme. D. Poli, directrice, Centre d'Information et de documentation du Batiment, Paris, F. R. Yerbury and Arch. C. Furrer, director, Schweizer Baumuster-Centrale, Zurich.*

MOHLG

Limitations on House-Building Removed

The MOHLG announced last week that the Government has decided "to remove the rigid limitation hitherto put upon the national housing programme." It is intended "that house-production should be expanded over the next three years as rapidly as the resources of materials and labour that are or can be made available allow."

The following is an extract from a MOHLG circular sent to local authorities:

"The distribution of houses to local authorities will accord with this policy of an expanding national programme. Additional instalments of local programmes will be approved so as to enable local authorities to provide for the building of more houses where the resources available in the area justify the expectation that more houses can be built expeditiously. Many local authorities have already been authorized to increase their programmes for 1952 on this basis.

"This does not mean that more houses can be built in every area. In fact, a few areas have already exhausted their possibilities of expansion. Experience has shown that it is unwise to spread local resources over too extensive a programme. There is no virtue in starting additional houses if they are merely being fed into a machine which has not been geared up to produce completed houses within a reasonable time. In order to secure the best results in completed houses it is essential that the physical starting of new houses should be kept in step with the progress made with those under construction.

"The authority's first step should, therefore, be to consider what can be done to hasten the completion of the houses they now have in hand.

"If at any time the authority are satisfied, after a comprehensive review of the facts, that more houses can be built with the resources available in their area than the number so far authorized, they should apply to the principal regional officer, giving the grounds on which they have reached this conclusion, the number of houses for which approval is sought, and the approximate date when they would expect to start them.

"The Government are taking all practicable steps to secure increased production and even distribution of the necessary building materials. When local housing requirements include flats, these will have to be built with load bearing walls and not in frame construction."

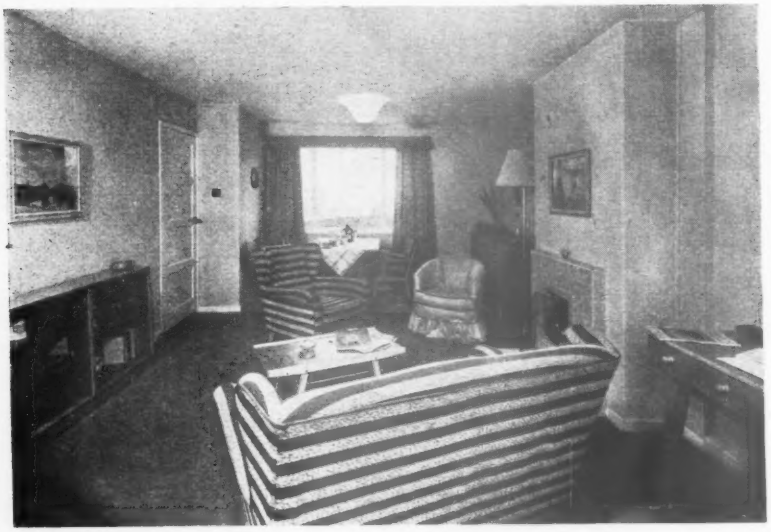
YORK

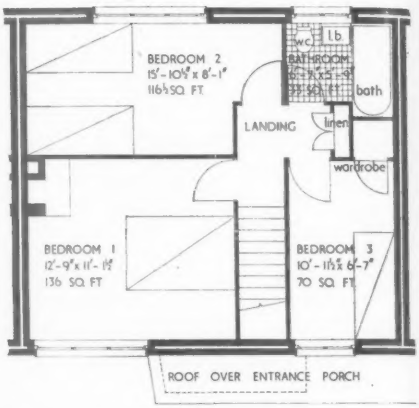
Summer School Prizes

At the assessment of the measured drawings and sketches entered by students at the Summer School held in York by the Academic Development Committee of the York Civic Trust the following prizes were awarded:—York Georgian Society's Prize (10 guineas): C. O. Smith (Leicester), for measured drawings of house at 86, Micklegate. York and East Yorkshire Architectural Society's Prize (10 guineas): Shared between B. Russell (Portsmouth) 6 guineas, and L. H. A. Ringrose (Portsmouth) 4 guineas, for measured drawings of the treasurer's house.

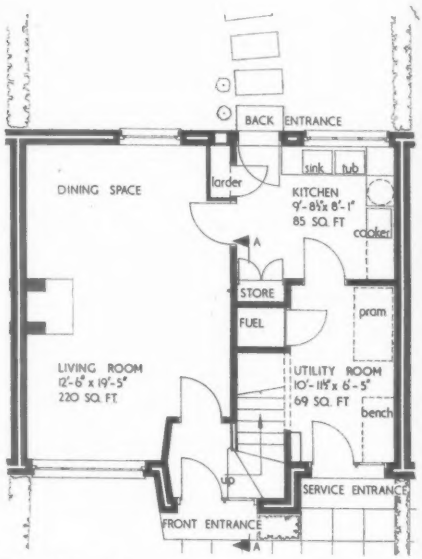
C. W. C. Needham's Prize (10 guineas): As no entry reached the required standard the prize was reduced to 4 guineas, and was awarded to J. D. Chamberlain (Leicester) for his sketches of vistas in York. The remaining 6 guineas was divided between Miss O. M. Hargreaves (Manchester), 3 guineas, and Miss A. Roberts (Manchester), 3 guineas, as special prizes for their studies of furniture and fireplaces.

EXPERIMENTAL LOW-COST HOUSING IN TORYGLEN, GL



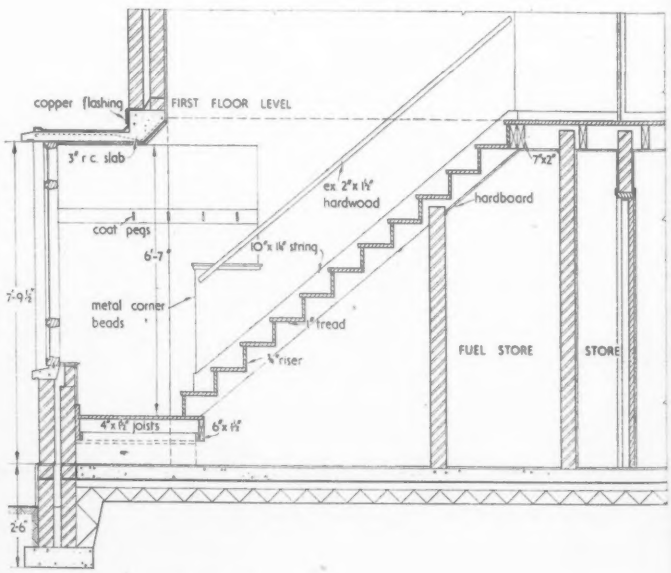


First floor plan, three bedroom house



Ground floor plan

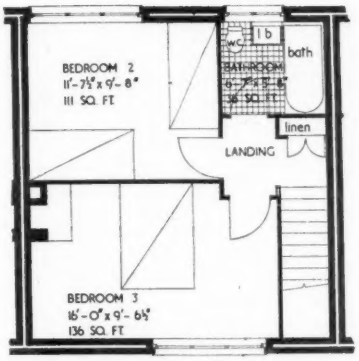
Demonstration terrace houses have been built in Admory Avenue, Toryglen, Glasgow, and Wester Hailes Road, Sighthill, Edinburgh, designed by the Department of Health for Scotland—Chief Architect, R. Gardner-Medwin; Deputy Architect for Housing, R. Woodcock; Senior Architect for Housing Research, R. Watson Young; Assistant Architect, W. L. Stewart. The houses have been built, within three months, by the Scottish Special Housing Association—Chief Architect, J. Austen Bent; Executive Architect, C. Woodward. The designs are based on the modified space and equipment standards described in the Department of Health's circular on economical design. There is no hall and the "back" door is in front, giving access to the back garden through the utility room and kitchen. In each terrace there are three-bedroom houses of 860 sq. ft. and two-bedroom houses of 679 sq. ft. The former have a utility room which is not part of the recognized provision for urban houses in Scotland and compensates for the reduction in bedroom sizes, which now correspond approximately to English sizes, instead of the higher Scottish space standards. Ceiling heights are lowered to 7 ft. 9 in. on ground floors and 7 ft. 6 in. on first floors. It is estimated that when final costs are analysed there should be a saving of £115 on the larger house and £135 on the smaller type compared with normal terraced houses. The construction of the



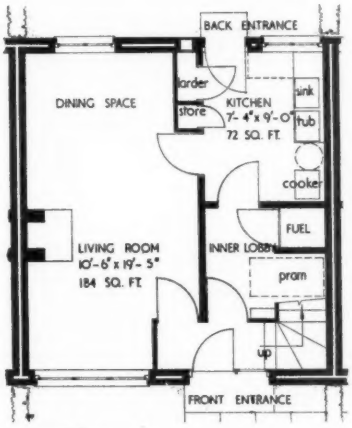
Section A-A [Scale: ½" = 1'0"]

GLASGOW AND SIGHTHILL, EDINBURGH

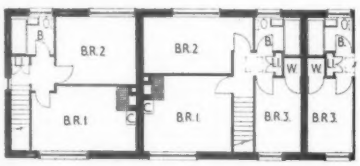
prototype houses is traditional. The outer wall finish is a dry dash of red whin chips, giving a rough textured reddish brown surface; roofs are brown interlocking tiles; metal windows are white in wood sub-frames painted light grey. Two houses in each terrace have been furnished and decorated by the Scottish COID (designer, Peter Cudden). Opposite page, top, living-room in the three-bedroom house; below, left, is the second bedroom arranged for use by two boys; and below is the living-room in the two-bedroom house. Furniture: in the larger house by Bows (£625); in smaller house by Lewis's Royal Polytechnic (£430). (Both of Glasgow).



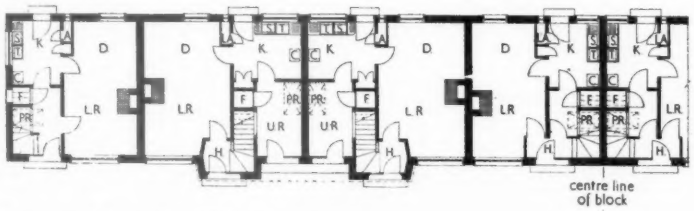
First floor plan of two-bedroom house



Ground floor plan



First floor plan



Part ground floor plan of block [Scale: $\frac{1}{16}$" = 1' 0"]

NFBTE

New President and Vice-President Appointed

The new president of the NFBTE is J. Ian Robertson. He is a director of Thomas Lowe & Sons, Ltd., building and civil engineering contractors, of Burton-on-Trent. Mr. Robertson, who is 45, was educated at Pembroke Lodge, Bournemouth, and Clifton College and has a long record of service to the industry.

This year's senior vice-president of the Federation is Wilfred Horsfall, a partner in the firm of George Horsfall & Son, contractors, of Liversedge, Yorkshire.

J. Ian Robertson, the President for 1952 of the NFBTE.

AA

Entrance Exam in March

The School of Architecture entrance examination for admission September, 1952, will be held on March 17. The last date for applications will be March 1. Full particulars and application forms can be obtained from the principal, 36 Bedford Square, W.C.I.

RIBA

News from the Council's Minutes

The following items were taken from the minutes of the last RIBA council meeting. *Appointments:—University of London Architectural Education Committee, RIBA Representatives for Year* 1952-53, Anthony M. Chitty and Philip G. Freeman; *Code of Practice Committee to draft a Functional Code on "Daylight,"* P. V. Burnett and George Whitby; *RIBA Representatives on BSI Committees,* PLC/9; Polythene Tubing, R. Cotterell Butler; Terminology for Roof Covering, Lister P. Rees.

The Honorary Corresponding Membership. It was agreed to invite the following to accept election as honorary corresponding members:—Bolivia, Senor Lopez Videla; Brazil, Dr. Lucio Costa; Uruguay, Senor Leopoldo Artucio.

The congratulations of the council were conveyed to Edward Maufe on his election as an honorary master of the Bench of Gray's Inn.

The council approved a recommendation of the library committee that discussions with other appropriate bodies should be initiated, with a view to commemorating the tercentenary of the death of Inigo Jones by a suitable exhibition illustrating his work.

The council approved an increase in the fee for a relegated candidate who takes separate subjects again from 10s. 6d. to one guinea per subject. The increase has now taken effect.

A LAW CASE

Fees and Building Licences

The Court of Appeal recently had before it the question of whether an architect's fees should be included in the amount to be authorized by a building licence under Defence Regulations 56A. Its answer was "No."

The point came before the Court in this way. An architect claimed, in the Liverpool County Court, the sum of £48 10s. for fees in respect of work done in carrying out building operations under licence. The amount covered by the licence was £525. The defendant claimed that the total cost of the work done was some £700, and that the architect's fee should be included in computing it. Therefore, he alleged, the contract had become an illegal one and the architect could not maintain an action for his fees. The County Court judge found for the plaintiff architect and the defendant appealed. In his judgment, the Master of Rolls found that the facts were that, when the architect first made his claim for his fees, the licence figure had not been exceeded and that his claim was therefore made without any illegality.

Of wider interest is the comment of the Court on the issue of whether Regulation 56A requires the estimated fees of the architect to be included in the first place in the application for the licence. Both the Master of the Rolls and Lord Justice Jenkins said that it did not. The words of the Regulation, that "in computing . . . the cost of any operation or of any work regard shall be had to the value of any goods or services used for the purposes thereof," were, in the words of the Master of Rolls, "inapt" to include a professional man's fees. Lord Justice Jenkins was equally definite. The Regulation, he said, made no mention of professional fees. In those circumstances the Court held that the Regulation was not a bar to the plaintiff's claim and the Court gave judgment accordingly.

Our legal editor writes:—"The decision of the Court of Appeal settles a long debated question. Architects in general may well breathe a sigh of relief at this. Not only does the decision give them a little more freedom of manœuvre; more important, it frees them from an uncertainty, an uncertainty where a wrong guess might result in criminal proceedings. It is a disquieting thought that this uncertainty should have lasted some ten years, simply because the Regulation was poorly drafted in the first place and has remained unamended, in this respect, ever since. It is all to the good that building costs are now given their proper meaning, the cost of the works and services involved in the work itself, without either the cost of the preliminary surveys or of their essential supervision while they proceed."

DIARY

Inland Waterways—The Practical Outlook. L. A. Goss. At 28, King Street, W.C.2. (Sponsor: Students' Planning Group, TCPA.) 6.30 p.m. JANUARY 31

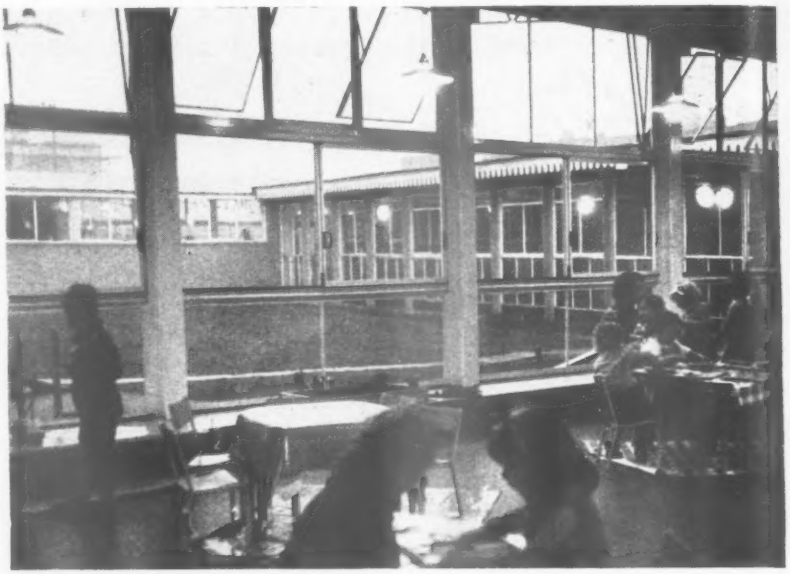
Address to Students by Robert H. Matthew. At RIBA, 66, Portland Place, W.1. Also criticism by D. H. McMorran of work submitted, 6 p.m. FEBRUARY 5

The Future Development of Edinburgh. Derek Plumstead. At 13, Suffolk Street, S.W.1. (Sponsor: HC.) 6 p.m. FEBRUARY 5

Planning is not Compatible with Democracy. Proposed by Peter Sellers. Opposed by David Tandy. At 28, King Street, W.C.2. (Sponsor: Students' Planning Group, TCPA.) 6.30 p.m. FEBRUARY 7

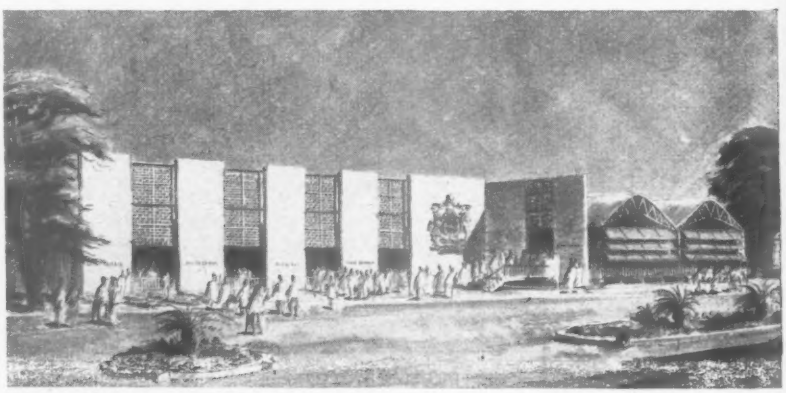
The Strategy of Development. W. F. B. Lovett. At Caxton Hall, Caxton Street, S.W.1. (Sponsor: TPI.) 6 p.m. FEBRUARY 7

NURSERY SCHOOL OPENED AT LANSBURY



The nursery school at Lansbury, designed by Messrs. Yorke, Rosenberg and Mardall, which was open to the public towards the end of the '51 Festival, was officially opened last Thursday. Above, one of the two playrooms, showing, through the window, the administration and cloakroom wing, on the right, and the other playroom. Left, F. R. S. Yorke, centre, with assistant architect Julian Sofaer, left, talking to D. A. C. A. Boyne of the ARCHITECTS' JOURNAL *at the opening ceremony.*

UK PAVILION AT COLOMBO EXHIBITION



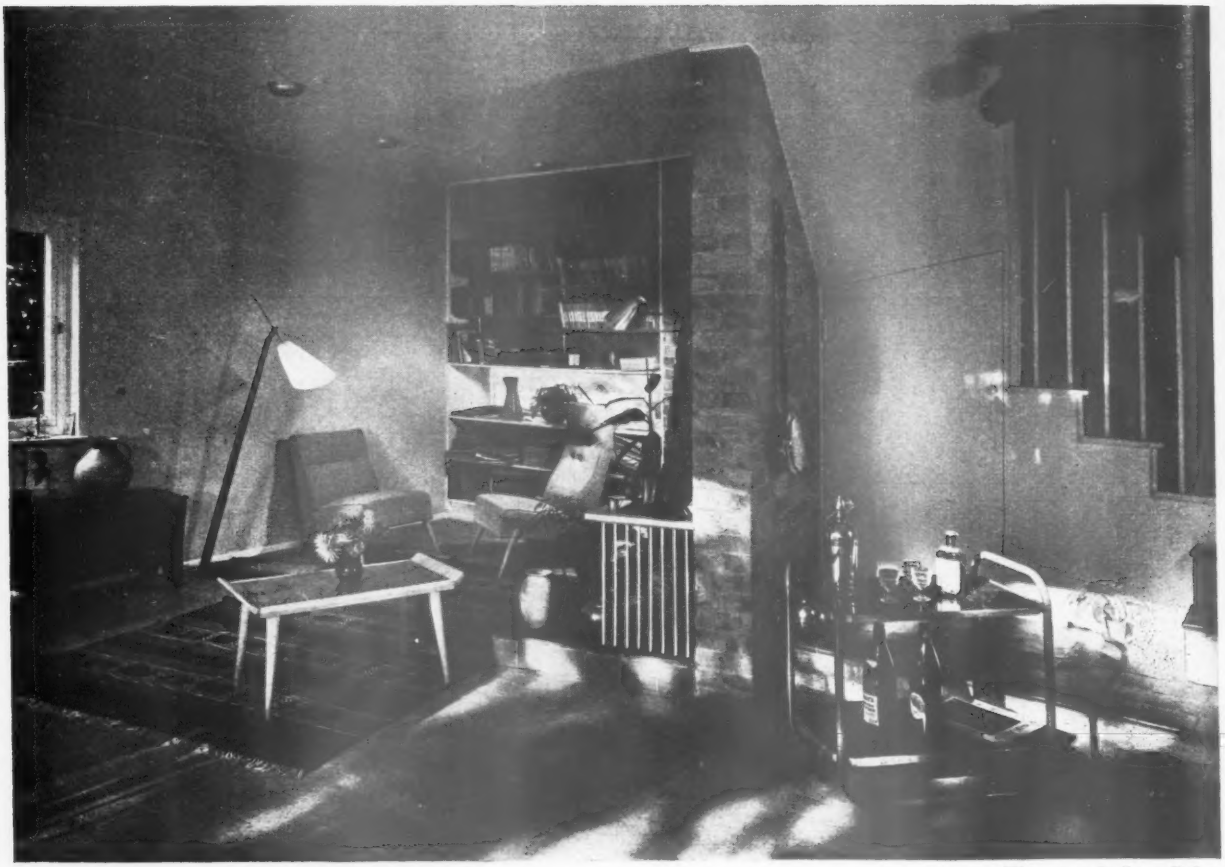
The architect for the United Kingdom Pavilion at the Colombo Plan Exhibition (shown in this sketch) is Misha Black, of the Design Research Unit. Mr. Black, who was one of the co-ordinating architects of the South Bank Exhibition, has been acting as consultant to the Government of Ceylon in the planning and designing of the exhibition as a whole. The layout of the exhibition, which is to be opened on February 16 and will demonstrate the needs of the countries in South and South-East Asia, is shown in a perspective on page 144.

