ARCHIT



tandard

contents

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

and COMMENT NEWS

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URRENT BUILDING

Major Buildings described:

Details of Planning, Construction,

inishes and Costs uildings in the News

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0. 32321 [Vol. 125

ARCHITECTURAL 11 and 13, Queen Anne's Gate, Westminster, 'Phone: Whitehall 0611

> Price Is. od. Registered as a Newspaper.

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

Institution of Heating and Ventilating Engineers. 49, Cadogan Square.

Incorporated Institute of British Decorators and Interior Designers.

100, Park Street, Grosvenor Square, W.1.
Institute of Landscape Architects, 2, Guilford Place, W.C.1.
Institute of Arbitrators. Hastings House, 10, Norfolk Street, HBDID Mayfair 7086 Holborn 0281

I of Arb Strand, W.C.2. Temple Bar 4071 Museum 7179 IOB 48, Bedford Square, W.C.1. Institute of Builders.

Institute of Builders, 40, Bedford Square, w.c.i.
Institute of Quantity Surveyors. 98, Gloucester Place, W.1.

Welbeck 1859
Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
Institute of Registered Architects. 47, Victoria Street, S.W.1.
Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.1.

Lead Development Association. Eagle House, Jermyn Street, S.W.1.

Whitehall 7264/4175 IQS IR IRA ISE LDA

Whitehall 7264/4175 Museum 3891

London Master Builders' Association. 47, Bedford Square, W.C.1. Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1. LMBA LSPC Whitehall 7264/4175

MAFF MARS

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Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. Trafalgar 771
Modern Architectural Research Group (English Branch of CIAM). Secretary:

Trevor Dannatt, A.R.I.B.A., 71, Blandford Street, W.1. Welbeck 4713
Ministry of Education. Curzon Street House, Curzon Street, W.1. Mayfair 9400
Ministry of Health. 23, Savile Row, W.1. Whitehall, S.W.1. Ministry of Labour and National Service. 8, St. James' Square, S.W.1. Whitehall 4300
Ministry of Supply. Shell Mex House, W.C.2. Gerrard 6933
Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
Ministry of Works. Lambeth Bridge House, S.E.1. Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1. Abbey 1010 MOE MOH MOHLG MOLNS MOS MOT

MOW NAMMC

Natural Aspnalte Mine Owners and Manuacturers Council.

94/98, Petty France, S.W.1. Abbey 1010

National Association of Shopfitters. 9, Victoria Street, S.W.1. Abbey 4813

National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1. Welbeck 0619

National Council of Building Material Producers. 10 Storey's Gate, S.W.1. Abbey5111 **NBR** NCBMP

NEFMAI National Employers Federation of the Mastic Asphalt Industry.
21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927 NFBTE

National Federation of Building Trades Employers. 82, New Cavendish Street W.1. Langham 4041 Langham 4041/4054 **NFBTO**

National Federation of Building Trades Operatives. Federal Flouse,
Cedars Road, Clapham, S.W.4. Macaulay 4451
National Federation of Housing Societies. 12, Suffolk St., S.W.1. Whitehall 1693
National House Builders Registration Council. 82, New Cavendish Street, W.1.
Langham 4341 **NFHS**

NHBRC NPL Molesey 1380

National Physical Laboratory. Head Office, Teddington. Moles Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. NRDB Mansion House 9383

NSAS National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1. Trafalgar 6838 NT

National Trust for Places of Historic Interest or Natural Beauty.

42, Queen Anne's Gate, S.W.1.

Political and Economic Planning.
Reinforced Concrete Association.

42, Queen Anne's Gate, S.W.1.

16, Queen Anne's Gate, S.W.1.

94, Petty France, S.W.1. Whitehall 0211 Whitehall 7245 PEP RCA RIAS Abbey 4504 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 Street, S.W.1.

Whitehall 5322/9242 Whitehall 3935 Royal Fine Art Commission. 5, Old Palace Yard, S.W.1.
Royal Society. Burlington House, Piccadilly, W.I.
Royal Society of Arts. 6, John Adam Street, W.C.2.
Royal Society of Health. 90, Buckingham Palace Road, S.W.1.
Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. W
Society of British Paint Manufacturers. Grosvenor Gardens, S.W.1. RFAC Regent 3335 RS RSA Trafalgar 2366 **RSH** Sloane 5134 RIB Wimbledon 5101

SBPM Victoria 2186 Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244 School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.

SFMA Mansion House 3921 SIA Society of Industrial Artists. 7, Woburn Square, London, W.C.1.

Langham 1984/5 Structural Insulation Association. 32, Queen Anne Street, W.1. SIA SNHTPC Langham 7616 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

Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. TCPA Temple Bar 5006

Timber Development Association. 21, College Hill, E.C.4.
Town Planning Institute. 18. Ashley Place, S.W.1.
Timber Trades Federation. 75, Cannon Street, E.C.4.
War Damage Commission. 6, Carlton House Terrace, S.W.1.
Zinc Development Association. 34, Berkeley Square, W.1. TDA City 4771 Victoria 8815 TPI City 5040 Whitehall 4341 TTF WDC

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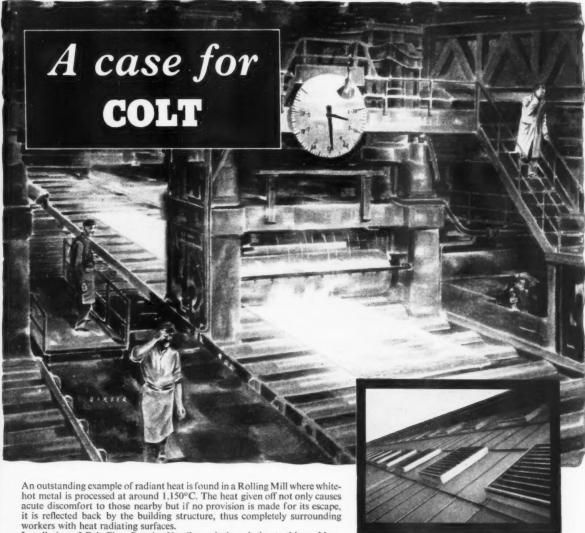
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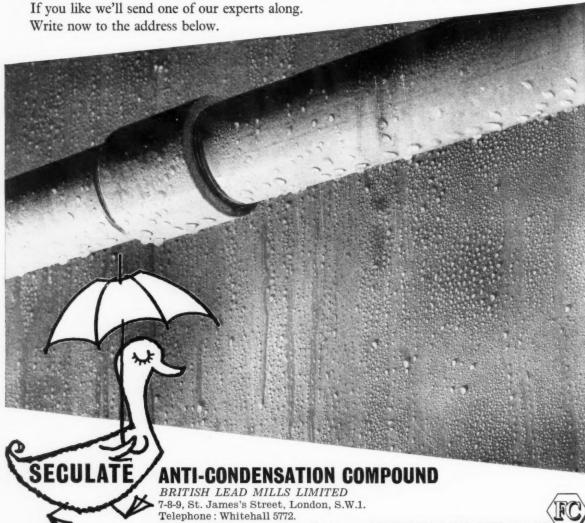
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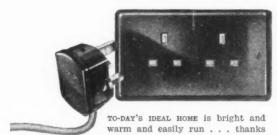
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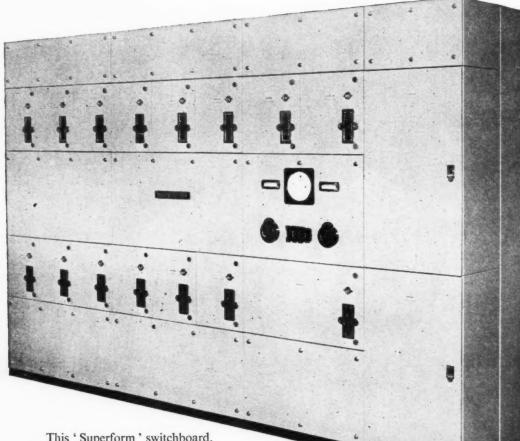
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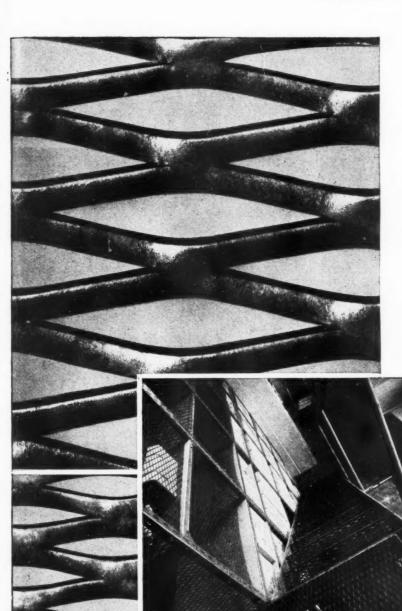


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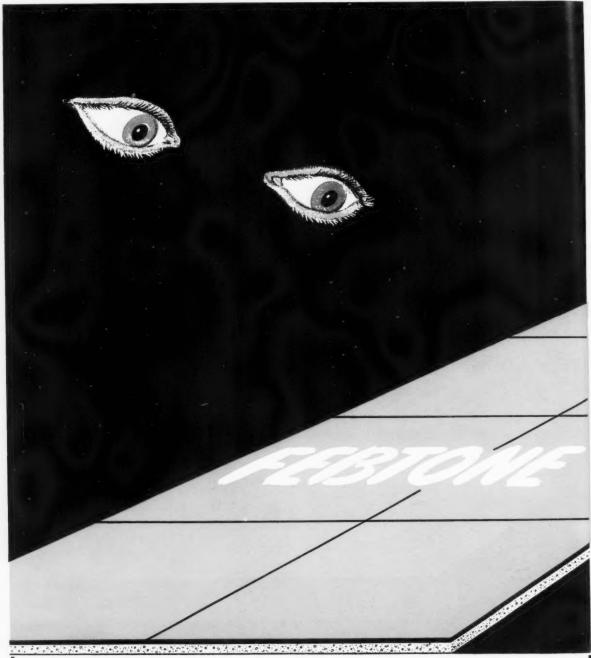
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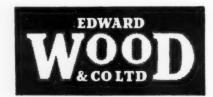
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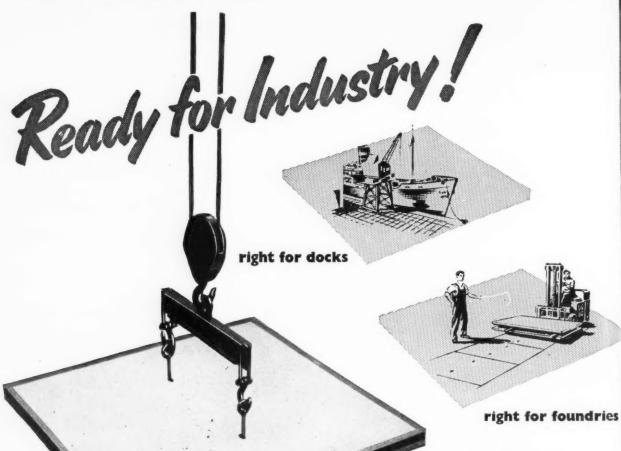
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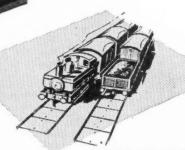
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Telephone: Bolton 1840/4

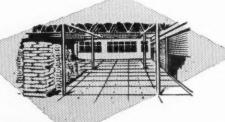


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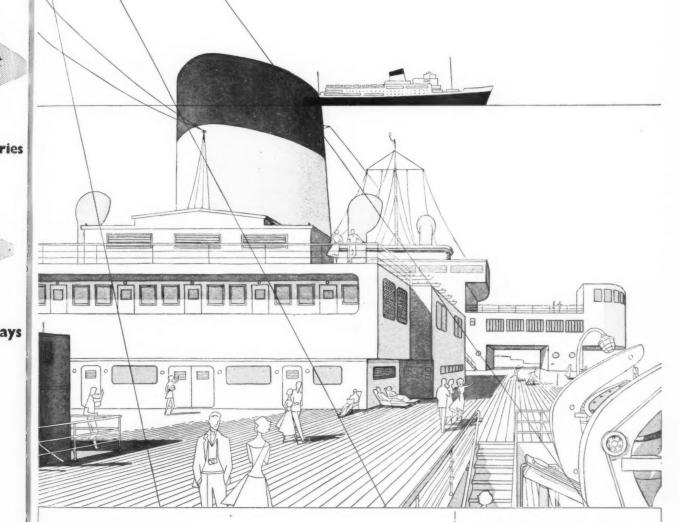
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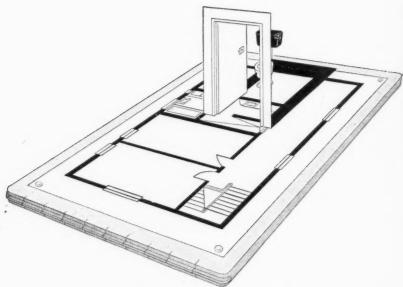
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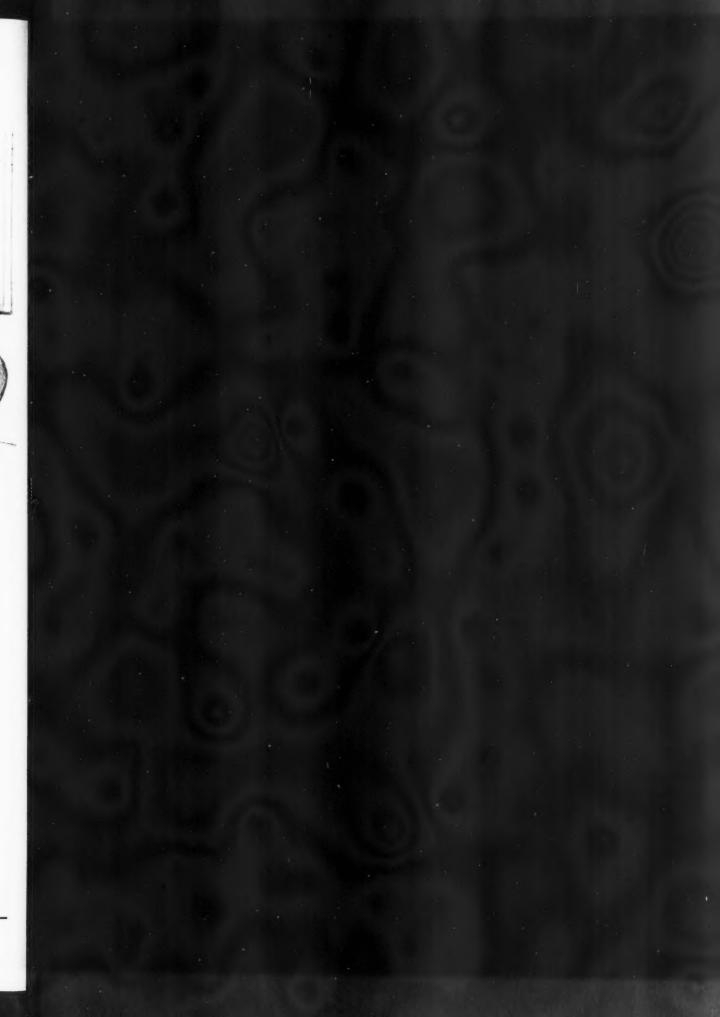
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ECONOMICAL



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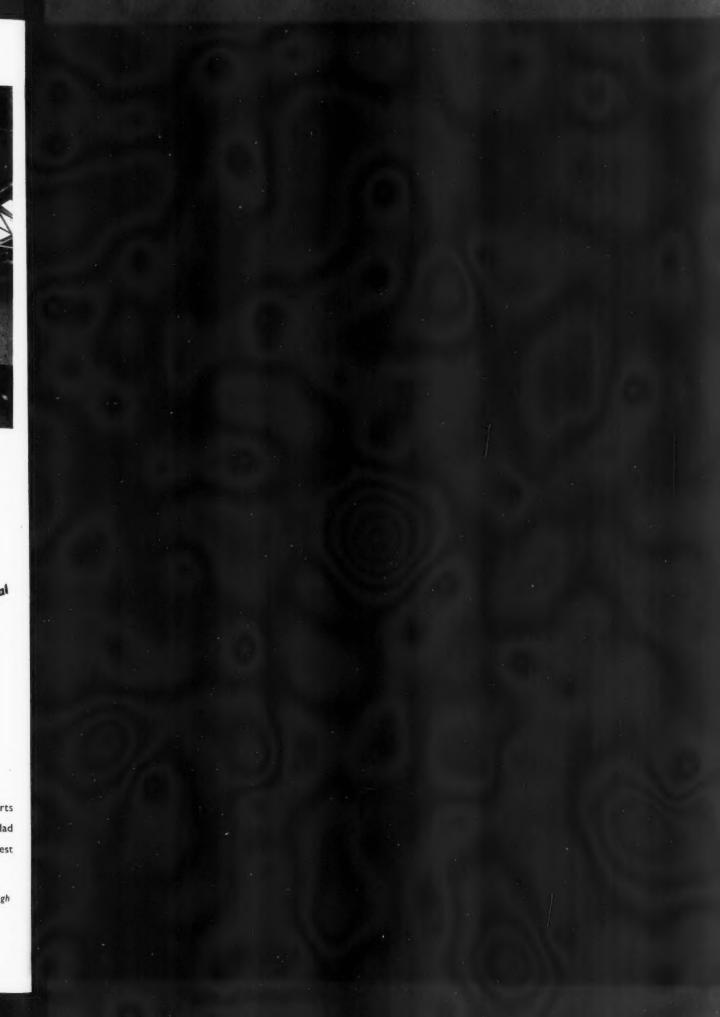
anti-corr acoustical anti-condensation fire-resisting



