

THE ARCHITECTS' JOURNAL



standard contents

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

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

IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square.	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. Drayton House, Gordon Street, W.C.1.	Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1.	Museum 1783
I of Arb	Institute of Arbitrators. 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197/5176
IQS	Institute of Quantity Surveyors, 98, Gloucester Place, W.1.	Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
LDA	Lead Development Association. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
MARS	Modern Architectural Research Group (English Branch of CIAM). Secretary: Trevor Dannatt, 6, Fitzroy Square, W.1.	Euston 7171
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1.	Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service. 8, St. James' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council.	
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1.	Welbeck 0619
NCBMP	National Council of Building Material Producers. 10 Storey's Gate, S.W.1.	Abbey 5111
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 12, 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. 15, New Bridge Street, E.C.4.	City 1476
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1.	Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1.	Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8.	Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SNHPTC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4.	City 5051
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1.	Grosvenor 6636

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[Vol. 121

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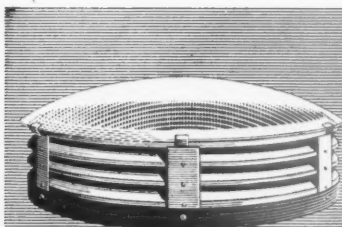
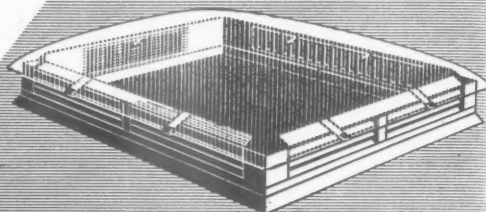
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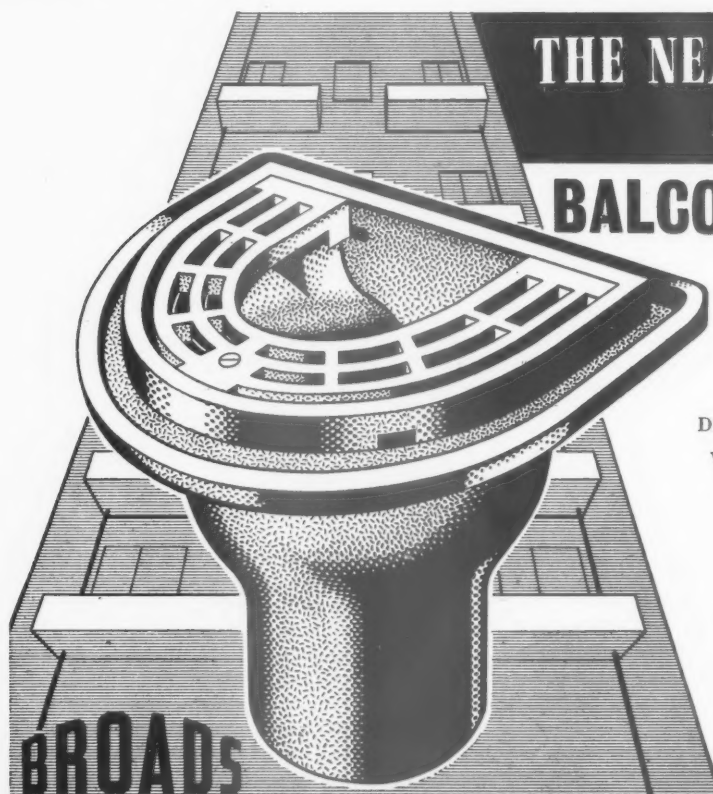
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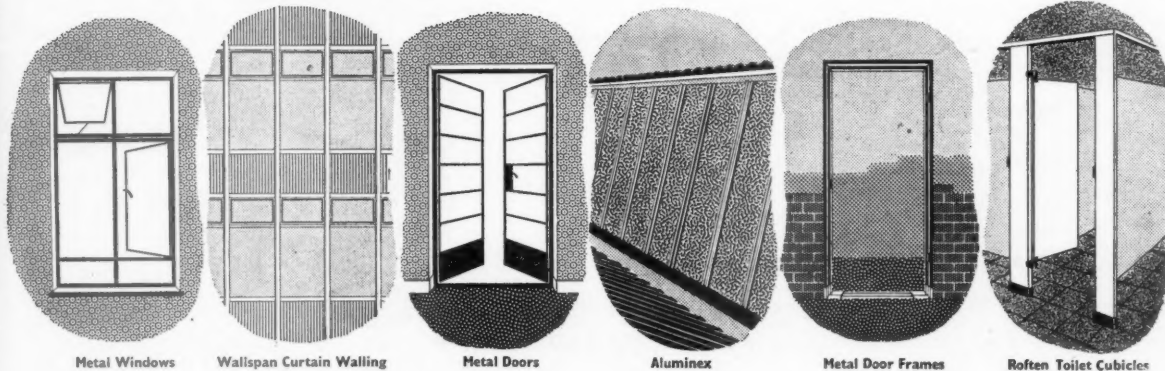
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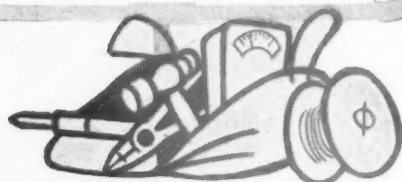
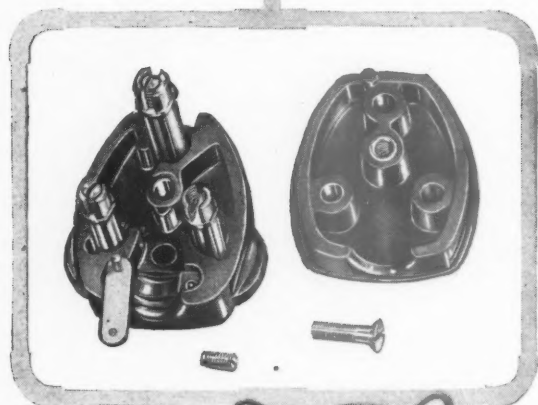
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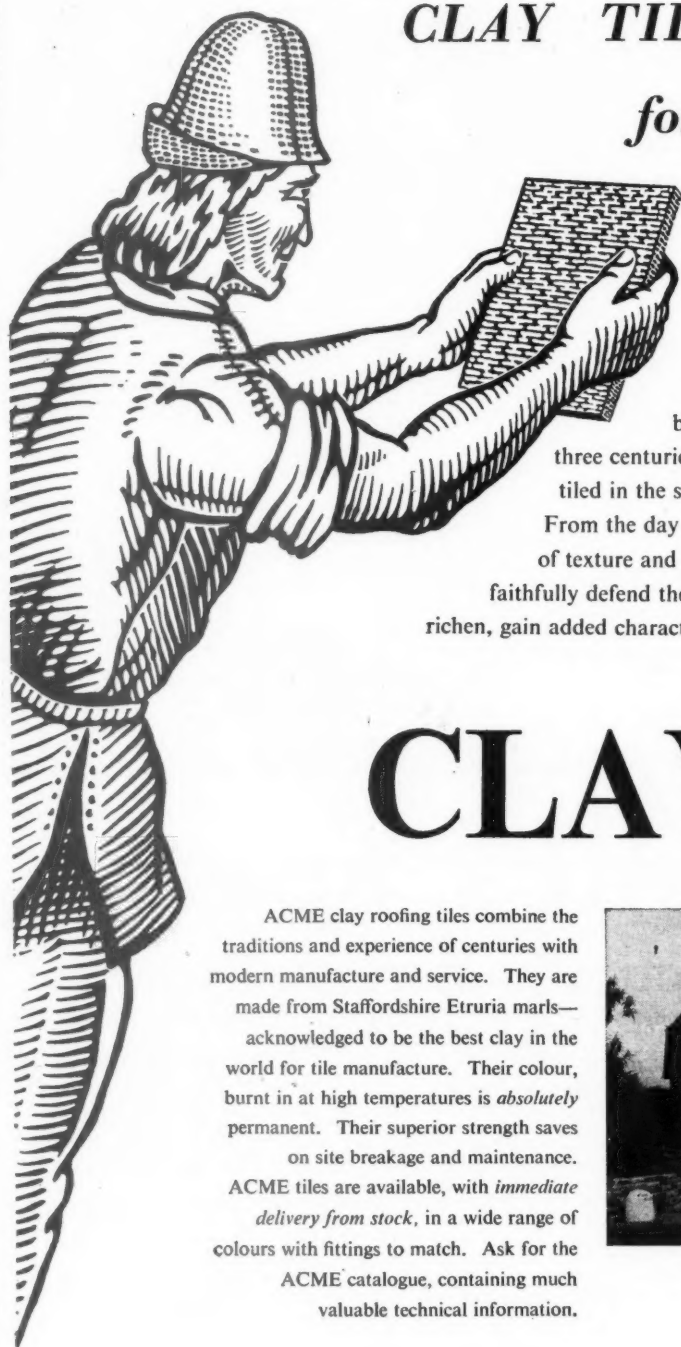
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* National Building Studies Special Report
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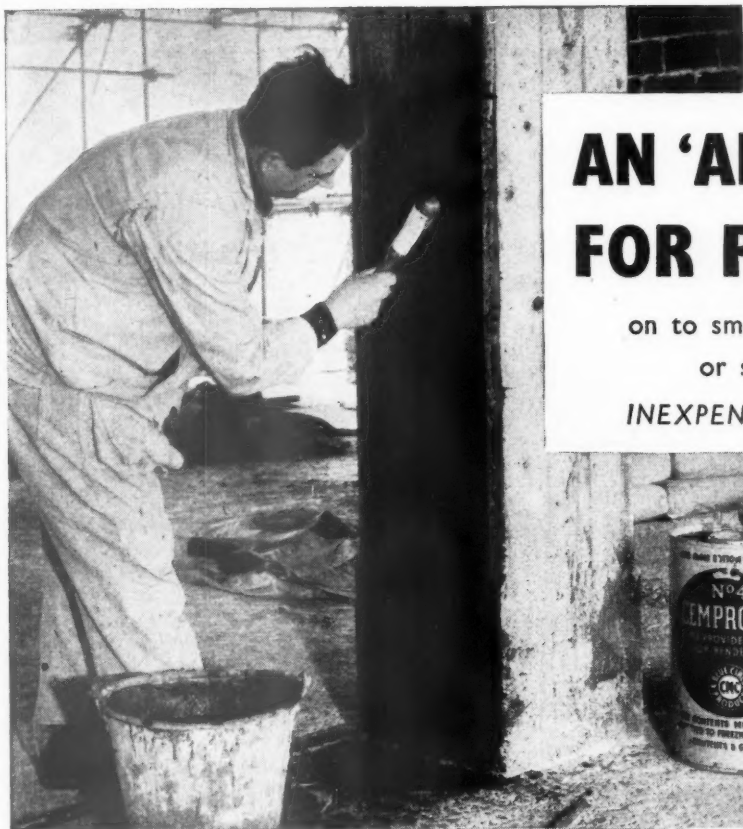
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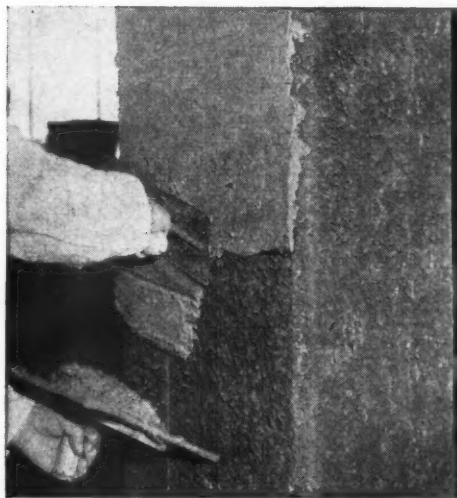
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This well planned residence, erected in Maralin Avenue, Bangor, Northern Ireland, illustrates how carefully selected clay tiles can add to the attractions of a building. In this instance, Dignus 11" x 7" dark antique tiles were chosen to blend with the rural background, but whatever the area, there is a Dignus tile to suit the purpose. Their economical size and pleasing appearance, make them a natural choice. May we send you further details?

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6

fresh views on flooring

expressed by

OLIVER COX (in this issue)

FELLO ATKINSON

HUMPHREY SPENDER

F.H.K. HENRION

PRUNELLA CLOUGH

LAURENCE SCARFE

and edited by

Sir Hugh Casson R.D.I., M.A., F.R.I.B.A.

In seeking a theme for a series of features on flooring as an integral element of interior design, the manufacturers of Semastic Tiles commissioned Sir Hugh Casson to make his recommendations.

He proposed that a number of leading designers be given the opportunity to express their views on this matter by designing floors for a number of imaginary projects which he himself would suggest by way of initial plans and briefings. He has, therefore, in association with these designers, prepared plans for: an Airport Waiting Lounge

a Youth Hostel Dayroom · a Works Canteen
a Restaurant · a Clinic · a School Entrance Hall
Each of the six designers selected has been invited to choose one of these projects and to consider it from the aspect of floor-design in order to demonstrate the scope of Semastic Decorative and Vinyl Asbestos Tiles. The materials which may be used are as follows:

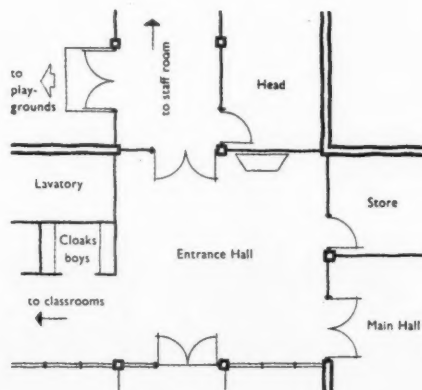
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THE PROBLEM AS SET TO OLIVER COX

The floor of an Entrance Hall to a new Infant School in a suburban or rural neighbourhood is to be designed, and the terms of reference are as follows:

(a) The hall will be rectangular in plan, extended visually by fully glazed doors facing to the outside and along the corridors of the school. (b) The nature and function of the hall is such that it will be used constantly by visitors, parents, staff and children. Hence, it must extend an atmosphere of welcome that will be suitable to both child and adult. (c) Preference will be given to the bold use of simple shapes and strong, clean colours.



3 OF SERIES

Oliver Cox

SCHOOL

ENTRANCE HALL

The area chosen is the Entrance Hall to an Infant School—an area between eight and nine feet high and some twenty-five feet square in extent. This hall is used by children, teachers and visitors. The classrooms, with cloak-rooms in the corridor itself, are to the left of the picture with the staff rooms off the corridor in front. The main hall adjoins the entrance hall on the right.

The construction of the school is prefabricated with standard steel columns and beams painted generally white or neutral grey acting as a framework for the bold colours applied to wall surfaces. As the entrance hall is a focal point on which several corridors converge, strong colours have been applied on the walls so that they may be seen at some distance and provide a positive 'end' to the corridors. As it is an entrance in a new school it need no longer be a haughty, draughty area designed to impress the parents and important visitors, and out of bounds to the children. It is, instead, the centre of the school, a scene of bustle and activity, through which the children, teachers and visitors will all pass to reach the classrooms, the staff rooms and the hall. The atmosphere should be gay and welcoming and in key with the movement and brightly coloured clothing of the children.

This suggested the use of some near-primary colours in the Semastic Tile



The School Entrance Hall showing the Semastic Tile Floors and its surroundings.

floor—but not so strong, so isolated in area or so contrasting as to worry the eye and trip you up. These stronger colours were enclosed therefore by a more sombre background of middle-tone colours in order to lessen the contrast. Various shades of olive green were chosen here as a good foil to the primaries and in order to tie the whole floor together.

Also, by using a number of slightly different tones of the same hue in the background colour it was possible to introduce a secondary level of interest between the sombre colours and also to soften the pattern by making the eye less conscious of the angularity of the shapes. In order to achieve a 'glow' or feeling of welcome a strong, warm, yellow bias was given to all the colours.

The pattern was designed to provide a fairly even overall framework to tie in the bold colours to the flat surface, and to intensify the feeling of the floor as a separate plane from the walls—just as the different wall colours used make changes of wall plane more apparent. The shapes arrived at by adding a few 9" x 9" Semastic Tiles together to form a repeat pattern soon tend to become too large and dominating for so relatively small an area; hence any

formal or repetitive pattern was avoided. This particular pattern illustrated seemed to give a sense of continuity without being dully repetitive and had the further advantage of being adjustable to any particular shape or size of hall.

Sir Hugh Casson sums up

In this exercise Oliver Cox, by his use of near-primary and middle-tone colours, has created an effect that is gay and welcoming, yet not distracting to the eye. The entrance hall, instead of being a vacuum into which corridors and passages empty themselves become a hub from which the rest of the building starts. The angularity of the simple, bold design is softened by the use of sombre olive green tones which are in turn relieved by a 'feeling' towards yellow in the overall design. The whole effect is one that would tone well with the busy to-and-fro traffic to which the hall would be subjected.

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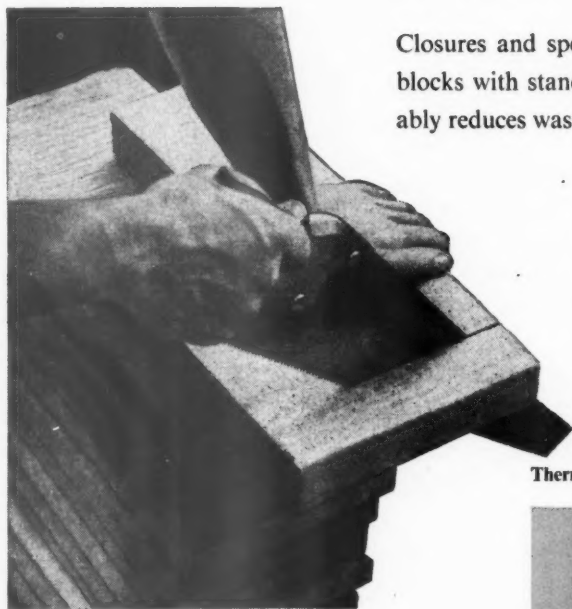
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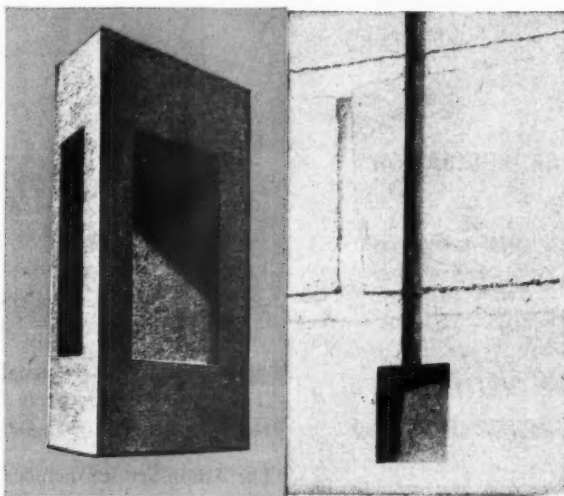
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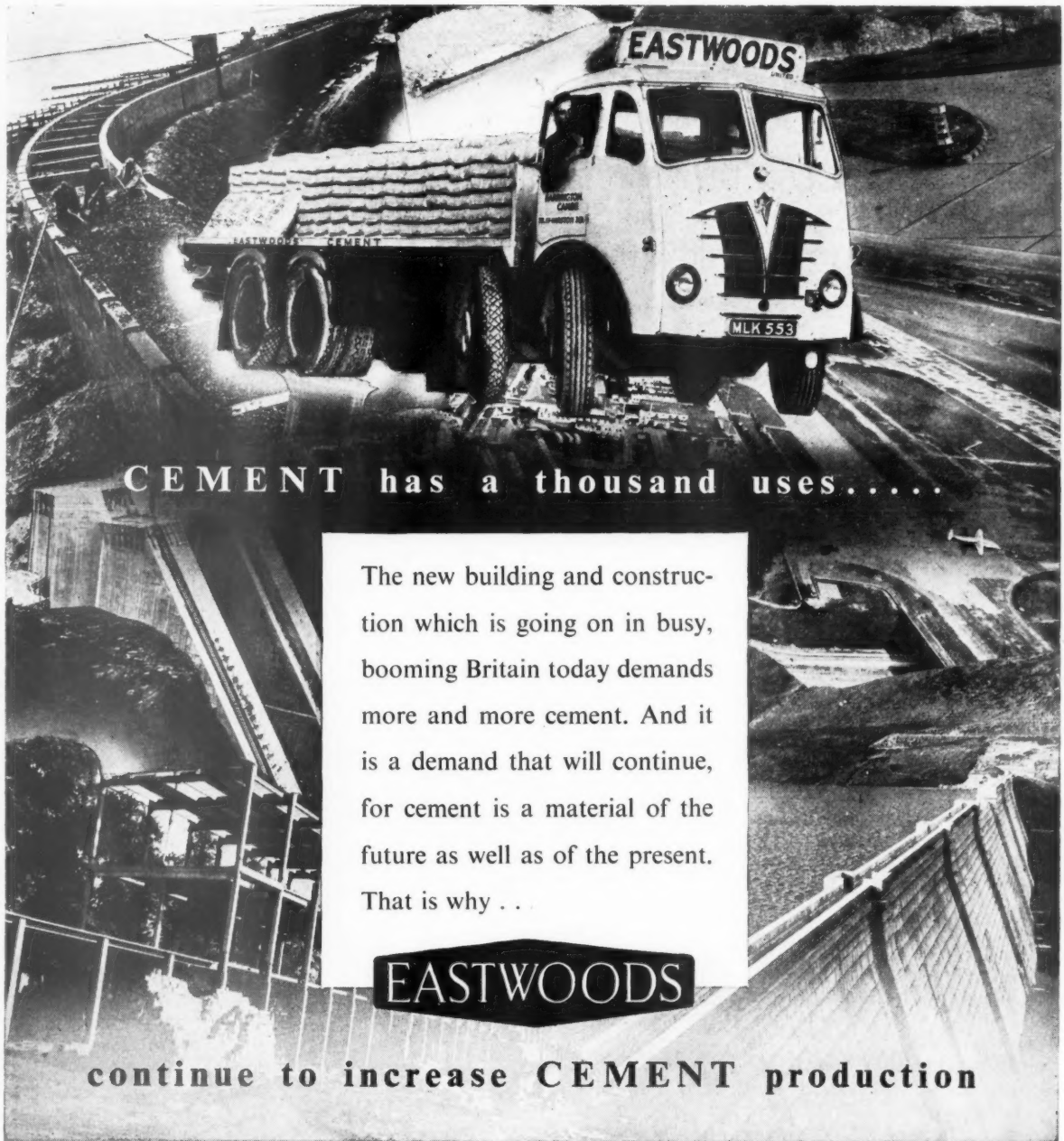
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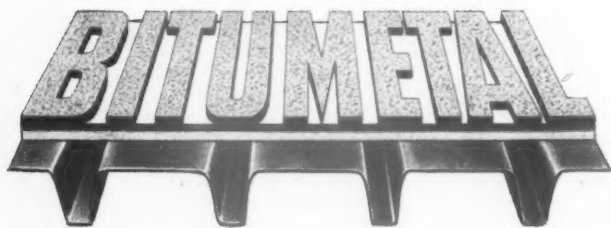
How is this speed attained?

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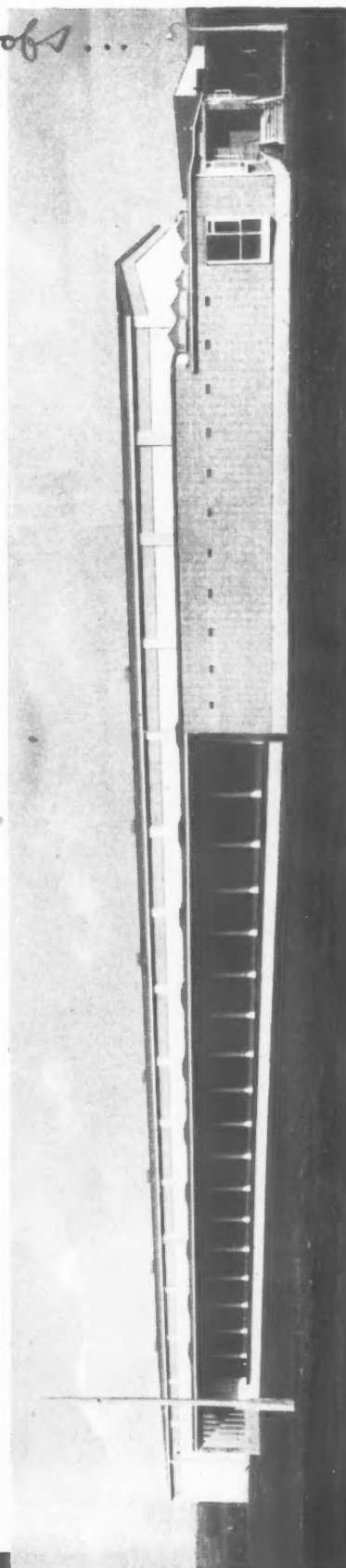


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MONITOR ROOF CONSTRUCTION

*Edison, Swan Electric Co. Ltd.
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Architects: The Harlow Development
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* MONITOR • NORTH LIGHT • PITCHED ROOFING

The Orlit Technical Folder will be sent on request

Exterior View of the Monitor Roofing



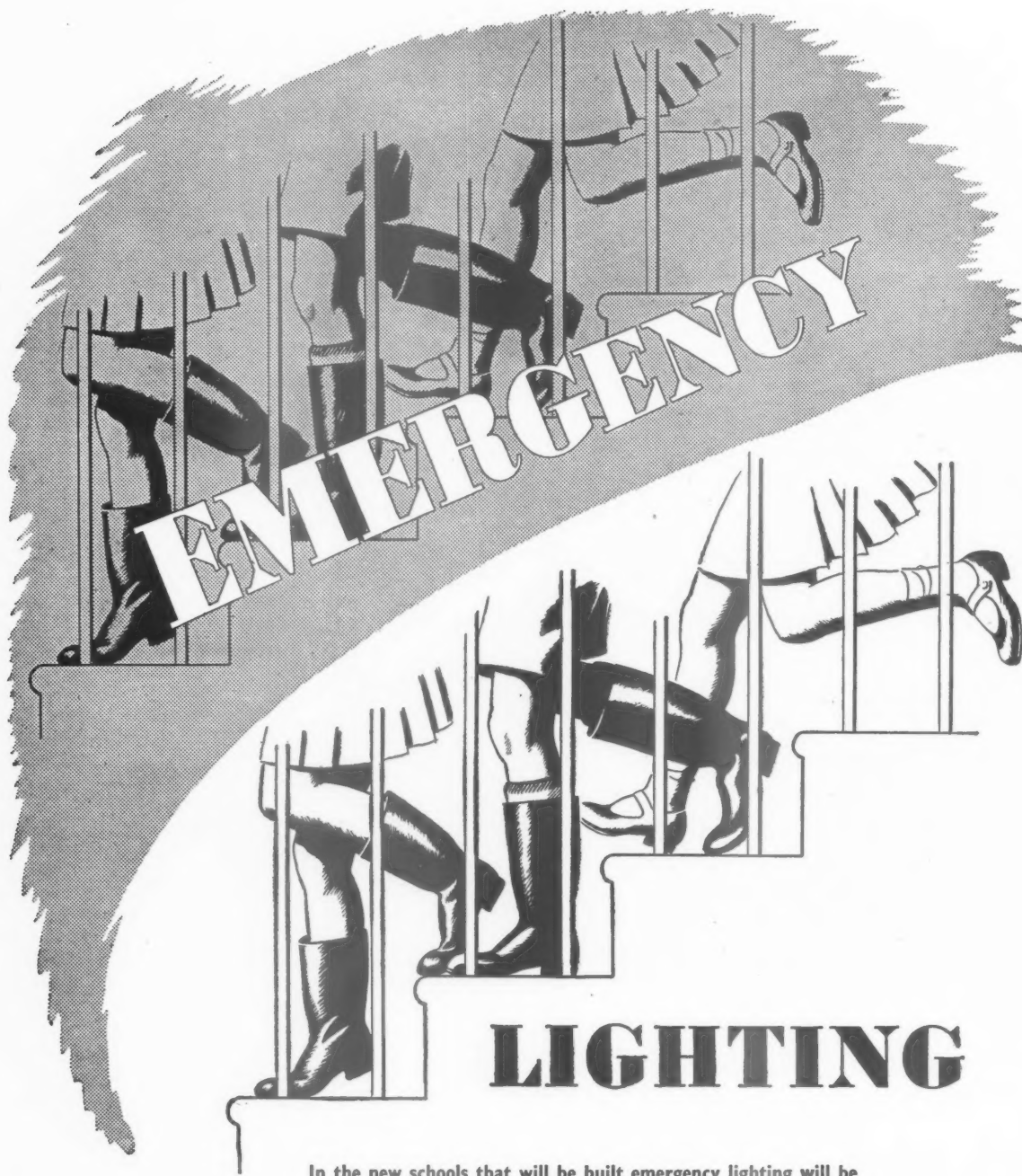
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TS22



“That’s fine!— Go ahead with the main job”

Some painting jobs are tricky when it comes to colour choice. It is often difficult to say that a colour selected from a card will be right on site. Colours may vary when exposed to northern, southern, eastern and western aspects. Artificial lighting too, affects the hue, as does the nature of the surface. In cases of this kind Robbialac Colorizer Paints offer the Architect an unusual facility, for the decorator can obtain a small quantity of any one of the 999 colours in Colorizer Super Gloss Enamel, Eggshell Enamel or Suede Finish, and paint out a test panel. Should the colour fail to meet the requirement, the decorator can quickly acquire a different shade. Once the colour is approved the bulk supply of paint may be readily obtained, saving valuable time and promoting the perfect use of paint-colour.



The Architectural Bureau of Jenson & Nicholson Ltd. offers a complete colour advisory service and will co-operate with executives and contractors if desired. A brochure on Robbialac Colorizer Paints and their possibilities, especially written for architects, is available on request.

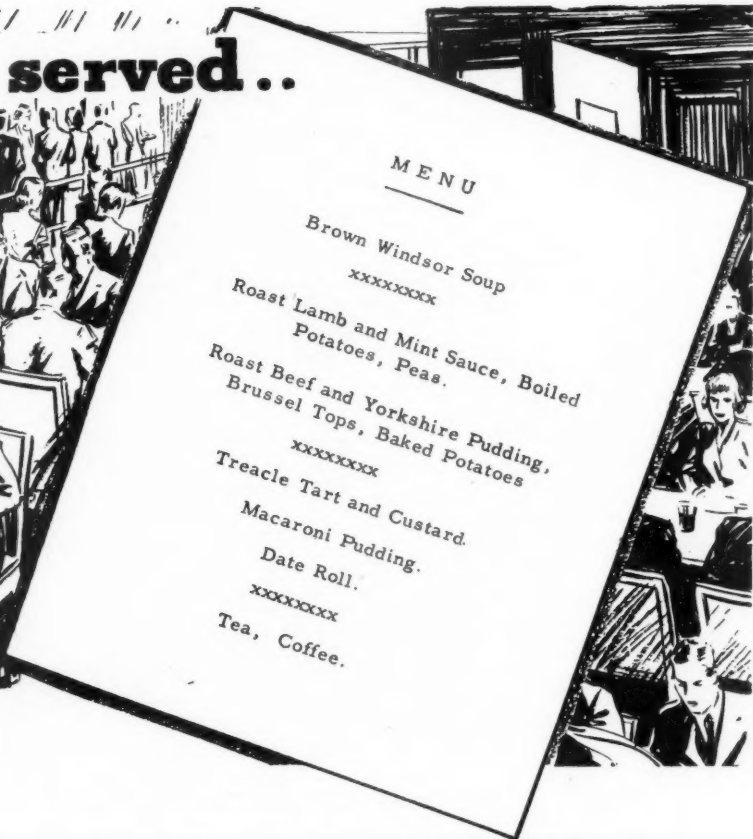


OXFORD UNIVERSITY—DEPARTMENT OF PHYSIOLOGY. *This Laboratory was painted with Robbialac Colorizer Paints. When the time comes to repaint or touch up there will be no difficulty in matching the original colours exactly.*

ROBBIALAC *Colorizer* **PAINTS**

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Dinner is served..

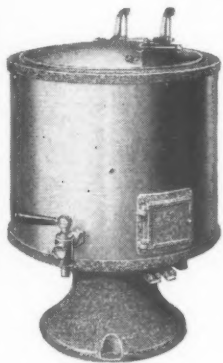


GAS COOKING APPLIANCES

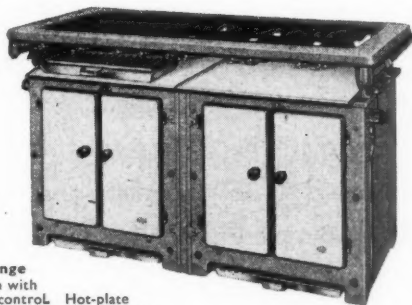
are used in factory canteens throughout the country...

The extensive range of Main large-scale cooking appliances covers the specific requirements of every type of catering establishment. Highly efficient in use and economical on gas consumption, Main appliances are strongly constructed to withstand continuous heavy usage...

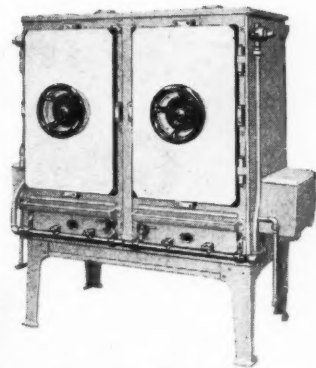
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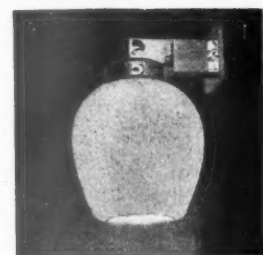
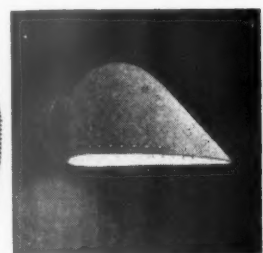
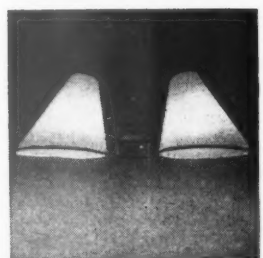
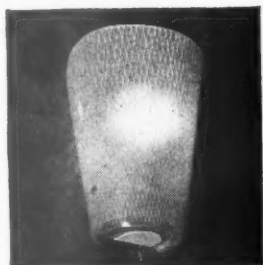
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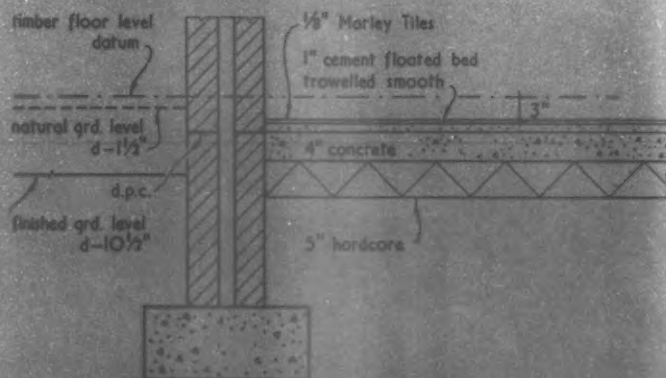


The illustrations on the right summarise the detailed information on two of the fourteen examples of flooring costs given in the Marley publication FF.2.

In Scotland the comparative costs vary in certain details and a special booklet FF.3 is available for Scottish Builders.

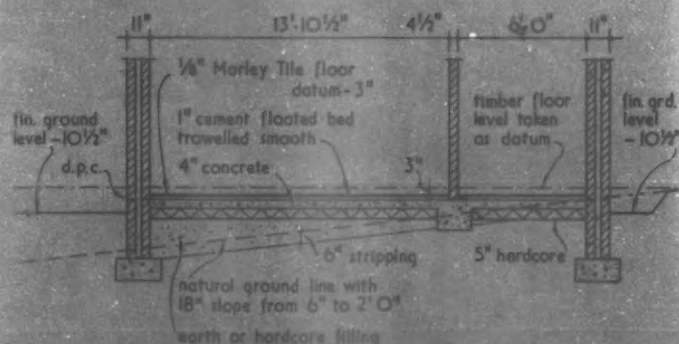
EXAMPLE A For Normal Type of Site

38 yds. sup. Excavate, remove and deposit @ 1/1d.	2 1 2	5 ft. run Form pipe chase @ 1/-	5 0
4 yds. cube Excavate to reduce to levels @ 4/9d.	19 0	31 yds. sup. 1" screed @ 4/10d.	7 9 10
4 yds. cube Remove and spread surplus @ 5/-	1 0 0	31 yds. sup. 1" Marley Floor Tiles @ 11/3 1/2d.	17 10 1
31 yds. sup. Hardcore and blinding @ 3/10d.	5 18 10	6 ft. run Galvanised steel bar as step @ 1/10d.	11 3
31 yds. sup. Concrete bed 4" thick @ 5/10d.	9 0 10		
			Total for Example A
			£44 16 0



EXAMPLE C2 For Sloping Site (18" crossfall from front to rear)

38 yds. sup. Excavate, remove and deposit @ 1/1d.	2 1 2	31 yds. sup. 1" screed @ 4/10d.	7 9 10
9 1/2 yds. cube Filling to make up level @ 4/9d.	2 3 11	31 yds. sup. 1" Marley Floor Tiles @ 11/3 1/2d.	17 10 1
31 yds. sup. Hardcore and blinding @ 3/10d.	5 18 10	6 ft. run Galvanised steel bar as step @ 1/10d.	11 3
31 yds. sup. Concrete bed 4" thick @ 5/10d.	9 0 10	DEDUCT	45 0 11
5 ft. run Form pipe chase @ 1/-	5 0	9 1/2 yds. cube Remove surplus @ 5/-	2 6 3
			Total for Example C2
			£42 14 8



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THE AMAZING **NEW** LIQUID PAPER LINER & SIZE

Here's what decorators have been asking for—an entirely **NEW** time and labour saving British Product that is making revolutionary changes in decorating technique. **POLYLINA** does **TWO** jobs in one—it both **LINES** and **SIZES** walls and ceilings ready for papering. There's nothing else like **POLYLINA** on the market.

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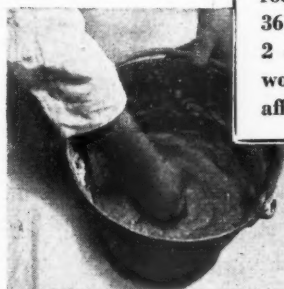


Polyline applied with coarse brush, lines as you size.



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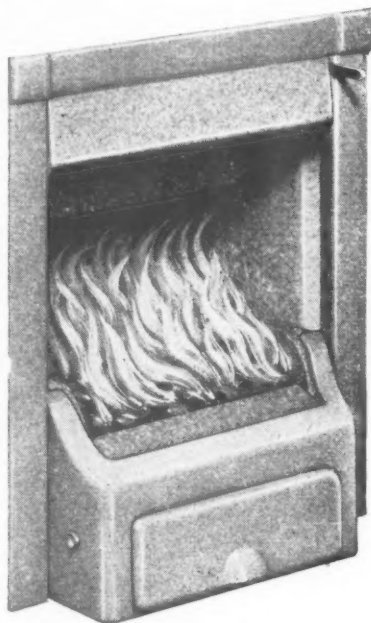
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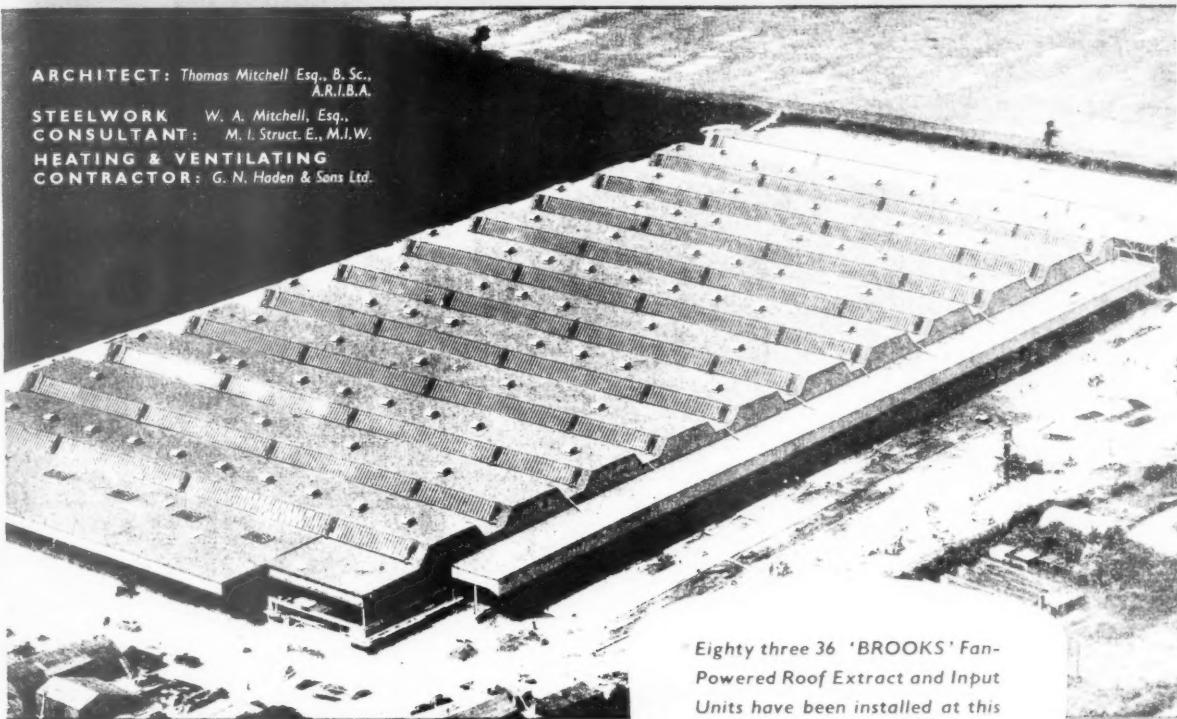
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F.R.I.B.A., F.R.I.C.S., M.I.Mun.E.*



Redland '50'
Redland '49'

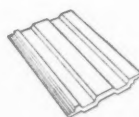
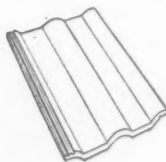
Redland '50' — roman pattern interlocking tile, for producing a good-looking roof at a moderate cost. It has the traditional charm of the double roman pattern plus all the strength and impermeability of all Redland tiles

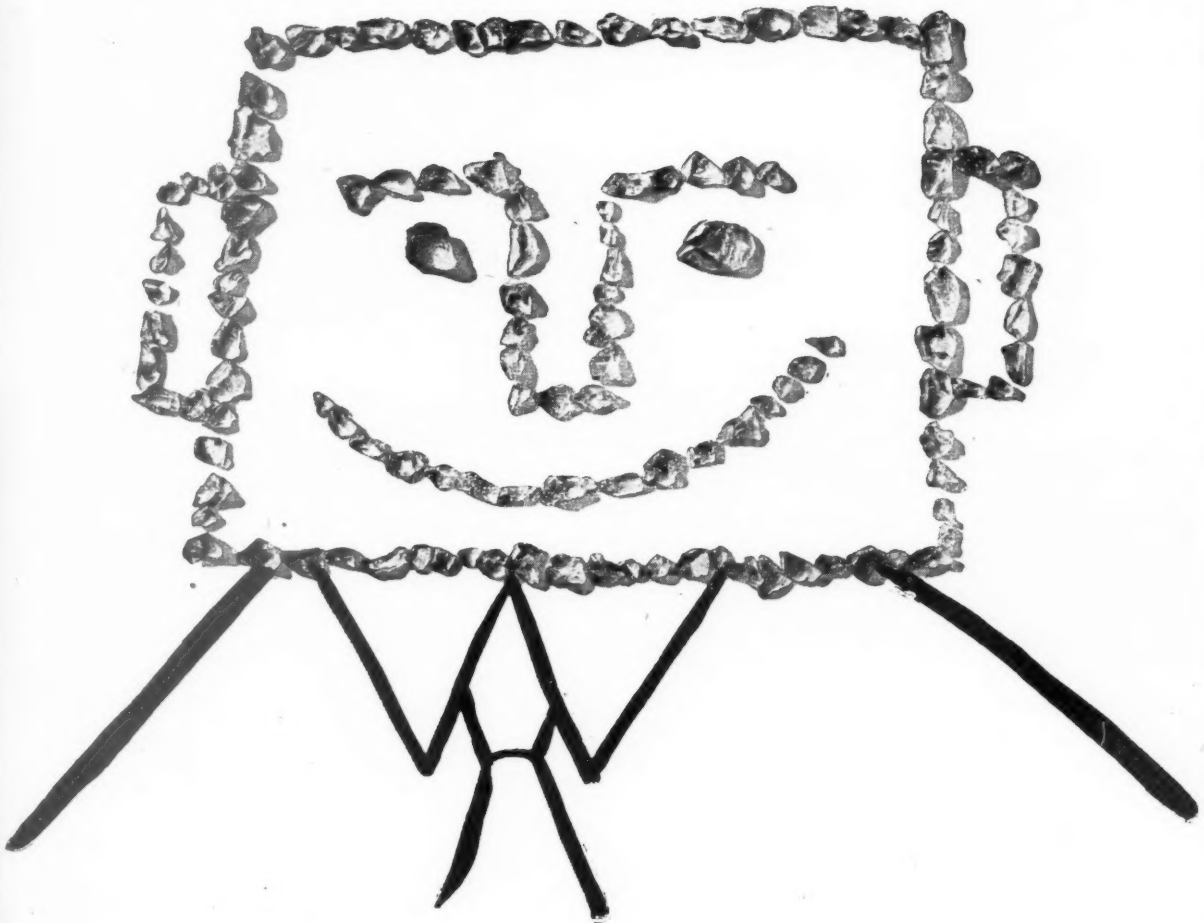
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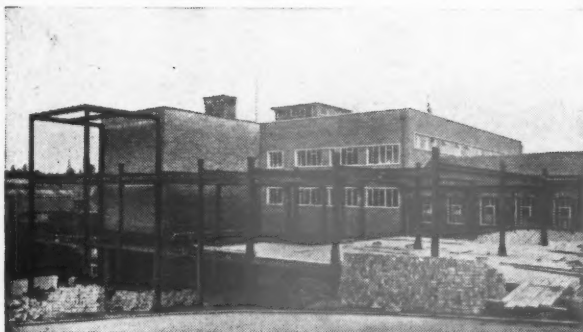