HOUSE

in THE GLADE, WELWYN GARDEN CITY, HERTS
designed by the ARCHITECTS' CO-OPERATIVE PARTNERSHIP
heating advisor, WILLIAM ALLEN

This house at Welwyn Garden City is the subject of a discussion on pages 157 to 160, and in a special article in this week's Technical Section (pages 161 to 164) is a description of the use of floor heating for private houses, with particular reference to the open type of plan. The clients required a house which, within the restrictions imposed by the floor area of 1,500 sq. ft., would give them maximum living accommodation with a minimum of separation between rooms for general day use on the ground floor.

View of the house looking north.



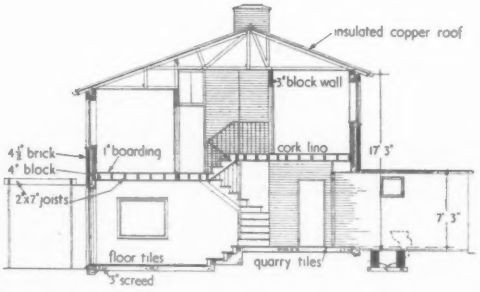
The ground floor living room from the dining area.

HOUSE

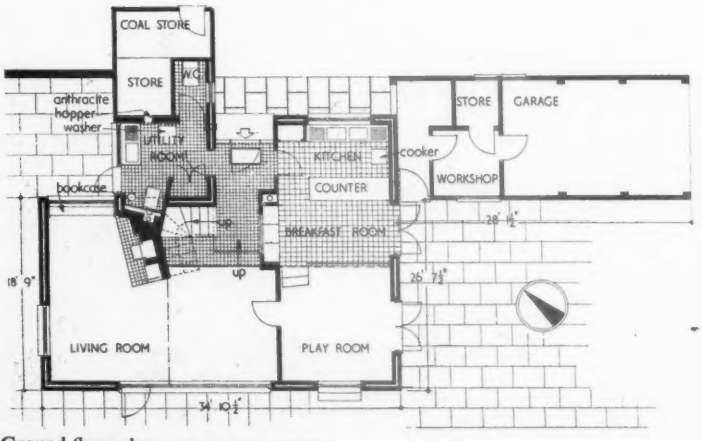
in WELWYN GARDEN CITY, HERTS

designed by the ARCHITECTS' CO-OPERATIVE PARTNERSHIP

SITE.—The site slopes from east to west, with a narrow frontage radiating out from front to back. The house is placed as far back as possible from the building line to allow an east and west orientation across the site, and has been designed so that views through the house from the entry at a higher level help to increase the sense of space and extend the visible area within and beyond the house. The

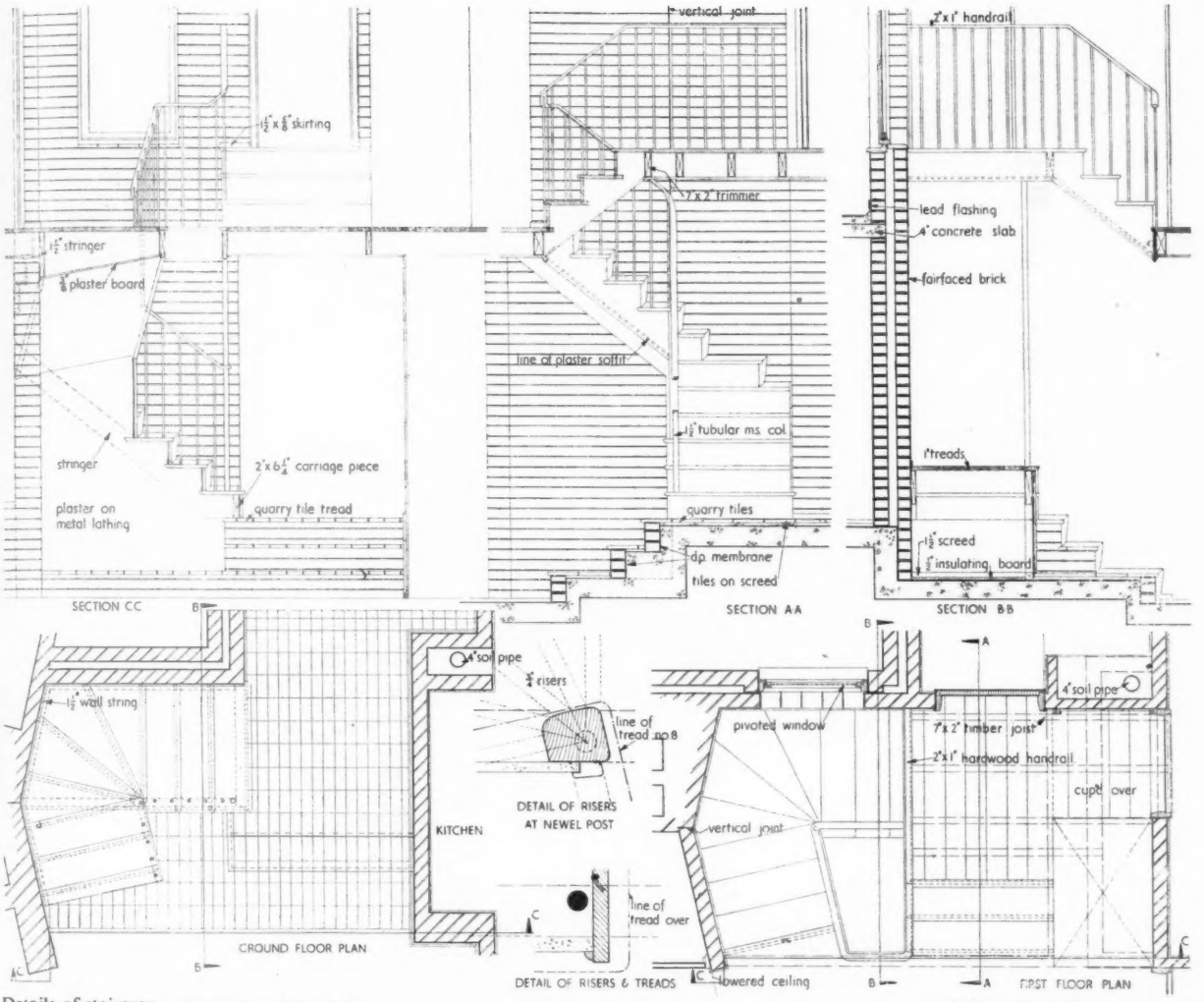


Section A-A



Ground floor plan [Scale : $\frac{1}{16}$" = 1' 0"]

First floor plan



Details of staircase [Scale : ¼" and ½" = 1' 0"]

Below, the staircase ; left, the first floor landing.

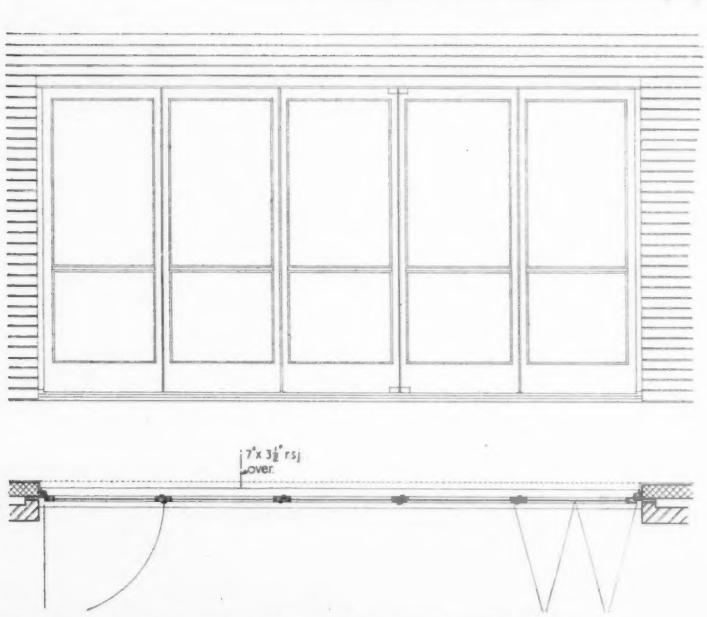
HOUSE

in WELWYN GARDEN CITY, HERTS

designed by ARCHITECTS' CO-OPERATIVE PARTNERSIHP

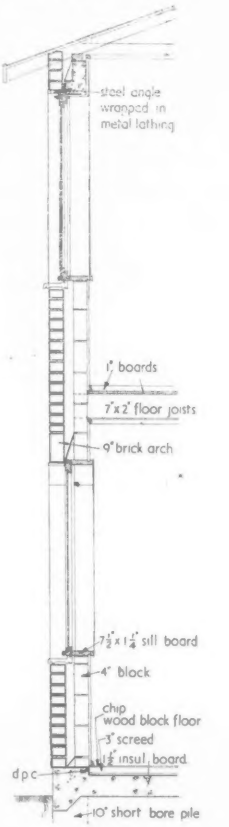
secluded position of the house and the trees which screen it from neighbouring houses have made possible the use of materials not generally found in the Garden City and also a variation of the customary elevational treatment.

PLAN.—The clients particularly wanted to be able to do the domestic work of the house without being shut off from anything else going on. The architects were asked for a plan which allowed an area where the children could be noisy and at the same time supervised during hours of ordinary housework, but which could be altered when the children grew up. For this purpose the partition dividing the playroom and living room has not been structurally bonded into the main walls and an RSJ carries all the first floor load. The glazed cabinet and servery in the kitchen wall allows for meals to be served in the living room when a larger number of people are present than can be comfortably accommodated in the breakfast area. The clients' bedroom is designed to allow a space which can be used separately as a dressing area and for occasional daytime use. The living room fireplace, which was a requirement of the clients, supplies a certain amount of convected air to assist in maintaining a comfortable temperature in conjunction with the radiant heating from the floor.



Elevation, plan and section of sliding-folding window [Scale : ¼" = 1' 0"]

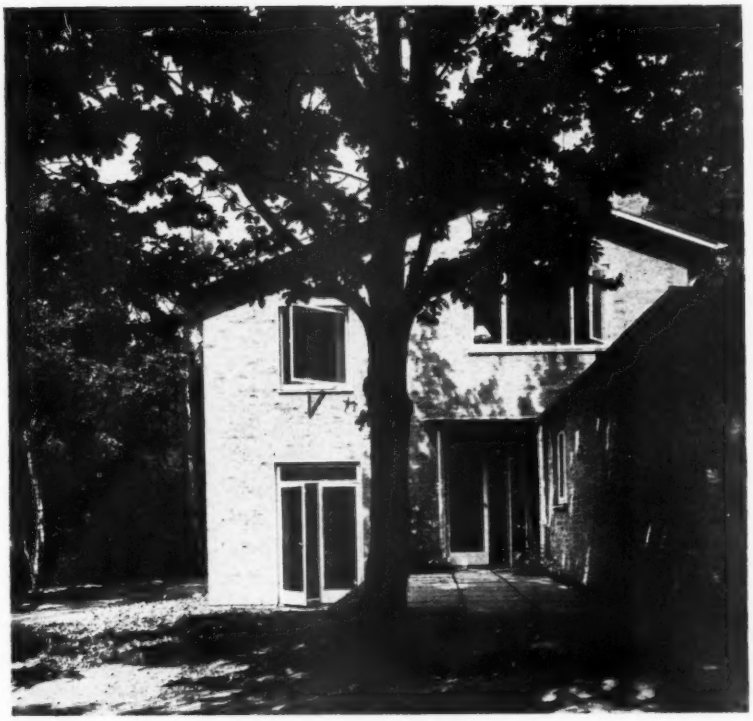
Section through arched window in garden facade

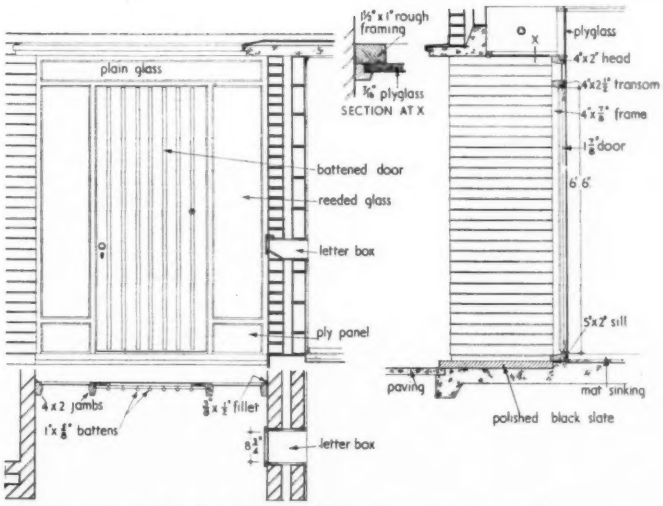


Below left, the living room looking towards the terrace. Below right, the playroom from the kitchen.

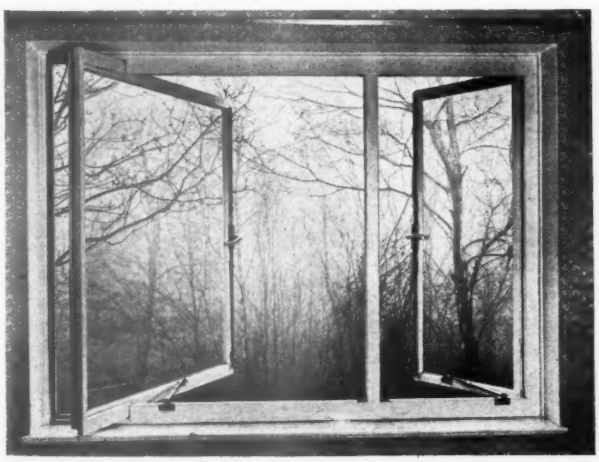
CONSTRUCTION.—External walls are of 11-in. cavity construction with the internal skins and partitions of 4-in. clinker blocks. The roof is of light timber trusses spaced at approximately 2-ft. centres and made up of 3-in. by 1-in. members with plywood gussets. The whole roof was prefabricated in panels and trusses and was brought to the site ready for assembly. The foundations consist of a 4-in. concrete slab with 12-in. deep perimeter toe carried on 10-in. diameter short bore piles, 8 ft. deep. No reinforcement is used except for two ½-in. bars in the concrete toe where openings of more than 8 ft. occur on the ground floor. Piles are spaced at approximately 8-ft. centres round the perimeter and below the fireplace hearth. Flat roofs are of 3-in. concrete.

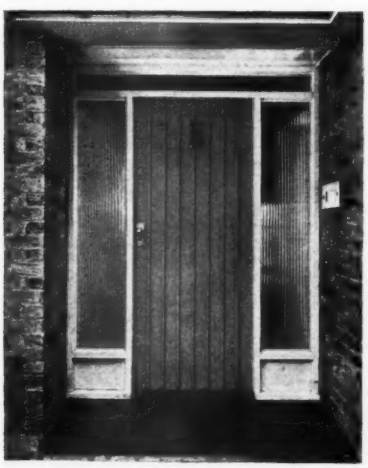
FINISHES.—External walls are faced with second London yellow stock bricks and these bricks are used internally for the entrance area, staircase wall and fireplace; elsewhere walls are plastered. The roof is made up of two layers of ½-in. insulation board faced with 30-gauge copper sheet with vertical upstand welts. Windows are in timber, specially made and modified from standard EJMA sections. The large first floor pivot windows have been developed to give a large opening area with a double rebated, weatherproof joint at the pivot to overcome the normally draughty junction at this point. The ground floor window on the north facade is a standard "Carda" single-glazed window. All windows are secured by espagnolette bolts and friction stays, developed to fit this type of light timber frame and all ground floor windows are fitted with weather-strips. Floors in the living and play rooms are finished with 9-in. by 3-in. by ⅝-in. chip board blocks specially supplied by the manufacturer as an experiment in conjunction with the floor heating. The flooring adhesive was chosen after sample areas had been laid with three different types. The





Elevation, plan and section of front door [Scale: ¼" and 1½" = 1' 0"]





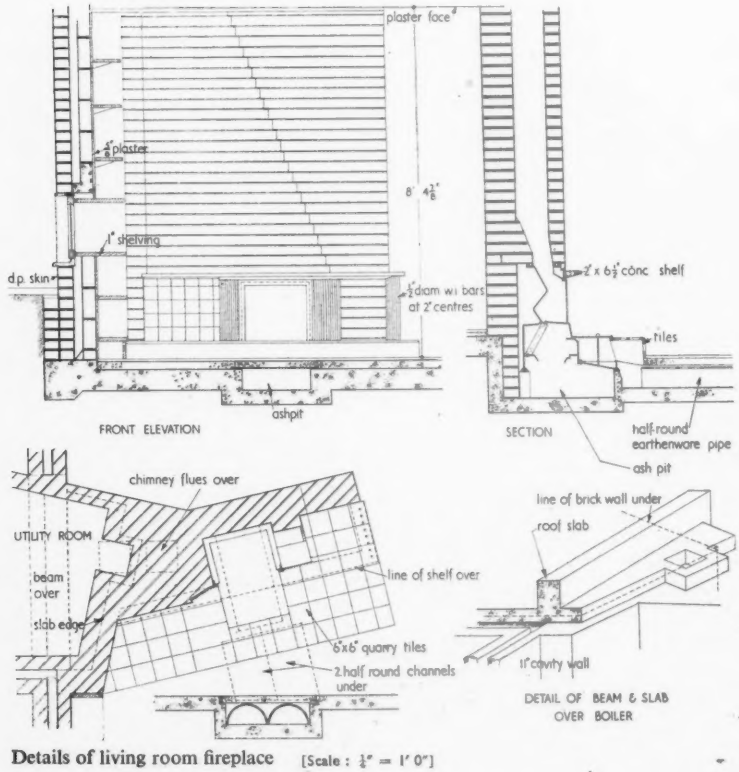
Top right, the south-east facade with the garage wall on the right. Extreme left, first floor bedroom window. Left, front door on the north-east facade.

The living room fireplace.

HOUSE

in WELWYN GARDEN CITY, HERTS

designed by the ARCHITECTS' CO-OPERATIVE PARTNERSHIP



Details of living room fireplace [Scale : ½" = 1' 0"]

kitchen floor is 6-in. square red quarry tiles and the utility room floor is 4-in. square heather brown quarry tiles. Kitchen fitments and wall tables in the playroom were designed in collaboration with Geoffrey Bocking. The design of the front garden elevation includes a light metal and wood frame which will project across one leaf of the sliding-folding french windows and will spread beyond the corner of the house. The construction of this pergola is still to be completed.

SERVICES.—The floor heating system on the ground floor, (described in more detail in the Technical Section), was chosen as the best solution to meet the clients' requirements for the plan. There is a specially-designed sheet metal bunker in the coal store which delivers anthracite through a stainless-steel guillotine hopper into the utility room. The fire unit in the living room is a modified version of a standard design where the front upstand hob fret raises the fire bed some 4 in. above hearth level. There is a convected hot air chamber feeding through an air brick under the concrete mantel shelf. In the modified version the unit is set 4 in. lower in the site slab, which only necessitated extending the metal connecting rod which adjusts the draught control and hearth plates. There are ribbed cast iron panels either side of the opening and the effect of a long low hearth is being enhanced by the addition of an area of decorated tiles.

The general contractors were Yeomans & Partners, Ltd. For sub-contractors, see page 170.

Above right, the breakfast room looking toward the kitchen showing hatch into hall on the left. Right, first floor bedroom.

WORKING DETAIL **FURNITURE AND FITTINGS : 12**

PULPIT : CHURCH AT CROSSFORD, LANARKSHIRE

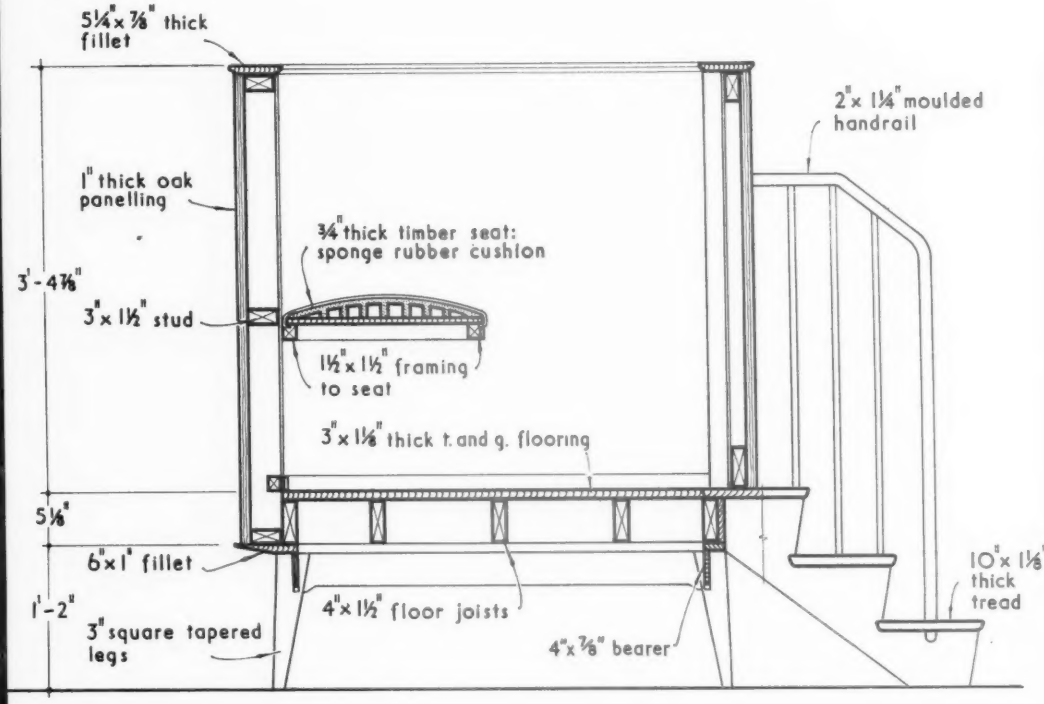
Basil Spence, architect

The freestanding pulpit is constructed of oak with moulded panelling and simple balustrade.

