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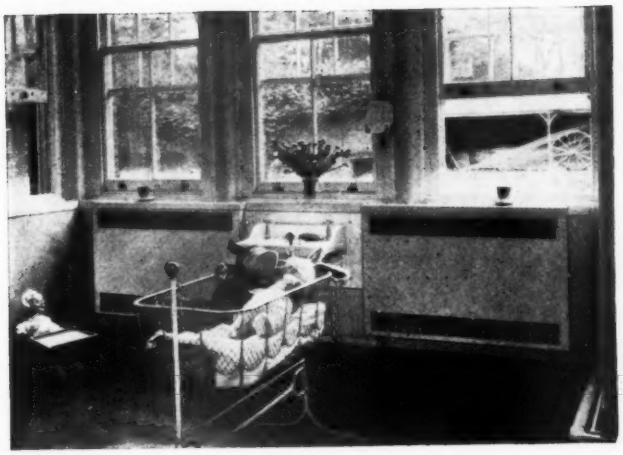

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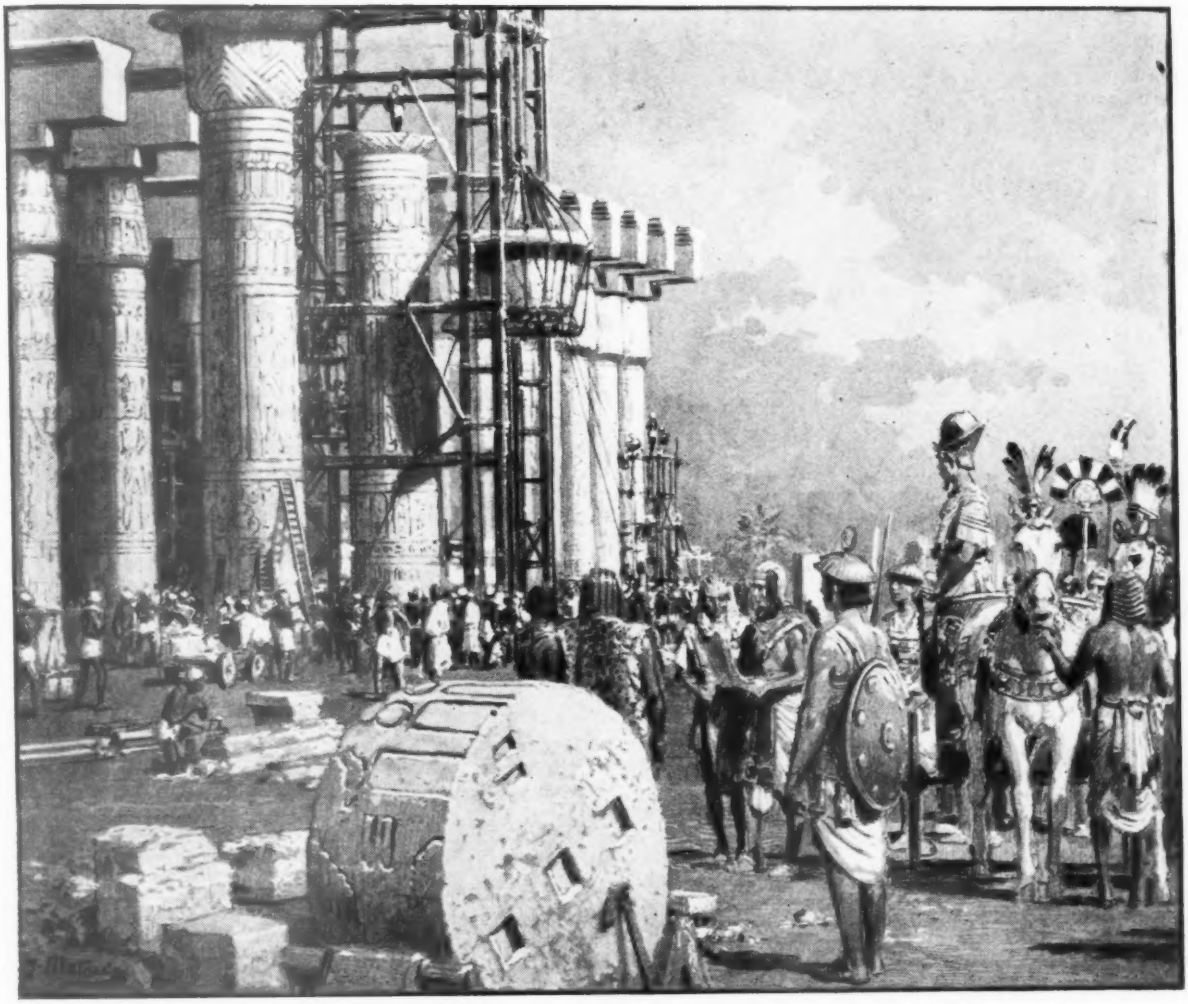

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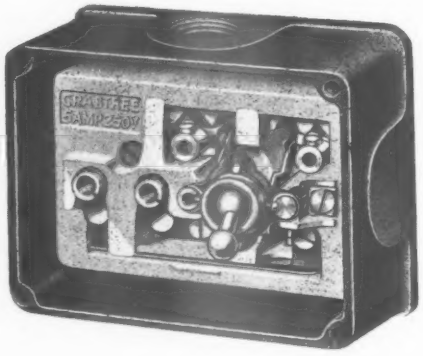

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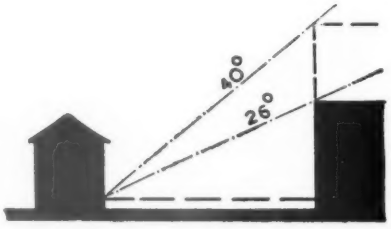

Fig. 8.

Fig. 9

Many windows, especially in urban areas, will be obstructed in some way (Fig. 8), either by adjoining buildings, trees, or some other impediment and the amount of daylight entering the room from the sky will be cut down. To compensate for this, a taller window should be chosen so that the largest possible angle with the visible sky may be subtended by the window opening.

Put very simply, long horizontal obstructions, such as the roof-line of a nearby house, may cut down the *penetration* of light into a room without very much altering its *spread*. This effect is illustrated in the diagram which shows the graph of the same daylight factor contour, first with the window unobstructed, then with an obstruction of 26° and finally with one of 40°. (Fig. 9). This is one of the problems EJMA had in mind when providing their range of tall windows as part of the standard series.

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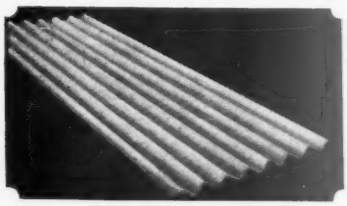

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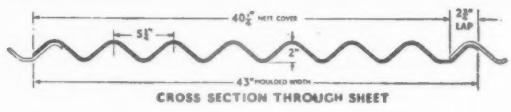

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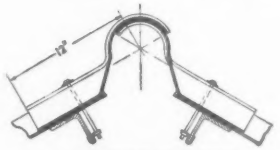

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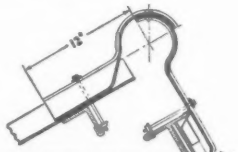

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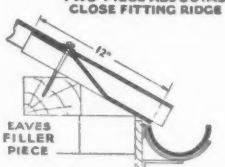

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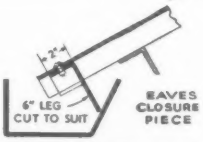

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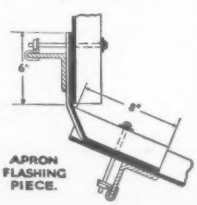

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9' 6"	3.783	97.85	2	6' 11½"	15	50' 6½"
9' 0"	3.583	92.7	3	10' 3½"	16	53' 10½"
8' 6"	3.385	87.75	4	13' 7½"	17	57' 3"
8' 0"	3.185	82.8	5	17' 0"	18	60' 7½"
7' 6"	2.987	77.4	6	20' 4½"	19	63' 11½"
7' 0"	2.787	72.0	7	23' 8½"	20	67' 3½"
6' 6"	2.588	67.0	8	27' 0½"	21	70' 8"
6' 0"	2.388	61.8	9	30' 5"	22	74' 0½"
5' 6"	2.191	56.65	10	33' 9½"	23	77' 4½"
5' 0"	1.991	51.5	11	37' 1½"	24	80' 8½"
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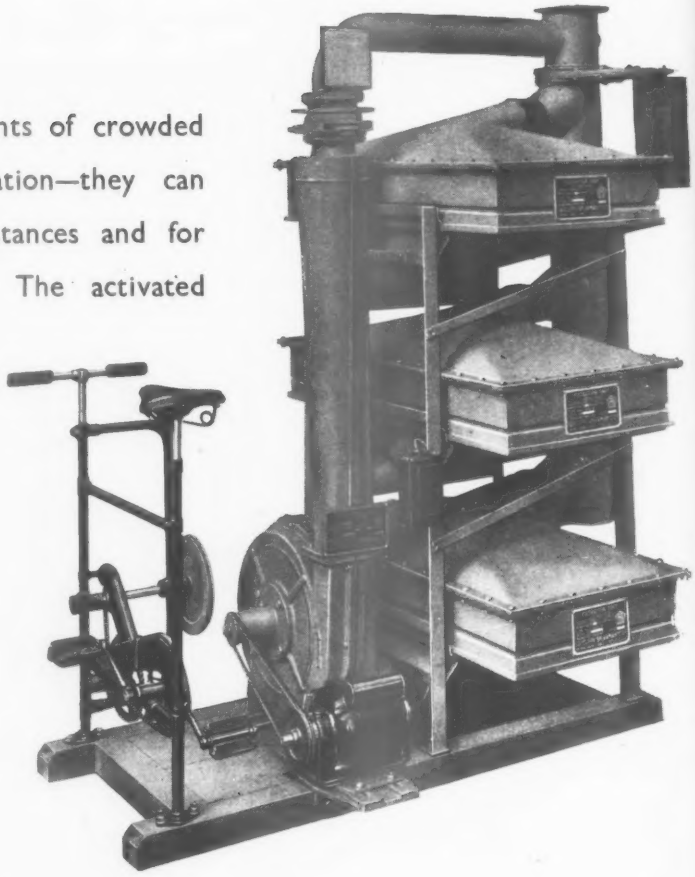