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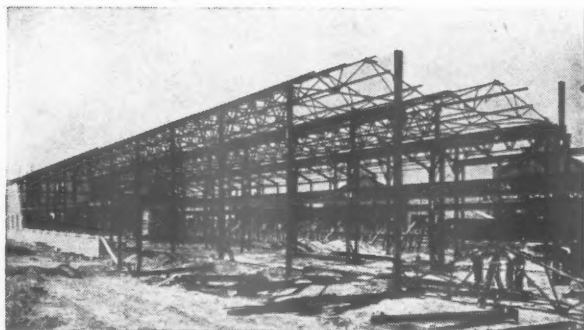
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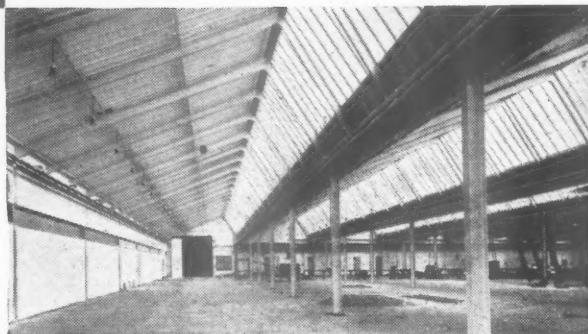
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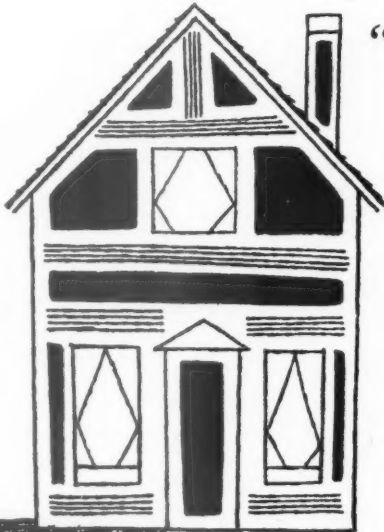
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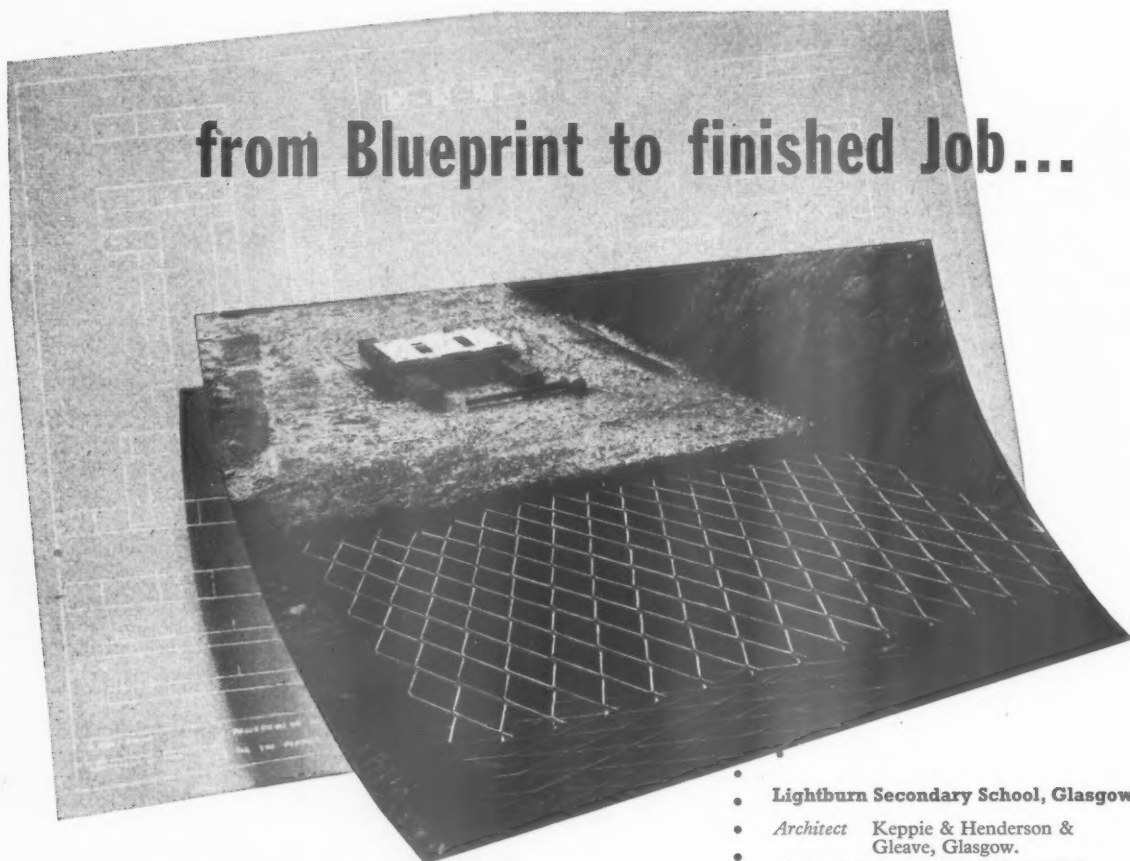
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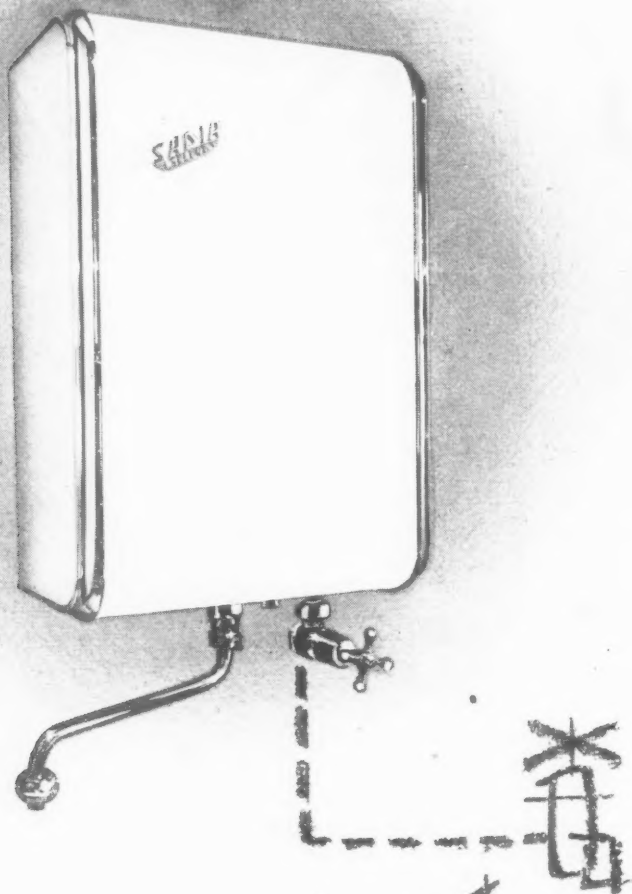
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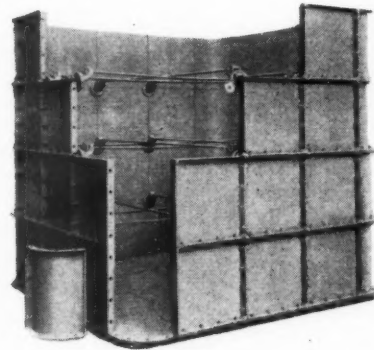
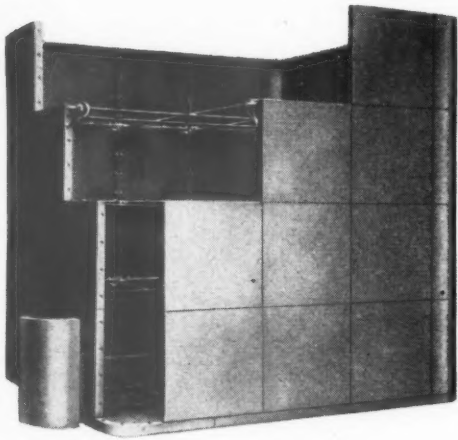
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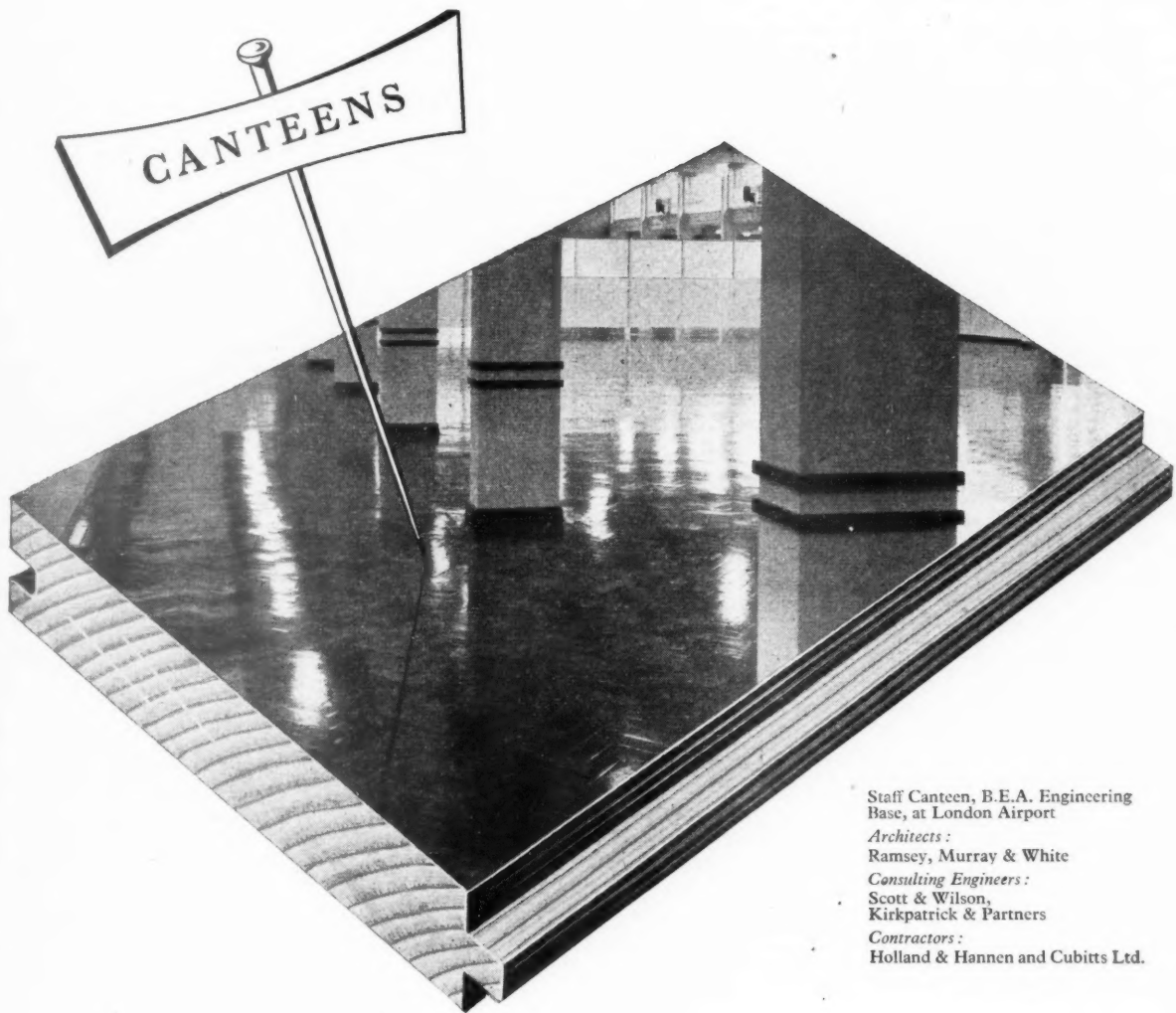
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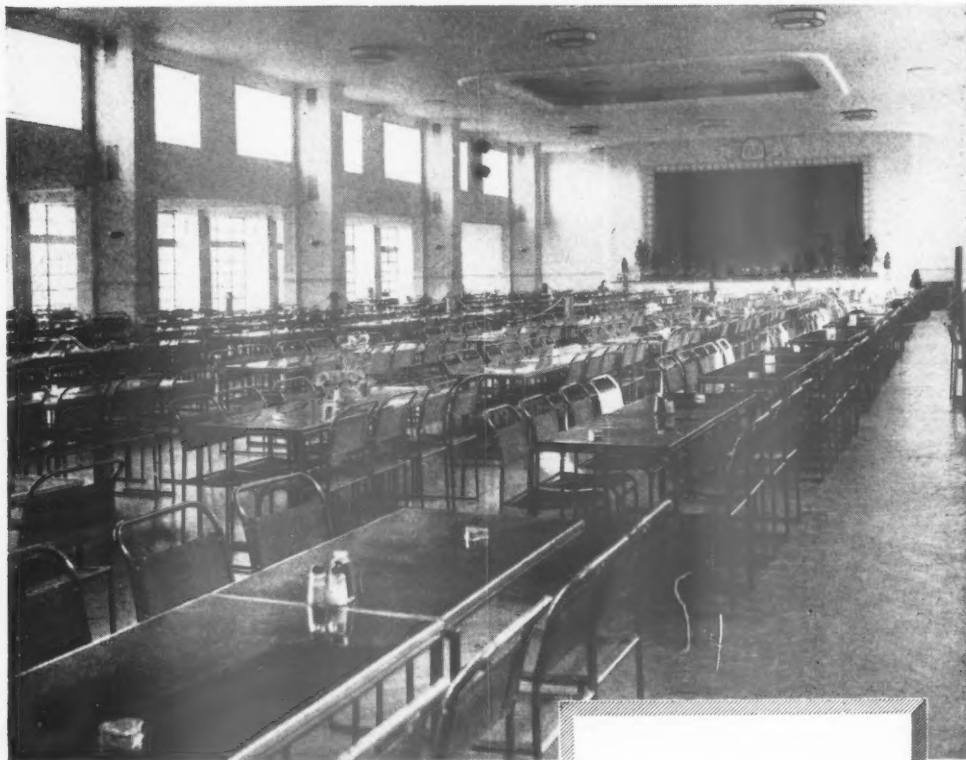
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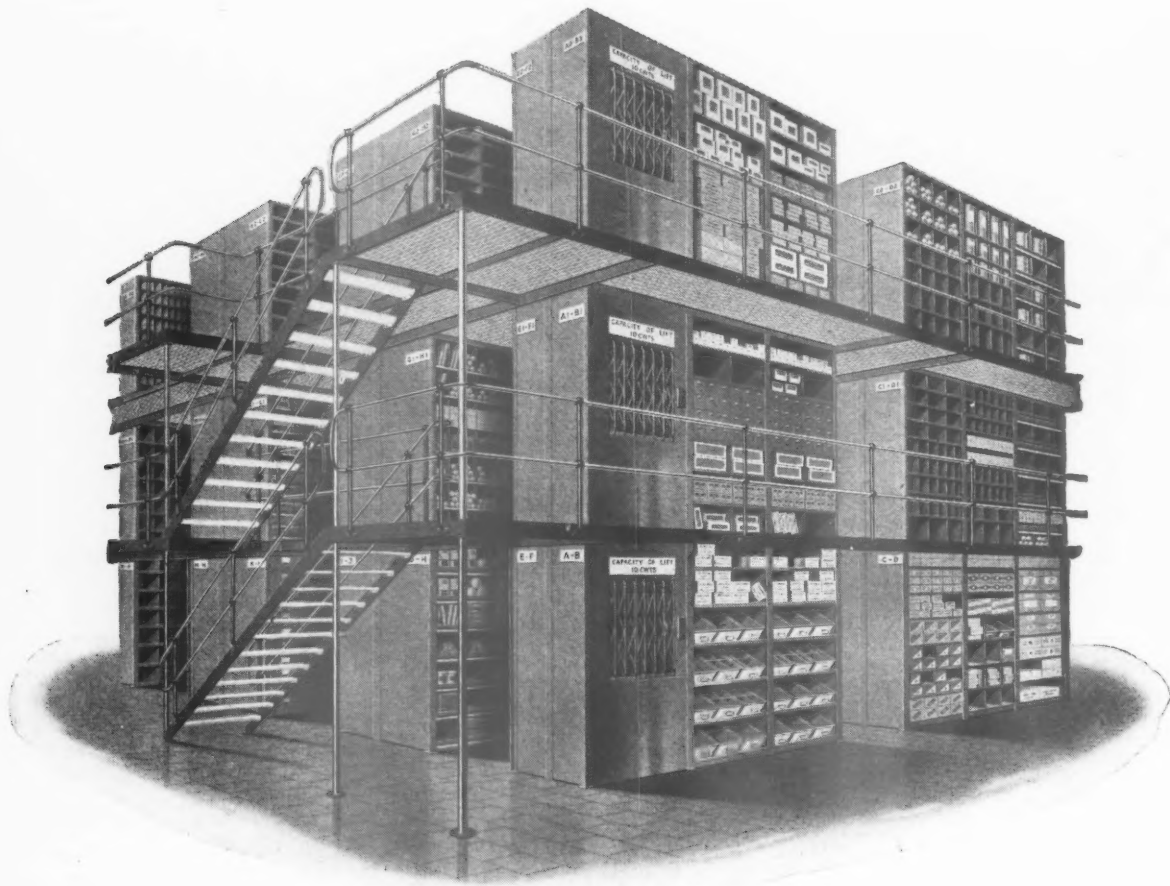


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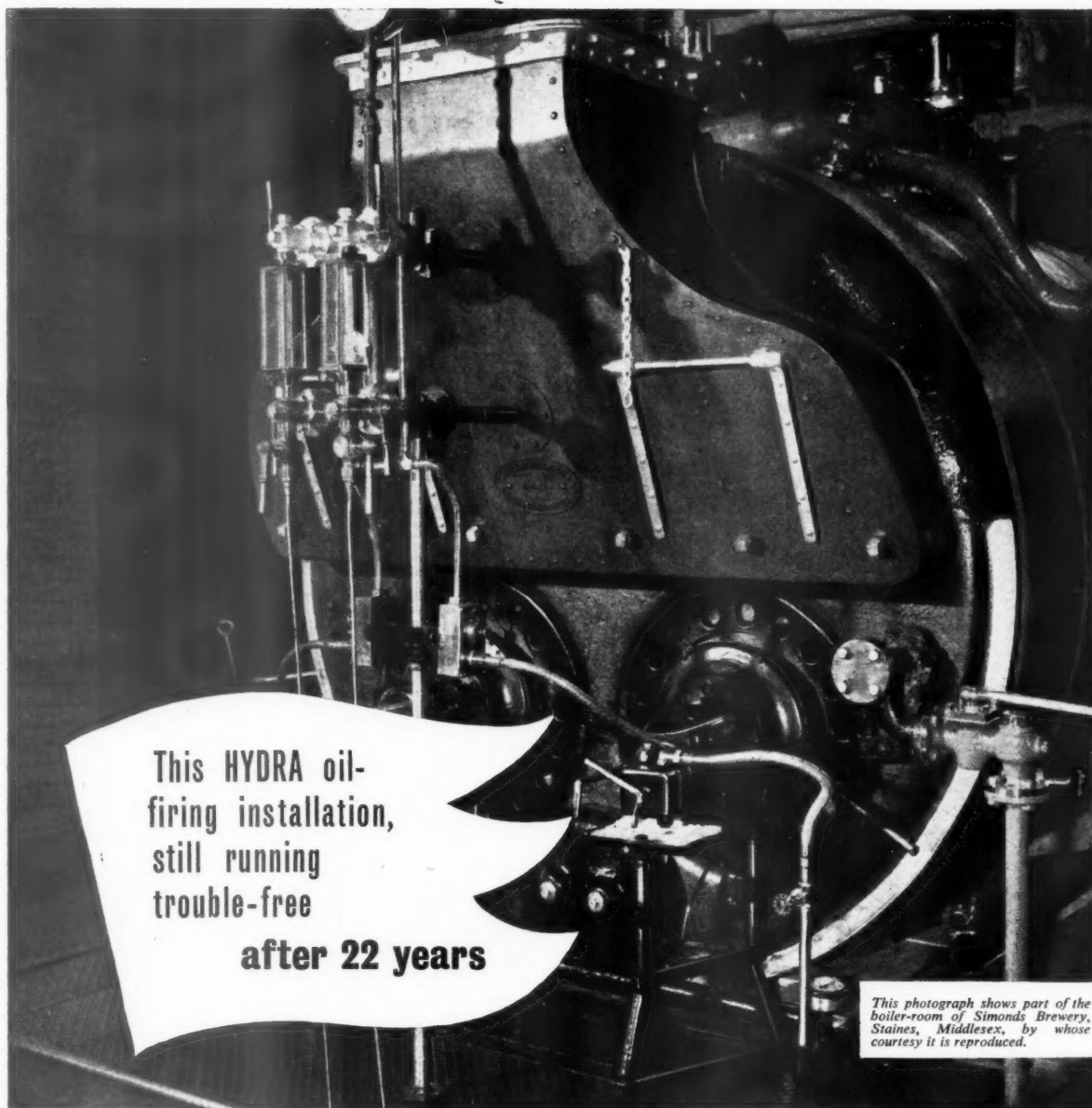
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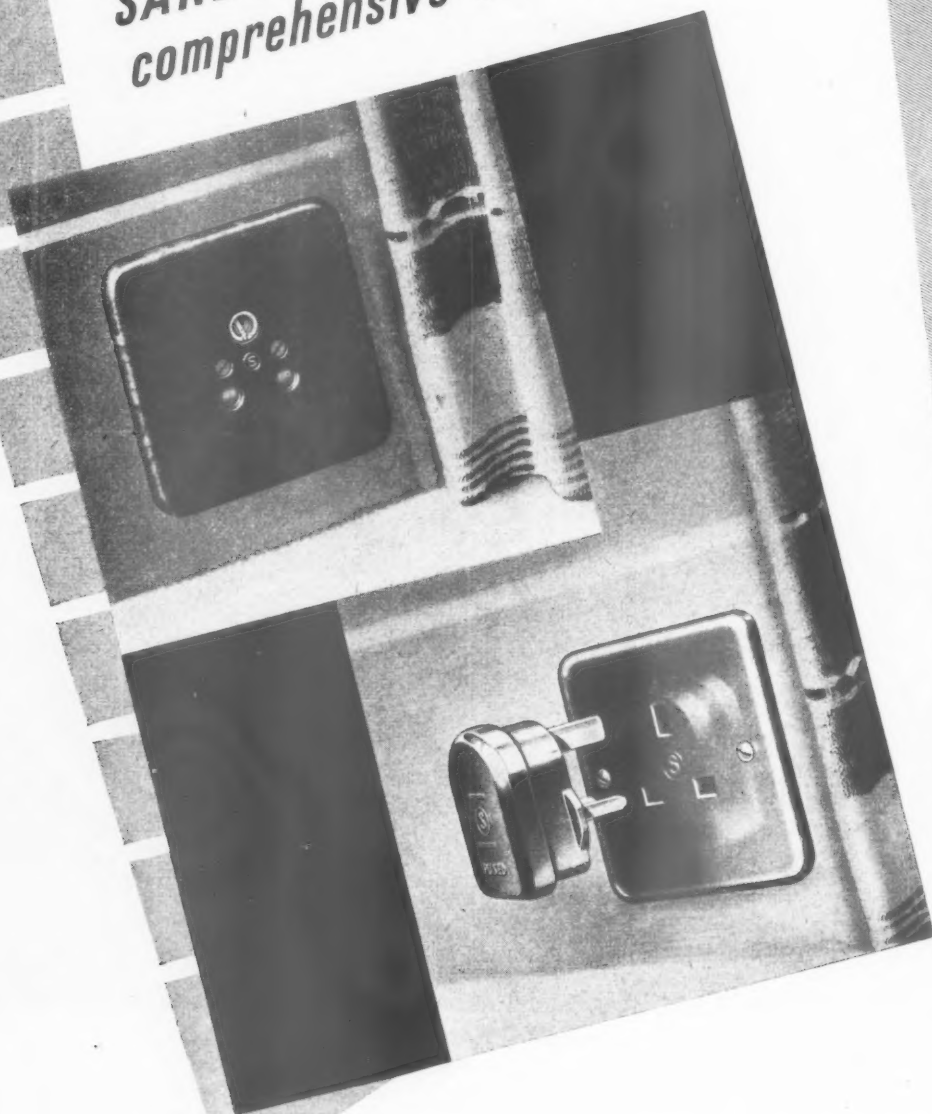
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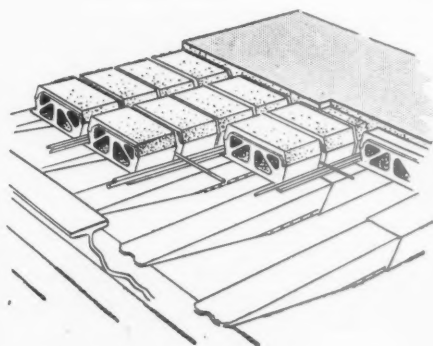
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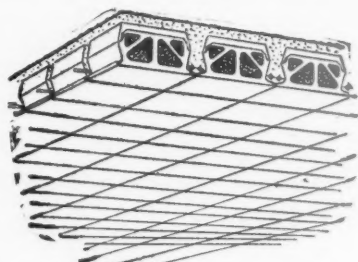
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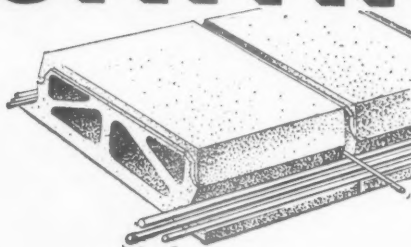
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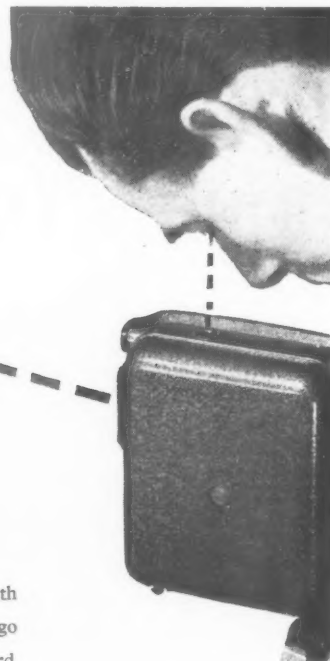
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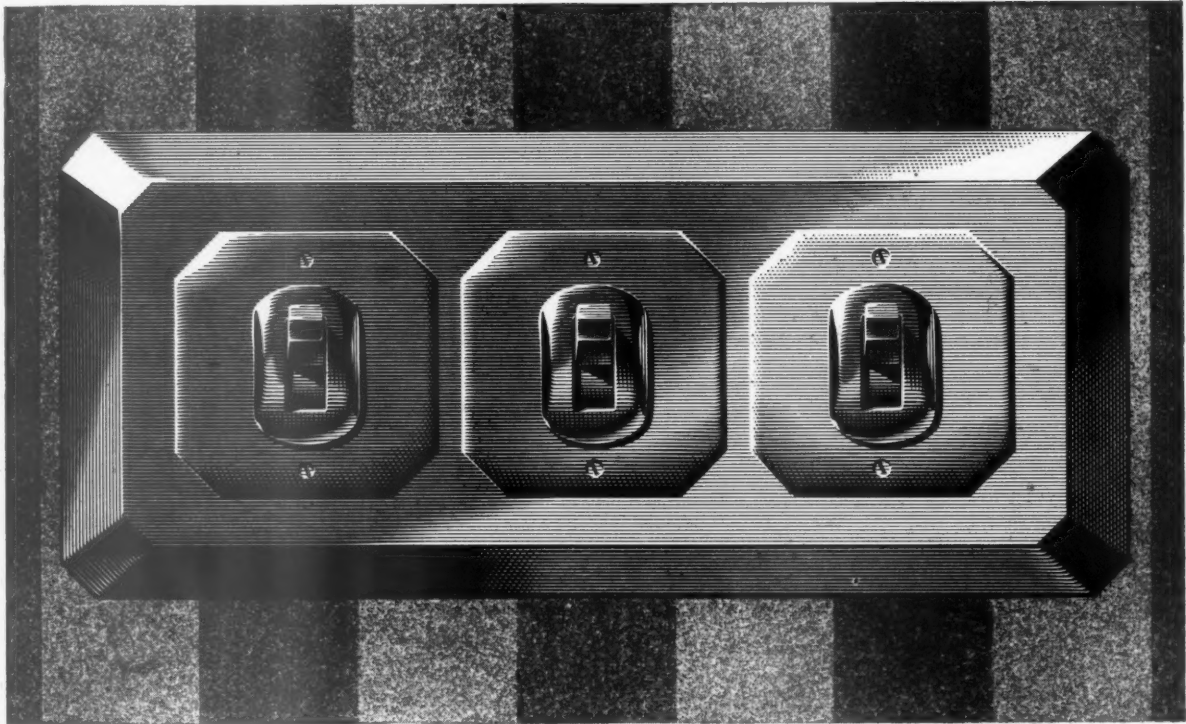
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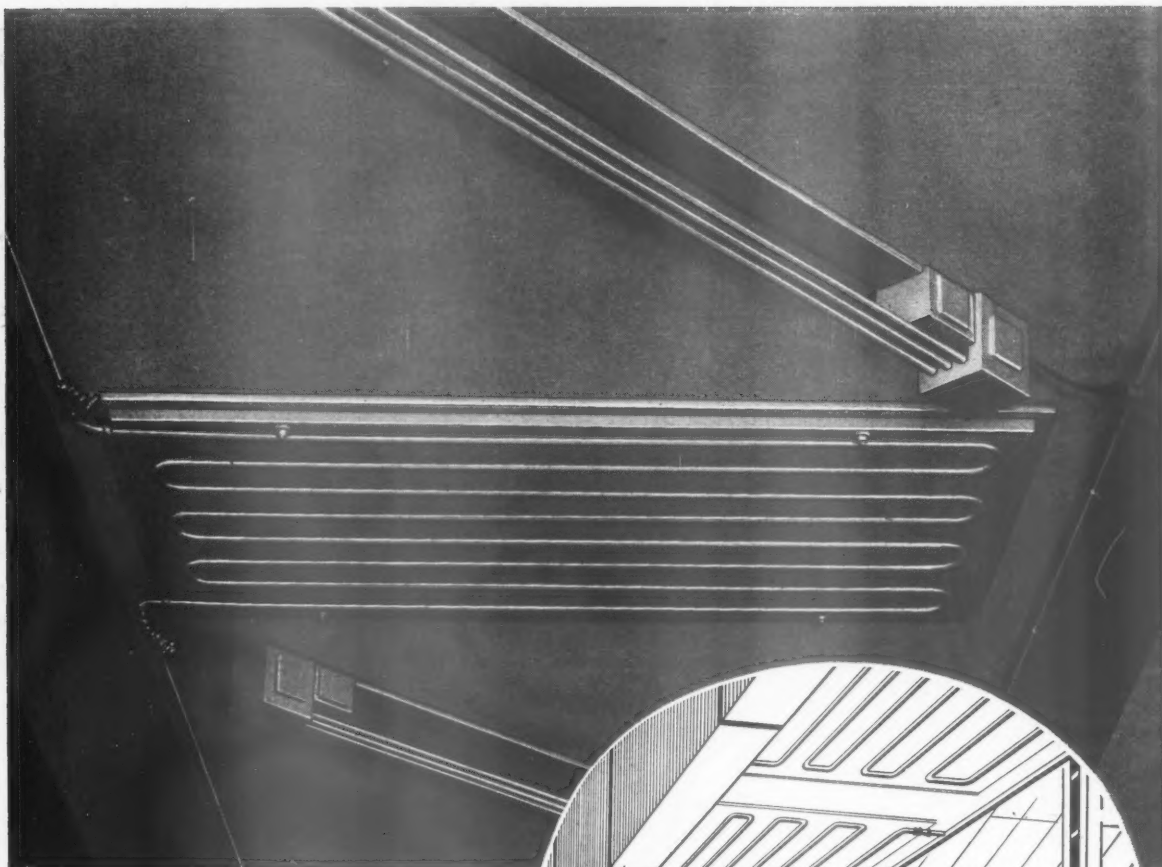
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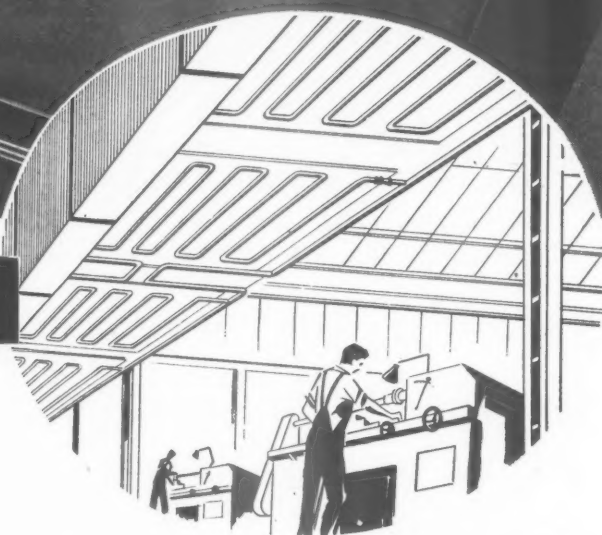
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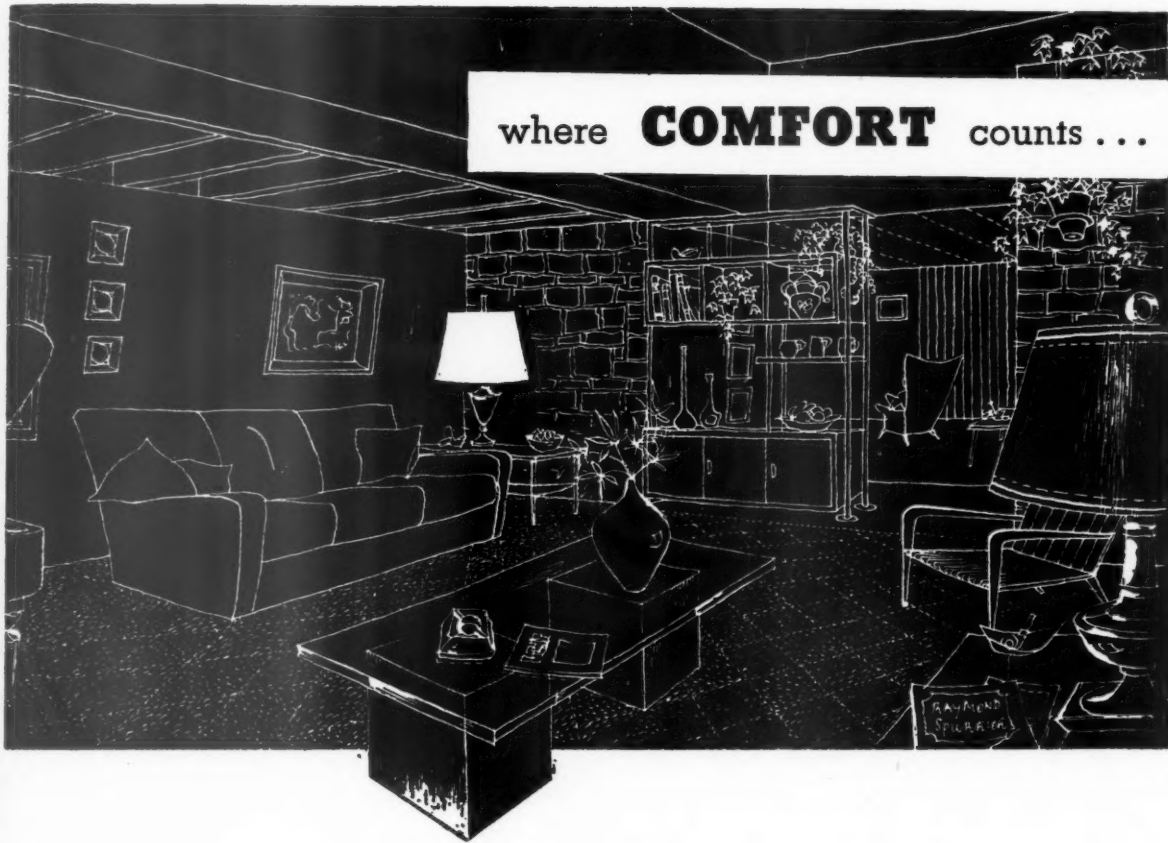


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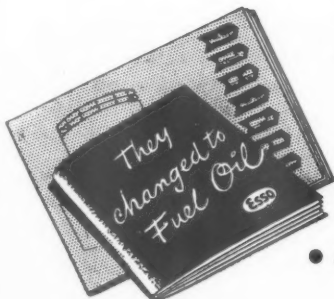
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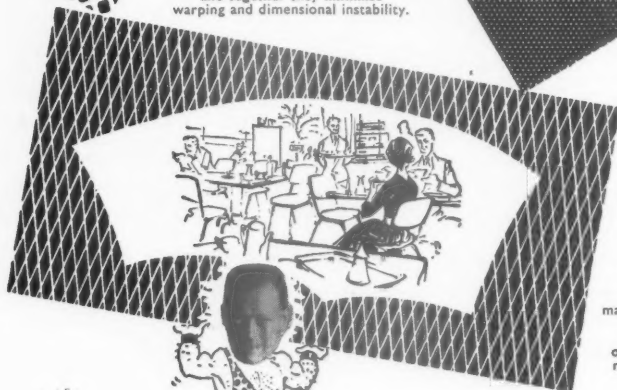
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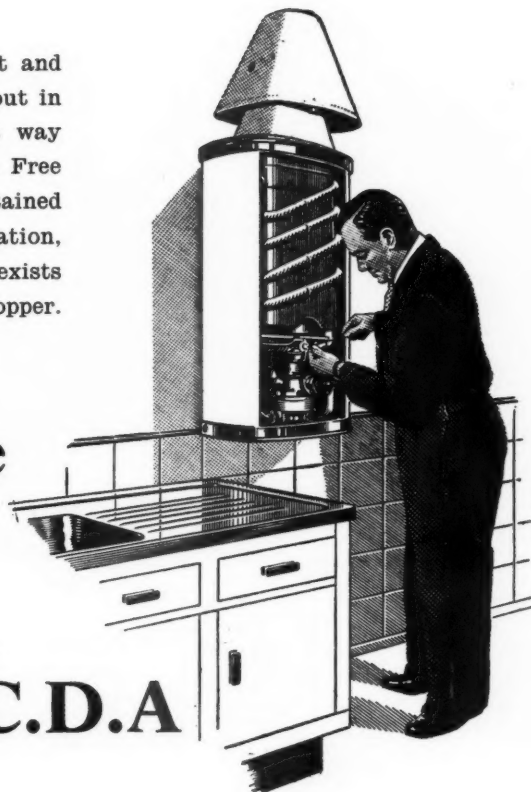
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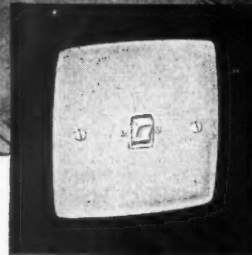
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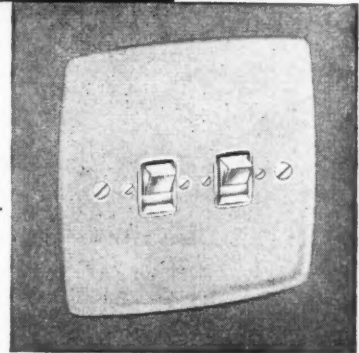
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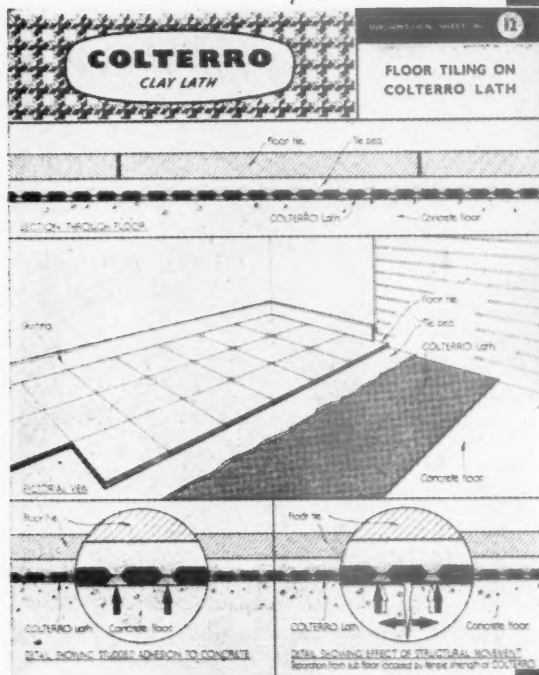
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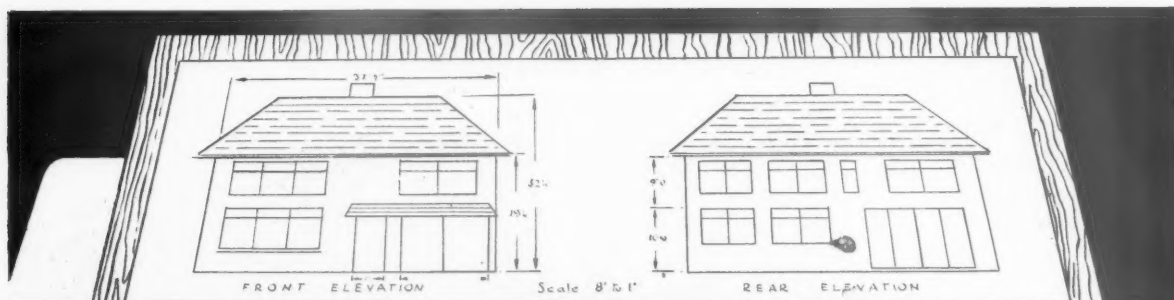
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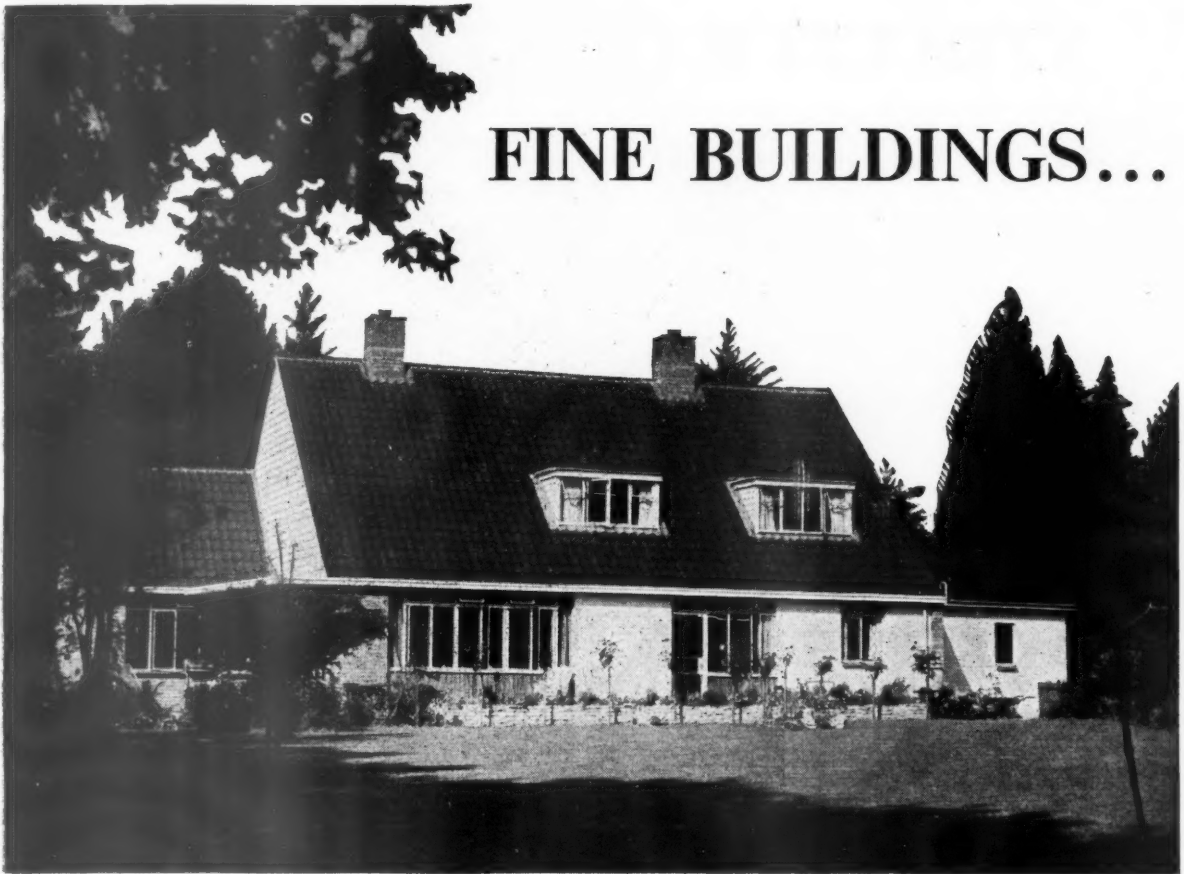
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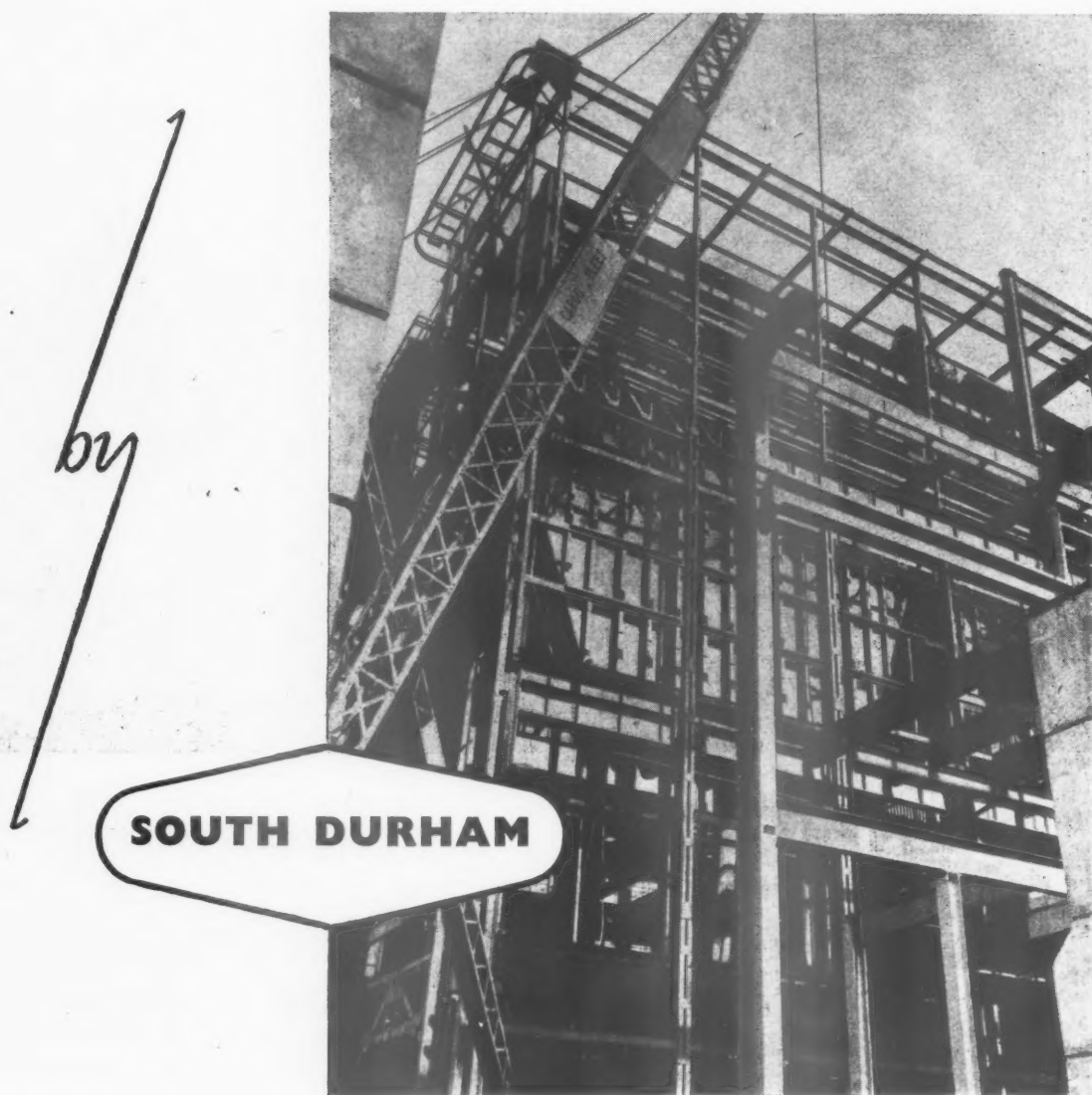
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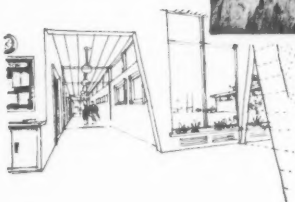
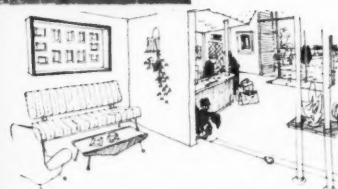
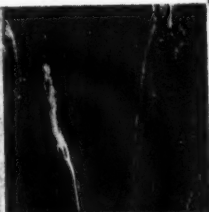
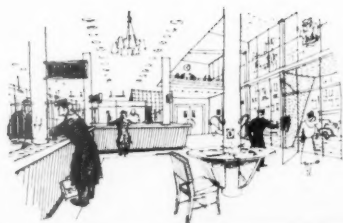
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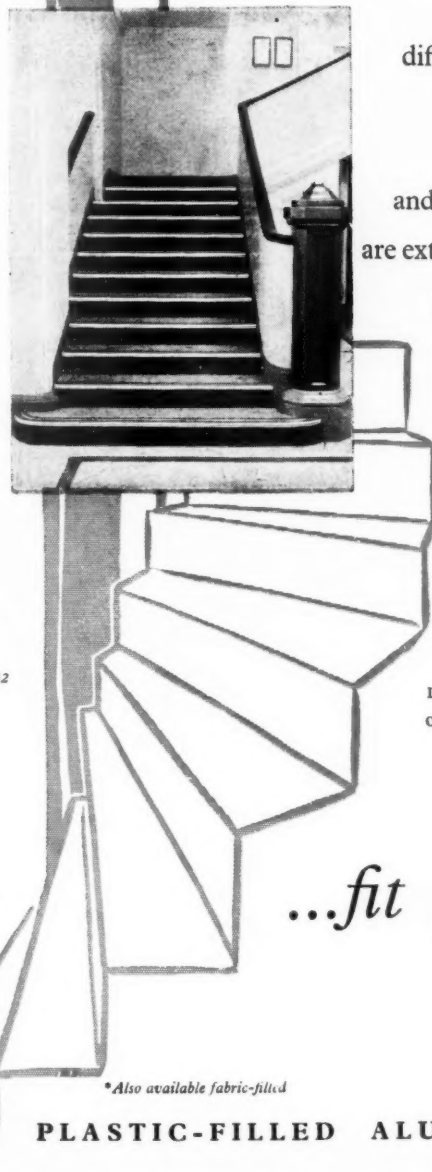
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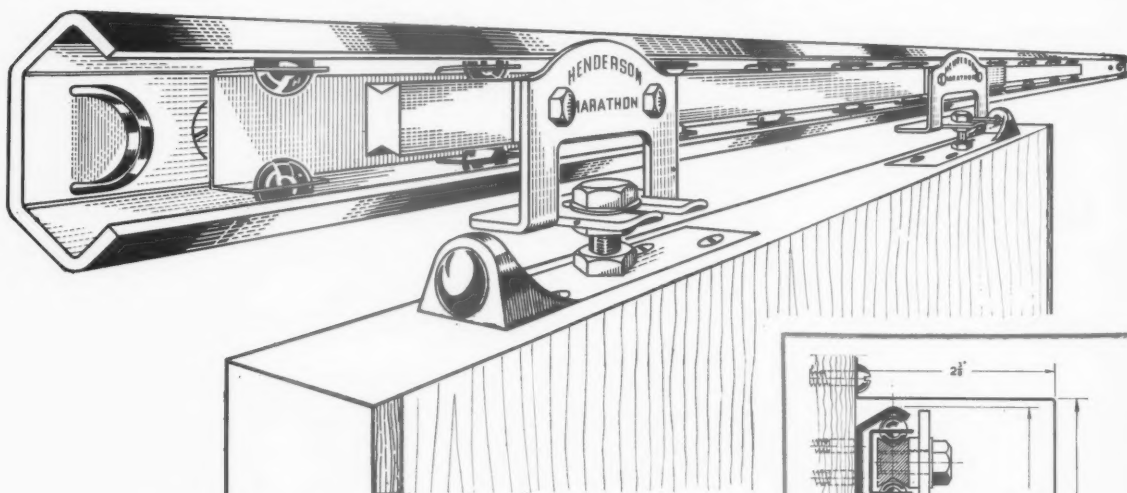
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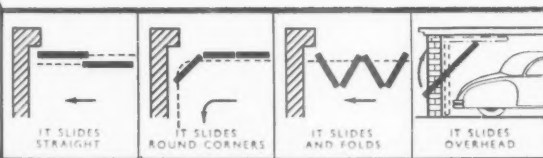
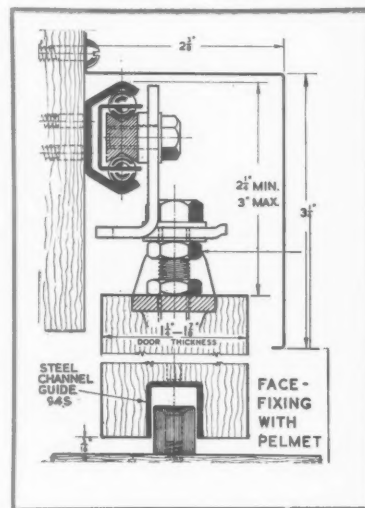
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No. 3141 May 12, 1955 VOL. 121

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RIBA'S AGM

Carefully smiling equally to all, ASTRAGAL edged his way into the crowded AGM at the RIBA last week and sat, as neutrally as possible, alongside a very eminent past-president, and with a crowd of eager trade unionists (RIBA version) close behind, still panting from their long journey from the Midlands. Conolly of Essex was asked to open the discussion of the Council's annual report. This for the second time running. Is he the Council's tame kite put up to take the wind out of wilder sails? Still, he did it very well, save for an insensitive joke on Choke-on-Trent, in reference to C. H. Aslin's near-fatal accident,

The main event, and the reason, one presumes, for the vast attendance, was the rather courageous proposal of a motion by an ordinary member—a thing which, we were told, has not happened before for 40 years. (What *could* it have been in 1915?) It is all reported fairly fully elsewhere in this issue, but one or two points might be touched on here. Firstly, Jefferiss Mathews pointed out, in connection with the questionnaire on whether architects wanted a trade union, that the RIBA's statisticians advised the Council that the 50 per cent. reply to the questionnaire meant that it was "unwise to make a *pro rata* calculation to cover the remainder." This is obvious. If one wants to discover how all sections of the profession feel, it is better to have a good random sample made and ensure that *all* the sample reply. This is what Professor Bowen did when he undertook a survey for the JOURNAL on the profession a few years ago. It depends, of course, on whether you want a statistical survey or a democratic vote.