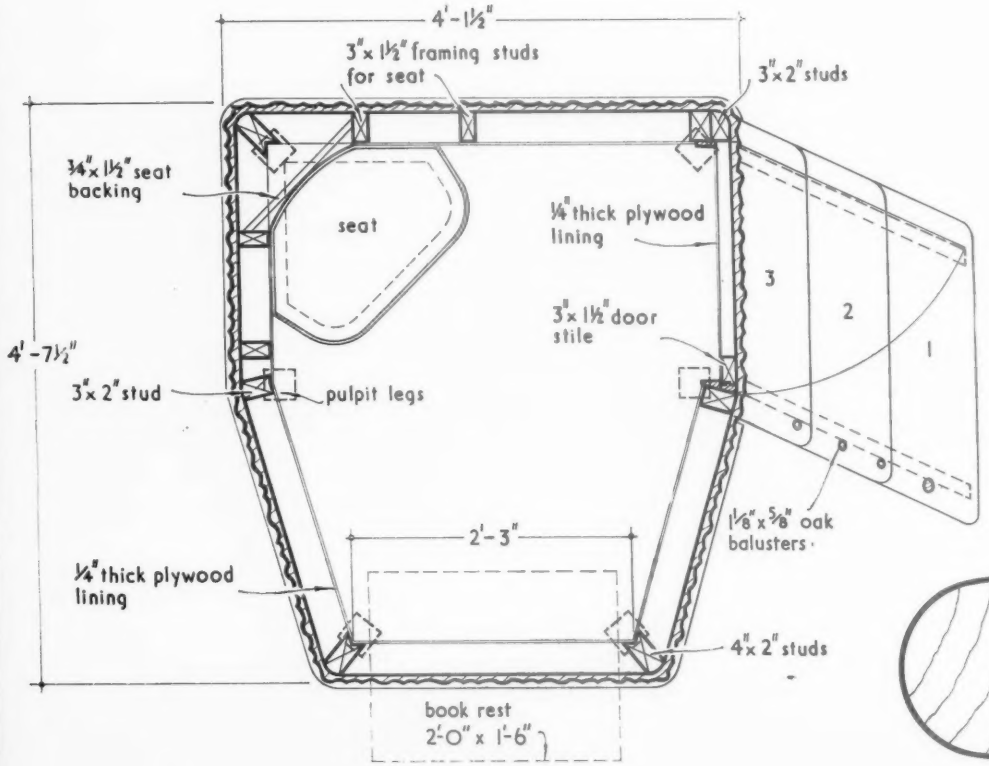
WORKING DETAIL **FURNITURE AND FITTINGS : 12**

PULPIT : CHURCH AT CROSSFORD, LANARKSHIRE

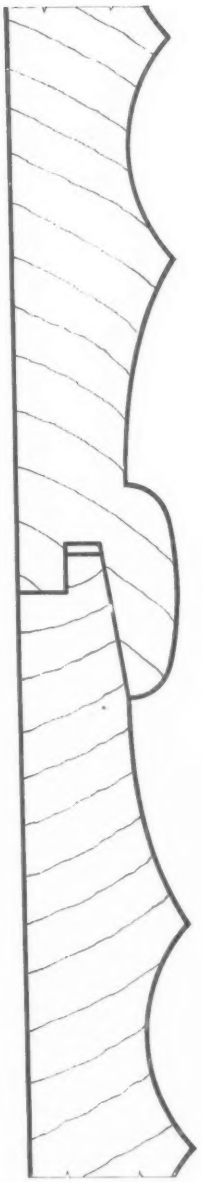
Basil Spence, architect



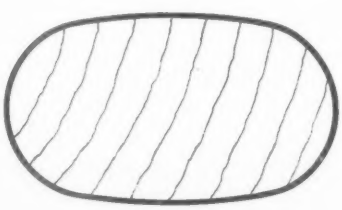
CROSS SECTION. scale ¾" = 1'-0"



PLAN. scale ¾" = 1'-0"



FULL SIZE DETAIL OF MOULDED OAK PANELLING



FULL SIZE DETAIL OF OAK HANDRAIL.

WORKING DETAIL

CORRIDOR ROOFLIGHT : SCHOOL IN OREGON

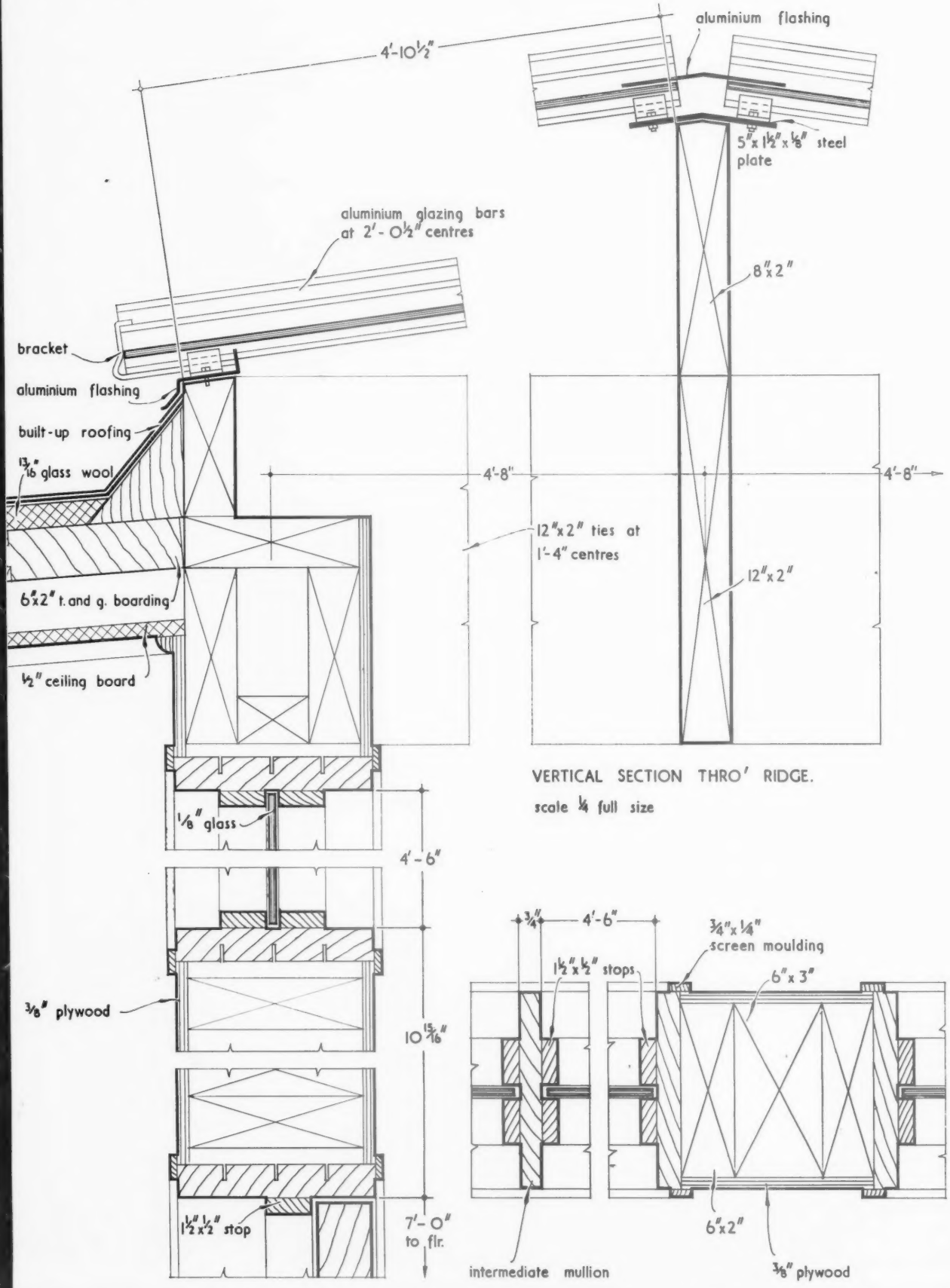
Wilmsen and Endicott, architects

The light from the pitched glazed roof over the corridor is broken by the deep timber cross-members and is augmented by borrowed light from the classrooms on either side.

WORKING DETAIL **ROOFS AND CEILINGS : 3**

CORRIDOR ROOFLIGHT : SCHOOL IN OREGON

Wilmsen and Endicott, architects



VERTICAL SECTION THRO' RIDGE.

scale ¼ full size

For the first time, the JOURNAL *calls in clients to take part in a discussion ; the subject, on this occasion, being the floor heating of a private house. The client and his wife agreed that this is an excellent method of heating and apparently they find it economical, too. (*JOURNAL *editors can be identified by referring to page 141.)*

HOUSE AT WELWYN GARDEN CITY

A Discussion between the Client and his Wife (Mr. and Mrs. P. de Syllas), one of the Architects, the Heating Advisor (William Allen) and Editors of the JOURNAL.

Top right, during the discussion, L. de Syllas, one of the architects (centre), talking to one of the JOURNAL'S *editors, with the client's wife in the foreground.*

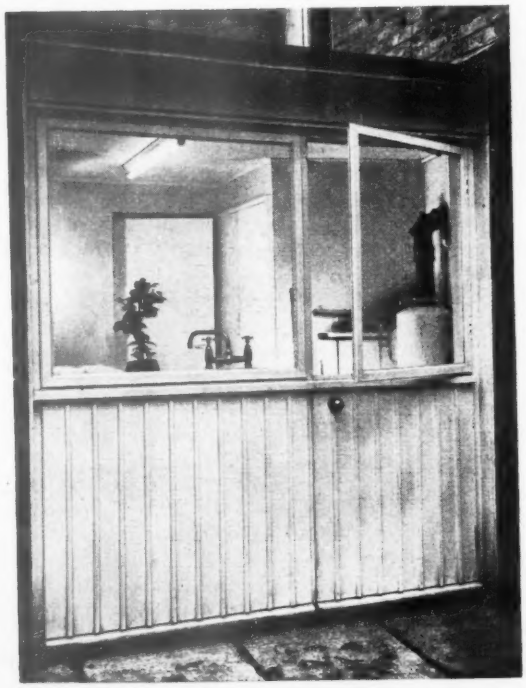
TWENTY-ONE : I understand you would like to ask some questions Mr. Allen.

HEATING ADVISOR : Yes. Firstly, would you have used this kind of open planning if you hadn't been using floor heating ?

ARCHITECT : Our aim, perhaps because of our training and background, is to try to achieve this form of spacial effect. Our knowledge of conventional heating, if one acts in a responsible way towards one's client, makes us say to him, " either cope with the heating problem, that is, have a special heating system which will give over-all warmth, or have a highly-insulated, ' cellular ' plan—the conventional solution." Some architects, I regret to say, have gone ahead with open planning, without properly considering the heating problem. They simply let their clients shiver for two or three months of the year.

NINETEEN : But, even in your case, I suspect the plan came first.

ARCHITECT : Most architects today have an architectural not a technical bias, but we were willing to face up to the technical problems involved.



Utility room window, with barn door on right.

CLIENT'S WIFE : Do you call radiators a special system ?

HEATING ADVISOR : I suspect that if you heat an open plan house with an ordinary radiator system you tend to fill up the top part with hot air—just where you don't want it. Tell me, has this heating system given comfort conditions downstairs ? Do you feel draughts ? Do you get a very free use of space ?

CLIENT : Within certain limitations, such as draughts, we use the whole of the ground floor all the time. We treat the whole area as one living space. Even in the coldest weather, we don't tend to congregate round the fire. One forgets heating ; one just accepts the fact that one is comfortable.

TWENTY-FIVE : Anywhere in the house ?

CLIENT'S WIFE : Yes, particularly if you are moving about. If you sit down for any length of time in really cold weather, you do need some sort of open fire to give warm-air movement ; otherwise, you feel, not cold, but a sense of coolness.

ARCHITECT : We felt in designing this house that, even with an over-all heating system, there remained the " psychological " problem that there are times when some sense of " enclosure "—protection from the large space—is needed. The alcove with the little fire was designed for that reason.

CLIENT : You use that corner particularly when there are just a few at home—two or three of you.

NINETEEN : When you go out of doors and come in again cold, does it take you a long time to get warm ? Without the fire, there is nowhere you can go and " roast " yourself.

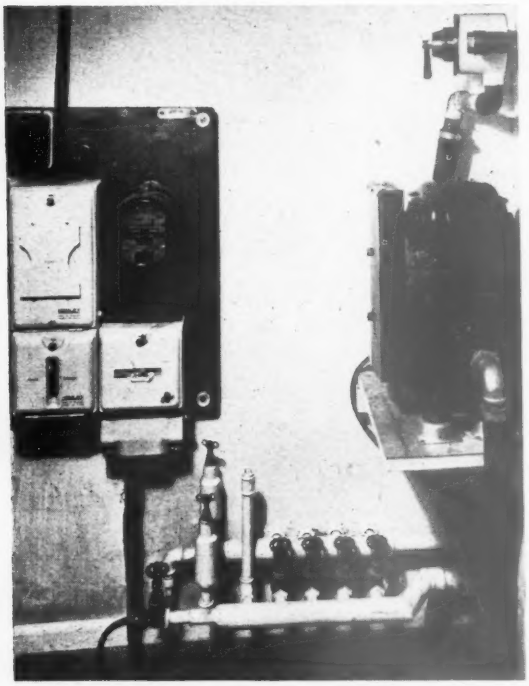
CLIENT : On the contrary, you feel very warm immediately you come in. Mr. Allen said we should have had a small radiator in addition to the floor heating. We couldn't have one, but the fire takes its place. We only need it in extremely cold weather, or when we want to sit and relax.

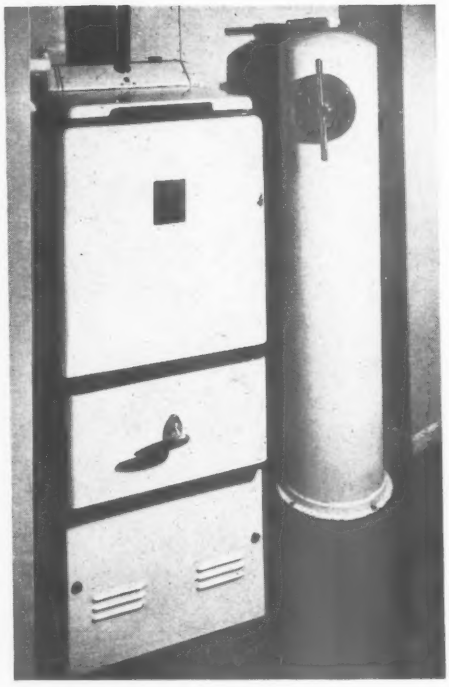
HEATING ADVISOR : It is remarkable how, with floor heating, a very small fire can create a high sense of comfort.

CLIENT : Exactly.

HEATING ADVISOR : It is similar to indirect lighting—as soon as you add a small standard lamp, it makes the whole room more lively.

ARCHITECT : The problem of the contemporary room, where you have adequate heating without a focal point, is what to do when only two people use it. The focal point need not be a fireplace—it may





Left, boiler and water softener. Far left, leader controls (bottom), circulation pump (right) and mixer (top right).

one day be a television set—but in rooms I know which have no focal point, such as the living rooms of the Highpoint flats, one has a feeling of being slightly lost. Ours is rather a compromise solution. Our little alcove is really the result of our feeling of uncertainty. If the client hadn't wanted a fireplace, we should have provided something, but I don't know what. Perhaps a painting could give us the focus we need.

TWENTY-ONE : The fireplace is not where one would expect the focal point of a room to be.

ARCHITECT : That was intentional. In this case it is supposed to be a rather " private " focal point.

CLIENT : That corner of the room would have been improved if the alcove could have been two or three feet deeper.

ARCHITECT : The trouble is that in a house of 1,500 square feet, of which on the ground floor there is usually about half (although we had a little more), unless you have great discipline as a designer, you tend to want to do too much. 750 square feet is a space into which you shouldn't try to achieve any startling spacial effects. I think we have, in fact, tried to achieve more in this plan than is justified in the available space. A typical Georgian entrance hall and dining room took up as much room as the whole ground floor of this house.

During the discussion, William Allen (centre) asks the client (right) and his wife a question.

TWENTY-ONE : The house you designed at Hampstead (JOURNAL for Sept. 20, 1951) seems less crowded. You tried to get less into the living space. (The child's play space was on the ground floor with the living room on the first floor.)

ARCHITECT : In that respect the house at Hampstead is probably a better solution architecturally. By eliminating the fireplace the plan becomes much simpler, but a solution without a focal point, although acceptable to those particular clients, might not be suitable for the majority of people's present way of living.

TWENTY-FIVE : Do you find floor heating economical ?

CLIENT : The cost is comparable with that of ordinary central heating ; in fact, comparing our running costs with those of friends who have conventional central heating, we find our's slightly lower. With a new house the first winter is not economical. Last year we used more fuel than this ; drying out the slab, the plaster and so on. Now, we run it all the time, yet we find it very economical.

HEATING ADVISOR : In any case, let's keep this question of efficiency in perspective. The efficiency of the boiler makes a far greater difference than anything else you are likely to do. But it is, in any case, extremely difficult to appraise the efficiency of a heating system. What matters is : for *roughly* the same capital cost, which system gives the greatest comfort ?

ARCHITECT : For anyone who wants a warm house, it is no good comparing running costs with those of an ordinary house, which is cold all over, except for a little patch by the fire. You can't get warmth all over for nothing. No doubt the day will come when we will accept efficient heating, just as today we accept electric lighting.

CLIENT : The weakest point in the design is that we haven't double doors at the front entrance and we lose a lot of heat there. In Mr. Allen's house, for example, there is no entrance lobby, but the front

door is isolated from the living room. When he lets a visitor in, you don't feel it, but in our house we get a definite draught.

ARCHITECT : That is exaggerated by the fact that the front door intentionally faces straight across to the main window in the living room, and the french windows aren't weather-stripped.

TWENTY-ONE : Can the french windows be sealed ?

CLIENT : They are going to be.

HEATING ADVISOR : The real answer is a lobby.

ARCHITECT : In principle one has always objected to a main entrance into a living room. We rather relied on a curtain keeping draughts out, but no curtain does the job of a door—it's no good pretending it does.

CLIENT : The Boyd's house (another floor-heated house, completed recently, to be illustrated in a future issue of the JOURNAL) has a rather remote entrance—you don't seem to get draughts there.

ARCHITECT : It has a similar solution to Mr. Allen's house ; you turn through two right angles before entering the living room.

CLIENT : I think that's a happier solution than glass doors. I don't like glass doors.

TWENTY-ONE : Is air movement not prevented by weather stripping ?

HEATING ADVISOR : I think enough air filters in ; in any case, in an open-plan house you have a large volume of air all coupled up, which can shift around from time to time. Instead of a small volume of air which can become stuffy and smelly, you have a continuous circulation of air.

TWENTY-FIVE : Why are the effects of floor heating so different from those of heating by other means ?

HEATING ADVISOR : As far as personal comfort is concerned, you seem to feel fresher, and, in general, nearer optimum comfort conditions, if the air is cool and the surroundings warm than *vice versa*. That is why people go to Switzerland—for radiant heat and cool air.

CLIENT'S WIFE : I don't like radiators. I find they tend to make a room stuffy and "heady." I've accepted them in the past as a means of dealing with our climate. Now, I feel nothing on earth would make me live in a house with radiators for general heating downstairs, if I could get panel heating.

TWENTY-FIVE : Do you think stuffiness from radiators is often due to the fact that they are not thermostatically controlled and run at too high a temperature ?

HEATING ADVISOR : I think there is always a general feeling of stuffiness if the air is decidedly warmer than the surroundings.

TWENTY-FIVE: Why were radiators used upstairs ?

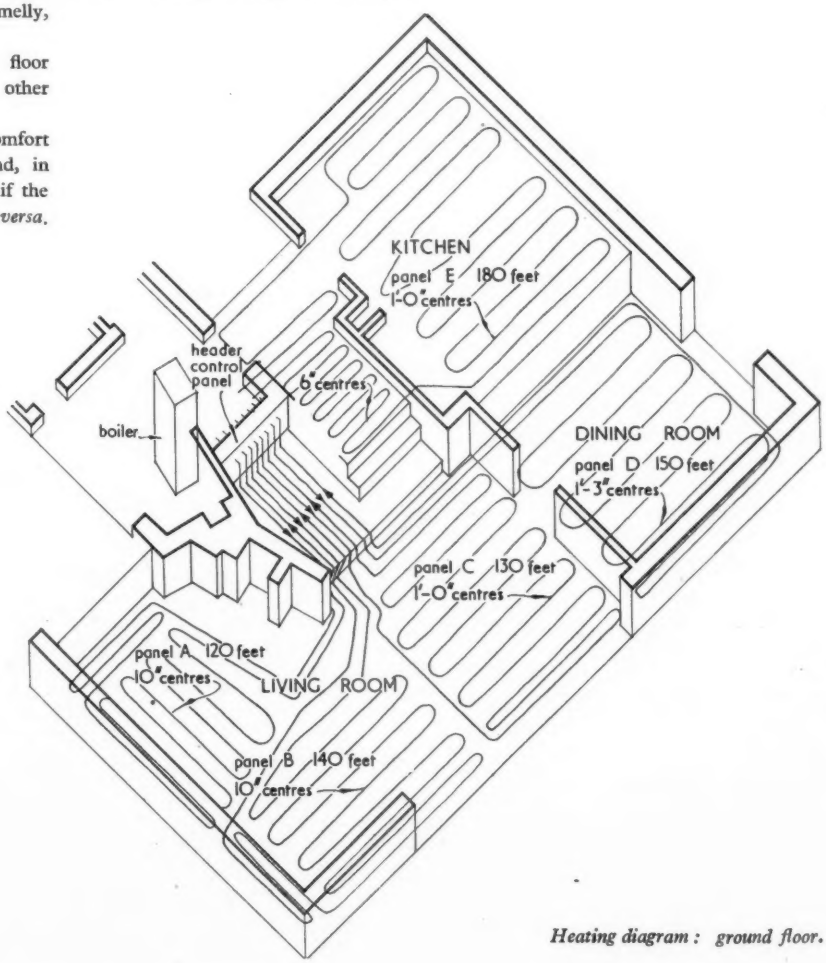
HEATING ADVISOR : Because it is much more expensive to floor heat upstairs and there is something to be said for a point source of heat in a bedroom.