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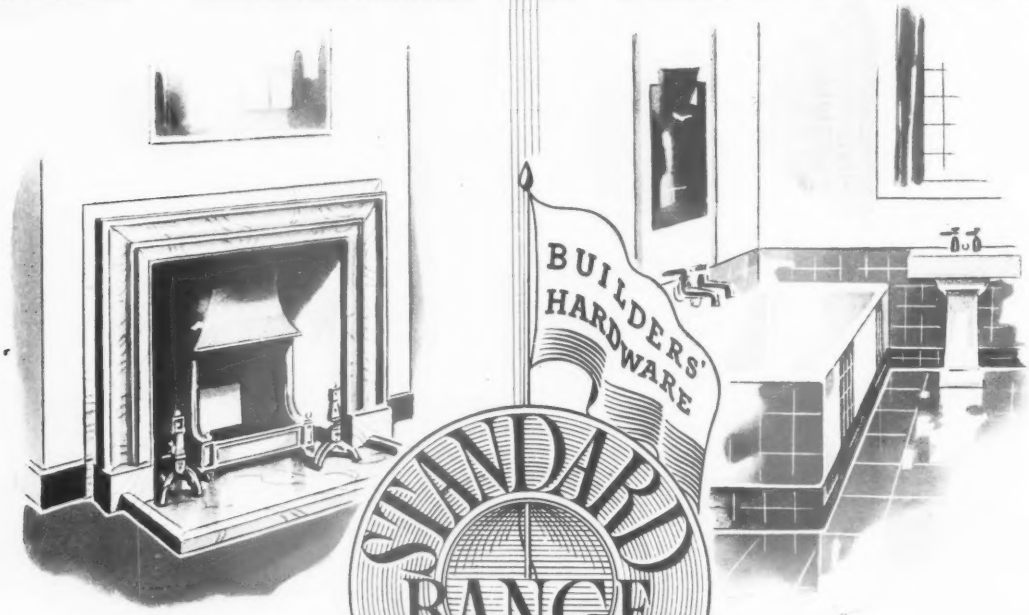

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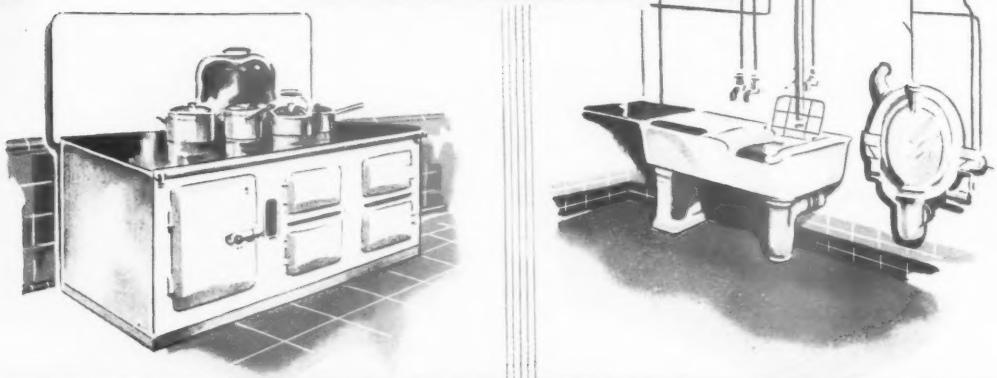

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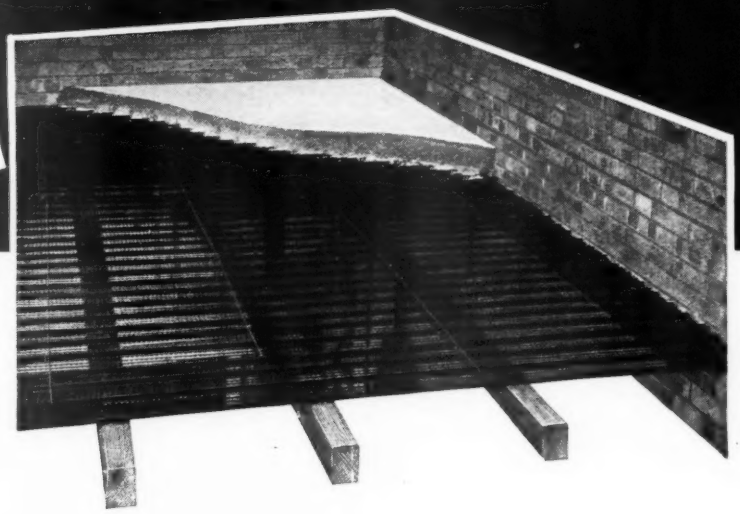

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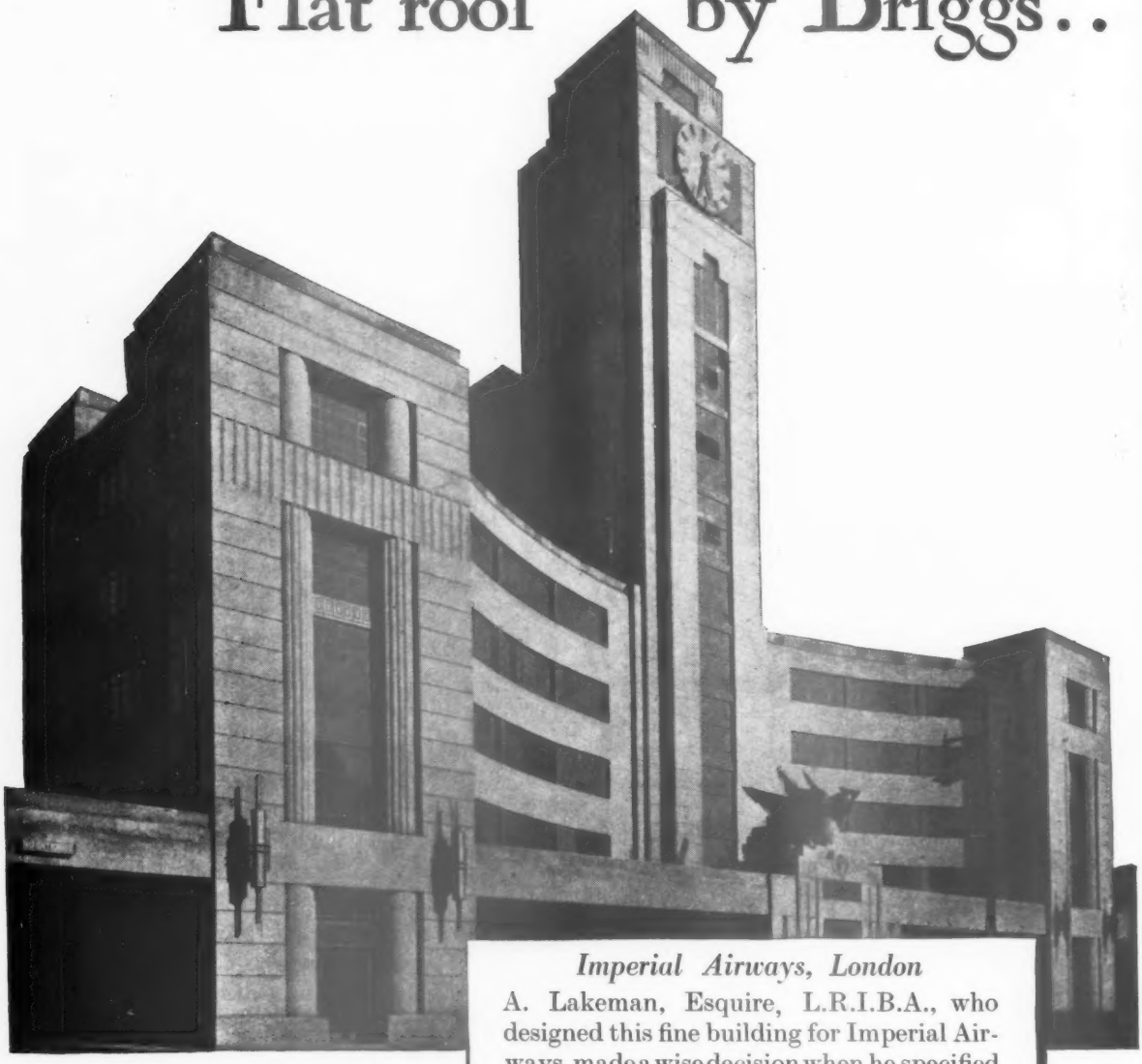

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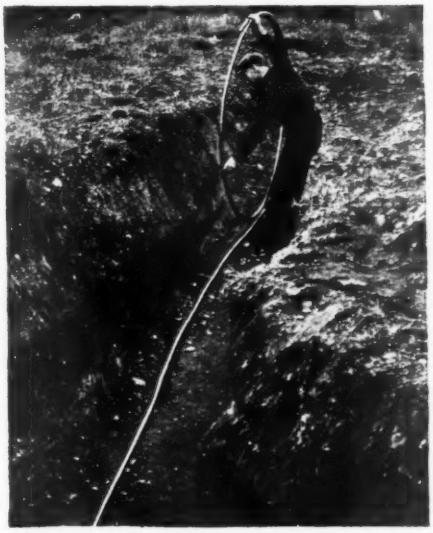

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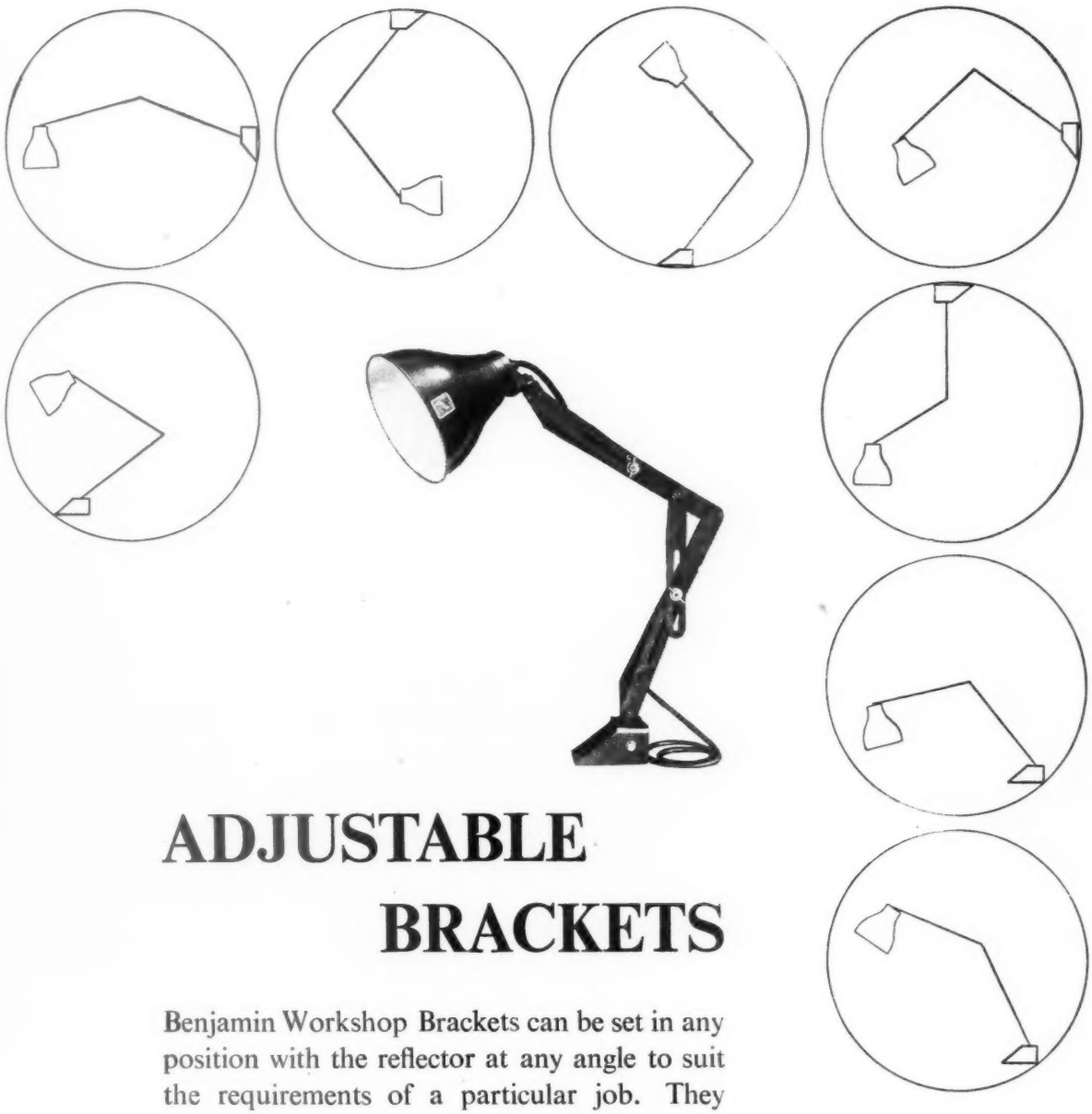