The prolonged applause which greeted any speaker in favour of the RIBA taking more positive action on the trade union question showed early on that the persuasive powers of the main speakers against the motion, Messrs. Bradbury, Conolly and Womersley, would be inadequate. These three top-grade official architects dutifully toed the NALGO line, and incidentally, towed a NALGO red herring across the path of the discussion, because this worthy union (which rates solicitors, I believe, above architects in salary scales) will never represent assistants in private and commercial offices, and the

whole point of this controversy, surely, is to get representation for all salaried architects.

NEW NEXT-DOOR NEIGHBOUR

One other item to which reference was made was the rebuilding of 68, Portland Place. An estimate of the cost was asked for, and was given as about 50 to 60 thousand pounds. Within minutes this was corrected on the platform to 70 thousand. The cost of building has gone up, said Secretary Spragg, not batting an eye, while the audience roared with laughter at such excuses and at the typical inaccuracies of an architect's estimate.

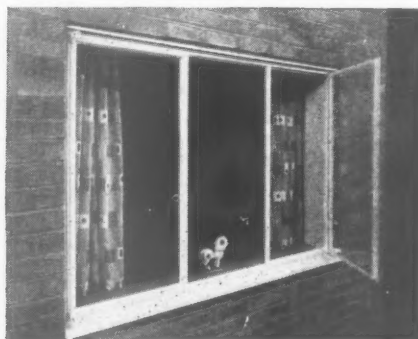
And while on the subject of the extension, what kind of a design is it to be? One does not envy Messrs. Wornum and Playne having to design for a client in the form of a committee of architects. But as the building is so important to so many of the profession, it is to be hoped that the designs will be published well in advance of building, so that comment can be made.

Some weeks ago the JOURNAL showed the exterior of the new clubhouse of the Ontario architects. Overleaf is an interior view. It is not quite breathtaking, but it is, above all, simple and contemporary, and it has been put up in a country with a reputation for extreme conservatism in design. It is to be hoped that the architects of the RIBA extension will not feel too influenced by 66, or by the rest of Portland Place, and will emulate the Canadians.

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THE HYPERSENSITIVE PROFESSION

A week or two ago, a letter was published in the JOURNAL pointing out that in a BBC Home Service programme titled "Buying a Home" no mention was made of the architect. The correspondent used this omission, very naturally, in order to belabour the RIBA. One sympathizes: it is very tempting. I could almost say I do it myself. But is it justified? Having skimmed through the script one must admit that the BBC was tactless. They advised the public to go to "a good surveyor or estate agent . . . to report to you on the condition and value" of the house—which is being considered for purchase. And when the question of building a cheap house came up they gave (only too true to life) all the publicity to a spec. builder.

*

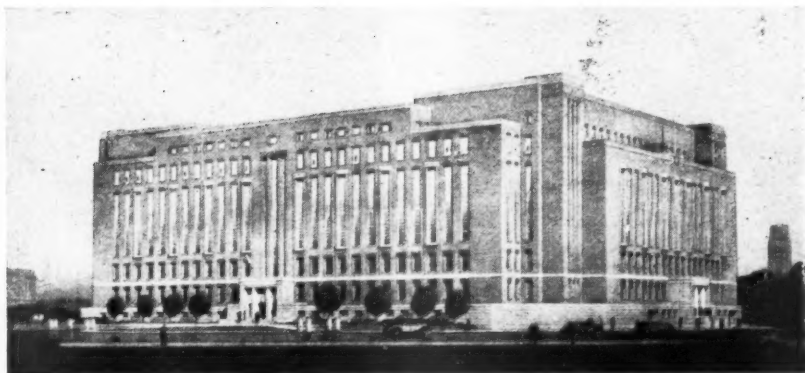
The trouble may be that the BBC thinks architects and architecture are largely Third Programme stuff. But it is certainly not true that the BBC neglects architects. This year there have been thirteen talks (and four repeats) on architecture, six of them by architects. Eight of the talks, however, were on the Third Programme. All in all, though, it is really quite encouraging. Architects would seem to be holding their own, one would guess, against other professions (if not against spec. builders) for judicious publicity. All we lack is an eight-fifteen-in-the-morning Radio Architect. "Nasty patch of damp over the fireplace? That's condensation through spec. builders' skimping, a nasty, difficult complaint to cure. . . ."

*

No, on the whole the BBC is doing its job, and so, on this matter, is the RIBA. Personally, I can't bear turning on the wireless now—its too much like a busman's holiday.

WHAT COULD HE MEAN?

In an excess of frankness, of a kind which is rare in public speeches, the Principal of Birmingham College of Technology said, at the college's diamond-jubilee celebration, that "There is a distinct possibility that the facilities of the new buildings at Gosta Green will be inadequate even before we go into them." ASTRAGAL, looking at the picture of the new buildings (above) wonders whether Principal Wilson means what he hopes he means,



The proposed Birmingham College of Technology. Architects: H. V. Ashley and Winton Newman. See "What could he mean."

suggests that he doesn't but firmly believes that he should—if you get the point.

carry out other improvements on a very generous scale."

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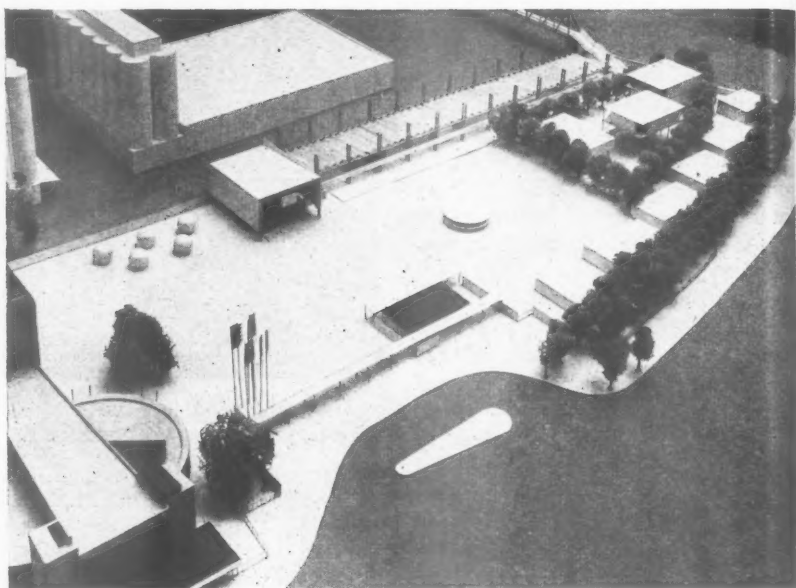
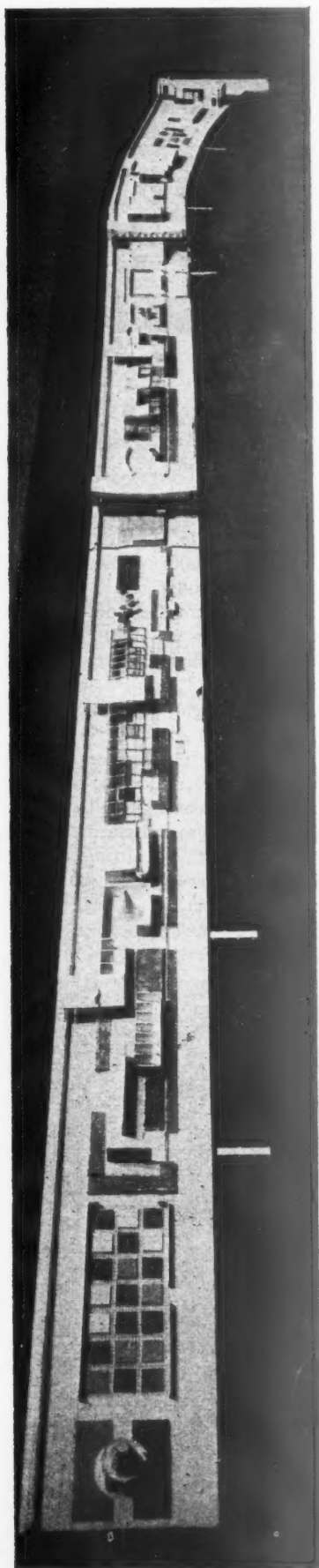
THE PROFESSOR AGAIN

The PRA, who believes that the JOURNAL has never seen a building growing out of the ground (or so he told the *Evening Standard*—remember?) has been airing his views on the rebuilding of the city. With that disrespect for both democracy and experts which characterizes most great architects, Professor Richardson would ignore "town-planners or common councilmen" and work instead with a committee of taste, whose membership, alas! he does not state. But he is quite positive that his scheme of crescents, terraces and arcades would, by its beauty, "influence the authorities to

ASTRAGAL, while moved profoundly by such noble faith in the power of architecture to influence the policy of metropolitan boroughs, wonders if the PRA has really made up his mind about just what he intends to do. Thus an assertion that "the very deformities of London's mighty agglomeration of buildings have a charm of their own" is followed a few sentences later by a demand for the "removal of many disfigurements, including existing railway bridges and other Victorian features"; and this anathema on Victoriana is followed, somewhat inexplicably, by a pat on the back for the successors of Nash, who, by ASTRA-

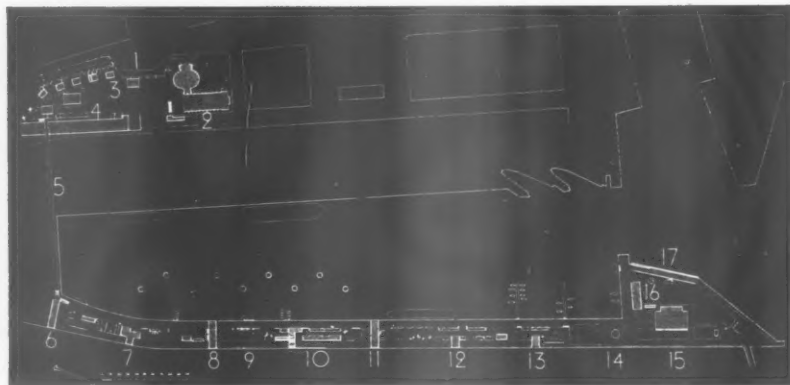


Headquarters for Ontario Architects. See "New Next-Door Neighbour."



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| 1. Main entrance | 5. Footbridge | 10. Main centre: bank, post office, gift shop, telegraph office, travel bureau | 15. Main restaurant |
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| 3. One-family houses, furnished; building techniques; apartments; city plan models | 7. School, playground, children's restaurant, traffic playschool | 12. Garden show | 17. Swedish Hall: crafts and industrial design |
| 4. International Hall | 8. Cafeteria | 13. Colour and design | |
| | 9. Fashion show dancing | 14. Rose garden | |



H55 Takes Shape

H55 is not an atom bomb explosion. It is an exhibition—an exhibition of industrial design, housing, home furnishings and crafts which is to take place in Helsingborg, Sweden, next month. This exhibition, which will give us the first opportunity we have had since the Stockholm exhibition of 1930, to get a comprehensive picture of Swedish design will “show the surroundings of modern man from the ordinary household implements to complete city plans.” Visitors will have this theme explained to them, after they have entered the main gates, by means of outdoor cinema films. This is an excellent idea—if visitors can be persuaded to take any interest in a theme about “modern man,” the “child of tomorrow” and so on. Judging by information and photographs already available, the exhibition site will be so attractive in itself—as the South Bank was—that few people will want to do any serious thinking there. As the photograph on the left shows, most of the exhibits will be staged on a narrow pier which—as a Swedish handout quaintly explains—“will be turned over entirely for this purpose.” The model above (No. 1 on the key plan) also gives an idea of what the site will be like, and more details of exhibits will be given in later issues.

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GAL'S calculations, must have been Victorians to a man. With respect, sir, please get straightened out, and then ASTRAGAL will take the Baroque Revival Party-Line on the City rather more seriously.

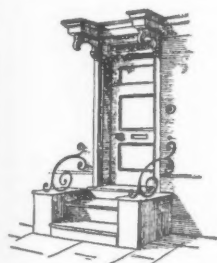
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All these pious hopes of the PRA were expressed, by the way, in an editorial page article in the *Daily Telegraph*, which, one way and another,



How Professor Richardson would like to see St. Pauls (From the *Daily Telegraph*).

has found quite a bit of room for architecture recently. Like *The Times*, it gave space to the RFAC's annual report, with its further fulminations against the City (mixture otherwise as before) and there was also a bottom of the page feature on domestic matters, from which ASTRAGAL repro-



"From an 18th century cottage comes this example," said the *Daily Telegraph*, in an article on front doors, "which would add charm to many a small modern house."

duces an illustration above. If the Arts Commission served no other useful purpose, at least we could be thankful that its existence means that papers like the *Telegraph* which get off the beam on architecture occasionally, are obliged to print intelligent criticisms of it when they publish the Commission's report.

*

Before I leave the subject of the Press and architecture, let me just pass on the good news that the architect is now—according to a *Manchester Guardian* street-corner survey—qualified to be described as the "man-in-the-street," and that the *Evening Standard* has acquired such an eye for architecture that it was able to see the East Molesey cricket pavilion, which was opened last week, as "a miniature Festival Hall."

ASTRAGAL

The Editors

TO HELP YOU CHOOSE YOUR LEADERS

AS usual at this time of the year, a number of architects are being nominated to stand for election to the RIBA Council, and, once again, we are going to try and help voters in their choice by providing an opportunity for candidates for election to make a brief personal statement of their aims and beliefs. This will be in the form of replies to three questions which we feel are pertinent today, and on which any potential Council member should have opinions, however open his mind may be to further argument. The three questions are:

1. Some architects in private practice have suggested that the RIBA does not adequately represent their interests. Could you outline what further steps the RIBA should take to reassure these architects?
2. Is the RIBA functioning satisfactorily as a learned society? What action could be taken to improve the standard of professional service given by architects to the public?
3. Some dissatisfaction has been expressed by salaried architects in public and private offices with their salaries, status and conditions of employment. It has been suggested that, before any action can be taken by the RIBA to remedy this, some investigation should be made into present conditions in order to:—define the true responsibilities of an architect; discover the maximum amount of work which the individual architect can undertake while fully discharging his responsibilities as a professional man; and, to establish a fair range of remuneration for the fulfilment of the architect's task, irrespective of whether the architect is salaried or not. Do you agree that such an investigation is necessary? Have you any further or alternative proposals to make?

The questions have already been sent to those candidates whose names have been announced. There may, however, have been additional nominations for election whose names have not been announced as we go to press. We therefore ask such additional candidates who wish to get their views across to the electorate to send in their replies to the above questions forthwith—preferably by telephone—(word limit: 300) and we will publish their views, together with the views of the Council's nominated candidates, in next week's issue.

Some candidates last year, on the advice, it is said, of someone in the RIBA, would not reply to the questions asked. They were not in the majority. We feel, strongly that on issues of great importance to the profession there is no need for the candidate's views to be secret. Indeed, the obvious integrity and stature of those who *did* reply: Lionel Brett, Sir William Holford, Leonard C. Howitt, Richard Sheppard, William Allen, Professor Robert Matthew, to name but a few, is, we are confident, all the defence we need for our action.

RIBA COUNCIL WARNED

The sincerity, reasonableness and maturity of outlook of salaried assistant architects was amply demonstrated at last week's annual general meeting at the RIBA.* The hall was packed for the motion to be moved (see AJ April 28, p. 566) concerning the representation of members in salaried employment. This motion stated that "This AGM . . . instructs the Council to . . . bring forward fresh and definite proposals in line with the majority of those who replied to the questionnaire." Readers will recall that the majority referred to in this motion were a majority (63 per cent. of the 9,300 who replied) in favour of having "a trade union composed wholly or mainly of architects and approved by the RIBA." The motion, which was moved at last week's AGM was passed by 137 votes (For: 224; against: 87). This margin suggests the growing anxiety felt by salaried members of the profession on this issue and the comparative indifference of others. The maturity and reasonableness of the assistant architects is shown by the wording of the motion. The opportunity could have been taken to try and force the RIBA Council to form a trade union forthwith. Instead the Council have been left room to manoeuvre because something better than a mere trade union is wanted. It cannot do too much to recapture the confidence of the majority of its members in its leadership.

MODERN ARCHITECTURAL HISTORY

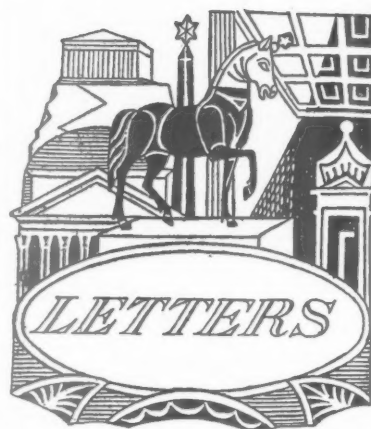
Last January, when the Hertfordshire County Council completed its hundredth school at Barnet, we decided that the time had come to present a record of the development of the factory-made components used in the erection of the majority of the schools. (See page 643.) A record which might bring to light the *process* of evolving architectural forms. We discussed how rapidly staff forget what exactly happened, how inadequately details are recorded in drawings and how small a proportion of drawings are preserved.

In case this should be attributed to some laxity on the part of architects or manufacturers' design staff, it must be made clear that it comes from the nature of development work. For development work is an exchange of ideas, a rapid exchange between the men who are responsible for the carrying out of the building programme, and must therefore find a practical solution quickly. Much of this exchange takes place "in the field" and only a proportion finds its way on to paper.

It is this imperfection of industrial records which was deplored by Professor Giedion when he came to write what he called "the anonymous history of the XIXth century." For industry lives in the present, and not only rebels at the thought of making records which are not needed for the job in hand, but is also all too willing to throw away records of past work.

Less than ten years is too short a time for the historian to make a judgment, but it is none too soon to salvage the records he will need when he comes to make his judgment.

* See page 632.



Jeffrey Webb, A.R.I.B.A.

Jack Whittle, A.R.I.B.A.

*27 Members of City Architect's
Department, Birmingham*

Private Practitioner's
Problems

SIR,—I notice that the difficulties of the private architect nowadays tend to meet the cold shoulder and polite cough behind the sleeve. But some of them are very real. May I mention one?

Large county departments were formed after the war, primarily to cope with the new schools building programme. Panels of private architects were then raised, in most counties, to "help out"—usually big name London offices. One of the effects of this arrangement is that time tends to hang on the hands of the chaps in the departments by this (usually substantial) reduction of their obligation. This gives them the opportunity to take on private work.

The provincial practitioner then faces this fairly general situation:

He helps to meet the county rate in order to pay—

(a) the partially-employed county staff and
(b) his competitors from outside the area; and

(c) he subsidizes the private enterprise of the partially-employed official until such a time as he is able to become a fully-fledged competitor.

This is one of a host of widely-recognized and ventilated difficulties to which the RIBA has remained almost aggressively indifferent.

And the JOURNAL wonders why small self-protective groups are formed.

The total effect is that the end is beginning to justify the means increasingly, and the code of conduct, torn and flapping like last month's cinema poster, to have no more than a slight and amusing relevance to the contemporary picture.

JEFFREY WEBB.

Dudley.

Urban Planning

SIR,—Do you not think that apart from the need to study the possible effect of future commercial organization upon commercial architecture (particularly in connection with the Barbican site), there is a strong

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case for the reassessment of the technique of urban planning?

I believe our measure of density to be crude and inadequate in an age which is so dependent upon the motor vehicle and that there is at some stage of density a point where congestion is bound to arise, however well organized a plan. This "point of congestion" may be governed not only by the density of the area under consideration but by the extent of it and by the characteristics of the surrounding area. In fact, the Pelican's dilemma may be repeated in New Barbican, if built, for we may find that it will hold more than the City can.

In New Barbican and High Paddington there are suggestions for a controlled mixture of "Uses." This idea seems worth pursuing, particularly as to its effect on congestion, on the economics of comprehensive development and on civic design. The broad zoning policies at present part of our planning theory, while having much to commend them, often produce acres of buildings erected for a similar purpose and in many cases inhabited only for 10-12 hours a day. The result is much unnecessary movement of people plus architectural and social dullness, as witness the residential areas of New Towns which, losing their able-bodied men and children during most of the day, have inherited the lethargic atmosphere of inter-war suburbia.

Finally, isn't our planning based too much on those ideas stimulated by the mistakes of the 18th and 19th century industrial development and not sufficiently on the opportunities offered by the application of present knowledge?

JACK WHITTLE.

Essex.

No Shunting In Canals

SIR.—We wish to express support for the recommendations of the Inland Waterways Association as summarized in the JOURNAL of April 21.

In these days of economic difficulty it should be known that water transport is by far the cheapest for a wide range of goods. By canal a load of 60-80 tons is propelled by a small diesel engine, and is tended by a crew of 2 or 3, thus relieving our congested roads of, say, 14 5-ton trucks. Nor is delivery slow since the canal boat, although it may not move fast, nevertheless does move, often from dawn to dusk, while the rail truck spends 90 per cent. of its life stationary or being shunted. The canal boat, initially, is much cheaper than the smaller lorry and lasts 30-40 years to the lorry's 10.

Maintenance costs are negligible, the boat pays no rates or taxes and often houses a family rent free. It positively improves the track it runs on by curtailing weed growth. The nation is in no condition to forego the advantages of canal transport.

The canals hold unrivalled opportunities for water-borne holidays. The increased number of people enjoying holidays with pay, and consequent congestion at the usual resorts, gives a new emphasis to these hitherto neglected and often deliberately suppressed possibilities which are almost limitless in extent.

The canals are also monuments of historical, engineering and architectural genius, they surely demonstrate that there need be no divorce between beauty and utility. Has this conclusion ever been more sorely in need of emphasis?

The present policy of the British Transport Commission appears to offer every discouragement to the use of our canals by traders and others. It seems obvious that if any canals are to survive to play their full invaluable rôle in our national transport system then their control must be placed in the hands of an independent authority capable of appreciating and developing their great potentialities.

27 MEMBERS OF
CITY ARCHITECT'S DEPARTMENT,
BIRMINGHAM.



PREFABS

Two-Storey House Built in Eight Hours

At a recent demonstration held at Wickenton, Gateshead—attended by Sir Donald Bailey and Sir Alfred Bosson—Robert G. Tarran and Son Ltd. showed how fourteen men could erect one of their two-storey factory-made houses in eight hours.

These houses resemble traditional houses in planning and—apart from the cladding—in appearance. They are described as being "competitive" in price with other forms of construction, the chief point urged in their favour being speed of erection.

It is calculated that the 150 houses of the Wickenton contract will be completed by June 24—exactly one year after the signing of the contract.

It is claimed that this saving in time over traditional building saved the Gateshead Corporation some £36 per house in rent and interest on capital charges.

COMPETITION

Ankara Development Plan

The winners of the international open competition for the development of Ankara are two Turkish architects, who receive the first prize of £T30,000 (£T1 is worth about 2s. 6d.). They are Rasit Uybadin and Nihat Yucel. The German winners of the second prize (£T24,000) are Wolfgang Rudhard, Gots Dieter Raths and Peter Ahrens. The third prize, of £T15,000, goes to an Italian group of architects.

The assessor, Luigi Piccinato, said that out of the twenty projects submitted twelve were by Turks.

MOHLG

Disposal of Temporary Houses

The Minister of Housing and Local Government, Duncan Sandys, has asked local authorities, through his under-secretary, for details of the temporary houses they want to remove both during the next five years, and at any time in the foreseeable future.

He has made these enquiries because he wants to make plans for "orderly and economic disposal of these structures."

RICS

Quantities for Denmark

Three Danish surveyors, at a meeting at the RICS on April 20, described the adoption by Denmark of a system of building quantities similar to our own.

This bold change has come about mainly because of the bad organization of building pricing in Denmark. Following is a summary of the information given by the Danish surveyors.

In 1945 an "Institute of Measurements and Estimates"—a price-regulating body—was set up. It is maintained by fees received in adjudicating building tenders where government subsidy or loan is involved, and it has charge of national price lists which are revised every two years. These lists are voluminous, and seem to have got out of hand, for the manual published to explain them itself runs to 350 pages.

Danish building trades operate separately (like the Scottish system) and contract on a piecework basis. They take off their own "quantities" from the architects' or engineers' drawings and specifications, and, apart from some work (mainly civil engineering) done on a schedule basis, contracts are lump sum, with no rates given for the calculation of variations. The range of tender prices is frequently very wide. The need for more precise definition and regulation of costs led to a grant for investigation, which began in 1950.

The outcome of this work is a standard document, rather like a combined bill of quantities and specification, which is to be the basis for tendering in future. It has five sections: (i) general information about the building, location, etc.; (ii) preliminaries, conditions of contract, definitions; (iii) description of the quality of "raw" materials; (iv) description of the quality of constructional methods and of component parts; (v) bill of quantities and schedules. As a basis for this last section, a Standard Method of Measurement is being worked out—based largely on current measuring practice.

Besides the introduction of this document, the subjects of quantities and the placing and management of building contracts are to figure in the curricula of technical schools.

For the time being it is assumed that the architect or engineer will take off the quantities—but later a separate quantity-surveying profession may emerge.

The speakers at the meeting were Viggo Noerby of the Danish Housing Ministry; Erling Frederiksen, director of the Institute of Measurements and Estimates for the Building Trade; and Bjorn Bindlev, who has been principally concerned in the working out of the new contracting department.

DIARY

Visit to Woodbury Down Comprehensive School. Leave the AA, 34, Bedford Square, W.C.1, by coach at 9.30 a.m. Tickets 4s. each. MAY 14

Conditions of Building in City Centres. Talk by Sir William Holford. At the RIBA, 66, Portland Place, W.1. 6 p.m. MAY 17

The Supply of Electricity in the London Area. Talk by D. B. Irving. At the IEE, Savoy Place, W.C.2. 5.30 p.m. MAY 18

Looking at Africa. Joint talk by Peter Kenyon and Ian Leslie. At the AA, 34, Bedford Square, W.C.1. 8 p.m. MAY 19

History was made at the RIBA last week. A motion was moved before the annual general meeting for the first time in forty years. The motion, which was put before members by Thurston Williams, and was carried by 224 votes to 87, was as follows:

"That this Annual General Meeting of the Royal Institute of British Architects does not support the Council's decisions concerning the representation of members and students in salaried employment as set out in their letter of the 4th January.

"It instructs the Council to reconsider these decisions and bring forward fresh and definite proposals in line with the majority opinion of those who replied to the questionnaire."

A TRADE UNION FOR ARCHITECTS

RIBA ASKED TO THINK AGAIN

The following are extracts from the discussion which preceded the voting.

THURSTON WILLIAMS: This motion perhaps needs some explanation. One of the explanations is before you in the size of the attendance at the meeting. I think perhaps that attendance is an answer in itself to why this motion is before you. It is before you because it is the feeling of a very large section of our membership that this matter should be discussed.

With the exception of a few senior officers we are a badly paid profession. Even those senior officers would not consider themselves well paid in comparison with leading surgeons, leading barristers or company directors. With all members below those senior architects, in salaried employment, there is no such thing as a well-paid salaried architect.

Even in those progressive county councils, whose reputation is raising the standard of architecture generally, the true value of the architect is not appreciated. The men who gain them votes at elections, the men who gain their bronze and gold medals, do not receive their true worth in salaries. I do not think there is an establishments officer appointed who is not more concerned with giving the minimum salary appropriate to any one officer than with ensuring that men are appointed of the maximum ability. His job is made easier by the great differential in salaries existing throughout the country. If you work for X rural council or Y county council or ABC chartered architects, your salary for doing the same job may vary by several hundred pounds.

There is no accepted standard of what the status or salary of an architect should be. The salaried architects have decided that it is time something must be done. We have agreed that there is need for certain action to raise the status of the salaried architect.

Already half of our total members have expressed a preference as to what they think the Council should do. Why, then, is it necessary to seek an alternative? It is clear what the salaried architect wants. He has made his views known. The Council should now be considering the ways and the means to make those views expressed effective and to bring them into being.

A profession of 18,000 members must be capable of making its views known to the public, and it can do so if it is a united profession. It is our intention, and I am sure it is the view of all salaried architects, that

it should be united within the Royal Institute and that he should be united within the Royal Institute with private practising architects or anyone else who is a member. It should be possible, through the Institute, to be a united organization. If the Institution uses its influence in setting up a single organization which can represent the salaried architect, then the status of the profession can be raised, because if we raise the status of the salaried architect, who forms the large majority of our members, we can raise the status of the whole profession. Six organizations cannot achieve this end as well as one, nor can the existing organizations, which have not the means to represent the views of architects, or within which architects have not the means to represent their views.

We are therefore asking the Council to think again. Much of the work of the Salaried and Official Architects Committee is of great value. We are asking the Council to make use of it. Let us start from the assumption that all salaried members want an organization to negotiate for them and let the Council bring forward new proposals which will gain our support at a further meeting in this hall. I consider that our motion represents the minimum view of the salaried architect, and I therefore beg to move it. C. G. SHANKLAND (seconding the motion): The Council have rejected the clear opinion of the members most concerned and they have also set aside much of the good work of their own Salaried and Official Architects' Committee. They have put the whole question back as if there had never been a questionnaire and as if there had never been this appreciable degree of dissatisfaction which the Council themselves recognized a year ago. I do not think the clock can be stopped. Our motion contains the words "Fresh and definite proposals." These words "Fresh and definite" were inspired by the council's decision of January in which they said:

"That the Royal Institute will proceed actively to explore alternative means . . ."

That seems both stale and vague, in my view, and also somewhat of an insult to the Council's own Salaried and Official Architects' Committee. It is an insulting decision to the Committee as a brief for what they are meant to be doing in the light of that Committee's recommendations of a year ago and of all that has happened.

There are of course difficulties to be over-

come. There is no successful negotiating body in this country which has not overcome very many more formidable difficulties than those facing salaried architects today. But the Institute itself has powerful assets in many directions. Surely the Council should now pay some heed to the feeling of the salaried architects, evinced so clearly by the meeting, and show some confidence in what its own members can do to build such an organization which is now so badly needed.

E. D. JEFFERISS MATHEWS: I speak in opposition to the Motion. I feel that this is largely a matter of misunderstanding. The Council have given the matter most serious consideration.

But we have fully to appreciate the function of the Royal Institute, and we must not lose sight of the fact that primarily the function is one of sponsoring good architecture and, in doing so, of course to watch the interests of the profession as a whole who go towards making that good architecture.

But the status which the Royal Institute now has in the country must be most jealously guarded and the RIBA kept as independent as possible.

Perhaps I may mention briefly one or two factual points on the reasons which underlie the Council's decision. First, I think I should repeat that the questionnaire was not a referendum. That was made clear at the time it was issued. It was the Council's wish to ascertain the feeling in the profession and it had to be left to their wisdom to decide upon the action to be taken when that feeling was known.

Secondly, there is the purely statistical point of the nature of the returns, bearing in mind only about 50 per cent. of all members replied. The Council were advised by their experts in this matter that it would be unwise to make a *pro rata* calculation to cover the remaining 50 per cent. The Council took the opinion of expert statisticians in this matter and it would have been unwise for them to have departed from the expert advice given to them.

Thirdly, there is the question which the Council studied at great length of the power of any negotiating body. It was found that any trade union or negotiating body depended tremendously upon its already established power and the number of members for whom it spoke. It was clear that any new negotiating body composed solely of architects, to watch solely the interests of architects, would have been weak by comparison with the existing negotiating bodies and would undoubtedly have found it difficult to establish the power and force which existing negotiating bodies enjoy.

We have an overall national status which is held in esteem very highly by a large number of other professional bodies.

We are now in a position when a difficult situation arises—and you are aware, Sir, (addressing the President, C. H. Aslin), that it is frequently done—in which you, Sir, and others in your office can obtain the direct ear of the minister and put a case to him. In my opinion that provides an opportunity which is most important for the well-being of every member of the profession. If we were associated with a negotiating body, there is no doubt that the minister would not be able to hear us independently and the power of the Institute would be lost in the wealth of channels of negotiation which would have to be gone through.

In view of that, I consider that the Council's decision is wise. In my opinion it has been made in the overall interests of all members of the profession, which it is the function of the Council to watch, and Council have retained the RIBA's high independent status with the Government and with the nation generally.

J. T. TAYLER: I want to answer points made by Mr. Matthews. It struck me as a rather thin argument to put to the members

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to say that because only a certain percentage even though it were a majority, replied to the ballot, we must accept the advice of statisticians that the views represented in the ballot should not be applied for the remaining members of the Institute. It is true that no one wishes to suggest that these views should be transferred to other members but according to the very simple laws of democratic procedure, by which we govern our country, the views representing a majority of the people are usually accepted and acted upon. Perhaps an analogy can be drawn with the political elections throughout the country in which we are shortly all to participate.

Another point which Mr. Mathews made was about the liaison which can exist from time to time between the Council and ministers. I think I can simply say that that cannot be such a successful method of procedure because of the plight in which the Institute now finds itself.

C. R. WHITTAKER: I am in salaried employment and I am engaged on work which I find extremely stimulating and exciting. But in my present position I have no choice but to drop my pencil at 5 p.m. and dash off home because I have a couple of private jobs on the go. I have not dared to work it out but they probably bring in 3s. to 4s. an hour. I have to do these things because it means that at the end of the year I am a little nearer to making my personal books balance. Some people have to spend their weekends doing surveys.

I believe that this type of life is not an exception for many young architects and it cannot lead to the production of good work. One must move far too quickly, from the design of good building, on to the site and the erection of the building or something else to do with administration. The result, which fundamentally can be attributed only to being badly paid in one's main work, is that the architecture with which one is concerned is not good. Like Mr. Mathews I am concerned about the extension of the production of good architecture in this country, but I should like to support the motion.

G. B. ODDIE: I am not awfully in favour of trade unions as they are today and, when one considers oneself to be a professional man wearing a white collar—I put it on specially—it is rather a come down to find oneself veering round to supporting this motion. But I think the Council must realise that in the minds of a great majority of our profession monetary considerations are very much secondary. We may be a lot of mugs but we put the value of our work before the value of the money in our pockets.

But things have come to a pass in which in an increasingly egalitarian society, we are the people who are being brought down instead of the people who are going up. We are the depressed middle-classes who are beginning to feel the pinch. If those classes do not do something about it very quickly we shall be pinched out of existence.

The Council must realise that the ordinary private member of the Institute is unable to see very clearly the logic behind the arguments which the Council have put forward—that it is unable to negotiate on behalf of salaried members; because those salaried members see the Council negotiating quite effectively on the account of private architects. There may be good legal and constitutional reasons embodied in the charter of the Royal Institute for which this apparently illogical argument is nevertheless very sound, but by its announcements and letters sent to members the Council has, I am afraid, given the impression that it is smug and complacent and has a tendency to be autocratic.

The membership of other unions, such as NALGO, is largely composed of people who, worthy, though they may be, have not for the great part undergone a long, arduous and expensive professional training. Such organizations are egalitarian; they are

people who have never been able to earn much more than £10 a week and they rather dislike the idea that anybody else should. Why should architects who are members of NALGO be any better off than clerks who are members of it? That, I think, is the attitude which pervades that kind of union, and which renders them ineffective in putting forward the claims of architects. That is why there is so much weight behind the plea for a separate union consisting entirely of architects.

Most trade unions today we find dominated by a particular bias; the right hand hardly knows what the left hand is doing because the left hand is so damned active. But most unions consist of the people who were the working men, as the term used to be—and the workers, as the term now is; and they are the people who have very little other incentive to work than the money which it puts into their pockets at the end of the week. But why should an architects' union follow those lines? Why should an architects' union not break out into new ground? Why should they not form a union which is suitable for contemporary society, where we are all going to sink together if we do not swim together and where our sole aim ought to be to get the best out of the architectural profession? We can get the best out of the architectural profession only by raising people out of the depressed state in which most of them are at the moment. That is why, although I have very mixed feelings about trade unions in general, I support the motion.

KENNETH CAMPBELL: I have the honour, sometimes with difficulty, of representing the ABT on the council of the Royal Institute, and it is therefore only proper that I should declare my special interest at the start.

As far as the creation of a new union for architects is concerned, the difficulties and the dangers are such that while, if architects had the tenacity far beyond that which we have normally seen in them, it might serve their grandchildren, it would do little to bring home the bacon to those who are speaking now. Whatever it was 30 or 40 years ago when the ABT started, the field is now very fully covered by extremely powerful unions, extremely powerfully led by non-architects.

That leads to the possibility of the sponsoring of an existing organization. Of course, that is where my special interest obviously lies. I believe that the majority, if not all, of the people who are behind this motion are not members of the ABT, and apparently at the moment they do not consider joining. Probably there are two main reasons for which they do not join—and they can probably tell me in private afterwards that there are many more. The first is that they do not like it—which is quite a simple and straightforward reason; and the second is that it is in no way at the moment sponsored as a negotiating body by the Royal Institute.

What is required is a union for architects which can speak for architects as a body and which does not have architects parcelled out amongst clerical bodies, administrative bodies of all kinds. That is what is behind the motion. They want an organization which is closely tied with the Royal Institute—as closely as it possibly can be—and which will have the weight of the Royal Institute behind it.

I must say that I cannot see why we have to go back and back and back in this way. If only half the people who voted for a trade union were to join, for instance, the ABT, they could reshape it exactly as they wished. They could get rid of people like myself with the greatest ease—or perhaps not with the greatest ease—but they could change its character. They could have one type of professional man in and another out. The organization is there for them to take hold of and to control in any way they wished.

I am to this extent in sympathy with the motion in connection with a closer sponsorship by the RIBA—and if this is what members who are behind the motion have in mind, I will support it tonight.

RONALD BRADBURY: I rise to oppose the motion. I am a new member of the Council and have been impressed during the time in which I have had the honour to serve on the Council with the very great care and attention given by the Council to problems of this nature and many other problems which come before it. I want you to get out of your minds any idea that any single member of the Council is opposed to a general improvement of the conditions of employment and salaries of any single part of the profession. Every member of the Council is doing his best to improve the lot of the profession as a whole and, in particular, the lot of salaried members.

We have had special pleading for one organization and it would be equally possible for all the other organizations to make their special pleadings. Having said as its considered opinion that there is no value in establishing a new union, the Council therefore took the wise course of suggesting that no single existing union should be singled out for preferential treatment. It went on to make it clear that in its opinion members in salaried employment would be wise to join the appropriate union.

I think that much more purpose would be served by this meeting if people would bring forward practical suggestions as to the avenues of exploration and the method by which the RIBA Council could pursue this matter for you. Let us be practical. Let us have definite suggestions for the means of attaining the common desire for each and every one of us.

J. BROOME: We have been asked for a practical line of inquiry and I suggest as a very first line some guidance to people like myself—I am a salaried architect—as to what is the appropriate union. At the moment I belong to two and neither of them seems to be getting me quite what I would wish. I support the motion because I firmly believe that any trade union or organization which had the full support of the Royal Institute would be in a far better position to assist me in my problems as a salaried architect.

MAURICE LEE: I support the motion, but if it is carried I hope it will not lead to the formation of an orthodox trade union. I think this is a matter which should be dealt with within the RIBA and not in a separate organization. The RIBA has an organization which deals with the fees of private architects. Scales have been drawn up and supported by the association. I see no reason why the RIBA should not set up another organization within the association which would look into not only the questions of salaries of salaried architects but also the establishments of the offices in which they work.

Once that organization has made its report and set up its scales, it should be possible for the profession as such to black list any office which does not measure up to those scales and possibly, too, to discipline any architect who accepts work in those offices. Within those terms I think we should refer this matter back to the Council and within those terms I support the Motion.

J. D. KAY: One outstanding feature in which the assistant in the private office differs from his colleagues in the public office is that he cannot expect anything like their security. Only very few of the larger private offices run any sort of a pension scheme, and the assistant, who perhaps cannot afford to set up a practice of his own and has to remain a salaried assistant during his professional career, can look forward to nothing but the State pension when he finishes his work. Similarly, the assistant in a private office cannot look forward to any help during any period of unemployment which he may

suffer. At the moment, fortunately, such periods are infrequent but they may not be so infrequent in future.

For those two reasons, if for no other, I support the motion, because I think that behind it is the idea that very much could be done along these lines in particular to make assistants in private offices have the same security as their colleagues in public offices.

G. GRENFELL BAINES: I have considerable sympathy with the aims and objects of the proposer, seconder and supporters of the motion. I was one of those who voted for a trade union but as a result of my work on the Council and closer examination of the question I have had to re-think. I do not think we shall be able to advance our status as a whole by trying to improve the material status through setting up a separate organization outside the RIBA. The thing is to work within and to use existing machinery. Why invent new tools when you have tools at your disposal? Make the best of them. Back the Institute and the Council in its efforts to raise the status of the profession generally. Although I am in great sympathy with the ideas of the salaried members and wholeheartedly agree that the RIBA should have some sort of joint body with existing organizations, I feel that it is to those existing organizations that our members should look.

H. CONOLLY: I speak as a salaried architect. You can tell that; I came by tube and although I am wearing my best suit, it is quite shiny. I have a great deal of sympathy with all that has been said on behalf of salaried architects tonight. But I do not agree with the conclusions, however, and I have great doubts of the practical value of a new union. I have been a member of NALGO for 18 years and while you may say that NALGO has not considered the architects adequately I think that is partly the fault of the architects. It may be that I am one of the lucky ones, but the members of my department are very strong members of NALGO, and the general opinion in my department is that they would not join another union. If I may say so, with respect, they had no faith in the RIBA or any union which it might set up.

My members of the Council—the local authority which I serve—have very little interest in or knowledge of the RIBA, but they take great notice of what a National Joint Council says, or what NALGO says. We have heard special pleading from Mr. Campbell for the ABT. I have had an upgrading for 30 technician members of my staff, but I do not remember receiving from the ABT any protest on their behalf. The protest came from the men themselves. I presented it to the Council and the Council have accepted it.

I am sorry that no one is present from NALGO to put the other side of the case. I am not a member of any council of NALGO, but I know that NALGO is interested just as much in architects as in clerks, solicitors, doctors or anybody else.

C. HINDLE: I am from the Bucks County Council, and I speak for a number of colleagues in the department who, like Mr. Conolly, are members of NALGO. I speak as an active member of NALGO, and perhaps somebody would tell me how thirty architect members in any branch of NALGO can get an architect representing them on the southern district or any district council. In the local branch committees representation is in numerical proportion to the membership and if the architects have 100 per cent. membership they still cannot get representation on the body that matters—the NEC. Perhaps someone will tell me how members of the clerical and sanitary inspectors' staffs in NALGO are to be persuaded in respect of architects, with their small membership in the organization, to agree to architects being

represented at the fountain head. I do not know the answer, if there is one.

I have been a representative on the NALGO branch for some years but that is the difficulty which we face. That is the reason for which there is not 100 per cent. membership of NALGO by architects; their position is hopeless.

J. LEWIS WOMERSLEY: I speak as a local government architect. I was keen to have the sort of question asked which was asked in the RIBA's questionnaire and I was surprised by the answer; it was not the private assistants who were clamouring so keenly for a union, as I expected it to be—having spent some years in private practice before going to local government—but apparently the demand came mainly from local government architects. That surprised me very much indeed because I thought NALGO had such a strong union.

I agree with the speaker who referred to the depressed middle classes. This meeting has shown that the Council has very much at heart the need to increase the prestige and status of assistant architects who are doing extremely important work. If one has a criticism of NALGO, I think it is that perhaps they have concentrated too much on raising the lower grades and, as you get near the top, your salary has been increased less and less in proportion. I do not think NALGO can deny that, because there are tables to show it.

We must raise our professional status but let us not call all non-architect members of NALGO clerks, because NALGO includes the engineer's department, the town planner's department, the staff of the director of education, and the treasurer's department, for instance. There is a much greater future for architects working with their fellow professional men as a body.

As a city architect, however much I might think my contribution to the city was greater than that of the city engineer or treasurer, I would never attempt to put that case to a committee of laymen; it would be a waste of time. I would put the case of professional men having much more responsibility than lower-grade clerks and would press it strongly.

I support the Council's decision because I think they are realistic. The Council has pursued the matter actively. I can assure you that we are not saying this with any idea of fobbing you off with something until next time. We do not get the salary we ought to get and we are continuing to pursue the matter very hard. From the point of view of the local government architect I feel that the answer is for him to work within NALGO. I have taken part in two national arbitrations and I have never found NALGO remiss in supporting any case; if they think there is a first class case they will work on it assiduously. I was particularly impressed by the attitude of the arbitration tribunal to NALGO representatives, who were held in high esteem, which agreeably surprised me. Clearly that was because NALGO did not come up with any half-baked case but only with a real case.

The local government architect has the machinery available and it is in his own hands to work with his fellow professional men to raise the standard of the profession generally.

THURSTON WILLIAMS: This meeting has heard me at length and the case is clear. It is my view that there is no misunderstanding in this question. The Council has made a mistake and in my view this meeting should take note of that point and approve my motion. I have pleasure in requesting the meeting to do so.

THE SECRETARY reminded the meeting that only corporate members could vote and a ballot was then held. The result was later announced as follows:

In favour of the resolution, 224.

Against the resolution, 87.

ANNUAL REPORT

H. CONOLLY, who spoke before the above discussion, in support of the adoption of the RIBA's annual report, said:

I think most people would agree with the choice of the recipient of the Royal Gold Medal for this year—a very distinguished architect with a very fine record of buildings executed and buildings projected.

An important thing of this year is undoubtedly what we have learned to call the MacMorran Report.

It has been rather long delayed but in my view it has been well worth waiting for. Some have said that it is not sufficiently revolutionary, but personally I never thought that architectural education was all that wrong anyway. I think the suggestions made in the report are very well worth while. The only point which worried me was the part about part-time education, which has been referred back for further study. When I learned that even today one-third of the entrants to the profession come up that way, it seemed to me that it was a subject which deserved urgent study. I came up that way.

I may be old and out-of-date, but I still think it is not a bad way of entering the profession.

The membership figures appear very healthy. In my opinion not enough people are prepared to take fellowships, which I think is a pity. Now that entry to the licentiate class has been closed, I wonder whether the time has not come for the FLA divisions, as it were, to be abolished entirely and for us all to be called members. Possibly we might reduce the fellowship, and possibly we might want to charge associates a little more—but certainly reduce the fellowship.

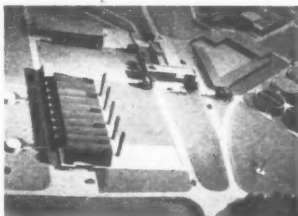
We should congratulate the hospital committee and the public relations committee on the very excellent conference on the design of public health buildings. I think that was a very good start. We ought to have more.

The various committees have considered an enormous number of subjects, such as whether you can put a three-piece suite and settee into an architect-designed dwelling. A whole range of architectural subjects in one form or another have been discussed, but before I conclude there is one question which I should like to ask. There is a short note in the report about the future constitution of the Council. We all know how some people get on the Council and some do not. We know how there is a tendency for people in London to get on. As a member of the Allied Societies' Conference, I should like to be assured that the Allied Societies' representatives will not be crushed out, as it were, because the RIBA is not just a London Society. That is the AA basis. The majority of members do not work or live in London; they live in the provinces and the provincial point of view must therefore always be presented here at Portland Place. The problem is not the same all over the country. The problems of the provincial men vary very much from place to place. I have not the slightest idea what the new constitution is to be, but I should like to be assured that the provincial men, the Allied Societies will not be crushed out.

"Other business" included a statement that the cost of building the RIBA extension at 68, Portland Place would be between £50,000 and £60,000—"a very rough estimate"; and a proposal, by Alexander Flinder, that a members' relations committee should be formed—with the object of getting in close contact with members. He also proposed the formation of a junior organization. The president said that his remarks would be noted.

FIVE PROJECTS FOR THE LCC

designed by the architects' department

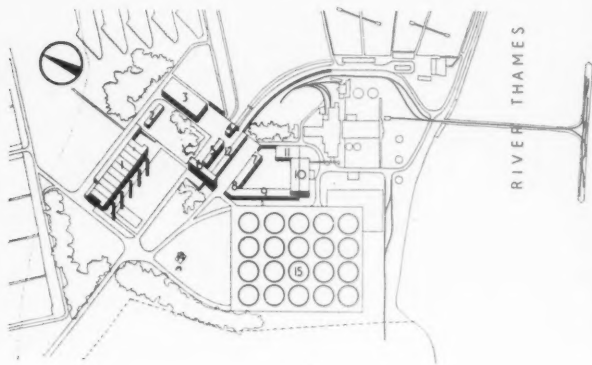


Until recently the General Division of the LCC Architects' Department has had rather a dull time. The other divisions—"Housing," "Schools," and "Maintenance and Improvements," have had large and steadily growing programmes of work since the war, but the General Division has suffered from the severe restrictions laid on all types of building except those for rehousing and education. However, it has now been allocated a large and varied range of schemes, including industrial buildings, fire stations, homes for old people, homes for children, shops, and maternity and child Welfare Centres, storage depots, occupational centres. (The Division is also responsible for the adaptation and renovation of large buildings, some of which are of considerable architectural and historical interest, acquired by the Council for different purposes). The first group of projects has now been approved by the LCC and in this issue we publish a selection which may be compared with the already well known work of the housing and schools divisions of the Department. Left: top to bottom; Northern Outfall Works, Beckton (assistant architects, J. H. Milnes and J. A. Goddard); Fire station, Wandsworth (assistant architect, J. R. Wraight); Home for old people, Wandsworth (assistant architects, J. Ryzowski-Heskel and W. J. Lewandowski); home for old people, Hackney (assistant architect, Miss S. B. Trasler; homes for children, Chislehurst (assistant architect, J. M. Fletcher). The section architect for the first four is J. D. Shearer. R. V. Crowe is section architect for the children's homes. The senior architect in charge of the division is F. G. West, and the principal assistant architect is K. J. Campbell. Architect to the Council: J. L. Martin.