TWENTY-ONE : Have you any floor covering ?

CLIENT'S WIFE: No, except one rug in front of the fire, which is purely decorative. I can't say enough about the flooring (blocks made from wood fibre bonded with resin). It's no trouble to keep clean and its surface stands up even to the antics of tough little boys.

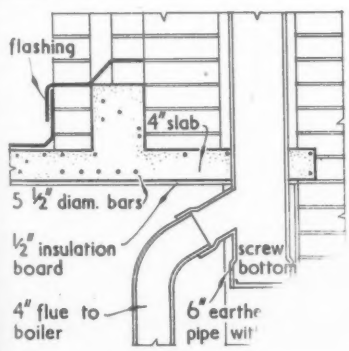
NINETEEN: Is there any pattern staining on the floor ?

CLIENT : There is none evident yet.

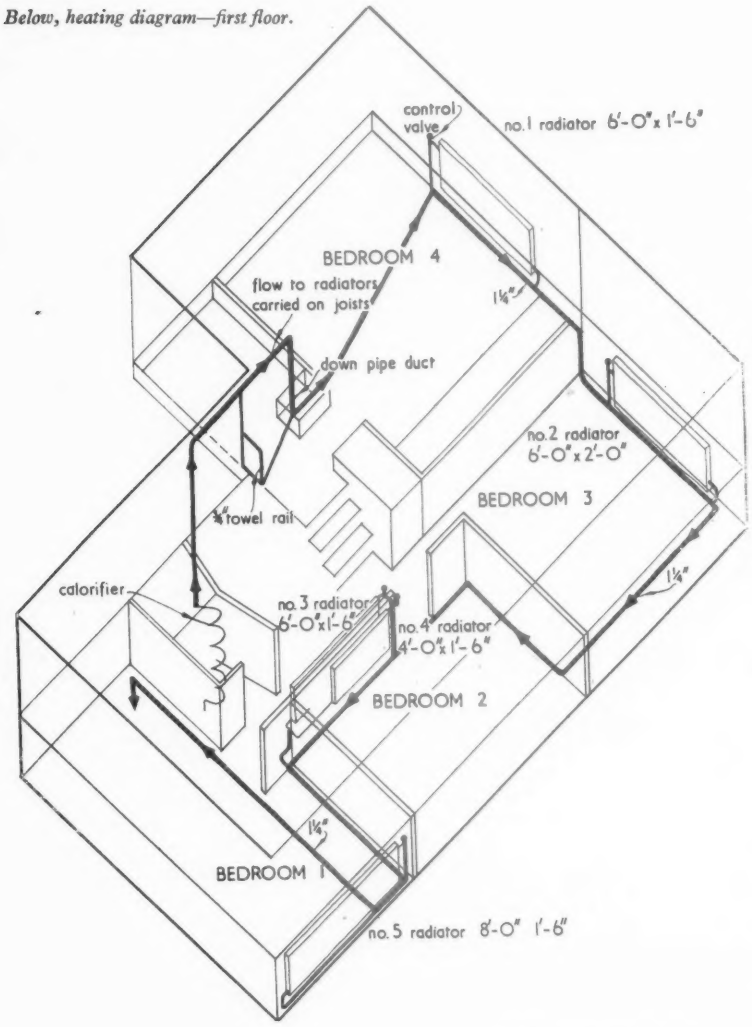


Heating diagram : ground floor.

Detail of the boiler flue.



Below, heating diagram—first floor.



HEATING ADVISOR : How about household smells?

CLIENT'S WIFE : We have the extract fan in the kitchen and that does eliminate all smells from the living room.

TWENTY-ONE : Do cooking smells penetrate into the house?

ARCHITECT : I feel that the whole attitude to household smells is based on a 19th-century conception of the house. Cooking smells aren't really bad. It is simply that you don't like to admit that such a mundane, below-the-stairs activity as cooking really goes on.

HEATING ADVISOR : Moreover, if you have a small area, temporarily isolated, a mild smell locked up in it is more noticeable when you come in contact with it.

TWENTY-ONE : What type of anthracite do you use? I'm told it's difficult to obtain and expensive.

CLIENT : Our stove uses a special type of small anthracite and with the stove goes a guaranteed supply of fuel.

TWENTY-ONE : If this system of heating were used more, that type of fuel would become less and less plentiful.

FIFTEEN : Actually, it is large anthracite which is more difficult to obtain. The small anthracite results from obtaining the large. But boilermakers are now giving up making the type of boiler using small anthracite, because the supply of fuel cannot be assured for more boilers, although it can be assured for all the boilers made so far.

ARCHITECT: Almost any boiler *could* be used.

FIFTEEN : There is a boiler, most suitable for floor heating, which uses coke *or* anthracite.

HEATING ADVISOR : I have a boiler which will burn almost anything.

TWENTY-ONE : As a final question: Would you have floor heating again?

CLIENT : Oh, yes, definitely, every time.

Below, view looking east.

HEATING ADVISOR : I wouldn't expect pattern staining on the floor in the same sense as you get it on a white ceiling, where you get very clear thermal markings within a relatively short time.

NINETEEN : Would there be a marked economy of fuel if you sealed off the staircase and the upper floor.

HEATING ADVISOR : I don't know, but it would interfere a lot with the way the house is now used—that uninhibited use of space.

ARCHITECT : I think the tendency to use the staircase as part of your ground floor general activity area arises partly from the fact that, with the restricted area now allowed, the staircase gives you your only vertically large dimension.

TWENTY-FIVE : Do you have any intentional air inlets?

ARCHITECT : Only in bedrooms, where there are air bricks. There is, of course, the flue to the fireplace on the ground floor.

CLIENT : And we have an extract fan in the kitchen.

HEATING ADVISOR : Do you find the house dustier than houses you have lived in previously?

CLIENT : No. It does get dusty but no more than other houses, and it makes no difference whether the heating is running or not.

TECHNICAL SECTION

Once again the economic crisis forces Professor Bowen to paint a very gloomy picture in his article on page 169. If the outlook for the building industry continues to be " uncertain," then the private architect, if he is to survive, must try to make his practice more flexible. Already a number of well-known architects have foreign jobs on their drawing boards, and there is another field in which architects might well serve. The production of prefabricated houses (and other buildings) for export is a new, but rapidly-expanding industry. It will be to Britain's credit if these buildings are architect-designed. The architect should contribute to the team which designs these buildings. First, of course, he would have to learn the elements of the technique of prefabrication, but, having done so, this would be a useful means of supplementing his " normal " work and enabling him to " ride " the difficult times which certainly lie ahead.

R. FITZMAURICE

This week's special article

23 HEATING
domestic floor heating

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 of the Centre, published free each year.

Domestic floor heating has already achieved great popularity in the USA ; it is now beginning to find favour in this country. By warming the structure instead of the air it produces conditions more closely approximating to natural warmth than does ordinary central heating.

At least six houses using floor heating have now been built or are under construction in this country. One which relies on the circulation of hot air was illustrated in the JOURNAL for September 20, 1951, one in which hot water is circulated is described on pages 151 to 160 of this issue and several more will be illustrated in future issues of the JOURNAL.

Floor heating is by no means a new technique; it was popular in Britain during Roman times, but little or no use of it was made after that until Frank Lloyd Wright became interested in it and developed a modern technique for its use in houses. During the last ten or fifteen years several other techniques have been introduced in the USA and some have become very popular.

In Britain, floor heating was used before the late war for various kinds of buildings other than houses and there are some particularly well-known examples of floor-heated school buildings. However, no one appears to have tried it for houses until after the war, when architect W. A. Allen, with the help of a heating engineer interested in the subject, built himself a floor-heated house in Welwyn Garden City in order to study its value for this climate, its cost, and the extent to which it gives freedom for open planning. His design was described in the JOURNAL for July 8, 1948, and the first two-thirds of the house were completed the same year. The other third of the house is being added now and this too will be illustrated in due course.

Mr. Allen sums up his experience to date by saying, " There is extraordinary comfort, great freedom for open planning, and the cost is competitive with ordinary central heating." Much of the economy is due to the use of

smaller bore pipes than British heating engineers usually use. The use of this size of pipe has now become general practice for floor heating.

Floor-heated houses built subsequently and using systems based on Mr. Allen's include one by P. V. Mauger for H. C. Jamieson, one by the Architects Co-operative Partnership for P. de Syllas, one by John Bickerdike and W. A. Allen for D. J. A. Boyd, one by R. H. Uren, of Slater, Moberley, Uren and Pike, for himself and one by Robert Townsend, also for himself. (The progress photographs on page 163 are of Mr. Townsend's house.) The first three of these houses, like Mr. Allen's, are in Welwyn Garden City.

THE CIRCUIT AND GENERAL DESIGN

The system used in these houses works briefly as follows: hot water is taken from a boiler, its temperature is modified by a mixing valve, it is forced by a small pump through the panels in the floors and back to the boiler.

In practice, water from the boiler is divided into two circuits, one operating by gravity for the storage cylinder (and possibly for radiators upstairs) and the other for the floor heating. 1¼-in. pipe is used for the former, and ¾-in. for the flow and return to the latter.

The hot water for the floor panels is taken directly from the boiler to the mixing valve, which is a simple shower-bath valve of a type not offering too much resistance; it is usually called a "blender." The water which is mixed with the incoming hot water to bring it down to a suitable temperature is the water returning cool from the panels; it goes back mainly to the boiler, but a cross-connection to the mixing valve allows the latter to take as much of it as it needs. The blender should have a strainer on its inward flow to prevent scale and dirt from entering it and the system, and all connections to the mixer are valved so that the strainer can be isolated for cleaning, without draining the whole system.

From the blender, a ¾-in. flow leads to the pump, which is usually rated at ⅙ h.p., and slow running for quietness. Quiet running is vital if noise insulation is not to be a nuisance. This point is extremely important. Manufacturers' ideas of quiet vary considerably, and some pumps are definitely noisy. It is doubtful whether there is a British pump of the right capacity as quiet as some American pumps sold for this purpose, but that is probably because there is not a large market yet in England for pumps of this type for domestic use. However, a few are quite acceptable. Rubber hoses should lead to and from the pump, and it should rest on something resilient. Some pumps now have spring mountings built-in.

THE PANELS

For domestic use it is recommended that panels should be of ⅜-in. inside bore, 20-gauge dead soft copper. This comes (when it can be obtained), in coils, usually 60 or 100 ft. long, and can be laid out flat on the site concrete and bent around simple formers. (Americans sometimes just use the toes of their boots.) Copper coils can, of course, be joined satisfactorily and the joints buried. Panels are limited to lengths of between 100 and 150 ft. They should be roughly equal in length so that they offer equal resistance. Unequal resistance would reduce the flow of hot water through the longer panels, and they would, therefore, run cool. Panel resistance is increased where there are appreciable changes of level and panels which change level have to be shortened accordingly.

Today, the lack of copper has brought mild steel into use, but this is not easily obtained below ½-in. bore. It has the merit of cheapness, but is not so easy to instal. It is generally agreed that the main leads should be site welded to the panels, and it is not always possible to find fitters experienced in welding. The Americans are now trying flexible thin-wall steel tubing.

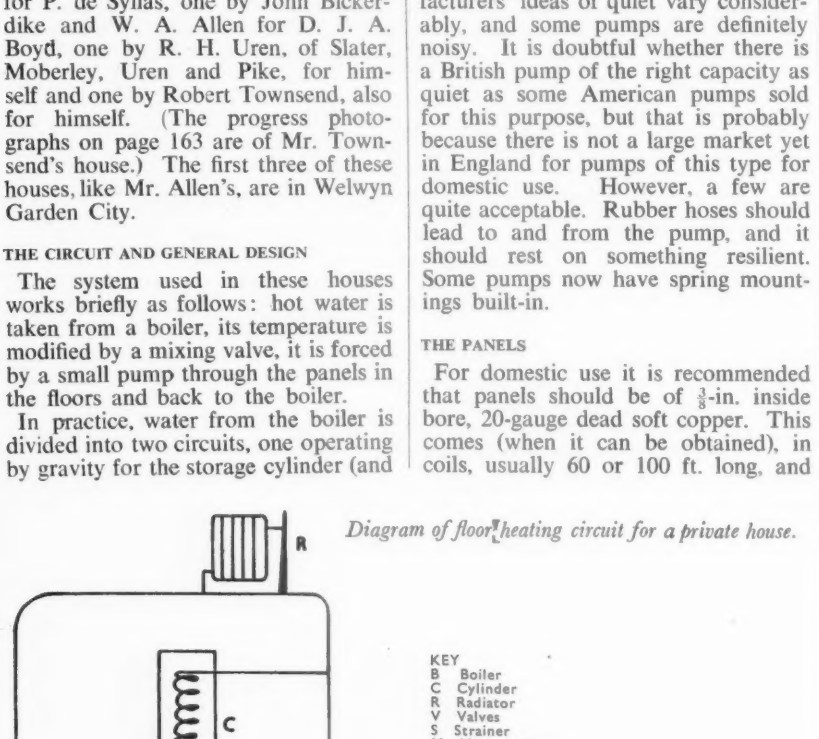
The approach to the panels from the pump is by ¾-in. piping to some convenient distribution point or points, so that the leads to the panels can be grouped in a manifold. This is not essential, but it is tidy. In the de Syllas's house the flows are unvalved, but the returns have small gate valves on them, so that the flow through any panel can be stopped.

One particular precaution is taken; arrangements are made so that panels can be blown out, should they clog or should there be an air lock. A plugged end is provided on the flow manifold for the application of pressure, and all panels are shut except the one to be blown, which is disconnected. The flow manifold has a master gate valve on it to prevent pressure backing up into the system generally. The pressure applied may be several hundred pounds per sq. in., and the system should be tested accordingly when installed, for which purpose test pumps can be hired cheaply.

The layout of the panels is quite simple. A convenient "norm" is 12-in. spacing, 3 in. or so below the finished surface. This should be used for all areas where people will sit for longish periods, and should usually be operated at a surface temperature of 75°-80° F., which is about as high as is comfortable for the feet. The air receives its heat from the floor, and experience shows that, even in a fairly well-insulated house, it may not be easy, in very cold weather, to get the air hot enough without getting the floor too hot. The air must not be too cool or people will feel restless and slightly "chilly." The heating surface should be, therefore, as large as possible rather than as hot as possible, and its temperature can be above 80° F. in places where it does not matter; for example, near the walls and in corridors. The way to raise the temperature is to space the pipes more closely, down to about 6-in. centres. Even so, the air can sometimes seem a little chilly in peak cold weather, and a good practice would seem to be to put one radiator in some convenient central place downstairs, fed by the gravity circuit, just to boost air temperatures a little. Alternatively, as in the de Syllas's house, a convector-fire can be used instead. In the kitchen, where people are active and may stand for long periods, and where there is waste heat from cooking, perhaps a slightly wider spacing of pipes, up to 15-in. centres, may be desirable.

Upstairs heating in the de Syllas's house is by conventional radiators in

Diagram of floor heating circuit for a private house.



each bedroom, fed by a gravity circuit. Considering the amount of radiation from downstairs, and the amount of warm air flowing upwards in an open-plan house, the upstairs radiators do not have the normal amount of work to do, and often may not be required at all. An advantage of having the downstairs heating on a pumped circuit, and the upstairs on the separate gravity line, is that they can be used separately. With a complete radiator circuit the upstairs heating often has to be used in order to make water flow through the downstairs part of the circuit. The pump can either push or pull water through the panels.

The de Syllas's boiler is rated at 50,000-70,000 B.Th.U's per hour, and it burns very small anthracite. There is a small fan for forced draught. This, together with the forced combustion, makes a little noise, and this should be borne in mind when deciding where to place a fan-blown boiler in a house.

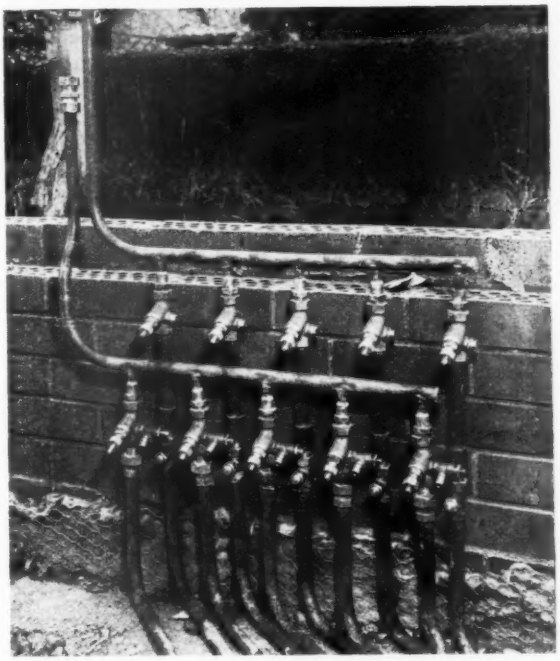
It might be questioned whether, in a hybrid system, the water under pressure from the pump will react upon the gravity flow where the two come together, and slow down the gravity flow. It is believed that this happens in the Boyd's floor-heated house. The water returning from the panels joins the water returning from the cylinder, and the flow through the latter seems to get sluggish. But Mr. Allen reports that, although his house has the same kind of circuit, he has not had this trouble, so it must depend on several factors. If there are two pairs of tappings for the boiler, the risk can be avoided by reserving one pair for the heating and one for the cylinder.

VENTING

Venting is important, as in all heating systems; there must be no air-locks. As long as the panels lie flat and either the flow or return is higher than the panel, it should not trap air. Panels can be stepped down to lower levels than the boiler, and even change level within themselves. The de Syllas's panels drop down about 2 ft. below the level of the boiler base. But, as long as air can flow freely to a release point or air-cock, all should be well.

In practice, a valve is inserted in each circuit so that they can be isolated, or balanced for general use together. The valve in the cylinder circuit can have a ¼-in. hole drilled in its gate to prevent a complete shut off. Otherwise the boiler could build up pressure inside a closed circuit and some damage might result.

When the system is in operation, the blending valve is usually left to blend the water to a suitable temperature, and the heat input to the panels is controlled by switching the pump off and on, instead of regulating it with the valve. The switching is usually controlled by a thermostat. The maxi-



Robert Townsend's floor-heated house during the course of construction. Above, floor of bedroom wing with panels partially embedded. The panels consist of pre-bent, wrot iron, steam tube, butt welded on the site. They are levelled by means of the strips of concrete seen in the photograph. Below, panel in consulting room. This panel is laid on a glass-silk quilt, covered with building paper and wire netting. Right, header connections in copper for the panels at the east end of the house.

Progress photograph of Robert Townsend's house, showing the construction of the south wall: 2-in. by 2-in. studs and 2-in. woodwool panels, faced internally with plywood and externally with hardwood boarding.

mum water temperature should be between 100° and 120° F., a temperature range within which furring will not take place.

FLOOR CONSTRUCTION

In the de Syllas's house the panels rest directly on the site concrete, except around the edges of the house, where a 2-ft. wide strip of ½-in. insulation board lies beneath the piping, and the screed itself has a strip of wood to insulate it from the wall. The purpose of this is to make it harder for heat in the screed to leave the house around the edge, for edge losses have always been regarded as an important factor in heat economy with floor panel systems.

The lack of insulation across the central areas is based upon Mr. Allen's experience that the thermal storage which then takes place in the ground below the floor is often useful to bridge gaps in the operation of the system, either overnight or for longer periods, and to allow the main heating to be discontinued relatively early in the spring. It apparently is not expected to affect economy very markedly; nor is it said to make the system much more sluggish in response.

WARMED CEILINGS AND WALLS

There is a common impression that ceiling and floor heating are just two methods of radiant heating, both equally acceptable, to be used according to convenience. In a multi-storey building the difference may not be great, because floors and ceilings both tend to warm up together, but in houses they will be very different, and ceiling heating alone might be rather uncomfortable, because the "hot-head/cold-feet" contrast is likely to be marked and unpleasant. Probably ceiling and floor heating together would be very good in a house and would warm the air adequately without raising radiant temperatures too high for comfort, but, first, someone will have to invent an inexpensive method of warming ceilings. Moreover, there is the problem of pattern staining to be overcome. But the circuit is a sensible one, because the floor panels can be fitted on to the return from the ceiling panels.

The Americans use wall heating also, often by plastering on metal lath over the pipes. No doubt there is much to be said for developing all methods of warming the structure rather than the air. Fundamentally it should be more comfortable and more economical to run, than air heating.

FLOOR HEATING AND OPEN FIRES

The houses in which floor heating has been used also have open fires, and present experience in this country suggests that open fires, or some other kind of point source of heat, are well worth having. Floor heating is a very uniform source and though never stuffy like radiator heating, nor chilly, its uniformity can be "unstimulating." In daytime, when people are moving about, this does not matter, but in the evening, something to disturb the uniformity is worth having to avoid dullness.

In the de Syllas's house, the fire also provides convected heat, to help boost air temperatures; this seems a sensible course to adopt.