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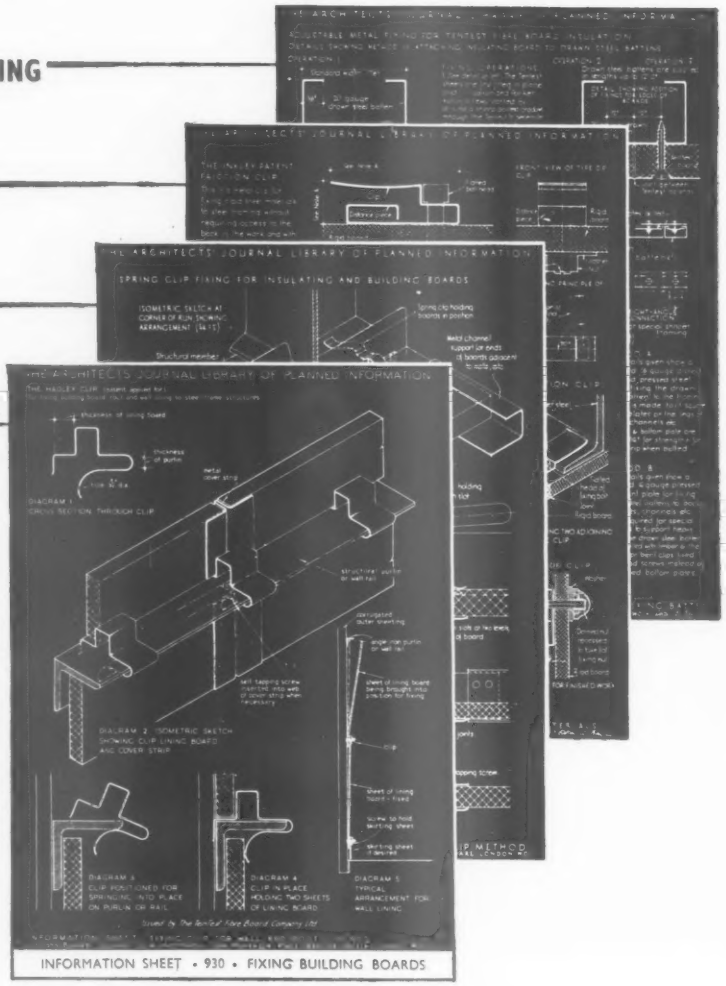

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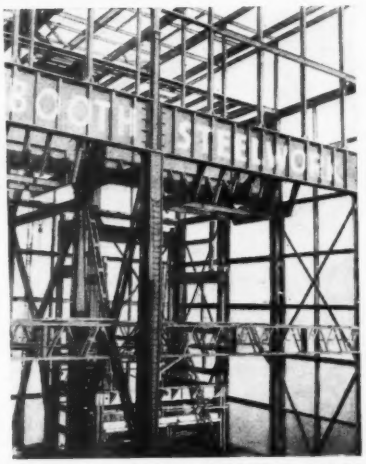

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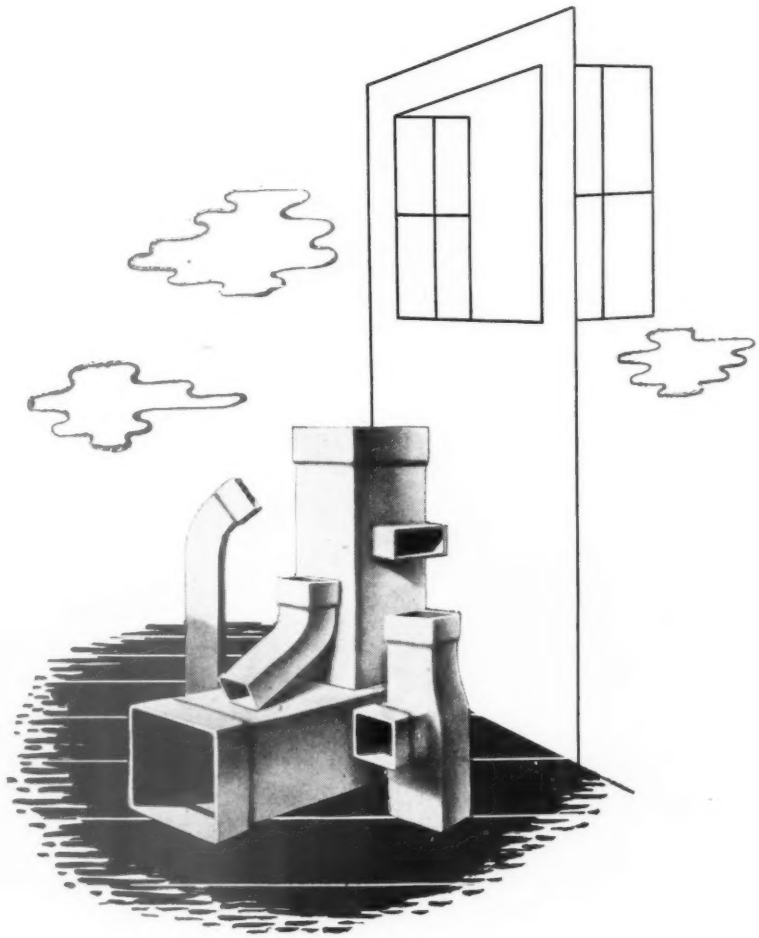

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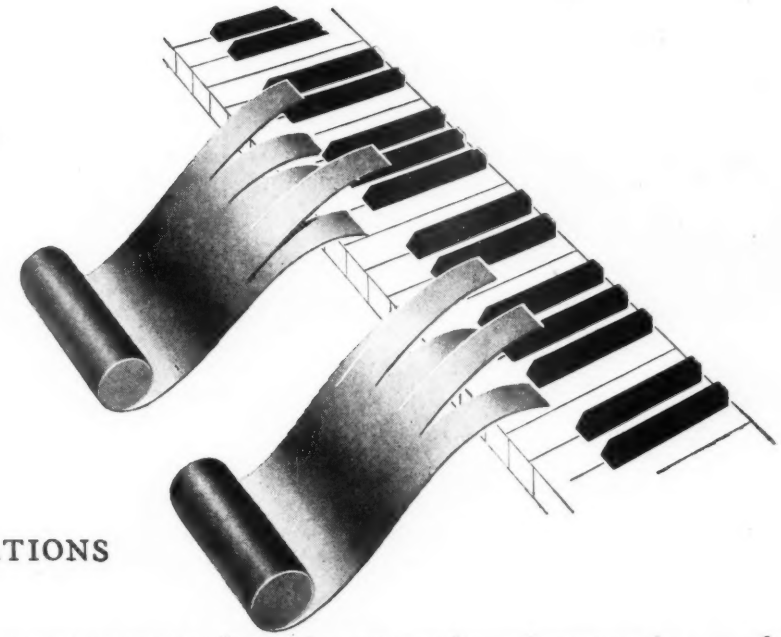

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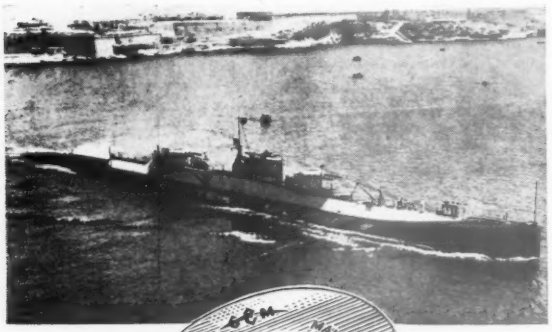

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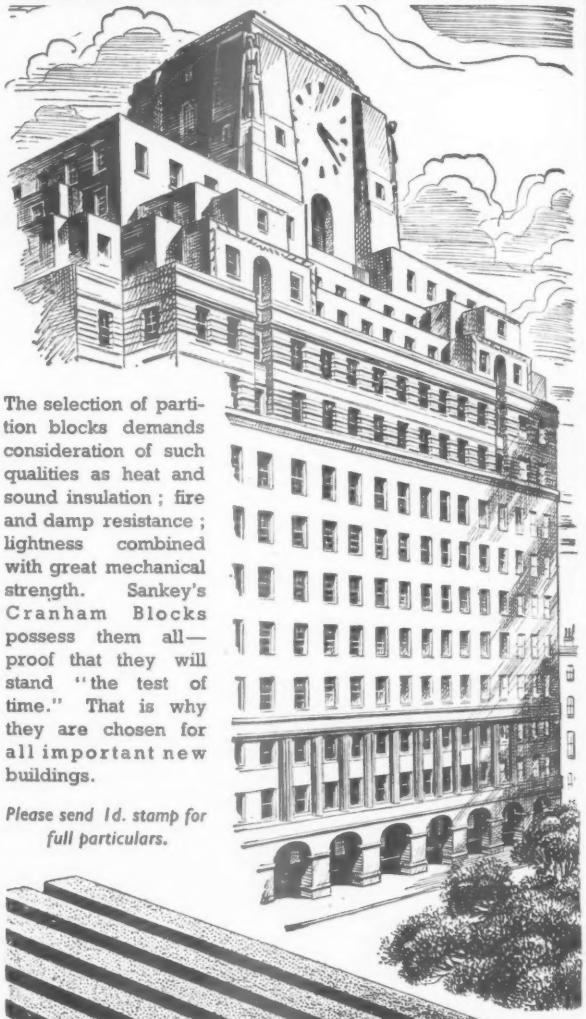

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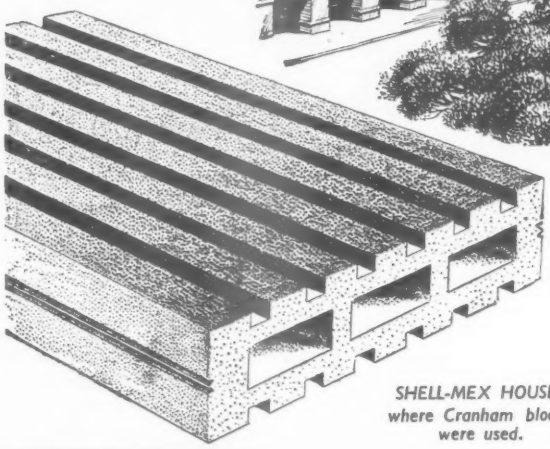