BRITISH & FOREIGN PATENTS

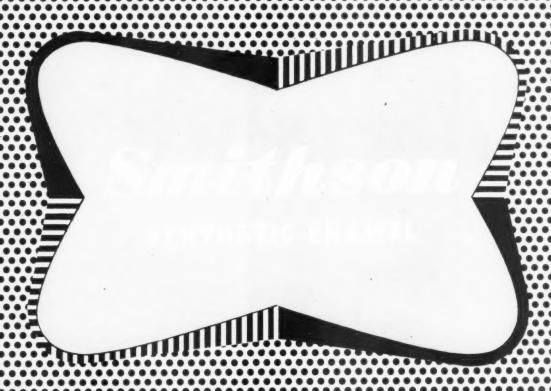
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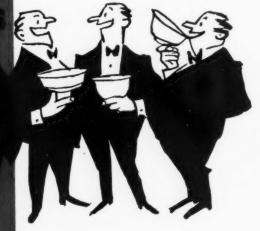
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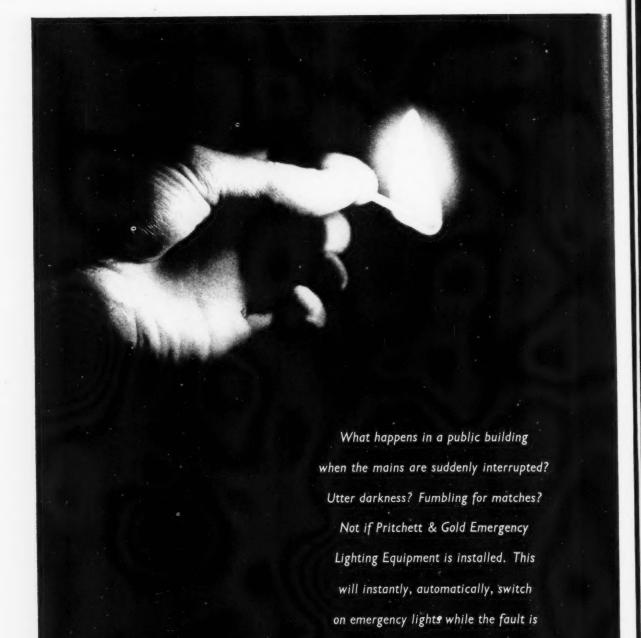
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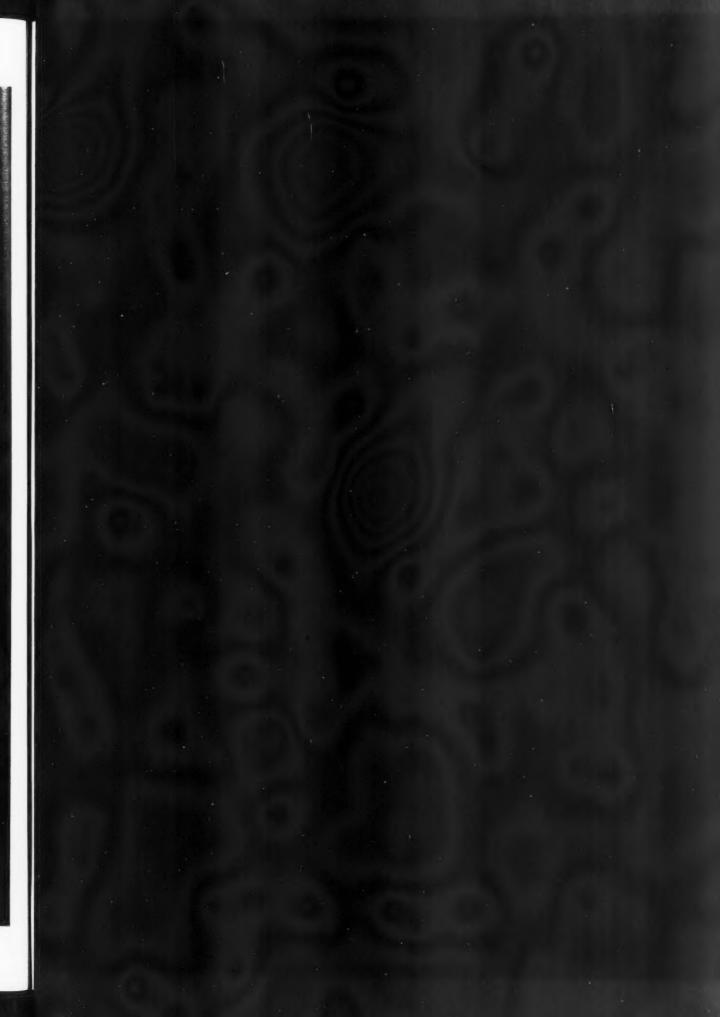
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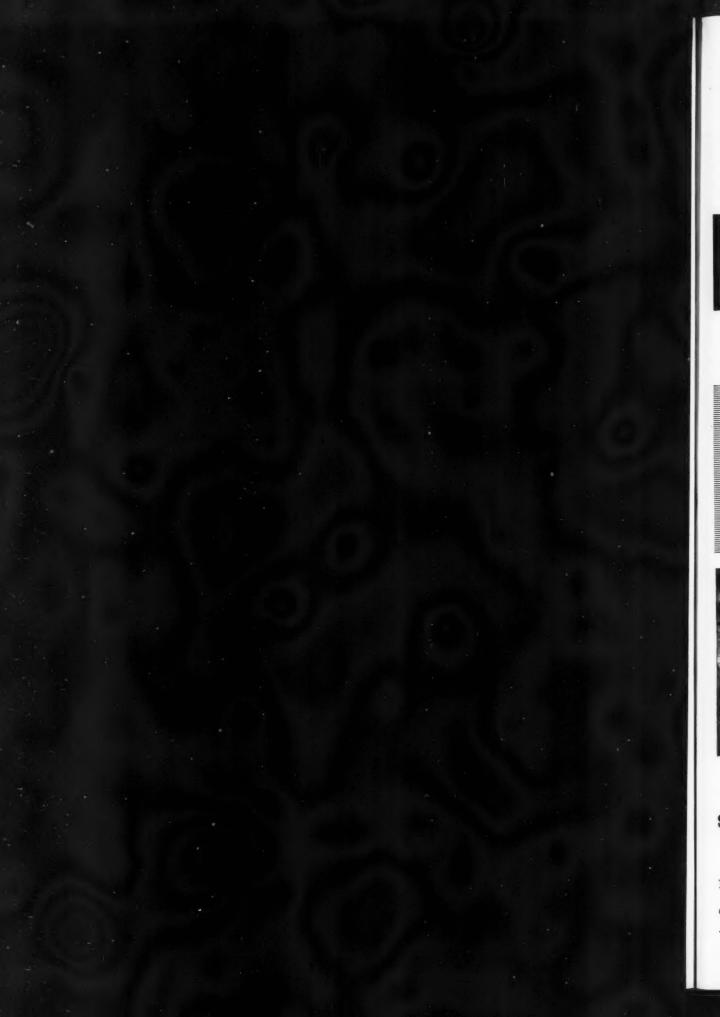
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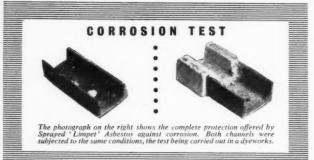
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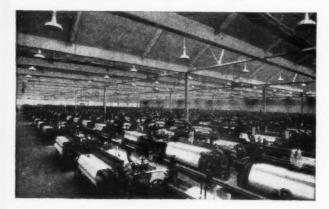
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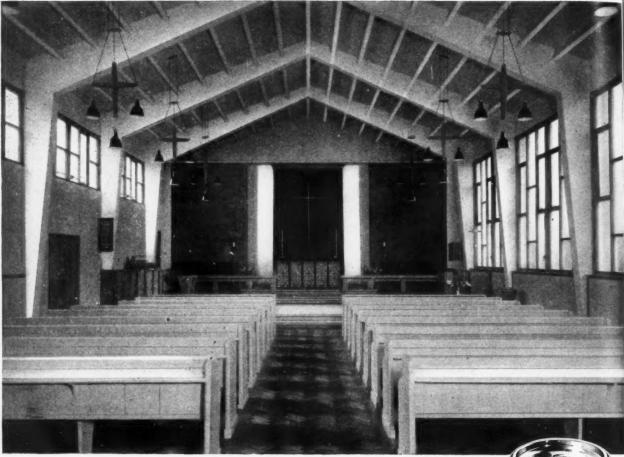
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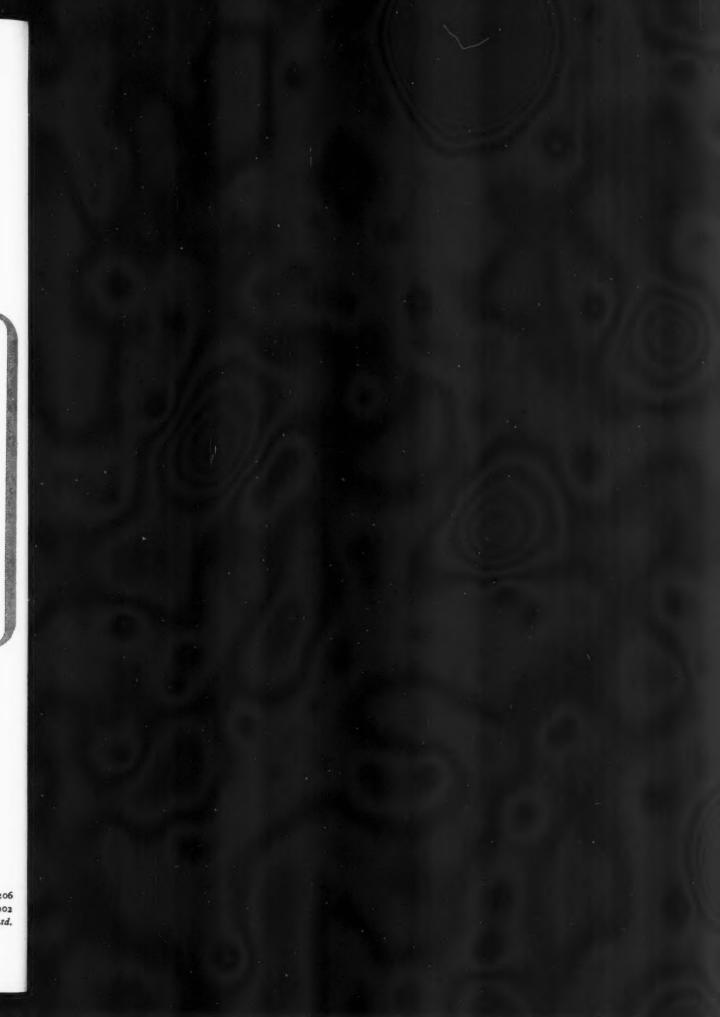
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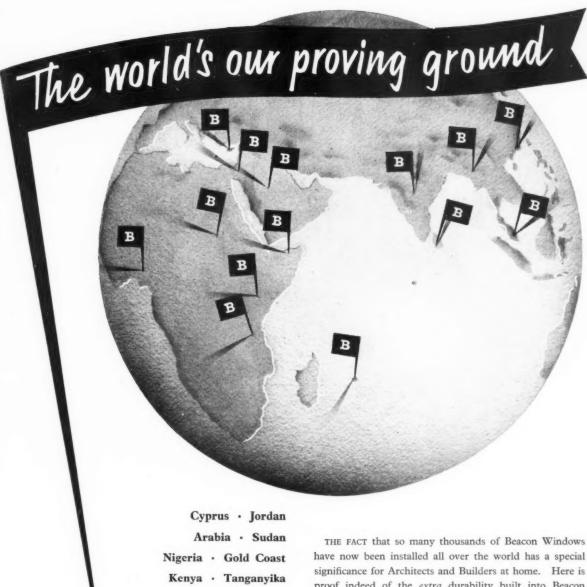
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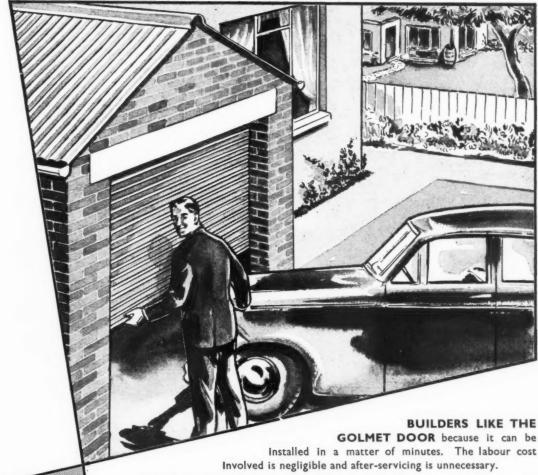
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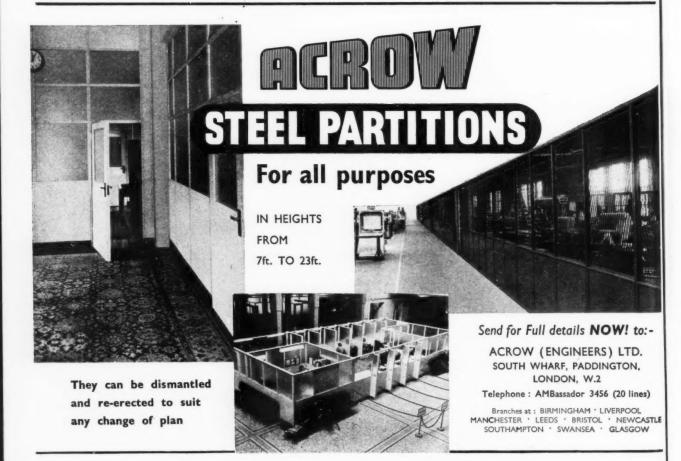
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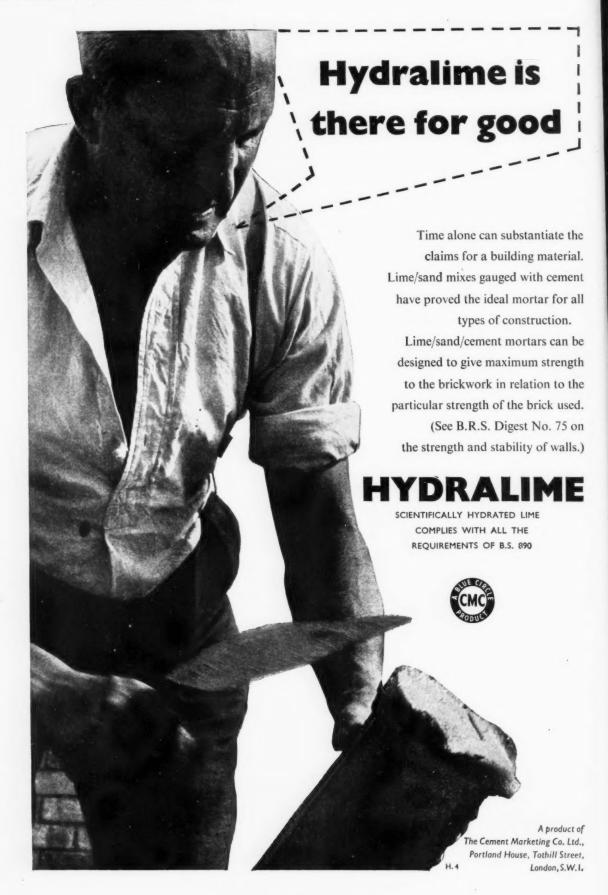
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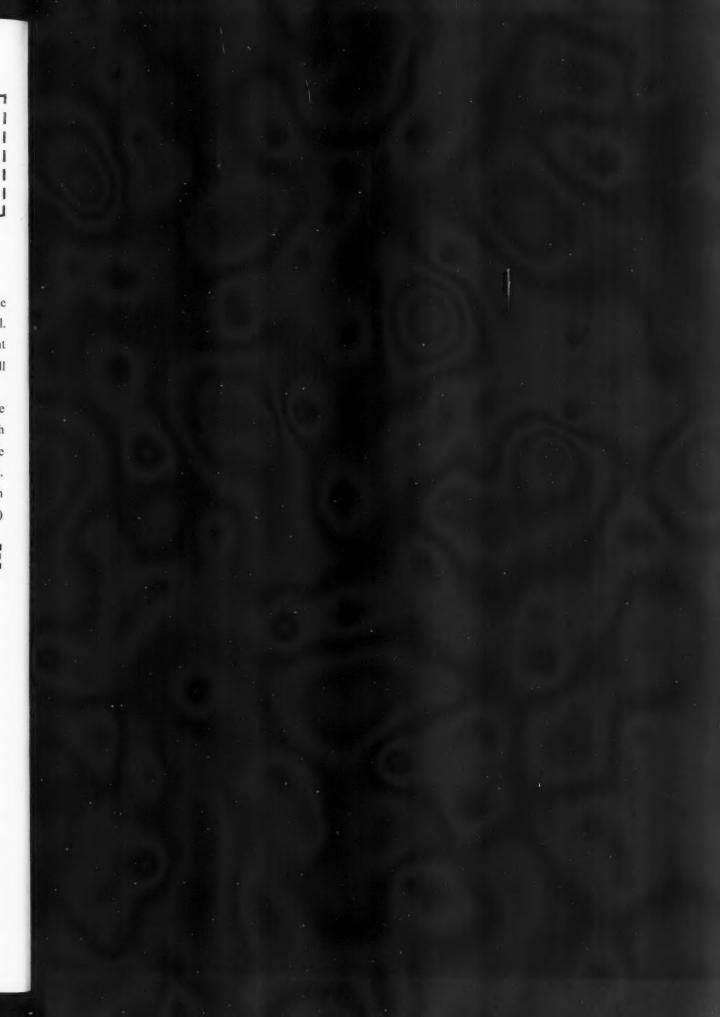
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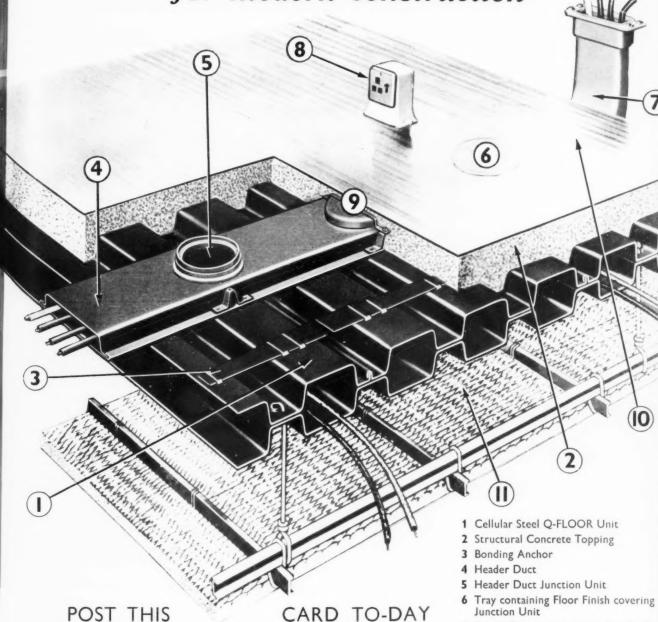
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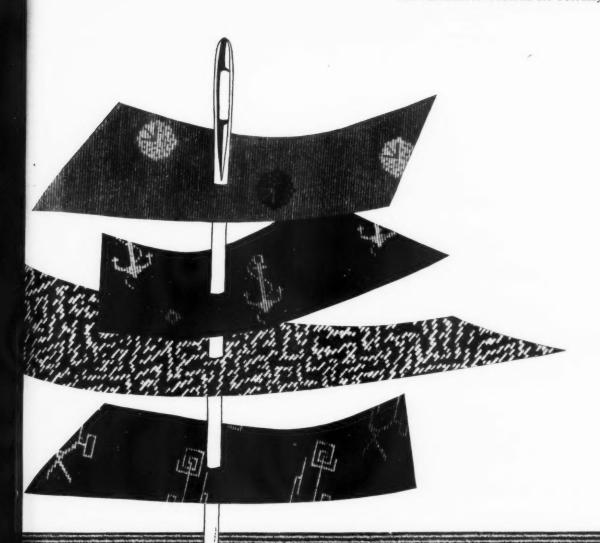
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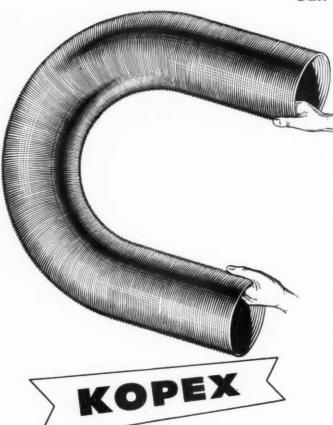


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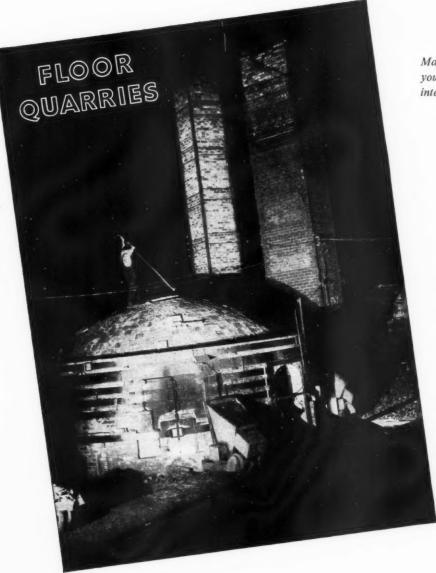
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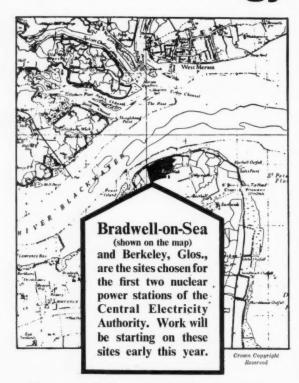
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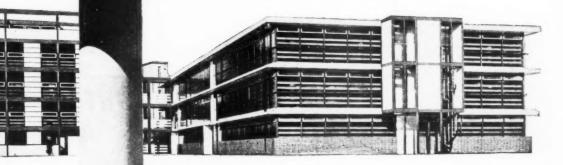
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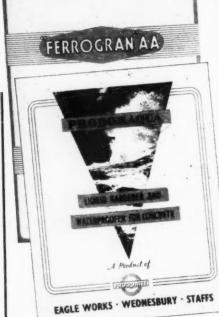
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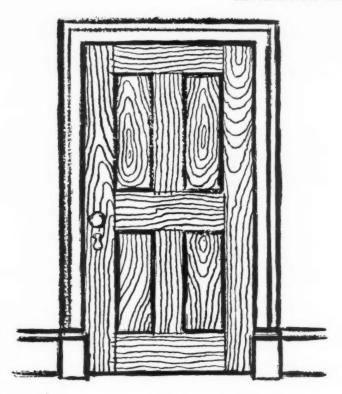
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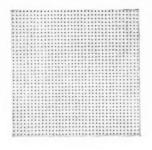


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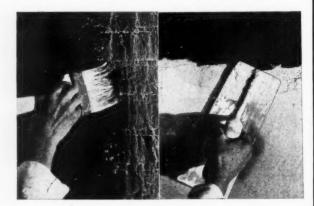
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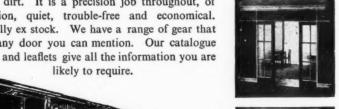
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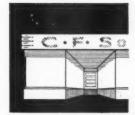
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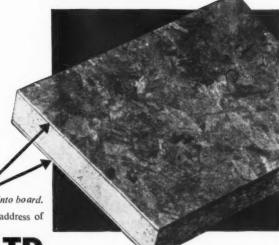
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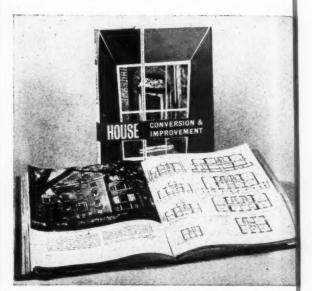


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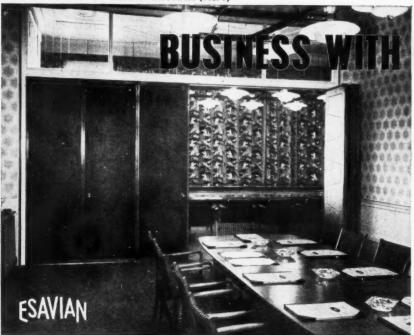
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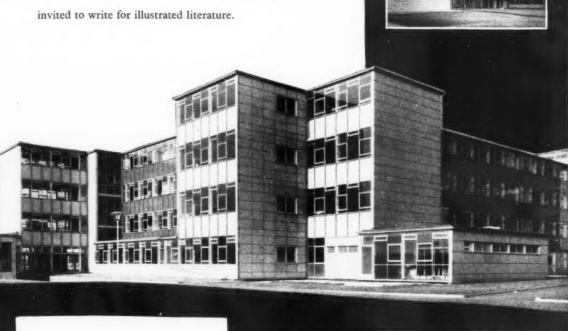
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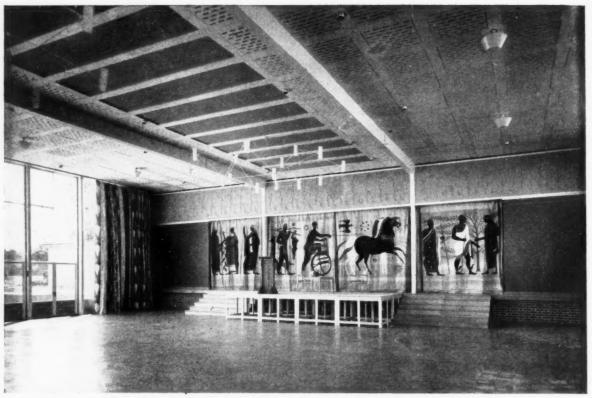
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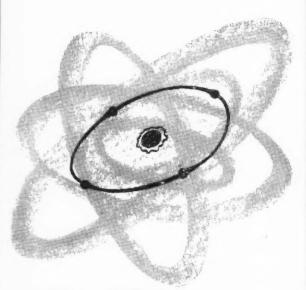
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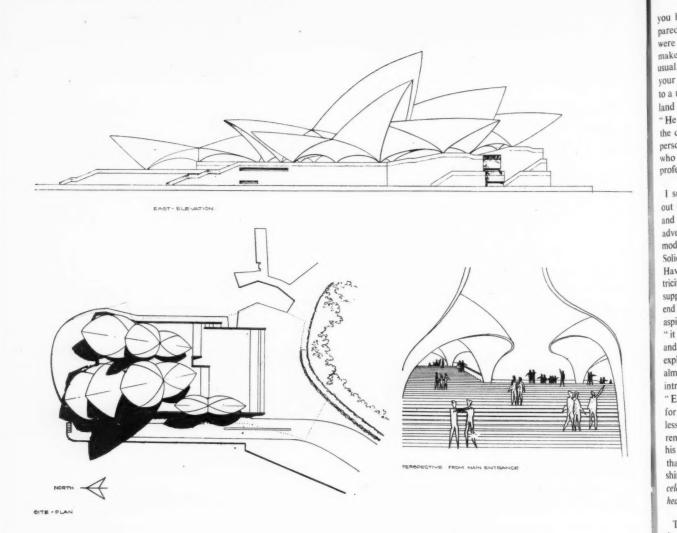
NOT QUITE ARCHITECTURE

WULF MONATH

Or, Look Back in February

Wulf Monath, as you were about to raise your hand and tell me, was the Saxon nickname for the month that has just slipped warmly away. And before you flick coldly to another page let me reassure you. This column has not been given over to one of those advertisers who hack out a little pen portrait of each month and link it laboriously to their life's work. (" Even if it does rain Pennies from Heaven, there is always the Eastminster Bank.") You will not find here any clever stuff about Janus. And even if my fingertips were bulging with poetic jibes about "drear, benighted Januar' or "month of clammy moist intent" you would not find them in this column. Nor must you expect any lively, useless gossip. This is no place for me to tell you that America has just produced pills that will turn you brown in wintry weather, or to remind you what the Daily Express said about Britain making Hbombs. ("Why not," said the Express. if you must know, "drop this expensive enterprise? ")

Because this column scorns the frivolous. do not expect a reasoned comment on Significant events. As far as this page is concerned those aimless Amis Fabianisms will be treated with the same unconcern as that dithyrambic hit of the American month, "We're Waltzing With Ike." And if I mention our currently-best Prime Minister, it is only because he has said something that should give new courage to every man who goes in fear of that dreaded monster, success. "There is nothing to be ashamed of," said Mr. Macmillan, "in getting to the top." And before you crack back nastily with "Tell that to the Conduct Committee," let me remind you that your watch-dogs have now invited you to consult them at any time about self-publicity. Anyway,



An opera house keeps in keeping

The winning design in the Sydney Opera House competition, which is shown here and on page 205, was the work of a young Danish architect, Jorn Utzon, a pupil of Alvar Aalto and a member of the Danish Academy. 220 schemes were submitted, and in choosing this one the assessors-who include Professor J. L. Martin and Eero Saarinen (see also page 204)—emphasise that the requirements of the programme may change and that it is unlikely that the building will be put up without alteration. Their first task has been to choose a scheme which is appropriate to the splendid setting of Benelong Point, and an architect who will carry out the work with imagination and skill. Their report stresses the special character of the site. Benelong Point is a peninsula of rock jutting out into the harbour. On such a site, they say, many forms of building would be inappropriate and ill-placed. In the winning scheme, they write, there is a basic simplicity of conception. Benelong Point itself is formed into a series of ascending levels; below these levels are the changing rooms, stage workshops,

etc., and within them the two auditoria are placed side by side in the manner of the Greek theatre. level access allows separate pedestrian and covered car approaches. The placing of the theatres in the stepped plateau solves all the problems of escape staircases by elimination and produces a great simplicity of plan arrangement. The theatres themselves are covered by an interlocking series of shell vaults which fit as naturally into the harbour setting as the sails of its yachts. Each theatre is surrounded by double walls which the designer considers should be moveable; in practice the assessors feel that they will be used in this way only on a limited number of occasions.

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The designer writes in his report that "the remaining site should retain a stone character similar to the flagged square in front of the entrance staircase with flowers and plants in big boxes and jars. The whole exterior radiates lightness and festivity and is standing as a clear contract to the square harbour buildings of Sydney.'

you have a pretty comfortable life compared with your friends at the Bar, who were given a brand new set of rules to make the Monath more Wulf-like than usual. How would you like to consult your professional institute before going to a meeting where you might unwittingly land a job? And try this for sighs-"He (the barrister) must not seek out the company of or associate unduly with persons (other than personal friends) who can influence the sending to him of professional work."