NORTHERN OUTFALL WORKS

AT BECKTON, E. 6

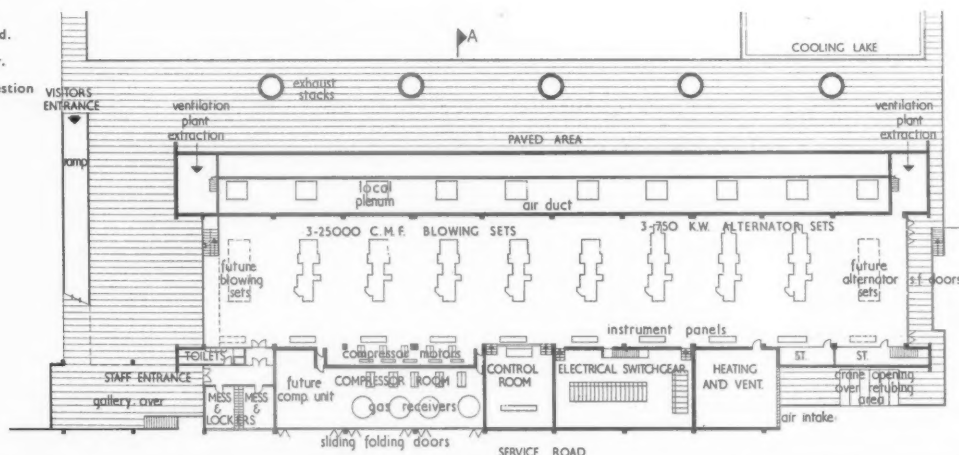
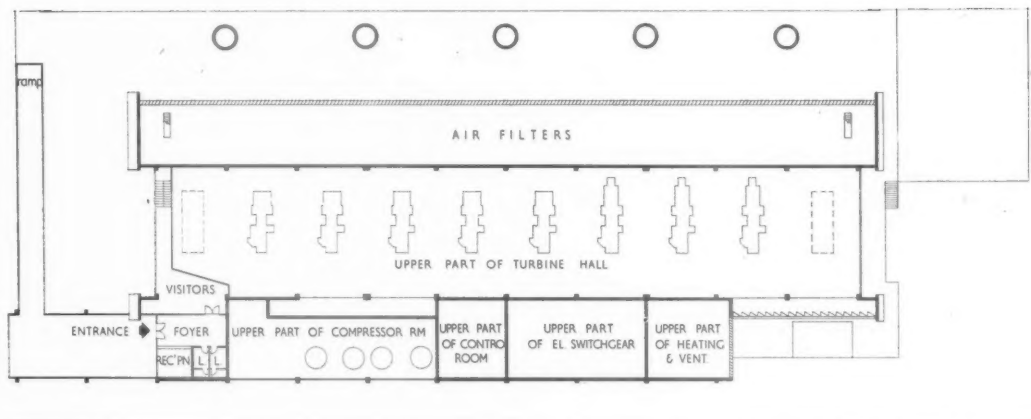
The LCC is at present carrying out, under the direction of its Chief Engineer, J. Rawlinson, an £8 million programme of extensions to its Northern Outfall Sewage Disposal works. Beckton, E.6, which treats the sewage flow from the whole of



Site plan

KEY

1. Power house.
2. Canteen.
3. Workshop.
4. Modified penstock.
5. Existing laboratories.
6. Administration.
7. Small stores.
8. Dayworkers' accommodation.
9. Engineers' stores.
10. Electrical and mechanical stores.
11. Crane store.
12. Garages.
13. Bicycle shed.
14. Gas burner.
15. Sludge digestion tanks.

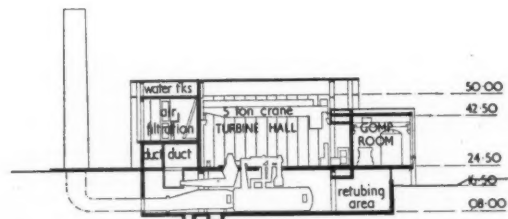


Power house : turbine floor plan at level 24-00 [Scale 1/8" = 1' 0"]

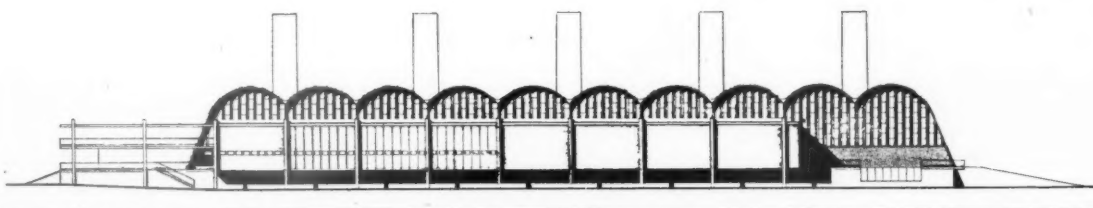


the county of London north of the Thames, and certain adjacent areas. These extensions include a power house. Near the power house will be a workshop block, equipped to maintain and repair machinery in the power house and on the site generally. Extensive stores are to be provided with garages alongside. An administration building, which is being planned but is not yet finally approved, will complete the layout. Extensive planting is to be done in this bleak area and special consideration will be given to the choice of shrubs, trees and plants which will flourish in spite of an atmosphere heavily contaminated by the large gas-works adjacent to the site. The superstructure of the power house, which will be almost entirely of reinforced concrete, will be built upon a heavy reinforced-concrete sub-structure, carried in turn on r.c. piles cast on the site. The basement of the building, up to level 24.00, is the subject of a civil engineering contract. As much as is practicable of the superstructure is to be site pre-cast, and even the shell concrete barrel vaults are to be pre-cast in sections, hoisted into position and post-tensioned in-situ. Exposed pre-cast structural members which will be cast in sections and post-tensioned in-situ will, generally, be finished with a decorative and protective rendering. The workshop (and the future administration building) will also be constructed on

reinforced piles, and the superstructure will be largely pre-cast reinforced-concrete frames carrying a lightweight roof, with brick panel walls and glazed cladding. The stores compound and garages will be built largely of brick with pre-cast, pre-stressed reinforced-concrete roofing and aluminium-framed roof lights. Special care will be taken to ensure that the finishes of all the buildings are capable of resisting the unusually corrosive atmosphere on this exposed site. Estimated cost of superstructure of power house, £175,000; workshop block, £47,400; garage block, £15,300; stores and dayworkers' accommodation, £60,900. Section architect: J. D. Shearer. Assistant architects: J. H. Milnes and J. C. Goddard. Consulting engineers for power house superstructure: Scott & Wilson, Kirkpatrick & Partners.



Section A-A



North elevation



FIRE STATION

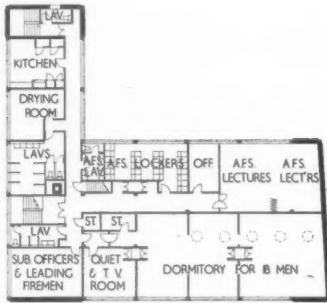
AT WEST HILL, WANDSWORTH

This fire station at Wandsworth, which will be the first to be built for the London Fire Brigade since 1940, will have a 4-bay room, 60 ft. \times 45 ft., for fire appliances. It will stand on $\frac{3}{4}$ ths of an acre site at the corner of West Hill, a busy main thoroughfare, and Lebanon Road, a quieter residential road. The watchroom adjoining will be acoustically-insulated from the

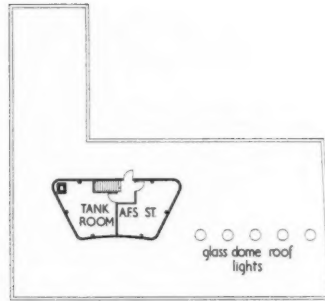


appliance room. On its ground floor there will be a bunk and first-aid room, a recreation room and stores. On other floors

there is provision for a quiet room and a dormitory (both with sliding poles to the appliance room), drying room, rooms for the station officer and the sub-officers and leading firemen, toilet accommodation, a kitchen and messes for officers and men, and an office. A separate locker room, lavatory, office and a lecture room which can be partitioned into two will be available for the AFS. A hose-drying and drill tower, some 85 ft. high, will have a smoke-chamber in its basement. It will be the prototype of similar towers to be erected at new and existing stations. A temporary single-appliance room is being erected to enable the existing station on the site (it was patched up after war damage) to remain in service during building operations. The construction of the main building will be of steel frames, with r.c. floors; the concrete frame-castings will have a special-textured, rendered finish, and the cavity infilling panels will be variously finished with stock bricks and glazed tiles. The tank room will be aluminium clad. The drill tower frame will be in r.c. Infilling panels will be of stock bricks. The balconies will be faced with hardwood strip. Estimated cost, including demolition of existing building and erection of temporary station: £105,250. Section architect: J. D. Shearer. Assistant architect: J. R. Wraight.



First floor plan



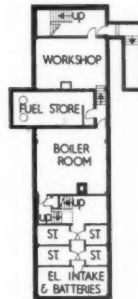
Roof plan



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



Mezzanine plan



Basement plan

HOME FOR AGED PERSONS

AT PATMORE STREET, WANDSWORTH

The proposed home for 56 old people at Patmore Street, Wandsworth, will be on a site with an area of approximately 0.6 acre—roughly square in shape, with its south-eastern side directly abutting the Wandsworth Road. There will be a three-storey block containing bedrooms, etc., on the north-eastern side of the site. The main entrance hall and ancillaries will be housed in a single-storey wing enclosing a small paved court. Bedrooms are for 1, 2, 4 or 5 residents. Each has its own lavatory basin. There will be a sitting room on the ground floor, adjacent to the

entrance hall. On the first floor, in addition to bedrooms and lavatories, will be the matron's flat and sitting room. The quarters for the assistant matron and another resident officer will be on the second floor, together with the remainder of bedrooms, bathrooms, etc. The single-storey building adjoining is planned on three sides of a square, one of which will form the entrance hall, with fully glazed screens leading through to the closed court. The residents' dining room also leads from this court and forms another side. Adjacent rooms for staff dining, kitchen, larder, stores, etc., complete this building. Pile foundations will be used under the three-storey dormitory block, and strip foundations



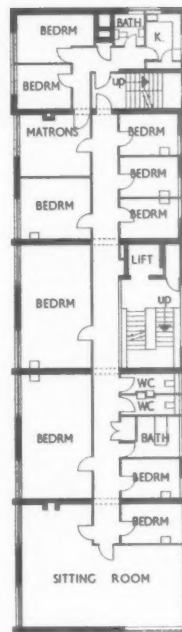
Ground floor plan [Scale: $\frac{1}{8}$ " = 1' 0"]

under the single-storey additions. An expansion joint between the two will allow for possible differential settlement. A cross-wall system of superstructure is to be used for the three-storey block, with in-situ hollow-tile floors spanning the bays of 25 ft. between $13\frac{1}{2}$ -in. walls. Lateral stiffness will be r.c. channel-edge beams. Horizontal service and drainage ducts will lead through these to vertical ducts within the main cross walls. Internal partitions are to be of patent plaster. Corridors will have handrails on both sides. Main stairs will be in-situ r.c. with

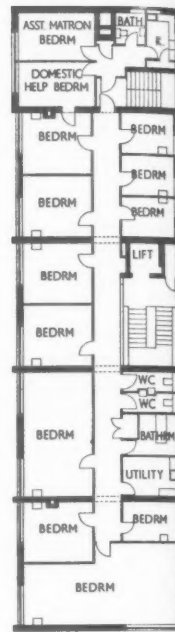
HOME FOR AGED PERSONS

AT EASTWAY, HACKNEY

The $1\frac{1}{2}$ -acre site of the proposed home for old people in Eastway, Hackney, is in a residential area. At one side the home will adjoin the Hackney Borough Council Public Baths; at the rear is a recreation ground. The proposed scheme will incorporate, on one site, a home for 79 old people, 30 independent small flats for the less infirm, 26 one-person flats and 4 two-person flats. The tenants of the flats pay rent, but can receive from the home mid-day meals, laundry service, help in cleaning their flats and attention during illness. Each flat has a sitting-room, with bed recess, a bathroom and a kitchen with dining-space. In the home, approximately one-third of the residents will have single rooms and one-third will have double rooms. Those who are most infirm will share 4-person rooms. The bedrooms are situated in 3 two-storey house blocks, each with a sitting room, bathroom and w.c.s, on both floors. On the ground floor a wide, glazed corridor



First floor plan

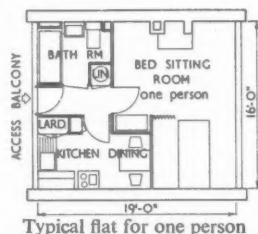


Second floor plan

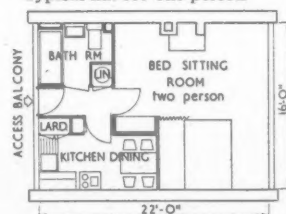
cantilevered wood treads, metal balustrade and hardwood handrails. Single-storey work is in 11-in. cavity brick-work. Roofs generally will be similar to floor construction with insulating screed and built-up felt roofing. Projecting cross walls and end panels are to be of facing-brick with hardwood strip-boardings vertically between windows, and horizontally between heads and sills.

Estimated cost: £65,325. Section architect: J. D. Shearer; Assistant Architects: J. Ryzowski-Heskel and W. J. Lewandowski.

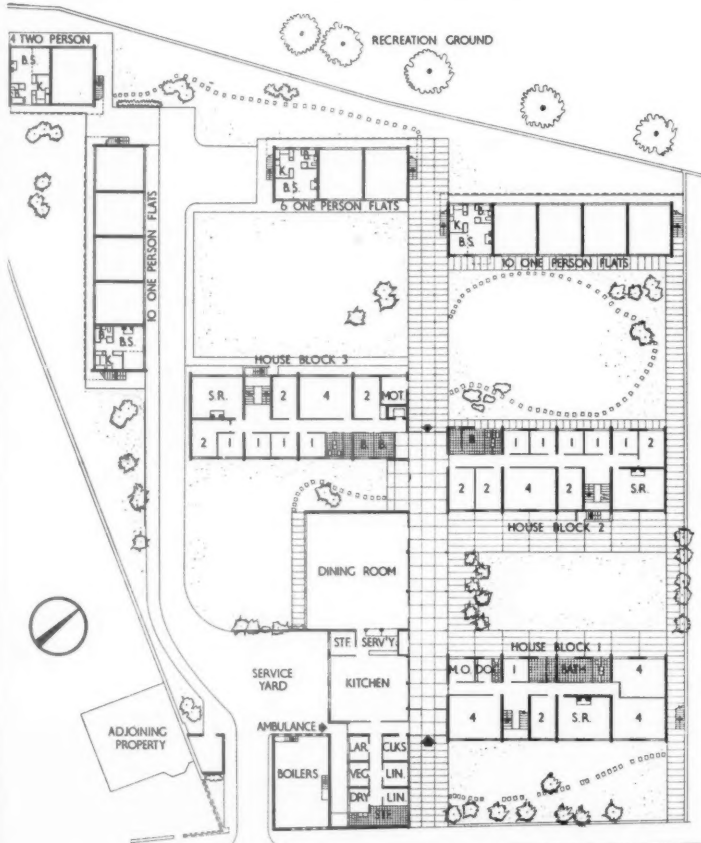
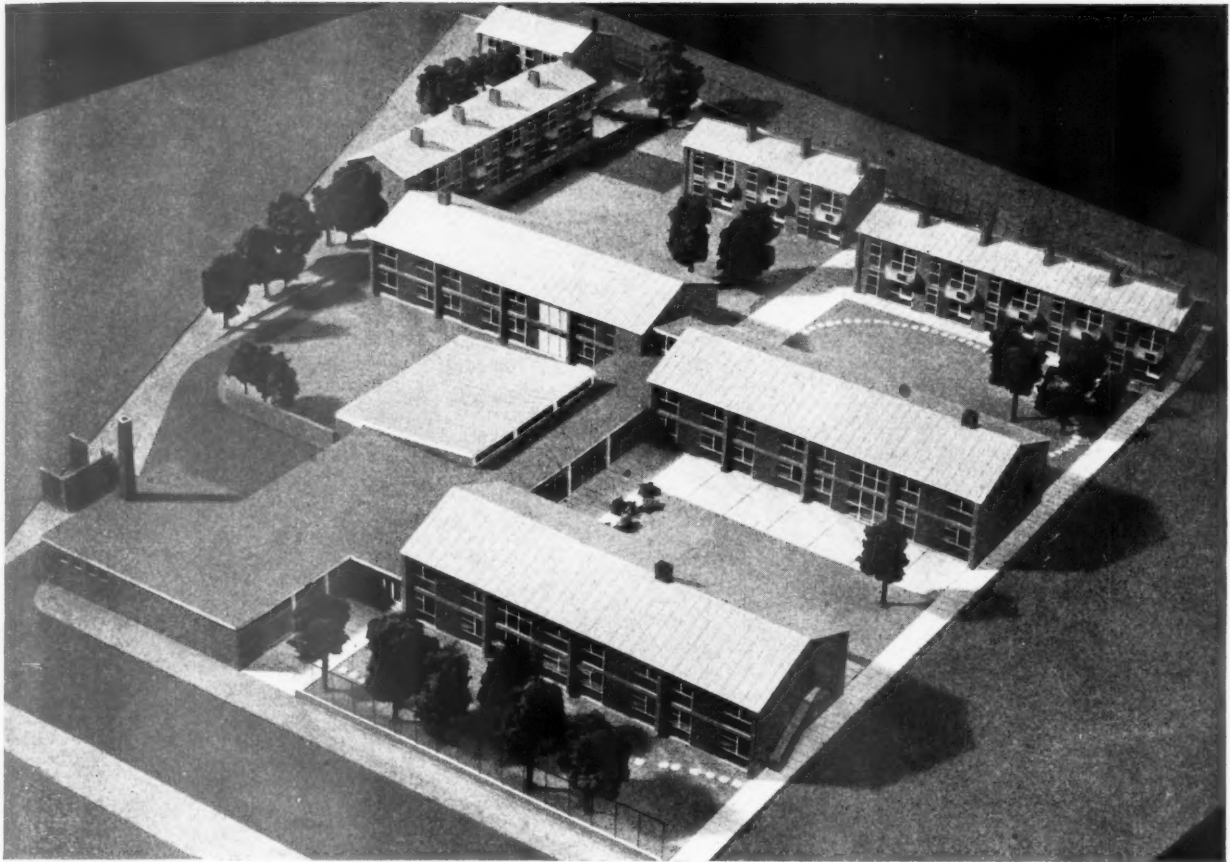
will link the house blocks to the dining room. Two of the house blocks will be linked at first floor level and will share a small, centrally-placed, passenger lift. In the block not served by a lift, only 7 residents are accommodated on the first floor, part of this floor being taken up by the matron's flat, which will be immediately over her office on the ground floor. The residents in each block are under the care of an assistant matron or other resident officer, each of whom has quarters on the first floor. An attempt has been made to focus the interest inwards to



Typical flat for one person

Typical flat for two persons
[Scale: $\frac{1}{16}$ " = 1' 0"]

Ground fl



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

the paved courtyards and lawns. The buildings will be brick court-wall construction, with hollow-pot reinforced-concrete floor slabs. Low-pitched roofs over 2-storey buildings will comprise light timber trusses, insulation and aluminium roofing. Elevations between cross walls will be filled with framed panels containing opening lights, vertical hardwood strip and fixed glazed portions. Approx. costs: home, £84,155; flats, £44,965. Section architect: J. D. Shearer. Assistant architect: Miss S. B. Trasler.



First floor plan



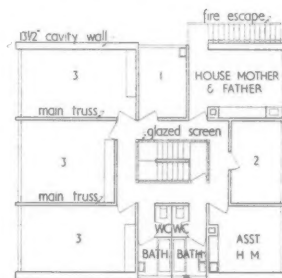
HOMES FOR CHILDREN

AT CHISLEHURST, KENT

Two children's homes (for 12) are to be built on a large site in Chislehurst, North Kent. The site is part of the grounds of an existing old people's home, but fronts on to the road. Along the road which the homes overlook there is a double line of conifers, about 20 ft. high, a formal lawn, rough grass, well grown trees and Rhododendron bushes. The houses have been set back on the rough grass to preserve the formal garden and the view the old people now enjoy. It is hoped that the lawn will be used for children's parties, and the rough grass, bushes and trees will be left wild as a playground. These children's homes are part of a series of successful experiments in providing as near to a normal home environment as possible for children who are temporarily or permanently in the council's care. The homes are staffed by a house mother and an assistant house mother. A "square" plan was decided on for two reasons. It reduced the circulation space, and it reduced the frontage, enabling the house plan to be repeated elsewhere. The basic construction of the house is load-bearing cavity walls at each gable, with two intermediate and parallel spine trusses carrying the first floor and roof. This leaves the ground floor clear, except for the columns framing up the stairwell and tank box. The two main elevations will be non-load-bearing, like all internal partitions.

Four main materials will be used in the house: brick, timber, glass and copper. The facing-brick has not yet been chosen, but it is hoped that a local Kentish brick will be used. The window frames and the aprons under the sills will be of timber; the aprons will be faced with painted horizontal clap-boarding.

The partitions to the ground floor will probably be clinker block, and those to the first floor stud partitions. The roof will be copper. Estimated cost: £13,320 for the two houses. Section architect: R. V. Crowe. Assistant Architect: J. M. Fletcher.



First floor plan



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

TECHNICAL SECTION

E. M. Ackery concluded his talk on Electric Space Heating, given at this year's annual Conference of EDA, by suggesting that we should take more notice, in heating calculations, of the heat given off by artificial lighting. He pointed out that as long ago as 1930 the lighting load of an up-to-date office building amounted to about 20 per cent. of the maximum heat requirement, and that the increase in recommended lighting intensities and in standards of insulation had now raised this proportion to something nearer 40 per cent., while the continuing demand for more and more light promised to raise this proportion still higher. In practice this source of heat is regarded as more of a nuisance than anything else. In one new office building in the north of England, where the standard of lighting is somewhat higher than usual in this country, the lighting output equals the maximum heat loss. As a result it is found that for comfort the heating output must be reduced when the lights go on. In a situation like this, as Mr. Ackery pointed out, the lighting would pay for the "kilowatt demand charge" so that any electrical heating would be charged for at the unit rate. This consideration should favour the use of direct heating in place of "off-peak" storage heating, a form which, on intrinsic as opposed to mere tariff grounds, is more favourable for buildings of intermittent occupancy.

10 DESIGN: BUILDING TYPES Hertfordshire schools development

This week's
special article

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

This is the first of a series of articles by W. D. Lacey and H. T. Swain describing stage by stage the technical development work carried out by the Herts County Architect's Department on its school building programmes. The articles are concerned only with those schools (forming the greater part of the programme) built in the constructional system now known as the "Eight-foot three System"—a light steel frame with precast concrete walling and roofing units. The development work, however, was by no means confined to the structure itself, but covered the services, fittings and equipment of the schools. In addition to the work described in the articles, experimental schools using other systems of construction, and several others in timber (when there was a shortage of steel) were carried out by the Department. The development work has been done by the architects whose main job it is to get the schools in each yearly programme built.

The County Architect's Department was formed in 1945, and the team of architects responsible for the schools started their preliminary research in the same year. With this early work the process started of establishing a system of "non-traditional" building and of developing the system over successive building programmes in order to achieve better schools. The technical development of the building system is the main subject of these articles, but first it is necessary to describe the conditions which first led to its

establishment and continue to influence it.

BUILDING CONDITIONS

In 1947 the County Architect, C. H. Aslin, produced a report which stated: "Before embarking on the construction of the schools in the programme it was necessary to make an analysis of existing building conditions because they had changed so much since 1939. It became clear that the shortage of skilled site labour and traditional building materials such as timber and brickwork

would call for an entirely new approach to building. Moreover labour conditions are such that skilled men are being attracted from the site to the factory. In recognizing this trend it is felt that the architect should design in such a way that his building will consist of standardized factory-made units capable of simple assembly on the site by a small number of semi-skilled men."

The idea that the building should mainly be made up of factory-made units, simply erected, has been the basis of the whole of the development work.

The subsequent improvement in the supply of the majority of building materials, especially timber, has meant that these have

been incorporated in the development where by adopting them it has been possible to produce a better solution than has already existed. At the same time the shortage of skilled labour has remained consistently acute and the traditional materials have had to be used in new ways which reduce site work as far as possible.

CLIENT'S REQUIREMENTS

The objective of the development work has been the satisfying of the requirements of the education officers, specialist organizers and teachers who use the schools in new and better ways as the building programmes have progressed.

Consideration of the way in which this co-operation with the client department is carried out is beyond the scope of these articles, but the users' requirements in relation to the method of building can be briefly stated as follows:

a. A system of building which will enable the schools to be rapidly erected on the site. This is necessary not only to provide much needed accommodation as quickly as possible but also to reduce educational costs in hiring alternative accommodation or providing transport to existing schools in neighbouring areas.

b. Economical cost of building. This has not been interpreted as meaning cheap building with finishes and equipment reduced to an unsatisfactory standard, but within the cost limits of the job to achieve a reasonable distribution of cost so that sufficient money is available for good quality fittings and finishes.

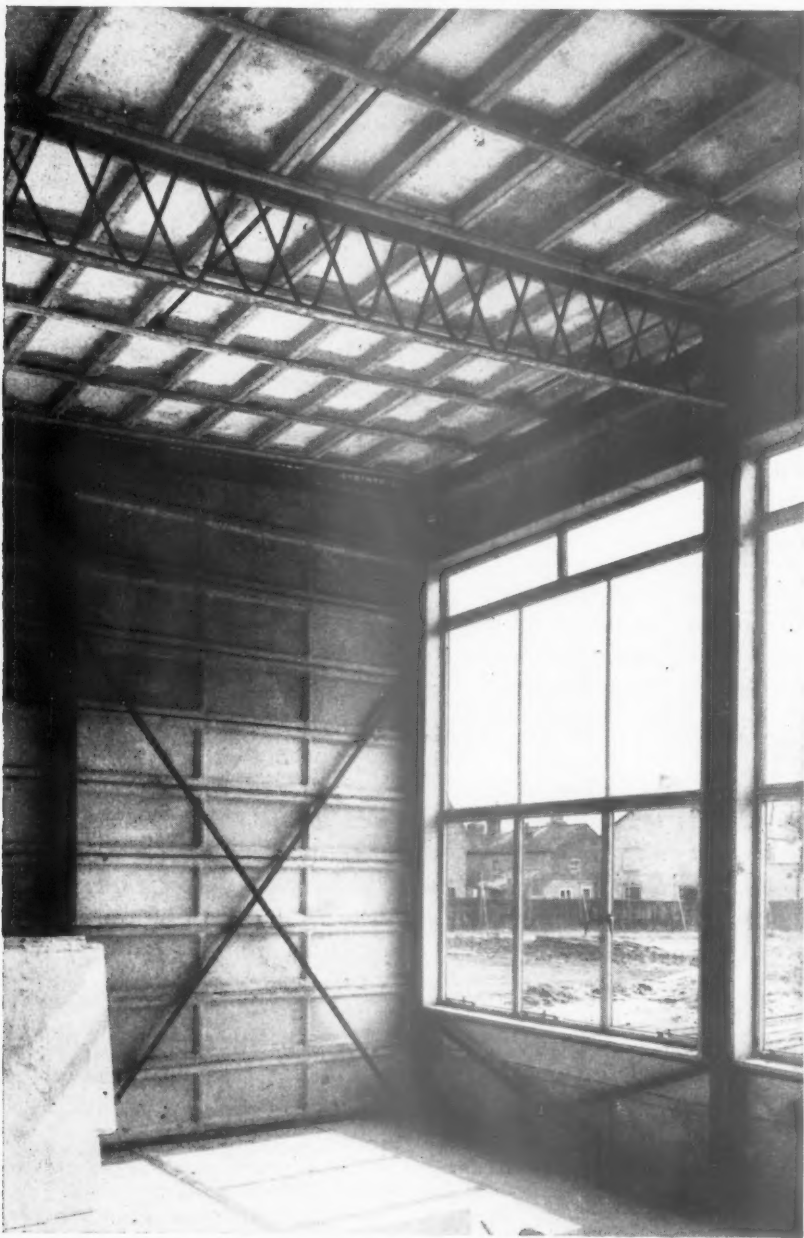
c. A standard of building which will keep subsequent repair and maintenance costs comparable with those of good traditional building.

d. A flexible system which would allow the design of each school to be approached as an individual problem with its own site and educational requirements, and which would not unduly restrict the planning of rooms and spaces by structural limitations.

e. The provision of schools that are pleasant to look at and to work in. Although new techniques have been used which have created their own architectural impression, the architects have had in mind the need for designing buildings that are acceptable to the largest number of people. With the tightening-up of school building costs in the last five years the need for economical building has become more critical, but at the same time greater experience and the abolition of all restrictions on the use of building materials have assisted in achieving this.

LIAISON WITH MANUFACTURERS

The problem of building a large number of schools has been approached by a concentration mainly on one system of construction, instead of the spreading of the load on to different systems. This has been done because it was anticipated that to make any system of building satisfactory it would have to be worked on by architects and manufacturers in collaboration, and that with the heavy building programme only a limited amount of time and manpower would be available for this development work. It was therefore decided that, having established a system which seemed likely to satisfy the needs of the school building programme, greater progress could be made by the Department applying its resources to the improvement and refinement of this than by spreading itself over a number of alternatives. Except for a small number of experimental schools built to test practical implications of certain long term development proposals, and five timber schools necessitated by the steel shortage, the bulk of the school building programme has been carried out in one system of construction.



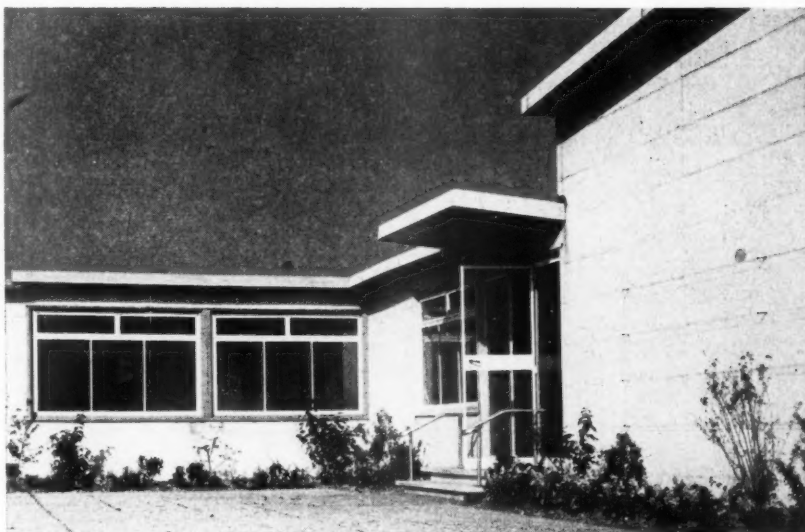
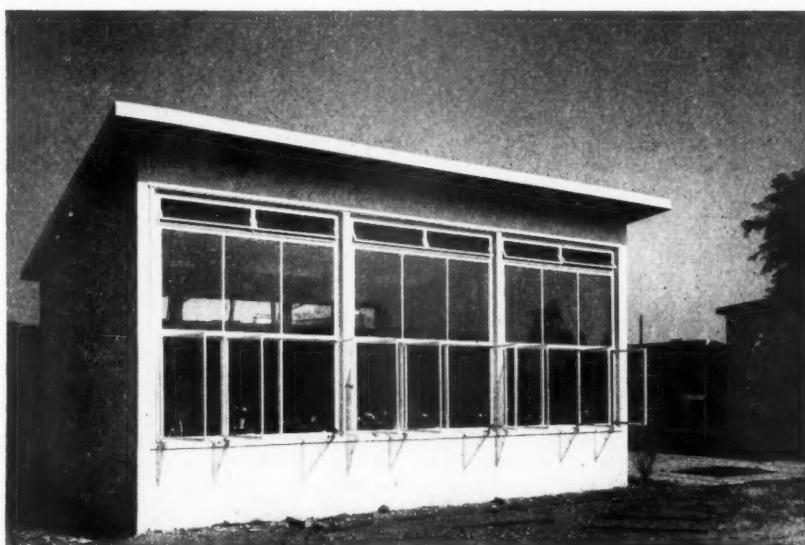
A prototype classroom in the Infants' section of the Cheshunt JMI School. The light steel frame, roof blocks, walling blocks and window units were all prefabricated. The principle of using as far as possible factory-made components capable of simple assembly on the site by semi-skilled labour has been the basis of all the subsequent development work.

In employing factory methods to build the schools, the policy has been to work on the design of each component with a firm which specialises in the manufacture of that type of product. This has meant that the concrete wall blocks and windows, for example, have been manufactured in factories at a distance from each other, and considerable responsibility has been placed on the architects for ensuring the detailed co-ordination of the parts. But this method of industrial production does appear to have certain advantages. Firstly, although with a few exceptions the firms had not previously produced similar components, they were able to bring years of specialised experience to the design and manufacturing problems. Secondly, the manufacturing facilities of a number of firms have been tapped—a desirable advantage in view of the relatively limited size of the firms—and thirdly, by controlling the design of the components the architects have had freedom to introduce development in their design at the most convenient points in the building programme. It is questionable if the same degree of development control could have been achieved if a standard system of construction produced by one manufacturer had been used.

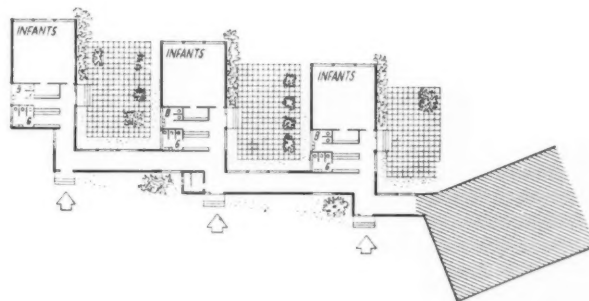
CONTRACT ARRANGEMENTS

A great deal of the development work described in these articles has only been possible because the annual schools programmes have provided opportunities to use the same materials and components in considerable quantities. The use of the same component parts on all the schools in a programme has called for a revision of the traditional method of competitive tendering and ordering, organized job by job. Obviously if full advantage was to be taken of the economies which were possible by giving the manufacturer freedom to organize his production on a reasonably large scale for the whole programme, then an order covering all the jobs had to be given at the start of the programme.

The problem of placing an order with subcontractors before the general contractor has been appointed has been overcome in two ways. The first has been by a system of direct contracts between the County Council and the subcontractor or supplier. This method has been adopted wherever it has been impossible to obtain competitive prices for the supply and fixing of components because of patent rights or because they are manufactured only by one firm. For these items authority has been obtained by the County Architect to open negotiations on pricing with the subcontractor or supplier. This approach has been satisfactory only if the complete co-operation of the firm could be obtained and if they have been prepared to divulge such information as their production costs, overheads and profits, so that the County Council has been satisfied that it has been charged a fair price. These negotiations with the firms have been carried out in collaboration with the County Treasurer's Department. When the bills of quantities for the individual jobs



The Infants' section of Cheshunt JMI School. This section, consisting of three classrooms with cloakrooms, lavatories and connecting corridors, was the prototype for the school building programme. Top, one of the classroom units. These early classrooms had pitched roofs; they were abandoned in favour of flat roofs in subsequent schools. Above, a paved play space between the classrooms, bounded on the north by the flat-roofed connecting corridor. Below, plan of the Infants' section.



[Scale : 1/8" = 1' 0"]



have been prepared, the value of the items covered by direct contracts has been included, but since the County has accepted responsibility for payments the usual 2½ per cent. discount has not been offered.

The second method has been based on a letter of assurance between the County Council and the subcontractor or supplier. This has been adopted where competitive tenders could be obtained from a number of firms. In order to give the firms a fair basis on which to tender, the information supplied with the enquiry has included the location of the various sites, the anticipated starting dates of the jobs, the quantities involved on a typical job and the terms of the contract. Approval has then been obtained to accept the tender and a letter of assurance given by the County Architect to the successful firm. This has set out that the general contractors would in due course be instructed to enter into an order of

goods or a subcontract with the firm and asks the manufacturer to commence production in accordance with provisional schedules supplied by the architect.

THE PROTOTYPE

Having decided that the large school building programme would have to be carried out in non-traditional methods, the first problem with which the County Architect was faced was to find firms to co-operate in this work. It was clearly essential that the directors of the firms should be sufficiently interested in non-traditional building to devote time to design work and money for mock-ups as necessary during the course of the development work.

Early in 1946 the development of pre-fabrication had been mainly for housing and wartime buildings. One of the firms working on housing was Hills Patent Glazing Co., who were using a light steel frame and

concrete wall and roof members. They had developed a similar building system for their own factory extensions and were considering its adaptation to the 8 ft. 3 in. plan grid for use in school building.

The County Architect first learned of this firm through its activities in housing. Preliminary discussions were arranged with the directors of the firm to consider in detail the housing work which they were doing and structural possibilities for the school building problem. At these meetings it became apparent that the manufacturer's approach to the problems of building was similar to that of the County Architect and his staff. This similarity of approach to problems ranging from policy to detail proved to be an important point in the development process, because it established the basis for a working partnership between the architects and the directors, design engineers and production managers in the firm.

HERTFORDSHIRE COUNTY SCHOOLS PROGRAMMES, 1946 TO 1953 (8ft. 3 in. only)

1946—1947: PROTOTYPE

Cheshunt, Burleigh	J.M.I.
Stage 1: Infants' section	
Stage 2: Junior section	
Essendon	J.M.I.

1947 PROGRAMME

Letchworth, Wilbury	J.M.I.
Hitchin, Strathmore Avenue	Infants.
Hemel Hempstead, Belswains	J.M.I.
Croxley Green, Little Green Lanes	Junior.
Croxley Green, Malvern Way	Infants.
Watford, Oxhey, Warren Dell	Infants.
Watford, Oxhey, Warren Dell	Junior.
Bushey, Highwood	J.M.I.

1948—1949 PROGRAMME

St. Albans, Spencer	Junior.
Hertford, Morgan's Walk	J.M.I.
East Barnet, Monkfrith	Infants.
Borehamwood, Cowley Hill	Junior.
Watford, Leavesden Green	Junior.
Ware, St. Mary's	Infants.
Welwyn Garden City, Templewood	J.M.I.
Hitchin, Highover	J.M.I.
Harpenden, Batford	J.M.I.
Hatfield, Gascoyne Cecil	J.M.I.
St. Albans, Abney Lodge	J.M.I.
Watford, Oxhey, Oxhey Wood	Infants.
Watford, Oxhey, Oxhey Wood	Junior.
Watford, Cassiobury	Infants.
Hemel Hempstead, Maylands	J.M.I.
Hemel Hempstead, Maylands	Infants.
Barnet, Whittings Hill	J.M.I.
Hemel Hempstead, South Hill	J.M.I.
St. Albans, Mandeville	J.M.I.
Stevenage, Fairlands	J.M.I.
Watford, St. Meryl	J.M.I.

1950 PROGRAMME

PRIMARY SCHOOLS PROGRAMME

East Barnet, Oaklands	Infants.
Baldock, St. Mary's	Infants.
Welwyn Garden City, Blackthorn	Junior.
Letchworth, Grange	J.M.I.
Hatfield, Brookmans Park	J.M.I.
Abbots Langley, Hazelwood	Infants.
Watford, Oxhey, Little Furze	Junior.
Watford, Oxhey, Little Furze	Infants.
London Colney, Bowmans Green	J.M.I.
ickmansworth, Mill End	Junior.

SECONDARY SCHOOLS PROGRAMME

Hoddesdon, Stanstead Road	Sec. Modern.
St. Albans, St. Julians	Sec. Modern.
Hemel Hempstead, Adeyfield	Sec. Modern.
St. Albans, Sandridgebury Lane	Grammar.
Welwyn Garden City, The Howard	Sec. Modern.

1951 PROGRAMME

PRIMARY SCHOOLS PROGRAMME

Watford, Oxhey, Greenfields	J.M.I.
Borehamwood, Kenilworth Drive	J.M.I.
Stevenage, Broom Barns	Infants.
Hatfield, Cranborne	Infants.
Borehamwood, Brookfield	Junior.
Borehamwood, Merydene	Infants.

SECONDARY SCHOOLS PROGRAMME

Rickmansworth, Scots Hill	Grammar.
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1952 PROGRAMME

PRIMARY SCHOOLS PROGRAMME

Watford, Garston, Lea Farm	Junior.
Waltham Cross, Park Lane	J.M.I.
Letchworth, Icknield	Infants.
Bishops Stortford, Havers Lane	J.M.I.
East Barnet, Livingstone	J.M.I.
Hemel Hempstead, Hobbs Hill	Junior.
Hemel Hempstead, Hobbs Hill	Infants.
Borehamwood, Saffron Green	J.M.I.
Watford, Oxhey, Site 7	Junior.

SECONDARY SCHOOLS PROGRAMME

Barnet, Barnet Lane	Sec. Modern.
Hitchin, Old Hale Way	Sec. Modern.

1953 PROGRAMME

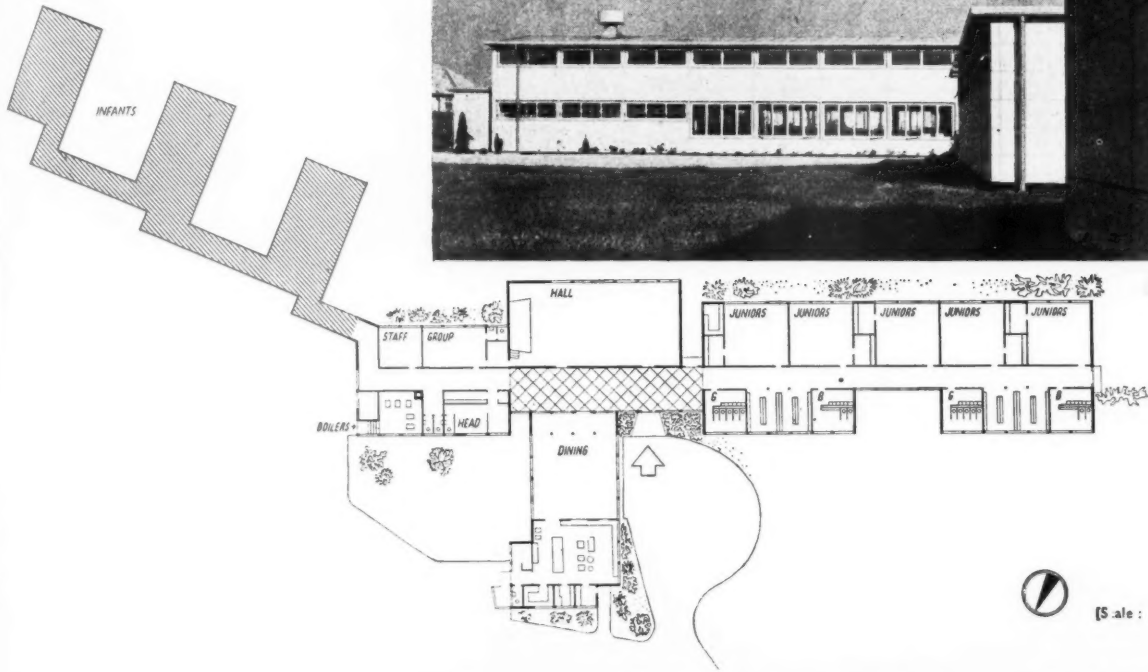
PRIMARY SCHOOLS PROGRAMME

Watford, Oxhey, Site 7	Infants.
St. Albans, New Green Farm	J.M.I.
Hemel Hempstead, Bennetts End	J.M.I.
Hemel Hempstead, Chaulden	Junior.
Hemel Hempstead, Chaulden	Infants.
Abbots Langley, Hillside	Junior.
Stevenage, Bedwell East	Junior.
Stevenage, Bedwell East	Infants.
Stevenage, Broom Barns	Junior.
Borehamwood, Cowley Hill	Infants.
Welwyn Garden City, Blackthorn	Infants.

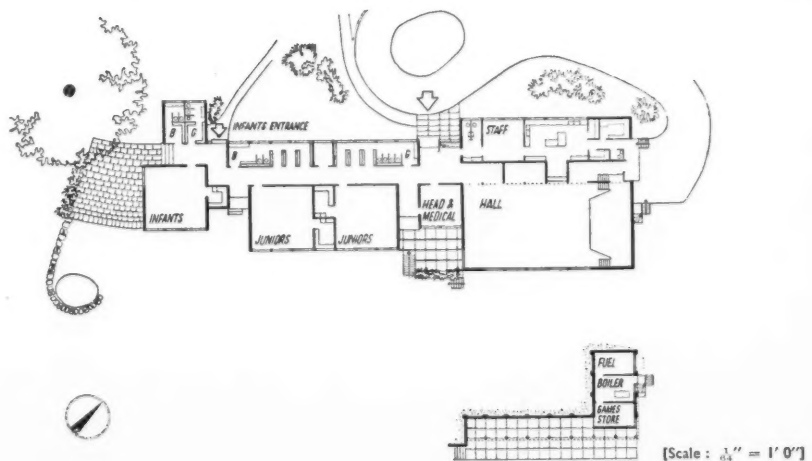
SECONDARY SCHOOLS PROGRAMME

Stevenage, West Shephall	Sec. Modern.
Hemel Hempstead, Bennetts End	Sec. Modern.
Hemel Hempstead, Bennetts End	Grammar.
Borehamwood, Leggatts Farm	Sec. Modern.
Borehamwood, Potters Lane	Grammar.

The Junior section of the Cheshunt JMI School. This section formed stage two of the development work, and considerable alterations were made to the system of construction. Right, a view looking towards the dining room, with the cloakroom blocks in the foreground. Below right, plan of the Junior section.



Essendon JMI School. This small school (the only example of the "village school" in the programme) was built at the same development stage as the Cheshunt Junior section. Right, the assembly hall and terrace. Below right, plan of the school.



As a result of these meetings it was decided to build a prototype school using the system developed by Hills for their housing and factory work.

The first two schools in the programme were for Junior Mixed and Infants' Schools for 320 children at Cheshunt and 120 at Essendon. The Infants' section of the Cheshunt school was chosen for the prototype, and consisted of three classroom units with lavatories, cloakrooms, and connecting corridors. The Junior section of the Cheshunt school and the small school at Essendon formed stage two of the development work. From there on, the system was developed to full production level and used for the school programmes over successive years, continuing to be developed at every stage. The chart on page 646 shows the Hertfordshire schools programme since 1946.

The remainder of this article describes the technical development work on the steel frame, roof, walls and windows, and internal partitions in the first two stages. Later articles will show the further changes made to these components during later programmes, and also the development work on the heating system, sanitary services, and fittings.

1946: CHESHUNT J.M.I. SCHOOL (INFANTS' SECTION)

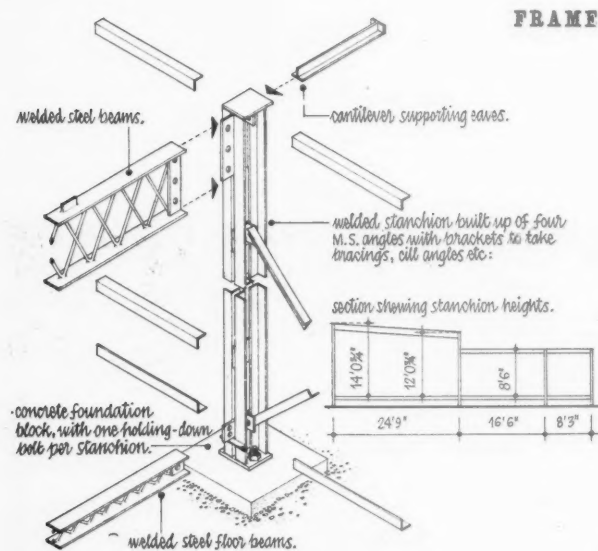
DEVELOPMENT WORK

By limiting the prototype to a building containing three classrooms, lavatories, cloaks and corridor only, it was hoped to obtain practical experience of the structure more rapidly than if the system were to be used for the whole school. It was realized that the problems involved in the larger spans and heights of assembly halls and dining rooms would not be dealt with, and that school planning would call for a more versatile system of building than that afforded by the prototype. For these reasons it was decided that a start should be made on the drawings of the Junior School as soon as possible after the prototype was launched.

The design of the steel frame, as also of the walling, floor and roof, was carried out by Hills; the architects' contribution, apart from the provision of the sketch design, being mainly one of checking and criticizing drawings.

The original target of completing this structure by the end of July 1946 proved to be too optimistic. Manufacturing problems, and the fact that the immediate post-war years were a difficult period for building, slowed down the anticipated rate of progress.

A trial erection of part of the frame was carried out at the works before it was delivered, in order to check the positioning of cleats, bolt-holes, and so forth. This trial avoided delay in the site erection and proved the value of full size factory mock-ups in development work.



FRAME

CRITICISM

Drawing office. The design of the steel frame appeared to be satisfactory.

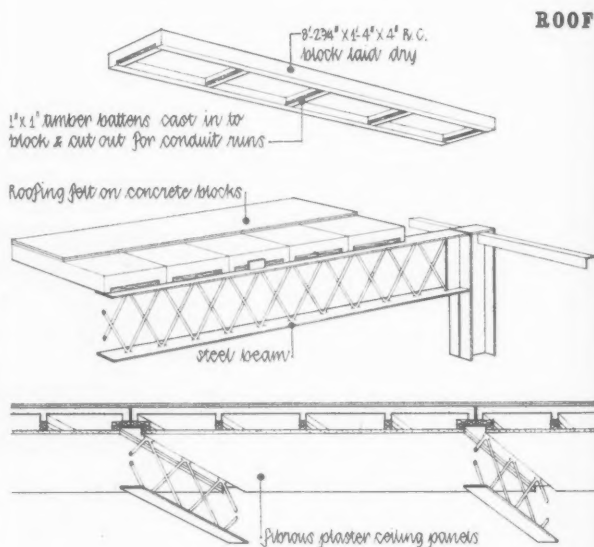
Manufacture and erection. The frame seemed to be a promising answer to the problems of school construction; the structural members were easily handled, the erection proceeded smoothly, and the exposed beams were architecturally attractive.