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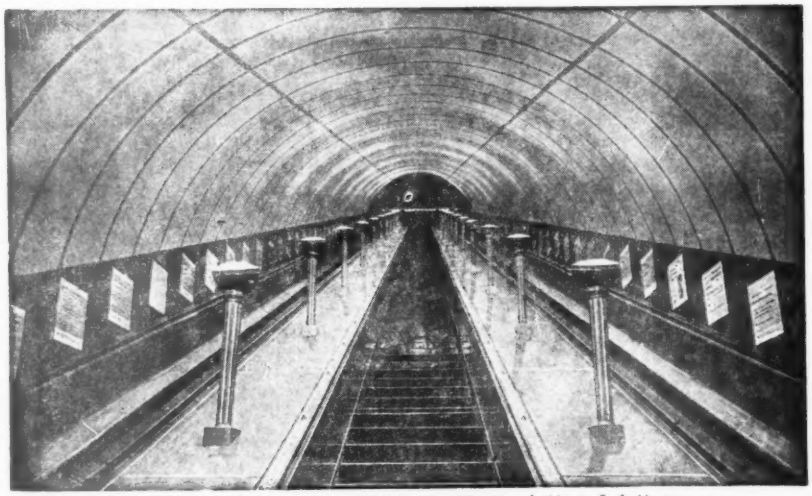
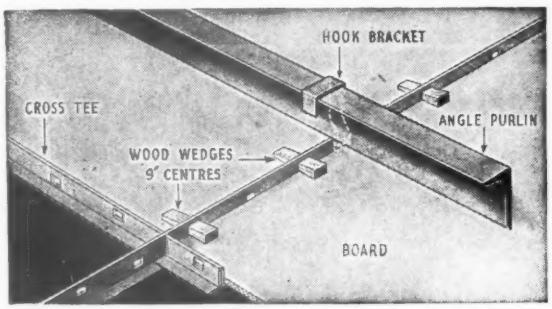
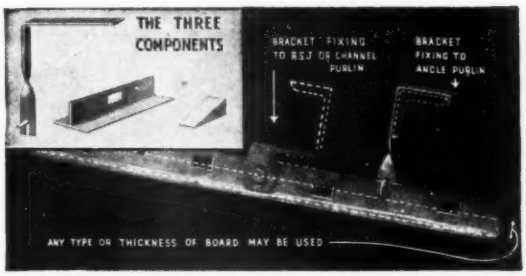


Escalator Tunnel of St. John's Wood Underground Station. Architect: S. A. Heaps.





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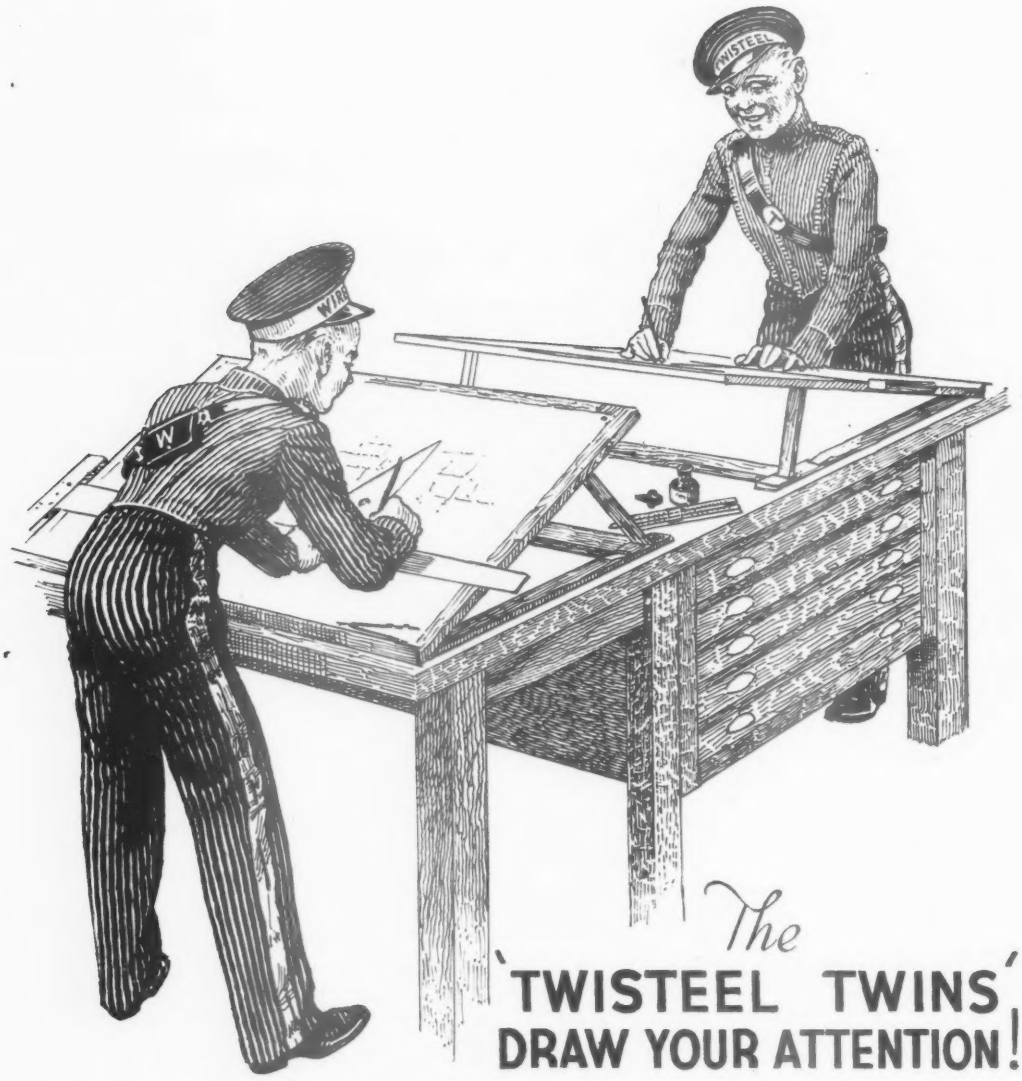

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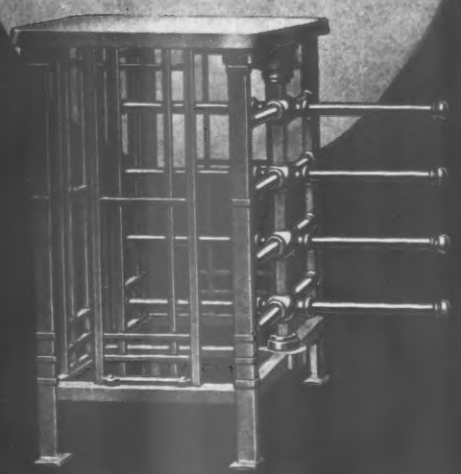

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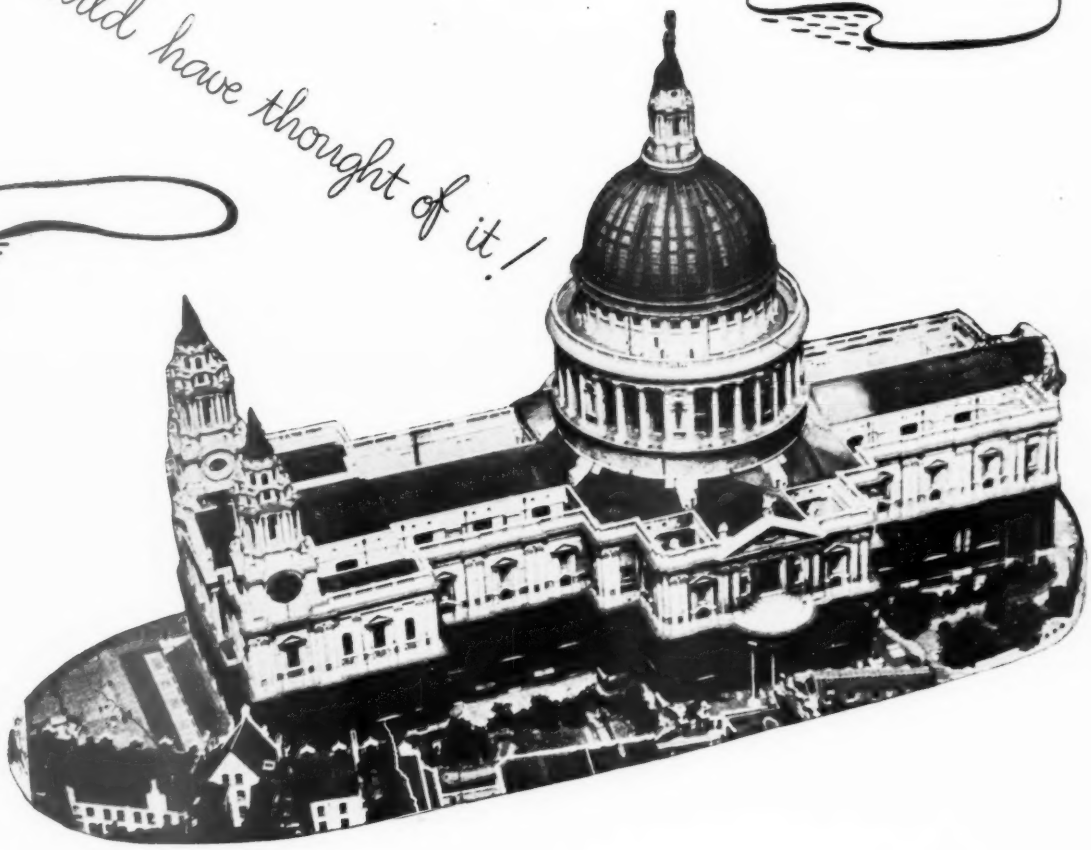

Had Fire Fighting Equipment as it is now understood been available in Sir Christopher Wren's day, it is safe to assume that the master mind would have provided for its inclusion in his plans. But its inclusion would have been unobtrusive as indeed is the case in modern architecture, examples of which have been photographically recorded and are at the disposal of the profession.