I suggest that you stop grumbling, get out that furtive box of Christmas cigars and enjoy the implications of a recent advertisement in the New Yorker for "a modern-day miracle-Authentic, Colonial Solid Brass Kerosene Oil Lamps That Have Not Been Converted To Elec-What does this mean, do you suppose? Are we, perhaps, reaching the end of the pendulum's swing? Will the aspidistra soon come out of limbo, where "it has been joined by the concrete gnome and the monkey puzzle "? I quote that explorer-writer, Peter Fleming, whose almost-last words before he went off intrepidly to the Far Somewhere were, "Even in Subtopia there is a tendency for good taste to drive out bad." Doubtless he had taken heart from the most remarkable civic ceremony ever held in his Outraged county. At Woodstock, that pleasant limestone town in Oxfordshire, the Mayor had given a party to celebrate the removal of pylons and overhead electricity cables.

This event, by the way, was reported in the Spectator which also published in January the strangest piece of architectural criticism I have ever come across. A columnist who writes under the heading "Consuming Interest," broke away from his comments on bread, coffee, shrimp sandwiches and the state of fish and jam on British Railways, and made some nasty implications about the irresponsibility of an "army of specialists" (including an architect) who had worked on a house at an address he named. Having established a good case for the layman never to employ an architect, this gastronome-who surely belongs with the other gnome in limbo-went back to his more familiar world of meat pies, oysters and the advantages of buying chips in Notting Hill Gate.

But I digress. I was trying to tell you what this column is not. And one more thing it is not is a place for the ventilation of the opinions of Professor Sir Albert, who was-as you might suppose-vastly entertained by his quip of the month. "Public Buildings," he said, "should be ..." But you know the rest.

KENNETH J. ROBINSON.

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Craig.

* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous

The Editors

THE METAL WINDOWS REPORT

TONOPOLIES in trade and industry are something about which there has lately been a good deal of public disquiet, so it was refreshing and encouraging to discover, when the Report of the Monopolies and Restrictive Practices Commission on the supply of standard metal windows was published the other day, that the Commission considers the Metal Window Association's common price arrangement, as at present operated, to be notably free from the defects it has found in those of other industries.

The Times, which has come down severely on some of the practices disclosed in other reports by the Commission, entitled its summary of the report "Not Against the Public Interest," and the report itself, in discussing the difficult question of price fixing, referred to some of the efforts made by the Metal Window Association to establish a uniform system of costing, to exchange costing information between members, and to establish a method of fixing prices "by adding what the Association regards as a reasonable profit margin to an average cost which is normally heavily weighted by the lowest cost,' as "features we have not encountered in other industries." The Chairman of the Metal Window Association, with whose affairs the report was largely concerned, quotes this passage in his letter published on page 204, and is justified in claiming that the industry has much to be proud of.

The JOURNAL agrees that the industry, as represented by the MWA, has done much in recent years to put its house in order; indeed, this very phrase was used when the JOURNAL commented on the report a fortnight ago. The Chairman feels that the JOURNAL's other comments did less than justice to the Association. That was certainly not the Journal's intention. The JOURNAL fully appreciates the efforts that have been made over some years by the members of the Association to remove the defects that organizations of this kind often exhibit. Trade associations, especially those in possession of a near monopoly, are by their nature a potential danger to the public interest. That is why the Monopolies Commission is investigating them. The members of the MWA are clearly aware of this danger and will not dispute the JOURNAL'S duty to keep it before the minds of its readers. Nor is any industry free of past mistakes; but what is more important than the history of past mistakes and unsatisfactory practices, which naturally received attention both in the Commission's report and in the

JOURNAL'S comments on it, is the present organization of the industry, which the report makes clear is an unusually healthy one, compared with other industries in which a near monopoly exists, in spite of the various criticisms the report also contains. With regard to the more technical matter of hot-dip galvanizing, to which the Chairman specially refers and about which Michael Hope, a leading member of the MWA, writes in another letter, the JOURNAL is grateful for his account of the events that took place before 1943, and welcomes his and the Chairman's assurance that the Association has always sought a progressive policy on this question.



BEDFORD SQUARE

Very occasionally an architect or student writes to complain of ASTRA-GAL'S constant references to the AA. Often they confuse the Association with the School, but in any event, reference to this large and active London society is inevitable if they crowd the winter with excellent events. Only the other week this column contained an account of Eugene Rosenberg's talk and colour slides of Mexico. This has been succeeded by architect-planner-pianist Max Lock describing some of his work and visits in North Africa and the Middle East. His colour slides of Jerusalem, Jericho and Petra were covering fairly familiar ground, though worth seeing; however, his slides of Basra, and even more of Isfahan, showed that the khaki, dirty white, and dirty green of the East does, very occasionally, live up to the travellers' tales of being colourful. The two-tier arched bridges and the 16thcentury mosques of Isfahan, faced with green, blue and yellow tiles, and with multiple corbelled arches and niches forming the stalactite pendentives peculiar to Saracenic work were fascinating to see, even though the semidomed opening in a simple, rectangular wall is an oddly unsatisfactory shape to at least one Western eye.

Incidentally, if Max Lock's camera is accurate, those old water-colours done by great-uncle (late C.O. of the Sind Scouts) Napier, which adorned so many middle-class walls before being lost in the attic were dead accurate: the hazy white sky, the shallow brown tanks, the dirty green trees, all the colours muted by dust and heat, were exact Victorian impressions of what you will still find today.

DEAD CENTRE

Another recent event at the AA was last week's talk by Graeme Shankland (of the LCC's Planning Division) titled "Dead Centre." This talk was splendidly delivered, in a racy incisive manner, well attended (Professors Holford, and Myles Wright, Sir Patrick Abercrombie, and so forth) and it gave a very worthwhile survey of current avant-garde thought on town planning. That is to say, he listed as necessary factors for the planned redevelopment of towns: concentrated, large-scale (as apart from patchwork) rebuilding, by means of Holford's urban trust, increased densities in specially redeveloped, pedestrian-planned, suburban areas (he gave as an example Vallingby, near Stockholm), pedestrian super-blocks of offices and shops (as proposed by Myles Wright), a more logical motorway development, and the acceptance of a "new scale" for town design (for which he instanced Perret's Le Havre, Chamberlin Powell and Bon's Barbican Scheme and 18thcentury English terraces. He concluded, and here the thud of ASTRAGAL'S jaw dropping must have disturbed half the room, by proposing the formation of a society to secure the "radical reconstruction of Britains cities."

The modern English tendency, when faced by an awkward situation, to spend immense energy in order to form a society to cope with the situation some time after it has radically changed-instead of streamlining existing machinery-is a trait which is responsible for driving many people (and this will soon include ASTRAGAL) to the comfortable, vigorous, invitingly nearposts, of the Commonwealth. excellent discussion which followed Shankland's talk was evidence of the quality of the audience and of the stimulation provided by the speaker's forceful survey.

Some of the ideas put forward by Shankland echoed those in "Counter Attack," the Architectural Review's riposte to its issue titled "Outrage." This magnificent visual panacea has now been published in book form,* so if your copy of the Review is lost, torn, or has been suppressed by an infuriated town councillor, here is your chance to re-equip yourself, or to convert and arouse interest amongst a few of the thousands of conscientious citizens who only need a visual lead in town and country design.

GOODBYE TO MARS

After last August's CIAM congress at Dubrovnik this column told you about the heart-searching over there about the future of CIAM, and a committee had been set up to discuss it, with the probability that CIAM would disappear in its old form, to be replaced by some new organization better suited to today's requirements.

It was inevitable that the need for a change should also be felt in the MARS Group, the English branch of CIAM. In fact the Group is to be disbanded. This does not mean that there is not plenty of work

* Counter Attack. Architectural Press. Price, 12s. 6d.

" individual buildings with their own character to form and enclose a

large piazza relating in turn to both harbour and view and giving the

site a radiant sense of space." More details will be published in a later

story related when responding to the

toast of the Guests at the NFBTE's

very fine dinner and dance last week.

It may have been that his strong, near-

clerical intonation made them un-

prepared for an excellent admiral-and-

bishop anecdote of such vintage that

my informant, who thought it was new,

had to be assured by Secretary C. D.

Spragg that it wasn't. The most im-

portant speech of the evening was an

excellent one by Henry Brooke, the

new Minister of Housing and Local

Government. It was his first address

to builders—and a sprinkling of archi-

tects-since taking office and he

showed himself to be already familiar

with current problems and ready to

take action. He spoke in response to

President Nigel Hannen's toast of the

Government, which was another amusingly delivered speech.

Hannen took care to emphasise the

point that the credit squeeze is about

to make its impact on the building

In order, he asserted, to ensure that

when the present crisis is mastered the

work will be "ready planned in all

respects to be fed to the industry " now is the time "to start preparing for the future and seeing that the drawing

boards are filled." Here is a nice

demonstration of essential work pro-

gramming-how fortunate you readers

are to have such powerful support on

ASTRAGAL

issue. See pages 200 and 205 for first prizewinning design.

industry.

your behalf.

MARS and CIAM nearly thirty years

Meanwhile let us hope someone

will undertake the job of producing a

history of MARS and its influence.

The latter has been-indirectly rather

than directly-enormous, and the life-

time of the Group, about which many

people will feel quite sentimental now

that they have to say goodbye to it,

has coincided with a most significant

phase of the evolution of modern

it has done more than coincide with it;

Kenneth Cross, PRIBA, brought the

house down, ASTRAGAL learns, with a

Indeed.

architecture in this country.

it has largely brought it about.

NFBTE DINNER

Here, without comment, are two of ASTRAGAL'S favourite exhibits at this year's furniture

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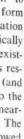
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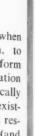




















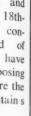














The third prizewinning design in the Sydney Opera House competition

is the work of the British Architects, Boissevain and Osmond. This

early block model of the scheme shows how a theatre (left), a

restaurant (foreground) and another theatre (right) are planned as

still for a research and propaganda

body or that contacts with modern

architectural groups abroad are not to

be kept up, but it was felt that the

structure and character of the old

MARS Group, which was essentially

part of the architectural history of the

1930's, were ill-suited to present-day

circumstances, and that new, active

groups would have a better chance of

establishing themselves if the remains

of the somewhat inactive MARS

Group were no longer there to confuse

the picture. Before long we shall prob-

ably be hearing news of several pro-

mising new programmes of study,

national and international, being pur-

sued by members of the younger

generation, resuming in a new way the

tasks taken on by the founders of

exhibition. The exhibition is reviewed on page 207.



















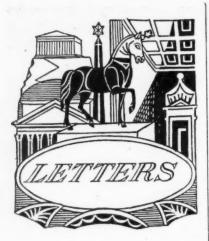












Eric Caswell, Chairman of Metal Windows Michael Hope, Chairman of Henry Hope and Sons, Ltd.

Metal Windows

SIR.-I must write to record my surprise at the tone, title and content of your article on the recent investigation by the Mon-opolies Commission into the supply of metal windows, which in my opinion misses the real substance of the report, and is misleadingly inaccurate on some of the details which it selects for comment.

The most effective reply would be to get your readers to study the report for themselves and so form their own opinion. I hope many of them do so. For those who cannot I would like to make the following

points.

Your article dismisses as "an academic issue" the question whether the Associa-tion operates in the public interest—the issue before the Commission. It side-steps its verdict "on the defendant" reached after nearly three years of painstaking investigation, and selects the picture of the metal window industry over the last quarter of a century as the matter of main interest to architects, and then proceeds in certain important respects to misrepresent it.

As an example of this misrepresentation, your article states that until 1943 it was the official policy of the MWA "to belittle the claims of hot dip galvanizing." In point of fact, in 1939 one firm already had a fullscale plant in operation and another had one practically completed. The then Chairman of the Association said in 1939 "the time has come when it is necessary for the Assonas come when it is necessary for the Asso-ciation to have a development programme in respect of galvanizing." It was obviously impracticable to embark on a widespread promotional campaign for a new process until the facilities existed for applying it, but this does not amount to "belittling" the process.

Coming to the important post-war period. your article states that in 1947, the year of the Cement Costs Report, the Association, in common with other trade associations, adapted their methods to meet the new adapted their methods to meet the new turn in public opinion, and that "apart from this, times had changed." In the first place, the distinction which you make is quite unreal. Opinions change because of the change in conditions. Furthermore, so far acting in common with other trade associations, I know of no other industry which realized the need for change so soon after the war, and I very much doubt whether any other industry has at any time paid any attention whatever to the Cement

Costs Report, whose recommendations the MWA had accepted in full within a few months of their publication in May, 1947. In this connection I would like to quote

from paragraph 232 of the report, which

as follows:

"We accept the MWA's contention that its methods of pricing, together with the exchange of costing and technical information, have helped towards reducing its members' costs. The efforts made in recent years to establish a uniform system of costing, the unreserved exchange of costing information between all the members with a substantial share in the trade, and the method of fixing prices by adding what the Association regards as a reasonable profit margin to an average cost which is normally heavily weighted by the lowest cost, are all features which we have not encountered in other industries. This brings me to the vital point. The

report records a unique attempt to raise the level of efficiency of a whole industry by co-operation involving the willing exchange of the most confidential information. nowhere near complete, but already within the Association it has produced benefits which far exceed our most optimistic hopes, We believe it holds a lesson which the whole of British industry might study with

profit.

vital, significant point your article etely misses. Instead of seeing the completely misses. completely misses. Instead of seeing the promise for the future, you prefer to continue to "think the worst" about us as "a near monopoly." Whether this is a sign of "feeling smug" I do not know. It certainly indicates a view of the situation which we do not share. This industry which we do not share. This industry knows its future depends wholly upon its retaining the goodwill of its customers, and that there is no quicker road to ruin than to believe that there is no alternative to its products.

London.

ERIC CASWELL.

SIR.-I write to correct two mis-statements of fact in your editorial of January 24 on the Metal Window Industry:

It is not true that until 1943 " when the Ministry of Works required 100 per cent. rustproofing the official policy of Metal Window Association was to belittle the claims of hot dip galvanizing. The MWA advocated the rustproofing of all metal windows before the 1939 war, and only the outbreak of war delayed the implementation of this policy; indeed my own firm had a large hot dip galvanizing plant in full operation by 1939. Since the war MWA has energetically supported its members in installing various types of rustproofing plant-including hot dip galvanizing; it has also taken steps to see that these plants were made freely available to all its members throughout the country.

2. It is not true that in 1947—or at any other time—the MWA declined to admit new members. It has always refused membership to firms which were without experience in window making, which is rather a

different thing.

During its 23 years' existence the Metal
Window Association has more than once adopted policies with which my firm has not agreed, but taken on the whole its activities have been of immense benefit to the Building Industry and we are proud our membership.

Whether window makers or editors suffer more severely from complacency I leave to your readers to judge.

MICHAEL HOPE.

Birmingham.

[See Leader on page 201-ED.]

NEWS IN BRIEF

The first prize in the international competition for an opera house in Sydney has been won by Jorn Utzon, of Denmark, who receives £A5,000. (His design is shown opposite.) The second prize, of £A2,000. has been awarded to a group of architects in Philadelphia—J. Marzella, L. Loschetter, W. Cunningham, W. Weissman, M. Brecher, R. Geddes and G. Qualls. The third prize, £A1,000, goes to the British architects. Boissevain and Osmond, of London. A block model of their design is shown on page 203. The competition's assessors were Professor J. L. Martin, Eero Saarinen, Cob-den Parkes (the New South Wales Government architect) and Professor H. Ingham Ashworth, Dean of the Faculty of Architecture at Sydney University.

Tickets are still available for the RIBA dinner at the Dorchester Hotel, on February 27, but applications for tickets must be re-ceived by February 12. They cost 35s, each for members and guests. Tables for eight, ten or twelve can be provided, and the Secretary says that when the seating is being arranged every attempt will be made to ensure that people who wish to sit together are able to do so.

We regret to announce the death of F. W. B. Yorke, F.R.I.B.A., of Birmingham. We shall publish an appreciation of his work next week.

Miss M. J. Meyell, the Finsbury Borough Council's Housing Manager, described the architect as the "king-pin" in the solution of some of the problems experienced by tenants and by managements in blocks of flats, when she spoke on "Rehousing in at the Housing Centre recently.

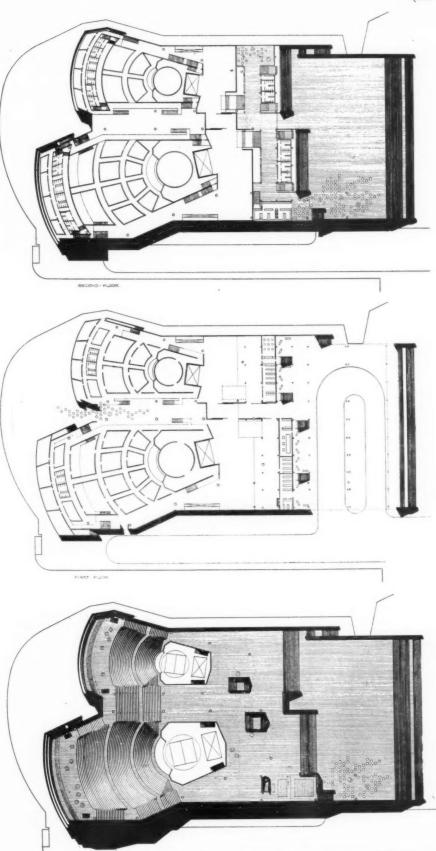
While Miss Meyell paid tribute to the architects' "co-operation and forbearance," and described the new flats as "wonderful" architects' her evident intention was to impress upon architects the need to bear in mind some of the details of day-to-day living which must be attended to in the design of flats if they are to be pleasing to live in and easy to manage. The difficulties arose through lack of privacy and the sharing of communal facilities. She made a strong communal facilities. She made a strong plea for mixed sizes of flats on each estate, because families soon became a bedroom surplus or deficit, and everyone in a mixed community should be able to exchange within its bounds. Flats would inevitably be occupied by a large number of children, and the lay-out should be open and easy to supervise.

Architectural features which produced concealed corners and spare bits of land behind garages and sheds could be an endless source of trouble. Grass areas were attractive but not easy to rear in London, and playgrounds should have first call upon the space available even if they were not so nice to look at. There should be play areas for different ages, as "dolls' prams don't mix with footballs," and small areas for small children as near the flats as possible.

New designs cutting down access balconies would be popular. Just as people did not want to see too much of their neighbours. so they did not want to hear too much of More and better sound-proofing was everybody's wish. Lifts should have as few bits and pieces that could be unscrewed or pulled off as possible, and the surfaces should not be such that one could scratch names or messages on them.

Miss Meyell also referred to the unpopularity of ground floors among tenants on account of the noise; for this reason Fins-hury was now going up on "stilts" bury was now going up on "stilts"—although that, she said, was not what the architects called them.

SY, DNEY OPERA HOUSE COMPETITION: JORN UTZON'S WINNING DESIGN (See also page 200)



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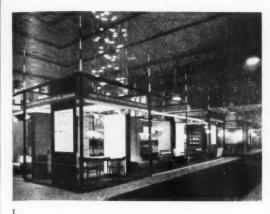
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In this pictorial review of the Furniture Exhibition, prepared by a team of designers, the better exhibits are shown in their respective groups, starting with good reproduction furniture and progressing through the conventional ferms of construction to the latest and more advanced unconventional forms. Each piece has been chosen because it is among the best of its respective kind, and an attempt has been made to show how, at one time, various philosophies of design can produce furniture ranging from good reproduction to good modern. Not surprisingly, the so-called "Traditional" which is just so much mediocrity does not find a place in any of

these classifications. Prices are given so that fair comparisons can

be made. It is unreasonable, but none the less often done, to criticize a piece of furniture for not having the identical amenities of another piece of its own type which is four or five times the price. Manufacturers who were not represented at the Show are not included, and it is to be hoped that some of the better among these, who could help to improve the standards of the Industry, by good examples, will be encouraged to participate in future exhibitions. Although the trade bazaar looked like a selective exhibition this year (1), the gleaming curvacious bedroom suite (2) was still in evidence. But it is an encouraging sign that the makers of this suite also made the one in picture (3).

THE FURNITURE EXHIBITION







Ever since its foundation the Furniture Show has been an "Aunt Sally" for the jibes of the design conscious, Whilst the furniture manufacturers of this country have deserved strong criticism, and still do for that matter, it is rather inept to talk scathingly of the exhibition as "a trade bazaar" when the object of the show has been to be a trade bazaar. The exhibition has existed solely for manufacturers to sell furniture to retailers, and the rest of the population (including architects) has been ignored in the past. Full marks then to the organizers for deciding to have a two-section show with the main part open to the public, and to Misha Black and Design Research Unit for succeeding in making the trade bazaar look like a selective exhibition.

Many people fail to appreciate the problems that beset the furniture trade in this country. We have a compact little island and transport is not (Suez apart) much of a problem. This means that the location of a firm's factory is relatively unimportant and any part of the country can be supplied. As a result we have some of the largest furniture factories in the world and many of them are exceedingly efficient. We may not lead the world in furniture design but there is a lot to be said for the *price* and *quality* of the British products. Go to France or Italy and try to buy some well made, reasonably priced furniture, and you will soon see what we mean.

It is no use blaming the industry for the appearance of the majority of its efforts

without considering the effect of the retail buyers on design. For the most part, these people are to the furniture trade what the building societies are to housing. They decide what will sell and as their jobs depend on selling what they buy, they are not unnaturally cautious. The public sees what the retailer buys and has little chance except to take what is offered. And so we have vast quantities of mythically "traditional" furniture which is no more traditional in design than the semi-detached, with all mod cons., that it is destined to grace.

The furniture trade has suffered from several sharp recessions, however, and the examples of a few outstanding firms is teaching the industry the value of sound design. In fact the increased competition to get as large as possible a slice of the National Income is making manufacturers realize more and more the need to make people "want furniture for itself." This is the sort of positive approach to design that is needed, and it is encouraging to learn from the Council of Industrial Design that the number of firms seeking the assistance of independent, qualified designers has shown a "marked increase in the past year."

This development is bound to be encouraged by the displays of the Council of Industrial Design and the Society of Industrial Artists, whose stands formed the perimeter of the exciting central area, in their first appearance at the exhibition.

first appearance at the exhibition. The Council of Industrial Design exhibited furniture selected by them as being the best

SCHOOL DESIGNS

- 4. Canterbury was represented by a group of vulgar, over-selfconscious dining furniture. Are these students not taught to analyse their design problems or to be discerning in their use of decoration?
- 5. Beckenham showed a pixilated group of furniture—for who but a fairy could sit on that little stool which shudders under the weight of a human hand. Refined almost out of this world it is quaintly reminiscent of Art Nouveaux.
- 6. Shoreditch had the best exhibit with pleasing furniture of sound design and straightforward construction which showed a welcome common sense approach that is badly needed by the up- and -coming designers for the furniture industry.

from the ranges of manufacturers partici-pating in the show. This immediately divided pating in the show. This immediately divided the exhibitors into the "U" and the "non-U" and gave the selected makers the pleasing sense of satisfaction experienced by the more fortunate participants in a school prize-giving, whilst with honour at stake the also-rans should be spurred on to greater efforts.

The Society of Industrial Artists' stand showed examples of the work of designers in

their Furniture Group, which the manufacturers should have found interesting.

This year's show was in two separated sections: on the ground floor, the new-look public section with its feeling of space and order and on the upper floor the trade only. order, and on the upper floor, the trade-only section with the old familiar Persian Market atmosphere.

The self-imposed division between the firms who think it worth while showing to the public and those who do not, served as a kind of automatic selection committee and there was little to interest architects in the trade section. In descending from the upper floor the escalator became a fantastic Wellsian Time-machine and one had the uncanny and exciting experience of appearing to move through time and space from the furniture world of four or five years ago into an altogether new and more hopeful

The best furniture was, therefore, in the public section. There were, of course, attempts in both sections by some of the curvaceous-glossy-walnut boys to try their hand at "a bit of contemporary," but the contemporary of two got within striking disalthough one or two got within striking distance, their efforts in the main demonstrated

quite clearly that there is more to modern design than an assembly of clichés.