Since the site was level the suspended ground floor system did not provide the advantages envisaged, because the excavation work necessary for laying a site slab would be little more than that involved, under this system, in stripping the topsoil.

The method of holding down the stanchions with only one bolt per stanchion, although structurally satisfactory, complicated the process of lining and plumbing the frame.

DEVELOPMENT WORK

The design of the roof and ceiling was developed alongside that of the steel frame. Like the frame, it was based on the system used by Hills for their housing and factory work.



ROOF

CRITICISM

Drawing office. The concrete roof deck appeared to be a satisfactory answer to the roofing problem.

Manufacture and erection. The concrete roof units spanning 8 ft. 3 in. proved to be a convenient two-man load. The erection of the fibrous plaster ceiling wadded to the underside of the concrete blocks was a slow process requiring careful workmanship in order to achieve a reasonable standard of finish.

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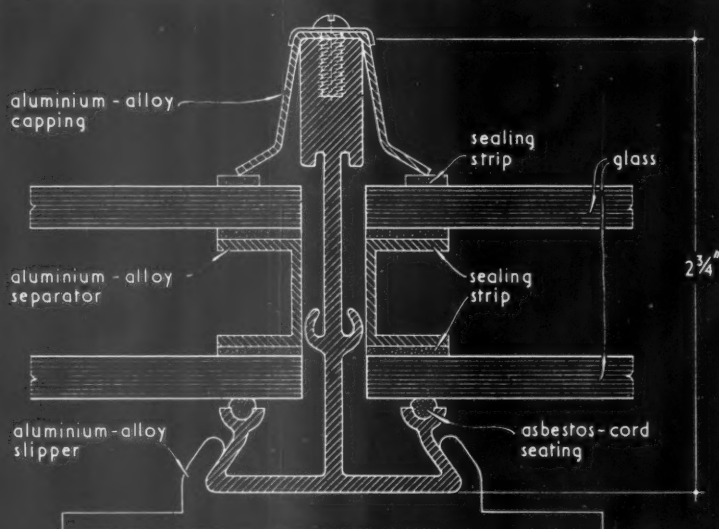


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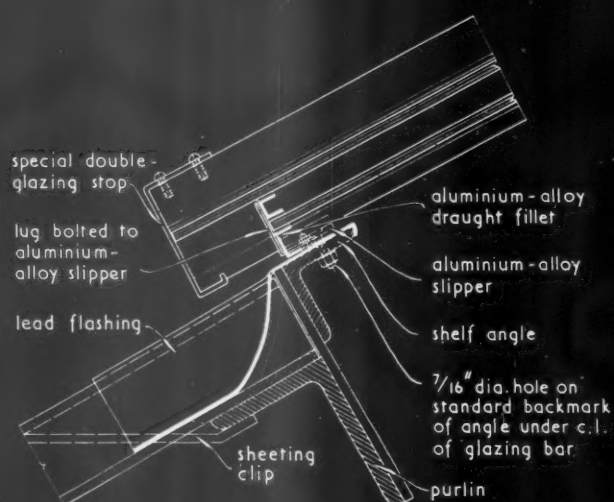
ROOF GLAZING ALUMINIUM DOUBLE GLAZING

The Architects' Journal Library of Information Sheets 519. Editor: Cotterell Butler, A.R.I.B.A.

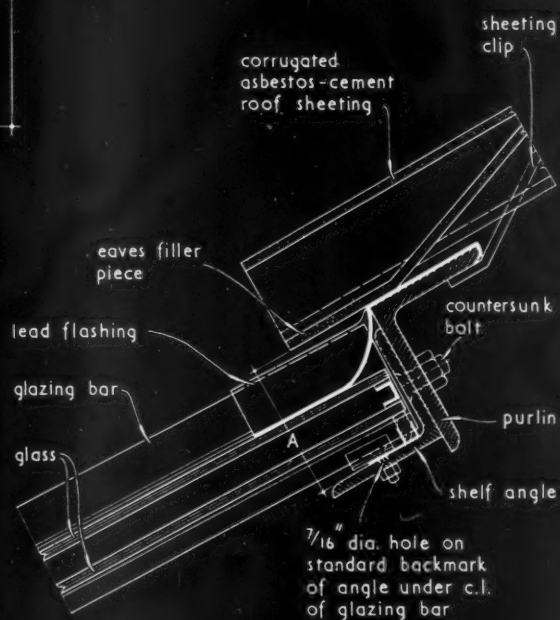
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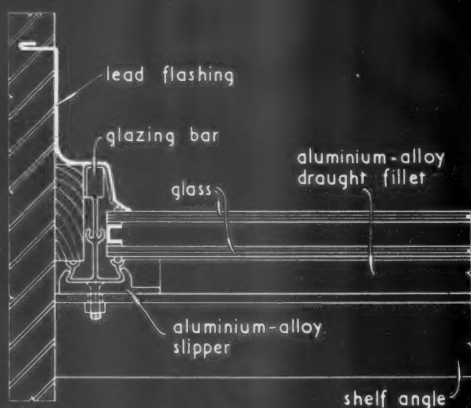
F.S. DETAIL OF GLAZING BAR.



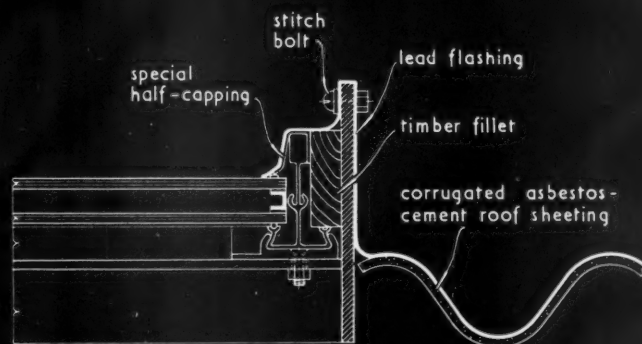
FINISH ABOVE AND BELOW GLAZING.



dimension 'A' (minimum):
with aluminium-alloy bar, 3 3/4"
with lead-clothed steel bar, 3"



FINISH AT WALL.



FINISH AT SIDE OF GLAZING.

HEYWOOD'S PATENT GLAZING: ALUMINIUM-ALLOY GLAZING BARS, DOUBLE-GLAZED.

Manufacturer: W.H. Heywood and Co. Ltd.

24.M4 HEYWOOD'S PATENT GLAZING: ALUMINIUM-ALLOY GLAZING BARS, DOUBLE-GLAZED

This Sheet deals with Heywood's aluminium-alloy glazing bars, double-glazed, and illustrates their application to steel roof structures. The drawing on the face shows the treatment of glazing in a normal pitched roof. Sheet 24.N4 deals with lead-clothed steel glazing bars, double-glazed, and shows their application to a northlight roof. The details given on both Sheets are applicable to either aluminium-alloy or lead-clothed steel glazing bars.

General

Apart from its sound-insulating effect, partly due to the increased mass of two sheets of glass but mostly to the deadening effect of a substantial cushion of air which mechanically separates the two glasses, double glazing also provides efficient thermal insulation. The heat transmission of a single glass is, under average conditions, about 1.1 B.Th.U./sq. ft./hr./1° F.; but with double glazing, where the space between the two layers of glass is at least $\frac{3}{4}$ in., the heat transmission is only 0.5. Increasing the width of spacing beyond $\frac{3}{4}$ in. does not materially improve the insulation effect, which is due to "still" air, for, as the space is increased, so internal circulation tends to counteract any increased insulation.

Glazing Bar

Material: The bar is of extruded aluminium-alloy and is completely covered above the outer glass line by an aluminium capping. Fixed between the two layers of glass are extruded aluminium separators, to give an air space of approximately $\frac{3}{4}$ in. and a complete seal is formed between the two layers of glass by the introduction of a sealing strip below and above the separators. Asbestos cord, held in grooves in the bar, provides a resilient seating for the inner layer of glass, which is stopped short at the bottom purlin to prevent transmission of the temperature of the cold outside air to within the building.

Where one layer of glass is $\frac{1}{4}$ -in. thick rough-cast double-rolled and one layer $\frac{1}{4}$ -in. thick wired cast, it is customary to fix the latter as the inner layer.

Sizes: The sizes of the glazing bar and relevant data are given below:

Height	..	..	..	..	2 $\frac{3}{4}$ in.
Width	..	..	..	..	1 $\frac{1}{2}$ in.
Maximum length recommended	..	..	..	..	10 ft.
Weight per sq. ft. of glazing	..	..	..	..	7 $\frac{1}{2}$ lb.
(This includes 2 layers of $\frac{1}{4}$ -in. thick rough-cast double-rolled or $\frac{1}{4}$ -in. wired cast glass)					

Centres: Bars should be spaced at 2 ft. 0 $\frac{3}{8}$ in. centres wherever possible for use with 2-ft. wide panes of glass. Bars are secured top and bottom by $\frac{3}{8}$ -in. countersunk bolts.

Glass stops: These are of aluminium alloy.

Application to Roof of Normal Pitch

Lower purlin: A shelf angle is secured above the main purlin, drilled on the standard backmark with one $\frac{7}{16}$ -in. dia. hole to take the bottom fixing slipper for the glazing bar. Flashing is secured between the fixing slipper and the flange of the angle and is dressed down over the roof sheeting.

Top purlin: Construction here is similar to that previously described except that the shelf angle may be fixed direct to the purlin. Flashing is secured between the eaves filler piece of the roof sheeting and purlin and is dressed down over the glass.

Finish at wall or side of glazing: The end glazing bar should be fixed so that its centre is about 1 in. away from the face of the wall or trimming member and the flashing secured and dressed down in the manner shown on the face of this Sheet.

Further Information

The manufacturer maintains a technical advisory department available to answer questions dealing with this subject generally.

Compiled from information supplied by:

W. H. Heywood & Co. Ltd.

Head Office: Bayhall Works, Huddersfield.

Telephone: Huddersfield 6594 (5 lines).

Telegrams: Glazing, Huddersfield.

London Office: Hope House, Great Peter Street, S.W.1.

Telephone: Abbey 1077/8.

Branch Offices: Belfast, Birmingham, Bristol, Glasgow, Leicester, Liverpool, Manchester, Newcastle-upon-Tyne, Nottingham, Plymouth.

Associate Company in Eire:

W. H. Heywood & Co. (Ireland) Ltd.,

63/64 Upper O'Connell Street, Dublin.

Telephone: Dublin 42522.

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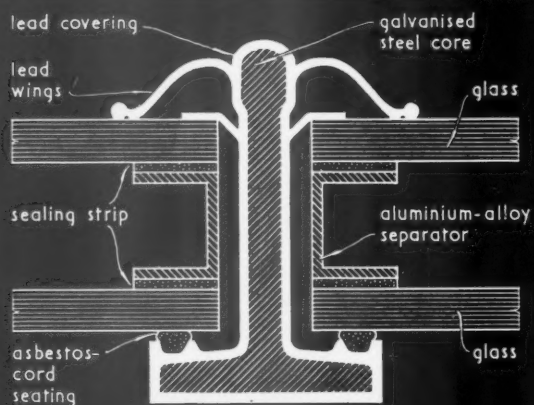
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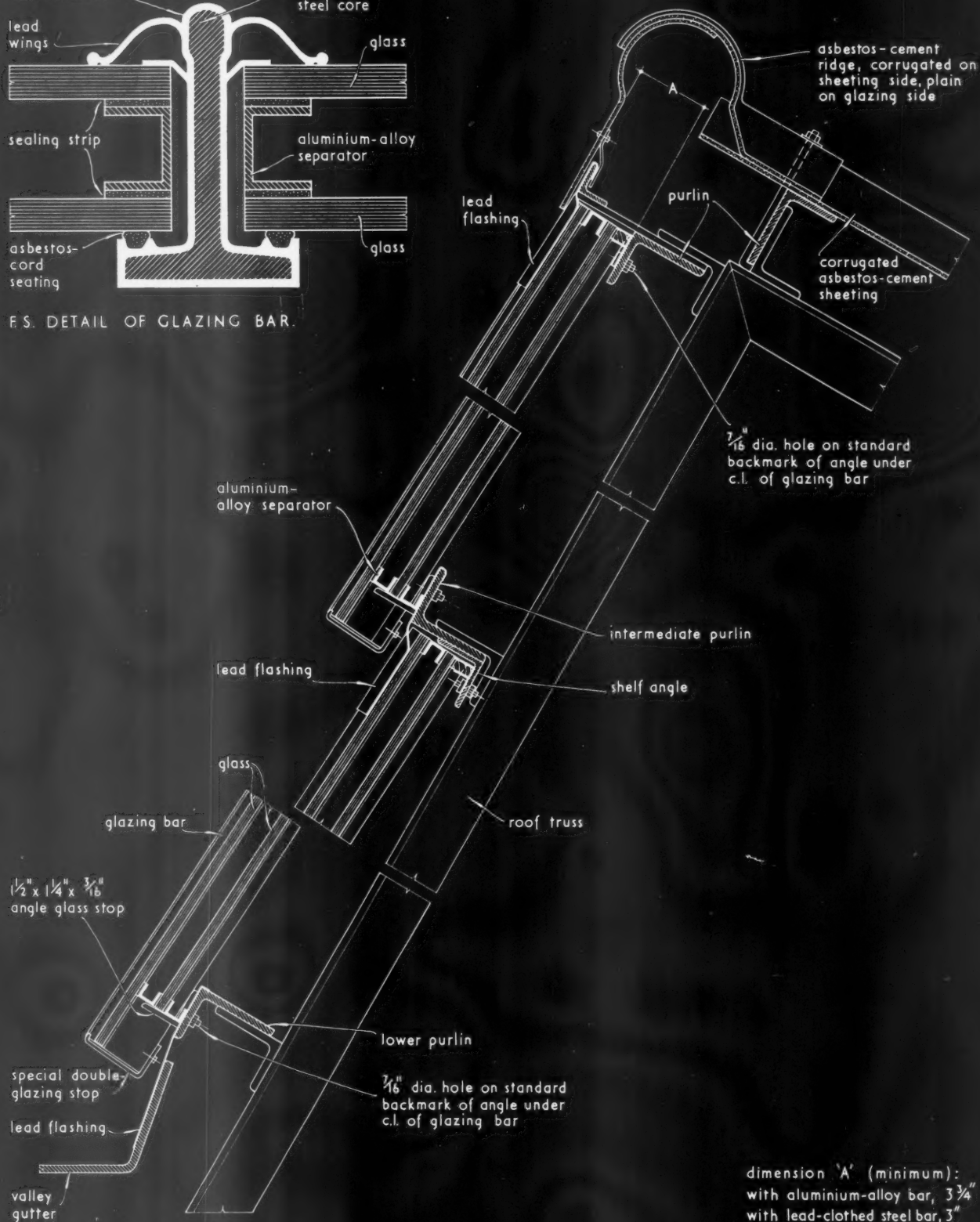
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ROOF GLAZING | STEEL | DOUBLE GLAZING

The Architects' Journal Library of Information Sheets 520. Editor: Cotterell Butler, A.R.I.B.A.



F.S. DETAIL OF GLAZING BAR.



SECTION THRO' NORTHLIGHT ROOF.

HEYWOOD'S PATENT GLAZING : LEAD-CLOTHED STEEL GLAZING BARS, DOUBLE-GLAZED.

Manufacturer: W. H. Heywood and Co. Ltd.

24.N4 HEYWOOD'S PATENT GLAZING: LEAD-CLOTHED STEEL GLAZING BARS, DOUBLE-GLAZED

This Sheet deals with Heywood's lead-clothed steel glazing bars, double-glazed, and illustrates their application to steel roof structures. The drawing on the face shows the treatment of glazing in a north-light roof. Sheet 24.M4 deals with aluminium-alloy glazing bars, double-glazed, and shows their application to a roof of normal pitch. The details given on both Sheets are applicable to either lead-clothed steel or aluminium-alloy glazing bars.

General

Apart from its sound-insulating effect, partly due to increased mass of two sheets of glass but mostly to the deadening effect of a substantial cushion of air which mechanically separates the two glasses, double glazing also provides efficient thermal insulation. The heat transmission of a single glass is, under average conditions, about 1.1 B.Th.U./sq. ft./hr./1° F; but with double glazing, where the space between the two layers of glass is at least $\frac{3}{4}$ in., the heat transmission is only 0.5. Increasing the width of spacing beyond $\frac{3}{4}$ in. does not materially improve the insulation effect, which is due to "still" air, for, as the space is increased, so internal circulation tends to counteract any increased insulation.

Glazing Bar

Material: The bar has a core of galvanised steel, is covered by a continuous lead sheath, hermetically sealed, and has double lead glazing wings. Fixed between the two layers of glass are extruded aluminium separators, to give an air-space of approximately $\frac{3}{4}$ in., and a complete seal is formed between the two layers of glass by the introduction of a sealing strip above and below the separators. Asbestos cord held in grooves in the bar provides a resilient seating for the inner layer of glass, which is stopped short at the bottom purlin to prevent transmission of the temperature of the cold outside air to within the building. Where one layer of glass is in $\frac{1}{4}$ -in. thick rough-cast double-rolled and one layer in $\frac{1}{4}$ -in. thick wired cast, it is customary to fix the latter as the inner layer.

Sizes: The sizes of the glazing bar and relevant data are given below:

Height	..	..	2 $\frac{1}{8}$ in.
Width (excluding wings)	..	..	1 $\frac{3}{8}$ in.
Max. length recommended	..	..	10 ft.
Wt. per sq. ft. of glazing	..	..	9 lb.
(This includes 2 layers of $\frac{1}{4}$ -in. thick rough-cast double-rolled or $\frac{1}{4}$ -in. wired cast glass)			

Centres: Bars should be spaced at 2 ft. 0 $\frac{9}{16}$ in. centres wherever possible for use with 2-ft. wide panes of glass. Bars are secured top and bottom by $\frac{3}{8}$ -in. stud bolts.

Glass stops: These are of heavy phosphor bronze, the stop for the inner layer of glass being angle-shaped, 1 $\frac{1}{2}$ in. \times 1 $\frac{1}{4}$ in. \times $\frac{3}{16}$ in. thick, secured by the $\frac{3}{8}$ -in. stud bolt. The outer stop is secured by a $\frac{5}{16}$ -in. stud bolt.

Application to Northlight Roof

Lower purlin: The glazing bar is bolted to the lower purlin which is drilled on the standard backmark of the angle with a $\frac{7}{16}$ -in. dia. hole under the centre of each glazing bar. A lead flashing is dressed over the purlin and into the valley gutter.

Intermediate purlin: The lower glazing bars are bolted to a shelf angle fixed back-to-back with the intermediate purlin. The upper glazing bars are bolted to the purlin, which is drilled as previously described. Lead flashing is dressed over the purlin on to the top of the lower glazing.

Top purlin: The upper glazing bar is bolted to the top purlin, which is drilled as previously described. Lead flashing is fixed between the ridge tile and the angle which supports it and is dressed down over the glass as shown in the drawing on the face of the Sheet.

Treatment at end of glazing: The details shown on Sheet 24.M4 for aluminium-alloy glazing bars are applicable to lead-clothed steel glazing bars.

Further Information

The manufacturer maintains a technical advisory department available to answer questions dealing with this subject generally.

Compiled from information supplied by:

W. H. Heywood & Co. Ltd.

Head Office: Bayhall Works, Huddersfield.

Telephone: Huddersfield 6594 (5 lines).

Telegrams: Glazing, Huddersfield.

London Office: Hope House, Great Peter Street, S.W.1.

Telephone: Abbey 1077/8.

Branch Offices: Belfast, Birmingham, Bristol, Glasgow, Leicester, Liverpool, Manchester, Newcastle-upon-Tyne, Nottingham, Plymouth.

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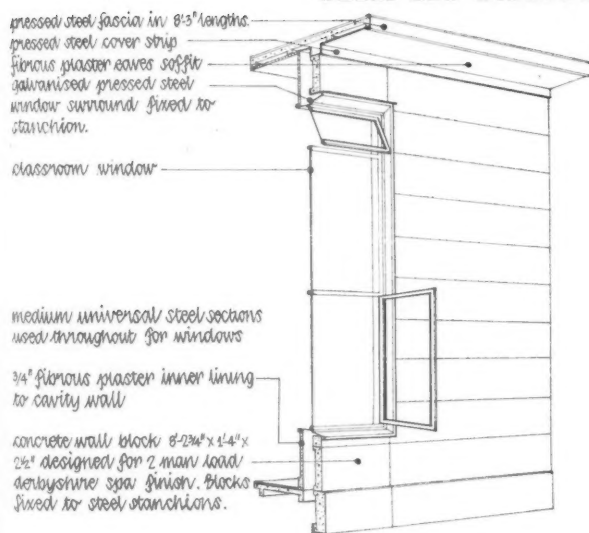
1946: CHESHUNT J.M.I. SCHOOL (INFANTS' SECTION)

DEVELOPMENT WORK

The system for walling and windows was based on that already developed by Hills. The walling consisted of precast concrete units 8 ft. 2 in. by 1 ft. 4 in. by 2 in. thick. They were based on a two-man load for handling and erection operations. The design was prepared by the manufacturer who experimented with various methods of jointing and fixing the units before finalizing the design. The Derbyshire spa and white cement facing was agreed upon after discussions with the architects and the making up of various sample blocks.

The windows were designed by the architects. The pressed metal sub-frames and the method of fixing the windows was evolved by Hills.

WALLS AND WINDOWS



CRITICISM

Drawing office. The horizontal wall blocks and windows were satisfactory except for the top course on the gable ends of the classrooms; this required a range of special blocks with raking edges to fit under the eaves. In addition the junction of the horizontal joints of the wall blocks and the sloping eaves was architecturally unhappy.

Manufacturing and erection. A number of difficulties were experienced on the job.

The pressed metal window surrounds were inaccurate with the fixing dowels on the wrong centres. Some of the surrounds arrived on the site bent and had to be straightened before the wall blocks and the fibrous plaster inner wall lining could be fixed.

It proved difficult to fix the pressed metal fascia to provide a sufficiently straight eaves line, due to inaccuracies in the pressings.

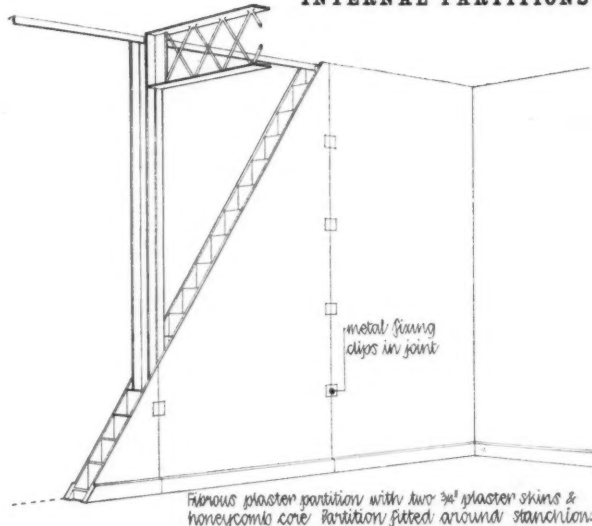
The standard of finish of the wall blocks was generally good but manufacturing inaccuracies created fixing difficulties. These related to the thickness of the blocks which varied by up to 1/4 in. at one stage of the job. In order to facilitate erection a production tolerance of +0 in. -1/4 in. thickness was agreed with the manufacturer and this was satisfactorily worked for the remainder of the job.

DEVELOPMENT WORK

The problem facing the architects in deciding the form of the internal partitions was to find a technique which would utilise factory labour for manufacture and assembly. Up to that time all the suitable methods of partitioning were based on *in situ* construction using skilled building labour. It was required also that the partitions should provide a durable surface and be capable of manual handling and assembly on site.

It seemed possible that fibrous plaster would meet these requirements, and since several of the architects had worked with a fibrous plaster firm (Dejong Ltd.) during the war, it was decided to approach this firm. After some collaborative work a series of honeycombed panel units were developed; the requirements, in terms of the thickness, length, height and fixings to be provided, were supplied by the architects and the structural details of the panels were designed by the manufacturer.

INTERNAL PARTITIONS



CRITICISM

Drawing office. The flexible nature of the material seemed to make it particularly suitable for internal partitions, cornices and linings, since it could be easily moulded to the shapes dictated by the structure.

Manufacture and erection. The size and weight of the partition units slowed down the erection process, although the standard of finish of the completed job was satisfactory.

The partitioning system worked out more expensive than was originally anticipated due to the amount of work involved in manufacturing the complicated honeycomb core.

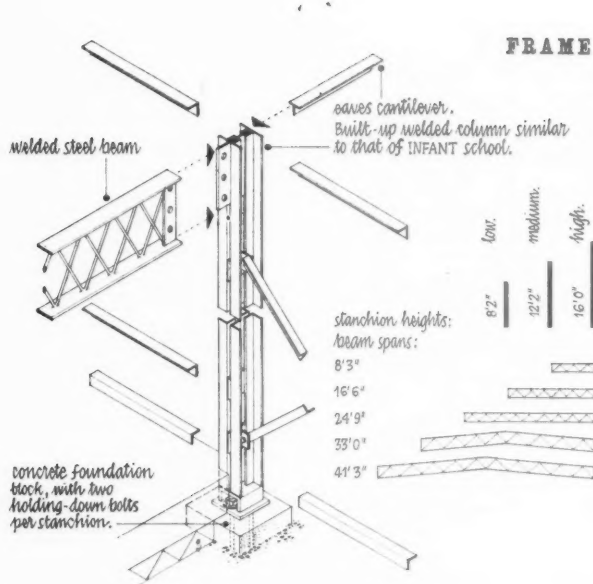
1947: CHESHUNT J.M.I. SCHOOL (JUNIOR SECTION) & ESSENDON J.M.I. SCHOOL

DEVELOPMENT WORK

It was decided to omit the suspended floor and instead to use a simple site slab. This had the advantage of saving steel at a time when it was difficult to obtain.

Two modifications were made to the frame as a result of developments in the design of the walling and roofing. Firstly, with the introduction of the pressed steel gutter the cantilever bracket had to be reversed so that the toe pointed downwards. Secondly, since it was decided to use a flat roof over the classrooms, the range of stanchion heights was reduced.

The method of holding down the stanchions was revised by the engineers, and two bolts per stanchion were introduced.



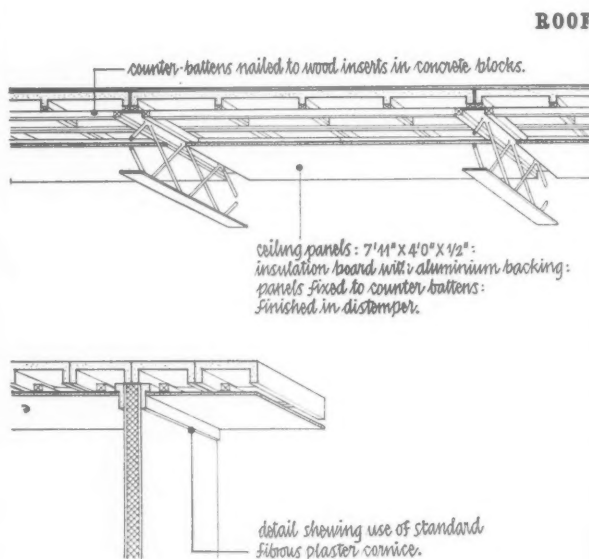
CRITICISM

Drawing office. The frame had been designed in the orthodox way, with stanchion sections varying for different load conditions. The use of various sections had several ramifications adversely affecting the economical production of ties, windows and wall linings. Separate shop drawings had to be prepared by the manufacturer for each stanchion in order to locate the connections, and the architects also found it necessary to detail the conditions at every stanchion in order to design the fibrous plaster casings.

Manufacture and erection. The favourable result of the Infant School experiment was confirmed on this job. Work on the site was, however, impaired by organizational and manufacturing problems which the manufacturer had to cope with under difficult conditions. Over a period of 2 months erection was restricted because of the difficult steel supply position at that time, and because handmade manufacturing technique was unavoidable in such development work. For example, beams were found on delivery to be $1\frac{1}{2}$ in. out of straight and consequently it was necessary to straighten these on site. It was also found that setting out with a steel jig was not an infallible method of working, for an accumulated error of 1 in. occurred at an intermediate bay of the grid.

DEVELOPMENT WORK

The architects decided that in order to speed up the finishing process another system of ceiling construction must be developed. Designs were prepared for a ceiling using standard 8 ft. 0 in. \times 4 ft. 0 in. \times $\frac{1}{2}$ in. panels of insulation board screwed to wood battens. In order to encase the steel beams and ties where they occurred over partitions, fibrous plaster cornices and beam casings were used. Advantage was taken of the flexible nature of the fibrous plaster to take up the variable dimensions between the various 8 ft. 3 in. spans and the 4 ft. 0 in. boards, thus minimizing the amount of board cutting required.



CRITICISM

Drawing office. This job confirmed that the form of the pre-cast concrete roof blocks was satisfactory. The layout drawings for the ceiling boards suggested that the new form of ceiling construction would work conveniently well with the plan grid.

Manufacture and erection. The accurate fixing of the counter-battening proved to be difficult because, since the timber inserts were flush with the concrete ribs, it was impossible to trim these *in situ* to take up inaccuracies which had accumulated during the casting or erection of the concrete units.

Casting irregularities in the depth of the blocks also meant that the surface for the laying of the roofing felt was not very satisfactory, variations occurring between the surface of one block and another. It was obvious that this would need further consideration for future jobs and regrettably the idea of obtaining a dry concrete roof without screed would have to be shelved for the present.

1947: CHESHUNT J.M.I. SCHOOL (JUNIOR SECTION) & ESSENDON J.M.I. SCHOOL

DEVELOPMENT WORK

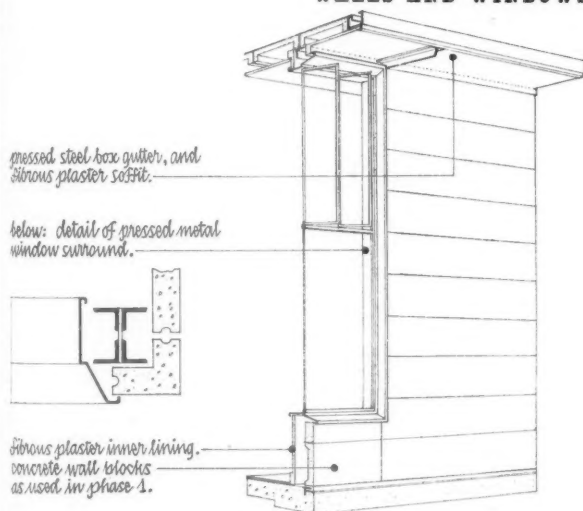
It was accepted by the architects that the inaccuracies in the pressed metal window surrounds on the Infant School were manufacturing "teething troubles" due to the handmade nature of the construction and that jig production would no doubt give a better standard of workmanship on the forthcoming Junior School. The window fixing details remained basically the same but at the request of the architects the profile of the pressed metal surround was modified to give a less heavy frame to the window. The corner wall blocks adjacent to windows were also modified in detail at the request of the architects in order to deal satisfactorily with a $\frac{1}{4}$ in. gap between block and window surround which had previously existed in this position.

It was agreed jointly between architects and engineers that in order to achieve a satisfactory fascia a redesign of the eaves detail was necessary. It was decided to substitute a heavy steel gutter for the pressed steel fascia, the heavier gauge of metal making it easier to manufacture a straight fascia unit.

The architects decided that it would be an improvement if a flat roof were to be used for the classrooms. This request was agreed to by the engineers.

In this work the co-operation between architects and design engineers at Hills was not limited to the production of the design idea but was maintained throughout the detailing of the range of components necessary to satisfy the various structural conditions.

WALLS AND WINDOWS



CRITICISMS

Drawing office. The architects working on the Junior School formulated the following criticisms of the walling system during the design and working drawing stages of the job.

- (1) Window openings of less than a full 8 ft. 3 in. bay width were desirable for many positions in the school.
- (2) The erection of horizontal block walling necessitated an uneconomical amount of scaffolding on a single storey building.
- (3) The frequency of the horizontal joints was thought to produce an unnecessary number of possible danger points to water penetration.
- (4) The overhanging eaves were an expensive detail necessitating a considerable amount of work and careful supervision on site.
- (5) The standard of workmanship in laying site concrete suggested that it would be difficult to obtain a satisfactory fair face to the outside of the edge beam.

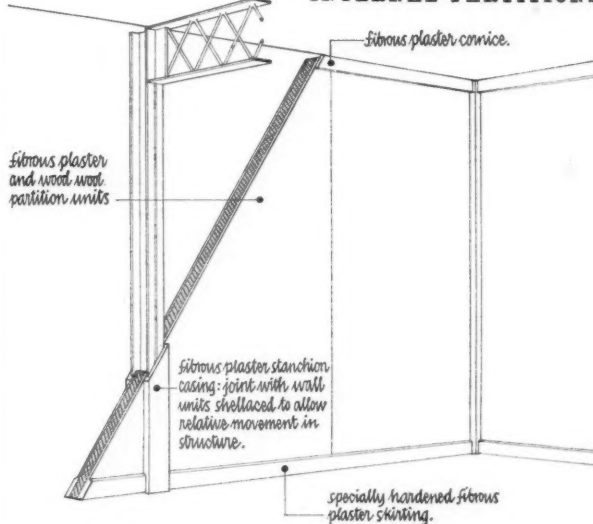
Manufacture and erection. The overall size and shape of the wall blocks were more uniform than those on the Infant School and erection progressed smoothly. The pressed steel window surrounds were also of a better standard of manufacture.

DEVELOPMENT WORK

The standard of finish on the Infant School partitions was encouraging and suggested that further development work should be undertaken. The architects proposed to Dejonges that a woodwool core should be substituted for the honeycomb. This had the advantage of reducing the overall thickness of the partition, simplifying the manufacturing process (thereby bringing down the cost), and reducing the weight of the component units.

Several mock-up panels were made up by Dejonges and tested by the architects for toughness, rigidity and durability. As a result of these tests it was decided to proceed with the partitioning on the Junior School using this design.

INTERNAL PARTITIONS



CRITICISMS

Drawing office. This form of partitioning seemed to work satisfactorily.

Manufacture and erection. The manufacture and erection of the partitions proceeded smoothly. The rate of erection, which depended upon the number of plasterers available, was not as rapid as had been hoped for.

2 PLANNING: GENERAL

post war planning and development in England

Ten years ago, when the war ended, the subject of planning interested everybody (our Information Centre, started at that time, gave no less than five main headings to the subject). But since then, both public and professional views on planning have changed, and people do not get as excited about it as they did in the early post-war years. Both this decline in interest, and the general change in opinions, are themselves fascinating subjects for study, and we are glad to print below a paper in which they are discussed. In this, his inaugural lecture as Lever Professor of Civic Design at the University of Liverpool, H. Myles Wright looks back on the last ten years of planning, suggests where we have failed and points out the lessons we should have learned—lessons from which we could form a new approach to planning.

We are now reminded that it is ten years since VE day. Town planners usually prepare their plans for a period of about 20 years ahead and in Britain planning authorities are required to do so. It is true that 1951 to 1971 is the generally accepted period for official plans and that only a third of the 154 plans which together cover England and Wales have been finally approved by the Minister. Yet in another sense we can truthfully say we are near the half-way mark of a planned 20-year programme of post-war reconstruction and new building.

By VE day the principles, policies and techniques needed to guide the use of land and physical reconstruction had been examined most thoroughly. Some of the legislation needed had been passed, the new Ministry of Town & Country Planning had been at work for two years, and some of the severely bombed cities had been preparing reconstruction plans for an equal length of time. One may also note that the 1944 Act enabled cities to buy land in order to deal with blight and blight on a scale and at a speed which was unthinkable before the war; and that unofficial studies considered 20 years as the time needed to complete the main part of reconstruction. So in a broad sense we are near the mid-point of post-war reconstruction as it was foreseen at the end of the war.

THE SITING OF NEW DWELLINGS

The field is so large that it is necessary to pick out for examination a few only of the things that have happened, in the hope that they are the ones that matter most. As the central theme I have chosen the distribution of new houses—more strictly, dwellings. The family dwelling is to the town planner much of what the human form is to the painter and sculptor. It is his usual standard of reference and scale, the central and most common unit in calculations and designs: fascinating, ever-changing and the one about which everyone is ready to correct him. The placing of these new houses and flats will be examined mainly for its influence on the great double policy of *Redevelopment* and *Decentralization* by which it was hoped, at the end of the war, to improve greatly the homes and surroundings of those who live

in towns. The damaged and decayed portions of cities were to be laid out afresh and rebuilt as far finer places, and most of those of their inhabitants who could not be reaccommodated in the new and more spaciouly arranged inner districts—the so-called over-spill—were to be encouraged to move 20 or 40 miles, either to new towns or to existing small towns who would benefit from the added population and the new employments that were to come with it. This twofold remedy was recommended by, or underlay all war-time reports and legislation. First generally accepted, now half forgotten by the public, it is still the official prescription for urban improvement, and still the subject of dispute between advocates of social and economic aims. Inspection of how much redevelopment and decentralization has taken place, and how much of other kinds of building, reveals and lights up the major problems of the public guidance of land use and building development, which we call regional planning or town-planning or civic design according to whether our aims and view are broad or detailed.

THE DESCENT FROM POST-WAR IDEALISM

Before one begins even a short review of post-war planning and building one has, however, to recollect the great change in opinion on planning between *then* and *now*: changes in public opinion generally, in policy and, if we are honest, in our own views. It is quite difficult now to recall our "passionate determination"—as a Command paper truly put it—to remake our towns after the war conveniently and beautifully.

There has been a great change. Wartime cohesion of society is apt to loosen when peace comes, and unanimity on the aims and methods of reconstruction did not long survive resumption of party government. Decentralization clashed with the prime need to keep the country going through the first most difficult years. Houses anywhere, at once, were preferred to houses in the right place five years ahead. A social revolution was in full career. Those who had been poor were determined to keep their gains and this influenced policy on housing sub-

sidies and the Rent Restriction Acts; while those who had been well-off wanted, understandably, to defend what they had left—notably, in this context, their land. Above all, nearly everyone soon became very irritated by the continued controls and rationing. Economic planners were out of reach and were in any case uncomprehensible to the ordinary citizen, though they had to meet sharp attacks from other economists. Town planners were much nearer, multiplied quickly in numbers and appeared both incapable of doing anything big, and tardy and niggling over trifles. The guidance of land use thus soon became unpopular. To land-owners, planners appeared as the agents of predatory legislation: to the ordinary man they seemed mixed up with the slow production of new houses. The larger aims and visions, and logical steps to achievement, which had had our assent when we could do nothing were eclipsed by short-term aims and sectional and personal ambitions when the time came for action. Because of this change in public opinion—or perhaps, to some extent, taking advantage of it—there have been big changes in policy during the decade; that may be regarded as surrender of principle or as a commonsense stepping down from the idealistic to the practicable and doubtless *viable*. With this caution in mind we may look at what has been done or not done, to carry out the policy of redevelopment and decentralization.

CITY REDEVELOPMENT

Redevelopment is best looked at in two instalments.

The first comprises the true central area of the city—the heart of its commercial and administrative life: and the second comprises the districts lying around the centre. Progress in rebuilding city centres has so far been small, though the pace will now quicken. Apart from the City of London, where the achievement has, until last year, been lamentable, the cities whose centres were most badly damaged in air raids have done a good deal, quantitatively, in rebuilding. A survey made 18 months ago showed that in eight cities nearly a third of the office and shopping space lost during the war had been replaced, and by now the fraction probably exceeds a half. The survey, however, excluded cinemas, churches, town halls, theatres, and in most cases, factories, so that it was not a true measure of total replacement. In other cities, where air raid damage was small and blight is the main enemy progress has been much less.

One does not doubt, however, that vacant sites in city centres will soon be filled. It is in "the laying out afresh" and the actual forms of the new buildings that there is most cause for dismay. Bold schemes for new roads and new layouts in and near the city centres are included in almost every plan. In the City of London, Liverpool and most other large cities nothing of these has been begun. A great deal of research was done in the Ministry of Town & Country Planning between 1944 and 1947 into the best forms and layouts for buildings in central districts, and this was taken further by Holden &

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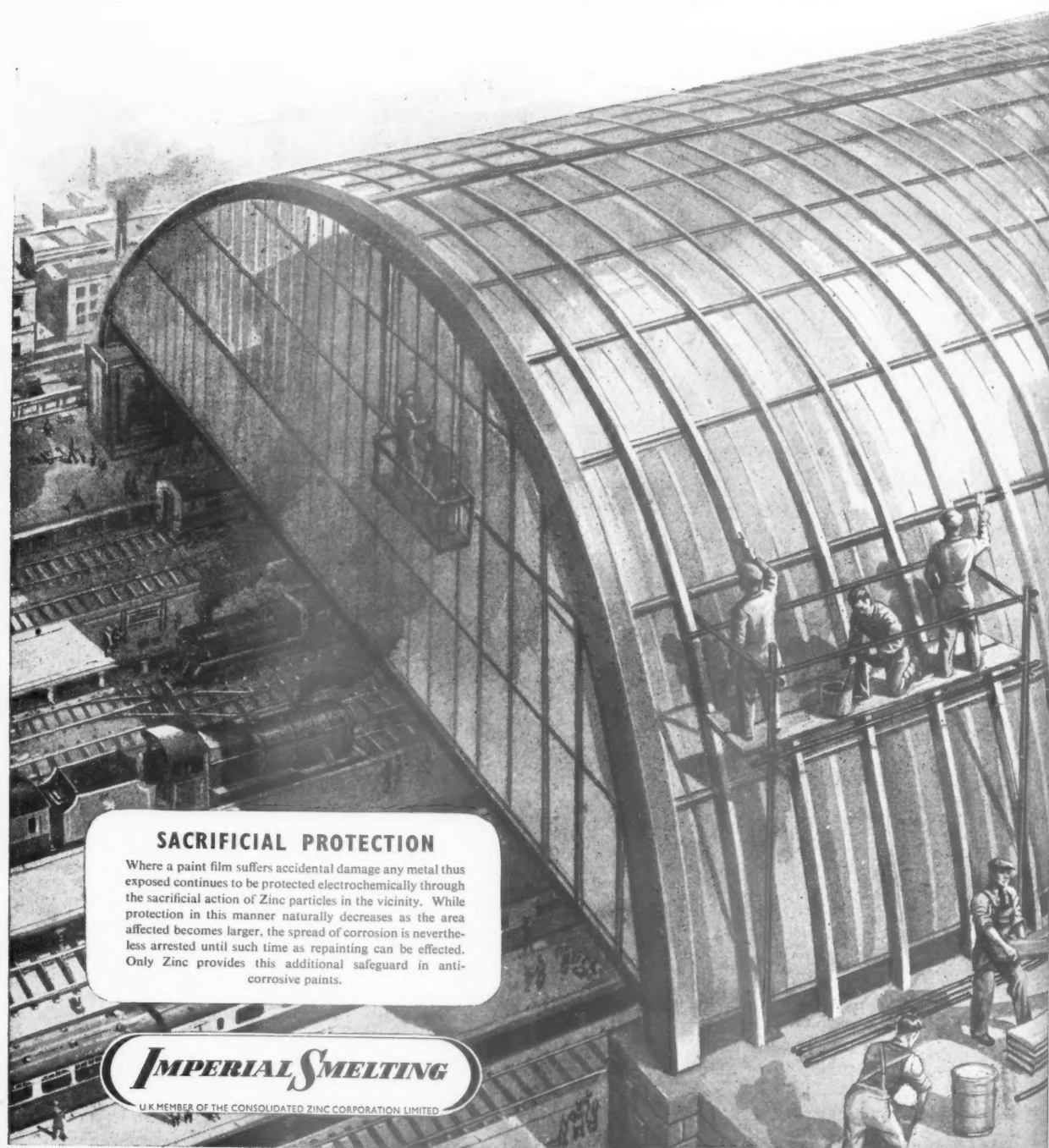
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Holford in their work for the City of London. In particular "canal streets" were condemned for confining traffic noise and fumes, and the advantages of buildings of more open form, set back from street fronts, were fully demonstrated. These advantages, alike to owner and architect, tenant and general public, have been incorporated in a few buildings; in the City of London, usually after long effort by the Royal Fine Art Commission and the LCC; in Coventry, where a vigorous Council and architect worked together for 10 years; and in a few other places. Elsewhere the rule has been to build buildings of inter-war type on the original and perhaps awkwardly-shaped sites and to continue arrangements—such as putting several floors of offices over big shops—that tenants had begun to dislike before 1939.

SUBURBAN SPRAWL EASIER THAN CENTRAL REDEVELOPMENT

When one turns to the second part of redevelopment—the blighted districts around city centres—we have all seen for ourselves that little has been done. One may wander through miles of near slum and decay and wonder whether the vast work of renewal will ever be completed. What has been done can be measured only indirectly. Nearly all post-war dwellings on sites previously occupied by buildings are in central districts, those on new sites are on the outskirts. The Table gives a good indication of the ratio between redevelopment of inner residential districts and urban sprawl in three of our city-groups. In Birmingham, 7 per cent. of new dwellings are in the centre and 93 per cent. on the outskirts. On a similar measure only 1 per cent. of Nottingham's 10,000 new dwellings have contributed to redevelopment so far, though, no doubt, they have set central sites free for quick building. Liverpool is probably ahead of all other cities in having placed a quarter of its new dwellings near the centre, although even in Liverpool there has so far been little laying out afresh of blighted land. There has indeed been slow progress everywhere, although a dozen cities have now larger scale schemes in hand. The Table also suggests in Col. 6 the amount of the work to be done. An accurate

estimate is now being prepared for the Minister, but we see that in Liverpool about 20,000 houses should be cleared as soon as possible: in Birmingham there are 30,000. So far one may justly say that little has been completed of the new building and less of the new layouts.

MODEST ACHIEVEMENT IN DECENTRALISATION

When one turns to the other arm of the double policy, to decentralization, it is necessary to begin with a definition to avoid confusion. The term is used here to mean the publicly organised movement of families from a central district to new houses built for them at least 20 miles away. It thus excludes movement from the centre of a town to the outskirts and also longer migrations arranged by families unaided. In examining what has been done in this way one may think first of the new towns round London. After surviving some absurd obstructions and unjust attacks these towns are now beginning to be very successful, though they are only 7 or 8 years old. Their indirect effect on decentralisation from London and other large cities is likely to be great, because of the examples they contain of the successful migration of industries and offices. 130 new factories employing 18,000 people are already there and there are signs that the health and output of employees are better than in older industrial districts. If these benefits continue and increase they will add force to the wider social arguments for planning and weaken those based on narrower economic views. We may soon be sorry that we did not begin more new towns and support them more vigorously.

Yet so far the direct new town contribution to the rehousing of Londoners has been small. Up to the end of last year the eight London new towns had completed about 22,000 new dwellings, containing at most 30,000 people who had moved out from the County of London. This compares with the 300,000 people in new dwellings built within the London region but outside the County—that is, in what may be called the outer suburbs. We also have to remember that the population of the County of

London has increased by a million from its lowest point during the war and that the desirable overspill is now estimated at between 300,000 and 380,000 people.

The London County Council realised that the London new towns could not accommodate all those who should be persuaded to move out. They therefore tried to make full use of the Town Development Act of 1952, which empowers a large city to help in the expansion of a small town that is willing to receive "overspill" population. They have discussed schemes of this kind with more than 60 towns at distances up to 120 miles from London, limited schemes have been agreed with Bletchley and Swindon and a small number of families have by now moved. Similar negotiations have been going on at Birmingham and in Lancashire. It has been estimated that 350,000 people should move out of the larger towns of south-west Lancashire, a score of movements have been discussed and a few limited ones arranged. One may note that though the south Lancashire overspill is much the same as that estimated for London, no new town has yet been started, nor even been agreed. In total—for reasons to which we shall return—there is pitifully little to show for two years' negotiations between some of the largest and most able local governments and up to 100 smaller towns.

WHERE ARE THE NEW HOUSES?

Local authorities, new towns, housing associations and private enterprise built 1,377,000 permanent new dwellings in England and Wales up to the end of March last year. Where have these been put?

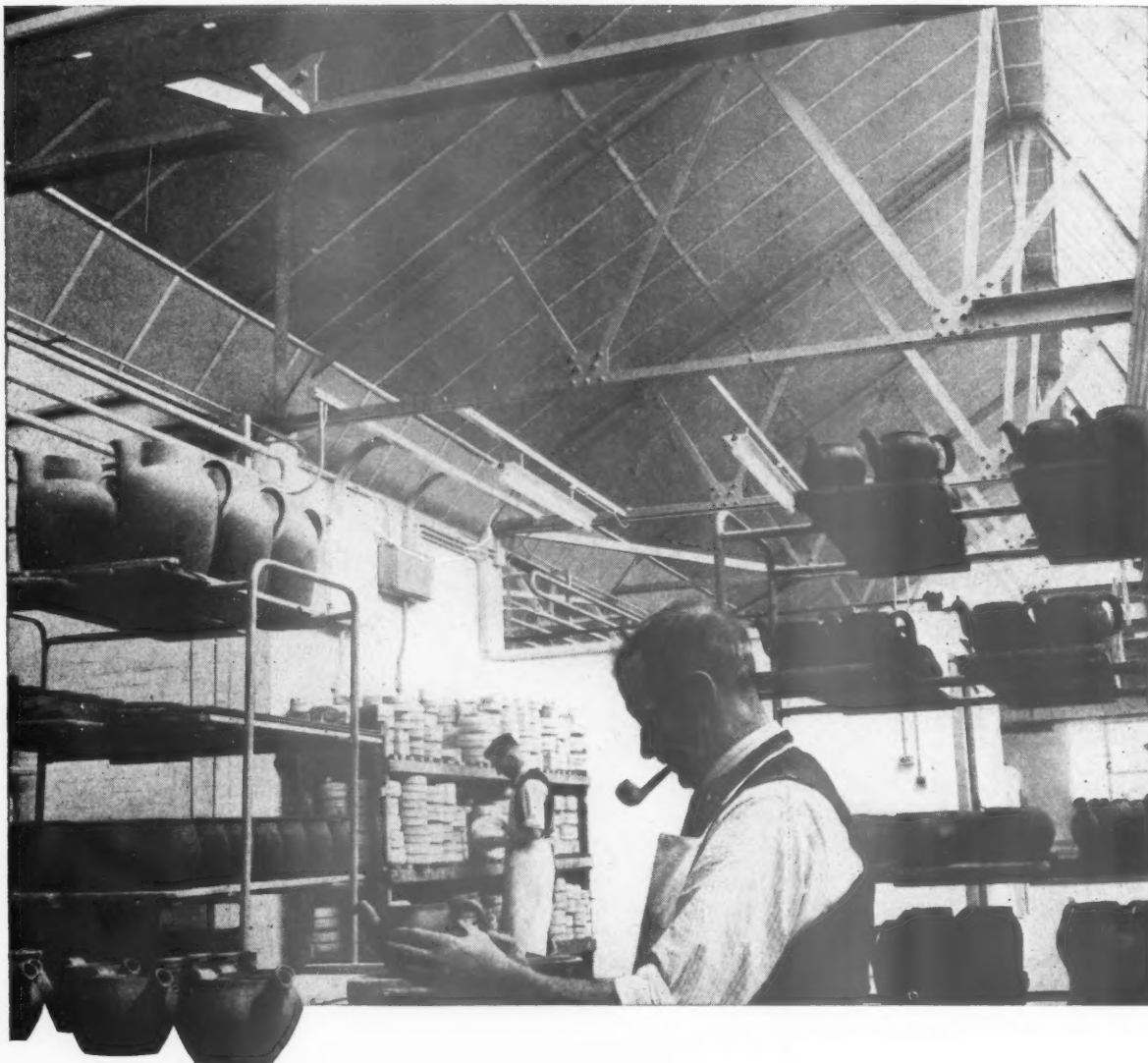
The great mass of them have been built around the edges of existing towns, especially of large towns. They have extended the conurbations and urban sprawl in just the way we had intended to avoid, and which the existing massive legislation was designed to prevent. An accurate picture of what has happened is not at present available, but it is possible to obtain what is probably a fair general impression by a series of snapshots, some at long range, some close up.