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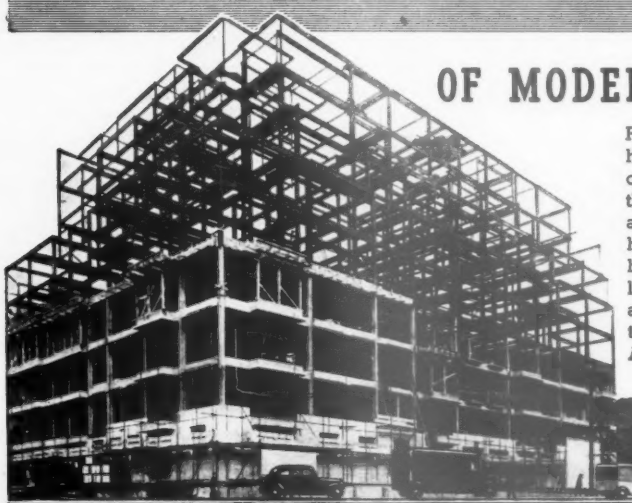

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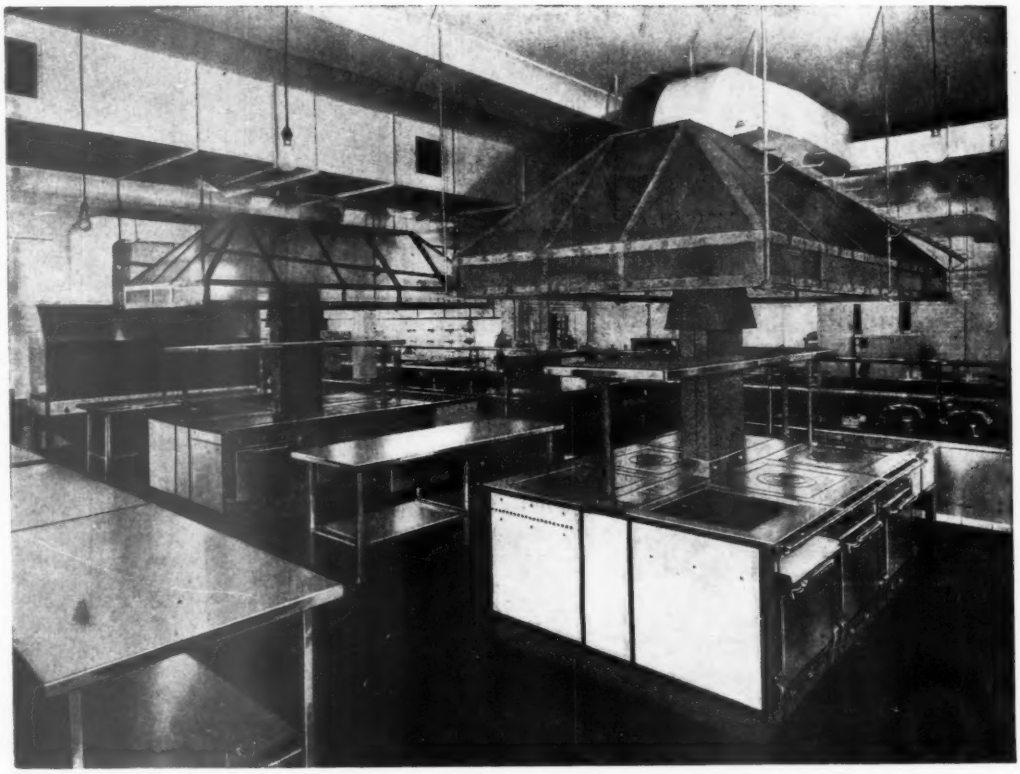

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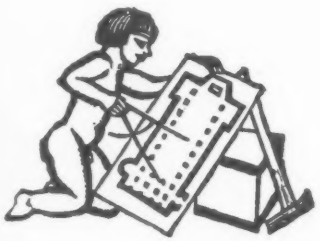

DIARY FOR APRIL MAY AND JUNE

Titles of exhibitions, lectures and papers are printed in italics. In the case of papers and lectures the authors' names come first. Sponsors are represented by their initials as given in the glossary of abbreviations on the front cover.

BIRMINGHAM. *Homes They Come From Exhibition.* (Sponsor, HC.) APRIL 13-28

DARLINGTON. *Royal Sanitary Institute Sessional Meeting.* 10.30 a.m. At the Town Hall, Darlington. Welcome by the Mayor. *Housing and Town Planning*, by Mr. Ernest Minors, Borough Engineer and Surveyor, Darlington. Discussion opened by the Town Clerk, Mr. Henry Hopkins. Darlington's colour film, *Health Services.* 1.0 p.m. Luncheon by invitation of the Mayor and Corporation at Spark's Café, Northgate, Darlington. 2.30 p.m. Visit to Greenbank Health Centre, including Maternity Hospital (36 beds), and the Memorial Voluntary Hospital (240 beds); or to Infectious Diseases Hospital (160 beds) and Hunden's Lane War-time Nursery (80 places), open 24 hours. APRIL 29

DERBY. *Homes to Live In Exhibition.* At the School Museum. (Sponsor, BIAE) APRIL

HYDE. *Living In Cities Exhibition.* At Bayley Hall, Hyde. (Sponsor, BIAE.) APRIL 15-MAY 6

KIDDERMINSTER. *Homes to Live In Exhibition.* At Kidderminster Public Library, Museum and Art Gallery. Guide lecturer, Miss Kapp. (Sponsor, BIAE.) APRIL 15-29

LONDON. *Reconditioning England Exhibition.* At St. Martin's School of Art, 109, Charing Cross Road, W.C.2., by fourteen societies interested in the preservation of beautiful and historical buildings. The exhibition is intended to show how many of these buildings have been reconditioned so that their external appearance is not spoilt but their internal arrangements altered to suit some form of modern use. Lectures are to be given in the afternoons. APRIL 13-22

Jacob Miller. *The Scope of Soviet Reconstruction and Its Administrative Framework.* At the London School of Hygiene and Tropical Medicine, Gower Street, W.C.1. Mr. Miller worked for a time in Gosplan (the Soviet State Planning Commission) as a research student. (Sponsor, Society for Cultural Relations with the USSR.) 2.30 p.m. APRIL 15

AA Nomination of Officers and Council for Session 1944-5. At ordinary general meeting at 34-36, Bedford Square, W.C.1. 6 p.m. APRIL 18

Bernard H. Cox. *An Architectural Tour in the Balkans.* At the Westminster Branch of ABT, 5, Ashley Place, S.W.1. The lecture will be illustrated by natural colour slides. Non-members are invited. (Sponsor, Westminster Branch, ABT.) 6.30 p.m. APRIL 19

Dr. A. Parker, Director of Fuel Research. *The Organization of a Research Department.* At the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, Brig.-Gen. Sir Harold Hartley, K.C.V.O., C.B.E., in the chair. (Sponsor, Institute of Fuel.) 2.30 p.m. APRIL 20

Professor Sargant Florence. *Planning and Industry.* At Essex Hall, Essex Street, W.C.2. (Sponsor, TPI.) 6 p.m. APRIL 20

Eric Godfrey. *The Restoration of Soviet Communications and Essential Services.* At the London School of Hygiene and Tropical Medicine, Gower Street, W.C.1. Mr. Godfrey worked in the USSR for some years as a telecommunications engineer. (Sponsor, Society for Cultural Relations with the USSR.) 2.30 p.m. APRIL 22

W. N. C. Clinch and F. Lynn. *The Design and Performance of Domestic Electric Appliances.* At the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. 5 p.m. MAY 4

Arthur Ling. *Housing and Town Planning in the Soviet Liberated Areas.* At the London School of Hygiene and Tropical Medicine, Gower Street, W.C.1 Chairman, Professor C. H. Reilly. (Sponsor, Society for Cultural Relations with the USSR.) 2.30 p.m. MAY 6

George Laws. Chief Sanitary Inspector to the Richmond Corporation. *A Hundred Years of Sanitary Progress.* At the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1. Chairman, Kenneth R. Hay. 2.30 p.m. MAY 9

AA Election of Officers and Council for Session 1944-45. At ordinary general meeting at 34-36, Bedford Square, W.C.1. 6 p.m. MAY 16

Dr. J. H. Paterson. *The Welding of Plastics.* At Institution of Civil Engineers, Great George Street, S.W.1. (Sponsor, Institute of Welding.) Dr. Paterson's paper will be followed by a demonstration. 6 p.m. MAY 17

MOLD, FLINTSHIRE. *Twenty Women at Home Exhibition.* (Sponsor, HC.) APRIL 13-18

NEWS

THURSDAY, APRIL 13, 1944
No. 2568. VOL. 99

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Though no feature in the JOURNAL *is without value for someone, there are often good reasons why certain news calls for special emphasis. The* JOURNAL's *starring system is designed to give this emphasis, but without prejudice to the unstarred items which are often no less important.*

★ *means spare a second for this it will probably be worth it.*

★★ *means important news, for reasons which may or may not be obvious.*

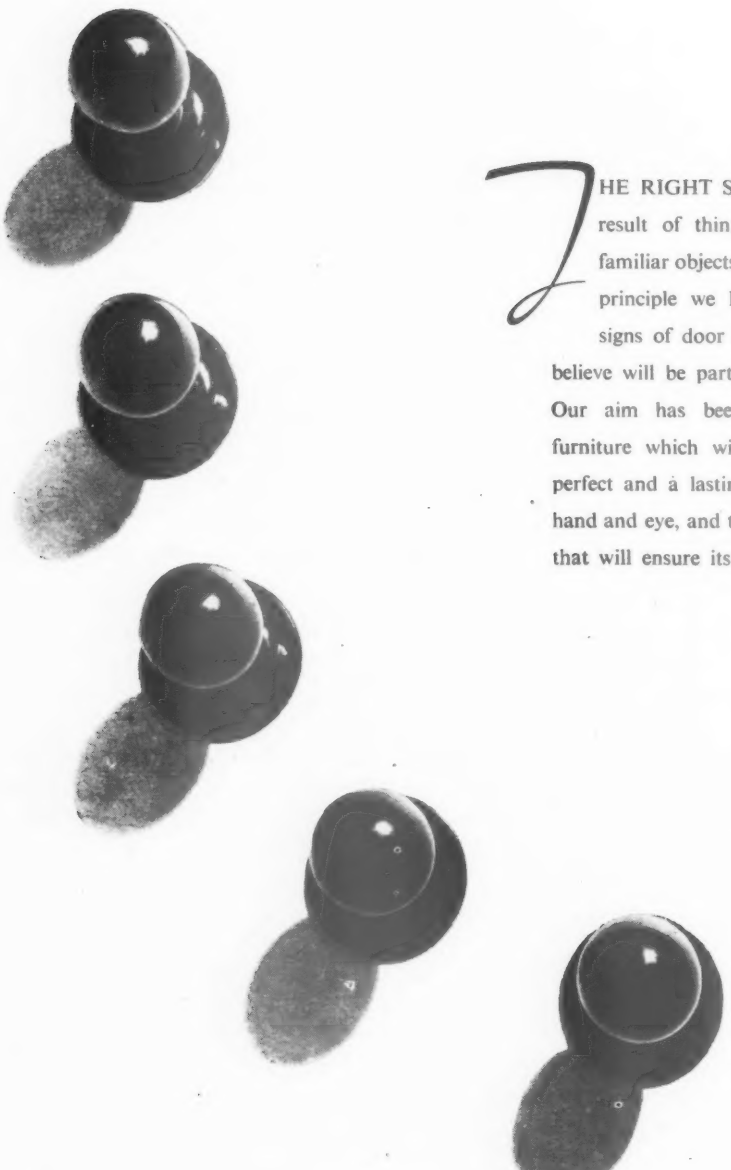
Any feature marked with more than two stars is very big building news indeed.