The furniture design schools have an exhibit and although the examples of work are excellently made, they show a rather disappointing handcraft approach to design. With modern techniques making furniture

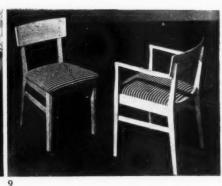
factories increasingly like engineering shops, using wood instead of metal, the industry needs entrants with a sound machine-technique appreciation who are competent draughters are stated in the same and the same are the same as the same are the same a draughtsmen and who can enter the drawing office of a firm, gain experience in practice, and then progress to being designers, which is, according to several large firms, just what the schools are not producing. The work is generally self-conscious and fussy and the exhibits show no sign of any experimental or progressive designing.

The furniture industry has made many technical advances in the past five years. This year a more adventurous choice of timbers and veneers has added variety, and the effect of rubber-foam and the newer plasticfoam together with elastic webbings on the upholstery trade is becoming more apparent. Much progress seems to have been made in the past year and the prospects for the future are more promising and hopeful than ever before.

seating







7. This dining room group by Sklan is a good 7. Ins aning room group by Sacial is a good example of the high quality reproduction furniture which can be bought in this country. It is an honest copy and beautifully made. Table, £53 7s. 6d.. Sideboard, £93. Single chairs, £17 17s. 6d. Arm chairs, £26 5s.

8. Gordon Russell Ltd. are producing this dining room suite in rosewood and mahogany, using traditional skills and materials in a traditional way but with a simplicity more in keeping with today's needs. Though elegant, the design is unadventurous and whilst it would have attracted much attention five years ago, it is altogether too tame by today's standards. The sideboard 5 ft. 3 in. × 1 ft. 7 in. × 2 ft. 10 in. is bow-fronted and two of the eight drawers are fully divided and lined for cutlery. The table is barrel shaped and for extery. The table is barrel shaped and extends from 5 ft 10 in. to 7 ft. 7 in. in length and is 3 ft. 6 in. wide at the centre. Sideboard, £104 18s. 6d. Table, £83 12s. 6d. Single chairs in mahogany £8 3s. 6d. Arm chair, £9 12s. 6d. 9. These chairs also use traditional methods of construction but without the joie de vivre that is to be found in their Scandinavian equivalent. Both chairs are available in solid mahogany with veneered back and also in "hardwood stained walnut colour." The seats are upholstered in a variety of fabrics and leather cloths. Single chair, £7 5s. Arm chair, £8 15s. Equivalent chairs are available with upholstered backs and seats at £7 19s. 6d. and £9 10s.







10. Ercolani, of High Wycombe, have extended their range of traditionally-inspired furniture and show many variations on the Windsor theme, including a spoked bedhead. This chair has a solid elm seat, unusually thick to allow for deep shaping for extra comfort. The curved back and rails are in beech. £5 10s. 3d.

11. W. Steel & Co. have introduced a kitchen chair designed by Merivaara Oy, of Helsinki, which is far superior to the English-designed furniture in their range. This simple, elegant chair is available in three sensible and attractive the English-designed furniture in their range. This simple, elegant chair is abultante in three sensitive and attractive finishes, the seat and back being finished in either mahogany veneer, Formica or Warerite, in various colours, or upholstered in leathercloth. The use of plastic veneer is a progressive step and makes the chair extremely hardwearing and attractive. It will be a welcome addition to the range of chairs suitable for the school, canteen or kitchen. Veneered mahogany, £3 2s. Plastic veneered, £4 17s. Upholstered in leathercloth, £3 16s.

12. Robin Day's Q-Swivel chair for Hille, although not a newcomer at the Exhibition, is still one of the few British examples of the preformed ply chair. This is the swivel chair version intended for desk use. Also in this series are the Q-Stack and the Q-Rod, with seats upholstered or veneered in wood or plastic. Prices range from £3 is. to £9 2s. 6d. Unfortunately, no manufacturer or designer in this country has yet produced anything to compare with the work of Charles Eames or Arne Jacobssen.

13. This chair is carefully detailed and very well made but suffers from an irreconcilable seat and frame which is a warning to those who would be different for the sake of being different.

16. I the m Show grace size. with effect and i £107

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14. This settee by Ereira & Matthews Ltd. represents at a retail price of approximately £30, extremely good value for money. A straightforward, well-made reproduction settee which needs no excuses.

15. The VIP three-seater settee, designed by Ward (architect) and Austin for Buoyant, is a w ara (arcmiect) and Austin for Buoyant, is a modern, well-mannered version of the traditional settee. It has matching chairs. Upholstered in a good selection of fabrics. Settee, from £51 18s. 6d. Chairs, from £21 1s. 9d.









18



16

16. Howard Keith's new "Mirage" settee was the most progressive design of its type in the Show. Its shapely form gives a lightness and grace which is rarely found in settees of this size. The firm's interesting method of upholstering the back and seat cushions in a fabric contrasting with the rest of the unit has been used with great effect throughout the whole range for some time, and is now widely imitated by other manufacturers. The prices range from £76 £107 17s. 6d., according to the fabric. 15s. to

17. For those who prefer a rather more curvacious

line there is the "Minerva chair" designed by Ronald Long for R. S. Stevens Ltd. There is a good choice of fabrics for the two-toned upholstery. From £34 12s. to £37 8s., according to the fabric.

17

18. This is typical of most of the Cintique collection. Although well made and extremely comfortable, it has a self-effacing appearance which means that, although it will fit into any furnishing scheme without causing offence, it will not, on the other hand, raise much enthusiasm. The choice of upholstery fabric does not enhance the design, and the buttoning of the upholstery is not so satisfactory as the last two examples. The back and seat cushions are removable. From £13 10s. to £15 15s.

19

19. This more progressive Cintique chair, which this is self-assured, simple appearance was probably the best chair of its type in the Exhibition. Verti-cal sides and legs make it possible for the chair to be used as a unit as well as singly. The colours are well chosen and striped upholstery helps to emphasize the straight, clean lines which make this a very satisfactory design. From £8 17s. 6d. to £10 19s. 6d.









20. Howard Keith's new banquette seat-ing will be of great interest to architects. The system consists of straight benches and the necessary corner pieces. The units are well pro-portioned and the the sizes have been kept to the minimum so that the front edge

23 of the seat projects only 2 ft. from the wall, while the back legs, touching the skirting, keep the back of the unit just clear of the wall. Straight unit from £24, and corner unit from £19 7s. 6d.

21. W. Steel's Scandinavian-designed Merva T.42 chair is a multipurpose chair which can be used with different covering both indoors and
outdoors. It stacks perfectly, and has the tremendous advantage that the
seat covering can be removed, or if necessary interchanged. In this way
the fabric can be easily detached for cleaning or change of character.
This is made possible by a patent steel clip inserted in a sleeve in the
material. The Merva T.42 chair is made in three different ways: (a) with

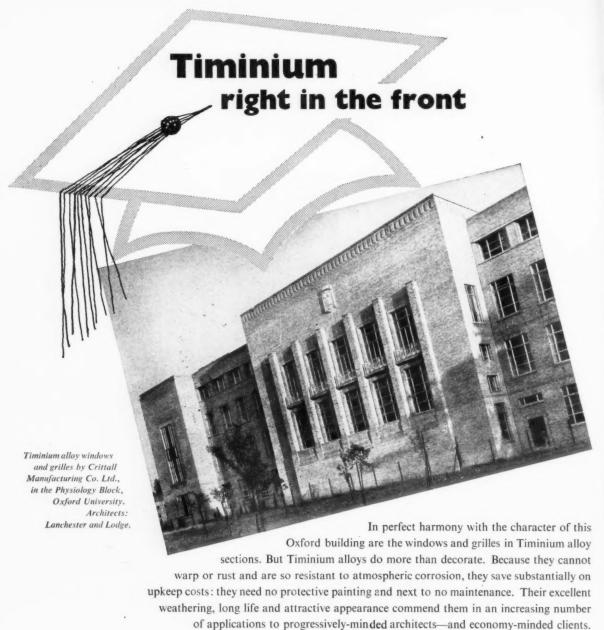
a plastic foam cushioned seat and back; (b) with a quilted canvas; (c as a

purely garden chair with either contrast canvas, or with bright plain colours. From £5 8s. 6d. to £7 5s., according to the cover.

22. The practical advantage of covers which can be easily taken off for cleaning is generally accepted. In their conventional form, however, they are apt to be untidy and only lend themselves to chairs of a somewhole them. are apt to be untidy and only lend themselves to chairs of a somewhat amorphous shape. For this reason they have been rather neglected by the modern designer in his search for subtlety of line and proportion. In this new design for an easy chair and matching settees, Ernest Race has also tackled the problem of providing removable covers. A main "hull," close-covered in black or grey hide, gives a precise shape to the chair and is an extremely pleasant contrast to the removable fabric covers of the cushions. One-seater, £28 18s. 11d. Two-seater, £41 19s. 6d. Three-seater, £55 8s. 10d. (See also page 212.)

23. The absence of the guest room from most of today's homes has created the need for the bed-settee. The difficulties inherent in designing such an object have mostly led to horrific results, but Robin Day's convertible for Hille looks so natural as a four-seater settee that its other function

object have mostly led to horrific results, but Robin Day's convertible for Hille looks so natural as a four-seater settee that its other function is not apparent. Conversion from settee to bed is simply accomplished, the hinged back swinging from the settee position to rest at the side of the bed, where it can be used as a shelf. As a bed the Hille convertible takes up only 5½ in. more in depth than as a settee. The dimensions of the bed—2 ft. 9 in. by 6 ft. 3 in.—are adequate for daily use, and the 4-in.-thick latex foam mattress, set on Pirelli rubber webbing, provides luxurious comfort. From approximately £55, according to upholstery material.



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24. Ernest Race's " Heron" chair, introduced in 1956, is based on a welded steel frame upholstered throughout in plastic foam on Pirelli webbing. The matching footstool, of similar construction, is new. The legs of both chair and stool are turned from square section steel and are fitted with

Armstrong footrests. They are available in either a matt chromium or a stove-enamel graphite finish. Fabrics as selected. Chair, £26 11s. 4d.

Stool, £11 17s. 2d.

25. Hille's have introduced a new Robin Day chair with the unforunate name of H.W.H.—
"high, wide and handsome." Although an easy high, whice and handsome. Although an easy chair must be fairly large if it is to be comfortable, the proportions of this chair seem to be unnecessarily exaggerated. From £58, according to cover. 26. Saarinen's chair has yet to be surpassed and, whilst it is encouraging to see British manufacturers moving towards more advanced forms of construction such as those used by Saarinen, Bertoia and Eames, in America, it is a pity there has been no progressive contribution from this construction. this country.

storage furniture









29

27. One of the new series of sideboards by Gordon Russell available on high (illustrated) or low legs, with or without the routed decoration on the front with or without the routed decoration on the front which has become so closely associated with this Firm. Size $4 ft \times 1 ft$. 5 in.: 3 ft. 9 in. high on the tall base and 3 ft. on the low base. This one—the R.413 costs £30 16s.

28. This storage chest by Ward (architect) and Austin for the Loughborough Cabinet Company

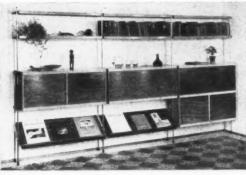
is veneered in alternate strips of Honduras and African Mahogany finished their natural colour.

and with brass fittings. The simple lines and the and with brass fittings. The simple tines and the decorative treatment combine to give a sophisticated Regency character. Price £53 19s. 6d. 29. An example from the range of Hille cabinet units designed by Robin Day, with mahogany case and doors and drawer fronts veneered in Brazilian Rosewood. This simple, well-proportioned unit relies on its asymmetrical arrangement of drawers and doors and strongly contrasting veneers for its vitality and interest. Approximately £41 9s. 9d. mately £41 9s. 9d.

30. This interesting experimental storage cabinet has been designed for Thomas de la Rue by William Dixon in order to show some of the possibilities in the use of Formica laminated plastic. The cabinet has refreshing simplicity and relies for its effect on the satisfying texture and colour of the formica. The carcase is in dove grey and in this particular instance the doors are in polar white, tone grey and citron yellow. (See also page







32

33

31. John and Sylvia Reid (architects) have designed a number of new storage units for the Stag Cabinet Company, and this excellent range is now available in straight-grained Australian Walnut veneer as well as natural oak. Probably the most interesting addition is a combined bureau and cocktail cabinet which is intended to fit on top of any of the cupboards or chests. The interior is fitted for stationery with space for bottles, and the base and drop-down flap is veneered in Formica—polar white with walnut and black with natural oak. The finish is first class and the prices are exceptionally good. 3 drawer chest or equivalent cupboard £10 15s. oak, £11 10s. walnut. Bureau fitting £22 15s. oak, £24 walnut. 32. This storage wall unit is built from Meredew's new "Extend" system. Designed in Holland this introduces a new construction technique consisting of flat standard parts that can be fitted together to form any kind of storage unit. It can be used to fill a wall space or

can be fitted together to form any kind of storage unit. It can be used to fill a wall space or as a free standing room divider. Parts are finished in Burma teak veneer oiled and waxed.

(See also pages 212 and 213.)

33. Clive Latimer's unit furniture consists of what has now become the conventional method of using complete carcase units and shelves supported on metal framing. There is a wide choice of parts which gives great freedom in building up individual arrangements, but the



standard module of 45 in. seems to be rather unwieldy and asks rather much of a shelf when fully loaded with books.

34. "Interplan" is the name given to the ladder-like metal uprights combined with Hilleplan 3 ft. cabinets and bookcases. It is freestanding and so can be used as a room divider. The uprights are 6 ft. 1 in. high, of square section steel with adjustable feet. The 12 in. or 18 in. deep cabinet units are fixed between the ladders by means of brass screws and the 9 in. deep shelves simply hook on. A single-bay arrangement must have at least one Hilleplan unit for stability, with additional bays it is possible to use only shelves. Designed by Robin Day. One bay costs from £50, according to the units chosen.



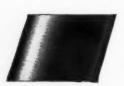
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35 and 36. When manufacturers who have been accustomed to designing "traditional" furniture themselves try to get on to the "contemporary" bandwagon anything can happen!

bedroom furniture

37. An extremely elegant reproduction wardrobe by Sklan, costing less than £60.

38, Ward and Austin's new double wardrobe for the Loughborough Cabinet Company in natural finished striped Honduras-African mahogany veneer is well proportioned, beautifully made and costs £64 12s. 6d.

39. The Stag Cabinet Companies' C-range double wardrobe in Australian walnut, designed by John and Sylvia Reid. The central vertical dressing mirror creates a pleasing brightness and contrasts with the sophisticated ebonised edges of the main carcase. Solid blockboard construction is used which makes the mahogany-veneered interior completely flush. Price in walnut £36 10s. and natural oak £35.







37

38

39





40. A group of Loughboroughs new bedroom furniture.

41. (a) and (b) A bedroom group—in a flat at Eric Lyon's Ham Common Estate—showing Stag's three drawer chests linked together in a single unit costing under £50, and the continental headboard with Formica-covered shelf and the new built-in reading lamp in polished brass and white cellulosed aluminium. (c) A bedroom group showing one of the large dressing tables with horizontal mirror, and the new man's piece which has been designed by John and Sylvia Reid so that it really is suitable for a man's clothes. It contains hanging space for suits and is fitted with shelves for shirts, etc.—it even has a container for studs; and the top is an ideal height for dressing purposes. It makes a good child's wardrobe and costs £18 5s. in walnut; £17 10s. in natural oak.



410





416



planning stage

Four booklets recently published by the Asphalte Council on mastic asphalte are essential to architects, engineers, quantity surveyors and specifying authorities. These booklets dealing with

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an

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an experiment

The Thomas de la Rue organization is to be congratulated on its initiative in commissioning well-known designers to produce a number of interesting pieces of furniture, each piece being intended to demonstrate some of the interesting and exciting possibilities in the use of Fermica laminated plastic. This is a project well worthy of encouragement and it should do nuch to dispel the common idea that only the kitchen is a suitable place for this material. Other manufacturers please copy. 42. 4 ft. circular diving table with centre revolving server or Lazy Susan, designed by Ernest Race. 43. Secretary's desk with removable screens designed by H. T. Cadbury-Brown.





new techniques







An interesting exhibit from the architect's point of view is Meredew's "Extend" unit furniture. This is a knock-down modular system of carcases and shelving units which are capable of being assembled in a limited variety of ways. Very suitable for executives' offices, boardrooms or even

small libraries, it can be easily rearranged or extended. Its appearance is simple and the quality excellent, it is veneered with Burma teak and oiled and waxed. (See also pages 210 and 213.) 44. (a) Base of a unit being assembled. The operative at left adjusts a lock whilst t're one

on the right locks a side into position.

(b) A few minutes later, the lower part of the unit locked together, door hung and drawers being put in whilst the sides of the upper part are locked in position.
(c) The almost-completed unit.





45 (a) and (b)

The illustrations (left) show Ernest Race's interesting new technique used in his design for an easy chair and matching settees with removable covers. A main hull which is close covered gives a precision and shape to the work gives a precision and shape to the work and is a pleasant contrast to the removable fabric covers of the cushions. The underframes are of tubular steel. Legs are of polished beech with Armstrong footrests and the cushions are of latex foam supported on Pirelli webbing. Spare sets of cushion covers, which can be quickly and easily fitted, are available if required.

not quite

46. A television set at the best of times is a difficult object to position in a room. Several attempts have been made by manufacturers to incorporate a T.V. set into other units but they have mostly succeeded in making the problem even more difficult. By fitting a T.V. set into

a sideboard one manufacturer has set an almost impossible problem in orientation.

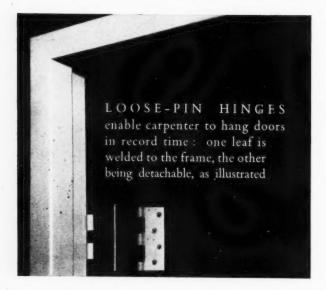
47. This welcome attempt to provide a home for the impedimenta usually found in the hall—coats, umbrellas, phone directories, etc., almost succeeds, but is spoilt by coarse detailing and unnecessary





46

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THE INDUSTRY

This week Brian Grant reports on the insulation of industrial buildings, new unit furniture, ceramic tiles, urinals and translucent swing doors.

SAVING FUEL

Mr. Gerald Nabarro, M.P. is trying (and may have succeeded by the time these notes appear) to introduce a Bill to make the insulation of industrial buildings compulsory. His Bill has been prepared, according to The Observer, by a committee which includes members of the RIBA and the RICS as well as the materials manufacturers, and as long as it merely specifies standards of insulation and not methods it would seem to be a good idea. Mr. Nabarro may be right in saying that only 10 per cent. of new factories are insulated, but with the price of coal where it is, and with full knowledge available of the savings to be made by proper insulation, it seems astonishing that the figure should be so low. One of the troubles, of course, is the current system of taxation, which puts a premium on minimum constructional standards and allows maintenance and running costs to be free of tax. It would seem that the National Coal Board, who appear to be concerned mainly with output, could, like other enlightened producers, take a certain amount of trouble to see that their product is properly used, and it has been suggested that inefficient users should pay more for their coal, though it is hard to see how any method for this could be worked out.

There seems to be no reason why this Bill should not be extended to cover other types of building, particularly office blocks, where temperatures tend to be kept higher than in factories and where glass areas are large and quite wasteful of heat. It is so long since the Egerton report appeared that one tends to forget the figures, but I believe it was suggested that 5s. per sq. ft. extra spent on double glazing was quite economic,

and the price of coal has gone up far more than glass since the Report was published. It has been argued that, considering the cost of imported coal and other fuels, there would be an overall national saving if the Government were themselves to pay for insulating all factories. This could quite well be true, so good luck to Mr. Nabarro's Bill, though there is really no reason why the necessary rules should not be embodied in the building byelaws.

BUILT-UP FURNITURE

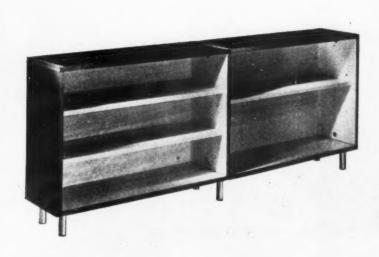
Meredew's have just introduced a new range of "Extend" furniture which embodies an interesting method of construction. The system makes use of corner mouldings to which the "flats"—ends, tops and bottoms—are fixed by means of a cam type lock. A metal button fitting in the corner moulding is drawn tight up against the end of the flat, making a strong joint which can be released at any time by a small hexagonal key. Only a few basic components are necessary, sides, corner rails, tops etc., and

from these can be built a number of cupboard, drawer and shelf units. Unlike most methods of this kind, single side pieces only are necessary when two units are jointed, so that the duplication of the sides is avoided and shelving and other fittings can be extended indefinitely. Manufacturing costs are kept reasonably low, and all fittings can be easily dismantled and packed flat for transport. Standard components are veneered in Burma teak and all units are based on a standard width of 2 ft. 3 in. and a height of 2 ft. with depths of 12 in. or 18 in. (D. Meredew Ltd., Letchworth, Herts.) [See also page 210.—ED.]

THINNER CERAMIC TILES

It is not so very long since the normal ceramic wall tile had a thickness of at least $\frac{1}{8}$ -in., but for some years $\frac{1}{4}$ -in, has become more or less standard except for such works as fireplaces and swimming pools. Richards Tiles, however, are now producing wall tiles with a thickness of $\frac{4}{32}$ -in, only a little more than half the thickness of the $\frac{1}{4}$ -in.

Book case made up from components of the new Meredew " Extend" range.



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makes it extremely suitable for elderly people or for mothers with children to bath. The convenient recess is an insurance against toe-stubbing when cleaning the bath or washing children.

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colour

The Colour Range—all the well-known Duramel colours are available.

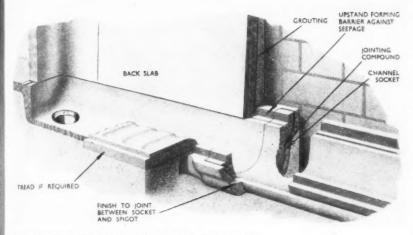
She'll love the elegance and be delighted at the price of the ALLIED VOGUE BATH

British Regd. Design No. 679.397

Three tap positions: There are three tap positions, on either corner or in the usual central position, for ease of installation.

For further details write to the Housing Division of Allied Ironfounders Ltd

28 Brook St., London, W.1 Makers of cookers, bosilers, brig and bashs

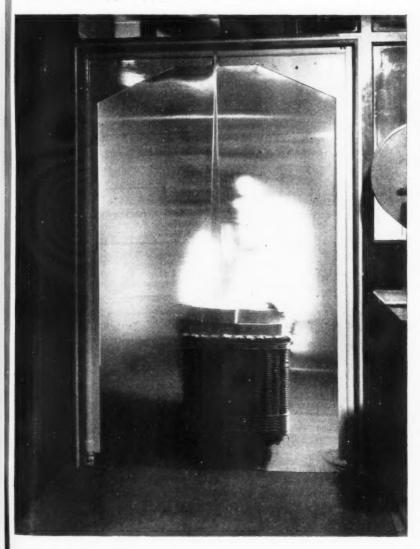


Section showing sealing method used in the new "Florline" urinals.

tile. They are made with a slightly rounded cushion edge and in a full range of pastel colours. These tiles have been shipped abroad in large quantities for the last five

years or more and have met with considerable approval. They are slightly cheaper than the 4-in, tile and give a weight saving of $27\frac{1}{2}$ per cent. Now that tiles are so often

Translucent doors, made of p.v.c., by Parker, Winder and Achurch Ltd.



fixed with mastics these thin lightweight tiles should be particularly useful for prefabricated walls of hardboard and similar materials, (Richards Tiles Ltd., Stoke-on-Trent.)