The 1951 Census listed 13 towns in England and Wales and outside the London area which had populations of over a quarter of a million. This figure of course referred to the population within the local authority boundaries and no normal person thinks of a big town in terms of its local authority boundary. In these days of motor cars, buses and telephones, it is reasonable to hold that a large city may reckon that all who live within 15 miles of its town hall are, in most or some important respects, its citizens. Where big cities are close together the situation is more complex, but the "spheres of influence" can still be ascertained. Fig. 1 shows these "over 250,000" cities and circles of 16 miles radius around them. The total population within the circles or parts of circles in 1951 was about 16 millions, not much less than half the population of England and Wales outside Greater London. The population within the various circles range downwards from 2½ millions around Manchester to 380,000 at

TABLE 1: REDEVELOPMENT AND SUBURBAN EXPANSION
Permanent post-war dwellings in central districts compared with those on the outskirts of the city

LOCAL AUTHORITY	New Permanent Dwellings				Approx. number of sub-standard dwellings in cen- tral districts
	On new sites	On redeveloped sites	TOTAL	Col. 3 as per cent. of Col. 4	
1	2	3	4	5	6
BIRMINGHAM	22,900	1,651	24,551	7	30,000
Smethwick*	158	307	465	—	12,000
NOTTINGHAM	10,665	138	10,803	1	10,000
Arnold	1,141	8	1,149	—	497
Carlton	—	—	—	—	—
W. Bridgford	985	—	985	—	20
LIVERPOOL	11,571	3,600	15,171	24	20,000
Bootle	1,992	120	2,112	6	—
Birkenhead	2,193	330	2,523	13	3,000
Wallasey	2,840	521	3,361	15	600

* Smethwick is so closely built-up that most of its post-war dwellings are sited outside the city boundary.



What does cold weather cost you — in good work?

When this photograph was taken at Denby Potteries, near Derby, it was freezing outside. Yet the men you see are working *in their shirt sleeves* unconcernedly and skilfully.

Look to the roof for the explanation. It is lined with $\frac{1}{2}$ in. Lloyd Insulation Board. Before insulation the highest work-temperature that could be attained when it was really cold was 46°F. Now it is a comfortable 62°F—a direct increase of 16°F, achieved without incurring the heavy expense of either new heating plant, or greater fuel

consumption by the existing plant.

There follow other advantages vital for such work. Lighting is better and more easily reflected; dust is excluded; in summer, solar radiation is reduced, and cool working conditions are ensured.

Insulation makes sense for most factories. Ask for a copy of "The Heat Barrier" booklet, which enables you to calculate, as nearly as possible, how soon the money saved on fuel bills will catch up the initial cost of insulating your own works.



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Hull. This seems a more reasonable way to look at big city populations than to bewilder ourselves with the 75 local authorities, including seven County boroughs (each with its own plan), around Manchester. We may also note how vulnerable to air attack is the chain of city groups from Liverpool to Leeds.

If we had been very far-sighted in 1945, and resolute beyond the capacity of peacetime democracy, we might have laid it down that no new dwelling was to be built on new land within these circles—leaving the desirable scale of rebuilding on old sites to be separately examined. We were not able to make good more modest hopes. In the event, over 600,000 new dwellings have been built on new land within the circles. The pattern of new building as it sprawls out from the city centres may be seen in several ways. Here (Fig. 2) diagrammatically, are the new houses in and around Birmingham, clustering thickly about the Birmingham-Wolverhampton axis and round the Birmingham boundary, more thinly spread further out. Each dot represents 50 dwellings—some 78,000 in all. Fig. 3 is a map to the same scale for Merseyside and one on which it has been possible to locate the dots more accurately. The main mass of houses is around the edge of Liverpool, but one notices also the march of houses across the Wirral: 32,000 dwellings in all.

We may reasonably assume from these examples that the distribution of new dwellings in the remainder of the 13 provincial city-groups is of similar pattern, clustering thickly round the edges of the 1945 built-up areas and sprinkled more thinly in the outer belts. On the whole only a very small fraction of our post-war dwellings have been placed so as to assist the redevelopment of central districts or long-distance decentralization.

TEN YEARS OF EXPEDIENCY

A review of planning and building since the war is therefore disappointing when we remember what we had meant to do. It was intended to guide the majority of new building and rebuilding so as to secure long-term social advantages from which it was hoped that longer-term economic advantages would flow. In the event short-term needs have been dominant. We have continued to do things which responsible opinion would agree to be unwise and have made and are making tough problems still harder to solve. But if we are fair we have to agree that much of what was done was unavoidable, politically and in ordinary human terms. The country's economy had to be kept going in most difficult years. To multiply the difficulties of demobilisation and shortages during the first post war years by any large-scale movement of factories and offices was quite impossible. The problems of housing were somewhat similar. In the first years there was a great and rapidly growing demand for more houses. The big cities needed houses most, they had the labour and had or soon acquired organizations capable of handling large contracts;

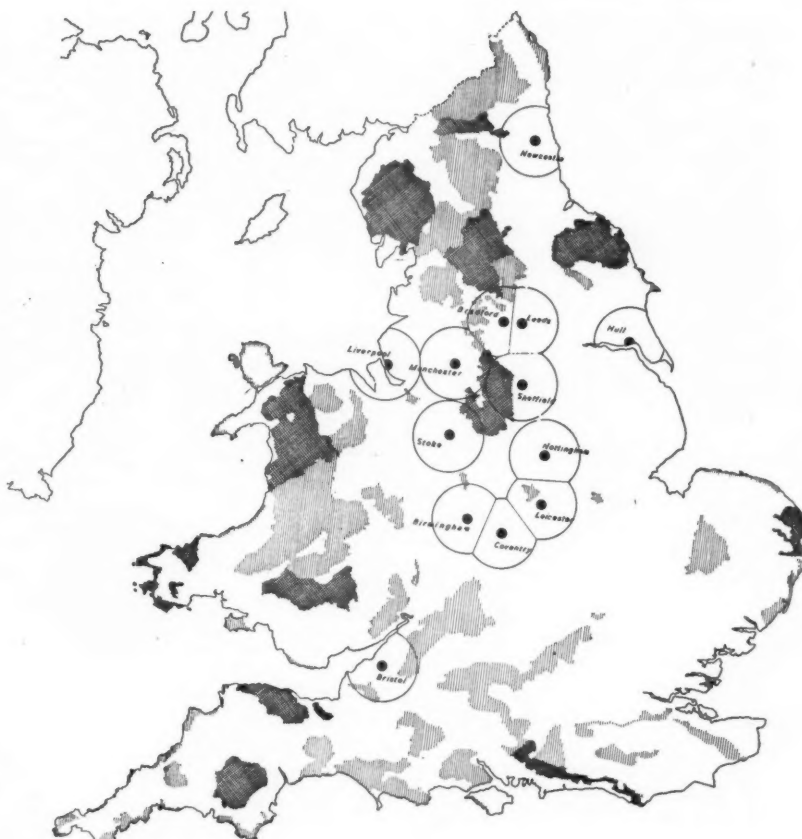


Fig. 1. The thirteen largest city groups outside London. The circles are drawn at 16 miles' radius.

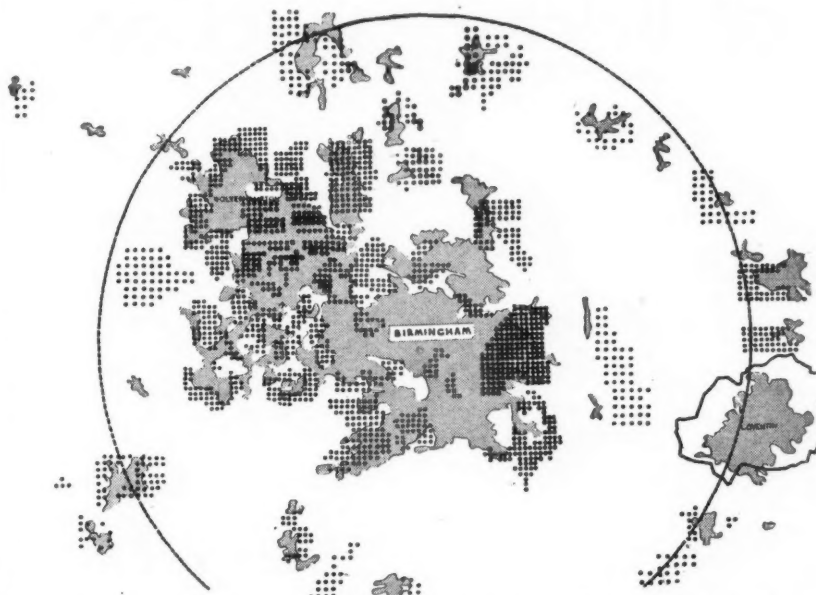
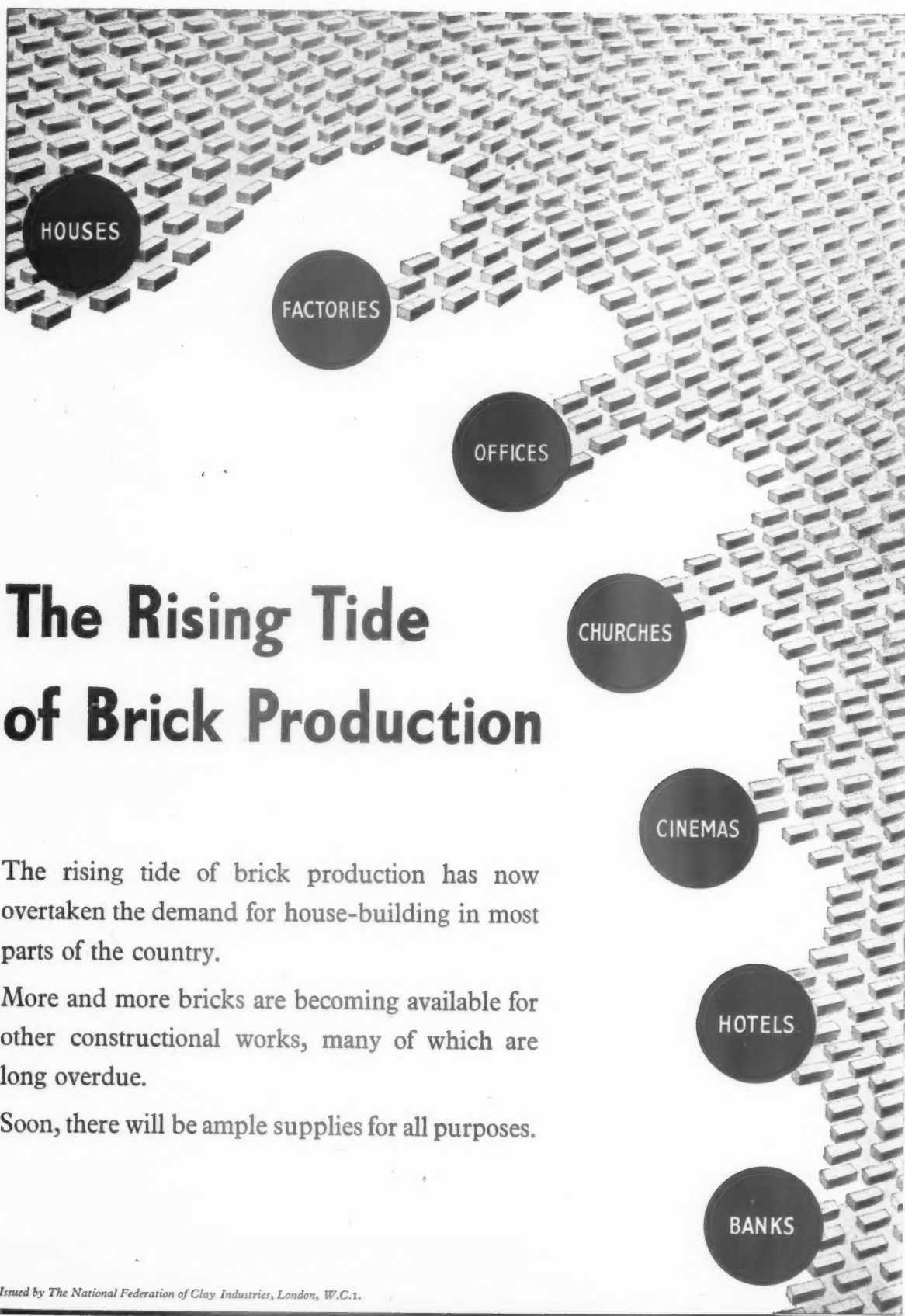


Fig. 2. Post-war dwellings. Distribution within sixteen miles of Birmingham. Main mass of 1945 built-up area shown shaded. Each dot equals fifty houses or flats. About 78,000 new dwellings.

and around the edges of these cities there were sites where, in all, some tens of thousands of new houses could be placed without need for costly preliminary or supplementary works. On the other hand, flats in central districts required expensive clearance of sites

and were slower and more costly to build than houses; and houses in new towns required, first, the movement of labour to a place where there was none, and then the provision, at least in theory, of everything else that a good town needs besides houses.



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Local politics and long custom added their great weight to the short-term economic argument. It was easy for a city to build within or near its boundary and almost impossible for it to build far afield. The ordinary citizen in his turn was accustomed to suburban expansion: it had been going on for a century. He was ready to move two or four miles out at his own expense if he could afford to buy a house, and if not to move to a local authority estate. To move 30 or 40 miles was quite another matter. It would mean going among strangers and losing a place on the housing list, and perhaps some educational advantages for his children. Lastly, for the MP or local councillor, a completed house—anywhere—was a definite unarguable fact and 1,000 were better still. The location or layout of the houses had no platform appeal at all.

These are the reasons why the first post-war houses were nearly all placed on the fringes of existing towns. As we navigated and bumped our way past the economic and other hazards of the decade our rulers never found the right moment to change back to the intended policy: nor even perhaps to look back. Short-term things dominated and on the whole short-term decisions seemed to be doing the country good. The new towns, schemes at Coventry, Lansbury, and a score elsewhere, and the National Parks, are tokens of what we had meant to do. There has not been much more.

RESOLUTIONS FOR THE SECOND TEN YEARS

What are the lessons of the first post-war decade that should be applied to what we do in the second? There seem four lessons that it would be very foolish to neglect. The first is that we should re-examine the ruling policy of redevelopment and decentralization in the light of all that has taken place since the war, that we should try to set down aims for the distribution of population that will command support as being realistic and worth working for. The central questions are redevelopment or decentralization or how much of each. But the key to the answers must lie in national policy on housing standards, subsidies and rents. Half of all our dwellings are privately owned and let at rents, and most of them have had little done to them in the way of repair for 16 years. It is said that the owners cannot afford to repair them. If it is true that restricted rents do not allow houses to be kept in good repair then, on the basis of current building costs, it seems that two out of every three householders in the country are now being subsidised. Again, a flat built by a local authority in the centre of a city may cost twice as much as a house built on the outskirts. These things demand non-party investigation. The time has surely come for a national inquiry into housing: on the location of old dwellings and new, their condition, the cost of new building and repairs, on subsidies, rents and the cost of the journey to work. The form of our cities must in the end embody a reasonable relationships between building costs and rents

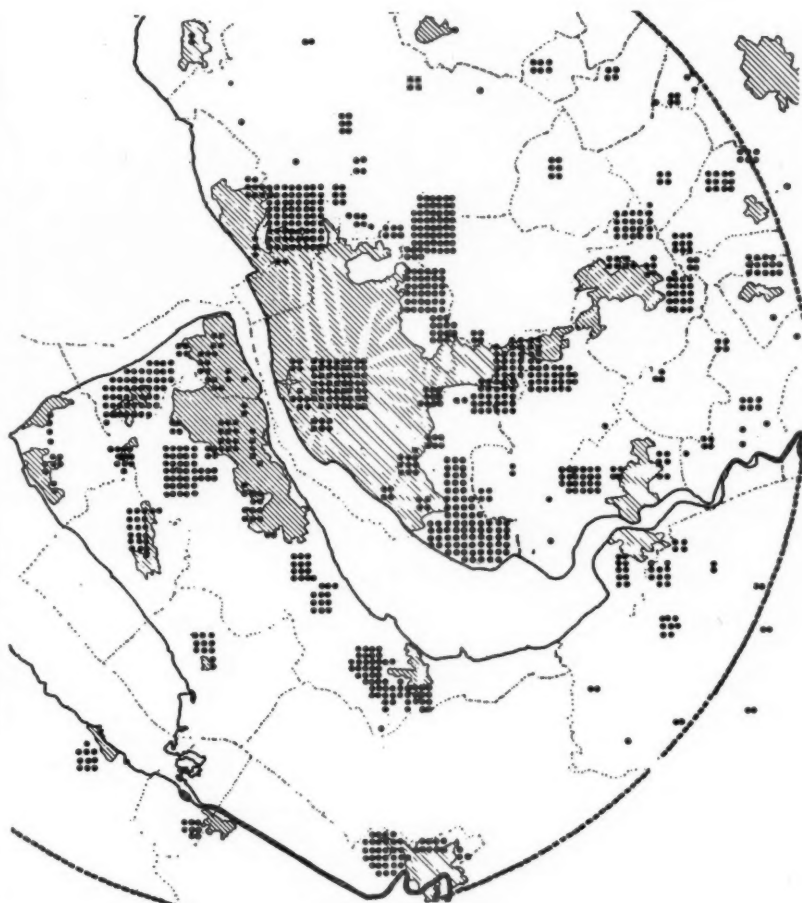


Fig. 3. Distribution of post-war dwellings on Merseyside. Main mass of 1945 built-up area shown shaded. Each dot equals 50 houses or flats. About 38,000 new dwellings.

as well as the dreams of planners and sociologists.

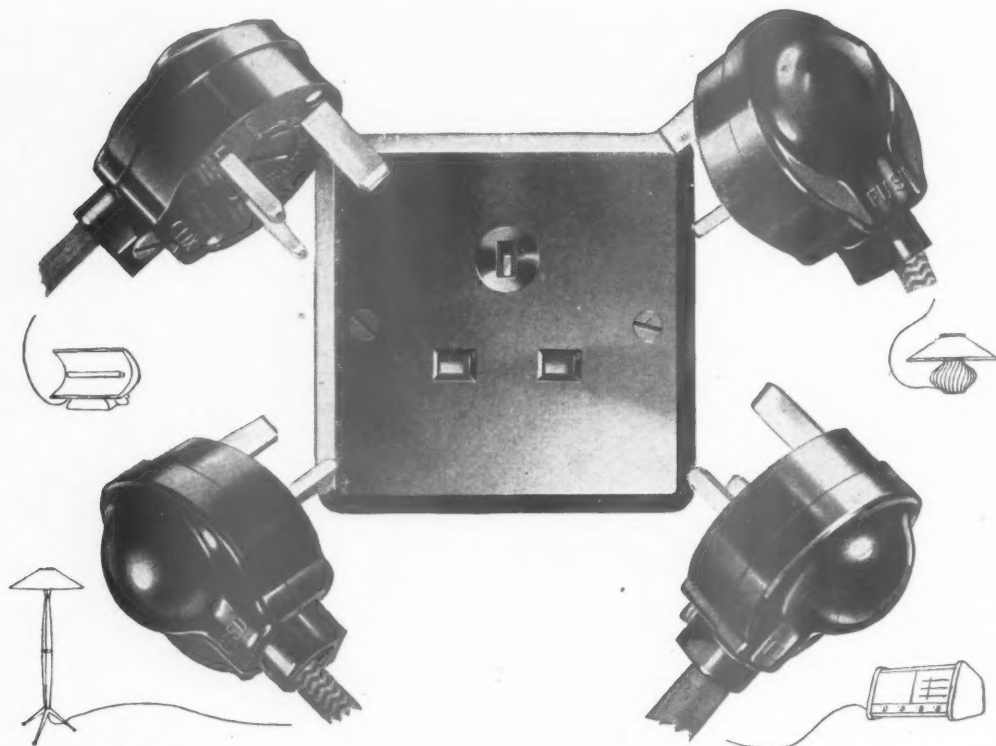
When housing policy on these central matters has been laid down we can return to the broader aspects of redevelopment and decentralization. On the one side are the great Victorian cities. They have great traditions, great momentum, huge investments. On the other side of the balance we have to place many things of less individual but increasing aggregate weight.

It is expected that within the next three years 1½ million additional motor vehicles will come on the roads—more than in all the 13 years from 1926 to 1939. Seventy per cent. of all goods now travel by road. The new trunk roads, so long awaited, will create new lines and points of development, just as the railways a century ago created Crewe, expanded Peterborough and mummified Stamford. Twelve atomic power stations are to be built in sparsely inhabited parts of the country and will offer the chance of developments in the Highlands or Wales comparable with the Canadian project of Kitimat. The Defence White Paper announced improvements to smaller ports and it has been alleged that existing ports have poor facilities for road-borne goods. The new towns have shown that energetic firms and people who move to them may gain

appreciable advantages and they also seem likely to pay their way on the strictest economic reckoning. Both the Government and a number of private firms have proved the advantages of moving the routine portions of large offices out of London. The process might well be extended. It has been pointed out that movement of an acre of factory decentralizes 120 people, whereas movement of an acre of office buildings decentralizes 1,200.

This list has been long enough, it is hoped, to suggest that there are strong forces making for decentralization; that it would be absurd to put in hand the new imminent reform of local government without taking account both of these forces and the overspill proposals of great cities; and that overspill must be greatly affected by policy on subsidies.

If this be the first lesson of the decade the second follows automatically. The most authoritative recommendations on the aims of future policy would be worthless unless measures to achieve them were guided by a Ministry which meant to fulfil them: unless there is "a deliberate attempt to form the future." All three of the great war-time enquiries recommended that this attempt should be made and the National Government accepted the need for it.



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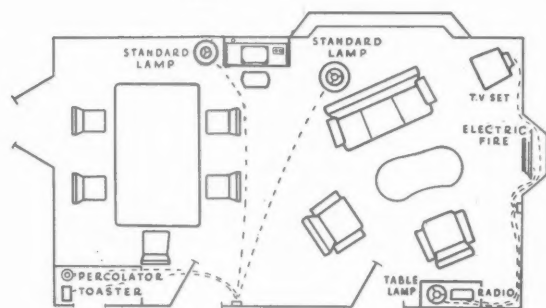
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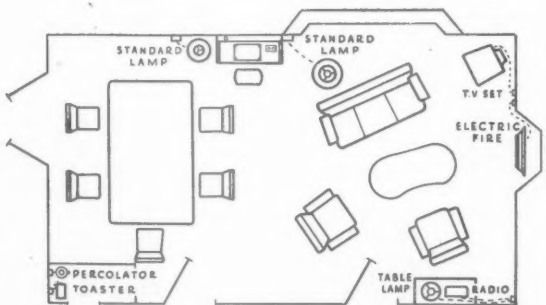
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THE DECAY OF CENTRAL GOVERNMENT PLANNING

The past ten years have seen the abandonment of the idea of guiding the pattern of development, other than locally, by Governments of both parties; and what was done during the war to prepare the way has been whittled away again. The independent Ministry of Town & Country Planning, set up in 1943, had a strong Research Division. In 1951 the Ministry was amalgamated with Housing & Local Government (with which, of course, its local planning work was closely connected); and a new Minister, not a Conservative, both played down the Ministry's duty to conduct research, and suggested that responsibility for seeing that each of the 154 local plans was in line with national policy rested mainly with the local authority. In 1952 the word "planning" was dropped from the Ministry's title.

A little later the Town Development Act offered, as we have seen, a possibility of a good beginning of regional decentralization by direct bargains between big and small towns. It is not at all surprising that big financial difficulties were met—difficulties which mainly arose from housing subsidies. It is surprising that the Minister should not have welcomed the idea—the thoroughly British idea of obtaining national planning by local option and local initiative. Yet it was so. A year ago the House of Commons was told that during the next three or four years the number of dwellings built to assist long distance decentralization was not likely to exceed 15,000 a year or 5 per cent. of total production. The Minister may have been unwilling to give any shakes to a local government structure that was promised early reform, and at a time when some progress was being made towards agreed reforms.

The attitude seems one that his successor cannot maintain. Birmingham, Manchester and other large cities have used nearly all the land available for houses within or near their boundaries, if they are not to sell the future by taking land needed for schools, open spaces and other necessary things. Within the next year or two, those cities must work out a policy for overspill that is reasonably precise on numbers, location and timing, or they must be allowed to sprawl much further out as needs compel. A national committee could lay down broad principles, but only a vigorous Minister in charge could guide their application through all the difficulties of local and regional plans, the long-delayed local government reforms and the three-value compromise solution now in force for land purchase.

THE REHABILITATION OF CENTRAL AREAS

The third lesson is that we should examine as searchingly as we can the probable future use of the blighted districts of the great Victorian cities, to which we all owe so much. Indeed, this may be called the proper starting-point for study of the future distribution of the population.

The present intention is to wipe out the hundred or two hundred square miles of slum, decay and ugliness and to replace them

—in the main—with new houses and flats at a cost of £50,000 to £100,000 per acre. That is the intention, backed in a general way, by both parties, but there are times when one wonders how real it is. A large part of blight has been caused by the type of people for whom houses were built leaving the district, by subsequent neglect both of improvements and ordinary repair and maintenance, and by intrusion of factories and workshops into residential districts. It is now intended to remove many of the factories (at a cost to the local authority of up to £100,000 an acre) or to improve and repair the houses.

Is there any alternative to this policy? As an answer one may list the factors likely to help the redevelopment or improvement of central districts for residence, and those likely to hinder it.

It would be helped by a high cost of public transport, by the proposed cleaning of the air of central districts, by the convenience of a home near work and the city centre and by local loyalties. It would be helped most of all by the fact that many existing houses could be put in good repair for a moderate sum and by a continuance of subsidies weighted in favour of central flats.

It would be hindered—perhaps even halted—by changes in subsidies. We must not close our eyes to this. The social revolution is still with us and the social promotion obtainable by moving to the suburbs, where private builders are now busy, will come within reach of an increasing number of families. A lowering of subsidies might encourage more people to try to buy their own houses. On the other hand, a much larger number of families have become accustomed to pay for house-room a smaller proportion of their income than was usual before the war. This change requires careful study. If better food, holidays, a washing machine and television are preferred to more house-room, large changes will be needed in existing plans for towns and houses.

At present the main choice is between heavy subsidies in the centre and small houses on the outskirts. There may be a third way out if we could manage to remove all traces of slum, so as to attract into it people and institutions who could pay their way as well as those who can't. This would demand far more imagination, public spirit and speedier action than have yet been brought to bear.

HOW TO GET GOOD PRIVATE DEVELOPMENT

The last lesson concerns the building of houses by private enterprise. Up to now five-sixths of post-war dwellings have been built by public authorities. Nearly all have been designed with reasonable competence, and have been laid out with some attention, quite often with close attention, to a proper relation between houses, shops, schools, roads and all other uses of land.

We have now entered a period when private house building is quickly increasing—this year 100,000 may be completed. In principle this is a most welcome change. The danger is that the country will be so eager to reduce housing subsidies that it will adopt almost

any means that promises to do so, and that all we have learnt about house building in 20 years may be thrown away.

We have learnt that the satisfaction given by a house depends both on the house itself and its relation with all its surroundings: garden, other buildings, roads, the whole neighbourhood and the town centre. Nine-tenths of private enterprise houses between the wars were neither well designed nor paid any attention to location or layout. They showed no initiative at all in design, materials or arrangement, and too many were badly built. They were just a little cheaper and nastier, or a little more expensive and showy than the others round the corner. One remembers also that the building societies invested £1,300 million in house mortgages between the wars, and did not finance any competition, enquiry or programme of research designed to improve the vital product on which their fortunes rested.

There is therefore just cause for anxiety that the great majority of post-war private enterprise houses show no signs that those who built them have learnt anything since 1939 on matters of layout, design or equipment. They are again being built in two's and four's, their designs reflect little of the social revolution that must give precedence to the kitchen, the car and low maintenance costs, and less of all that has been learnt and published by the Ministries, the Building Research Station, the new towns and the best local authorities.

The only way to obtain all round good value in houses now is to build them in large contracts, 500 or at least 250 together. This cuts costs and enables houses to be well laid out and well related to other buildings and bus routes, and gives the owner protection against all the hazards—from road charges to rubbish dumping—that so often follow purchase of houses built on the one at a time method. Moreover, it enables shops and small open spaces to be provided for as part of the general layout.

THE KEY POSITION OF THE BUILDING SOCIETY

The interest of the public, the building society and the individual house owner are thus identical. What is lacking at present is an agency to play the part of the best landlord developers of the past. A local authority, housing association, big contractor or building society could do this. The most suitable agency is surely a building society. The building societies have the interest, the finance, the long-term outlook and much of the technical knowledge. To extend their view from the individual house to the community of houses, to call in aid the best technical and scientific advice, to seek a form of ownership that will give a householder the security of freehold and the added security of living in an estate that is well laid out and well managed—these things should be within the power of the great societies. At lowest they offer the one way to obtain the number of new mortgages for which the societies hope. They may also be called extensions of responsibility demanded of the great societies by the march of events and the social revolution.

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12.5.55

Announcements

The architects of Trinidad and Tobago have formed an Architectural Society, under the name of The Trinidad and Tobago Society of Chartered Architects. The first chairman of the Society is Mr. A. Prior, F.R.I.B.A., and Mr. J. R. Firth, A.R.I.B.A., is honorary secretary/treasurer, and communications should be addressed to him at Works & Hydraulics Department (Architectural Branch), 1, Edward Street, Port of Spain, Trinidad, BWI. It is hoped that the Society will eventually become allied with the RIBA.

Mr. George A. Smith, A.R.I.B.A., A.M.T.P.I., has resigned his appointment with the Department of Health for Scotland and his new address is c/o Messrs. Wm. Broadbent, Thompson & Wilson, Chartered Architects and Surveyors and Town Planning Consultants, Hillary Chambers, Hillary Place, Leeds, 2 (telephone number: Leeds 34861/2), where he will be pleased to receive trade literature.

Mr. Anthony Deacon, A.R.I.C.S., Chartered Quantity Surveyor, has commenced in private practice on his own account at Fitz-Eylwin House, 25, Holborn Viaduct, E.C.1.

The address of Messrs. Richard Sheppard & Partners has been changed to 5, Southampton Place, W.C.1, telephone number, CHAncery 4261-5.

Mr. Anthony S. Hunt, A.R.I.B.A., A.A.DIPL., has been appointed Government Architect to the Government of Qatar, Doha, Persian Gulf, where he would be pleased to receive trade catalogues, etc.

Messrs. Morter & Dobie, F/R.I.B.A., will be joined in practice as and from July 1, 1955, by Messrs. W. P. Horsburgh & Son, F.R.I.B.A., will be known as Messrs. Morter & Dobie, incorporating William P. Horsburgh & Son, at 2, Exchange Street East, Liverpool, 2.

The Georgian Group, formerly of 25-34, Grosvenor Place, is now at the following address: c/o R. H. Davies, Esq., 44, Lowndes Street, S.W.1, telephone number, BEL-gravia 3081.

Messrs. Ruddle & Wilkinson, Chartered Architects, are opening an office at 32, Hall Place, Spalding (telephone: Spalding 2132), which will be in the charge of Mr. Ronald Stanley, A.R.I.B.A., who will be pleased to receive trade catalogues.

Mr. Arthur Swift, A.R.I.B.A., practising as Messrs. Arthur Swift and Partners, has moved from 1, Duke Street, to 16, Manchester Square, W.1.

Colin and Mary Oates, A./A.R.I.B.A., have moved to New Place, Whiteleaf, Monks Risborough, Aylesbury, Bucks, which will be their permanent address.

Mr. Robert Steven, A.R.I.C.S., Chartered Quantity Surveyor, has opened a new office at Aldwych House, Aldwych, W.C.2 Temporary telephone number, CHAncery 3532/3.

Messrs. Davies & Arnold, F.R.I.B.A., have moved to 44, Lowndes Street, S.W.1 (telephone number: BELgravia 3396).

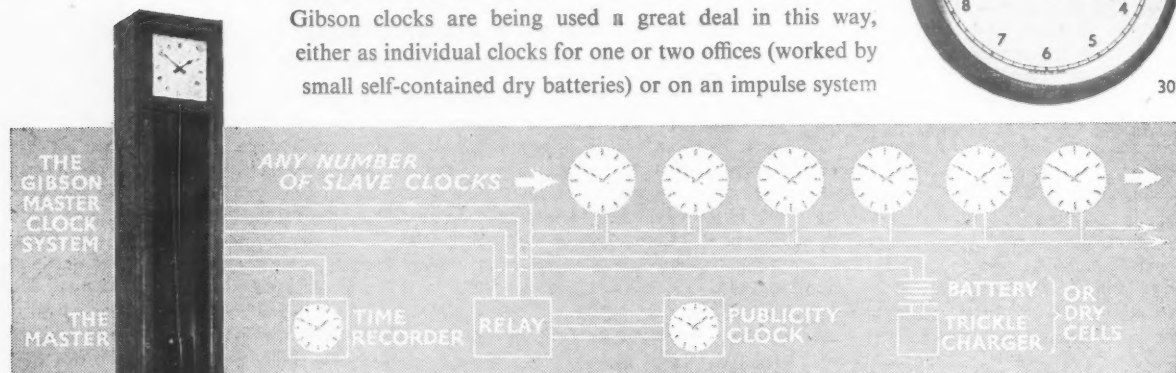
Corrections

In our feature on the Holloway Road School, N.1. (AJ, March 21) we described the diagonal-beam grillage roof as a "diagrid roof." We now learn that the word "Diagrid" is the registered trade mark of Diagrid Structures Ltd., a subsidiary of Trussed Steel Co. Ltd., and that it should not be used in a generic sense. We are sorry for our mistake.

Geoffrey Dunn is a director of the Bromley Building Society, not the director as ASTRAGAL wrote on April 21.

PLAN for CLOCKS

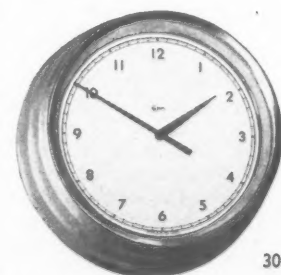
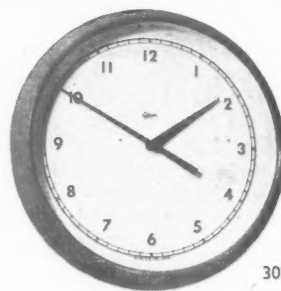
In the newest and best buildings the clocks are regarded both as architectural features and essential amenities; they go in before the walls are plastered. Gibson clocks are being used a great deal in this way, either as individual clocks for one or two offices (worked by small self-contained dry batteries) or on an impulse system



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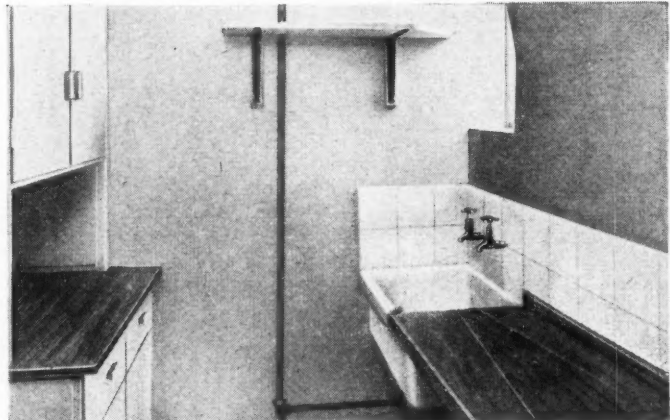
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AND THIS

In the kitchen adjoining the sitting-room, convected warm air is turned on or off as desired.

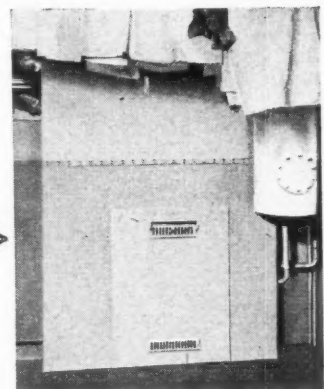
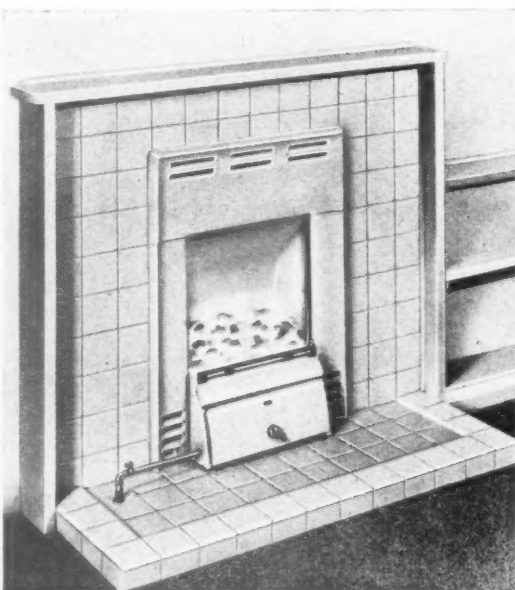
AND THIS

Standard fuel supply for the fire also keeps hot water on tap in the bath room. Radiation's low-priced Swan White baths (the Magna, for example!) are popular installations in these new conversions.

FROM THIS

The CHEVIN Convector Fire

For Technical Information sheets, also the booklet "Modernising The Older House," write to the address below.

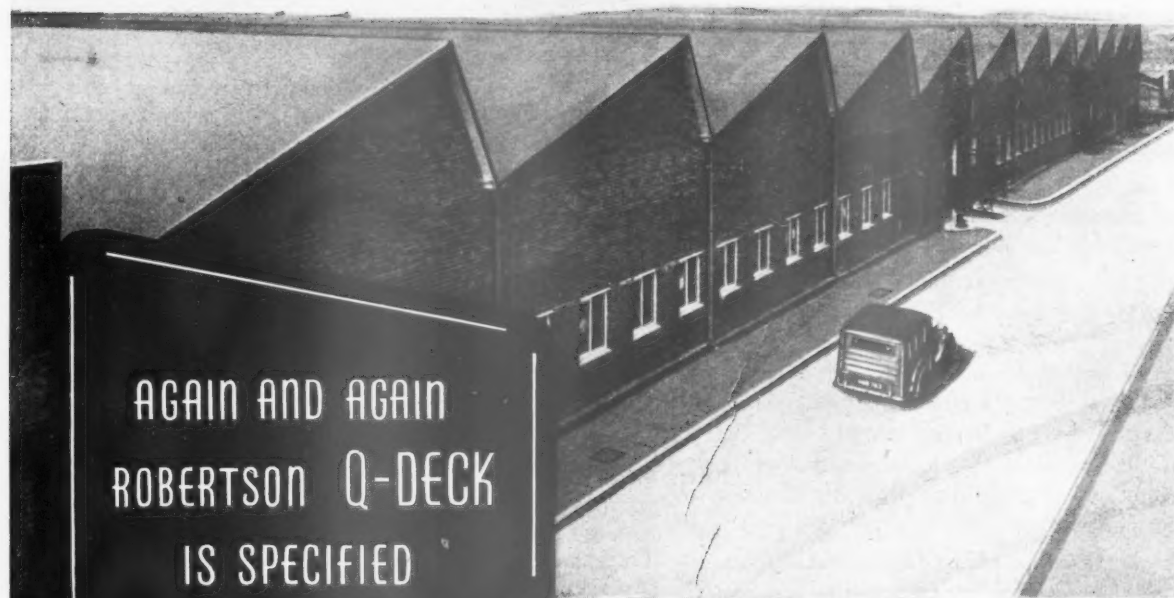


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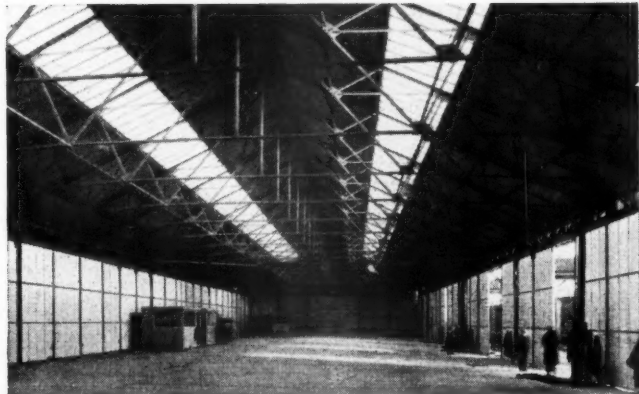
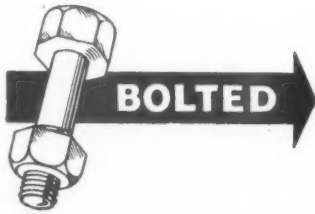
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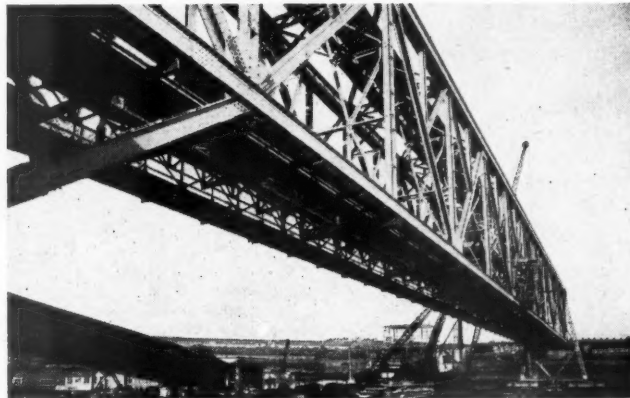
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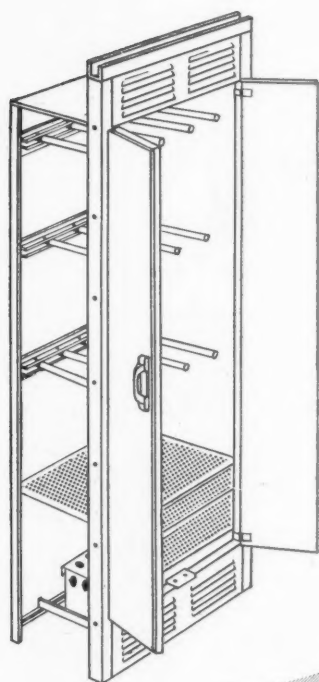
Built-in..

or free standing

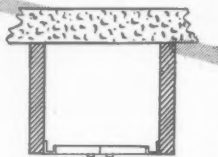
The Flavel Clothes Dryer is constructed in order that this may be supplied as a complete unit, or alternatively for building into a recess or corner, by utilizing the main frame assembly and component parts.

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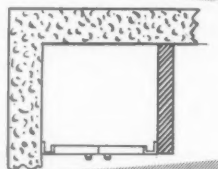
The dryer is large enough to contain an average weekly wash hanging on eleven tubular Bakelite rails at three different heights. A guard is provided above the burner unit and the gas rate controlled by means of a constant pressure governor.



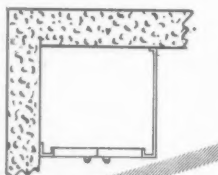
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Corner installation with breeze block right hand side.