It is proposed that BRIGHTON'S BOUNDARY SHOULD BE EXTENDED to include Hove, Portslade, Southwick, Shoreham and Saltdean.

The proposal is made in a town planning memorandum issued by the Brighton, Hove and District Trades Council. It is proposed that the sea front should be completely replanned, and behind it should run a main shopping, residential and business route as far as Black Rock. The buildings should be eight storeys high, and the area between this route and the front should be zoned and reconstructed for hotels and blocks of flats. The three northern routes out of the town should be similarly replanned.

A section of the first interim report of the WELSH RECONSTRUCTION Advisory Council is concerned with the tourist industry.

It makes the point that any balanced plan of national development must make full use of the magnificent scenery of Wales while guarding against spoliation of that asset. A trunk road from North to South Wales and a Severn road-crossing are considered of the highest importance; so are improved inter-regional roads, which should be charged to the national Exchequer. At least one trans-Atlantic aerial terminus should be established in Wales. At the earliest suitable moment at least one national park should be developed in North Wales and another in South Wales.



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from AN ARCHITECT'S *Commonplace Book*

SOMETHING OF HOLLYWOOD. [*From* Where Shall John Go? *by Anthony Bourne* (*Article in* Horizon, a Review of Literature and Art, *January*, 1944)]. Let me explain that Hollywood, a name usually applied abroad to express the film capital, is nothing more than a suburb of Los Angeles, and a rather shabby one at that. The stars who once lived there have long ago moved away, and the studios have migrated to roomier locations; however, the term Hollywood has still a perfectly valid application to the city of Los Angeles and its environs, for it expresses the deep imprint of the film industry on the city. The first impression is of sunshine, hard and brilliant like a spotlight, seldom uncomfortably hot, but enveloping everything, and rather cruel to the architecture. The residential districts are a nightmare of jumbled styles, neo-Spanish, colonial Georgian, chateau, a moorish mosque placed next to a Chinese pagoda, all constructed in such a way as to look shabby the moment they have been built, the whole thing suggestive of the stage properties of a second-rate touring company. The city rambles aimlessly, uncertain where to stop, over the landscape, down to the sea, up into the hills, leaving great empty untidy spaces ready for yet another block of French chateau apartments which someone failed to build because the city moved too fast.

Mr. A. C. Macdiamid has been elected PRESIDENT OF THE BRITISH IRON AND STEEL FEDERATION.

Mr. Macdiarmid succeeds Sir James Lithgow who has been President of the Federation since February 1942. He is chairman and general managing director of Stewart and Lloyds, and a Vice-President of the British Employers' Confederation.

A £400,000 to £500,000 LONDON MUSIC CENTRE for international artists is planned for after the war.

It forms part of a scheme to rebuild Queen's Hall, the home of the Proms for many years, and St. George's Hall. There will be a large hall and a smaller one, seating 3,000 and 1,500 respectively, rehearsal studios and secretarial facilities.

There are people who expect to make a packet of MONEY OUT OF PREFABRICATION said Mr. R. Coppock.

Mr. R. Coppock, national secretary of the Building Trade Operatives' Federation, made this remark while criticizing the Government's 500,000 emergency houses plan at a luncheon of the National Federation of Demolition Contractors in London. We in the building industry, he said, are ready with the normal type of building. We can produce not 360,000 but half a million normal houses each year.

How prefabrication may help to solve the post-war housing problem is explained and illustrated in the Ulster Planning Group HOMES FOR THE PEOPLE Exhibition now touring Northern Ireland.

The Ulster Planning Group's idea of the factory produced minimum house is also exhibited. It is of stressed skin plywood with a specially designed plumbing duct. Another feature of the exhibition is a layout of ten-storey maisonettes (two-storey flats) each with its own garden. The blocks are on stilts, the ground floor being used for bicycles and pram storage. Among the other exhibits are drawings and models and various suggestions for post-war housing. The cost of the exhibition was borne by CEMA.

The Board of Education has stated that the AA REFRESHER COURSE will be acceptable in principle for assistance under the Government Scheme of Further Education and Training for men and women who have been engaged in various types of war service.

The scheme provides for awards to applicants who require refresher courses on returning to their profession. The course will be limited to those who have reached the standard of the Final Examination of the RIBA. It will be open to all students whatever their nationality. Should a large number of students wish to attend preference will be given to students who have the AA Diploma, students of British nationality and Dominion and Colonial students in this order. As the purpose of the refresher course is to meet the needs of the demobilized architect, it is realized that the extent of the instruction will vary according to individual requirements.

Mr. David W. Smith said that ALTERNATIVE MATERIALS ARE NO OPEN SESAME to the solution of the housing problem.

Mr. David W. Smith, a director of the Halifax Building Society, was speaking at the annual meeting of the Leeds Property Owners' Association. He said: While I welcome Mr. Churchill's announcement that the Government is definitely committed to building 500,000 prefabricated houses as a temporary expedient, I would utter a word of warning against the idea that the use of alternative materials is the open sesame to the solution of the housing problem. The value of certain alternative materials under British weather conditions for any substantial length of time has yet to be proved.

Glasgow Corporation Housing Committee proposes to prepare SITES FOR OVER FOUR THOUSAND HOUSES.

Glasgow Housing Committee has had a discussion with Scottish Department of Health officials and proposes to prepare the sites for 4,724 houses in accordance with a recom-

A living room in the Ulster Planning Group Homes for the People *Exhibition now Touring Northern Ireland. See news note on this page.*

An Architect's Gift to the Nation

Captain H. S. Goodhart-Rendel has presented his house, Hatchlands, with 421 acres of land, to the National Trust. Hatchlands is near East Clandon, Surrey, on the north side of the main Leatherhead to Guildford road. It is the first house acquired by the Trust definitely associated with Robert Adam, who in 1759 began on the interior of Hatchlands, finishing his work in 1761. Adam's internal decorations here are his earliest known work. They include seven rich plaster ceilings and the most ambitious of his caryatid chimney-pieces. When Adam came on the scene the red brick shell of the house was nearly completed from designs of unknown authorship. At the close of the eighteenth century certain alterations were made from designs by Joseph Bonomi, and the Victorian period brought only a few changes, in which the original work was carefully respected. Hatchlands was built for Admiral Boscawen, to whom the French Fleet surrendered at Louisburg in 1758. The admiral died there at the early age of 50 in 1761, and his widow continued to live there until 1770. Hatchlands later became the home of the late Lord Rendel, the grandfather of the donor. Captain Goodhart-Rendel, who is now serving with his old regiment, the Grenadier Guards, has been president of the RIBA and Slade Professor at Oxford.

mendation by the department to local authorities for the mass preparation of housing sites. Scotland plans to build 20,000 houses in the first year after the war, and 30,000 in the second. After that it is hoped to build 50,000 houses a year to clean up Scotland's post-war housing programme of 500,000 houses in ten years. Temporary legislation is to be introduced for Scotland to provide financial assistance for all approved house-building. Subsidy arrangements exist at present only for slum clearance, decrowding and the general needs of the agricultural population. Local authorities are urged to earmark sites for after the war. The present restriction on the acquisition of land for more than one year's building programme will be removed. To speed up the machinery for acquiring housing sites, the Scottish Secretary has decided to seek power to confirm compulsory purchase orders without first holding public local inquiries. Sites already earmarked in Scotland amount to about 5,000 acres and will take about 42,000 houses.

The British Iron and Steel Federation has approved the formation of A NEW RESEARCH ASSOCIATION.

The Council of the British Iron and Steel Federation has approved a scheme prepared by a Committee set up by Sir James Lithgow (the outgoing President, who was Chairman of the Committee) for the formation of the British Iron and Steel Research Association, which will take over the work of the Iron and Steel Industrial Research Council. The Constitution of the new Research Association provides for collaboration with the Iron and Steel Institute, with the right of nomination of members of the Council of the new Association. It is understood that these will be scientists not connected with the Industry but engaged in fields of work related to the work of the Association. The Federation will nominate members who will represent the different departments of the Industry—scientific, technological and management. The present Research Council developed out of a Fuel Economy Committee established in 1924, and has now become one of the largest and leading collective research organizations in the country. Heretofore it has been a Standing Committee of the Federation, but a report on the work of the Research Council by the Department of Scientific and Industrial Research (October, 1942), which bore high testimony both to the scope and to the quality of the work which had been carried out under the direction of the Council, also recommended that it had now reached a stage where it was desirable that its work should be transferred to an autonomous research association under the ægis of the Federation and financed by it, to ensure that research becomes an activity of the whole Industry and not merely a service rendered to it. The scheme adopted provides for an annual expenditure of any amount which the Council of the Research Association may find necessary for the work required; and

authority has been given to the Association to expend in the first instance up to £250,000 annually without further reference for the approval of the Federation. In the meantime, the Iron and Steel Industrial Research Council is continuing to direct the large range of research which it has in progress.

MOS has appointed Mr. E. B. Monkhouse, Deputy Controller, DEPARTMENT IV, TIMBER CONTROL, in succession to the late Sir William Mallinson. Mr. Russell Latham has been appointed Deputy Controller, Department III, in succession to Mr. Monkhouse, and Mr. G. B. Crow has been appointed Assistant Controller, Department III/9, in succession to Mr. Latham.

Plans are being made by the Board of Education TO TRAIN 10,000 BOYS a year for the building industry. To reach this figure and to enable training to begin at once, the Board is asking local authorities to expand the provision of junior technical schools, and to explore the possibilities of establishing new schools and enlarging existing ones. The age of entry for boys is about thirteen and the courses last two or three years.

In view of certain misstatements the Dean and Chapter of St. Paul's wish to make known the following facts about THE ST. PAUL'S WATCH. The Surveyor to the Fabric, Mr. Godfrey Allen, F.R.I.B.A., was placed in charge of the St. Paul's ARP arrangements shortly before the outbreak of war. In September, 1939, he called for volunteers from the RIBA and organized them, together with other volunteers and employees of the Cathedral, into the instructed and drilled teams composing the St. Paul's Watch, so that when the attacks on London began the Watch was trained and ready. The Watch, under Mr. Allen's leadership, has dealt with every enemy attack.

Mr. Joseph Westwood, M.P., Joint Under Secretary of State for Scotland, is hopeful that the aim of GEARING PRODUCTION IN SCOTLAND up to a total of 500,000 houses annually in the years after the war will be realised. With goodwill, co-operation, and that vitality which our people have shown during the war, he said, the target can be reached. He said: It is intended to try to bring in 200,000 trainees into the building industry throughout the country. There will be an intensive six months training course, and with the pre-apprentice training scheme also in operation it is hoped to increase the number of employees in the industry from 750,000 to 1,250,000.

ORGANIZE THE FACTS

ONE of the few post-war happenings in Britain which we can expect with certainty is an increase in public guidance of national activities. This increase will occur in the wider fields of national policy—foreign trade or social security—where it will be a true increase. It will also occur in relation to most projects for changing the use of land: and in this field it will in many ways be an innovation rather than an increase.