DESIGNING FLOOR HEATING

Ideally, floor heating, like any other system (and especially a new one), should be designed by a competent heating engineer, but, in practice, there are difficulties. Some heating engineers seem rather hostile (without any obvious reasons) to floor heating, and even firms which like it may not find it practicable to make prices competitive for houses, because of the inconvenience to them of small jobs. Then, sometimes, a builder will tack on another 10 per cent. or so for attendance on a sub-contractor and make it wholly uneconomic. The small firms who do conventional heating are not yet very familiar with floor heating technique for houses and few, if any, articles about it have appeared in British heating journals, to help them. The de Syllas's system has been carried out by the heating branch of the general building contractor, under the guidance of the architect and W. A. Allen.

Probably, independent consultants, guiding the smaller local firms will often turn out, in practice, to be the most convenient organization, but architects should not find it particularly difficult to master themselves the design of floor heating systems for ordinary houses, if they cannot find anyone to do it for them.

It may be that there are several floor-heated houses of which little or nothing is known. The Editors of the JOURNAL would be pleased to hear of these.

8 ESTIMATING
materials prices

Current prices for measured work will appear in the issue for February 7. Prices of materials and measured work last appeared in the JOURNAL on October 18, 1951 and November 1, 1951, respectively.

Current rates of wages and market prices of materials prepared by Davis Belfield and Everest, Chartered Quantity Surveyors.

Rates of Wages last rose on March 5, 1951, and are now as follows:—

LONDON DISTRICT	*Craftsmen.*	*Labourers.*
Within 12 miles radius	3s. 3d.	2s. 9½d.
From 12-15 „ „	3s. 2½d.	2s. 9d.
LIVERPOOL and DISTRICT	3s. 3d.	2s. 9½d.

GRADE CLASSIFICATIONS	A	A¹	A²	A³
Craftsmen ..	3s. 1½d.	3s. 1d.	3s. 0½d.	3s. 0d.
Labourers ..	2s. 8d.	2s. 7½d.	2s. 7d.	2s. 6½d.

Rates of Wages are to be increased by 3d. per hour commencing February 4, 1952.

Photographer
Scott Galloway,
Torquay.

CORPORATION HOUSES
AT
TORQUAY.

H. A. GARRETT, A.M.I.C.E.
Borough Engineer.

Contractors:
MESSRS. C. DEAR & SONS.

THE fronts of these houses are subject to very severe weather exposure, and the top left-hand photograph shows evidence of previous attempts to keep out the driving rain. As these were not successful, the Borough Engineer decided to remedy this state of affairs, once and for all, by re-facing the walls with a stucco of two parts of sand to one of cement made completely impervious by the addition of 5 lbs. of 'PUDLO' Brand waterproofing powder to each 100 lbs. of the cement. Eighteen houses were treated in this way and the other two photographs show the work in progress, and how it appeared a year after completion. If you are considering any waterproofing work it cannot be anything but helpful, and will cost nothing, if you will permit us to submit a specification that has proved completely effectual in exactly similar circumstances.

'PUDLO'

BRAND
CEMENT WATERPROOFING POWDER

When it is not desired to interfere with the outside appearance, or when a quick remedy is required for existing dampness, the rendering is applied to the inner surface of the wall. Ask for detailed specifications stating particulars of work to be done.

KERNER-GREENWOOD & COMPANY, LIMITED

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The 2,500 tons of steelwork used in the factory buildings for the Government of Northern Ireland was fabricated in our workshops at Norwich and erected by us at Castlereagh and Duncrae Street, Belfast.

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CRC 135E

Prices vary according to quality and the quantity ordered.

Those given below are average market prices and include delivery in the London area, except where otherwise stated, but do not include overhead charges and profit for the General Contractor.

CONCRETOR

Cements

	6 tons and over.
Portland to B.S. 12 .... per ton	95/3
Rapid hardening to B.S. 12 .... ,, ...	103/3
Aquacrete water repellant .... ,, ...	127/9

Above prices include for delivery to Charing Cross in non-returnable paper bags or cotton sacks.

For other packages, deduct 20/3 per ton from above prices and add: Returnable jute sacks: 35/6 per ton of cement or 1/9½ per sack. Credit on return at 1/6 per sack.

Returnable cotton sacks: 66/8 per ton of cement or 3/4 per sack. Credit on return at 3/- per sack.

Snowcrete (minimum 1-ton lots), per ton, 252/9 (including bags).

Aggregate and Sands, etc. (Full Loads)

¾" (Down) Washed, crushed and graded shingle to B.S. 882, Table 2	per yard cube	16/3
1½" Ditto	per yard cube	15/3
⅛" Sharp washed sand to B.S. 882, Table 3	per yard cube	18/10
Brick hardcore	per yard cube	8/-

(For Sands for Bricklaying and Plastering, *see* respective trades)

Reinforcement

Home trade maximum basis price for mild steel rods to B.S. 785, ⅜" diameter and upwards, ex mills delivered to station or siding	per ton	£27 12 0
Extras for :—		
Under ⅜" to ⅞" diameter	per ton	£1 7 0
Ditto ⅞" and over ⅜" diameter	per ton	£1 14 6
⅜" and over ⅞" diameter	per ton	£2 2 0
⅞" and over ⅜" diameter	per ton	£2 9 6
⅜" and over ⅞" diameter	per ton	£2 17 0
⅞" and over 1" diameter	per ton	£3 4 6
1" diameter	per ton	£3 12 0
Under ⅜" to ⅛" diameter	per ton	£5 2 0

Fabric Reinforcement

	16.35 lb.	9.32 lb.	4.71 lb.	1.83 lb.
Steel wire mesh fabric to B.S. 1221, Part A per yd. super.	7/-½	4/1	2/1	1/4½

BRICKLAYER

Common Bricks

Third stocks	per 1,000	118/10
Rough stocks	per 1,000	150/4
Mild stocks	per 1,000	202/4
Sand limes	per 1,000	97/9
Phorpres pressed Flettons	per 1,000	105/3

Facing Bricks

Hand-selected sand limes	per 1,000	133/9
Phorpres rustic Flettons	per 1,000	130/3
Stocks, first hard	per 1,000	237/4
Stocks, second hard	per 1,000	227/4
Southwater pressed sandfaced reds	per 1,000	261/-
Dorking pressed sandfaced multicoloured facings	per 1,000	218/6

Engineering Bricks

Lingfield engineering wirecuts. Grade 'B'....	per 1,000	195/-
Southwater engineering No. 2 (second quality red pressed)	per 1,000	259/-
*Blue pressed bricks to B.S. 1301	per 1,000	362/-

* Haulage extra

Glazed Bricks

		Best quality £ s. d.	Seconds £ s. d.
White, Ivory or Brown, 9" × 2⅞" × 4½"			
Headers	per 1,000	39 10 0	37 10 0
Stretchers	per 1,000	40 0 0	38 0 0

Prices for glazed bricks + 45%, seconds.
+ 50%, bests.

Plus delivery charge in London area of 30/- per 1,000

BRICKLAYER—(*continued*)

Limes and Sands

		1 ton lots.
†Lime, greystone, to B.S. 890	per ton	99/-
†Lime, chalk, ditto	per ton	99/-
*Lime, hydrated, ditto	per ton	121/6
Washed pit sand to B.S. 1200	per yard cube	18/10

* Including paper bags.

†Hire of jute sacks charged at 1/6 and credited at 1/6. If left, charged at 1/9.

Sundries

10 s.w. gauge galvanized butterfly type wall ties to B.S. 1243	per 1,000	101/6			
Wall ties, galvanized, 8" × ⅞" × ⅛", to B.S. 1243	per cwt.	100/6			
Damp proof course slates :		Imported	Welsh		
Size 14" × 9"	per 100	43/6	71/3		
,, 14" × 4½"	per 100	21/-	33/6		
Hessian base bitumen damp course to B.S. 743	per yard super	5/9			
		9" × 3"	9" × 6"	9" × 9"	
Terra-cotta airbricks	each	1/2	2/4	5/9	
Galvanized cast-iron airbricks	each	3/1	5/2	8/-	
Galvanized cast-iron hit-and-miss ventilators	each	3/-	5/10	7/6	
		1' 0"	1' 6"	2' 0"	2' 6"	3' 6"	5' 0"
Buff terra-cotta chimney pots .... each		6/8	8/3	11/9	15/6	34/2	57/8
Wall reinforcement supplied in standard rolls containing 25 yards lineal							
‡2" wide black japanned	per roll	3/2½					
‡2½" wide black japanned	per roll	4/-					

‡ Greater widths pro rata 2½" price, carriage paid on orders of £7. Discount for quantities.

Partitions, etc.

		2"	2½"	3"	4½"
Breeze to B.S. 492	per yard super	3/8	4/3½	4/11	6/5
Hollow clay to B.S. 1190 (keyed)	per yard super	4/1	4/4	4/10	
Ditto, smooth	per yard super	4/5	—	5/2	6/3 (4")
Moler (keyed)	per yard super	9/4	11/8	13/-	14/6 (4")

PAVIOR

2" coarse gravel for paths	per yard cube	18/3
¾" fine ditto	per yard cube	19/9
Clean granite chippings to B.S. 1201, Table 4 (in 5-ton loads)	per ton	43/6
Red quarry tiles, 6" × 6" × ⅞", to B.S. 1286	per yard super	12/-
Ditto 6" × 6" × ⅝", to B.S. 1286	per yard super	10/3
Buff quarry tiles, 6" × 6" × ⅞", to B.S. 1286	per yard super	15/-
Ditto 6" × 6" × ⅝", to B.S. 1286	per yard super	12/6
Hard red paving bricks, 2"	per 1,000	417/6
Ditto 1½"	per 1,000	393/9

DRAINLAYER

Clay Land Drain Pipes to B.S. 1196

		3"	4"	6"
Pipes in 12" lengths	per 1,000	164/6	213/-	442/-

Salt Glazed Stoneware Pipes and Fittings

	Orders for 2 tons and over	Standard List + Orders under 2 tons 100 pieces upwards	Standard List + Orders under 2 tons less than 100 pieces
Seconds Quality	57½% less 15%	77½% less 15%	87½% less 15%
Best Quality	57½%	77½%	87½%
British Standard Quality	57½% + 10%	77½% + 10%	87½% + 10%
Tested Quality	57½% + 37½%	77½% + 37½%	87½% + 37½%
British Standard Tested	57½% + 47½%	77½% + 47½%	87½% + 47½%

Cast Iron Drain Pipes and Fittings

Socket and spigot pipes to B.S. 437 :—

Weight per 9 ft			Size	9 fts. per yd.	6 fts. per yd.	4 fts. each	3 fts. each	2 fts. each
1	1	17	4"	17/4	19/1	30/4	23/2	18/8
2	0	1	6"	25/11	30/5	48/6	38/11	29/2
3	3	21	9"	46/10	60/8	104/-	79/6	

This Specialized Age

No. 3. The Atomic Scientist

Since the explosion of the first atom bomb at Hiroshima, the world's Atomic Scientists have been working not only to perfect new and more devastating weapons of destruction but also to harness atomic power for peaceful purposes. Within the next few years it seems likely that these specialists will announce many revolutionary uses for the greatest source of power known to mankind.

This is the age of specialization. With the advance of modern knowledge, no one man is able to excel in everything and in the field of human endeavour the final product is inevitably the result of co-operation by specialists. So it is with architectural planning. Working under the captaincy of the architect, the team of specialists all play their part and take responsibility for different sections of the project.

Over the years, Lockhart Equipment Ltd., have gained a reputation as specialists in the planning and equipping of Industrial Canteens, Hotels and Restaurants. Experienced technicians are at all times available to provide specialist service to the architects, which includes the preparation of layout plans and the submission of appropriate quotations, whether it be for a completely new installation or the reorganisation of existing facilities. Lockhart Equipment Ltd., offer a fully comprehensive service whereby every item of catering equipment from the largest refrigerator down to the smallest piece of crockery, cutlery, furniture, linen, etc., is planned for and supplied so that the whole unit can be handed over complete and ready for operation.

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DRAINLAYER—(*continued*)

Tonnage Allowances :—

Orders up to 2 tons nett.

		4″	6″	9″
*Bends (short radius) as Fig. No. 4	each	6/3	13/–	40/–
*Single junctions as Fig. No. 18	each	11/–	22/6	69/–
*Intercepting traps as Fig. No. 33	each	30/–	50/–	123/–
*Gullies ordinary trapped "P"	each	14/6		
*Extra for 4″ vertical back inlet	each	4/3		
*Grease gully trap	each	121/–		

* These prices are subject to 91½% plusage.

Channels in Brown Glazed Ware.

Standard list + same discounts as "Best" quality salt-glazed Stoneware pipes.

White Glazed Channels

Orders under 20 pieces. Standard list +35%

Manhole covers and frames

		Size of load	Unit price
C.I. coated double triangular manhole cover and frame, 22″ dia. clear opening to B.S 497, Grade A	each	35 tons	143/–
C.I. coated circular manhole cover and frame, 22″ dia. clear opening to B.S. 497, Grade B.	each	5 tons	78/–

		Size of load	Single seal Flat type	Double seal Flat type
Coated manhole cover and frame to B.S. 497, Grade C, 24″ × 18″	each	1 ton	37/2	61/11
Galvanised ditto, 24″ × 18″	each	1 ton	66/2	94/6
Coated manhole cover and frame, to B.S. 497, Grade C, 24″ × 24″	each	1 ton	52/11	80/6
Galvanised ditto, 24″ × 24″	each	1 ton	97/8	141/–

MASON

Yorkstone

Building quality Robin Hood and Woodkirk Blue Stone.

Blocks scrappled, random sizes	per foot cube	10/8
Add for blocks to dimension sizes	per foot cube	1/3 (each dimension)
Templates with sawn beds, edges rough (up to 4 ft. super and not over 2′ 6″ long)	per foot cube	11/11
Templates with sawn beds, sawn one edge,	per foot cube	13/9
Price f.o.r. Yorkshire, railway rate to London Station per ton. (Minimum 4-ton loads)		54/5

Bath Stone in random blocks

Monk's Park	per foot cube	6/2
St. Aldhelm Box Ground	per foot cube	7/2

Delivered on rail at South Lambeth station.

Portland Stone in random blocks, average 20 feet

Whitbed	per foot cube	6/11

Delivered on rail at Nine Elms Station.

Artificial Stone to B.S. 1217

4½″ × 4″ Sill, sunk, weathered, throated and grooved	per foot run	3/6
9″ × 3″ Ditto	per foot run	4/9
2″ × 12″ Coping, weathered and twice throated	per foot run	4/3
3″ × 12″ Ditto....	per foot run	6/3
5″ × 12″ Saddleback coping, twice throated	per foot run	9/6
6″ × 12″ Ditto....	per foot run	11/9

SLATER, TILER AND ROOFER

Slates

		£	s.	d.
16″ × 10″ Best Bangor Slates to B.S. 680	per 1,000 actual	47	18	6
20″ × 10″ Ditto	per 1,000 actual	69	15	0

SLATER, TILER AND ROOFER—(*continued*)

Tiles

Hand-made sandfaced 10½″ × 6½″ red roofing tiles	per 1,000	311/6
Machine-made sandfaced best red tiles with continuous nibs, 10½″ × 6½″	per 1,000	281/9
Berkshire hand-made red Pantiles, 14½″ × 10″	per 100	112/6
Concrete plain tiles, 10½″ × 6½″	per 1,000	160/9
Ditto interlocking tiles, 15″ × 9″	per 1,000	490/–
Ditto Double Roman tiles	per 1,000	775/–

Asbestos-cement

*6″ corrugated sheets, grey	per yard super	5/6½

*Prices are for minimum two-ton loads, and are subject to 2½% discount.

Felt

Reinforced roofing felt to B.S. 747	per yard sup.	1/11½
Roofing felt (1-ply bitumen) to B.S. 747, Part I	per yard sup.	1/5½
Bituminous hair felt to B.S. 747, Part II	per yard sup.	2/10½

CARPENTER AND JOINER

Wall boards

½″ Imported Fibre board (per 100 sq. ft.)	....	5,000 to 15,000 sq. ft. 50/–
¼″ Imported Hardboard (per 100 sq. ft.)	....	59/6
3/16″ Imported Hardboard (per 100 sq. ft.)	....	82/3
* 3/16″ Semi compressed asbestos cement flat building sheets, grey....	per yard super	2/3
* ¼″ Ditto	per yard super	3/2

* Prices are for orders of 2 tons and over. Subject to 5% trade discount.

Sundries

"Sisalkraft" standard grade	per yard sup.	1/–¾
"Sisalkraft" subsoil grade	per yard sup.	–/8½
"Sisalation" single sided	per yard sup.	2/3
"Sisalation" double sided	per yard sup.	3/2½
* Bitumen bonded fibre glass	per yard sup.	1/11½

* Price is for orders value £5 and over.

Timber

Softwood for Carpentry (average price)	per std.	£115
Softwood for Joinery (ditto)	per std.	£120
Tongued and Grooved SoftwoodFlooring (ditto)	per std.	£120
First Quality European Oak (ditto)	per ft. cube	23/6
Teak (ditto)	per ft. cube	59/–

Standard Panelled and Glazed Wood Doors to B.S. 459, Pt. I

Type 4	size 2′ 6″ × 6′ 6″ × 1½″	each	48/9
Type 2 × G	size 2′ 6″ × 6′ 6″ × 2″	each	54/9
Type 4 × G	size 2′ 6″ × 6′ 6″ × 2″	each	60/10

In lots of from 1 to 11 inclusive.

Wood Windows

INP 26	size 2′ 6″ × 1′ 5½″	each	30/5
4V 36	size 3′ 6″ × 7′ 9½″	each	134/8
IV 40	size 4′ 0″ × 2′ 1½″	each	40/9
3T 46	size 4′ 6″ × 5′ 10⅞″	each	131/11
4T 50	size 5′ 0″ × 7′ 9½″	each	160/6

In lots of from 1 to 20 inclusive.

Kitchen Units

No. 1	size 3′ 6″ × 2′ 8″ × 1′ 7″	each	156/–
No. 2	size 3′ 6″ × 2′ 8″ × 1′ 7″	each	100/7
No. 4	size 2′ 8″ × 1′ 9″ × 1′ 7″	each	95/4
No. 5	size 3′ 10″ × 1′ 9″ × 1′ 7″	each	76/11
No. 7	size 6′ 6″ × 1′ 9″ × 1′ 7″	each	142/3

In lots of from 1 to 15 inclusive.

Photograph: Courtesy Highways Construction Ltd.

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'Fibreglass' Staple Tissue for underlay application is supplied in rolls 36" wide and up to 400' long. It is laid down in exactly the same way as traditional materials and cut in position to conform to irregular shapes.

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FIBREGLASS *staple tissue*

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MANCHESTER OFFICE: 11 Piccadilly. (Blackfriars 8863)
BIRMINGHAM OFFICE: Piccadilly Arcade, 105 New Street (Midland 0464/5)
DUBLIN OFFICE: 21 Merrion Square North. (Dublin 66024)

STEEL AND IRONWORKER

		£	s.	d.
Basis price for rolled steel joist sections, in 10 ft. to 50 ft. lengths....	ex mills per ton	24	12	0
Extra for sizes :—				
9" × 7"	Add per ton		5	0
3½" × 3½", 5" × 4½", 6" × 4½", 10" × 8", 12" × 8", 14" × 8", 16" × 8", 18" × 6", 18" × 7", 18" × 8", 20" × 6½", 20" × 7½"	„ „		10	0
10" × 4½", 12" × 5"	„ „		15	0
4" × 2¼", 5" × 3", 22" × 7"	„ „	1	0	0
3" × 3", 4" × 3", 5" × 2½"	„ „	1	5	0
4" × 4", 6" × 3"	„ „	1	10	0
4½" × 1¾", 24" × 7½"	„ „	2	0	0
4" × 1¾"	„ „	3	0	0
3" × 1½"	„ „	3	10	0
Basis price for angles	ex mills per ton	24	5	6
„ „ „ tees	„ „	24	5	6
„ „ „ solid steel columns	„ „	26	5	6

All delivered Station or Siding.

PLASTERER

Plaster and Cement

		1-ton loads	6-ton loads
Thistle (browning) to B.S. 1191, Class B	per ton	141/6	117/-
Gypstone to B.S. 1191, Class B	per ton	98/6	ex Works, Kent.
Paristone (haired) to B.S. 1191, Class B	per ton	103/6	
Ditto (unhaired)	per ton	98 6	
Sirapite (coarse) to B.S. 1191, Class C	per ton	138/-	113/6
Ditto (fine) to B.S. 1191, Class C	per ton	146/-	121/6
Keene's Pink to B.S. 1191, Class D....	per ton	184/-	
Keene's White to B.S. 1191, Class D....	per ton	189/-	
Cullamix (Tyrolean Finish), 1-ton lots and upwards	per ton from	174/3 to 207/9	

Sundries

Sharp washed sand to B.S. 1198	per yard cube	18/10
Cow Hair	per cwt.	97/6
Expanded metal lathing, 9' 0" × 2' 0" × ⅜" mesh × 24 gauge	per sheet	5/9

	25 to 149 yards	150-299 yards	300-599 yards	Over 600 yards
⅜" Plasterboard (base board) per yard super	2/9½	2/5½	2/4½	2/3½

Galvanized lath nails 14 G	per cwt.	137/-
Hessian Scrim cloth in 100-yard rolls, 3½" wide	per roll	10/-

Wall Tiles

The following prices are subject to 17½ per cent. addition :

Standard quality white glazed 6" × 6" × ⅜"	per yard super	18/6
Cream glazed 6" × 6" × ⅜"	per yard super	20/6
Eggshell or glossy glazed 6" × 6" × ⅜"	per yard super	26/3

PLUMBER

Lead and Copper

3½ lb. and upwards milled sheet lead in quantities of 5 cwts. to 1 ton in sheets to B.S. 1178 ...		per cwt.	201/-
Allowance for old lead delivered to merchant or manufacturer		per cwt.	156/-
Hot rolled copper sheeting in 5-cwt. lots (4' × 2' sheets), to B.S. 899	23 wire gauge	per cwt.	305/3
Ditto	24 wire gauge	per cwt.	308/3
Zinc sheeting in 2-cwt. lots	14 gauge	per cwt.	211/6

Cast Iron Goods

Percentage Adjustment on List No. 3100 A.B. 13/8/51.