TRANSLUCENT DOORS

Rubber swing doors with inset panels of glazing have already been referred to in these notes. The latest development is a translucent door made from p.v.c. As the photograph shows, this gives adequately clear vision over the whole area of the door and makes separate observation panels unnecessary. Sizes available at the moment are 4-ft. wide by up to 8-ft. high, or from 4-ft. to 6-ft. wide with heights up to 7 ft. (Parker, Winder and Achurch Ltd., 1 Broad Street, Birmingham 1.)

SANITARY FITTINGS

Broads have just announced a new Florline half-round, white enamelled, floor channel slab urinals. The points where seepage usually occurs are between the slabs and channels and also between the channel sections themselves. The section on the left shows the improved sealing methods: the floor finish can butt up against the channel, or a tread can be used. (Broad & Co. Ltd., 4 South Wharf, London, W.2.)

TECHNICAL SECTION INDEX FOR 1956

An alphabetical index covering special article and Information Centre items published in the Technical Section during the twelve months ended December 31, 1956, is being prepared. Readers who wish to have a copy—it is free of charge -should complete the form below and post it to the Technical Editor, THE ARCHITECTS' JOURNAL, not later than March 11, 1957. This form will not be acknowledged.

Please send me the Information Centre Index for 1956:

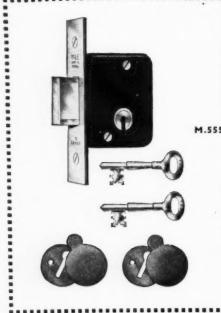
Name (Block letters)

Address (Block letters)

Free House!



It wasn't supposed to be an invitation. The trouble is so many old locks do no more than just keep the door closed (and sometimes not even that) whilst real security measures are non-existent. The safest course if you value your property is to re-equip all important doors inside and out with the world's most reliable locks—YALE. There are YALE locks and padlocks to meet every security risk. Here is an example:



M.555 LEVER MORTICE DEADLOCK

The latest lock for keeping out the uninvited 'guest' from lock-up premises. Designed to meet insurance requirements, it is a 5-lever deadlock operable by key from both sides. Differs are obtainable on levers only and not by use of wards, making it extremely difficult to pick. Its steel reinforced deadbolt and 10″ steel striking plate make it almost impossible to force. Available ex stock; literature on request.

Where there's a door there's a need for



24 LIGHTING

model construction for appraisal of building interiors

It is generally agreed that the architect's knowledge of lighting and colour cannot advance much farther until experiments can be framed which take both of these simultaneously into account. This is exactly what the Nuffield Foundation and BRS have been doing. This week, therefore, we publish an article by John Musgrove of the former and P. Petherbridge of the latter, describing a model they have [evolved for integrated lighting studies and how they use it. It does not seem beyond the wit of serious-minded architects to do the same.

Techniques for the more precise evaluation of the quantity and quality of natural lighting in building interiors have been developed over the last few years at the Building Research Station. These techniques have been tested in practice in a number of buildings designed by architects of the Nuffield Foundation Division for Architectural Studies and the Ministry of Education in collaboration with the Station. Results deriving from model studies, related to these building projects, were used in the development of simplified methods of computation of the indirect (interreflected) component of Daylight Factor. Together with the already established methods of Sky Factor calculation, these simplified methods gave architects a more accurate means of predicting the amount of daylight at points in a room (footnotes 1, 2, 3). It became evident from the early studies (4) that quantitative factors such as daylight factor and the photometric brightness of room surfaces were closely linked with less measurable qualitative factors, such as discomfort glare,* apparent brightness (as opposed to photometric brightness), visual adaptation and the part played by colour in relation to lighting.

Early models

nglan

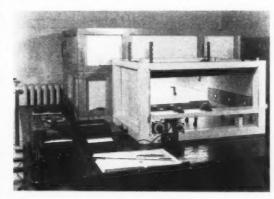
The models shown in Figs. 1 and 2 were used in these studies, first with uniform artificial skies (Fig. 1) and later with non-uniform artificial skies giving distributions of brightness more nearly simulating actual overcast sky conditions (Fig. 2). Photocells were used to measure the amounts of light (daylight factor) at a number of points in the model rooms when wall,

floor and ceiling reflection characteristics, ceiling height and window configuration were varied. In addition, window designs were assessed from the point of view of discomfort glare. For example, in the model shown in Fig. 1, a window design was evolved which would reduce the view of sky and hence the degree of discomfort glare for patients in beds near to and parallel with the window wall in the modern (Rigs) type of hospital ward (footnote 7). Fig. 3 shows this window in the building (the experimental ward unit at Larkfield in Scotland, designed by the Nuffield Foundation Investigation into the Functions and Design of Hospitals).

It was apparent from the experience gained in these studies that although the quantitative aspects of daylighting would eventually be, and indeed now are, dealt



Fig. 1 (above). Model of the Larkfield experimental ward unit (centre) with two artificial light sources simulating uniform skies to right and left. These " skies" are produced by fitting out boxes with fluorescent lamps shining down through diffusing plastic into a white-walled chamber beneath. Fig. 2 (below). Model of a classroom with, behind, apparatus for simulating the brightness grading found in a natural overcast sky. This is achieved in the same manner as the uniform sky but by using mirrors in place of the white walls. Rows of photocells can be seen on the floor and wall of the classroom. In both models, the ceiling height is adjustable.



with by computation, the model would remain a useful means of studying those aspects of daylighting which are less amenable to physical measurement, but which may be studied by means of subjective assessment techniques (footnote 8). Model studies were essential

^{*} Subjective studies on discomfort glare and contrast grading (5), (6). had been carried out prior to the objective studies on daylight factor, and a method had been evolved for the evaluation of the degree of discomfort glare resulting from given lighting conditions.



Fast falls the water table . . .

In this well watered isle of ours there is already a water scarcity and likely to be a famine. The Building Research Station has found that, in an office block, a staff of one thousand uses sixteen thousand gallons of hot and six thousand gallons of cold water every week for washing their hands. A startling amount. To save half of this there has been designed a new tap, a mixing tap, that will give either hot or cold at a turn. Add a spray nozzle and you wash in running water using only four pints instead of a gallon or more. "Unatap" was designed by our technical staff in collaboration with the Building Research Station and is presently in production.

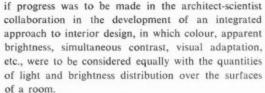
You will be hearing more about this as it gets into the news but if you want to know now write for Pamphlet U/2,

ALKER, CROSWELLER.

Telephone: Cheltenham \$6317 Telegrams: INSTRUKEMI, Cheltenham







Colour studies (see footnote 9) have been closely linked with those on lighting, and models have played an indispensable part in them. It is only by using observational methods that the subjective aspects of lighting design can be related experimentally to measuring and computational techniques, and progress made in integrating all the relevant factors into a new approach to interior design.

A number of subsequent models were made to study colour in relation to lighting in school classrooms (a corner of one of these is shown in Fig. 4), each model being made specially for the study of one type of classroom. Most of the observations in these models were made in the open air, using natural skies.

When the Nuffield Foundation Division for Architectural Studies began to study the design of research laboratories and further work on daylighting in collaboration with the Building Research Station was planned, a more flexible type of model was needed, with which any number of room sizes and shapes could be studied without preparing a completely new model for each. The new model system was, in fact, designed so that observations could be made on almost any room, within the limits of size imposed by the available floor space.

Design of the new model system

The model system was designed with the following requirements in mind:

- 1. Scale to be large enough to allow observations to be made from inside the rooms, and to allow reasonably realistic simulation of furniture, fittings, etc.
- 2. Full flexibility in room dimensions, so that the model may be used for future studies.
- Complete and easy demountability, to allow stacking and storage in a comparatively small space.
- 4. Mobility when assembled, to enable observations to

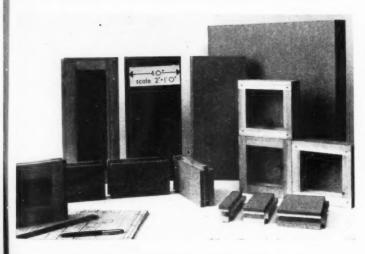


Fig. 3 (top left). Part of the window in the completed experimental ward unit at Larkfield. Fig. 4 (centre left). View inside one of the later classroom models (scale 2 in.=1 ft.) in outdoor use. Lighting conditions of a full scale building are so closely simulated that—at a momentary glance—it is difficult to tell that this is a model. Fig. 5 (left). Units which make up the model. The large square unit at the back represents a 10-ft. × 10-ft. ceiling panel. The three units bolted together represent 40-in. × 40-in, ceiling panels. The remainder are wall units.

be made out of doors in suitable weather conditions. The scale chosen for the model was 2 in. to 1 ft., the choice being made largely on experience gained in previous studies. A scale of 1 in. to 1 ft. (Figs. 1 and 2) had previously been used but it was found that unless the room was a particularly large one (for example, the Larkfield Hospital ward which is approximately 44 ft. square), the model room was too small to allow proper subjective assessments to be made. Much larger scales (for example, quarter full size) tend to confuse the observer because, in three dimensions, objects begin to look like small versions of the real thing. The scale of 2 in. to 1 ft, is small enough to avoid this effect but large enough to allow observations to be made, even in comparatively small rooms. The system is made up of wall and ceiling units, any number of which can be fitted together to make a

model room of any size. Some of the units are shown in Fig. 5. Both wall and ceiling units are timberframed and faced internally with medium hardboard to give a continuous smooth surface to which can be pinned or stapled coloured papers, card or trim. Timber was chosen for the framing so that wall units when joined together would be self-supporting, because the units could be made without elaborate workshop facilities and to allow easy fixing of special components. It is only the latter components (doors, windows, furniture, fittings, etc.) which have to be provided specially for each study. The degree of accuracy and elaboration with which they are made depends on the use to be made of the model, but can often be very simple indeed or even dispensed with altogether (see Fig. 9, model on left).

The laboratory project for which the model was first

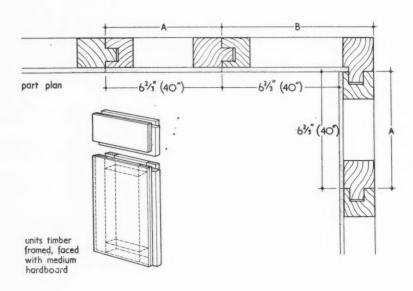


Fig. 6. Drawing of wall units.

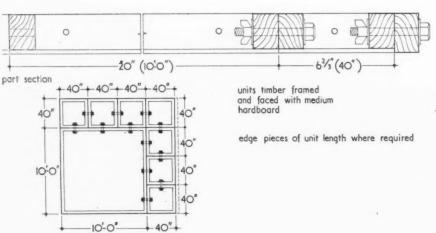


diagram of assembled ceiling units

Fig. 7. Drawing of ceiling units.



Fig. 8. Units built up to form a laboratory room with a single-sided monitor roof. (Note one wall has been removed solely to show the facilities for viewing.)

used, was designed with a 40 in. plan module, and it was decided to make the model wall and ceiling units on the same module (i.e., 6\frac{2}{3} in. actual size). Being in timber, it would be an easy matter to make one or two special sized units if for some future study non-modular wall dimensions were required.

The basic wall units are 1 ft. 4 in. high (i.e., a room height of 8 ft.)—it was thought unlikely that any model studies would be made on rooms with less than 8 ft. ceiling height—and supplementary units 1 in. and 2 in. high were made to allow the room height to be built up to any dimension over 8 ft. in 6 in. increments. For convenience, a number of cill-height units were also provided, although these can be built up from

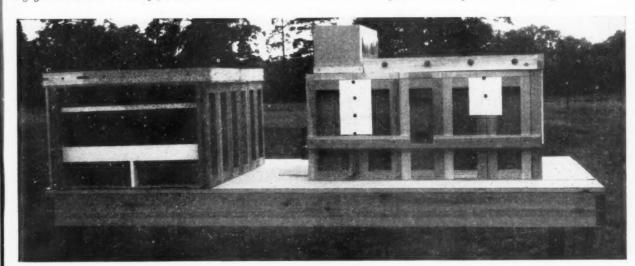
the 1 ft. and 6 in. units mentioned above. The wall units are keyed together by means of tongued and grooved joints (Fig. 6) so that the completed model is self-supporting and stable. On plan there are two types of wall unit only, the straight run units and the corner units (Figs. 6, A and B).

Ceiling units are made in two sizes only: 20 in. \times 20 in. and $6\frac{9}{3}$ in. \times $6\frac{2}{3}$ in. (10 ft. \times 10 ft. and 40 in. \times 40 in. full size) (Fig. 7). Any size of ceiling may be built up within the module scale, and since the assembled roof merely rests over the walls, any room area can be covered. Edge pieces of unit length can be used to give stability where large areas are involved (Fig. 7). All roof units are butt jointed and held together by bolts secured with wing nuts.

The construction of the ceiling sections allows the formation of roof openings with edge conditions ready to receive any kind of roof light which may be required. For example, in Fig. 8 a single-sided monitor roof light to provide indirect daylighting at the back of the room is being studied.

The models have to be mounted in such a way as to be easily moved out of doors for making observations under natural lighting conditions, and provision has to be made for viewing the models from inside. For the model system described here, a strong table was made and fitted with trolley wheels so that the models could be assembled indoors and moved outside and back again without having to be dismantled each time. Three removable panels were provided in the table top which was made high enough (4 ft. from the floor) to allow the observer to sit underneath it in comfort with his head through any one of the viewing panels over which the models were placed. The table width was limited to 4 ft, so that it could be wheeled outside through normal double doors, and its length (7 ft.) was determined by the length (40 ft.) of the largest room to be included in the study as planned. The legs of the table were left unbraced to allow observers to

Fig. 9. Two models. On the left, a student's room in a hostel in Trinidad. On the right, the laboratory room shown in Fig. 8.



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Fig. 10. Photocells: A (above) on a probe which is passed through the wall units, B (below) on a movable stand.



move easily underneath the table: the legs can be unbolted from the top and the whole stored flat when not in use. Floor finishes would normally be laid over the table top and cut around the viewing panels before assembling walls and ceiling of the models. A general view of the table with two models assembled on it is shown in Fig. 9.

Although the system was designed for observational studies, daylight measurements can also be made in the models. As part of the laboratory study such measurements were made by means of a probe photocell (Fig. 10a) or, where the measurements were required on a horizontal plane at a fixed height, by means of a photocell on a stand (Fig. 10B). Small removable panels were provided in two of the wall units to allow the probe to be inserted without seriously disturbing the assembled interior. Permanent connections and switchgear for the photocells in the model and for a remote photocell, which measures simultaneously the illumination from the sky, were fixed on the edge of the table. The photocells were connected in turn to a calibrated microammeter by means of which the measurements were made.

Studies in which the new model has been used

Detailed studies of colour, brightness distribution, glare, etc., have been made for laboratory rooms, the results of which will be published in the near future. In research and development work on the visual environment, the value of the model is already well proven, but this model has been found useful by architects in other less detailed studies. It enables the architect to "see" a room at an early stage in design. A room of given dimensions can be assembled in half an hour, and assessments made of its visual characteristics without making special units for windows or doors (they can be left as voids), and merely using blocks of wood or pieces of card for furniture and fittings. For example, the design for a student's room in a projected hostel in Trinidad was assessed in this way: the rapidly assembled model is seen on the left in Fig. 9. In this room daylight factors at a number of points had been calculated and found adequate, but, due to the unusual configuration of the verandah, etc., it was thought that some assessment of the quality of the lighting was also needed before going further with the design. It was unnecessary to have a high degree of interior finish in the model, so long as an overall impression of the visual characteristics of the room could be gained. The subjective study was done in less than half a day. Observations in the model proved to the designer's satisfaction that a room known to be adequately, that is quantitatively, well lit, was also pleasant subjectively, in spite of somewhat unusual light distribution due to the deep verandah which acted as an integrator of the incident daylight. Model studies have played an essential part in the development of daylighting design, and simple unit models, possibly even less elaborate than that described here, would allow very much wider use of this method of assessment of interiors, when the building is still at the design stage.

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Acknowledgments

The work described has been carrried out as part of a joint investigation by the Nuffield Foundation Division for Architectural Studies and the Building Research Station. This paper is published by permission of the Director and Trustees of the Nuffield Foundation and the Director of Building Research.

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HOUSE

at EAST WITTERING, SUSSEX, designed by BRIAN PEAKE; assistant J. H. HASKELL



This four-bedroom house on the Sussex coast was designed for use by the owner's family in summer, and for letting furnished to two families when not being used by the owner. Careful planning and the use of bunks in the children's bedrooms provide sleeping accommodation within a floor area of 1,055 sq. ft. (excluding garage) for four adults and four children.

Above: the entrance from the north. Below: the house from the south-west.



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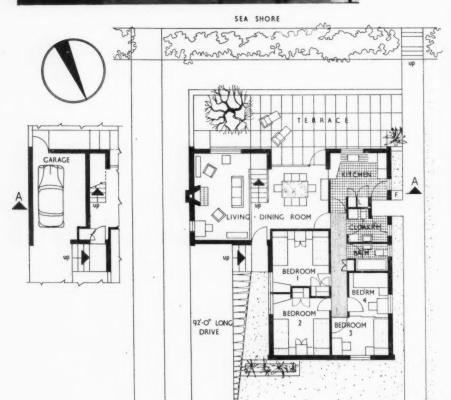
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The house is built on a flat site 45 ft. by 135 ft. deep, separated from the beach by a bank and hedge 5 ft. high, which give protection from the wind, but hide the view of the sea. The living area is therefore divided into a dining area (below), and a living room (opposite, above left) which is five feet higher, giving it a view over the sea. The living area is approached by an open staircase of cantilevered terrazzo finished r.c. treads, supported by a cavity wall forming a balustrade between living and dining rooms (left). Children play between meals in the dining area, from which they can be supervised from the living area, or on the terrace on to which both the dining area and the kitchen open. The garage below the living room is also used to store beach gear, and can be entered direct from the terrace, as well as from the house. The main rooms, including the kitchen, face both sun and sea. A service hatch (opposite, below left) links the kitchen and the dining room. The kitchen, bathroom and cloakroom are grouped together for economy. The cloakroom has a shower, w.c. and wash basin, and serves as a second bathroom. Direct access from the beach path to the cloakroom encourages the use of the shower after bathing. The living room fire is the only







HOUSE
at EAST WITTERING
designed by BRIAN PEAKE

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





heating built into the house: this is an economy measure. Thermostatically controlled free standing electric fires can be used when needed. A 50-gallon electric water heater in the cloakroom supplies the hot water. The two main bedrooms (1 and 2) are identical to facilitate letting to two families. Bedroom 2 is illustrated above, right. Although small, these bedrooms incorporate all necessary furniture. The children's bedrooms (3 and 4) have two-tier bunks, designed as part of the built-in furniture, and can be used as one room if the children are all of the same sex, or can be used as a single playroom. The photograph below, right, shows bedroom 4 from bedroom 3. The house is finished externally in materials which employ the indigenous local vernacular, multi-coloured brick cavity walls, and white-painted weather boarding for the big span openings. The inner skins of the 10½-in. cavity walls are 4-in. concrete block to give better insulation than brick.

Walls and roofs have a U-value throughout of 0.20 or better, and softboard ceilings in dining and living rooms give increased sound as well as thermal insulation where it is needed. The low pitched roofs are covered with 3-ply felt and white spar finish. There are no false ceilings, the ceiling joists themselves being sloping, and the monopitch roof needs no screed to give falls. The ground floor is 5-in. concrete on 6-in. hardcore, or waterproof membrane under screed over 5-in. concrete. The drawings were prepared in February, 1955, the contract was signed in March, 1955, the work began in March, 1955, and was completed a year later in March, 1956. The house was built under a standard type RIBA type of contract by a nominated contractor recommended by the client. The contractor visited the architect's office during preparation of the working drawings. General contractor: J. R. Cory. For sub-contractors see page 234. Cost £3,917.





floor

HOUSE

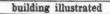
at LOW RIDGE, CROCKERTON, WILTSHIRE, designed by PETER WAKEFIELD

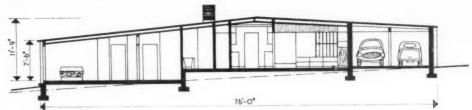


This single-storey, three-bedroom house, built on a sloping site, was designed by the architect for his own use. Oil-fired under-floor heating with independent control of the heat supply to different parts of the house, has been used. The L-shaped plan encloses a terrace overlooking the Wiltshire Downs. The final cost is estimated at about £6,250, including external work.

Above: from the south-west. Below: from the south, with the living room and terrace on the right.





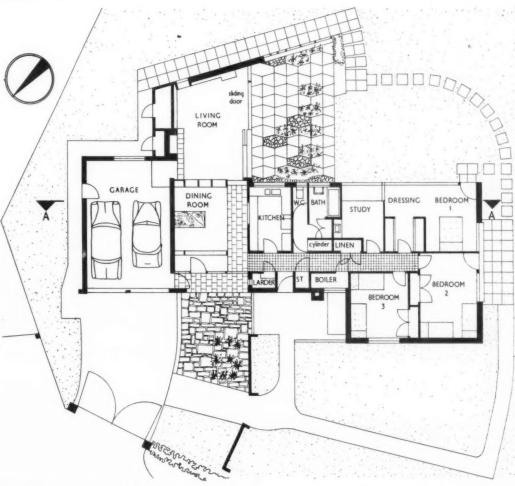


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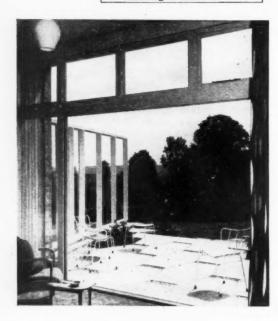


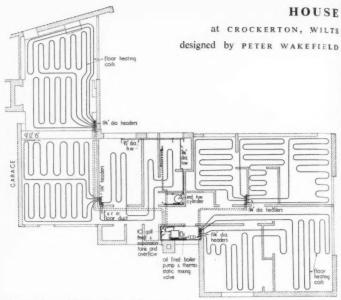
Ground floor plan [Scale: 16" = 1'0"]

The view from the entrance gate (right) shows the garage for two cars, recessed front entrance, and free-standing wall screening the entrance to the service area. The view from the west (below right) shows the bedroom section. The living and bedroom sections, linked by the service section, are on different levels, following the ground contours, and the living room has been dropped a foot below the dining room, to give additional height, and a greater sense of privacy when sitting in it. This does not destroy the sense of space achieved by the glazed upper cupboards separating the living from the dining room (page 226, bottom). The hatch fitting between the kitchen and the dining room includes a door through which the trolley may be pushed. A sliding door, 9 ft. wide, opens from the living room to the terrace (page 226), and slides into a double timber framed wall. The trellis screen seen on the left of the terrace is partially glazed to give protection from the







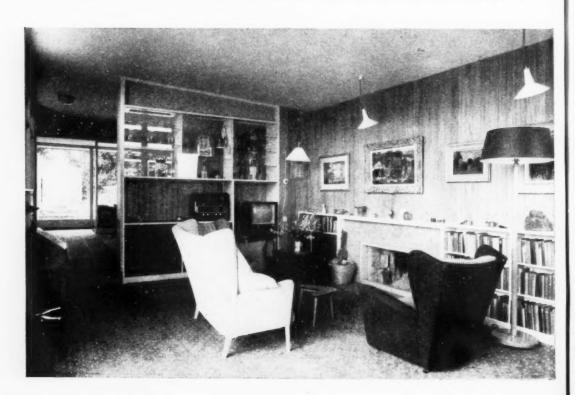


Ground floor plan, heating coil layout [Scale: 16" = 1'0"]

east winds. An oil-fired boiler, fed from a 600-gallon tank, heats the domestic hot water and the under-floor ½-in. diam. copper coils. The reduction in temperature for the heating circuit is effected by a thermostatic shower-type mixing valve, mixing the flow of water from the boiler with the return water from the coils. The water is pumped by a rotary pump to control headers at four points, which enables each coil to be individually controlled. The ceiling over the w.c. and passage is dropped to door-head height in order to form a ventilation duct above. An extract fan in the external wall over the w.c.

window extracts steam from the kitchen or the bathroom by means of closable vents.