The degree of public guidance in this latter field may be great or small: our rulers are still arguing the point. But if one assumes that it will be great enough to achieve at least some of the intended aims, it is worth while to give some thought to the machinery which will be needed to supply the guidance. When a project for the development of land is proposed, it will be necessary that all factors relevant to the project should be collected, valued individually and comparatively, discussed with all interested parties and finally be given appropriate weight in the approved plan: and it will be necessary that the whole process should take place reasonably quickly. So much will be agreed. It is clear also that the number of factors and the complexity of their interrelations increase prodigiously as the size of the project grows: and that this difficulty can only be surmounted by a process of very skilled selection, weighing and simplification. The main needs of the machine remain, however, two in number: a system for the quick collection of all relevant information, and a system for quick consultation, discussion and decision between all interested parties.

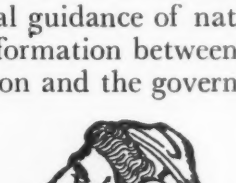
Let us consider the formidable job of assembling quickly the information relevant to a big development proposal. The foundation of such information are national statistics and it is broadly true that in the past national statistics in each field have been collected for areas, at times and in forms which differ from those of every other field. It is probably impossible to produce all national statistical returns on a uniform basis; but it would certainly be possible to bring about great improvements and to compel all Ministries to produce "standard" returns as well as those in the form most convenient for individual Ministry purposes.

The national statistics bearing on a given project will need to be supplemented by information on the special circumstances of the area or city. A great deal of this information is already available in published works and all over the country in the past three years local authorities, universities, groups and individuals have been carrying out surveys. Survey is an essential part of planning and there is no limit to the number of people who can usefully take part in it. But there is danger that widespread and unguided surveying may lead to duplication of work, loss of valuable individual results, leaving of serious gaps, and resentment on the part of the surveyed. The JOURNAL suggests that it should be possible to produce

Model Forms of Survey applicable to areas and cities of different size, and that all survey organizations should be encouraged to help in the completion of their local Model Survey before tackling other tasks.

There is also a third source of information—that which has been obtained by the various Ministries since the war began. Never has Britain been so surveyed, checked, and docketed. And not only for war purposes. University and professional circles throughout the country are liberally peppered with men and women who are doing something for a Ministry on some post-war problem. It is excellent that this is so. But are we sure that all the factual information which has flowed into London since September 1939 has been sifted, indexed, exchanged between all Ministries and prepared for issue to all local authorities and other responsible organizations when the system of central guidance—that is, public guidance—of land use comes into operation?

If this has not been done the JOURNAL recommends that the work should be started at once. The first essential for the central guidance of national activity is full and fast exchange of information between all the Ministries which rule us in London and the governments which rule us locally.



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NOTES & TOPICS

RIBA PREFAB. DISCUSSION

Surprisingly enough, no sparks flew during the discussion on prefabrication held at the RIBA last week. Everyone who spoke accepted the development of prefabrication and standardization as inevitable, some sadly but others gladly.

★

Mr. Jellicoe, who was the first of the three speakers to open the discussion (the other two were Mr. R. H. Shepherd, and Mr. A. Pott of the BRS), no doubt helped to create a calm and objective atmosphere with a philosophical dissertation in which he called for a close link between the machine and nature, between mechanical and organic forms. The job of the architect in the machine world was to humanize building, to dispose houses properly on their sites, and to make full use of planting so that a link was formed between the new machine-produced architecture and Mother Nature, between buildings and earth. He spoke sincerely and well, and no one could have disagreed with him.

★

The discussion made it clear that to many architects, prefabrication is still something of a bogy, which will not only produce inhuman buildings but, worse than that, oust architects from their jobs. This is surely due to confusion of thought. Certainly the architect's functions will alter considerably as a result of ever-increasing use of standardization and factory-produced building parts, but he will still have a very definite and necessary place in the modern world.

★

For instance, on the one hand, the architect will tend to take more and more to industrial design of standard building parts for mass production. In the assembly of these parts into a complete building, his scope so far as design of detail and elaborate drawing is concerned, will become more limited, but in their co-ordination, assembly, and planning, his scope will be as wide, if not wider, than ever. On the other hand, the architect will tend to concern himself far more than hitherto with the layout of buildings, landscape designing, town-planning, and the general humanizing of our physical environment.

★

Moreover, most of the larger types of building will still have to be designed individually to suit inevitably varying needs, and here rationalization and careful organization of site work, as well as the designing and production of parts made in the factory specially for the job, will need the qualities which only a thorough architectural training can give.

★

The Machine is too often regarded, not only by the lay but by architects and designers who should know better, as some horrific, inhuman and nightmare juggernaut filled with a satanic life of its own, when it is, if properly used, merely a very useful extension of the hand-operated tool of the craftsman, an extension different in degree and power rather than in kind. So why worry?

POST-WAR SCHOOLS

The scuffling in the House of Commons over the clauses of the Education Bill which affect the Unprovided Schools has made us lose sight of some of the main issues contained in it. These will have an enormous effect on the post-war building programme and on the size and cost of schools. In the first place, it is proposed that each form should have its own classroom so that the number of classrooms in the post-war school will be doubled. It is once more proposed that classes shall be reduced from 40 to 30, so there will have to be a third as many again; and the school leaving age is to be raised to 15. If these proposals are taken by themselves and are not regarded as pious aspirations they mean very much bigger schools.

★

But they are not all. The curriculum is to be expanded particularly in

scientific and technical subjects; there are the young people's colleges and the day continuation schools. Black listed and obsolete schools—and they form the majority—must eventually be rebuilt. When these are added together the school building programme seems to become almost astronomical.

★

When one looks for some estimate of the number of new buildings which will be necessary, it is not available. In housing almost everyone has had a stab at a target estimate of the numbers required and someone might be right. It is time that the Butler proposals were examined, against the known shortages and the black listed schools in use before the war. There seems to be a curious lack of any organisation for research into buildings at the Board of Education. Local education authorities are entirely ignorant as to the sort of schools the Bill, which now becomes law, will bring into effect. They don't know what a young people's college is, nor what it will cost. Surely as a method of rousing support for the proposals, some plans illustrating them might have been drawn up? There are good proposals in the Bill or rather they appear to be if one is prepared to take a good deal on trust.

★

Worse, however, is the almost total absence of any realisation of the importance of architecture in relation to education. Looking through both the Spens and Hadow Reports, which may be regarded as the spade work to the proposals recently before the House, there is very little reference to architecture in either. It does not seem to be appreciated that well-designed buildings can not only assist the educational process, but create in the child a sense of order and fitness. In neither report is there any adequate recognition of this.

★

Possibly it is accounted for by the fact that on the consultative committees there were no architect members. This seems an extraordinary omission, and one which the profession should take up. To give point to its importance are the statements which are made about the bottleneck in teachers after the war. It won't be the only bottleneck in education unless somebody at the Board gets down to a close examination of the building requirements of the Bill. Let us remember the fate of the Education Act in the last war. Mr. Butler knows about that.

POETS' CORNER

LINDY-LEWIS PLAN

To a Nameless Critic.

A sheaf of script upon a dusty board,
Betrays the secret of their drastic ways,
With those who—working of their own accord—
Disdain to plan with word and sounding phrase.

Shifting their tee squares from an inky proof,
Fearfully they gaze on those of us who stoop
To practise our profession—all aloof,
Instead of bandying words around a group.

Sadly they walk through leafy squares
And mark the absent railings of the envied park,
Blushing that some more enterprising pairs,
Should dare express their egos—AFTER DARK

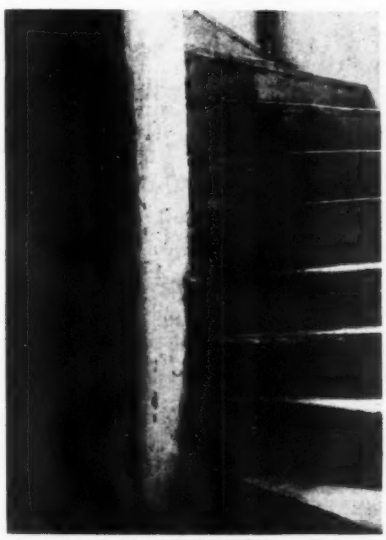
Phantastic Individualists.

AN UNUSUAL STAIRCASE

A JOURNAL reader has sent me the photograph reproduced below of an unusual staircase. It is at Rivenhall Place, Essex, a Tudor mansion, and is built round the King mast of a ship.

★

The mast leads right up from ground floor to the top of the third storey—no mean height. The mast is a relic from an old American sailing vessel, which may have been engaged in some great naval battle of its day. ASTRAGAL



A staircase at Rivenhall Place, Essex, a Tudor mansion, is built round the mast of an old American sailing ship. See Astragal's note above.

LETTERS

C. B. Willcocks, F.R.I.B.A., A.M.P.T.I.

Geoffrey Thomas
(Research Officer, Wartime Social Survey)

The Teaching of Architectural Appreciation in Schools

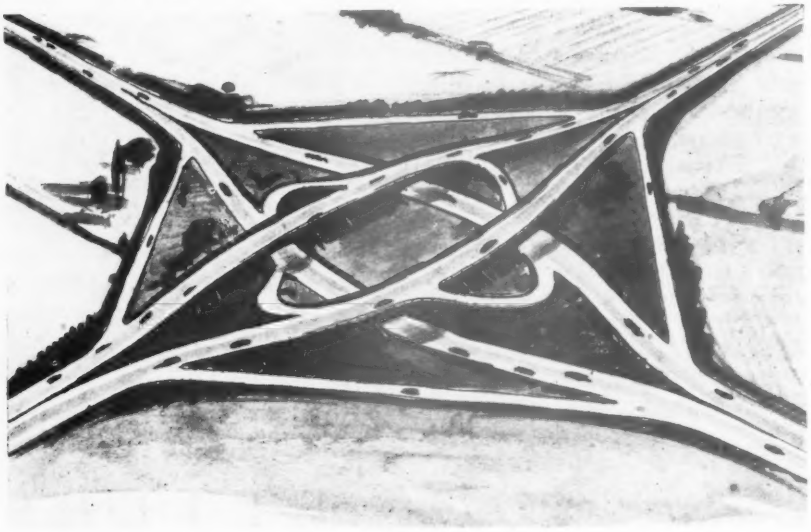
SIR,—I was very interested in Mr. Martin-Kaye's letter as his ideas are so in accord with those of the Council for Education in Appreciation of Physical Environment.