Rainwater Goods (painted or unpainted)	*Plus* 81%
Soil goods (coated or uncoated)	*Plus* 81%

Mild Steel Rainwater Goods

		Standard List
Gutters	(under 100 lengths)	....Less 17½% + 27½%
Pipes and Fittings	(„ „)	....Less 17½% + 27½%

Asbestos-Cement Rainwater Goods

The following prices are subject to 12½% trade discount. Orders over £30 are subject to 17½% trade discount.

Rainwater Pipes.

	Diameter 2"	2½"	3"	4"	6"	
2' 0" lengths	2/11	3/4	3/11	5/5	11/2	each
3' 0" „	3/11	4/6	5/3	7/4	15/-	„
4' 0" „	5/-	5/6	6/4	8/11	18/6	„
6' 0" „	5/10	6/7	7/10	10/10	22/4	„
8' 0" „	7/9	8/9	10/5	14/6	29/9	„
10' 0" „	9/9	11/-	13/-	18/-	37/3	„

PLUMBER—*(continued)*

Gutters.

Short lengths of gutter up to 2' 0" charged as 1 yard; from 2' 0" to 4' 0" as 1½ yards, and over 4' 0" as 2 yards.

Half round gutters	3"	4"	4½"	5"	6"	8"
per yard run	2/1	2/6	2/7	3/-	4/3	5/3

INTERNAL PLUMBER

Lead pipe in coils, 5 cwts. and upwards, to B.S. 602	per cwt.	202/5
Lead soil pipe	per cwt.	205/3

Drawn lead trap with brass screw eye, 6 lb., to B.S. 504		1"	1¼"	1½"	2"
S. trap	each	7/7	8/10	11/-	15/10
P. trap	each	6/8	7/4	9/2	12/9
Extra for 3" deep seal " S " trap	each	1/10	2/2	2/5	3/1
Extra for 3" deep seal " P " trap	each	1/3	1/6	1/6	2/2

Screwed and Socketed Steel Tubes and Fittings for Gas, Water and Steam, etc.

Fittings and flanges and tubes ordered in long random lengths are subject to the following trade discounts :—

Tubes :	½" to 4"		
Class B	.... 24½%	Fittings :	
„ C	.... 13½%	Lightweight	.... 4½%
		Heavyweight	plus 3½%
Galvanized Class B	plus 8%		
„ „ C	plus 23%		

Flanges :		⅛" to 2"	2½"	3" to 4"
Lightweight (Table D)	Plus	9½%	less 29½%	less 44%
Heavyweight (Table E)	Plus	30¾%	less 17¾%	less 33½%

Copper tubing to B.S. 659 and 1386 Basic price per lb. 2/2

GLAZIER

Sheet Glass, cut to size (ordinary glazing quality), to B.S. 952, Section A.

For quantities exceeding 500 ft. super.

18 oz.	per foot super	4½d.
24 oz.	per foot super	5½d.
32 oz.	per foot super	9½d.

Polished Plate glass, ordinary substance, approximately ¼", to B.S. 952, Section A.

In plates not exceeding :		Glazing quality	Selected glazing	Silvering quality
2 ft. super	per foot super	3/2	3/8	4/5
5 ft. super	per foot super	3/10	4/5	5/3
*45 ft. super	per foot super	4/5	5/-	6/-
*100 ft. super	per foot super	4/9	5/9	7/6

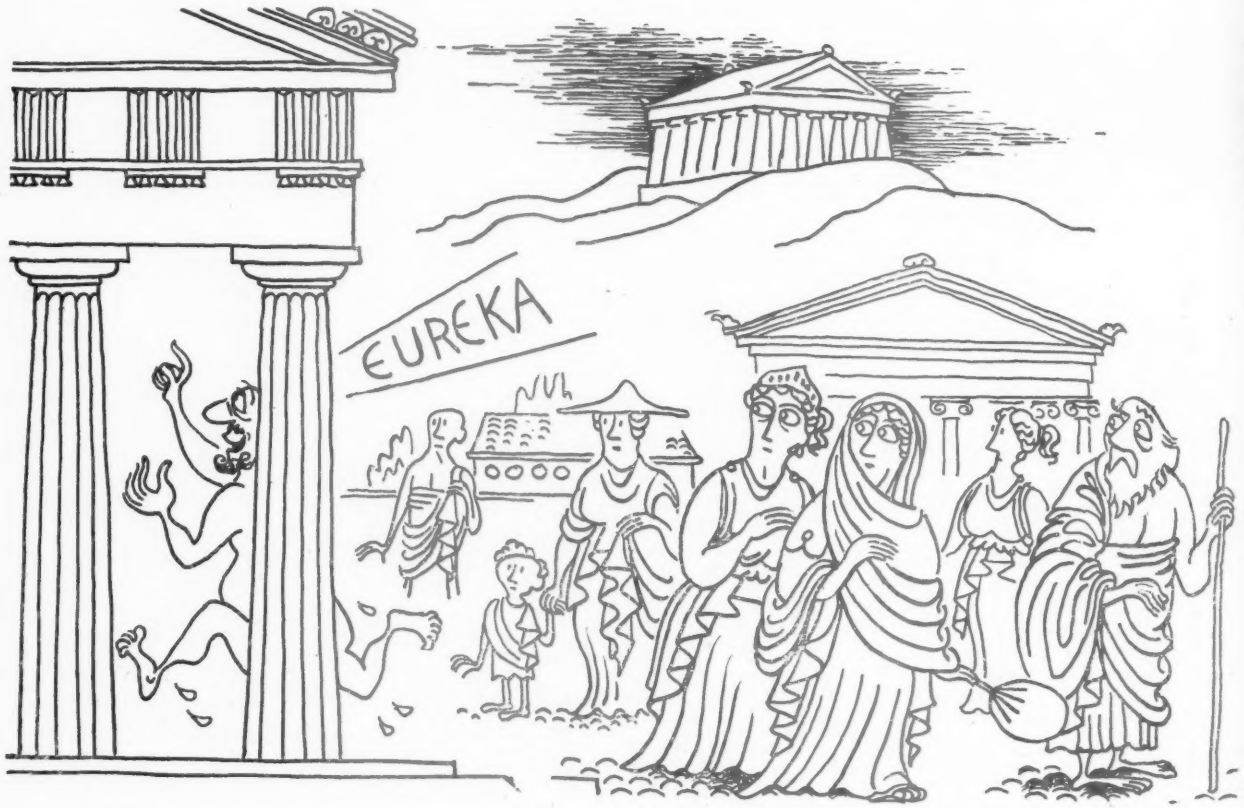
* Extra sizes, *i.e.*, plates exceeding 100 ft. super or 160 in. wide, or 96 in. long, at higher prices.

⅛" figured rolled and cathedral, to B.S. 952, Section B—untinted....	per foot super	7½d.
3/16" or ¼" rolled plate, „ „	per foot super	8½d.
3/16" or ¼" rough cast, „ „	per foot super	8½d.
¼" Georgian wired cast, „ „ Section D	per foot super	10d.
¼" Georgian wired polished plate „	per foot super	4/4d.
¼" wired cast „	per foot super	9½d.

PAINTER

White ceiling distemper	per cwt.	29/-
Washable distemper	per cwt. from	112/-
Ready mixed white lead paint (best), semi-gloss, per 32 lb.	per gallon	69/-
Aluminium paint (best quality)	per gallon	38/-
White enamel paint	per gallon	55/-
Oil stain (scumble)	per lb.	4/1
Varnish (outside quality), copal oak	per gallon	36/-
„ „ „ general oak	per gallon	34/-

F.R.I.C.S., F.I.Arb.



The man of action does not hesitate

On Hydrostatic Laws or Heavy Duty Cooking

ARCHIMEDES, sprinting so cleanly through the streets of Athens, was wrapped up completely—and, indeed, exclusively—in the first hydrostatic law. Perhaps he should have waited; some things no doubt require a certain well-timed prorogation. Others, beyond a question, don't. The installation of Falkirk Cooking Equipment belongs most definitely to the latter order. It will cost the builder more time and money if he puts it off.

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AI TRADE MARK

ECONOMIC AFFAIRS

In his article this month, Professor Bowen criticises a recent statement of the FMB. Its recommendation that the Government should lay down a long-term programme for the industry he describes as unrealistic, in view of the country's uncertain economic situation.

The economic crisis, like the poor, seems always to be with us. Moreover, it imposes inescapable limitations upon any rational policy for the building industry. A special feature of the present phase of the crisis is the strain imposed upon the nation by the re-armament programme, and by the "near-war" conditions overseas. The situation is, in many respects, critical, and demands a hard-headed and objective diagnosis. Even if such a diagnosis is flavoured by the political preferences of whichever party is in power, it must be thorough and, as far as statistics make it possible, factual.

Unfortunately, this is not the type of diagnosis that the present government has made. Under the Labour government, policy was confused by two half-hearted preferences; firstly, for nationalization of the industry and, secondly, for traditional methods of building. The present government is being subjected to pressure from an organization the policy of which is equally confused. Some of the points put forward recently by the Federation of Master Builders can only, under present circumstances, be classified as unrealistic. Although in other, and happier times, its policy might be easier to defend, it is, at present self-contradictory.

A LONG-TERM PROGRAMME

The first point of the Federation's policy is that "the Government must fix, definitely and on a long-term basis, the 'global' amount which can be spent on all types of building, including housing." This point, taken by itself, and in relation to a long-term plan for the industry, is no doubt beyond criticism. It is, indeed, merely an echo of the policy for the *post-war* industry laid down in a White Paper, as long ago as 1943, by the coalition government then in office. It was, at the time, welcomed by employers, organized labour and both the major political parties. But in 1952, it is, alas, asking very nearly for the moon. Almost any government would *like* to be able to lay down the permitted building programme for a year, two years or, better still, a decade ahead, and thus to introduce some degree of certainty into an unstable economic world. But, at the present time, any government which stated that it could see much more than six months ahead would be either insincere or irresponsible. The ideal of a steady, long-term programme ought not to be lost sight of, and it may one day again become a practical possibility, but, at the moment, such a programme could only be a blue-print to which, in practice, many amendments would have to be made. There must be plans, but they can only be short-term plans and they must be extremely flexible.

Furthermore, there are certain implications involved if the Government "fixes" the "global amount" to be spent on different types of building. If it faithfully implements such a policy, it must, firstly say "no" to those who wish to spend more than any of the totals fixed and, secondly, make sure that there are enough building resources available to *obtain* the totals fixed. The first point seems to have been taken into account by the Federation since they envisage the continuation of licensing, but the second point seems to have been neglected or, at least, inadequately considered. For, although they admit that some controls are necessary, they add that, "the licensing system for ordinary repairs should be abolished as soon as possible, and in any event the 'free limit' raised to £500."

Approximately how much of the building resources of the country does the Federation calculate would be absorbed on repairs if its policy were followed? On this point, the Federation seems to rely on the "tightness of the householder's pocket" (according to newspaper reports of their recommendations). This brings us back to the question of an economic diagnosis. Is it, in fact, true that the country has reached a degree of deflation where monetary restrictions alone can be relied on to keep demand down to the level of available supplies?

SOURCES OF BUILDING DEMAND

The ordinary householder is undoubtedly feeling the effect of the rising cost of living, especially if he is a member of the salaried section of the community, whose earnings rise more slowly than do wage-rates. But the ordinary householder is not the only source of demand; the extraordinary amount of repairs and extensions to premises that went on during 1940 and 1941 and up to the date that building licensing was first introduced, ought to have disillusioned us once and for all on this subject. Despite the recent tightening of credit, and the raising of lending rates, there is a considerable excess of demand for all kinds of building work. As imports are cut, purchasing-power will be released at home. This may not be evenly shared among all households, but it will still be large, and, as the licensing of new works becomes more strict, industrial and commercial enterprises will have more financial resources available to improve and embellish their existing premises.

There are one or two signs of a recession in trade—in textiles and in the iron and steel industry, for example—but these symptoms are not inconsistent with a continuing high level of demand over the national economy as a whole.

LABOUR PRODUCTIVITY

Next comes the question of the productivity of labour. This is, sadly enough, linked by the Federation with its Utopian proposal for a long-term programme for the industry. "Estimates of future production," it suggests, "should be based . . . on the upsurge of output and the increased supplies that the psychological effect of a long-term programme might be expected to produce." This is written almost as though its authors were unaware, firstly, of the considerable increase in labour productivity that took place between 1947 and 1950 (exact figures are not available, but the general upward trend seems undeniable) and, secondly, of the present level of production of most of the important building materials, which is high but unlikely to rise much further.

There is no doubt that productivity *does* increase when workers in the industry are busy and can see that there is plenty of work in hand. This has happened in recent years, but the present situation is different. Far more important than a long-term programme for the next ten years (which would be uncertain in any case), is a plan for 1952 and, possibly, 1953. For, during these two years, there are bound to be violent changes in the economic situation. To carry out, even incompletely, its election pledges on housing, the present government must cut new industrial building activity considerably, perhaps by 20 per cent., or 25 per cent., as compared with 1951. Materials for housing cannot be found out of new production and, if, for political purposes, there is a sudden increase in the number of houses started, materials will, once again become difficult to obtain. To ban the commencement of new work is no solution, for that is bound to unbalance the flow of work at some stage in the future.

Can productivity be encouraged by other means—by incentive payments, for instance? There certainly seems to be scope for a wider application of payments-by-results schemes, which on new work, are already used extensively. But the great weakness here, is, once again, the consequence of suppressed inflation. For, as long as there is excess demand, employers will be tempted to pay more than minimum rates, without regard to output at all, and this undermines the principle of incentive payments.

No one can deny that 1952 will be a difficult year for the building industry, but it will not be made any easier if the nature of the economic problems is obscured. To get the right men on to the right work will, unfortunately, require very stringent controls, and to get the maximum output from the men will need either some self-restraint among employers on the re-imposition of the once unpopular Regulation 56 AB, which imposed uniform and agreed rates of pay as a legal obligation.

MORE STRINGENT CONTROLS

The continuing excess demand for building is the first problem of 1952, but this does not mean that other problems may not develop. The attempt to make Britain pay its way can succeed only if home investment and home consumption are cut to allow for rearmament and greater exports. Home consumption may be cut, but this can hardly be the main source of materials and labour; the capital goods industries are likely to be cut, too. Building and other construction work habitually account for about half the real capital outlay of the country. Thus, over and above any reduction in new industrial building—and this, as has been seen, may be severe—there are likely to be further attacks upon the current level of building and other constructional activity.

Where can these cuts fall? New sets of economy standards may, perhaps, be imposed upon designers of schools and other publicly-financed buildings, and total expenditure on them may well be reduced; the commercial buildings planned for the centres of the blitzed towns and other places may have to be postponed; and, above all, small repairs and extensions will have to be sacrificed yet again.

A WELCOME ANNOUNCEMENT

As this article goes to press, some further public statements on housing have been made by ministers. All the implications of the so-called "flexible" policy are not yet clear, but two of its features embody principles which have often been discussed in these articles. The first is the setting up of *local* housing production boards; the second, the introduction of a block licensing system. Both these innovations are sound in principle and, provided that they are energetically operated, they should give a stimulus to the more efficient and rapid production of houses.

IAN BOWEN

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

ENQUIRY FORM

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

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Please ask manufacturers to send further particulars to :—

NAME .....

PROFESSION or TRADE

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ADDRESS .....

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A.J.31.1.52

Buildings Illustrated

House in The Glade, Welwyn Garden City, Herts. (Pages 151-160:) Architects: Architects' Co-operative Partnership; Heating advisor, W. A. Allen, B.ARCH., A.R.I.B.A. General contractor: Yeomans & Partners Ltd. Clerk of Works, Mr. Tozer. Sub-contractors: foundations and damp courses, bituminous felt damp-proof membrane, The Ruberoid Co. Ltd.; bricks, yellow second stock bricks, London Brick Co. Ltd.; slate, Bow Slate & Enamel Co. Ltd.; tiles, J. C. Edwards (Ruabon) Ltd.; 30 SWG copper sheeted fibre board on prefabricated panels and trusses, Matthews (Builders) Ltd.; roofing felt, The Ruberoid Co. Ltd.; white plyglass—entrance hall, James Clarke & Eaton Ltd.; chipboard flooring blocks ("Weyroc") supplied by Jicwood Ltd., laid by Aladdin Services (London) Ltd.; flooring adhesive, Dunlop Rubber Co. Ltd.; central heating copper tubing, I.C.I. Ltd., mixing valve, Gummers Ltd.; grates, B. Finch & Co. Ltd.; Earleymil Junior No. 0 Magazine Boiler, Earleymil Ltd.; electric wiring, Eastern Electricity Board; electric light fixtures, Troughton & Young Ltd.; sanitary fittings, J. Bolding & Son Ltd.; door furniture, James Gibbons Ltd.; carda window, Holcon Ltd.; sliding window gear ("Coburn") British Trolley Track Ltd.; window furniture, James Gibbons Ltd.; plaster, Byron & Panter Ltd.; metalwork, Mountford Bros. Ltd., Church & Co. (Fittings) Ltd.; joinery, Fuller Hills Ltd.; tiling, Summers & Co.; wallpapers, Primavera, Arthur Sanderson & Sons Ltd., Cole & Son (Wallpapers) Ltd.; furniture, G. Bocking, Ernest Race Ltd., Abbess Furniture Products.; water-softening plant, Permutit Ltd.

Announcements

We have been asked by ABT to point out that in the forum on productivity, reported in the JOURNAL for January 10, H. J. Whitfield Lewis was speaking in a private capacity, *not* in his capacity as Chief Housing Architect to the LCC.

Mr. H. Handley, A.R.I.C.S., has been taken into the partnership of Lay & Partners, quantity surveyors, as and from January 1, 1952. The name and style of the firm will remain unchanged, and the practice continued from the offices at 8, Clarges Street, London, W.1, and 41, South King Street, Manchester, 2.

The fourth joint annual dinner of the County Architects' Society and the City and Borough Architects' Society was held recently at the Tallow Chandlers' Hall, Dowgate Hill, with Mr. L. C. Howitt, president of the City and Borough Architects' Society, presiding, supported by Mr. J. Harrison, president of the County Architects' Society. Seventy-six members and guests were present.

Mr. John Rae has retired from the chairmanship of Messrs. McKechnie Brothers Ltd., but is remaining on the Board of Directors. Mr. J. D. McKechnie has been appointed chairman of the company, but is also retaining the position of managing director. These changes became effective on January 1, 1952.

Correction

Holoplast Ltd. have drawn our attention to the fact that the jointing techniques illustrated in the Working Detail of the lecture desk at the Nurses' Home, Lewisham, published on January 3, are covered by British patent No. 562028.