The floor consists of 3-in. concrete on hardcore, waterproof membrane covered with \$-in. screed, and 2-in.—2½-in. screed containing the heating coils. The floor finishes are: living room, dining room, bedrooms and study, close carpeting, laid on felt and building paper: dining area passage, ½-in. Broughton Moor river slate slabs: kitchen, bathroom and w.c., P.V.C. sheet: The heating installation cost £575. General contractor, R. Butcher and Son; sub-contractors, page 234.



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HOUSE

at PENENDON HEATH, MAIDSTONE, KENT, designed by DENNIS BERRY heating consultant HENRY GODDARD



This single-storey, two-bedroom house, which the clients required to be as private and secluded as possible, has been built in a wooded and overgrown area near the main Maidstone-Sitting-bourne road. A long low building in contrast to the tall trees was chosen and the complete privacy of the site encouraged large windows and outside terraces.

Above: north-west corner of the bedroom. Below: from the south-east.



HOUSE

at PENENDON HEATH, MAIDSTONE, KENT designed by DENNIS BERRY





Ground floor plan [Scale: 16" = 1'0"]

The site is about 500 ft. deep and 200 ft. wide, narrowing to 60 ft. at the centre, and the house is built on the highest part of the site, where the ground rises 60 ft. above both the nearby roads. There are views from the site through 360 deg. Many rhododendrons had to be cleared before the house could be built, but of the full grown oaks, beeches and birches, only one mature tree had to be removed. The bedroom wing, on the west side of the house, has been separated from the living area by the entrance hall to limit noise interference. This form of plan provides a sheltered extension of the living room on the south side and an enclosed courtyard leading to the main entrance. The bathroom, shower compartment (with water tanks above and clerestory lighting) and cloakroom, are situated between the two bedrooms. The living room, above left, has windows facing south, overlooking a valley, and west on to the outside terrace. The dining area, seen from the

kitchen, below, faces east. The kitchen windows overlook an enclosed yard, bounded on the opposite side by the garage. The three main components of the structure are, load bearing cavity external walls, non-load bearing panels formed from a universal cruciform timber section and cedar boarding. These panels contain all windows and external doors and are carried on the thickened edge of the site concrete, and thirdly the roof slab, formed from timber joists, 3-in. insulation board ceilings, 2-in. compressed straw slabs and 3 layers of bituminous felt. Cavity walls are faced with Crowborough rustic and have an inner skin of brick or 4-in. blocks. The timber panels are faced with 3-in. cedar boarding and lined internally with ½-in. insulation board and 3-in. plaster board. U value are, roof slab 0.13, cavity walls 0.18 and timber panels 0.2 Internally, walls are either plastered and painted with white emulsion paint or left as fair faced brickwork. Ceilings are of 2-in. V-jointed fibreboard, painted white, and floors are covered with black and white clay tiles in kitchen, bathroom and cloakroom and 12-in. sq. white cararra terrazzo tiles elsewhere in the living area. There is a fitted carpet in the main bedroom and thermoplastic tiles in the second bedroom. The servery fitment between kitchen and dining room has broadreeded sliding glass doors and a cocktail cabinet on the diningroom side. The heating installation consists of an 80,000 B.Th.U. anthracite boiler in the kitchen, serving 3-in. copper pipes embedded in the floor screeds in the living area and radiators in the hall and main bedroom. Warm air convector heaters are also used in both bedrooms. Other installations include an immersion heater for summer use, a heated bathroom towel rail and an extract fan over the cooker. The total cost, including £100 for terraces, £70 for recessed curtain tracks and all other fittings, was £4,500. Cost per sq. ft. 45s. 11d. and 5s. 8d. per cub. ft (15,680 cub. ft.). The total area is 1,960 sq. ft., including garage, but excluding terraces. General contractor, A. R. Tong. For sub-contractors, set page 234.



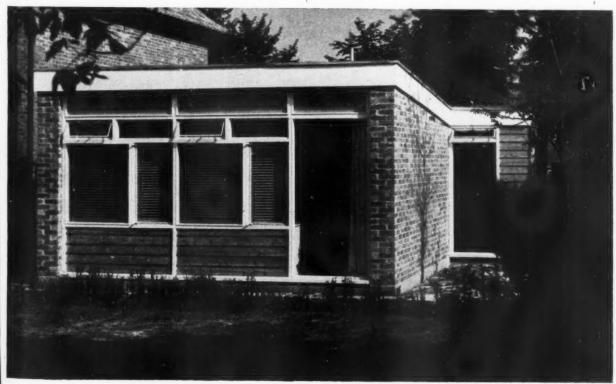
HOUSE

at CHARTFIELD AVENUE, PUTNEY, LONDON, S.W. 15, designed by ALBERT J. UPTON



This single-storey, two-bedroom house was designed by an architectural student for his own occupation, on an existing garden site with a frontage of only 37 ft. To keep the initial cost low, the house has a floor area of only 880 sq. ft., but it is proposed to erect a garage along the east boundary of the site, parallel with the bedroom wing.

Above: from the roadway (north side). Below: from the garden (south side).



ook an garage. bearing from a These carried dly the board of bitu-

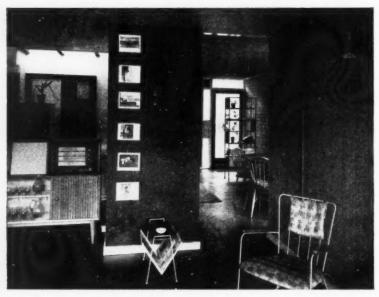
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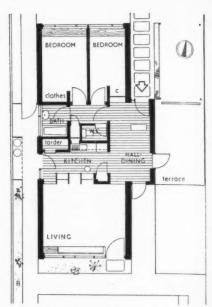


HOUSE

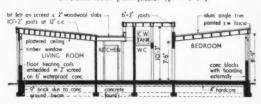
at CHARTFIELD AVENUE, PUTNEY, LONDON S.W.15 designed by Albert J. UPTON

The long, narrow site (37 ft. by 150 ft. deep) on an existing mature garden, together with the need to plan future extensions (a third bedroom, gafage and store) suggested the long rectangular plan. Above, the living room and the dining-hall beyond. The illustration below shows the living room, facing south. All lighting, heating and cooking services are electric. It is intended later to instal a heat-pump (described AJ, October 14, 1954) which will extract heat from the larder and use it to heat the hot water. The view of the dining-hall from the kitchen (on the right) shows the natural ventilation and lighting from the clerestory. Thermostatically-controlled electric floor heating is installed in living and dining areas and in the kitchen. Between the flanking 11-in. cavity brick walls, with 4-in. pulverised fuel ash insulation block inner skin, are floor-to-ceiling softwood-framed panel walls with metalframed opening lights, and feather-edged s.w. boarding in





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



Section [Scale: $\frac{1}{16}$ " = 1' 0"]



natural finish. The butterfly roof gives a maximum internal height of 9 ft. and a minimum height of 7 ft. 6 in. Floors have a temporary plastic seal, but will be finished in thermoplastic tiles over 2-in. screed, through which are run copper-sheathed electric heating cables on glass fibre insulation, over 4-in. waterproofed over-site concrete. The house was completed in April, 1956, at a total cost of £3,690, including land (£1,140), site work (£200), heating (£93) and extras (£185). All interior decorating was done by the owner. Tiling, papering and some painting have been left till plaster dries out thoroughly. The electricity bill for all purposes has averaged 18s. a week in the winter, and 7s. a week in summer when the floor heating is not used. General contractors: Hurley and Wells, Battersea. For sub-contractors, see page 234.

HOUSE

at EATON PARK ROAD, COBHAM, SURREY, designed by JACK GODFREY-GILBERT



This two-storey house on a one-acre site in Cobham is the third designed by the architect to have a large chimney stack in the centre of the house; this specially-designed stack and fireplace, illustrated by drawings on the following page, provides heat for the large ground floor living room and for two of the first floor bedrooms. The area of the house including the garage and terrace on the south side is 1,460 sq. ft. and the contract price £3,409.

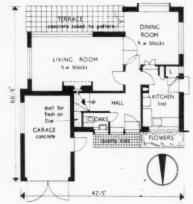
Above: the garden terrace. Below: the front entrance from the north-west.



nternal rs have plastic neathed r 4-in. leted in 1,140), interior d some ly. The week in ating is

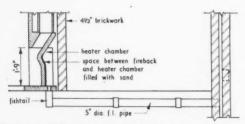


First floor plan



Ground floor plan [Scale: 10"]

To meet the client's request that the house should be as economical as possible to run, the bedrooms are heated from a large central chimney stack seen in the photograph, above, of the living room, which shows the open solid fireplace with constant burning grate. A metal tank behind the fire-back is constantly supplied with air by a 5-in. asbestos pipe connected to the exterior cavity wall. When the living room fire is burning, the warm air from the tank rises in two 4-in. asbestos pipes to hit-and-miss grills just above skirting level in bedrooms 2 and 3, which are occupied by children. This raises their temperature by 15 degrees and provides background heat at no extra cost in fuel, which can be supplemented by gas and electric fires in very cold weather. The living room is adequately heated by the fire, but an electric tubular heater is also fitted to prevent cold draughts from the sliding doors to the terrace. A boiler in the kitchen supplies domestic hot water, and heats a large radiator in the hall and a towel rail with a 2-section radiator in the bathroom. The cost of the main chimney stack and fireplace installation was £35 18s. PLAN B-B General contractors: H. Corry and Son Ltd. For subcontractors, see page 234.

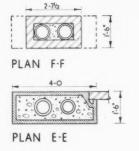


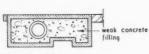
Section through living room fireplace [Scale: 4"= 1'0"]

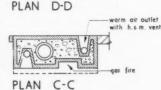
HOUSE

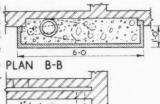
at EATON PARK ROAD, COBHAM, SURREY designed by JACK GODFREY-GILB

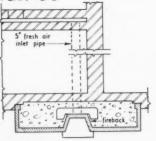




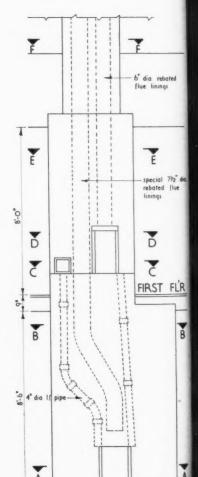








PLAN A-A



C4-fishtail

ELEVATION

Plans and elevation of living room fireplace [Scale: 4" = 1' 0"]

SE

rebated ings

al 7½" ésa. ed flue

T FL'R

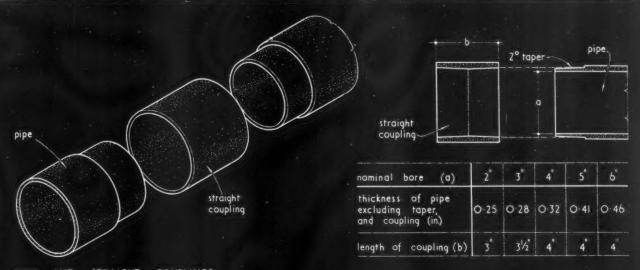
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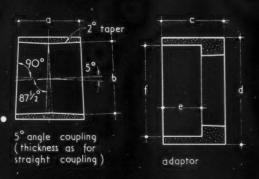


WATER SUPPLY AND SANITATION MISCELLANEOUS

The Architects' Journal Library of Information Sheets 605. Editor: Cotterell Butler, A.R.I.B.A.

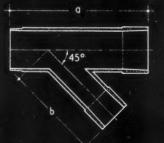


PIPES AND STRAIGHT COUPLINGS.



- Comment of the comm	- marine	-		and the same	and the same
nominal bore	2"	3"	4"	5"	6"
a	3"	31/2	4"	4"	4*
b (in.)	2.47	3.45	4.49	5.73	6.78
c .	-	-	4"	- 1	41/2"
d ·	-	-	63/4	-	83/4
e	=	-	21/2"	÷	23/4"
f	-	-	53/4"	-	678

5° ANGLE COUPLINGS AND ADAPTORS.



- KEY- FIBRE

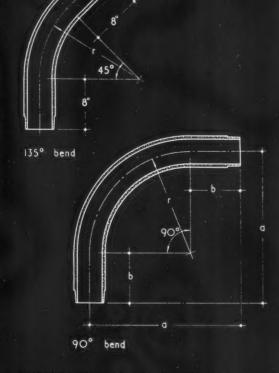
nominal bore	4" on 4"	4" on 6"	6" on	
a	21	22	22"	
Ь	16"	15"	15"	

FITTINGS.

JUNE HONS.	

DRAIN

PIPES AND



nominal bore	2"			3"		4"		5"		6		
	91/2	18"	24"	36	13	24	36"	16	36	24"	36"	36
a	17/2	26"	32	38	21	32"	38"	24"	38"	32"	36"	36
ь	8	8	8"	2"	8"	8"	2	8"	2"	8"	-	-

BENDS.

33.E1 · KEY· FIBRE DRAIN PIPES AND FITTINGS

This Sheet describes Key fibre drain pipes and fittings which are manufactured in accordance with B.S. 2760: 1956 *Pitch-impregnated Fibre Drain and Sewer Pipes* and conform to its test requirements.

Material and Construction

The pipes and fittings are formed from felted spun cellulose and asbestos fibres, impregnated under vacuum and pressure with pitch of high melting point. It is smooth and homogeneous and gives a seamless surface free from laminations, obstructions or rough areas. It is resistant to all forms of chemical attack met with in normal soil drainage and to acids and alkalis normally contained in sub-soil.

Straight lengths of pipe are machined to a 2° taper for approximately 2 in. at each end and joints are formed by a separate coupling with internal tapers to correspond. When the end of the pipe is driven into the coupling a watertight joint is formed. It is possible to lay these pipes at a minimum gradient owing to the accuracy of the machined joints and the fact that there is no possibility of surplus cement causing an obstruction as none is used.

Weight

The weight in lb. per ft. run of each size of pipe is given below:

Nominal bore	2 in.	3 in.	4-in.	5 in.	6 in.
Weight (lb./ft.)	1.20	1.80	2.30	3.75	4.90

Crushing Strength

The following table gives the crushing strengths of pipes and couplings.

Nomir	al bore	• •	2 in.	3 in.	4 in.	5 in.	6 in.
			F	ın			
Pipe	**		1,100	1,100	1,100	1,300	1,300
Coupling			270	315	370	430	430

Components

Pipes and couplings: These are supplied in lengths of approximately 5 ft. 6 in. to 8 ft. 0 in. (minimum length 4 ft. 0 in.). One straight coupling is supplied for each length of pipe. 5° angle couplings are also available as shown on the face of the Sheet.

Adaptors: These are available for use where it is required to join a fibre pipe to the spigot end of a pipe of some other material. One end of the adaptor has a 2° tapered socket for the fibre pipe and the other pipe is fixed into the socket provided, with a 1:1 sand-cement joint or proprietary bitumastic filling compound.

Double collars: These can be supplied for joining two spigot ends of pipe where it is not possible to drive a

joint: a standard sand-cement joint is used with them. They may also be used in place of an adaptor.

Junctions: These may be obtained as shown on the face of the Sheet for joining 4 in. to 4 in. pipe, 4 in. to 6 in. or 6 in. to 6 in.

Bends: Right-angled or 135° bends are available to the dimensions shown on the face of the Sheet.

Channels: Straight or junction channels can be supplied in similar sizes to the straight pipes and junctions.

Laying

Pipes can be cut easily and accurately with a coarsetoothed wood-saw and ends can be tapered on the site with a hand tool, that may be hired or purchased. The trench should be as narrow as practicable with the base at the correct gradient, so that the pipes are supported continuously: they must not be laid on levelling bricks.

The pipe should be driven into the coupling approximately \(\frac{1}{4} \) in. further than it can be pushed by hand. It is not necessary to drive as far as the shoulder of the pipe. A wooden dolly about 9 in. by 7 in. by 2 in. must be used between the hammer and the coupling. The weight of the hammer should be 4 lb. for 6-in. pipe and 21 lb. for 4-in. pipe. Where the laying starts at a point that is not at the end of a run, driving should begin by inserting a pipe in a coupling against a back stop. Otherwise, (e.g. at a manhole), the spigot of the first length of pipe should be removed and driving begun against the cut end. Couplings and spigots should be wiped clean before driving. Where long lines of pipe are being laid, additional pegs may be driven in the bottom of the trench to prevent whip while driving the pipes: if the pegs are driven at an angle of about 60°, they will prevent vertical as well as horizontal whip.

Pipe fittings are laid in the same manner as straight lengths: support must be provided opposite any branch where a lateral connection is being driven. Backfilling should be carried out with selected fill (free from stones) which should be packed and well tamped along both sides of the pipes to crown level. Where the soil is lumpy, friable soil, sand or small clinker should be used for backfilling. B.S. Code of Practice CP.301 Building Drainage, clause 508, should be followed for backfilling where applicable.

Applications

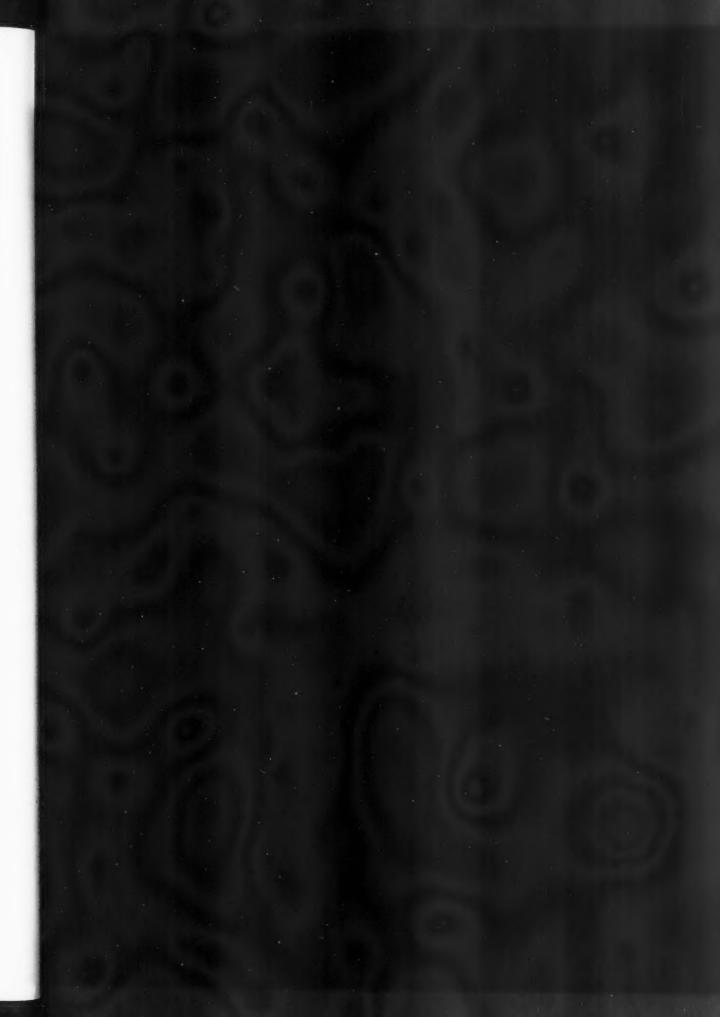
Key fibre drain pipes are manufactured to British Standard 2760: 1956 and American Standard CS. 116/44 but they are not designed for use where continuous pressure is employed. They can be used in trenches of any depth if correctly installed but should never be subjected to continuous internal or external water pressure exceeding 5 lb. per sq. in.

Compiled from information supplied by:

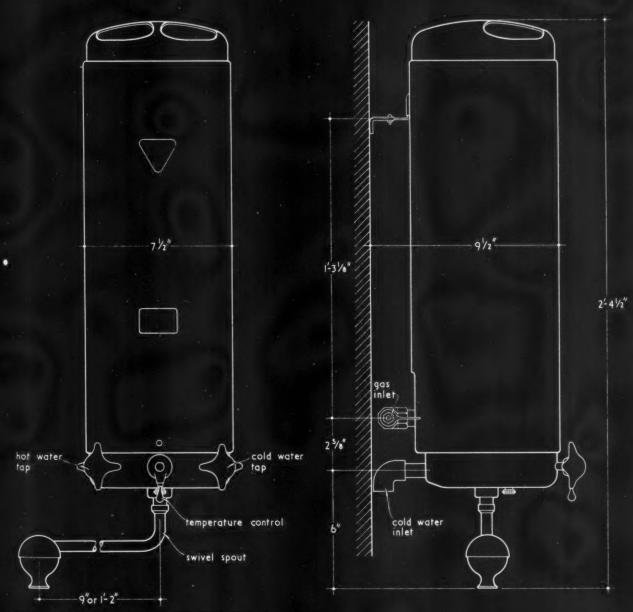
The Key Engineering Company Ltd.

Address: 4, Newgate Street, London, E.C.1. Telephone: City 1185-7.

Telegrams: Keypoint Cent. London.







TYPE 509 SINGLE POINT BOILING WATER HEATER. providing warm, hot and boiling water to kitchen sink for domestic use e.g. tea- and coffee-making

32.C21 · ASCOT· INSTANTANEOUS GAS WATER HEATERS

This Sheet describes the Ascot instantaneous gas boiling-water heater type 509. This heater supplies boiling water for domestic uses, such as tea- or coffeemaking, within one minute of turning on the hot tap. Hot and cold taps and a 3-position temperature selector are incorporated so that any temperature between cold and boiling may be selected, the supply being delivered through a swivel spout.

Note:-The heater is of the open-outlet type and should on no account be connected to any restriction in the form of taps. piping or fittings, etc.

Characteristics

Output: 28,800 B.Th.U./hr.

or 0.75 gal./min. raised through 65°F. or 0.5 gal./min. raised through 97°F. or $2-2\frac{1}{2}$ pints/min. of boiling water.

Input: 37,500 B.Th.U./hr.

Pilot gas rate: Approximately 250 B.Th.U./hr.

Components

Automatic valve: This prevents gas passing through the burner unless a predetermined minimum quantity of water is flowing through the heater. It incorporates a 3-position temperature selector ("warm," "hot" and "boiling") and a water governor which automatically controls the flow of water on settings "hot" and "boiling" irrespective of variations in water inlet pressure.

Gas section: A constant volume gas governor is incorporated to maintain a constant gas rate to the burner. The adjustable by-pass is set and sealed by the manufacturer for the appropriate gas group.

Heating body: This has a cylindrical combustion chamber and centrally positioned heating chamber surrounded by a two-stage finned type heat exchanger. The heating chamber houses a float valve, the function of which is to ensure the delivery of boiling water irrespective of fluctuations in water pressures.

Burner: The stainless steel luminous pinhole type incorporates a pilot safety device.

Outlet spout: The special bulbhead is designed to separate steam and water. The standard size of the outlet spout is 9 in., and there is also an alternative size (at extra cost) of 14 in.

(During 1956/7 standard spout of 6 in. and alternative of 10 in., at extra cost, will still be supplied.)

White or cream vitreous enamel. Visible fittings chromium and nickel plated.

Installation

Position

The heater is free-standing, the weight being supported by the gas and water pipes, but a top wall fixing clip, which is supplied with sets of connection fittings (except for jigged fittings and support pillar), should be used to steady the heater at the top rear of the outer shell. A chromium-plated support pillar which houses both gas and water piping is

available from the manufacturer. provides a neat installation for the heater on a draining board, window ledge or other rigid horizontal surface.

Connections: For jigged fittings or support pillar— Straight-through ½-in. gas cock and short lining. For external pipework—A right-angled gas cock and short lining are preferred (see drawing on the face of this Sheet). The connection to the gas cock is 3-in. B.S.P. male thread. A straight lining only can be supplied where a gas cock is fitted in the supply line close to the heater.

The type of installation contemplated, i.e., chased-in or external pipes, must be specified when the 509 heater is ordered.

Supply pipe:

Up to 15 ft. from the meter—\frac{1}{2}-in. internal dia. 15-30 ft. from the meter—\frac{3}{4}-in. internal dia.