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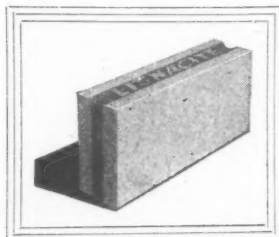
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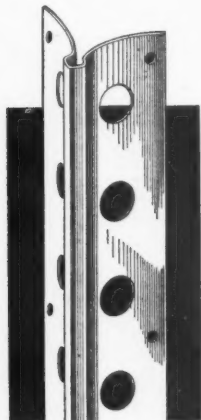
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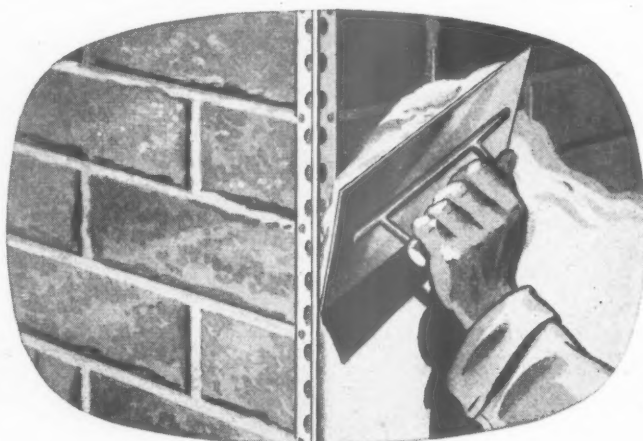
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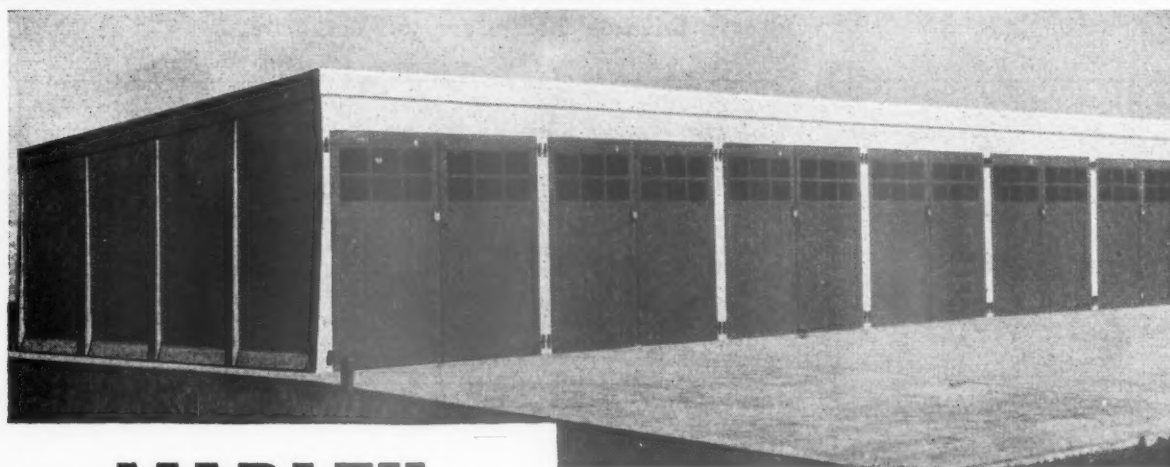
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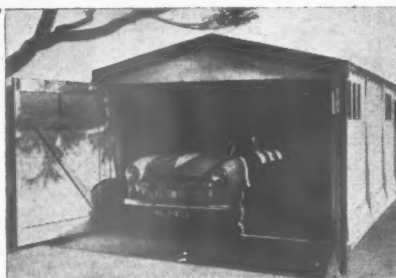


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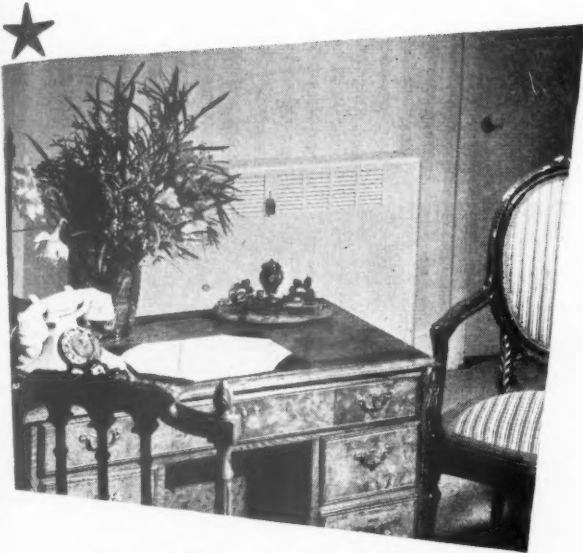
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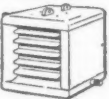
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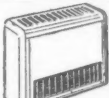
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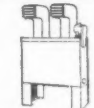
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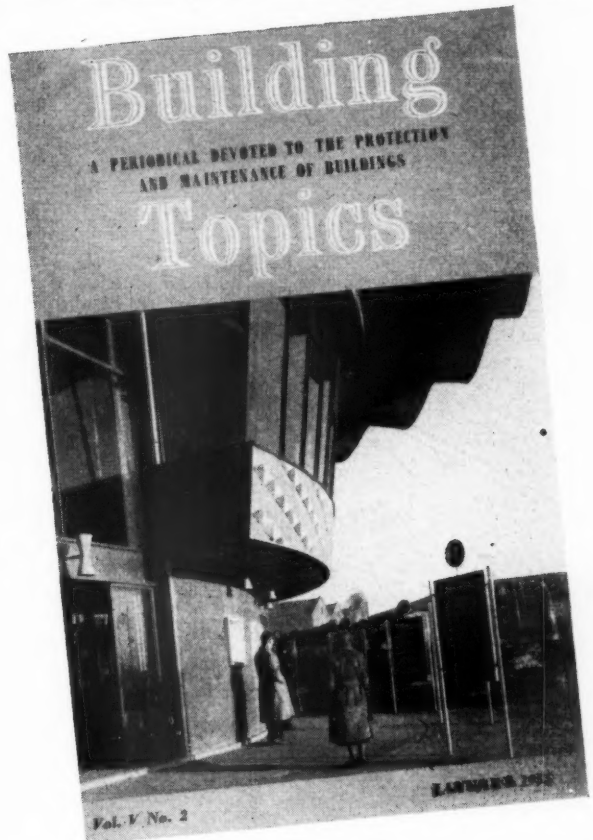
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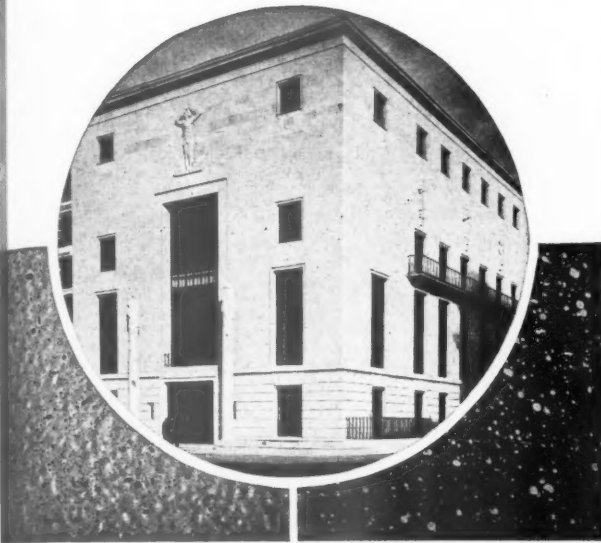
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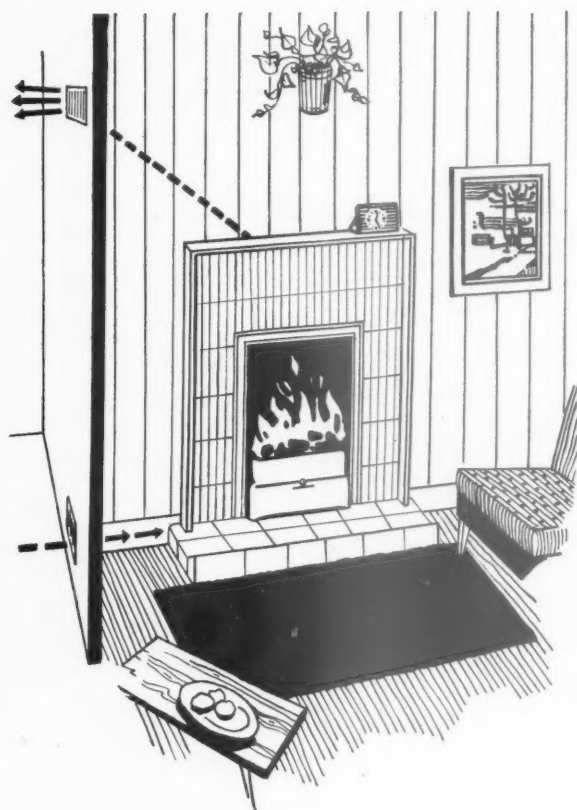
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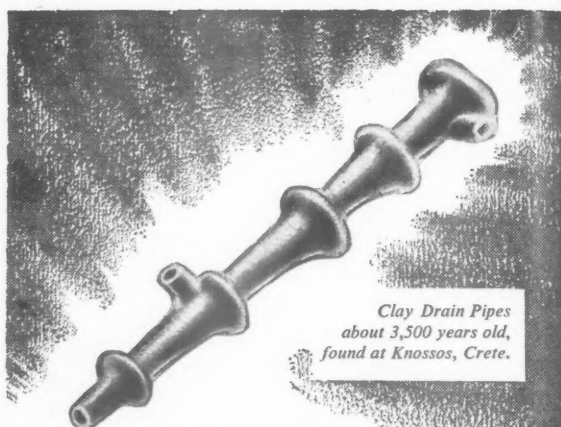
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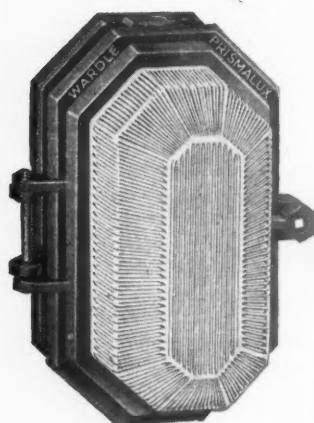
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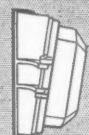
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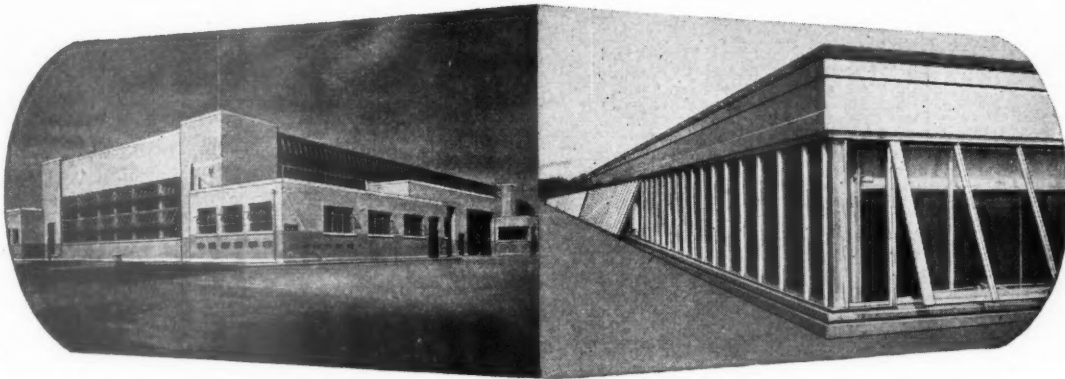


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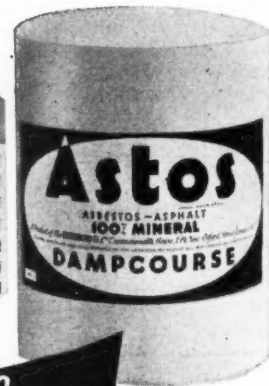
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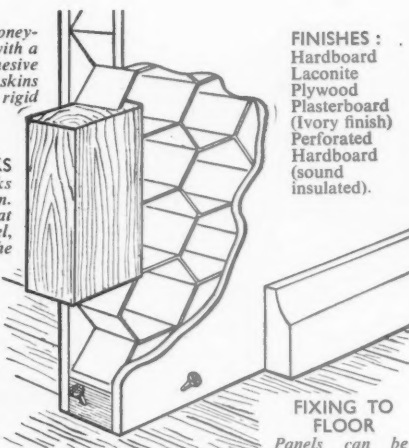
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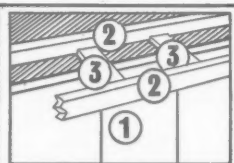
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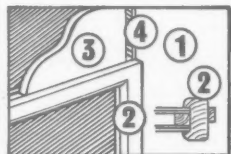
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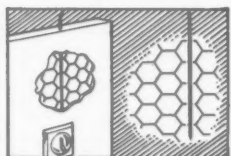
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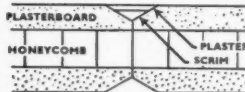


Door casings can be fitted anywhere in the panel. (1) Panel. (2) Door casing (also shown in section). (3) Panel above door. (4) Long stile casing cut back above door head to receive plaster board.



Panels are easily pierced for wiring by pushing a bullet-pointed rod through the panel core at the required position.

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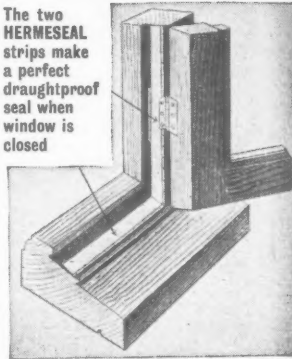


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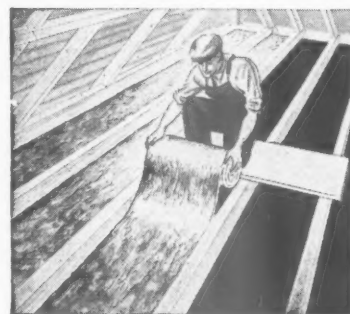
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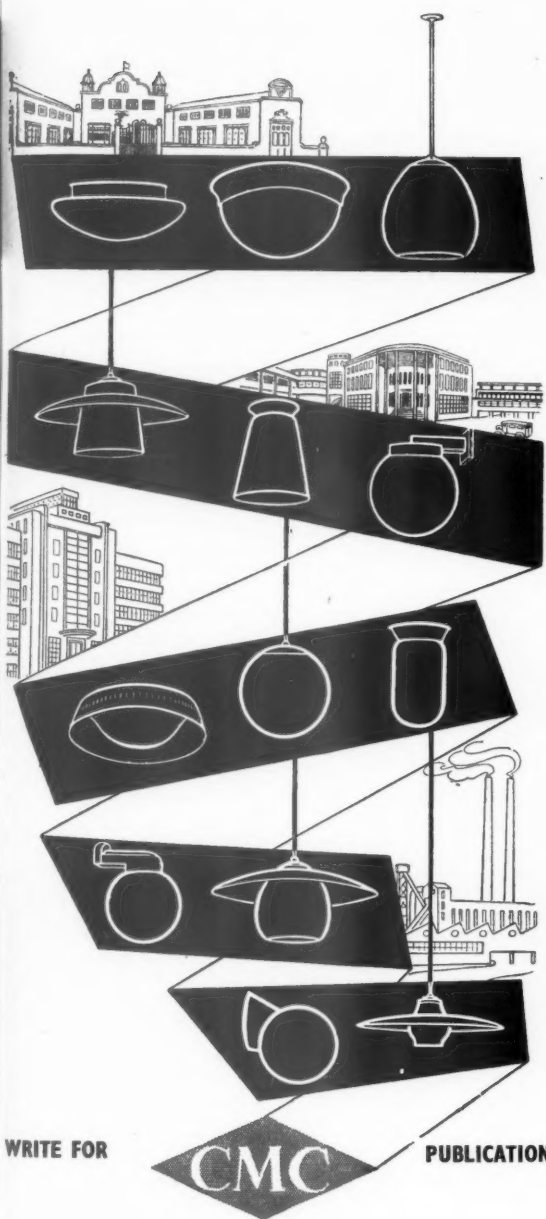
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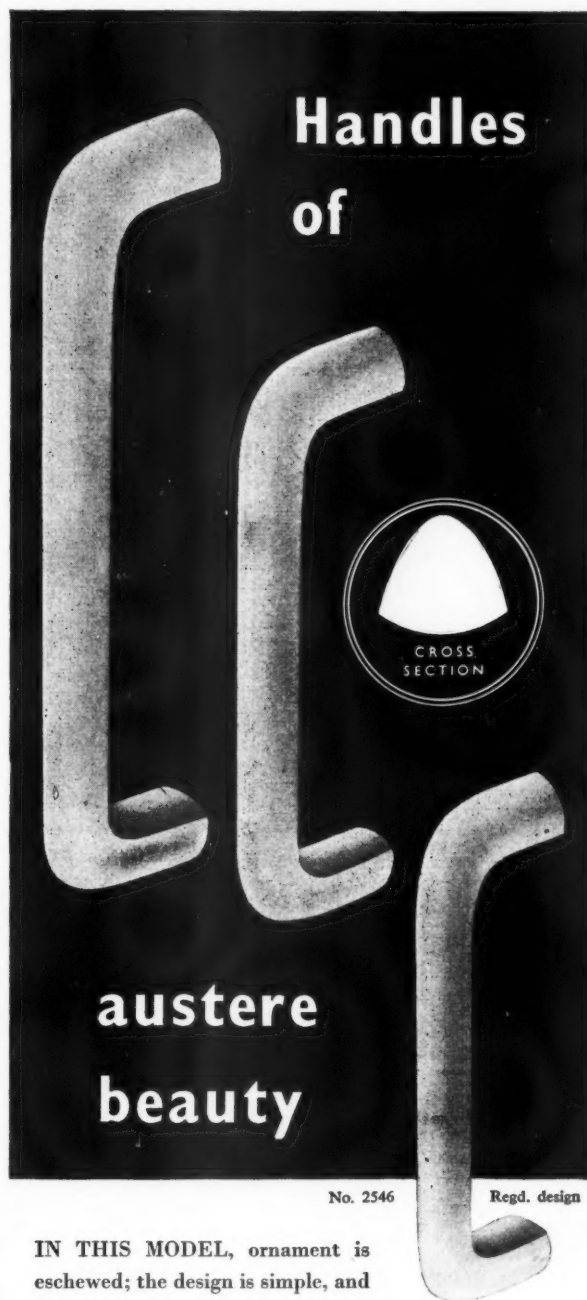
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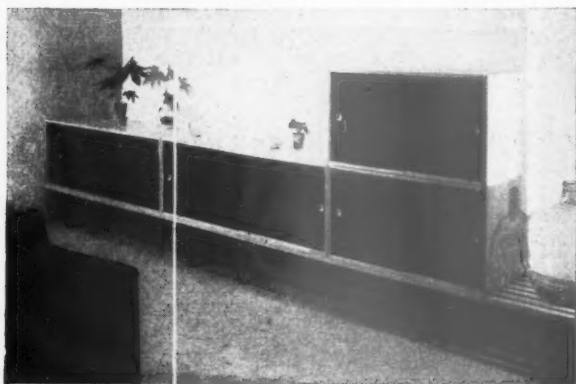
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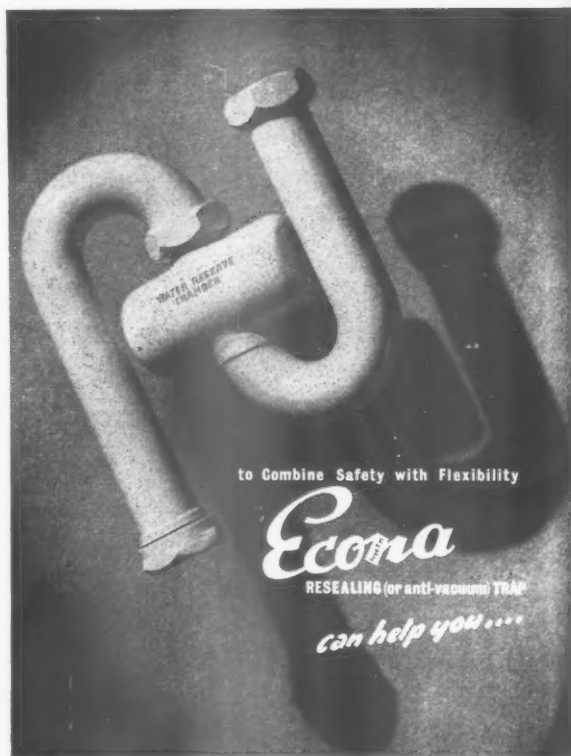
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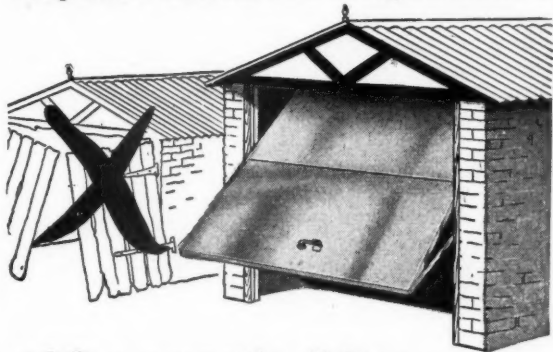
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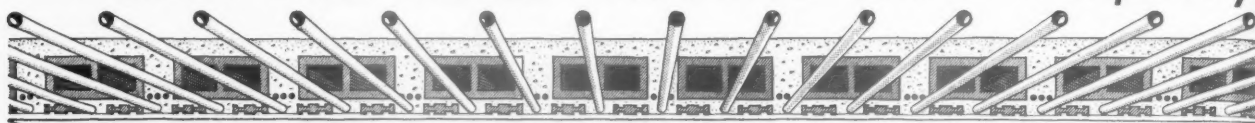
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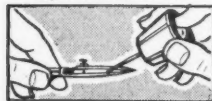
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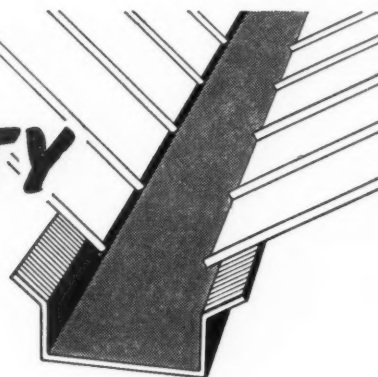
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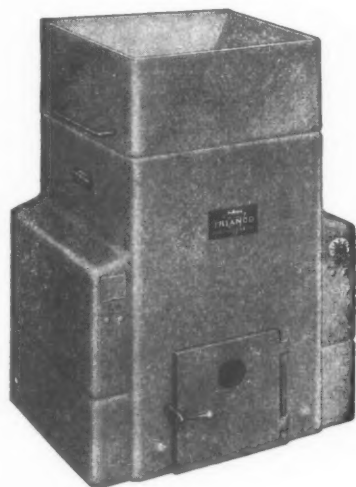
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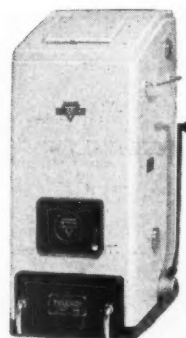
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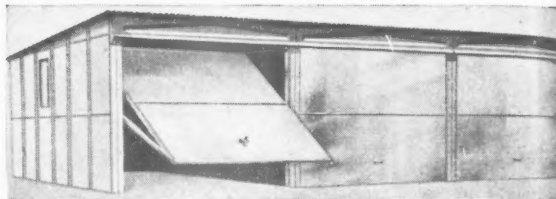
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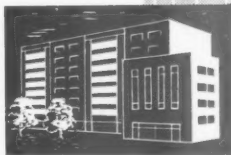
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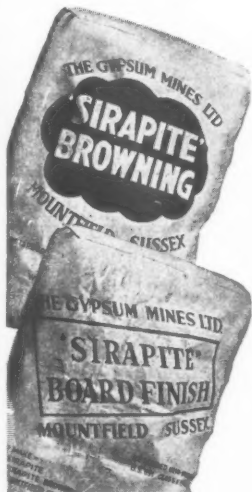
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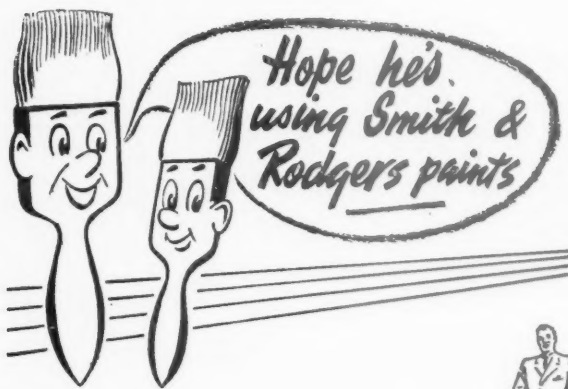


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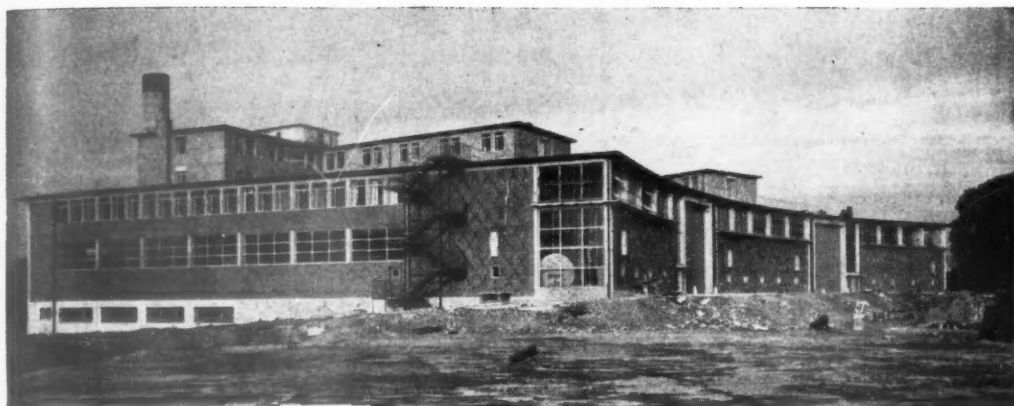
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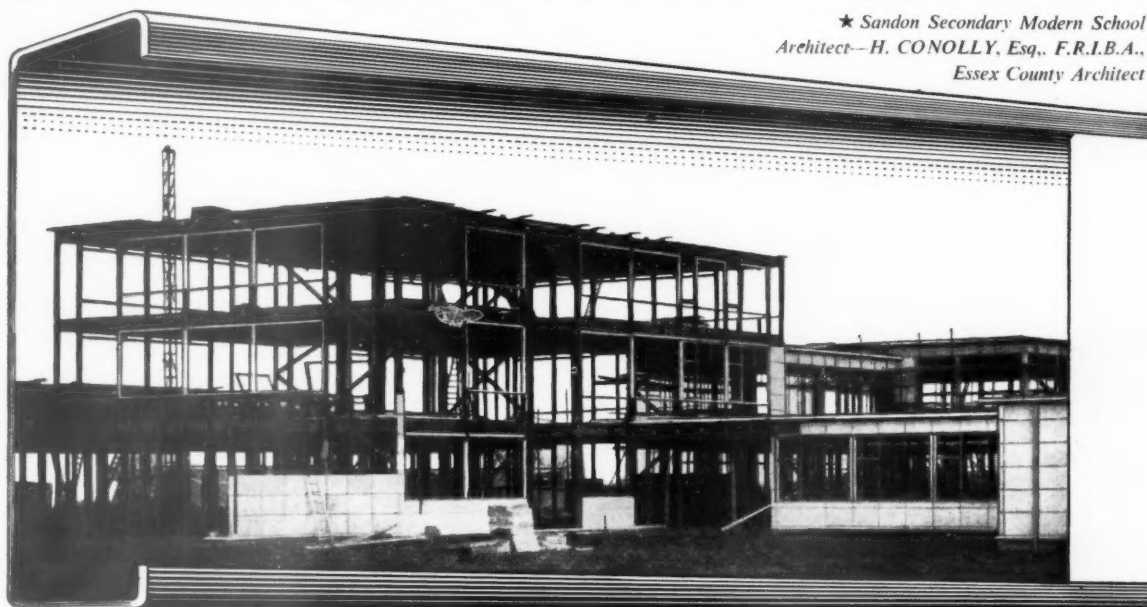
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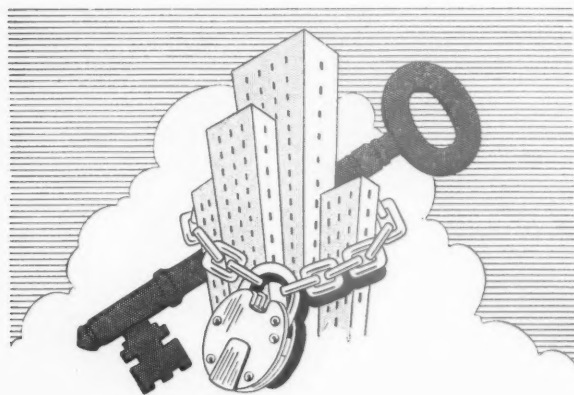
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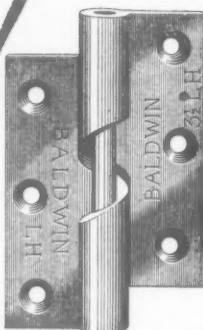
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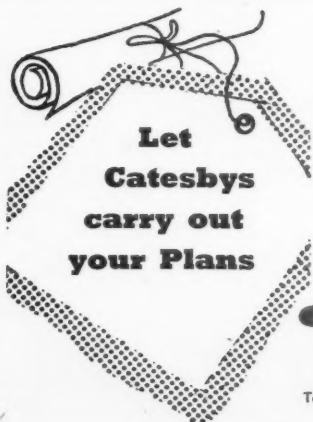
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CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

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

COUNTY BOROUGH OF STOCKPORT.

ARCHITECTURAL ASSISTANTS. Education Dept. Salary £675×£30-£825. Conditions of appointment and application forms from Director of Education, Town Hall, Stockport. 9733

CAMBRIDGESHIRE COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT. Applications are invited for the following appointments:—

(a) TWO QUANTITY SURVEYORS, Grade A.P.T. IV (£675 to £825).

Applicants should be chartered surveyors, and should have had considerable experience in all duties of quantity surveying, including site measuring and final accounts.

(b) TWO ASSISTANT ARCHITECTS, Grade A.P.T. V (£750 to £900).

Applicants must be Registered Architects, and preference will be given to Members of the Royal Institute of British Architects. They should have a knowledge of modern school design and construction, the preparation of specifications and site supervision.

(c) THREE ARCHITECTURAL ASSISTANTS, Grade A.P.T. II (£550 to £640).

Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects, or its equivalent at one of the recognised Schools of Architecture, and have worked in an architect's office for a period of two years. They should have a good knowledge of construction and details, and be able to prepare drawings from preliminary sketches.

(d) ONE ARCHITECTURAL ASSISTANT, General Division (£170 to £475).

Applicant should be neat and expeditious draughtsman. Salary according to age and experience.

The appointments are subject to the Local Government Superannuation Acts, 1937 to 1953, the National Scheme of Conditions of Service, a satisfactory medical examination, and termination by one month's notice on either side.

Applications, stating age, present salary, present and previous appointments, details of training and experience, together with one recent testimonial and the names and addresses of two referees, should be submitted to the undersigned not later than 18th May, 1955.

CHARLES PHYTHIAN,

Clerk of the County Council.

Shire Hall, Cambridge. 9716

BOROUGH OF BARNES

TWO TEMPORARY ARCHITECTURAL ASSISTANTS, A.P.T. GRADE II.

Applications are invited for the above appointments at a salary of £580 × £20-£660 per annum. Candidates should be good draughtsmen, and be capable of preparing plans and details for general architectural work.

Applications, giving the names of three persons to whom reference can be made, must be sent to the undersigned not later than Saturday, 21st May, 1955.

W. R. SHEPHERD, A.M.I.C.E., F.R.I.C.S.,

Borough Engineer and Surveyor.

Municipal Offices, Sheen Lane, S.W.14. 9788

CITY OF NOTTINGHAM.

HOUSING ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(a) One ASSISTANT ARCHITECT, at a salary in the A.P.T. Special Grade, £650 × £25-£775. Applicants should have passed Parts I and II of the R.I.B.A. final or special final examination and have had at least 5 years' experience (including theoretical training).

(b) One ARCHITECTURAL ASSISTANT, at a salary in Grades A.P.T. I and II £500-£640, according to qualifications and experience. Applicants should have passed the intermediate examination of the R.I.B.A.

The appointments will be subject to the National Joint Council's Scheme of Conditions of Service.

Applications, stating age, qualifications, experience, present appointment and salary and naming two referees, should be sent to the City Housing Architect, The Guildhall, Nottingham, by the 3rd June, 1955.

T. J. OWEN,

Town Clerk.

The Guildhall, Nottingham. 9904

BOROUGH OF WIMBLEDON.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT on the established staff.

Salary in accordance with Grade A.P.T. I, £500 to £580 per annum. London weighting additional. Applicants should have attended a full-time course of Architecture and to have passed the R.I.B.A. Intermediate Examination or its equivalent; experience in Municipal architectural work would be an advantage. The appointment is subject to the National Scheme of Conditions of Service, the provisions of the Local Government Superannuation Acts, and to a satisfactory medical report. Applications, endorsed "Architectural Assistant," stating age, qualifications, former Local Government Service, present and previous appointments and experience, length of notice required to terminate present appointment, and the names of three referees, must be forwarded to the Borough Engineer and Surveyor by the 23rd May, 1955. Candidates must disclose in writing to the undersigned, if, to their knowledge, they are related to any member or senior officer of the Council. Canvassing disqualifies.

FRANCIS J. O'DOWD,

Town Clerk.

Town Hall, Wimbledon, S.W.19. 9791

HORNCHURCH URBAN DISTRICT COUNCIL.

Applications are invited for posts of ARCHITECTURAL ASSISTANT:—

(a) Grade IV-£675-£825-Temporary.

(b) Grade III-£600-£725.

Applicants for post (a) must be Associates of the R.I.B.A. with considerable experience, and preference will be given to candidates who have served with a Local Authority and been engaged on work in connection with town redevelopment schemes.

Applicants for post (b) should have completed professional training and have passed the Intermediate Examination of the R.I.B.A. and had at least 5 years' previous experience, preferably with a Local Authority.

Applications, on forms obtainable from the undersigned, must reach me not later than Saturday, 21st May, 1955, in envelopes appropriately endorsed.

P. L. COX,

Clerk of the Council.

Council Offices, Billet Lane, Hornchurch. 9803

LINDSEY COUNTY COUNCIL.

PLANNING DEPARTMENT.

Applications are invited for the appointments of:—

(a) SENIOR ASSISTANT (ARCHITECTURAL) at Headquarters, Lincoln. A.P.T., IV (£675-£825).

(b) ASSISTANT at Divisional Office, Louth. A.P.T. I (£500-£580).

Successful candidate for (a) will be in charge of the architectural work of the department, and should have experience in dealing with re-development schemes, housing layouts and architectural control. This appointment involves responsibility and provides a wide scope for an architect who is interested in the related architectural/planning problems of a County Planning Authority. Membership of R.I.B.A. essential.

Applicants for (b) should have completed not less than three years' professional training in planning, architect's or engineer's office, and be expert draughtsmen.

Superannuation and N.J.C. conditions of service. Allowance of 25s. per week and return fare home bi-monthly payable for up to six months to married men unable to find housing accommodation. Post (a) requires officer to provide own car for official journeys, for which allowance will be paid at essential user's rate for car not exceeding 10 h.p. or 1.214 c.c.

Applications, with full particulars of age, training, qualifications, experience, and names and addresses of two referees, to be in my hands by 20th May, 1955. Canvassing will disqualify. Relationship to any member or senior officer of the Council to be disclosed in writing by applicants.

R. L. STIRLING,

County Planning Officer.

The Castle, Lincoln. 9778

EASTERN REGIONAL HOSPITAL BOARD.

SCOTLAND.

(a) ARCHITECTURAL ASSISTANT. Salary

£465-£650.

(b) ASSISTANT QUANTITY SURVEYOR.

Salary £625-£890.

Candidates for post (b) must be corporate

members of the R.I.C.S. with experience of the

Scottish Mode of Measurement.

(c) TEMPORARY CLERK OF WORKS to supervise new building and alteration works at Maryfield Hospital, Dundee, for a period of approximately two years. Salary within the range of £9 10s.-£13 10s. according to qualifications and experience.

Applications, including names and addresses of three referees, should be sent to the Secretary, Eastern Regional Hospital Board, "Braeknowe," 430, Blackness Road, Dundee, not later than 14 days after insertion of this advertisement. 9870

LONDON COUNTY COUNCIL.

Architects and surveyors required for safety regulations of theatres and special buildings, and for general building regulation work. Salaries up to £892 10s., according to experience. A.B.I.B.A. or A.R.I.C.S. essential. Particulars and application form from Architect (AR/EK/TBB/3), The County Hall, S.E.1. (848) 3487

EAST ANGLIAN REGIONAL HOSPITAL

BOARD.

Department of the Regional Architect (Guy Aldis, A.R.I.B.A., A.A.Dipl.) for planning of a scheme for the major development of a General Hospital which the Board is about to undertake.

(1) SENIOR ASSISTANT ARCHITECT—Candidates must be qualified and registered architects and should possess experience in planning large schemes. Salary £900 × £30-£1,050 per annum.

(2) ASSISTANT ARCHITECTS—Candidates must be qualified and registered architects and possess good general experience in design, construction and specification writing. Knowledge of hospital work desirable. Salary £625-£890 per annum.

(3) ARCHITECTURAL ASSISTANTS—Intermediate Examination of R.I.B.A. or recognised equivalent essential. Candidates must have had experience in architectural work. Salary £465 (at age 21 or over)-£650 per annum.

(4) DRAUGHTSMEN—Candidates must have had suitable training and experience in architectural work. Salary £380 (at age 21 or over)-£570 per annum.

(5) ASSISTANT QUANTITY SURVEYOR—Candidates must hold, or have previously held, Corporate Membership of R.I.C.S. and have had experience in preparation of preliminary estimates, taking off and preparation of Bills of Quantities, site measurements, valuations for interim certificates and settlement of final accounts, etc. Salary £625-£890 per annum.

(6) QUANTITY SURVEYING ASSISTANT—Candidates must have passed Intermediate Examination of R.I.C.S. or examination recognised by Institution as equivalent. Person appointed will be responsible for working up Bills of Quantities, assisting in site measurements and taking off. Salary £465 (at age 21 or over)-£650 per annum.

(7) JUNIOR (MALE), for squaring dimensions, abetting and giving general assistance to the official staff of Quantity Surveying section. Salary £170 (at age 16)-£370 (at age 25).

Additional increments within the scale based on experience and age may be granted in respect of posts (2) and (5). Commencing salary for posts (3) and (6) may be fixed at point above minimum but will not exceed £550 per annum.

Applications indicating appropriate post and stating age, qualifications, experience and details of present position with names of three referees to Secretary of Board, 117, Chesterton Road, Cambridge, by 31st May, 1955. 9907

CITY OF OXFORD.

CITY ARCHITECT AND PLANNING

OFFICER'S DEPARTMENT.

Vacancy for ARCHITECTURAL ASSISTANT within the salary range £550-£775 per annum.

Candidates must have passed the Final Examination of the Royal Institution of British Architects, and be capable of preparing sketch designs, full working drawings, specifications, etc., and competent to undertake housing, educational and general architectural work. Permanent pensionable post; medical examination.

HOUSING ACCOMMODATION if required, will be provided by the Council.

Form of application and conditions of appointment from the City Architect and Planning Officer, Town Hall, Oxford, to whom completed forms must be returned by 21st May, 1955.

HARRY PLOWMAN,

Town Clerk. 9832

LONDON COUNTY COUNCIL.

Grade III ENGINEERS (salary up to £392 10s.) and SURVEYING ASSISTANTS (to £739 10s.) required in District Surveyor's Service. Qualifications A.R.I.B.A., A.M.I.St.R., or A.R.I.C.S.; structural knowledge essential. Particulars and application forms from Architect (AR/EK/DS/2), County Hall, S.E.1. (1025). 3511

METROPOLITAN BOROUGH OF

CAMBERWELL.

DEPARTMENT OF DIRECTOR OF HOUSING

AND BOROUGH ARCHITECT.

(a) SENIOR ASSISTANT ARCHITECT. National scale, A.P.T., V, VI or VII (salary range £780-£1,130, inclusive of £30 London weighting). Grade and commencing salary according to qualifications and experience; (b) ASSISTANT ARCHITECT. A.P.T., III/IV (£630-£855, inclusive); (c) JUNIOR ARCHITECT, A.P.T., II (£590-£670, inclusive). Qualification required for first two posts A.R.I.B.A.; for Junior Architect R.I.B.A. Intermediate Examination or its equivalent, followed by a minimum of one year in an architectural office. Work of department includes design and construction of public buildings, housing estates, including multi-storey construction. No housing provided. Superannuation scheme. Application form from Town Clerk, Town Hall, S.E.5. Closing date: 31st May, 1955. 9787

BOROUGH OF WALTHAMSTOW.

BOROUGH ARCHITECT, ENGINEER &

SURVEYOR'S DEPARTMENT.

SENIOR ASSISTANT ARCHITECT.

Applications are invited for the appointment of Senior Assistant Architect, A.P.T. Grade V (£780-£930, inclusive of London Weighting) commencing salary according to experience. Applicants must be Registered Architects.

Applications, with names of two referees, should be received by the undersigned not later than Saturday, 28th May, 1955, endorsed "Senior Assistant Architect."

G. A. BLAKELEY,

Town Hall, E.17. Town Clerk. 9903

CITY OF SHEFFIELD.

CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following permanent appointments on the staff of the City Architect, Mr. J. L. Womersley, A.R.I.B.A., A.M.T.P.I.:

- (a) ASSISTANT ARCHITECTS—Special Grade—(Salary Scale, £650—£775);
- (b) ARCHITECTURAL ASSISTANTS—Grade A.P.T. II (Salary Scale, £560—£640).

Candidates for post (a) must have passed the Final Examination of the R.I.B.A. or its equivalent at a recognised school of architecture and must have had at least five years' experience, including the period spent on theoretical training. For post (b) candidates must have passed the R.I.B.A. Intermediate Examination or its equivalent at a recognised school of architecture.

The Department has an extensive programme comprising mixed developments of houses and flats, the redevelopment of outworn central areas including multi-storey flats; new schools, improvement schemes for older schools, contemporary public buildings and alterations and adaptations of existing buildings for all Committees.

The above positions offer excellent opportunities for applicants desirous of obtaining first-class experience in this field.

Applications stating age, post applied for, education and training, qualifications, present and past appointments (with dates and salaries) experience and the names of two referees, should reach me by Monday, 23rd May, 1955.

JOHN HEYS, Town Clerk.

Town Hall, Sheffield, 1.
4th May, 1955. 9995

NEW TOWN OF CWMBRAN, MON.

Applications are invited for the following superannuable vacancy in the Chief Architect's Department:

- JUNIOR ASSISTANT ARCHITECT. Commencing salary £650 on range £650 × £25—£775.
- Candidates should be either graduate architects, or have passed the Final Examination of the R.I.B.A.—office experience would be an advantage.

Housing accommodation will be made available in suitable cases or otherwise lodging expenses in accordance with the Corporation's scale will be paid to married men for a limited period.

Applications, stating age, experience, details of present and former employment (together with applicable salaries) and the names and addresses of two referees must reach the undersigned by first post on 27th May, 1955.

J. C. P. WEST, A.R.I.B.A., A.M.T.P.I.,
Chief Architect.

Victoria Street, Cwmbran, Mon. 9905

COUNTY OF HUNTINGDON.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:

- (a) ARCHITECTURAL ASSISTANT Grade A.P.T. 3. (£600 × £25 (5)—£725 per annum)
- (b) TWO ARCHITECTURAL ASSISTANTS Grade A.P.T. 2. (£560 × £20 (4)—£640 per annum)
- (c) ARCHITECTURAL ASSISTANT Grade A.P.T. 1. (£500 × £20 (4)—£580 per annum)

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

If required, the Council may be prepared to consider the provision of accommodation in due course. An allowance of 30s. per week will be paid for a period not exceeding six months in the event of a married man being appointed who is unable to find accommodation.

Applications stating age, qualifications, experience, present position and salary, together with the names of two referees, should be delivered to S. M. Holloway, A.R.I.B.A., County Architect, County Buildings, Huntingdon, in a sealed envelope appropriately endorsed, by Thursday, 26th May, 1955.

A. C. AYLWARD,

County Buildings, Clerk of the County Council.
Huntingdon. 12th May, 1955. 9821

COUNTY BOROUGH OF GREAT YARMOUTH SCHOOLS ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments on the Permanent Staff.

- (a) ASSISTANT ARCHITECT, A.P.T. GRADE II, £560—£640 p.a.
- Candidates are required to have passed the intermediate examination of the R.I.B.A. or equivalent, and have good experience including preparation of working drawings and details.

- (b) TECHNICAL SURVEYOR, A.P.T. GRADE II, £560—£640 p.a.

Applicants should have had previous experience in preparing brief specifications and estimates for maintenance work, and should be capable of checking Builders' accounts.

Applications are also invited for the following temporary appointment.

CLERK OF WORKS, Salary £13 9s. 2d. per week. Applicants must be experienced in the control and supervision of large building contracts and have a sound knowledge of steel and concrete construction.

The appointment will extend over the next five years of the Capital Works Programme.

Applications stating age, experience, past and present appointments, together with the names of two referees, should reach the Schools Architect, 22, Euston Road, Great Yarmouth, not later than Friday, 20th May, 1955.

D. G. FARROW,

Chief Education Officer, 9873

NOTTINGHAMSHIRE COUNTY COUNCIL. COUNTY ARCHITECT'S DEPARTMENT. APPOINTMENT OF ARCHITECTS AND STRUCTURAL ENGINEERS.

Applications are invited for the following appointments:

- ASSISTANT COUNTY ARCHITECTS, Grade J.N.C.C. Salary £1,202.10s. × £52.10s. to £1,412.10s. per annum.

- PRINCIPAL ASSISTANT ARCHITECTS, Grade J.N.C.A. Commencing salary according to experience. Maximum £1,228.15s. per annum.

- ASSISTANT ARCHITECTS, Grade A.P.T.VI. Salary £325 × £35 to £1,000 per annum.

- ASSISTANT ARCHITECTS, Grade A.P.T.IV. Salary £675 × £30 to £825 per annum.

Applicants for the foregoing posts must be fully qualified and Registered Architects.

ARCHITECTURAL ASSISTANTS. Special Scale —£650 × £25 to £775 per annum.

Applicants for these posts must have passed parts I and II of the R.I.B.A. final or special final examination, or their equivalent at one of the recognised Schools of Architecture and should have had at least five years' experience (which may include the period spent on theoretical training).

- STRUCTURAL ENGINEERS, Grade A.P.T.V. Salary £750 × £30 to £900 per annum.

Applicants should be Associate Members of the Institution of Structural Engineers and must be capable of undertaking the design and supervision of the erection of all types of structures.

Forms of application may be obtained from DONALD GIBSON, County Architect, County Hall, Trent Bridge, Nottingham, to whom they should be returned not later than 25th May, 1955.

A. R. DAVIS,

Clerk of the County Council. 9820

CITY OF SALFORD.

ARCHITECTURAL ASSISTANTS.

Applications are invited for the appointment on the permanent establishment of the City Engineer & Surveyor's Department of Two Architectural Assistants—Salary A.P.T. Grade IV (£675 to £825).

Applicants should be associate members of the R.I.B.A. and have had good experience in the design and construction of schemes for houses, flats, schools and public buildings.

The appointment is pensionable and subject to the passing of a medical examination.

Applications stating age, qualifications and experience, accompanied by copies of two recent testimonials, to be addressed to the City Engineer & Surveyor, Town Hall, Salford 3, endorsed "Architectural Assistants (Ref.: A.J.)," and be delivered not later than Monday, 30th May, 1955.

Applicants must disclose in writing any known relationship to members or officers of the Council.

R. RIBBLESDALE THORNTON,

Town Clerk. 9916

BOROUGH OF LEYTON.

Applications are invited for the appointment of TWO GENERAL ARCHITECTURAL ASSISTANTS, Grade A.P.T.II (£560—£640 per annum plus London Weighting Allowance according to age, which at 26 years is at a maximum of £30).

Candidates should have passed the Intermediate Examination of the R.I.B.A. and must have had good experience in the design and construction of houses, flats and municipal buildings.

Alternate Saturday mornings free of duty and canteen facilities available.

Details of appointments and form of application may be obtained from Mr. H. D. Peake, M.Sc. (Eng.), Borough Engineer and Surveyor, Town Hall, Leyton, E.10, to whom they should be returned not later than Friday, 3rd June, 1955.

D. J. OSBORNE,

Town Hall, Town Clerk. 9822

BOROUGH OF WREXHAM.

TWO ARCHITECTURAL ASSISTANTS—salary £650 × £25 to £775 per annum. Housing Accommodation.

Form of Application and Particulars and Conditions of Appointment from Borough Surveyor, 31, Chester Street, Wrexham. Closing date, 23rd May, 1955. 9871

COUNTY BOROUGH OF BOLTON.

ASSISTANT QUANTITY SURVEYOR.

Applications are invited from persons with suitable professional qualifications for the above appointment in the Borough Engineer and Surveyor's Office.

The salary, to be fixed according to qualifications and experience, will be within Grades A.P.T. IV V (£675—£900).

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

Application forms may be obtained from the undersigned to whom they should be returned not later than 27th May, 1955.

PHILIP S. RENNISON,

Town Hall, Bolton. 9878

CRAWLEY DEVELOPMENT CORPORATION require a JUNIOR ASSISTANT ARCHITECT, salary scale £520—£670 p.a., of R.I.B.A. Intermediate Examination standard and experienced in architectural practice. Contributory superannuation. Apply on forms from Chief Architect (Vacancy), Broadfield, Crawley, Sussex, by 1st June, 1955.

C. A. C. TURNER,

Chief Executive. 9820

CITY OF BIRMINGHAM.

CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointment in the Schools Section, which is responsible for carrying out a large School Building Programme involving the planning, design and erection of all types of school buildings in both traditional and new-traditional construction:—

- SENIOR ASSISTANT ARCHITECT—GRADE A.P.T. VI (£825/£1,000 per annum).

Applicants must be Associate Members of the R.I.B.A., or hold an equivalent qualification, and the commencing salary will be according to experience.

The post is permanent, superannuable, subject to a medical examination and to one month's notice on either side.

Applications, endorsed with the heading of the post, stating age, present position and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned not later than 4th June, 1955.

Canvassing disqualifies.

A. G. SHEPPARD FIDLER,
City Architect. 9857

Civic Centre, Birmingham, 1.

INVERNESS COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for two appointments as ARCHITECTURAL ASSISTANTS. Salary scale A.P.T. Grade V, £665—£715 per annum, with placing according to experience and qualifications. The posts are subject to the Local Government Superannuation (Scotland) Acts.

Candidates must be Associate Members of the Royal Institute of British Architects and preferably should have experience in Local Authority housing and educational work.

Housing accommodation may be made available, if required.

Applications, stating age, particulars of professional training, experience and qualifications, together with the names of three persons to whom reference may be made, should be lodged with the undersigned within 14 days from the publication of this advertisement.

R. WALLACE,

County Clerk. 9886

County Buildings, Ardress Street, Inverness.

HARLOW DEVELOPMENT CORPORATION.

Applications are invited for the following appointments:—

- (1) ASSISTANT ARCHITECT, (Grade IV (b)) (Salary £310 × £30—£360 per annum).

Candidates who will be required to work in the Planning Section, must possess the qualifications of A.R.I.B.A. or equivalent, and have Town Planning qualifications and/or experience.

- (2) ASSISTANT ARCHITECTS, Grade V (b). (Salary £565 × £30—£715 per annum).

Candidates must possess the minimum qualification of inter-R.I.B.A., or equivalent, and be working on the Final. The work is interesting and varied, covering Housing, Industrial and Town Centre development.

Superannuation. Dwelling accommodation available in due course in suitable cases.

Applications giving full details, together with two recent testimonials, to be sent within seven days to the General Manager, "Terlings," Harlow, Essex. 9876

BOROUGH OF SWINDON.

ASSISTANT ARCHITECT.

Applications are invited for the above appointment in the Borough Architect's Department in connection with schemes arising from a large development programme.

Salary will be in accordance with the Special Scale £650 × £25—£755, and applicants must have passed the Final R.I.B.A. examination.

HOUSING ACCOMMODATION IS AVAILABLE.

Applications on forms obtainable from the Town Clerk, Civic Offices, Swindon, must be returned not later than 25th May, 1955. 9847

OXFORD REGIONAL HOSPITAL BOARD.

REGIONAL ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

- SENIOR ASSISTANT ARCHITECT, £900 × £30—£1,050.

- ASSISTANT ARCHITECT, £625 × £25 (7) × £30 (3)—£890.

- QUANTITY SURVEYING ASSISTANT, £465 × £25 (1) × £20 (3)—£650.

- CLERK OF WORKS, £570 × £20—£670.

Particulars of the post and of the qualifications expected may be obtained from the Regional Architect. Applications, with the names of two referees, should be submitted to the Secretary of the Board, 43, Banbury Road, Oxford, not later than 3rd June, 1955. 9888

BOROUGH OF WALTHAMSTOW.

BOROUGH ARCHITECT, ENGINEER & SURVEYOR'S DEPARTMENT.

ASSISTANT QUANTITY SURVEYOR.

Applications are invited for the appointment of Assistant Quantity Surveyor on Grade II A.P.T. Division (£590—£670, inclusive of London Weighting).

Applicants for the appointment must have had at least two years' recent practical experience.

Applications, with names of two persons for reference, should be received by the undersigned not later than Saturday, the 28th May, 1955, endorsed "Quantity Surveyor."

G. A. BLAKELEY,

Town Hall, Town Clerk. 9906

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NORTHAMPTON RURAL DISTRICT COUNCIL.
ARCHITECTURAL ASSISTANT (UNESTABLISHED).

Applications are invited for the post of ARCHITECTURAL ASSISTANT (Unestablished) at a salary within the range of £500-£640, according to qualifications and experience.

Applicants should be experienced in general building work, be neat draughtsmen and have had a good architectural training.

The appointment will be subject to the Local Government Superannuation Acts for present contributors, the National Joint Council Conditions of Service and to one calendar month's notice, in writing, on either side.

Applications, in candidates' own handwriting, stating age, whether married or single, qualifications and experience, accompanied by copies of two RECENT testimonials, are to reach the undersigned not later than Wednesday, the 25th May, 1955.

Applicants must disclose whether they are related to any Member or Senior Officer of the Council. Canvassing, either directly or indirectly, will disqualify.

CLIFFORD E. JONES,
Clerk of the Council.

Council Offices,
1, Cheyne Walk,
Northampton 9889

ARCHITECTURAL ASSISTANTS (Established and Unestablished) V.P.T. Grade I or II (£500 to £580 plus London Weighting or £560 to £640 plus London Weighting).

Applicants must have passed R.I.B.A. Intermediate examination. Grading according to experience. Application form and conditions of employment from Borough Engineer (A.J.) Town Hall, Tottenham, N.15, to whom applications must be delivered not later than 31st May, 1955. 9890

BIRMINGHAM REGIONAL HOSPITAL BOARD.

ARCHITECTURAL STAFF APPOINTMENTS.
(Donald A. Goldfinch, E.R.D., F.R.I.B.A., Dip.T.P.—Architect to the Board.)