A selection of Architectural Press BOOKS

Exhibition Design. *Edited by Misha Black, O.B.E. Contributors: Misha Black, O.B.E., Basil Spence, F.R.I.B.A., James Holland, F.S.I.A., Adrian Thomas, Richard Guyatt, Lynton Fletcher, M.A., J. Mortimer Hawkins, M.I.E.S., H. F. Clark, A.I.L.A., Dorothy Goslett, Austin Frazer.*

THE PURPOSE of this book is to show what are the essential qualities of a good exhibition, and how to achieve them. It contains over 270 illustrations—photographs, drawings and plans—of well-designed recent exhibitions grouped under 'Trade Fairs', 'Public Exhibitions', 'Propaganda Exhibitions', 'Travelling Exhibitions', and 'National and International Exhibitions'. The technique of exhibition design is covered comprehensively and in detail. Each chapter is written by an expert in his own field. The mass of information the book contains will be of value equally to the professional exhibition designer and to the exhibition promoter. *Bound in full cloth boards. Size 9¾ ins. by 7½ ins.; 190 pages; over 280 illustrations. Second, revised, edition. Price 25s., postage 9d.*

Town and Country Planning Textbook. *Edited by APRR. Foreword by Professor W. G. Holford.*

THIS BOOK PROVIDES the only comprehensive textbook available for students of town and country planning, and at the same time a complete reference book for the practising planner and for other professional workers in allied fields. Compiled under the editorship of both the Association for Planning and the School of Planning, it covers the entire new syllabus of the Town Planning Institute. It affords an opportunity of systematic study in physical planning and is divided into sections on 'Geography', 'Planning Survey', 'Social Survey', 'Transport', 'Industry and Power', 'Law and Economics', all of which are contributed by leading experts. *Bound in full cloth boards. Size 8¾ ins. by 5⅝ ins.; 634 pages; a good bibliography. Price 42s., postage 11d.*

Switzerland Builds: Its Architecture Modern and Native. *By G. E. Kidder Smith. Introduction by Siegfried Giedion*

THIS IS THE ONLY BOOK ever published in English recording the development and contribution of one of the chief sources of authentic contemporary architecture. Sixty pages are devoted to a fascinating survey of native types, the simple functional quality of which is in complete sympathy with the contemporary forms that follow. In the design of churches Switzerland stands alone; in her philosophy and building of schools, foremost in Europe; and the public buildings generally rank with the world's finest since the war. Mr. Kidder Smith is 'amongst other things, a photographer of genius' says THE ARCHITECTURAL REVIEW. *Bound in full cloth boards. Size 11¼ ins. by 8½ ins.; 234 pages; 40,000 words; 6 pages in full colour; nearly 500 monochrome illustrations. Price 42s., postage 1s. 1d.*

Sweden Builds: Its Modern Architecture and Land Policy, Background Development and Contribution. *By G. E. Kidder Smith. With an introductory chapter on Land Usage by Sven Markelius.*

THIS BOOK BEGINS with a description of the Swedish native building types and the Swedish wood tradition. This serves as an introduction to a comprehensive and beautifully illustrated survey of contemporary Swedish architecture. Every aspect of this new movement is examined, from housing to the latest aeroplane hangars, from site-planning of the new suburbs to tram and bus shelters. Houses (prefabricated and otherwise), schools, churches, hospitals, concert halls, cinemas, public buildings, sports buildings, museums, shops, restaurants and factories are magnificently illustrated and fully discussed. The book ends with some hitherto unpublished illustrations of recent Swedish bridge architecture. *Bound in full cloth boards. Size 11¾ ins. by 8½ ins.; 280 pages; 7 pages in full colour and nearly 700 monochrome illustrations from photographs and drawings. Price 45s. net, postage 1s. 1d.*

London Night and Day: a guide to where the other books don't take you. *Illustrated by Osbert Lancaster. Edited by Sam Lambert.*

THIS UNUSUAL GUIDE BOOK covers a wider range in its 100 close-set pages than any comparable volume. It reveals the hidden, secret, under-the-surface London by taking the reader round the 24 hours of the clock with suggestions where to go, what to do, for each hour. Osbert Lancaster's witty, evocative drawings support the text. *Size 5½ ins. by 8½ ins. Bound in stiff card. 100 pages with over 40 drawings and a cover by Osbert Lancaster. Price 3s. 6d. net, postage 3d.*

The City of London: a record of Destruction and Survival. *With a report on Reconstruction by the planning consultants: C. H. Holden and W. G. Holford.*

THIS BOOK PRESENTS THE STORY of the development of the City of London from Roman Times to the present day and includes a series of brilliant photographs providing the first comprehensive record of the 1940-45 bomb damage. The consultants' proposals for reconstruction are shown in full detail. An attempt is also made to portray that complicated and diverse character which is peculiar to the city, that strange agglomeration of the monumental and the intimate compressed into an area so small that a pedestrian can encompass it in a morning. What he is likely to see after reconstruction, when new buildings mingle with ancient landmarks is visualized in a series of drawings by Gordon Cullen. *Bound in heavy buckram boards, gold blocked. Size 9½ ins. by 7½ ins.; 341 pages; over 360 photographs, engravings and maps, 40 of which are in colour. Price 25s. net, postage 11d.*

A Pocket Guide to Modern Buildings in London. *By Ian McCallum.*

THIS IS A NEW GUIDE BOOK intended for all interested in modern architecture. After outlining the development of architecture over the past century Mr. McCallum illustrates and describes the most significant modern buildings within 7 miles of Charing Cross, and gives full directions for finding them. *Bound in stiff board cover. Size 5¾ ins. by 4⅛ ins. 128 pages with 36 illustrations, 5 maps, a bibliography and 3 indexes. Price 3s. 6d. net, postage 2d.*

High Victorian Design: a Study of the Exhibits of 1851. *By Nikolaus Pevsner.*

DR. PEVSNER here examines the problems of the critics' *volte-face* and of the change in taste since 1851. Then the Crystal Palace itself was disliked by critics such as Ruskin, the exhibits praised and admired by critics and public alike. Now the exhibits are scorned but the building itself is highly praised. Dr. Pevsner seeks to explain the reasons for the taste of 100 years ago by a study of 120 exhibits (all illustrated) from the 1851 exhibition. *Size, crown 8vo., bound in full cloth boards, with 162 pages containing over 120 illustrations. Jacket designed by Gordon Cullen. Price 12s. 6d. net, postage 4d.*

Parliament House: the Chambers of the House of Commons. *By Maurice Hastings, Ph.D.*

TO UNDERSTAND the traditional plan adopted for the new Chamber of the House of Commons we have to go back to 1547 when the King's chapel of St. Stephen's became the home of the Commons. Dr. Hastings makes a brilliant and learned reconstruction of this place where so many high events and great Parliamentarians moved; he also describes Barry's Chamber and that opened in 1950, designed by Sir Giles Gilbert Scott, showing how the choir-stall seating plan has continued unchanged through the centuries. *Bound in full cloth boards. Size 8½ ins. by 5½ ins. 200 pages with 78 illustrations. Price 12s. 6d. net, postage 6d.*

English Panorama. *By Thomas Sharp, M.A., D.Litt.*

THE FIRST carefully studied and original account of the evolution down the centuries of the English scene in town and countryside, this book ends with a penetrating analysis of the problems of town and country planning which now confront us. First published in 1936, it has now been revised with much new material and is almost entirely newly illustrated. *Bound in full cloth boards. Size 8½ ins. by 5½ ins. 148 pages, with over fifty half-tone and line illustrations. Price 12s. 6d. net, postage 6d.*

The Unsophisticated Arts. *Drawn and described by Barbara Jones.*

WHAT IS UNSOPHISTICATED ART, the vernacular art of England? Barbara Jones has made it her pleasure to seek and find it, describe and explain it, draw it and photograph it in many places, likely and unlikely, for many years past: it is the art of the fairground showman, the painter of canal boats, the week-end bungalow owner, the toy maker, the wedding cake baker. The range of her search is best shown by a short list from the book's thirteen chapters: Taxidermy, Seaside Tattooing, Toys, Festivals. . . . *Bound in full cloth boards: Coloured tops. Size 9½ ins. by 7⅞ ins. 192 pages with over 200 illustrations in colour, half-tone and line. Price 25s. net, postage 8d.*

The Modern House. *By F. R. S. Yorke, F.R.I.B.A.*

OUTLINES THE REQUIREMENTS of the new type of home, and discusses at length its several parts in the following sections: The Plan—Walls and Windows—The Roof—Experimental Houses. *Bound in full cloth boards. Size 10 ins. by 7½ ins. 232 pages with over 500 illustrations. Seventh, revised, edition. Price 30s. net, postage 11d.*

New Ways of Building. *Edited by Eric de Maré, A.R.I.B.A. Contributors: Dr. K. Hajnal-Kónyi (concrete), O. Bondy (steel), Phillip O. Reece (timber), K. Cheesman (glass), W. B. McKay (brickwork), Philip Scholberg (light metals and plastics), C. C. Handisyde (insulation).*

A NEW BOOK on building construction which acts as an appendix to existing standard works. It is written by a group of authors, each a specialis in his own subject, on whose knowledge the general practitioner can rely. *Bound in full cloth boards. Size 9½ ins. by 7½ ins. 256 pages, over 200 photographs, plans and drawings. Second, revised, edition. Price 30s. net, postage 8d.*

a catalogue will be sent on application:

THE ARCHITECTURAL PRESS

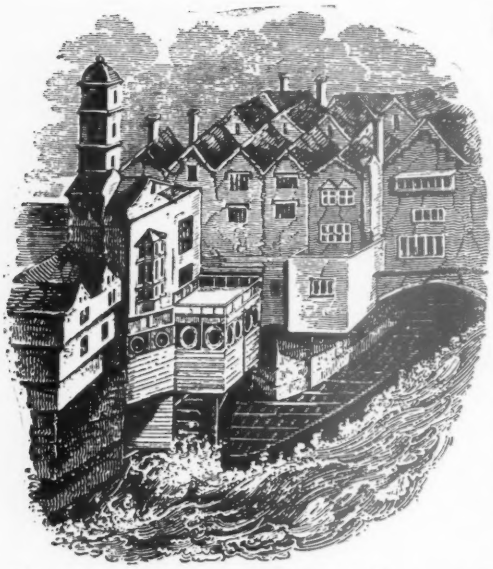
9-13, Queen Anne's Gate, London, S.W.1

THE CITY OF LONDON

a record of Destruction and Survival

with a report on Reconstruction by the planning consultants:

C. H. Holden and W. G. Holford



THIS BOOK presents the story of the development of the City of London from Roman Times to the present day.

In it you can see the first known picture of London, made in A.D. 296, and follow the story through the growth of the mediaeval precincts, the Great Fire, Wren's plans for the City, and the Victorian improvements. A series of brilliant and previously unpublished photographs provide the first comprehensive record of the 1940-45 bomb damage when a third of the City was destroyed, when twenty of Wren's City churches were ruined and dramatic new views of St. Paul's were revealed over the wastes of rubble. The proposals for reconstruction prepared for the Corporation of London by the consultants, Dr. C. H. Holden and Professor W. G. Holford, are shown in full detail.

Here also an attempt is made to portray that complicated and diverse character which is peculiar to the City, that strange agglomeration of the monumental and intimate, tall business houses overlooking the intricacy of narrow alleys and quiet churchyards, the river, and the concentration of commercial and trade centres—banking, insurance, furs, shipping, textiles, wine, printing, markets and exchanges, all compressed into a few acres, an area so small that a pedestrian can comfortably encompass it in an hour or two. What he is likely to see after reconstruction is completed and new buildings are woven in amongst the ancient landmarks is visualized in a series of drawings by Gordon Cullen.

Bound in heavy buckram boards, gold blocked. Size 9½*in. by* 7½*in.; 341 pages; over 360 photographs, engravings and maps, 40 of which are in colour. Price* 25*s. net, postage* 10*d.*

THE ARCHITECTURAL PRESS, 9-13 *Queen Anne's Gate, Westminster, S.W.*1

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

AIR MINISTRY WORKS DEPT.
ARCHITECTURAL DESIGNER/DRAUGHTSMEN required in Designs Branch by Air Ministry Works Department. Applicants should have had several years' experience in the preparation of working drawings, details and layouts for permanent and semi-permanent buildings. Vacancies are mainly in London, but there are some in the provinces. Salaries are on ranges up to £675 per annum, with starting pay dependent upon age, qualifications and experience. Applications, stating age, qualifications, previous appointments (with dates), should be sent to Air Ministry (C20) Directorate-General of Works (W.9), Bush House, S.E. Wing, Strand, London, W.C.2, from which address further details may be obtained. 5162

SURREY COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Applications are invited for the appointment of ASSISTANT QUANTITY SURVEYOR, Grade VI, at a commencing salary of £645 per annum, rising by annual increments of £20/£25 to a maximum of £710 per annum, plus London allowance of up to £30 per annum, according to age.

Preference will be given to applicants who are Members of the Royal Institution of Chartered Surveyors (Quantities Sub-Division), and who have adequate experience in the preparation of Bills of Quantities, site measuring, and in settlement of final accounts.

The appointment will be subject to the provisions of the Local Government Act, 1937, and the successful applicant will be required to pass a medical examination.

Applications, stating age, qualifications and experience, and accompanied by copies of three recent testimonials, should be sent to The County Architect, Surrey County Council, County Hall, Kingston-upon-Thames, not later than the 8th February, 1952.

Canvassing, either directly or indirectly, will disqualify a candidate from consideration.

The Council will be unable to provide any housing accommodation, and the successful applicant will be expected to make his own arrangements in this direction.

T. W. W. GOODERIDGE,
Clerk of the Council.

County Hall, Kingston-upon-Thames. 5244

COUNTY BOROUGH OF SWANSEA.
BOROUGH ARCHITECT'S DEPARTMENT.
Applications are invited for the following established posts:—

(1) TWO SENIOR ASSISTANT QUANTITY SURVEYORS, Grade VII (£685-£760 per annum).
(2) ASSISTANT QUANTITY SURVEYOR, Grade V (£570-£620 per annum).
(3) JUNIOR ASSISTANT QUANTITY SURVEYOR, Grade III (£500-£545 per annum).

For the post of Senior Assistant Quantity Surveyor, Grade VII, and Assistant Quantity Surveyor, Grade V, Associateship of the R.I.C.S. (Quantities) is required and for the post of Junior Assistant Quantity Surveyor, Grade III, the Intermediate examination of the R.I.C.S. must have been passed.

Candidates must be under 45 years of age unless in Local Government service. The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

The appointment may be terminated by one month's notice on either side.

Forms of application may be obtained from the Borough Architect, Mr. H. T. Wykes, F.R.I.B.A., The Guildhall, Swansea, and are to be returned to the undersigned not later than 11th February, 1952.

Canvassing directly or indirectly will disqualify.

T. B. BOWEN,
Town Clerk.

The Guildhall, Swansea.
18th January, 1952. 5256

BOROUGH OF BARNES.
APPOINTMENT OF PERMANENT ARCHITECTURAL ASSISTANT (GRADE III).
Applications are invited for the above mentioned appointment on the salary scale of £500×£15—£545, plus London Weighting allowance.

Applicants should have passed the R.I.B.A. Intermediate Examination and have had three years' approved experience.

Applicants who have partly completed the above examination will be considered, but if appointed will be placed on a lower grade until the required qualifications are obtained.

Applications, giving the names of three persons to whom reference can be made, should be addressed to the undersigned not later than Saturday, 9th February, 1952.

The Council is unable to provide housing accommodation.

W. R. SHEPHERD, A.M.I.C.E., A.M.I.P.I.,
Borough Engineer & Surveyor.

Municipal Offices,
Sheen Lane, S.W.14.
18th January, 1952. 6272

ROTHWELL URBAN DISTRICT COUNCIL (YORKS).
APPOINTMENT OF QUANTITY SURVEYOR.
Applications are invited for the appointment of Quantity Surveyor for a minimum period of two years, at a salary in accordance with Grade IV (£530×£15—£575 per annum. Candidates should be capable of undertaking all stages of work in and settlement of final accounts, site measure-the preparation of Bills of Quantities, preparation ments, and interim certificates.

Applications, stating age, present and previous appointments qualifications and experience, together with copies of not more than three testimonials, to reach the undersigned not later than Monday, 11th February, 1952.

ALLEN T. S. ROBERTSON,
Clerk of the Council.

Civic Buildings, Rothwell, Leeds. 5238

LONDON COUNTY COUNCIL.
Applications invited for position of SENIOR STRUCTURAL ENGINEER in Architect's Dept. Salary: £1,275×£75—£1,575. Qualifications: A.M.I.C.E. or A.M.I.Struct.E. essential. Further particulars and applications form (returnable by 29th February, 1952) from Architect, The County Hall, S.E.1, quoting AR/EK/SS/4. (67). 5265

BOROUGH OF TOTTENHAM.
BOROUGH ENGINEER'S DEPARTMENT.
Applications are invited for the unestablished post of ASSISTANT BUILDING WORKS SUPERINTENDENT at a salary in accordance with Grade A.P.T., V, of the National Scale of Salaries, i.e., starting at £570 p.a., rising to £620 p.a., plus London weighting allowance of £10 to £30 p.a., according to age.

Applicants must be competent to take full charge of the Building Works Section of about 170 men and the execution of all work carried out in the absence of the Building Works Superintendent. Considerable experience in estimating for works, both with and without bills of quantities, is essential. The hours of duty will normally be 44 per week, as for personnel supervised.

The Council are unable to offer housing accommodation to the successful applicant.

Form of application and general conditions of appointment may be obtained from the Borough Engineer, Town Hall, N.15, to whom completed applications should be delivered not later than Monday, 11th February, 1952.

M. LINDSAY TAYLOR,
Town Clerk.

6283

BOROUGH OF DOVER.
CHIEF ASSISTANT ARCHITECT.
Applications are invited for the above appointment. Salary A.P.T., Grade VI, of the National Scales (£645-£710 per annum).

Applicants must hold a recognised architectural qualification, and have had good practical experience in Municipal housing, including multi-storey flats.

Housing accommodation is available.

Applications, stating age, experience and qualifications, together with the names of three persons to whom reference may be made, should be delivered to the Borough Engineer, Brook House, Dover, not later than the 18th February.

JAMES A. JOHNSON,
Town Clerk.

New Bridge House, Dover.
22nd January, 1952. 6282

URBAN DISTRICT OF FELTHAM.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.
Applications are invited for the appointment of Architectural Assistant, in the Engineer and Surveyor's Department, at a salary in accordance with Grade V of the Administrative, Professional and Technical Division of the National Scales (£570 per annum, rising by two annual increments of £15 and one of £20 to £620 per annum, plus London "weighting"). Applicants must be Registered Architects.

The appointment will be subject to (i) the passing satisfactorily of a medical examination, (ii) the National Scheme of Conditions of Service, (iii) the provisions of the Local Government Superannuation Acts, and (iv) one month's notice, in writing, on either side.

Forms of application may be obtained from the undersigned to whom they should be returned, accompanied by copies of two recent testimonials, not later than 19th February, 1952. Canvassing, directly or indirectly, will disqualify, and applicants must disclose in writing whether, to their knowledge, they are related to any member of or the holder of any senior office under the Council.

M. W. COUPE,
Clerk of the Council.

Council Offices, Feltham, Middlesex. 6281

LANCASHIRE COUNTY COUNCIL—
PLANNING DEPARTMENT.
SENIOR PLANNING ASSISTANTS (Architectural) A.P.T. VI (£645-£710) required at Preston and Bury. Candidates must be qualified architects. Duties include design and preparation of detailed layouts for housing schemes, village extensions and central area improvements.

Applications, clearly stating appointment applied for and giving experience, present salary, and names, addresses and qualifications of two referees (preferably one should be present employer) to reach the County Planning Officer, East Cliff County Offices, Preston, by 9th February, 1952. 6271

ORKNEY COUNTY COUNCIL.
Applications are invited for the post of ARCHITECTURAL ASSISTANT in the County Architect and Planning Officer's Office. Applicants should hold at least the Intermediate Certificate, A.R.I.B.A., and have had experience in an Architect's office. The salary attached to the post, which is subject to the Local Government Superannuation (Scotland) Act, 1937, is £525-£570 per annum, but may be varied according to qualifications and experience.

Applications, together with copies of three recent testimonials, should be lodged with the undersigned on or before 1st February, 1952.

DOUGLAS M. WOOD,
County Clerk.

County Offices, Kirkwall.
11th January, 1952. 5250

BOROUGH OF MAIDSTONE.
APPOINTMENT OF FIRST ARCHITECTURAL ASSISTANT IN BOROUGH SURVEYOR'S DEPARTMENT.
Applications are invited for the above appointment, at a salary within the range of Grades Va and VI (£600 to £710); the commencing salary will be fixed according to the qualifications and experience of the successful applicant. No applicant will be considered for inclusion in Grade VI who has not passed the Intermediate Examination of the R.I.B.A., or a comparable examination of a recognised Architectural Institution.

Candidates should have had good experience in Municipal work, particularly in the design, etc., of Municipal housing. Experience in the preparation of Bills of Quantities would be an advantage.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Act, 1937, the passing of a medical examination, and one month's notice on either side. The Corporation cannot undertake to assist in any way with the provision of housing accommodation. Canvassing will disqualify.

Applications, on forms to be supplied, giving the names and addresses of two referees, must reach the undersigned not later than 10 a.m. on Thursday, 14th February, 1952.

S. F. DIXON,
Borough Surveyor.

Borough Surveyor's Department,
Palace Avenue, Maidstone.
31st January, 1952. 6296

SWINDON AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE.
CLERK OF WORKS.
Applications are invited for the post of Clerk of Works, at a salary of £450 per annum, rising by annual increments of £20 to £550 per annum. The post is superannuable and subject to medical examination.

Applicants must have served an apprenticeship in the building industry, be capable of preparing sketch plans, specifications and reports, and have had practical experience in the supervision of structural and maintenance work and staff. Preference will be given to applicants holding the Higher National Certificate in building or its equivalent.

The duties of the post include supervision of the maintenance of eight hospitals: five in Swindon and three in the Marlborough area.

Forms of application may be obtained from the undersigned, to whom they should be returned within 14 days of the appearance of this advertisement.

W. J. LEWIS,
Secretary.

7, Okus Road, Swindon. 6289

CORBY DEVELOPMENT CORPORATION.
Applications are invited from suitably qualified persons for the following appointments in the Chief Architect's Department:—

(*a*) SENIOR QUANTITY SURVEYOR at a salary of £750×£40×£40×£40×£30—£900.
(*b*) JUNIOR ASSISTANT QUANTITY SURVEYOR at a salary of £500×£25—£550.
(*c*) SENIOR ARCHITECTURAL ASSISTANTS (2) at a salary of £750×£40×£40×£40×£30—£900.
(*d*) ARCHITECTURAL ASSISTANTS (2) at a salary of £600×£25—£700.
(*e*) JUNIOR ARCHITECTURAL ASSISTANTS (2) at a salary of £500×£25—£550.

The appointments are required in connection with large-scale construction projects associated with the development of a New Town and candidates must have had suitable experience in, for appointment (*a*) the preparation of bills of quantities, measuring up and dealing with interim certificates and final accounts for housing and other contracts; (*c*) the design and execution of large-scale housing and other building works, etc.; (*d*) drawing, construction, etc., under an Architect.

The successful candidates will be required to pass a medical examination and to contribute either to a Superannuation or an Assurance Scheme. Applications stating age, education, training, qualifications, experience, past and present appointments and salaries, together with the names of two persons who can speak from recent personal knowledge of the applicant and to whom the Corporation can refer must be received by the undersigned not later than 15th February, 1952. Envelopes and applications must clearly indicate the appointment for which application is made. The Corporation will endeavour to assist candidates requiring housing accommodation.

R. F. BROOKS GRUNDY,
General Manager.

The Stone House, South Road,
Corby, Northants. 6287

DENBIGHSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

The above County Council invites applications for the under-mentioned appointments in the County Architect's Department, Wrexham, *viz.*:—

ONE SENIOR ASSISTANT ARCHITECT. A.P.T. Division, Grade VII. Salary: £685-£760 per annum.

Preference will be given to Associates of R.I.B.A. Applicants must have had a thorough training in Architectural design and construction of Modern School Buildings and other works carried out by County Authorities.

TWO SENIOR ASSISTANT ARCHITECTS. A.P.T. Division, Grade VI. Salary: £645-£710 per annum.

Preference will be given to Associates of R.I.B.A. Applicants must have had a thorough training in Architectural design and some experience in the construction of Modern School Buildings and other works carried out by County Authorities.

ONE ASSISTANT ARCHITECT. A.P.T. Division, Grade IV. Salary: £530-£575 per annum. Preferably Members of R.I.B.A. Must have had good experience in Architectural design and in the preparation of working drawings and details.