Over 30 ft. from the meter-1-in. internal dia. Meter: Rated capacity to be not less than 80 cu.ft./hr. in addition to requirements for other gas appliances. Water

Preferably Preferably from mains supply. Permission must be obtained from the appropriate Water Permission Authority before connection. Maximum pressure limitation, 120 lb./sq. in.

Tank: Minimum head required 15/20 ft. measured vertically from the level of water in the tank to the level of the water section.

Connection: Straight connection with union lining, 1-in. B.S.P. male thread. Elbow union with wall plate and lining for ½-in. pipe available as an extra. Supply pipe: $\frac{1}{2}$ in. to $\frac{3}{4}$ in. depending on length of run and available pressure.

Stopcock (of a pattern approved by the Water Authority) must be fitted in the cold water supply close to the heater to facilitate maintenance.

Not normally required; where the ventilation of the room is inadequate, or when the duration of a single operation is likely to exceed 10 minutes, a flue should be fitted. A draught diverter for 3-in. internal diameter asbestos-cement pipe is available as an extra from the manufacturer.

Compiled from information supplied by:

Ascot Gas Water Heaters, Ltd.

Head Office

and Works: 255, North Circular Road, Neasden, London, N.W.10.

Telephone: Willesden 1234.

Telegrams: Gascot, Phone, London.

Branch Offices and

Service Depots: Birmingham, Bournemouth and Glasgow. Service Depots: Belfast, Bristol, Cambridge, Manchester, Oxford, Reading, Southampton, Sunderland, Stoke-on-Trent and Jersey.

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working detail

PARTITION: SHOP IN ROTTERDAM

J. H. van den Broek and J. B. Bakema, architects (material supplied by J. Noble)

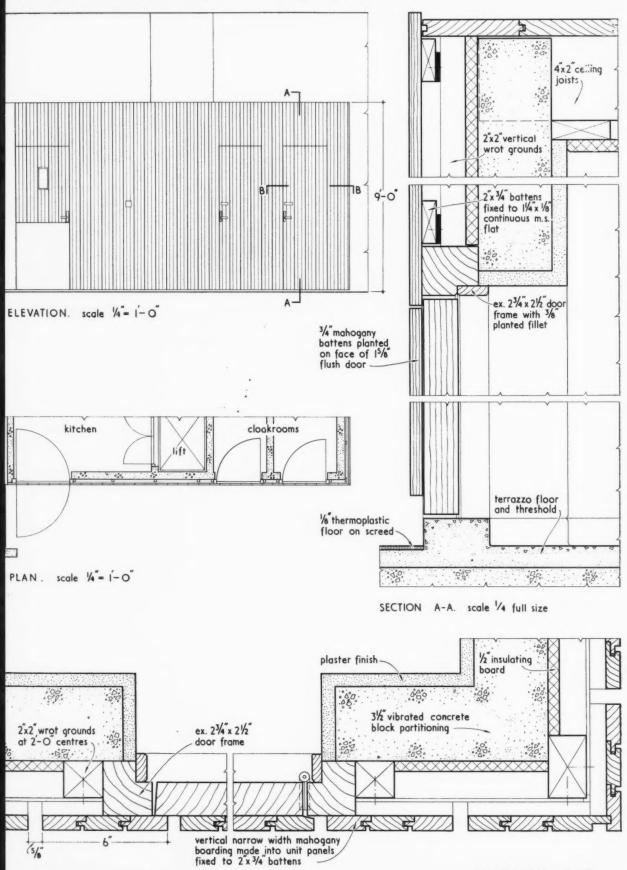


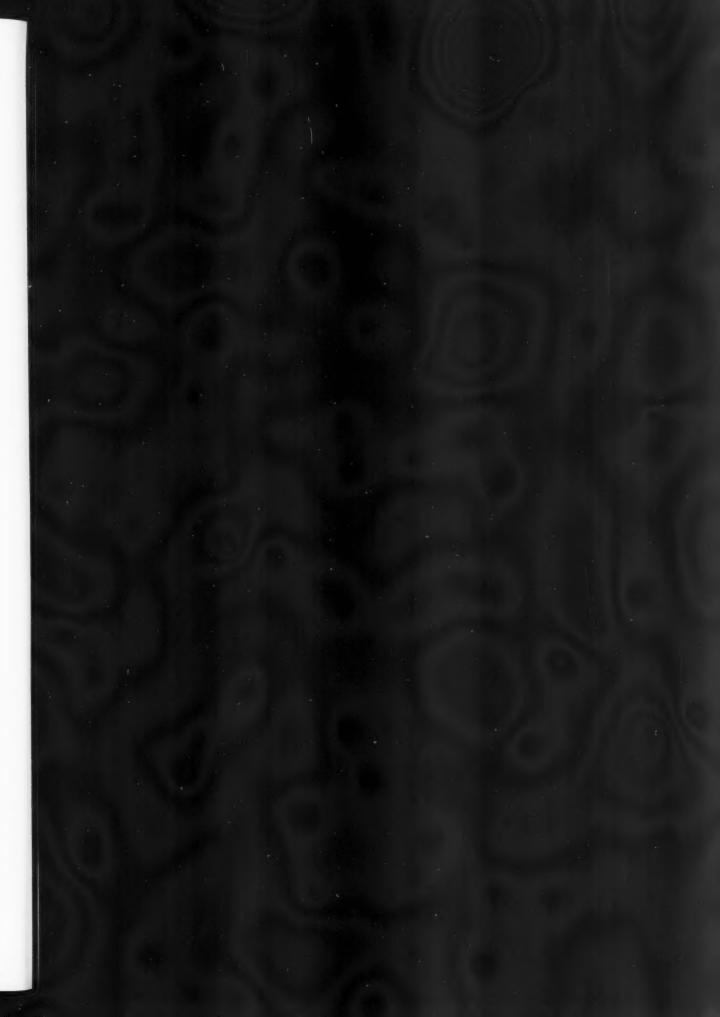
The interest of this detail is wholly aesthetic and consists in the skill with which a short run of partitioning containing no less than three doors irregularly spaced has been so organised that it reads visually as a single uninterrupted plane. This has been done by covering the whole surface, including doors and frames, with vertical mahogany boarding fixed as a palisade, with each "palier" three boards wide. The gap (of approximately \(\frac{3}{4}\) in.) between each "palier" gives a sufficient clearance for door opening without interrupting the rhythm. At the same time (as can be seen from the drawing) it was not necessary for the door openings to correspond exactly with the margins of the "paliers."

working detail

PARTITION: SHOP IN ROTTERDAM

I. H. van den Broek and J. B. Bakema, architects (material supplied by J. Noble)







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Architect: The Borough Surveyor, County Borough of Gateshead. General Contractors: William Hall (Contractors) Ltd.

Above: A typical Draftsele ceiling installation in the new Dryden Road Grammar School, Gateshead-on-Tyne, consisting of suspended ceiling and beam casings, using 24" x 24" x ½" "UNITEX" ivory-faced, self-decorative insulation board panels with bevelled edges. Balcony front 12" x 12" x ½" "UNITEX" acoustic tiles. Back wall, ½" perforated hardboard with fibreglass backing. Ceiling "T's" suspended from steel trusses at 12' centres and panels fixed with the "MeTcO" "C" HOOK Metal Fixing System, all metalwork concealed. Acoustic Tiles bonded to balcony front with Tye-Fast adhesive. Perforated hardboard to back wall fixed to timber battens plugged.

Draftsele Limited (Insulation Division) are equipped to undertake contracts of any size for the installation of suspended ceilings in any part of the United Kingdom. A preliminary consultation can be arranged on request without obligation.

DRAFTSELE LIMITED

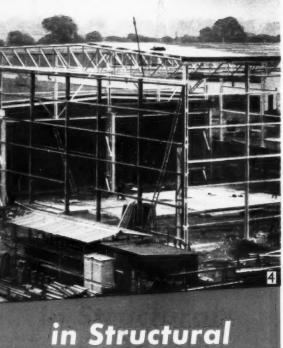
(INSULATION DIVISION)

44, DEAN STREET, NEWCASTLE UPON TYNE, I. Telephone: 2-3696.



- C.W.S. Factory, Stockton-on-Tees
 Architect: C.W.S. Architect's Department
 Consulting Engineer: Alan Marshall & Partners, 115 Gloucester Place, W.1
- Steel framed building with gantry. Toronto, Canada Sir Robert McAlpine & Sons Limited, 80 Park Lane, W. I
- Steel framed industrial building under construction, Poplar, London Client: G. Robbins Architect: Douglas White & Furniss A|ARIBA, 12 Railway Approach, S.E.I
- Steel framed factory extensions. Wellington, Shropshire Client: Joseph Sankey & Sons Ltd.
 Architect: C. Howard Crane & Partners, 7 Buckingham Gate, S.W.J

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Steelwork

FURNITURE SHOWROOMS AT SOUTHEND-ON-SEA





The new furniture showrooms of the Times Furnishing Co. Ltd., at Southchurch Road, Southend-on-Sea, were designed by C. J. Epril and Associates, assistant F. R. Bottle. This is a three-storey and basement building with a steel frame. The side elevation is seen (left.) Particular attention was paid to the staircase (right) which is of cantilevered construction, finished with linoleum inset treads and hardwood margins. The glazed walls are \(\frac{1}{4}\)-in. plate glass in hardwood frames. Spandrel panels are \(\frac{1}{4}\)-in. wired Georgian cast glass backed with clinker blocks. From contract to completion the building took six and a half months.

Shop Front in New Bond Street

For the new showrooms and shop front of Torrington Furs in New Bond Street, London, the Architect selected our 'Armourply' metal-faced plywood for external use, and Bombay Rosewood veneer for decorative purposes.

Architects:

Irvine & Meddings, A./A.R.I.B.A.

Contractors:

W. R. Willcocks & Co. Ltd. George Parnall & Sons Limited



William Mallinson

and Sons Ltd.

TIMBER and VENEER MERCHANTS

130-150 HACKNEY ROAD . LONDON . E.2

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Seaside House, East Wittering, Sussex (pages 221-223), for Victor Holloway. Architect: Brian Peake, F.R.I.B.A., A.A.DIPL. Assistant: J. H. Haskell. General contractor: J. R. Cory. Sub-contractors-Bricks: Dorking Brick Co. Ltd. Concrete blocks, sanitary fittings: Broad Manufacturing Co. Ltd. Roofing felt: D. Anderson & Son Ltd. Glass: Pilkington Bros. Ltd. Patent flooring: Marley Tile Co. Ltd. & The Adamite Co. Ltd. Marble paving: J. Whitehead & Sons Ltd. Furnishing: Wm. Perring & Co. Ltd. Kitchen fittings: Jayanbee Joinery Ltd. Grates: Sidney Flavel & Co. Ltd. Water heaters: Aidas Electric Ltd. Electric wiring: Contemporary Lighting Engineers Ltd. Electric light fixtures: Troughton & Young Ltd., & G. E. C. Ltd. Dampcourses: The Ruberoid Co. Ltd. Door furniture: A. G. Roberts Ltd. Casements: Crittal Manufacturing Co. Ltd. Folding gates to garage: Clarke Ellard Engineering Co. Plumbing, plaster: J. R. Cory.

House at Low Ridge, Crockerton, Warminster, Wiltshire (pages 224-226). Architects: Imrie, Porter & Wakefield, A/A.R.I.B.A. Heating consultant: J. L. Stainforth, A.M.I.H.V.E. General contractor: R. Butcher & Son. Subcontractors—Heating installations: R. Butcher & Son. Facing bricks: Richard Parton Ltd. Roofing: Stramit Boards Ltd. & D. Anderson & Son Ltd. Sliding door gear:

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House at Penendon Heath, Kent (pages 227-228). General contractor: A. R. Tong. Sub - contractors—Roofing felt: Asphalte Co. Ltd. Electrical installation: S.E. Electricity Board. Terrazzo and concrete floor tiles: Langley (London) Ltd. Sanitary fittings: W. N. Froy Ltd. Ironmongery: A. J. Binns Ltd. Heating installation: Denniss Paine & Co. Ltd. Garage door gear: E. Hill Aldam & Co. Ltd. Joinery fittings: Ian Audsley Workshops Ltd. Light fittings: Troughton & Young, Andres of Tonbridge, and Merchant Adventurers Ltd. Kitchen fittings: Jayanbee Joinery Ltd. Ceiling fibre board: Merchant Trading Co. Ltd. Thermoplastic tiles: Marley Tile Co. Ltd. Shower fittings: Barking Brassware, Sliding door gear: Silent Sliding Doors Ltd. Fireplace: Avery & Co. Ltd. Furniture: Heals Ltd., Hille of London, and Ian Henderson.

House at Chartfield Avenue, Putney, London, S.W.15 (pages 229-230). Architect: Albert J. Upton. General contractor: Hurley & Wells. Sub-contractors—Roofing: Permanite Ltd. Electrical installation (including floor): Electra Ltd.

House at Eaton Park Road, Cobham, Surrey (pages 231-232). Architect: Jack Godfrey-Gilbert. General contractor: H. Corry & Son Ltd. Sub-contractors—Main chimneystack and fireplace: True Flue Ltd. Roofing tiles: Marley Tile Co. Ltd.

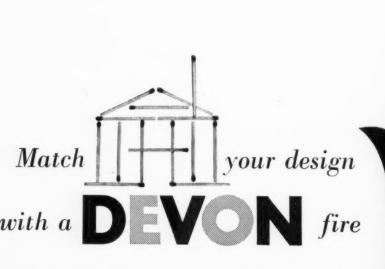
Announcements

Cecil Howitt & Partners, F/F/A.R.I.B.A., have opened a new office at St. Andrew's House, 48, Princess Road, Leicester, where they will be pleased to receive trade catalogues, etc.



46.Z (Q-Z). REFERENCE BACK

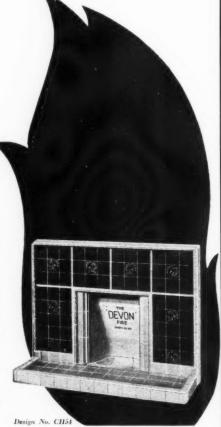
Readers are asked to note that under the entry "Sewage disposal, units" the number should be 33.L1, not 33.C1.

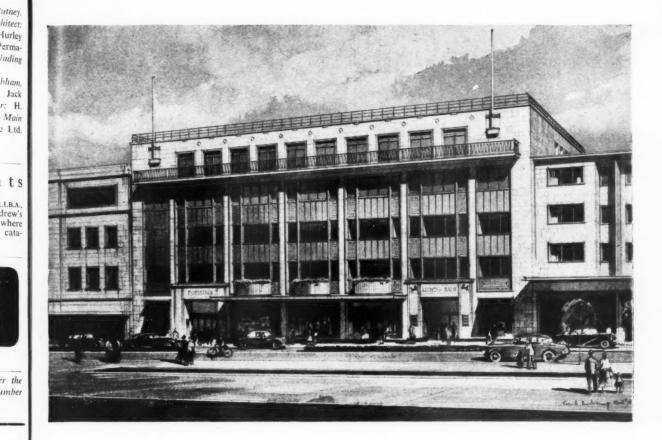


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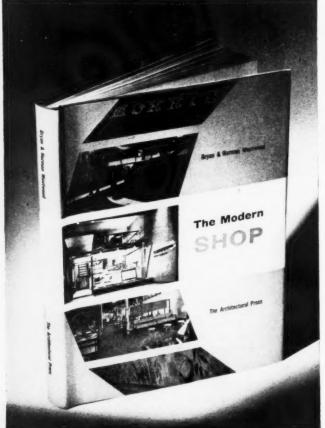
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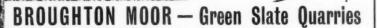
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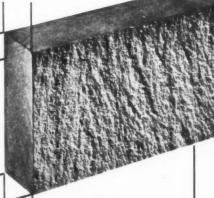
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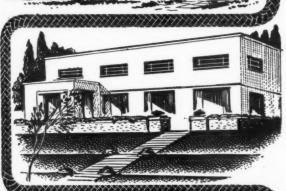
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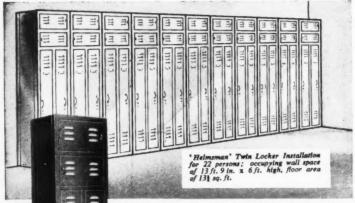
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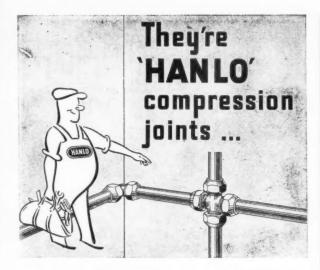
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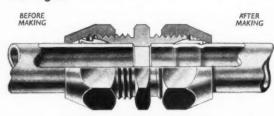
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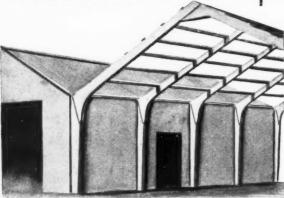




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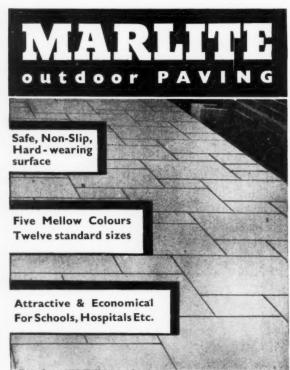
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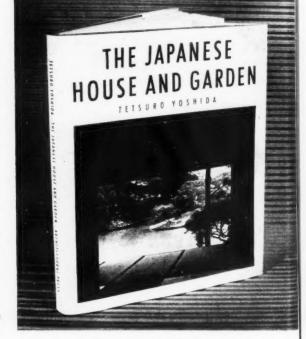
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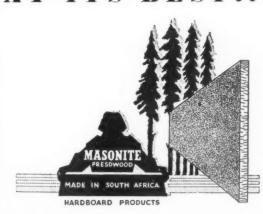
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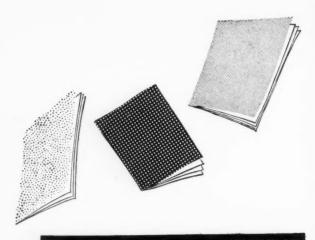
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building elements by R. LLEWELYN DAVIES, M.A.,

A.R.I.B.A. and D. J. PETTY, M.B.E., M.A., A.R.I.B.A. Foreword by W. A. ALLEN, B.ARCH., A.R.I.B.A.

This Book deals with the structural elements of which a building consists, its walls, roofs, floors, windows, etc., and explains the functional requirements a building has to meet. It then describes how these requirements are met in the actual design of the various structural elements.

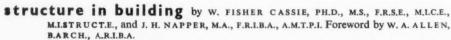
The book is divided into two parts, the first of which contains chapters on the requirements of building elements under the headings of Design and Expression; Weather Exclusion; Thermal Insulation; Sound Insulation; Fire Protection. In Part 2 chapters deal with the principal kinds of External Walls; Internal Walls; Roofs; Floors; Stairs; Flues and Fireplaces; Windows and Doors; which are in current use, and show how far and in what way, each of these elements fulfils the requirements described in Part 1.

Size: 8\frac{1}{4}in. by 5\frac{1}{4}in., containing 384 pages including over 190 diagrams and halftone illustrations. 37s. 6d. net, postage 1s. 4d.



This book provides up-to-date information on building materials in a form most useful to architectural students and practising architects. In addition to traditional materials, Mr. Handisyde deals with the many new materials which have come into use during the last twenty-five years, and takes full account of the very considerable amount of recent scientific research which has been brought to bear on both old and new materials. He examines thoroughly those problems of increasing concern to architects today—to what extent will alternative materials provide comfortable buildings, buildings that are warm and quiet and reasonably secure against fire, as well as being weatherproof and strong enough for their purpose.

Size: 8\frac{1}{2} in. by 5\frac{1}{2} in. Containing 336 pages including 58 diagrams and halftone illustrations. Second edition, 30s. net, postage 1s. 3d.

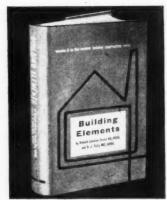


Steel, concrete, aluminium alloys, etc., have revolutionised structural design, and although this field is largely an engineering one, today it is essential for the architect to understand something about it. No attempt is made in the book to give the formulae and methods of analysis and design used by the structural engineer; rather it provides the architect and student with mental pictures of how structures behave, for without the ability to 'feel' how forces act and react in the support of buildings, the architect cannot hope to put into practice the spatial conceptions of present-day architecture.

The book fills a gap in the literature on structural design and provides the architect with all the information he needs about systems of construction, their character, possibilities and limitations, to enable him to produce designs for new buildings with economy and imagination.

Size: 8½ in. by 5½ in. Containing 268 pages including over 150 diagrams and halftone illustrations. Second impression, 30s. net, postage 1s. 2d.

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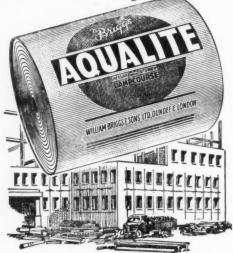
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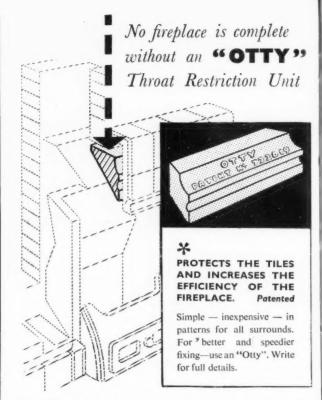
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Advertisements should be addressed to the Advt. Managor, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1. and should reach there by first post on Friday worning for inclusion in the following Thresday's

paper.
Replies to Boz Numbers should be addressed care of "The Architects' Journal," at the address

Public and Official Announcements 25s. per inch; each additional line, 2s.

AIR MINISTRY Works Designs Branch requires in London and Provinces ARCHITECTURAL ASSISTANTS, experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries in London up to £790 p.a. for men and £735 for women. Somewhat lower in Provinces. Starting pay dependent on age, qualifications and experience. Long term possibilities, with promotion and pensionable prospects, 5-day week, 3 weeks 3 days leave a year. Liability for overseas service. Normally natural born British subjects. Write, stating age, qualifications, employment details, including type of work done, to any Employment Exchange, quoting Order No. Borough 1000.

Borough 1000.

SKEGNESS URBAN DISTRICT COUNCIL
APPOINTMENT OF GENERAL ASSISTANT
Applications are invited for the appointment
of a General Assistant in the Surveyor and
Water Engineer's Department at a salary within
Grades A.P.T. I and II (£543 5s. to £691 17s. 6d.),
the commencing salary to be fixed according to
the experience and qualifications of the successful
applicant.

the experience and quantification applicant.

Candidates will be expected to have had some experience in a Municipal office, and it is preferable, though not essential, that they should have had some experience of building works and alterations.

The appointment will be subject to the

The appointment will be subject to the National Scheme of Conditions of Service, the provision of the Local Government Superannuation Acts, and the passing of a medical examina-

tion.

Applications, suitably endorsed, together with names and addresses of two referees, to be delivered to the undersigned not later than 15th February, 1957. Candidates should disclose whether they are related to any member or officer of the Council.

IVOR M. CULE, Clerk to the Council. 5139

Town Hall, Skegness.

Town Hall, Skegness.

COUNTY BOROUGH OF SOUTHAMPTON requires under N.J.C. Conditions of Service:—
(a) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV-V (£727—£994), Applicants must be Associate Members of the R.I.B.A. and have had experience in housing design and construction, estate layout, and the administration of contracts.

had experience in housing users.

tion, estate layout, and the administration of contracts.

(b) ASSISTANT ARCHITECT. Special Scale (£707—2851). Applicants must have passed Parts I and II of the R.I.B.A. Final Examination, and have had at least five years' experience, including the period spent on theoretical training.

(c) PEINCIPAL ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. VI £502—£1,107). Applicants must be fully qualified chartered surveyors, with considerable experience in building contracts in all stages, and in the control and supervision of staff.

(d) QUANTITY SURVEYOR, Grade A.P.T. IV-V (£727—£994). Applicants must have passed the Final Examination of the Royal Institute of Chartered Surveyors (Division IIIQ), and preferably have had experience in housing work.