(a) **ARCHITECTURAL ASSISTANTS** (2) required for large new hospital project. £465 × £25(1) × £20(8) — £650. Point of entry according to experience: maximum £550. Inter-R.I.B.A. essential.

(b) **ASSISTANT ENGINEERS** (2)—£625 × £25(7) × £30(3) — £890, according to age and experience. A.M.I.C.E. desirable.

(c) **CLERKS OF WORKS (MECHANICAL AND ELECTRICAL)** (2)—£570 × £20(5) — £670. Practical experience in electrical installation and heating and ventilation trades (wide experience in one or other) and suitable technical training to supervise site installations in accordance with specifications and drawings desirable.

(d) **DRAUGHTSMAN**—£390 (aged 21 and over) × £20(3) × £25(2) × £20(4) — £570. Suitable training including three years' technical experience in architectural or engineering trade essential. Duties include drawing work on instructions of architectural and engineering staff.

(e) **JUNIOR—Male** £170 (aged 16), maximum £370 (aged 25); **Female** £165 (aged 16), maximum £305 (aged 25) (salaries under revision). Required for general duties but expected to study for training as quantity surveyor. Office recognised by R.I.C.S.

(f) **TEMPORARY CLERKS OF WORKS (CONSTRUCTIONAL)** (2)—£9.10.0—£13.10.0 per week according to qualifications and experience. Duties include supervision of building works in Birmingham and Coventry areas. Apprenticeship in recognised building trade and experience as builders' general foreman or clerk of works essential; A.M.I.C.E.W. an advantage.

All appointments superannuable—Apply, naming three referees, to Secretary, 10, Augustus Road, Birmingham 15, by 23rd May, 1955. 9902

BOROUGH OF GILLINGHAM.
APPOINTMENT OF SENIOR ASSISTANT ARCHITECT.

BOROUGH ENGINEER'S DEPARTMENT.
Applications from candidates, appropriately qualified, are invited for the appointment of SENIOR ASSISTANT ARCHITECT Grade A.P.T. IV (£675—£825).

IN SUITABLE CASES HOUSING ACCOMMODATION CAN BE MADE AVAILABLE.
The post is superannuable and the National Conditions of Service will apply.

Application forms may be obtained from the Borough Engineer, Municipal Buildings, Gillingham, Kent.

Latest date for receipt of completed applications Tuesday, 31st May, 1955.

FRANK HILL,
Town Clerk.

Municipal Buildings,
Gillingham, Kent.
6th May, 1955. 9855

CORPORATION OF LONDON require **TEMPORARY PLANNING ASSISTANT** in CIVIC DESIGN SECTION of City Planning Office, within scale £571 5s. × £24 10s. to £693 15s., for general draughting work and assistance in architectural control and preparation of three-dimensional layouts; local authority experience not essential; preference given to members of R.I.B.A. or T.P.I. possessing a sensitive and contemporary approach to design. Application with full details of experience, age, present salary, and references, to City Planning Officer, 55/61, Moorgate, E.C.2, within fortnight of the appearance of this advertisement. 9829

CITY OF BELFAST—EDUCATION COMMITTEE.
APPOINTMENT OF ARCHITECTS.

Applications are invited for the following positions in the Education Architect's Department:

(a) CHIEF ASSISTANT ARCHITECT.

The appointee must be a qualified architect who has passed the Final R.I.B.A. Examination, or its equivalent, and as the Senior Officer in charge of the New Schools Drawing Office, must be a capable and efficient administrator possessing enthusiasm and ability for contemporary architectural design and building construction. Preference will be given to applicants with experience of modern school design. The present salary scale (which is under review) is £895 × 30—£1,045, the commencing salary within the scale to be determined in accordance with the qualifications, ability and experience of the successful candidate.

(b) ARCHITECT CLASS II (NEW SCHOOLS).
There is a vacant post for a Registered Architect in the New Schools Section. Preference will be given to applicants possessing knowledge and experience of contemporary school design and construction.

(c) ARCHITECT CLASS II (MAINTENANCE).
There is a vacancy for a Registered Architect to assist the Maintenance Architect in the design, drawings and contract work for minor works up to £5,000 in connection with existing schools. Applicants should be experienced in work of this nature and have a good design sense and a sound knowledge of building construction, specifications and site supervision.

The salary for (b) and (c) is £550 × 25—£850 p.a. minimum, linked to age 26, one increment for each year up to 32. Applicants over age 32 salary to be determined in accordance with qualifications, ability and experience of the successful candidates.

The following conditions apply to these appointments:—

Superannuation contributions payable at the rate of approximately 6 per cent. of remuneration. Canvassing in any form will be a disqualification.

Application forms, etc., are obtainable from the Education Office, Academy Street, Belfast, on personal application or by sending a stamped addressed foolscap envelope. Completed applications must reach the undersigned not later than 4 p.m. on Thursday 26th May, 1955.

JOHN DUNLOP,
Town Clerk.

City Hall, Belfast,
P.O. Box 234,
2nd May, 1955. 9853

URBAN DISTRICT COUNCIL OF BASILDON.
(Population 50,000, rapidly increasing.)

ENGINEER & SURVEYOR'S DEPARTMENT.
ARCHITECTURAL ASSISTANT. Superannuated. Salary £560—£640 commencing according to experience. R.I.B.A. Intermediate. Housing provided. Application form from and returnable to Mr. S. A. Wadsworth, A.M.I.C.E., A.M.I.Mun.E., Council Offices, Billericay, Closing 18th May, 1955. 9830

H.M. Prison Commission have vacancies for three temporary **ARCHITECTURAL DRAUGHTSMEN**, Male or Female, and one temporary **ENGINEERING DRAUGHTSMAN**, Male or Female. Salary (Men) £442 10s. at age 21, rising to £665 at age 28, then to £695; (Women) £442 10s. at age 21, rising to £592 at age 28, then to £626. Starting pay according to age up to 28 then according to age and qualifications. The Women's scale is subject to the scheme for the introduction of equal pay into the non-industrial Civil Service.

Hours of duty 44, plus overtime. Annual leave 24 working days, rising to 28 working days after three years, plus 9 days public and privilege holidays. Candidates for the former posts must have had a recognised training with a good general knowledge of construction and surveys. Candidates for the latter post should preferably have obtained educational training up to the Ordinary National Certificate in Mechanical or Electrical engineering course standard, or the equivalent in Heating and Ventilating Course. Regulations and application forms from the Establishment Officer (E.126/2/20), Prison Commission, Horseferry House, Dean Ryle Street, London, S.W.1, to be returned by 25th June, 1955. 9849

MIDDLESBROUGH EDUCATION COMMITTEE.

Applications are invited from suitably qualified persons for the following vacancies in the Education Architect's office.

Appointments will be made within the grades as indicated, subject to qualification and experience.

(a) ONE SENIOR ASSISTANT ARCHITECT, A.P.T. GRADE IV, £675—£825.

(b) THREE ASSISTANT ARCHITECTS, SPECIAL SCALE, £650—£775.

HOUSING ACCOMMODATION is available for the successful applicant for post (a) if required, and may also be made available for the other posts.

An excellent opportunity is offered for participation in the Middlesbrough School Buildings Programme.

Application forms and particulars may be obtained from the Director of Education, Education Offices, Woodlands Road, Middlesbrough, to whom completed forms should be returned not later than 24th May, 1955. 9836

WAR DEPARTMENT.
C.R.E. SHOEBOURNNESS.
ARCHITECTURAL ASSISTANTS.

1. Vacancies exist on the establishment of the Commander, Royal Engineers, for Architectural Assistants—Males.

2. In addition to the usual draughtsman's qualifications applicants should be capable of preparing detailed working drawings and be able to survey and level.

3. Applications are invited from persons between the ages of 21 and 50 years.

4. Salaries payable will be from £420 p.a. at age 21 to £580 per annum at age of 28 or over, subject to deductions for provincial service ranging from £20 per annum to £30 a year at the maximum.

5. Letters of application giving details of age, experience and qualifications should be addressed to:—

C.R.E. Shoebournness,
Old Ranges,
SHOEBOURNNESS, Essex. 9901

CAERNARVONSHIRE COUNTY COUNCIL.
ARCHITECTURAL ASSISTANT.

Applications invited for appointment of ARCHITECTURAL ASSISTANT A.P.T. II (£560 to £640 p.a.). Further particulars and forms of application from Clerk of County Council, Caernarvon. Closing date 23rd May. 9946

OFFICE OF THE RECEIVER FOR THE METROPOLITAN POLICE DISTRICT.

Applications are invited for unestablished appointments as **ARCHITECTURAL ASSISTANTS** (New Works and Maintenance Branches) and also as **SANITARY ENGINEERING ASSISTANTS** in the Chief Architect and Surveyor's Department.

Rates of pay, £442 10s. (age 21) by annual increases to £595 (men) and £442 10s. by annual increases to £615 (women). Overtime of approximately £24 per annum is also payable while a 45-hour week is worked.

Conditional hours, 44 per week. Annual leave, 24 days.

Application forms from the Chief Clerk, Architect and Surveyor's Department, New Scotland Yard, S.W.1, stating for which drawing office application is made. 9795

GOVERNMENT OF NORTHERN IRELAND.
VACANCY FOR ARCHITECT.

Applications are invited for the unestablished post of ASSISTANT ARCHITECT CLASS II in the Works Directorate, Ministry of Finance.

The salary scale which attracts pay supplement of amounts between £25 and £35 per annum is £675 × £25—£750 × £30—£960 × £40—£1,000. The minimum is linked to age 26 plus an increment for each year above that age, subject to a commencing salary not exceeding £900, plus pay supplement of £30. An officer between 25 and 26 will be given an inclusive commencing salary of £675, and if under 25 will be paid according to qualifications and experience.

Candidates must be Registered Architects by examination, and must have had at least two years' experience in an Architect's Office in the preparation of working drawings for new buildings.

Preference will be given to a suitably qualified candidate who served in H.M. Forces during the 1914—18 or 1939—45 Wars, provided the Ministry is satisfied that such candidate is, or within a reasonable time will be, able to discharge the duties of the post efficiently.

Application forms may be obtained from the Director of Establishments, Ministry of Finance, Stormont, Belfast, to whom they must be returned, with copies of two recent testimonials, so as to reach him not later than 20th May, 1955. 9856

SURREY COUNTY COUNCIL.

Applications invited for the following vacancies:

(1) **ASSISTANT ARCHITECT GRADE V, £750 × £30—£900 p.a. plus London Allowance.**

(2) **ASSISTANT ARCHITECT GRADE IV, £675 × £30—£825 p.a. plus L.A.**

(1) and (2) should be Associate Members R.I.B.A.

(3) **ASSISTANT ARCHITECT GRADE III, £600 × £25—£720 p.a. plus L.A.** Pref. given applicants who have passed Inter. R.I.B.A.

(4) **ARCHITECTURAL ASSISTANT GRADE I, £500 × £20—£580 p.a. plus L.A.**

(5) **ASSISTANT QUANTITY SURVEYOR GRADE V, £750 × £30—£900 p.a. plus L.A.**

(6) **ASSISTANT QUANTITY SURVEYOR, GRADE IV, £675 × £30—£825 p.a. plus L.A.**

(5) and (6) should be Associate Members R.I.C.S.

(7) **ASSISTANT QUANTITY SURVEYOR GRADE III, £600 × £25—£725 p.a. plus L.A.** Pref. given applicants who have passed Inter. R.I.C.S.

(8) **QUANTITY SURVEYING ASSISTANT GRADE I, £500 × £20—£580 p.a. plus L.A.**

Full details and present salary, accompanied by copies of three recent testimonials to County Architect, County Hall, Kingston, as soon as possible. 9844

WORCESTERSHIRE COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Applications are invited for the post of ARCHITECTURAL ASSISTANT Grade A.P.T. I (£500—£580 per annum). Application forms and further particulars should be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester, not later than 21st May, 1955 (X.201). 9835

**BOROUGH OF OLDBURY.
BOROUGH SURVEYOR'S DEPT.—
ARCHITECTS' SECTION.**

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT Grade A.P.T. III (£600-£725), in the Borough Surveyor's Department. Applicants for the appointment should be good architectural draughtsmen with experience in the preparation of working drawings and details from preliminary sketches and should have good experience of housing and education work normally undertaken by Local Authorities and capable of administering small building contracts.

The appointment will be superannuable, subject to the National Conditions of Service and to the selected candidate passing a medical examination.

Applications, giving particulars of age, qualifications and experience and the names of two referees, should be delivered to the undersigned not later than Saturday, 28th May, 1955.

KENNETH PEARCE,
Town Clerk.

Municipal Buildings,
Oldbury,
Nr. Birmingham. 9862
3rd May, 1955.

**DURHAM COUNTY COUNCIL—STAFF
VACANCIES.**

QUALIFIED ARCHITECTURAL ASSISTANT—£675-£825—Permanent.
HEATING ENGINEERING ASSISTANTS—£600-£725—Permanent.

CLERKS OF WORKS—£560-£640—Temporary. Particulars from County Architect, Court Lane, Durham by 20th May, 1955.

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

9864

CORBY DEVELOPMENT CORPORATION.

Applications are invited from suitably qualified persons for the following appointments in the office of the Chief Architect:—

(a) ASSISTANT ARCHITECTS (Salary Scale £720 x £40-£840).
(b) ARCHITECTURAL ASSISTANTS (Salary Scale £600 x £30-£690).

Work is now proceeding on the design of a new neighbourhood unit, some Town Centre buildings, and factories, and it would be useful if applicants had design, construction, and supervision experience in one or more of these fields.

Applicants for posts (a) should be qualified and commencing salaries in both posts will be dependent on qualifications and experience. Appointments are subject to one month's notice on either side, to the provisions of the Local Government Superannuation Act, and to a medical examination. Housing is available.

Applications stating age, education, training, qualifications, experience, past and present appointments, and salaries, together with the names of two referees must be received by the undersigned not later than Monday, 23rd May, 1955.

Envelopes should be endorsed "Architects."
R. F. BROOKS GRUNDY,
General Manager,

Spencer House,
Corporation Street,
Corby, Northants. 9820

**ASHBY-DE-LA-ZOUCH RURAL DISTRICT
COUNCIL.**

APPOINTMENT OF TRACER.

Applications are invited for the appointment of a TRACER (Male or Female) in the Architect's Department. Salary—Higher General Division (£250 per annum at age 19 rising to £475), commencing salary will be fixed according to age or experience.

Applicants should have had experience in tracing work.

Applications with copies of two recent testimonials must reach the undersigned not later than Monday the 16th May, 1955.

Canvassing, directly or indirectly will disqualify.

J. E. R. WILKINSON,
Clerk of the Council.

Council Offices,
South Street,
Ashby-de-la-Zouch,
Leicestershire. 9824

ARCHITECTURAL ASSISTANTS (unestablished) required by Stepney M.B.C. with experience in the preparation of design, lay-out, working drawings and specifications for housing schemes, etc. Salary according to experience and qualifications up to £705-£855 per annum. Apply to Borough Engineer, 227, Commercial Road, E.1. 9826

CITY OF LEICESTER.

EDUCATION COMMITTEE.

LEICESTER COLLEGE OF ART.

Principal: Kenneth Holmes, O.B.E., A.R.C.A., M.S.I.A.

Applications are invited for the post of HEAD OF THE SCHOOL OF BUILDING. Candidates should hold professional qualifications in either Architecture, Building or Allied Professions, have had experience in industry, and preferably some teaching practice.

Salary in accordance with the Burnham Scale Grade III Head of Department (£1,215 x £25 to £1,365).

Applications giving full particulars of training and experience should be sent to the Registrar, College of Art, The Newark, Leicester, within a fortnight of the appearance of this advertisement.

ELFED THOMAS,
Director of Education.

9831

**COUNTY OF LINCOLN—PARTS OF
LINDSEY.**

Vacancy on permanent staff for Two qualified ASSISTANT ARCHITECTS, salary A.P.T. Grade IV £675, rising to £825 or Special Grade £650 rising to £775 according to experience. N.J.C. Conditions of Service. Canvassing will disqualify. Candidates must disclose in writing whether to their knowledge they are related to any Member or Senior Officer of the Council.

Allowance of 25s. per week and return fare home bi-monthly may be paid up to six months to married men unable to find housing accommodation.

Applications giving age, qualifications, experience and names of two persons to whom reference can be made to be sent to the undersigned not later than 24th May, 1955.

A. RONALD CLARK, A.R.I.B.A., A.M.T.P.I.,
County Architect.

County Offices
Lincoln 9850

EAST SUFFOLK COUNTY COUNCIL.

ARCHITECTURAL ASSISTANTS.

Applications are invited in connection with vacancies for three ARCHITECTURAL ASSISTANTS on A.P.T. Grade III (£600 x £25 to £725) in the County Architect's Department.

Applicants must be quick and accurate draughtsmen capable of carrying projects through all stages with the minimum of supervision. They should have a sound knowledge of design, building construction and specification writing. Preference will be given to applicants who have passed parts 1 and 2 of the R.I.B.A. Final or Special Final examination or their equivalent at one of the recognised schools of architecture. Candidates so qualified will be eligible for appointment on the Grade giving £650 x £25 to £775.

The commencing salaries on either grade will be fixed according to qualifications and experience.

The appointments will be subject to one month notice on either side and to the provisions of the Local Government Superannuation Acts.

The selected applicant will be required to pass a medical examination.

Applications, stating age and qualifications, giving full details of previous experience, and accompanied by copies of two recent testimonials, should be sent to E. J. Symcox, F.R.I.B.A., County Architect, County Hall, Ipswich, not later than Tuesday the 17th May, 1955. 9833

COUNTY BOROUGH OF CARLISLE.

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

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

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

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

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

Housing Accommodation available if required. Forms may be obtained from and are returnable to the City Surveyor, 18, Fisher Street. Closing date 21st May, 1955.

H. D. A. ROBERTSON,
Town Clerk.

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

Applications are invited for the following established posts:—

Assistant Architects:—
ASSISTANT ARCHITECT (female), salary £560 x £20-£640.

ASSISTANT ARCHITECT, salary £625 x £25-£675.

Assistant Quantity Surveyors:—
ASSISTANT QUANTITY SURVEYOR, salary £625 x £25-£675.

ASSISTANT QUANTITY SURVEYOR, salary £675 x £30-£825.

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and the N.J.C. Scheme of Conditions of Service so far as adopted by the Council.

Medical examination.
Applications stating age, qualifications and experience, with the names of two referees, should be submitted to the Borough Architect, 30, Alexandra Street, Southend-on-Sea, forthwith.

ARCHIBALD GLEN
Town Clerk.

9884

Sale by Tender

BY ORDER OF EXECUTORS.

REDHILL.—Sale by tender of entire valuable stock of BUILDERS' MATERIALS AND EQUIPMENT, at 1, Fenegates Road. Offers invited for individual lots. On view Wednesday and Saturday mornings till 21st May. Catalogues of Watkin & Watkin, Reigate (Tel. 2330). 9843

Architectural Appointments Vacant

4 lines or under, 7s. 6d.: each additional line, 5s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-49 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

ARCHITECTURAL ASSISTANT: Intermediate approaching final. Commercial and industrial work; large-scale contracts. Watson, Johnson, Stokes, Victoria Square, Birmingham. 4998

URGENTLY required. ASSISTANT for responsible position in general practice with interesting work in hand over a large area. Salary directly related to ability. Martindale and Jackson, F/A.R.I.B.A., Cathedral Chambers, Castle Street, Carlisle. 9135

SALARY up to £793, according to experience for ASSISTANT in first class City Office. Box 9169.

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

ARCHITECT, OR EXPERIENCED ASSISTANT REQUIRED BY "THE ARCHITECTS' JOURNAL." Ability to write fluently and well, and a sound knowledge of construction and contemporary building techniques essential. Will be expected to write reports on buildings, supervise the production of technical architectural drawings, commission and sub-edit technical articles and assist production. Please reply to The Editor, "The Architects' Journal," 9, Queen Anne's Gate, S.W.1. 982

REQUIRED in Chief Architect's Department at Head Office of Multiple Store in London. (a) JUNIOR ARCHITECTURAL DRAUGHTSMAN or ASSISTANT with good basic experience to prepare sketch plans, working drawings and give general assistance; (b) JUNIOR SHOPFITTING DRAUGHTSMAN for Store Fixtures and Fittings. Write, with details of experience and salary required, to Box 9194.

SENIOR AND INTERMEDIATE ARCHITECTURAL ASSISTANTS required. Five-day week. Write or telephone, giving full particulars, including age and salary, to Hasker & Hall, Architects, 13, Welbeck Street, W.1 (WELbeck 0061) 9445

OPENING for QUALIFIED ARCHITECTS as Assistant Designers with an expanding firm of new traditional builders. Must have good general practical knowledge and a keen interest in new building methods. A prospect exists for working overseas. Starting salaries range between £650 and £750 according to experience, with an increase after six months' satisfactory service. Messrs. Reema Construction, Ltd., Milford Manor, Salisbury, Wilts. 9235

£500—£700 per annum salary offered for ASSISTANT to take part in large-scale development and remodelling of petrol filling stations, service stations, garages and workshops, etc. Must be capable of working independently. Should be of intermediate standard. Work will involve original design, site visits and a high standard of presentation. Five-day week, good pension and life assurance scheme, sickness benefits and free luncheon vouchers. Social Club. Write, giving full details, stating age, experience and salary required to Box 9325, quoting Ref. Y 593.

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

ARCHITECTURAL STAFF, all grades, wanted, interesting and varied work of contemporary character; light and airy offices. Apply J. Seymour Harris & Partners, 4, Greenfield Crescent, Edgbaston, Birmingham 15. 8796

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

REQUIRED for Architects' office. Central London area, young qualified ASSISTANTS interested in design and construction. Write, stating experience and salary required. Box 8325.

ARCHITECTURAL ASSISTANT required in small private office. Intermediate to final standard. Write, stating experience and salary required, to: A. F. Bennett, 35, Queen's Gate Mews, London, S.W.7. 9266

ARCHITECTURAL ASSISTANT required by Major Oil Company undergoing expansion, for its Sheffield office. Applicants should be of intermediate standard, and must be capable of carrying out work on the design and re-modelling of service stations. Social Club, Pension and Life Assurance scheme, generous sickness benefits. Write, giving full details of experience, age and salary required, to Box 9262, quoting Ref. A.A. 588.

ASSISTANT required for Architect's office. Commencing salary up to £600, according to age and experience. Write full particulars to H. Wakeford & Sons, 184, Clapham Road, London, S.W.9. 9609

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SAMUEL MORRISON & PARTNERS require the following:-
(a) SEVERAL ARCHITECTS, to undertake research and assume responsibility for the design and erection of contemporary schools.
(b) SEVERAL ARCHITECTS, to carry out similar work in the sphere of housing, shopping centres, etc.
(c) ASSISTANTS of Intermediate or Final standard to collaborate with the above.
(d) AN ASSISTANT who is interested in the preparation of articles and typography, in addition to normal architectural work.

Salaries comparable to Local Authority Scales; interview expenses paid. St. Alkmunds House, 105, Belper Road, Derby. 9653

BRITISH HOME STORES, LTD. require ARCHITECTS' ASSISTANTS of various grades between 27 and 40 years of age for their Architect's Department. Salary rates from £650 to £1,000 per annum, according to experience. Applicants must have had at least 4 years' office experience. Positions give good opportunities for up-grading. Contributory pension scheme, non-contributory life assurance scheme, and subsidised staff canteen in operation. Applications in writing, giving full details of age, experience, etc., to be sent to Personnel Manager, British Home Stores, Ltd., Marylebone House, 129-137, Marylebone Road, London, N.W.1. 9642

ROFF MARSH, F.R.I.B.A., M.T.P.I., requires CHIEF AND SENIOR ASSISTANT. Interesting work on flats, shops, schools, etc. Apply to 125, London Road, Chelmsford. 9647

ARCHITECTS' ASSISTANT, Intermediate standard, required in the Architect's Department of a London Brewery Company. Write with full particulars to Box 9692.

ARCHITECTURAL ASSISTANTS required in West End office. Qualified or Intermediate standard. Varied and interesting work. 5-day week. Salary range £600-£850. 9614

THE STEEL COMPANY OF WALES, LIMITED (Steel Division), PORT TALBOT, invites applications from suitably qualified Engineers for a number of vacancies created by the present large expansion of the Works.

The Steel Division is a fully integrated iron and steel works, and produces medium and light plates, hot and cold rolled sheets and hot strip for cold rolling into I-plate. These products are used in motor cars, electrical machines, refrigerators, washing machines, oil drums, and many forms of cans and boxes for food and other uses; and are in demand far beyond the present capacity of the industry.

The Works is extremely modern, has excellent working conditions, and a very high standard of plant and equipment.

MECHANICAL, ELECTRICAL AND CIVIL ENGINEERS are required for a wide range of different jobs, including both general development work and the engineering services in manufacturing departments.

The majority of the vacancies to be filled immediately are Assistant Engineers within the various departments concerned. Salary range from £750 to £1,000 per annum, according to qualifications and experience. Prospects of promotion are good.

Experience in the steel industry is not essential although preferred. Age will be reckoned less important than the ability to assimilate training, which will be given to all successful candidates who need it.

The positions are permanent, and the Company has a generous superannuation scheme which is compulsory for all members of the Staff. The Works is situated on the seaboard, with agreeable residential areas nearby.

Those interested should write for official Application Form to the:

PERSONNEL SUPERINTENDENT,
The Steel Company of Wales, Limited
(Steel Division),
Abbey Works, Port Talbot. 9686

JUNIOR AND INTERMEDIATE ARCHITECTURAL ASSISTANTS required urgently in London Office with widely varied practice. Good salaries, 5-day week. Lewis Solomon, Son & Joseph, 5101 or 7082 8461

ARCHITECTURAL ASSISTANTS required in West End Architect's office. Those studying for Inter. to Final R.I.B.A. Examination or qualified. Varied practice, specialising somewhat in factories, city offices and stores. Write, giving full particulars, to Box H.337, Willing's, 362, Grays Inn Road, W.C.1. 9582

F. W. WOOLWORTH & CO. LTD.-ARCHITECTS' ASSISTANT required in Chief Architects Office, London. Write, giving details of experience and salary required, to H. Winbourne, F.R.I.B.A., Chief Architect, F. W. Woolworth & Co. Ltd., 1/5, New Bond Street London, W.1. 9477

APPLICATIONS are invited for the post of SENIOR DRAUGHTSMAN with firm of Builders and Estate Developers in South Bedfordshire. Thorough knowledge of surveying, estate layouts, design and detailing of various buildings essential, combined with ability to work on own initiative and assume responsibility for production of drawings. Pension scheme in operation. Apply, stating age, previous experience and salary required to H. C. James Ltd., 183, High Town Road, Luton. 9798

WESTWOOD, SONS & HARRISON, F.R.I.B.A., require SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS, with office experience. Apply in writing to 46, Baker Street, W.1. 9626

GEORGE WIMPEY & CO., LIMITED.

THE Architect's Department seek ARCHITECTURAL SAFF enthusiastic to apply their knowledge to new construction techniques covering Houses, Multi-Storey Flats, Offices, Schools and Industrial Buildings for contracts in the U.K. and Overseas.

Appointments range from ARCHITECTS to DRAUGHTSMEN with special interest to those of ability, recognising the value of the designer and technician as an integral part of the production team.

Appointments are on a permanent basis, 5 days a week at Head Office, Hammersmith.

Salaries will be according to qualifications and experience, and, subject to satisfactory service, there is a Pension Scheme for those wishing to make a career with the firm.

Applicants should write giving brief particulars to E. V. Collins, A.R.I.B.A., Chief Architect, GEORGE WIMPEY & CO., LIMITED, 27, Hammersmith Grove, London, W.6. 9375

ASSISTANT (MALE) required immediately; Final standard with at least four years' office experience. Apply Walters & Kerr Bate, 14, Gray's Inn Square, W.C.1. Tel.: Holborn 9850. 9800

TWO ARCHITECTURAL ASSISTANTS required, inter. standard, for contemporary office. Salary according to experience. C. H. Elsom, F.R.I.B.A., 44, Catherine Place, S.W.1. Victoria 4304. 9801

THE NUFFIELD FOUNDATION.

VACANCIES occur for ARCHITECTURAL ASSISTANTS of both Final and Intermediate standard in the Nuffield Foundation's Division for Architectural Studies, working on hospitals, research laboratories and farm buildings. All those interested should write in to the Director. Salary by agreement. Box 9755.

ARCHITECTURAL ASSISTANTS (SENIOR AND JUNIOR) required. Please reply giving particulars of qualifications, experience and salary required to Bernard H. Dale and Partners, 19, Carlton Crescent, Southampton. 9783

ADAMS, HOLDEN & PEARSON require SENIOR ARCHITECTURAL ASSISTANTS immediately. Write giving particulars of experience and salary required to 38, Gordon Square, W.C.1. 9776

TWO ASSISTANTS required for private office engaged in hospital work. Newly qualified or Inter. R.I.B.A. standard. Salary £500 to £650 p.a., according to experience. Applications stating age, qualifications and experience to W. Fowler Howitt, Esq., A.R.I.B.A., 77, Lambeth Palace Road, London, S.E.1. 9777

ARCHITECTURAL ASSISTANT required with office experience, preferably hospital, for private practice, good salary paid to suitable applicant. Apply giving full particulars: T. F. Lawson, A.R.I.B.A., F.R.I.C.S., Norwich Union Chambers, Clarence Street, Gloucester. 9786

ABBEY & HANSON of 11 Cloth Hall Street, Huddersfield, and 11 Wyle Cop, Shrewsbury, require SENIOR and JUNIOR ASSISTANTS. Interesting contemporary design in this country and abroad. Good salary and prospects. Apply to Huddersfield Office (telephone 225) giving experience and salary required. 9767

WELL-KNOWN Architects require two ARCHITECTURAL ASSISTANTS/DRAUGHTSMEN for large and small works. Wide experience and prospects are offered to competent and enthusiastic Assistants. Salary approximately £500-£750, according to ability. Box 9814.

ARCHITECTURAL ASSISTANT, of Intermediate standard, for interesting and varied work in Westminster design office. Salary according to experience, £500-£600 p.a., plus free luncheon vouchers and bonus. Five-day week. Sandford Fawcett & Partners, 53, Victoria Street, Westminster, London, S.W.1. 9828

ARCHITECTURAL ASSISTANT or BUILDING DRAUGHTSMAN age up to 35, required for work on industrial buildings. Preference given to candidates with Inter. R.I.B.A. but this not essential, although O.N.C. in building is the minimum acceptable qualification. Applicants should have experience in foundation work, drainage and factory buildings. Permanent position and attractive salary. Assistance with housing given if necessary. Write in confidence to Personnel Manager, Michelin Tyre Co. Ltd., Stoke-on-Trent, Staffs., giving all relevant information. 9715

VIC HALLAM LTD. require a Staff Architect. Responsible and permanent position with extremely good prospects for the right man. Only applicants who have had practical experience and possess keen interest in contemporary prefabrication considered. Applications giving details of training, experience, previous appointments and availability should be sent to: The Secretary, Vic Hallam Ltd., Langley Mill, Near Nottingham. 9709

RONALD WARD & PARTNERS require several capable ARCHITECTURAL ASSISTANTS with contemporary outlook and willing to use own initiative. Salary range £400 to £800. Interesting and varied work, home and abroad. Congenial working conditions. Apply 29, Chesham Place, S.W.1. Telephone Belgravia 3361. 7023

SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS required for busy general practice. Commencing salaries £500 to £750 p.a., according to experience and qualifications. Apply H. N. Jepson & Partners, Chartered Architects, Midland Bank Chambers, Nuneaton. 9459

ARCHITECTURAL ASSISTANTS of Final and Intermediate standard required in private practitioner's office, Glasgow. Apply stating age, experience and salary required. Box 9740.

OLDHAM, Lancs. ARCHITECT required by firm of Chartered Surveyors, to take charge of housing and commercial work. Apply stating age, experience, qualifications, and salary required to Box 9743.

LANCHESTER & LODGE urgently need ARCHITECTURAL ASSISTANTS of all grades up to £700, 5-day week, luncheon vouchers. Write full particulars: 10, Woburn Square, W.C.1. 9753

LANCHESTER & LODGE urgently need an ASSISTANT to work on site of University projects in Leeds. Salary up to £700. Write full particulars: 10, Woburn Square, W.C.1. 9754

ARCHITECTURAL ASSISTANTS required, one about Inter. standard, one qualified, in office in Victoria district, to work direct under Principal. Church work, domestic, factory, hotel, etc. Salary in accordance with experience. Box 9749.

LONDON Firm has vacancy for experienced GROUP LEADER. Salary £1,200 p.a. Write in confidence with full particulars of career to Box 9731.

GOLLINS, MELVIN, WARD & PARTNERS, 15, Manchester Square, W.1, require JUNIOR STAFF, competent working drawings essential, opportunity to work on contemporary buildings. Write or telephone WELBECK 9991. 9729

ARCHITECTURAL ASSISTANT required, Intermediate to final standard. Write giving full particulars of previous experience and salary required to Graham Crump & Denis Crump, F.R.A.R.I.B.A., 43, George Street, Croydon -5-day week. 9728

ARCHITECTURAL ASSISTANT required; Intermediate standard or above. Small city office. Five-day week. Box 9727.

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, LONDON. APPLICATIONS are invited from the following:-

(a) ASSISTANT ARCHITECTS of Inter. R.I.B.A. standard.

(b) SURVEYORS, capable of making Architectural surveys and plotting.

The salary range offered for the above appointments is up to £745 per annum, according to age and experience, with prospects of up-grading. Applications stating age, experience, qualifications and salary required to W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Leaman Street, London, E.1. 9811

ARCHITECTURAL ASSISTANT wanted for responsible position in small busy West-end office. At least Intermediate standard with ability in design and working drawings. Holiday arrangements respected. Apply in writing, stating qualifications and salary required. Box 9726.

PART-TIME ARCHITECTURAL ASSISTANT required. Apply Box 9837.

SENIOR/LEADING ASSISTANT required in Reading Office-General, Industrial and commercial work-Pension Scheme. Apply Salisbury and Chamberlain, L/F.R.I.B.A., 14, Cross Street, Reading. 9722

BREWERY COMPANY require additional ARCHITECTURAL ASSISTANTS for alterations and new work to Brewery Premises, Public Houses, Shops, etc., Working Drawings, Surveys, Specifications and Supervision. Inter. to Final standard. Also SURVEYOR for repairs side. Car drivers. Pension scheme. Apply Chief Architect, Friary Brewery, Guildford, Surrey. 9827

ARCHITECTURAL DRAUGHTSMAN required for Engineer's office in large works in the Midlands. Applicants should be conversant with design of structures, undertake surveys, and prepare building schemes. Write, giving particulars of experience, qualifications and salary required to Box 9825.

RAMSEY, MURRAY & WHITE have vacancies

(a) QUALIFIED ARCHITECT, with several years' office experience, especially on schools.

(b) ARCHITECTURAL ASSISTANT, advanced student R.I.B.A., with at least 12 months' office experience.

(c) ARCHITECTURAL ASSISTANT, about Intermediate standard, preferably with office experience.

Salary according to qualifications. Apply: 32, Wigmore Street, London, W.1, or telephone WELBECK 1409. 9823

LONDON Architects require JUNIOR ASSISTANTS and SENIOR ASSISTANT for Commercial and Industrial Practice in London and Home Counties. Write, stating age, qualifications and salary required, to Box 9821.

ARCHITECTURAL ASSISTANT with good knowledge of design and working drawings, required in small, busy office in Dartford, Kent. Varied and interesting work. Telephone Dartford 4350. Box 9819.

JAS. WILLIAMSON & SON, LTD. Linoleum Manufacturers, need a good all-round **BUILDING AND CIVIL ENGINEERING DRAUGHTSMAN** for plant layout, design, and development work in their extensive Lancaster factories. Applicants should be within the age limit 28 to 45, and preferably have 5 or more years' general industrial experience. The ability to prepare from own drawings abridged estimates and bills of quantities for new work and for alterations or extensions to existing buildings and structures is essential. The position offers an interesting variety of work under excellent conditions, and provides a good opportunity for family men to establish themselves in permanent, pensionable positions in a district unrivalled for its beautiful and healthy surroundings. A salary commensurate with the age and experience of the successful candidate will be paid. Apply, in confidence, to Staff Officer, Lune Mills, Lancaster. 9822

YOUNG qualified **ARCHITECT**, with two years' office experience in preparation of working drawings and specifications, required by Granada Theatres. Applications, stating age, qualifications and salary required, to Chief Architect, The Granada Theatres, Ltd., 149, Regent Street, London, W.1. 9908

ALL grades of **ARCHITECTURAL ASSISTANTS** required by busy N.W. London office. Salary range £400-£900 per annum. 5-day week. Box 9891.

SENIOR ARCHITECTURAL ASSISTANT required by City Architects and Surveyors. Permanent for right man. No age limit. Apply with full particulars to Box 9922.

ARCHITECTURAL ASSISTANT required for City office. Intermediate standard or over, with some office experience. Apply, giving full details of training, age, etc., to Box 9893.

TAYLOR WOODROW HOMES, LTD. require an **ARCHITECTURAL ASSISTANT** (Intermediate standard) for large scale housing development. Must be capable of producing full working drawings. Pensionable post. Write, giving full details of experience, etc., to Personnel Department, Ruslip Road, Southall, Middlesex. 9894

ARCHITECTURAL ASSISTANT required urgently, Intermediate stage or above, and with practical experience, particularly in traditional domestic and other work. Please write stating age, experience, and salary required to Box 9496.

WELL-KNOWN Exhibition Design Studio require **DESIGNER-DRAUGHTSMAN**, preferably with experience in detailing. Box 9897.

An opportunity occurs for a fully qualified young **ARCHITECT**, with sound provincial experience, to join and shortly take-over on reasonable terms a small established general practice in S.E. Essex, where rapid development is taking place. All-round capabilities from site survey and levelling to final accounts required. Residential, housing, licensed premises, industrial and church work. Good prospects for man of initiative and social disposition. Full details to Box 9899.

ARCHITECTURAL DRAUGHTSMAN, required in S.E. London. Good salary and conditions. Superannuation scheme. Application in writing, giving full details of age, experience, and qualifications, to Male Staff Officer, N.A.A.E.I., Kennings Way, S.E.11. 9881

ARCHITECTURAL ASSISTANTS required, R.I.B.A. Intermediate standard, in busy office with interesting varied work. 5-day week. Write, stating salary required, to Hurley Robinson & Son, 6, Cherry Street, Birmingham, 2. 9913

JUNIOR ARCHITECTURAL ASSISTANT required. Keen draughtsman for work on re-building scheme. Applications, stating experience and salary required, to the Zoological Society of London (Architects' Department), Regents Park, N.W.1. 9912

ARCHITECTURAL ASSISTANTS required for general practice. Intermediate standard or pre-Final. Industrial Work, Licensed Premises, Domestic. Salary £520-£780, according to ability. Saturdays free. Peter Hing & Jones, 121, Colmore Row, Birmingham, 3. 9910

STAFF ARCHITECT (fully qualified) required for recently formed company. Progressive and permanent post. Administrative ability an advantage. Reply, giving full details past experience and salary required. Box 9918.

DESIGNER/DRAUGHTSMAN wanted to assist designer of Church, School and Domestic, Woodwork, Furniture and Interiors. State age, experience and salary. Walker-Symondson, Ltd., Braintree Road, Ruislip. 9694

SENIOR ASSISTANT required in S.W. City. Possibility of Partnership. Housing accommodation available. Please state experience and salary required. Box 9917.

SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS required in West End office. Senior applicants should preferably have London experience and be capable of taking wide responsibility in respect of large private flat developments and commercial buildings. Junior applicants should be of Intermediate standard. Salaries according to experience and qualifications. Apply Richardson & McLaughlin, 13, Mansfield Street, W.1. Telephone Langham 5984. 9819

CAPABLE ASSISTANT, about Intermediate, for responsible position requiring initiative in small practice near West End. Excellent working conditions. Telephone John A. Gossnais, Chartered Architect, Welbeck 0895. 9823

COMPETENT ARCHITECT'S ASSISTANT required in the office of a Multiple Company operating five-day week. Applicants are requested to send in the first instance details of training, age, and salary required to H. M. Robinson, R.I.B.A., 68, Bradford Street, Birmingham, 5. 9892

ARCHITECTURAL ASSISTANT (R.I.B.A.) required on the Staff of a large Industrial Company in Birmingham. Must be capable and conscientious draughtsman, with a knowledge of Structural Steel, Reinforced Concrete and estimating as applicable to factory buildings. Applicants should state age, experience, and salary required to Box 9900.

ARCHITECTURAL ASSISTANT required, of R.I.B.A. Intermediate standard, to work on large development schemes. Write, stating age, qualifications, and salary required, to E.M.A., Cadbury Brothers, Ltd., Bourneville, Birmingham. 9892

LEADING LONDON DEPARTMENT STORE is enlarging its Drawing Office to cope with an extensive programme of development, expansion and modernisation to their Main Store. Vacancies are available for **SENIOR and JUNIOR DRAUGHTSMEN**, and applicants with shopfitting experience would be an advantage. The positions offer considerable prospects. Pensionable posts for men under 45, 5-day week, and other staff amenities. Apply in writing, stating age, experience, and salary required to Box 9883.

N.C.B. SCOTISH DIVISION-A vacancy for an experienced **ARCHITECT** exists in Edinburgh, where there is a staff of some 24 qualified Architects, and additional unqualified Architectural Assistants. The staff is organised in teams, each under a Grade I Architect. The successful applicant will be required to exercise general supervision over the Grade I Architects in their preparation of designs for new collieries, and reconstruction schemes at existing collieries. A comprehensive knowledge of building construction, and a sound knowledge of civil engineering, road and railway layouts and other layout problems related to surface planning is essential. Experience of contract procedure and the supervision of the execution of Contracts is desirable. The successful applicant will be graded Senior Architect within the scale of £1,100 x £35-£1,340 range to £1,450. Applications, giving full details of age, education, qualifications, experience (in chronological order), present post and salary, should be forwarded to the Establishments Officer, 1, Eglinton Crescent, Edinburgh, 12, within 7 days. 9874

ARCHITECTURAL ASSISTANT required for work on large Offices and Administrative Buildings near Motherwell. Inter. qual. preferred. The salary by arrangement. Write 0456, Wm. Porteous & Co., Glasgow. 9875

GOOD prospects await an **ARCHITECTURAL ASSISTANT** of ability and personality in a Worcester Architect's office, where he will be given scope and help to prepare him for the independence and satisfaction of a private practice of his own. Varied contemporary and traditional work. Opportunity for specialising in traditional repairs and construction if interested. Full particulars of training and experience, etc., to Box 9887.

ARCHITECTURAL ASSISTANTS. There are vacancies for Architectural Assistants at the Head Office of the Architects' Department, Ind Coope & Allsopp, Ltd., The Brewery, Burton-on-Trent. The positions are considered suitable for applicants nearing the required standard for the Final Examination and who have had good general experience in design and construction.

The Department has a considerable and interesting programme in hand. The appointments will be to the Temporary staff at a commencing salary of £500-£650 per annum, according to qualifications and experience. A five-day working week is in operation, and successful applicants would be expected to reside in the district in which the office is situated. Particulars of training, experience, past and present appointments and qualifications, together with testimonials, stating age and whether married or single, should be sent to the Chief Architect, Ind Coope & Allsopp, Ltd., The Brewery, Burton-on-Trent. 9885

THE MILK MARKETING BOARD requires the services of a **BUILDING SURVEYOR**, preferably an Associate of the R.I.C.S. (Division 3), in the preparation of specifications for various works, and to assist in site supervision as required. Applications to be made in writing, stating age, experience, and salary required, to the Establishment Officer, Milk Marketing Board, Thames Ditton, Surrey. 9877

SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS required for commercial practice, West End area. Experience in design of industrial buildings advantageous. Apply Box 9879.

ASSISTANT ARCHITECT for new branch office in S.W.1. £400 to £500, depending on ability. Good prospects. Write to Knapton & Deane, 45, Hillside Avenue, Worthing. 9868

ARCHITECTURAL ASSISTANT, A.R.I.B.A. of experienced Intermediate. Write, regarding experience and salary required, etc., to H. Hubbard Ford, R.I.B.A., 51, Church Road, Hove, Sussex. 9896

ARCHITECTURAL ASSISTANT required immediately. Exeter office, with varied practice. Intermediate to Final standard. Full details, Box 9865.

BUILDING SURVEYOR ASSISTANT (about Inter. standard of R.I.C.S.) required by firm of Chartered Surveyors on the South Coast. Write only. Richard Austin & Wyatt, Chartered Surveyors, 79, High Street, Fareham, Hants. 9863

ARCHITECTURAL ASSISTANTS required for London and Cowes, I.O.W., offices. Intermediate, approaching Final standard; office experience essential. Schools, offices, and industrial work. Apply: Howard V. Lobb & Partners, 8, Gower Street, W.C.1. 9861

NORMAN & DAWBARN require **ARCHITECTURAL ASSISTANTS** in the following categories:-(1) At or about R.I.B.A. Intermediate standard, with from 3 to 6 years continuous office experience; (2) at R.I.B.A. Final standard or qualified with not less than 5 years continuous office experience. Salaries according to age and length and type of experience. Applications, stating age and details of career, should be made in writing to 5, Gower Street, London, W.C.1. 9864

DRAUGHTSMAN required, with knowledge of timber building construction and general joinery. Good opportunities for man capable of working on own initiative. Pension scheme. Apply Box 9859.

SENIOR ARCHITECTURAL or BUILDING DRAUGHTSMAN required for factory work. Should have knowledge of steel-framed and reinforced concrete construction and specifications. Permanent position, with scope for advancement. Salary according to qualifications and experience. Non-contributory pension and insurance plan. Write Personnel Dept., Kodak (Factories), Ltd., Wexham, Middx. 9854

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECTS' DEPARTMENT, MANCHESTER.

APPLICATIONS are invited for the following appointments:-

(a) **SENIOR ASSISTANT ARCHITECTS**, with experience of work on commercial and industrial projects.

(b) **ASSISTANT ARCHITECTS**, capable of preparing working drawings from preliminary sketches.

Salaries offered up to £915 (a) and £745 (b), according to experience, with prospects of up-grading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 9882

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECTS' DEPARTMENT, BIRMINGHAM.

APPLICATIONS are invited for the following appointments in a newly formed Branch Office to be opened in July. Interesting and varied commercial and industrial projects:-

(a) **SENIOR ASSISTANT ARCHITECT**, with experience in Store and Shop design.

(b) **ASSISTANT ARCHITECTS**, capable of preparing working drawings and details from preliminary sketches.

Salaries offered up to £915 (a) and £745 (b), according to experience, with prospects of up-grading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 9881

SENIOR ARCHITECTURAL ASSISTANTS required in busy London office. Pleasant office conditions. Opportunities for working on own initiative for experienced and capable men. Salary £850-£900, or according to ability. Good prospects. Full details to Box 9925.

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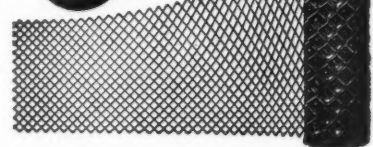
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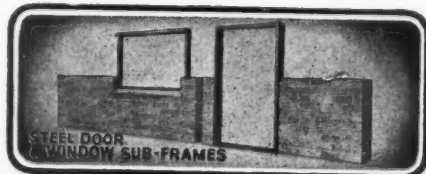
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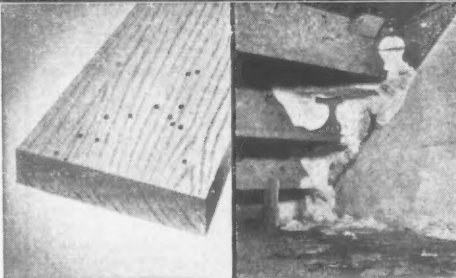
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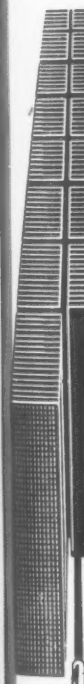
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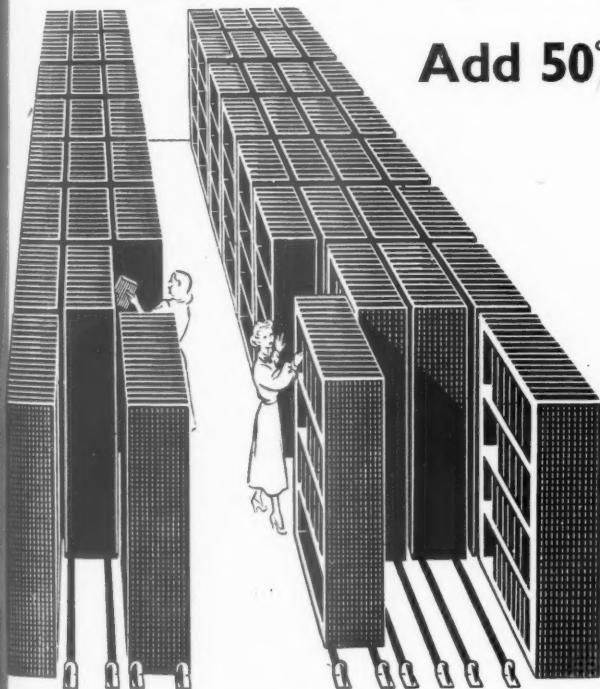
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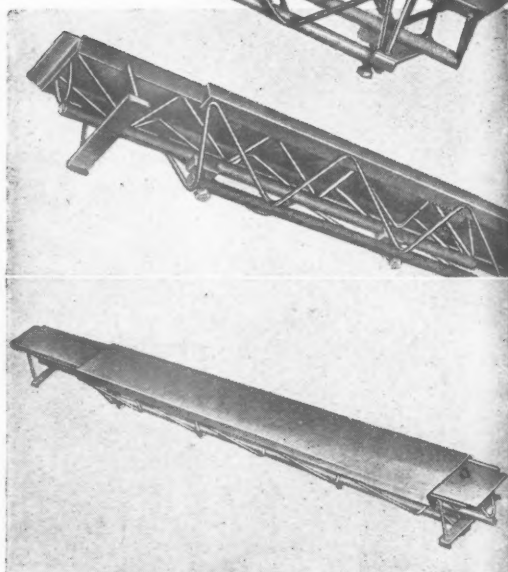
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