ONE JUNIOR ASSISTANT ARCHITECT. A.P.T. Division, Grade II. Salary: £470-£515 per annum.

Preference will be given to applicants who are nearing the completion of their studies for the Intermediate R.I.B.A. Examination. Applicants must be capable of preparing working drawings and details.

TWO JUNIOR ASSISTANT ARCHITECTS. Provisional, Grade (*a*). Salary: £425-£470 per annum. (One at Wrexham office and one at Abergele Area office.)

Preference will be given to applicants who are preparing for the Intermediate R.I.B.A. Examination. Applicants must be capable of the preparation of working drawings and details.

ONE ASSISTANT QUANTITY SURVEYOR. A.P.T. Division, Grade V. Salary: £570-£620 per annum.

Candidates must have passed the Intermediate Examination of the Royal Institution of Chartered Surveyors (Quantities Section), and have experience in "taking off" for all types of building works undertaken by a County Authority.

In addition, he should be familiar with, and will be required to undertake "working up" in all stages, measurement of works on site, interim certificates and final accounts.

ONE LANDS AND BUILDINGS SURVEYOR. A.P.T. Division, Grade V. Salary: £570-£620 per annum.

Preference will be given to Members of the Royal Institution of Chartered Surveyors, Sub-Division III (Building).

Applicants must be fully capable of producing accurate surveys of building sites, and sites in respect of water and sewage schemes; preparation of survey plans, site lay-outs and reports and estimating cost of site works; measuring up and surveying existing buildings and preparation of reports.

The appointments are subject to (*a*) the National Conditions of Service for Local Government Administrative, etc., Officers, (*b*) the Local Government Superannuation Act, 1937, (*c*) the passing of a medical examination, and (*d*) one calendar month's written notice on either side to expire at the end of a calendar month.

Applications, giving age, qualifications and particulars of present and previous appointments, and accompanied by copies of three recent testimonials, to be sent to the undersigned, by not later than the 15th day of February, 1952.

W. E. BUFTON,
Clerk of the County Council.

County Offices, Ruthin.
January, 1952. 6292

COUNTY BOROUGH OF CROYDON.
TEMPORARY CLERK OF WORKS.

Applications are invited for this appointment from men accustomed to dealing with house building contracts. Salary: £11 for 44-hour week.

Applications, on forms from the Borough Engineer, must be received by him not later than the 12th of February, 1952.

Canvassing will disqualify.

E. TABERNER,
Town Clerk.

January, 1952. 6305

BOROUGH OF ROMFORD.
JUNIOR DRAUGHTSMEN (ARCHITECTURAL AND ENGINEERING).
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the above appointments. Salary according to age on the General Division National Salary Scales (*i.e.*, £150 p.a. at age 16, maximum at age 30, £425 p.a.)

Particulars and conditions of the appointments may be obtained from the undersigned, who should receive applications, appropriately endorsed, by the 9th February, 1952.

Canvassing will disqualify.

J. TWINN,
Town Clerk.

Town Hall, Romford.
23rd January, 1952. 6297

BOROUGH OF WILLESDEN.
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.
APPOINTMENT OF ARCHITECTURAL STAFF.

Applications are invited for the following appointments on the Permanent Establishment of the Borough Engineer and Surveyor's Department:—

(1) ARCHITECTURAL ASSISTANT, Grade A.P.T., VII/VIII. £715-£840.
(2) ARCHITECTURAL ASSISTANT, Grade A.P.T., Va. £630-£690.

The salary scales quoted are inclusive of London weighting, and the commencing salary will be in accordance with the successful candidates' qualifications and experience.

Candidates for both appointments must be Associates of the Royal Institute of British Architects or hold an equivalent qualification.

Preference will be given to those having a general knowledge and experience of architectural work in the service of a Local Authority.

The foregoing appointments will be terminable by one month's notice on either side, are subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

It will be necessary for the successful candidate to provide his own housing accommodation as the Council is not in a position to assist.

Applications, stating age, qualifications, experience, etc., accompanied by copies of not more than three testimonials, should be addressed to the undersigned, endorsed "Architectural Appointment," not later than 10 a.m. on Monday, 18th February, 1952.

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

(Sgd.) R. S. FORSTER.
Town Clerk.

Town Hall, Dyne Road, Kilburn, N.W.6.
23rd January 1952. 6298

DERBYSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

ARCHITECTS:
A.P.T., Grade VI. £645×£20 (2) and £25 (1) to £710 per annum.
A.P.T., Grade IV. £530×£15 to £575 per annum.
A.P.T., Grade I. £440×£15 to £485 per annum.

QUANTITY SURVEYORS:
A.P.T., Grade VI. £645×£20 (2) and £25 (1) to £710 per annum.
A.P.T., Grade II. £470×£15 to £515 per annum.

Particulars to be obtained from F. H. Crossley, County Architect, St. Mary's Gate, Derby, not later than 5th February, 1952.
31st January, 1952. 6291

LONDON ELECTRICITY BOARD.
ENGINEERING DRAUGHTSMAN, DRAUGHTSMAN.

Applications are invited for the following positions in the North Western Sub-Area at Aybrook Street, W.1.

(1) ENGINEERING DRAUGHTSMAN. Candidates should have had a good general and technical education in building construction and architecture, and experience in the design of small buildings in brickwork and reinforced concrete would be an advantage.

The post is graded under Schedule "D" of the National Joint Board agreement as Grade VI (£458 to £574 7s. per annum inclusive of London Allowance), and the commencing salary will be dependent upon qualifications and experience.

(2) DRAUGHTSMAN. Candidates should be experienced in the following in relation to distribution systems up to 11 kV.: (*a*) Plant and cable layout work, (*b*) diagrams, (*c*) cable surveys and wayleaves.

The post is graded within the National Joint Council agreement (General Clerical Grade), and the commencing salary would be determined according to age and qualifications up to a maximum of £460 per annum inclusive.

Applications on forms obtainable from Establishments Officer, 46, New Broad Street, E.C.2, to be returned by 11th February, 1952, stating clearly the particular vacancy for which the application is made. Please enclose addressed foolscap envelope and quote reference 1382/316/A on all correspondence. 6290

GLENROTHES DEVELOPMENT CORPORATION.

Applications are invited from suitably qualified persons, under 45 years of age, for the appointment of an ARCHITECT/PLANNER. The salary scale is £620-£830, with placing according to qualifications and experience. Applicants should be Associates, or equivalent, of the R.I.B.A. and the T.P.I. with general architectural and planning experience, particularly in the field of civic design including the layout of large residential developments, central and industrial areas.

The Corporation will give every assistance in securing housing accommodation, if required. The post will be superannuable under the Local Government Superannuation (Scotland) Act, 1937, and the successful candidate will require to pass a medical examination. Applications, with details of age, qualifications and experience, together with names of three referees must reach the Secretary, Glenrothes Development Corporation, Woodside, Glenrothes, by Markinch, not later than 14th February, 1952. 6280

BOROUGH OF TOTTENHAM.
BOROUGH ENGINEER'S DEPARTMENT.

Applications are invited for the unestablished post of COSTING & BONUSING SURVEYOR at a salary in accordance with Grade A.P.T. IV of the National Scale of Salaries, *i.e.*, starting at £530 rising to £575 plus London Weighting allowance of £10 to £30 p.a. according to age.

Applicants should have a good knowledge of building quantities, specifications, costing, pricing and measurement of housing works under construction; measurement and adjustment of subcontracts; preparation of site statistics and costs; estimating and preparation of schedules of materials and labour from bills of quantities; and preparation and operation of incentive bonus scheme.

The hours of duty will normally be 44 per week.

The Council are unable to offer housing accommodation to the successful applicant.

Form of application and general conditions of appointment may be obtained from the Borough Engineer, Town Hall, N.15, to whom completed applications should be delivered not later than Monday, 11th February, 1952.

M. LINDSAY TAYLOR,
Town Clerk.
6284

ROYAL BURGH OF KIRKCALDY.

Applications are invited for the following appointments in the Burgh Engineer's Department:—

(1) SENIOR ARCHITECT. Salary, Grade VI (£645-£710).

(2) ENGINEERING ASSISTANT. Grades III or IV (£490-£555).

(3) DRAUGHTSMAN/TRACER. Salary within range £330-£405 per annum, according to experience.

Applicants for appointment (1) should have A.R.I.B.A. qualification and good general experience. A house is offered if required.

Applicants for appointment (2) should hold B.Sc., A.M.I.C.E., or A.M.I.Mun.E. qualifications.

Appointment (3) is open to male or female applicants who have suitable experience in architects', surveyors' or engineering drawing office.

The appointments are subject to the Corporation's Conditions of Service and Superannuation Scheme, and the successful applicant will be required to pass a medical examination.

Applications, giving full details and testimonials, should be addressed to the Burgh Engineer, Osborne House, East Fergus Place, Kirkcaldy, before 4th February, 1952. 6306

AMENDED ADVERTISEMENT.
BOROUGH OF BEXLEY.
BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT.
ASSISTANT ARCHITECTS.

Applications are invited for the following posts:—

Assistant Architect (General). Salary within Grade A.P.T. VI (£645-£710 per annum) plus London "Weighting" allowance.

Assistant Architect (General). Salary within Grade A.P.T. V (£570-£620 per annum) plus London "Weighting" allowance.

Forms of application with Conditions of Appointment may be obtained from the Borough Engineer & Surveyor, West Lodge, Bexleyheath, Kent, to whom completed applications must be returned by 16th February, 1952.

The Council will give consideration to the provision of housing accommodation to successful applicants.

Canvassing, directly or indirectly, will disqualify.

W. WOODWARD,
Town Clerk.
6273

Tenders for Contracts

6 lines or under 12s. 6d.; each additional line, 2s.

STEPNEY METROPOLITAN BOROUGH COUNCIL.
SIDNEY STREET HOUSING SCHEME.
SUB-CONTRACT WORKS—
BLOCKS Nos. 1, 12, 14, 15 and 16.

Tenders are hereby invited for the execution of the following works:—

FLOORING WORKS. To supply, lay and finish jointless flooring (non-magnesite), asphalte tiles or other flooring suitable for municipal flats.

FLOOR SCREED. To supply and lay either ¼-in. thick or ½-in. thick Cheecolite floor screed finished to receive floor finish.

The House of Commons Fair Wages Clause will apply.

Applications to tender should be made to the Council's Architects, Messrs. Sydney Clough, Son & Partners, of Devonshire Close, 39, Devonshire Street, W.1, not later than Friday, 8th February, 1952. Forms of tender, specifications, etc., will be forwarded by the Architects to applicants upon payment of a deposit of two guineas in respect of each tender, which will be refunded to *bona fide* tenderers after tenders have been adjudicated upon (subject to the return of all documents) or, in the event of no tender being submitted, upon submission of satisfactory reasons.

Tenders enclosed in envelopes to be provided must be delivered to the undersigned on or before the date to be specified in the Form of Tender.

The Council does not bind itself to accept the lowest or any of the tenders and reserves the right to divide the contract among one or more of the firms tendering.

J. E. ARNOLD JAMES,
Town Clerk.

The London Fruit Exchange,
Duval Street, E.1.
25th January, 1952. 6288

COUNTY BOROUGH OF READING.
TO BUILDERS AND CONTRACTORS.

The Corporation of Reading invite tenders for the erection of an extension to contain a Medical Inspection Unit at The Avenue School, Northumberland Avenue, Reading.

The General Conditions may be inspected at the office of the Borough Architect, Town Hall, Reading, and copies of the Drawing, Specification, Form of Tender and endorsed envelope obtained on application to him.

Tenders must be delivered to the undersigned not later than 12 noon on Monday, the 11th February, 1952.

No tender will be considered unless enclosed in the endorsed envelope provided and sealed but not bearing any name or mark indicating the sender.

The Corporation do not bind themselves to accept the lowest or any tender.

G. F. DARLOW,
Town Clerk.

Town Hall, Reading.
January, 1952. 5257

Architectural Appointments Vacant

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

ARCHITECTURAL ASSISTANT, senior position, required immediately. Please write, stating details of experience and qualifications. Martin & Martin & W. H. Ward, 106, Colmore Row, Birmingham, 3. 5258

SENIOR ARCHITECTURAL ASSISTANT required in Northern Rhodesia; preference given to Member R.I.B.A. and T.P.I. with specialist knowledge of domestic architecture, particularly relating to small dwellings. The successful applicant will be required to design and prepare drawings, details, specifications and contract documents in Lusaka for a number of small housing contracts over the territory, and to take the lead in supervising the contract work, on behalf of a newly formed Housing Society. Commencing salary £1,500 p.a. plus travelling expenses and assistance with housing. Reply with full details, to The Manager, P.O. Box 420, Lusaka, Northern Rhodesia. 5240

MIDLAND Architect, medium sized office, requires Senior and Inter. Standard ASSISTANT ARCHITECTS, having initiative, contemporary outlook, good draughtsmen, willing to take responsibility. Bonus scheme in operation. Salary in accordance with experience and ability. Housing, School, Industrial work in progress. Full details. Box 5210.

ARCHITECTURAL ASSISTANT required, of Intermediate R.I.B.A. standard or over, and with some previous experience in Architect's office. Salary according to ability. Write, stating age and experience, to Staff Office, Handley Page, Ltd., Cricklewood, London, N.W.2. 5231

ARCHITECTURAL ASSISTANTS required with at least three or four years' office experience; minimum standard R.I.B.A. Intermediate. Five-day working week with pension scheme and staff canteen in operation. Applications in writing, giving age, training and experience to: Chief Staff Architect, Ilford Limited, Romford, Essex. 5262

ARCHITECT'S ASSISTANT, of R.I.B.A. Intermediate standard, for Architect's Dept. of Industrial concern in the Midlands. Some office experience of industrial work desirable. Salary by arrangement. Pension scheme. Apply in writing, stating age and experience, to Box 5262.

SENIOR ASSISTANT required for Architect's Department at Hammersmith office, to carry out designs and working drawings for traditional and non-traditional contracts at home and overseas. A reasonable period will be allowed for successful applicant to acquire background knowledge of non-traditional methods. Commencing salary ranging from £550-£650 according to experience. Applications, giving brief particulars of experience, should be addressed to the Staff Architect, George Wimpey & Co. Ltd., 27, Hammersmith Grove, London, W.6. 6286

QUALIFIED CHIEF ASSISTANT (member also of R.I.C.S. or I.A.A.S.), able to prepare Bills of Quantities and experienced Final Accounts, required in East Midlands office. Car owner. Excellent future prospects for right man. No housing accommodation available. Reply to Box 6275.

IMPERIAL CHEMICAL INDUSTRIES LTD., General Chemicals Division, require one or two ASSISTANT ARCHITECTS in the Architectural Section of their Chief Engineer's Department, Runcorn. Applicants should have had good experience in design and the preparation of working drawings. Other factors being equal, preference will be given to those who have passed the Final Examination of the R.I.B.A. Salary dependent on age and experience. Membership of pension fund. Apply in writing, quoting E/81, to Staff Manager, Imperial Chemical Industries Limited, General Chemicals Division, Cunard Building, Liverpool, 3. 5092

ARCHITECTURAL DRAUGHTSMAN required for Liverpool office. Kindly write stating age, practical experience and salary required. Box 6293.

Architectural Appointments Wanted

FULLY trained and experienced Assistant (aged 30) seeks position as SENIOR ASSISTANT to London or Home Counties Architect. Will take full responsibility for any type of contract, and well versed in designing, detailing, specifications, etc., and job management at all stages. Excellent draughtsman and land surveyor. Energetic and studious worker, prepared to foster new clients with a view to future partnership. Married and resident in the Staines area. Box 362.

PROBATIONER R.I.C.S. Sub-Division III Building, taking Final examination this March, seeks recognised position with Chartered Surveyor and Chartered Architect as Assistant Building Surveyor. Experience of site and property surveys, structural alterations and repairs, specifications, working drawings, measurement and supervision of builders' work. Please state approximate salary offered. Box 344.

MALE ARCHITECTURAL ASSISTANT (24), Inter. and Final standard. 5 years' full-time training, seeks post, 15 miles Bath or Bristol area. Box 237.

ARCHITECT, wide experience, 35 years of age, used to full supervision of contracts and staff, seeks administrative position in London area. Box 365.

SENIOR ASSISTANT, A.R.I.B.A., aged 36, desires change (London or Provinces). Box 6302.

ASSISTANT (30) with 6 years' experience, including levelling; studying for Special Final; seeking appointment with progressive London office. Good draughtsman and keen. Box 364.

AN Indian Student (22), school trained in India, passed part Inter. R.I.B.A., some experience, seeks a post as an ARCHITECTURAL ASSISTANT in a private Architect's office in London. Please write to Box 367.

A. R.I.B.A. (32), with 10 years' wide experience in schools, housing, banks, industrial work and conversion schemes in London and country practices, seeks position in southern half of England. Married, and wishes to settle in a country town. Box 368.

ASSISTANT, Dip.Arch., with general experience, requires part-time post in London area. Box 6295.

A. R.I.B.A., Dip.Arch., seeks responsible position connected with Architecture, or Building or other industry. 12 years' varied experience at home and abroad. S.E. preferred. Box 366.

Other Appointments Vacant

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

CHARTERED QUANTITY SURVEYOR in Isle of Man requires QUANTITY SURVEYOR, able to prepare complete bills on own initiative. Modern house available. Manx income tax. Box 6285.

RONALD WARD & PARTNERS require an OFFICE BOY for their Victoria office. Telephone Victoria 5531. 6276

KUWAIT OIL CO., LTD., requires a TECHNICAL INSTRUCTOR in Carpentry and Joinery for service in Kuwait. Must have recognised C. & J. apprenticeship, have at least 5 years' experience as a Master Carpenter, and possess City and Guilds Teaching Certificate. Preference given to candidates with previous experience as Instructors. Age 32-40. Salary starting £710 p.a. clear, plus generous allowances, pension scheme, and kit allowance. Write, giving personal details and quoting K.1428, to Box G/15, at 191, Gresham House, E.C.2. 6300

Partnership

4 lines or under, 12s. 6d.; each additional line, 2s.

MANAGER, I.O.B., seeks appointment, preferably with view to Partnership with building contractor. Midlands or South. 25 years' technical and administrative experience, building and civil engineering contracts from start to final account. First-class business connections. Write Box 5211.

Services Offered

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

TRACINGS, Layouts and Perspectives. Prompt service, moderate fees. Turner's, 3, George Street, Croydon; 2930 and 85, Queen's Road, Brighton, 27938. 5168

ASSOCIATE, on special course of study, anxious to undertake survey or any other part-time work. Reply Box 5183.

ASSISTANCE to Estates, etc., S.E. Area.—Qualified Architect (41), surveying and agricultural building experience, offers services, whole or part-time. Own car. Free April. Resident Worthing. Box 5270.

ARCHITECTURAL MODELS and Dioramas. Edward J. Ashenden, A.R.C.A., 15, Chenil Studios, 183, Kings Road, S.W.3. Tel.: Flax 6103. 2566

FREE-LANCE Surveyor offers Services to Architects requiring accurate surveys of land and buildings, levelling, contouring, etc.; own car and complete equipment. 2772

ARCHITECT and Surveyor, 18 years' experience, available for part-time assistance (London area). Box 6303.

A.R.I.B.A., aged 36, offers part-time assistance to other architects (Warwick-Oxford area). Box 6304.

ARCHITECTURAL Models, Perspectives in any technic and medium, exhibition work—Continental architect. Box 6301.

ASSOCIATE, with general experience, London area, offers part-time services to practising Architects. Box 6294.

ARCHITECTURAL Models, moderate charges. R. Blackie, Pebble Hill Cottage, Limpsfield, Surrey. Oxted 102. 6277

For Sale or Wanted

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

JUBILEE RAIL.—Complete with steel sleepers and all fittings. Approx. 100 tons. Apply: H. Bridges, "Kingscroft," Kingsbury Road, Minworth, Birmingham. Telephone: ASHfield 1439. 5254

REINFORCING WELDED STEEL MESH.—B.R.C. 3 in. aperture, 5/16 in. rod. Approx. 150 tons. New. Apply: H. Bridges, "Kingscroft," Kingsbury Road, Minworth, Birmingham. Telephone: ASHfield 1439. 5255

PLAN CHEST, Roneo, steel 6 draw, D.E. perfect, £38. Antiq. Board, T Square and Drawing Table, £6 10s. Telephone Mr. Edwards, LEE 2135 after 6 at HIT 5023. 5239

SECOND-HAND Antiquarian Plan File. Seven drawers; veneered cherry-wood; 3 ft. by 5 ft. Apply Miss Piers. Tel.: SLO 3535. 6278

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.

WINKFIELD MANOR NURSERIES, ASCOT. lay out Rock and Formal Gardens and Labourless "Allweather" Tennis Courts. Eight Chelsea Gold Medals since 1947. Contractors to the Festival of Britain. Winkfield Row 393. 1716

LARGE quantities of Steel Mesh, a substitute for concrete floor reinforcing. Inspection invited at Church & Bramhall, Ltd., The Green, Darlaston. Telephone: Darlaston 531-3. 5247

SPACE available in Architect's drawing office. Well lit, comfortable, 'phone, etc. Near Charing Cross. Box 6274.

MODELS.—Archimodels can now offer Architectural Models at prices you can really afford. Our representative will be pleased to call and quote you. 214, Preston Hill, Harrow, Middx. 6279

SHOP PREMISES TO LET.—Adjoining Clapham Common Underground Station; 421 sq. ft., with 18 ft. display windows; professional or semi-professional user preferred. Lease at £200 p.a., rates £50 p.a. Apply B.P.T., Ltd., 7, South Side, S.W.4. MAC. 4545. 6299

Educational Announcements

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

R.I.B.A. and T.P.I. EXAMS.—Stuart Stanley (Tutor 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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