If assistance in Housing accommodation is needed, please state requirements.

Apply, with copies of two testimonials, to the Borough Engineer and Surveyor, Civic Centre, Southampton, by Monday, 18th February, 1957.

5144

COUNTY BOROUGH OF MERTHYR TYDFIL
PERMANENT APPOINTMENT OF TWO
SENIOR ARCHITECTURAL ASSISTANTS
Applications are invited for the above appointments at a salary in accordance with grade
A.P.T. V of the National Scheme of Conditions of
Service.

Applicants must be Associate Members of the Royal Institute of British Architects and must have had good all round experience in the architectural work usually undertaken by the Local Authority. Planning experience would be an advantage.

Housing accommodation with

advantage.

Housing accommodation will be provided if required, and reasonable removal expenses of the successful applicant will be paid.

The appointment will be subject to the Local Government Superannuation Acts and to the passing of a medical examination. The appointment will be terminable by one month's notice on either side.

nent will be terminable by one anomalies on either side.

Applications stating age, past and present appointments, qualifications and experience, together with copies of three recent testimonials should be delivered to the undersigned not later than 12 noon on 16th February, 1957.

Canvassing in any form will disqualify.

T. S. EVANS.

Town Clerk.

Town Hall. Merthyr Tydfil 29th January, 1957.

LONDON ELECTRICITY BOARD

Applications are invited for the above position in the Hampstead/Willesden district.

Applicants should have had a good general and technical education in Electrical Engineering and building construction, and experience in a mains records office dealing with systems of all voltages up to 11 kV. In addition, the applicants should be capable of supervising Engineering Draughtsmen and/or Junior Draughtsmen, if required.

The post is graded under Schedule "D" of the National Joint Board agreement as Grade V (£735 to £840 per annum), inclusive of London allowance.

Application forms obtainable from Personnel

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2, to be returned completed by 16th February, 1957. Please quote Ref. PER/2288/A.

ISLE OF ELY COUNTY COUNCIL
COUNTY ABCHITECT'S DEPARTMENT
Applications are invited for the following

TWO ASS

appointments:—
TWO ASSISTANT ARCHITECTS (Special Grade), £707 5s.×£30 15s.—£861.
Point of entry subject to previous experience. Applicants will be required to have completed Parts I and II of the R.I.B.A. Final or Special Final Examination, or to have satisfactority completed the course at a recognised School of Architecture.
The appointments are subject to the N.T.C. Scheme of Conditions of Service, the Local Government Superannuation Act, and to passing a medical examination.

Government Superannuation Act, and to passing a medical examination.

Applications, giving details of training and experience, together with names of two referees, to be sent to County Architect, County Hall, March, Cambs., not later than Monday, 18th February, 1957.

R. F. G. THURLOW.

Clerk of the County Council.

County Hall, March, Cambs.

COUNTY BOROUGH OF EAST HAM
HOUSING DEPARTMENT
SENIOR ARCHITECTURAL ASSISTANT
(A.P.T. V/VI).
Applications are invited. Salary £814 17s. 6d.
per annum, rising by annual increments to
£1,107, plus London weighting.
Further details and form of application (returnable by 20th February, 1957) from the Town
Clerk, Town Hall, East Ham, E.6. 5138

BOROUGH OF EALING. TOWN PLANNING ASSISTANT, A.P.T. IV (£727 158.—£907 28. 6d. per annum, plus London weighting). Applicants must be suitably qualified and experienced in development control. Full particulars and application form from Borough Surveyor, Town Hall, Ealing, W.5. Closing date: 11th February, 1957.

E. J. COPE-BROWN,

Town Clerk.

Town Clerk.

COUNTY BOROUGH OF ROTHERHAM
CHIEF ASSISTANT ARCHITECT
Applications are invited for the appointment of Chief Assistant Architect at a salary in accordance with A.P.T. Grade V, £814.17.6—£994.5.0 per annum, the commencing salary to be within this grade according to qualifications and experience, Applicants to be Associate Members of the R.I.B.A. and having good architectural experience.

Housing accommodation can be provided if

Housing accommodation
mecessary.
Applications to be endorsed "Chief Assistant Architect," stating age, qualifications and details of experience together with the names of two referees should be received by me not later than Tuesday, 19th February, 1957.
Canvassing will disqualify.

JOHN S. WALL,
Town Clerk.

Municipal Offices

Rotherham. 31st January, 1957.

Retherham.

Sist January, 1957.

LONDON ELECTRICITY BOARD
Applications are invited for the following positions in the Construction Branch of the Chief Engineer's Department in Central London.
Conditions of service are in accordance with the National Joint Board agreement, and the salaries shown below, under Schedule "D," are inclusive of London Allowance.
CIVII.STRUCTURAL ENGINEERING ASSISTANT (Ref. 2290/A).
Applicants should have experience in the design and detailing of reinforced concrete for foundations, framed buildings, etc., or in the design and detailing of structural steelwork for buildings, etc., Commencing salary within Grade IV—2850 IDs. to 2950 IDs. per annum.
ARCHITECTURAL ASSISTANT (Reg. 2291/A).
Applicants should be studying for or have passed the Intermediate examination of the R.I.B.A., be capable draughtsmen and have had several years experience in an architect's office.
Commencing salary within Grade V—2735 to 2840 per annum.
CIVIL./STRUCTURAL ENGINEERING
DRAUGHTSMAN (Ref. 2292/A).
Applicants should have had experience in the preparation of drawings for either reinforced concrete or structural steelwork or building work.
Commencing salary within Grade V—2735 to 2714 per annum.
Application forms obtainable from Personnel

2714 per annum.

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2.

Please quote appropriate ref. No. of vacancy for which the application is made.

GLAMORGAN COUNTY COUNCIL. Require in the County Planning Department (1) at County Hall—PLANNING ASSISTANT (Development Plan) Special—Grade APT IV salary £707.5.0 to £907.2.6 per annum, preferably with Towa and Country Planning Diploma, but experienced candidates with Intermediate of T.P.I. will be considered.

(2) at Area Planning Office. Neath—ASSISTANT AREA PLANNING OFFICER—Grade APT IV salary £727.15.0 to £907.2.6 per annum. Minimum qualification—Intermediate examination of appropriate professional body. A motor car must be provided for which an allowance will be paid.

Applications stating age, training, qualifications, experience, present salary and two testimonials to the County Surveyor and Planning Officer, County Hall, Cardif. Closing date 18th February, 1957.

RICHARD JOHN, Clerk of the County Council.

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RICHARD JOHN, Clerk of the County Council

RICHARD JOHN, Clerk of the County Council

AMENDED ADVERTISEMENT
KAMPALA MUNICIPAL COUNCIL
ASSISTANT SURVEYOR (BUILDING)
Applications are invited for the above vacancy in the Town Engineer and Surveyor's Department in the salary scale £1,194 rising by increments of approximately £50 to a maximum of £1,863 including inducement pay.

Applicants for the post must be Professional Associates of the Royal Institution of Chartered Surveyors (Building Section).

The duties of the post will be primarily to take charge of the Maintenance of Council's public buildings, Depots, staff housing and housing schemes. In addition the successful applicant will be required to carry out building inspections in connection with the enforcement of Building Rules. He should have experience in checking reinforced concrete calculations as and when submitted to Council for approval.

The commencing salary of the post will depend upon the qualifications and experience of the successful applicant. Housing will be provided and rent will be deducted from salary.

The appointment is to Council's permanent establishment under Part I of Council's Staff Regulations and Terms of Service, which includes home leave and passage privileges for ex-patriate officers also medical examination and, if under 50 years of age, will be required to contribute to Council's superannuation scheme at the rate of 74% of salary. The successful applicant will be required to contribute of our of salary. The successful applicant of over 50 years of age, will be required to contribute of the provident fund.

The appointment will be subject to a probationary period of at least six months.

Canvassing of members of the Council, directly or indirectly, in connection with this appointment will disquality.

Applications, giving full particulars, including age, date of birth, marital status, qualifications and previous experience, together with copies of three recent testimonials and/or the names and addresses of three referees, must

Municipal Offices, P.O. Box 210, Kampala, Uganda.

COUNTY BOROUGH OF WOLVERHAMPTON APPOINTMENT OF SENIOR PLANNING
ASSISTANT
Applications invited for above appointment in the Borough Engineer and Planning Officer's Department. Salary Grade IV (£727 158.—2861 p.a.) according to qualifications and planning experience. ning experience.

N.J.C. conditions of service, one month's notice on either side. Medical examination. Super-

annuable post.

Applications stating age, training and experience, naming two referees to Borough Engineer,
Town Hall, Wolverhampton, by 20th February,
1957.

CITY OF PORTSMOUTH
CITY ARCHITECT'S DEPARTMENT
Applications are invited from Associates,
R.I.B.A., to act as Section Leader, Grade V
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Swimming and Medicated Baths, Ambulance
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salary according to experience,
Applications, setting out in tabular form, name,
age, qualifications, present post and salary, previous posts with dates, details of experience, with
names of two referees, must be delivered to the
undersigned not later than 12 noon, Friday, 22nd
February, 1957.
Canvassing will disqualify.

V BLANCHARD,
Town Clerk.

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City Council Chambers,
1, Clarence Parade.
Portsmouth.

CITY AND COUNTY OF THE CITY OF

Applications are invited for the following appointments on the establishment of the City Architect's Department:

(a) PRINCIPAL ASSISTANT ARCHITECT (Design). Salary within A.P.T. Grades VI/VII (1902 to 21,230).

(b) SENIOR ASSISTANT ARCHITECTS. Salary A.P.T. Grade IV (1927 to 2907).

(c) ASSISTANT ARCHITECT. Salary Special Classes Grade (1970 to 2851).

Applicants for all posts must be Associate Members of the R.I.B.A. or hold equivalent qualifications.

Applicants for appointment (a) must have been been applicants for appointment (b) must be proposed to the proposed to the control of t

Applicants for all posts must be Associate Members of the R.I.B.A. or hold equivalent qualifications.

Applicants for appointment (a) must have had considerable experience in all phases of modern design and construction related to schools, colleges and civic buildings, and in the control and organisation of drawing office staff. For appointment (b), preference will be given to those experienced in the design and construction of schools and civic buildings. For appointment (c), preference will be given to those experienced in housing and school work.

The appointments will be subject to one month's notice on either side, and to the provisions of the Local Government Superannuation Acts 1937-1953. The successful applicants will be required to pass medical examinations.

Canvassing will disqualify, and applicants must disclose whether, to their knowledge, they are related to any member of the Council. Applications, stating age, qualifications, previous and present appointments and salaries, with full details of experience and earliest possible date when available, should be sent to H. B. Rowe, F.R.I.B.A., A.M.I.Struct.E., City Architect, Municipal Offices, Exeter, not later than the 23rd February, 1957.

C. J. NEWMAN, Town Clerk.

C. J. NEWMAN, Town Clerk. Exeter. February, 1957.

PADDINGTON BOROUGH COUNCIL
ARCHITECTURAL ASSISTANT (A.P.T. III—
1686 to £814 2s. 6d. p.a.) (£10 p.a. less if under age
26). Starting salary according to experience.
Candidates should be Intermediate A.R.I.B.A.
with some practical experience of the design of
contemporary multi-storey housing work. Work
will also include interesting schemes for other
Council departments. Write age, qualifications,
and details of past experience and training to
the undersigned together with the names and
addresses of three referees by 15th February, 1957
(Quoting A.320).

W. H. BENTLEY

W. H. BENTLEY. Town Clerk.

Town Hall, Paddington Green, W.2. 5178

Paddington Green. W.2.

METROPOLITAN BOROUGH OF LEWISHAM FOUR SENIOR ASSISTANT ARCHITECTS
Salary scale £824 17s 6d. rising to £1,260 per annum (A.P.T. V-VII plus London weighting). Applicants must be Corporate Members of the R.I.B.A. or possess a University degree in Architecture. Particulars and form of application from the Town Clerk, Lewisham Town Hall, Catford, S.E.6. Closing date 23rd February, 1957. Catford, S.E.6. Closing date 23rd February, 1957.

LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

Assistants required for building control work in BUILDING REGULATION DIVISION to examine applications under the London Building Acts and analogous legislation with regard to compliance with the Council's constructional and fire guarding standards.

Starting salaries up to £817 according to qualifications and experience.

Particulars and application form from the Architect (AR/EK/BCW/3), County Hall, S.E.I. (139) 5182

tect (AR/EK/BCW/5), County 5182

THE UNIVERSITY OF LIVERPOOL
Applications are invited for a Leverhulme Postgraduate Fellowship in the School of Architecture
or the Department of Civic Design. The Fellowship will be tenable for one year at a value of
£500, but may be renewed for a second year at a
value of £550.
Applications, three copies, stating age, qualifications and experience, proposed field of research
and the names of two referees, and enclosing
copies or photographs of work, should be received
not later than 1st March, 1957, by the undersigned,
from whom further particulars may be obtained.

STANLEY DUMBELL.

Registrar.
5184

BOROUGH OF DARTFORD
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
Applications are invited for:
QUALIFIED ARRHITECTURAL ASSISTANT,
Grade A.P.T. II.
JUNIOF ARCHITECTURAL ASSISTANT, Grade A.P.T. II.
ENGINEERING ASSISTANT, Grade A.P.T. IV.
ENGINEERING ASSISTANT, Grade A.P.T. II.
(With "Plusage" payment of £20 or £30 per annum).

ENGINEDEM: (With "Plusage" payment (With "Plusage" anum).

Housing accommodation available.
Applications stating age, qualifications and experience and the names of 3 referees should be forwarded to me by the 25th February, 1957.

THOMAS ARMSTRONG,
Town Clerk.

Council Offices,
Dartford.

BOROUGH OF KETTERING
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
APPOINTMENT OF ARCHITECTURAL
ASSISTANT
ment at a salary in accordance with A.P.T.
Grade II (£609-17s.-6d.-£691-17s.-6d.), Housing accommodation will be available if required.
Applications with the names of three referees to be seen not later than 16th February, 1957, to the Town Clerk, Town Clerk's Office, Kettering.
D. DUNSFORD PRICE.
Town Clerk.
S215

METROPOLITAN BOROUGH OF BATTERSEA
Applications are invited for the permanent
appointment of ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. I. £543 5s.—£625 5s. The
point of entry within the grade may be fixed
above the minimum. London weighting is payable in addition (£10 p.a. under 21 years; £20
p.a. 21 years and under 26; £30 p.a. 26 years and
over). Application forms from the Borough
Engineer and Surveyor, Town Hall, S.W.11.
Closing date: 18th February. 5155

OIOSING GARE: 18th February. 5155

BOROUGH OF BARKING
QUANTITY SURVEYING ASSISTANT
Applications are invited for the above appointment on Grade A.P.T. I. £545 5s. by £20 10s. to £625 5s. per annum, plus London weighting (£10—£30 per annum according to age).
Applications on forms obtainable from the Borough Architect, Town Hall, Barking, should reach the undersigned not later than 9 a.m., 22nd February, 1957.

E. R. FARR.

E. R. FARR. Town Clerk.

Town Hall, Barking, Essex.

WORCESTERSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
Appointment of ARCHITECTURAL ASSISTANT. Grade A.P.T. III (£656—£784 2s. 6d.):
Applications for the above permanent appointment, stating age qualifications, experience and giving the names of two referees or copies of two recent testimonials, should be sent to L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester, not later than the 14th February, 1957.
(R.154).

FR.I.B.A., County Worcester, not later than the 14th Feb. 51bs (R.154).

KING'S COLLEGE HOSPITAL DENMARK HILL S.E.S.
Applications are invited for the post of ARCHITECTURAL ASSISTANT in the Building Surveyor's Department at a salary of £595 × £20—655 per annum.
Applicants should be experienced in the preparation of plans of existing buildings and working drawings for alterations and improvements. Preference will be given to applicants who have bassed the Intermediate Examination of the R.I.C.S. (Building Sub-Division).
Applications stating age, experience, training and qualifications should be sent to the undersigned by 21st February, 1957.

S. W. BARNES, House Governor.

CITY AND COUNTY OF NEWCASTLE UPON TYNE
CITY ARCHITECT'S DEPARTMENT
The City Architect will be pleased to receive applications for the following established posts in the Quantity Surveying Section of his Department:—

applications for the following established posts in the Quantity Surveying Section of his Depart—
(a) SENIOR QUANTITY SURVEYOR, A.P.T. Division, Grade V (£814 178, 64,—£994 58.).
(b) SENIOR ASSISTANT OUANTITY SURVEYOR, A.P.T. Division, Grade IV (£727 158,—£907 28, 6d.).
The above posts will be subject to the provisions of the Local Government Superannuation Acts, 1937-1953, and to one month's notice on either side. Successful candidates will be required to pass a medical examination.
Applications, stating position applied for age, particulars of training, qualifications, experience, present and past appointments, together with the names and addresses of two persons to whom reference may be made, should be addressed to George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18, Cloth Market, Newcastle upon Tyne, 1.

JOHN ATKINSON. Town Clerk.

Town Hall, Newcastle upon Tyne, 1. 1st February, 1957.

BOROUGH OF WIDNES
BOROUGH ARCHITECT'S DEPARTMENT
Applications are invited for the appointment of
ARCHITECTURAL ASSISTANT at a salary
within Grades A.P.T. IV/V according to qualifications and experience, to work on a new College
of Further Education and other school projects.
Applicants must be registered architects, preferably Associate Members of the R.I.B.A., and
with experience of contemporary school design and
construction.

with experience of contemporary school design and construction.

The appointment will be subject to the National Scheme of Service as adopted by the Council, and superannuable subject to the successful candidate passing a medical examination. Applications, stating full particulars of age, experience and qualifications, present and previous appointments (with dates) together with the names and addresses of two referees should be sent to the Borough Architect, Brendan House, Widnes Road, Widnes, not later than first post Friday, 22nd February, 1957. Canvassing directly or indirectly will disqualify.

FRANK HOWARTH.

FRANK HOWARTH,

Town Hall, Widnes. 31st January, 1957.

Jist January, 1957.

DERBYSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT
Vacancies for QUANTITY SURVEYORS (fully
qualified), A.P.T. grade VI (1902-21.107 per
annum) and A.P.T. grade VII (1909-11.007 per
annum). National Joint Council conditions
of service. Pensionable posts. Canvassing disqualifies. Application forms from F. Hamer
Crossley, Dipl. Arch. F.R.I.B.A., County Architect,
County Offices, St. Mary's Gate, Derby, returnable
by 25th February, 1957.

S183

by 25th February, 1957.

FIFE COUNTY COUNCIL

DRAUGHTSMAN required for the COUNTY
ARCHITECT'S DEPARTMENT. Salary Scale
A.P.T. II to IV (±595 to £715 per annum). Must
be quick and accurate and have a good knowledge
of design and construction. Superannuation
Scheme. Applications giving full particulars should
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Clerk, County Buildings, Cupar.

LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT
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Tenders Invited

of 22, to be retunded upon state of the frender.
Tenders (in plain sealed envelopes, endorsed "Tender for Reinstatement of Wall Copings," but bearing no name or mark indicating the sender) must be delivered to my office not later than 9.00 a.m. on 21st February, 1957.

E. J. COPE-BROWN,
Town Hall, Ealing, W.5.

Town Hall, Ealing, W.5.

Town Hall, Ealing, W.5.

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

The "Journal" regrets any wrong impression that may have been given by the incorrectly worded version of the following advertisement, which appeared in the "A.J." issue of 24th January.

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The posts are pensionable, subject to medical examination. Five-day week in operation. Applications, giving age, details of experience and salary required to W. J. Reed, F.B.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 99, Leman Street, London, E.1.

CO-OPERATIVE WHOLESALE SOCIETY LTD.
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A RCHITECTS require ASSISTANT: passed R.I.B.A. Intermediate; large scale commercial work. Salary about £520 according to experience. Watson, Johnson & Stokes, 5, Victoria Square, Birmingham, 2.

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A SSISTANT required at once by Architects in South Kensington. Someone who has passed his Intermediate and preparing for Final preferred. Good draughtsman and some experience essential. Salary £10 to £12 per week, according to experience.—Ring KEN. 1242 or write Box 4955.

CITY Architects require JUNIOR ASSISTANT with office experience up to Intermediate. Five-day week. Phone London Wall 3825. 5134

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TAKER-OFF. Applications are invited from experienced and suitably qualified persons. Salary on the scale £850—£1,005, inclusive of L.W., with placing according to age, qualifications and experience. The post is superannuable, subject to medical examination. Five-day week in operation. 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, Leman Street, London, E.1.

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ARCHITECTURAL ASSISTANT required by busy practice in Buckinghamshire, 30 miles from London; preferably qualified. Also BULD-ING SURVEYOR, capable of carrying out large land and building surveys, but with some Architectural experience.—Please write giving full details to Box 5172.

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A ASSISTANT, of Final or Intermediate standard, to work in the Nuffield Foundation.
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5170

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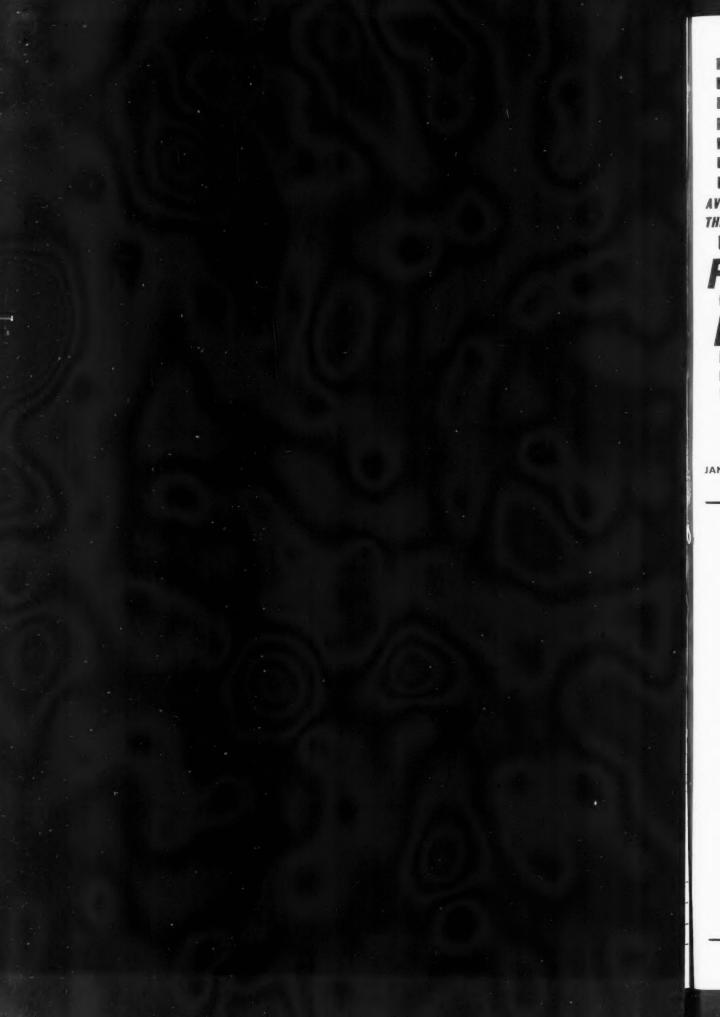
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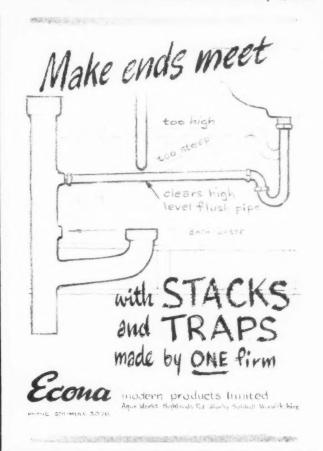
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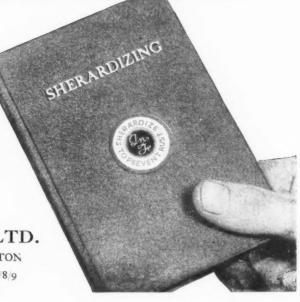
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