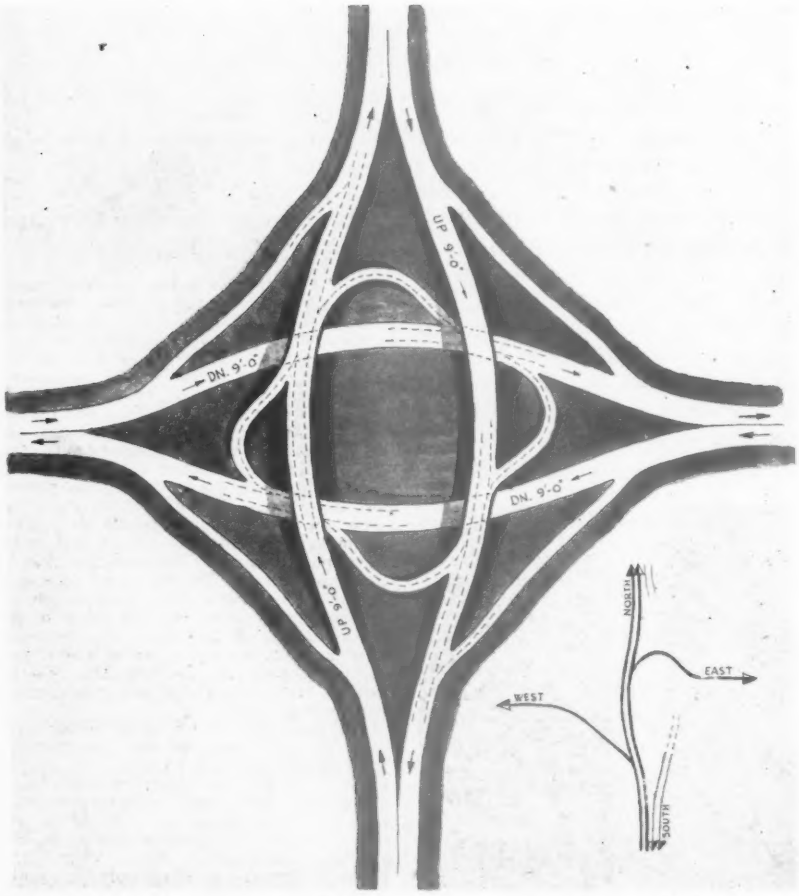
It is being generally realized that the real education of the people in the appreciation of physical environment, including architecture, town and country planning and the fine and industrial arts, must begin at home and be continued throughout school life—that every child should receive instruction in this subject from the cradle upwards as part of his education. For this reason the child, from the earliest period, should be brought up in well-designed surroundings, as it is his environment that first influences his ideas of colour and design. The matter, it is suggested, should not be dealt with as a separate subject, but should be woven into the fabric of the school curriculum and form a background, not only to the art classes, but to others, such as history, geography and literature. That it can be dealt with in this way educationists and teachers agree.

In the past most lectures on the subject have treated it more from the historical than the appreciation standpoint and have been largely given to adults; also they have not been systematic. The result, unfortunately, has been almost negligible, as is shown by the design of many buildings erected after the last war and their contents.

The CEAPE arose out of the suggestion made some two years ago that good design should be taught in all schools by the existing staffs, when competent to do so. The simplicity and practicability of this suggestion has been realized by educationists, and during the last two years a number of lecture courses for teachers on the subject have been organized throughout the country, especially in the north. Whilst this is a matter to be handled chiefly by educationists, architects and others interested in the subject can give valuable help by organizing conferences of teachers to discuss the matter, assisting with lecture

POSITIVE TURN CROSSING





The Maltese and the Switchback Road Crossings were illustrated in the JOURNAL *for April 22 and August 19 respectively of last year. We now illustrate the Positive Turn Crossing designed by Arthur G. Wise, A.R.I.B.A. This is a variation of the Cloverleaf and permits a normal arrangement of traffic-lanes and a right-hand turn by means of an actual turn to the right instead of to the left. The ground space occupied is about the same as for the Cloverleaf, but the spiral ramps are rather less than a semicircle instead of a full three-quarter circle. There are four bridges in place of one, but the bridged area is little more than in the straight crossing, the main roads being divided into their one-way components and bridged separately. Right-hand turns are made direct from the inner (fast) lane, but all re-entries are into the outer (slow) lanes.*

courses and in other ways. Some of the allied societies of the RIBA, realizing the importance of the project, have already formed special committees to deal with it. If all will do so and form the proposed local panels of lecturers on the appreciation of architecture, town and country planning and the industrial arts it will be very helpful, as there is a growing demand for such lectures, not only from education authorities, but from Army Directors of Education and the WEA, etc.

Unfortunately, few lecture courses have been arranged in the Greater London area, which contains about a quarter of the population of the country. If the RIBA will organize such courses throughout this area, it will be of the greatest value.

Reading. C. B. WILLCOCKS

Coal Storage Space

SIR,—In some recent correspondence in your columns, reference has been made to coal storage space in relation to the housewife's purchasing habits. In the course of its inquiries the War-time Social Survey has had occasion to ask housewives both the storage capacity they have in their homes and the amount of coal they buy at a time. The following figures, based on a random sample of 3,087 households, may therefore be of interest to you.

The Amount of Coal purchased at a time by Housewives.

	%
Up to and including 2 cwt.	33
Over 2 cwt. and including 5 cwt. ..	24
,, 5 ,, ,, ,, 10 ,, ..	18
,, 10 ,, ,, ,, 20 ,, ..	17
Over 1 ton	4
Quantity unspecified	4
	100=All Housewives.

A third of all housewives buy less than 2 cwt. at a time and rather more than a third over 5 cwt. at a time. There are distinct differences between economic classes, that is between those in which the chief wage-earner of a household has a weekly income of either (1) up to £3 12s.; (2) £3 12s. 0d. to £5 0s. 0d.; or (3) £5 0s. 0d. to £10 0s. 0d.

	Group 1 %	*Group 2* %	*Group 3* %
Up to and including 2 cwt.	47	32	17
Over 2 cwt. and up to 5 cwt.	26	25	23
Over 5 cwt. and up to 10 cwt.	13	20	24
Over 10 cwt. and up to 20 cwt.	8	16	25
Over 1 ton	1	3	6
Quantity unspecified ..	5	4	5
	100	100	100

When these figures are compared with the figures for storage space possessed by two of the same three groups it is clear that buying habits are not, under present conditions, influenced very greatly by storage space. The following table shows storage space in the same quantities.

	Group 1 %	*Group 2* %
No storage space	1	—
Up to 2 cwt.	7	4
Over 2 cwt. and up to 5 cwt. ..	14	9
,, 5 ,, ,, ,, 10 ,, ..	20	14
,, 10 ,, ,, ,, 20 ,, ..	27	35
Over 1 ton	28	36
Unable to answer	3	2

39 per cent. of housewives in Group 1 buying up to 2 cwt. of coal have storage space for a greater quantity than that, and similarly 28 per cent. of housewives in Group 2 buying the same amount have storage space for a greater quantity. 36 per cent. of housewives in Group 2 have storage space for one ton or over, but only 3 per cent. buy that quantity.

London GEOFFREY THOMAS

PHYSICAL PLANNING

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Leslie Hardern, author of this week's article on Coal, Gas and Electricity, is a B.A. (Cambridge). He is Public Relations Officer to the Gas Light and Coke Company, Joint Secretary of the Greater London Gas and Electricity Committee and a Director of the Capitol Housing Association, which was responsible for Kensal House.

THE JOBS TO BE DONE

As the author of this week's article points out, there are a number of problems common to the coal, gas and electricity industries. Each industry suffers from an excessive number of units, and excessive variation of size of unit. Each wants an overhaul of the existing legislation. Each intends to effect improvements in the efficiency of production, distribution, utilization and standards of practice. The enormous physical problems that post-war reconstruction will pose to these industries and the need to allow freedom of choice between fuels for their various purposes, demand a degree of co-operation between the industries which the author believes will be greatly facilitated by the National Fuel Advisory Council now being set up by the Minister of Fuel and Power. A council such as this, containing representatives of the various fuel industries, should be able to establish a national fuel policy whereby each user can obtain the service most suitable to his purpose, consistent with the proper utilization of the nation's fuel resources.

WE MUST PLAN SERVICES WITHIN A NATIONAL POLICY

Part 1, by Leslie Hardern

survey of the coal industry

The coal industry contains 2,000 separate collieries and 1,000 separate owners.

A third of the total output is produced by 25 of the 1,000 companies. The collieries vary in size from a giant producing 10 million tons a year to tiny firms working outcrops with less than 20 men.

There are 25 coalfields in Great Britain, 9 of which are of major importance.

The character of the coalfields varies widely. South Wales, East Scotland and Durham are the export coalfields. South Wales produces anthracite and steam coals, Durham gas and coking coals. The Midlands supply household and industrial coals, Northumberland house and steam coals. These differences result in wide variations in district costs.

The number of men employed has fallen from 750,000 in 1938 to 700,000 in 1944.

The total output of coal has fallen from 227 million tons in 1938 to less than 200 million tons in 1943. Output has dropped from 23½ cwts. to 21 cwts. per man shift.

There are 27,000 separate retail outlets. Only about 2% turn over more than 40,000 tons a year, and about 8% exceed 8,000 tons. 30% handle less than 200 tons a year.

In 1938, 46 million tons were exported and 181 million tons supplied to the home market. 20 million tons were used for gas, 20 million for electricity, 17 million for iron and steel, 12 million on the railways and 12 million in colliery engines.

Part I of the Coal Mines Act 1930 dealt with the production, supply and sale of coal. A Central Council assessed national coal requirements and allocated tonnages to districts. District Executive Boards allocated quotas to individual mines. Quotas were transferable. Minimum prices were fixed for all classes of coal in each district.

Part II of the Act set up Coal Commissioners to reorganize the industry and to promote amalgamation in the national interest.

Part I of the Coal Mines Act 1938 arranged for the nationalization of royalties.

Part II of the Act charged the Coal Commissioners with the duty of reorganizing the industry.

At the outbreak of the war, the Government appointed to each coalfield a Coal Supplies Officer, a Divisional Coal Officer and a Coal Export Officer.

In 1942, the new Ministry of Fuel and Power set up :

1. A Controller General, assisted by Directors for Production, Labour, Services and Finance.
2. A National Coal Board, under the chairmanship of the Minister, to consider the planning of production.
3. Regional Controllers and Regional Coal Boards.

Between 1926 and 1936, 41 voluntary amalgamation schemes were completed, affecting 390 pits employing 250,000 workers.

The main organizations in the industry are the Mining Association of Great Britain, the Coal Utilization Council, and the Combustion Appliance Makers' Association.

In 1937, the industry set up the British Coal Utilization Research Association. Considerable progress has since been made in improved methods of burning solid fuels for industrial and domestic purposes.

problems of coal

The industry consists of too many small production units. If areas are to be properly planned and worked, and full advantage taken of modern technique, the hundreds of small collieries must be brought together into larger units. Concentration of production would reduce the average costs of the industry.

Further economies in production cost depend very largely on mechanization—machine cutters, pneumatic picks and drills, and mechanical conveyors.

The excessive number of small dealers results in a low standard of service and a high average cost of distribution. Coal merchants of reasonable size who have to maintain sidings and depots and transport are hampered by the competition of small dealers, who hawk round the streets small loads on hired lorries. Often the coal is of indifferent quality. Frequent cases occur of short weight.

There are 4,000 waggon owners and 750,000 waggons of many varying types. Many are more than 30 years old and four-fifths of 8 to 12 tons capacity only.

The whole trend of utilization, domestic, commercial and industrial, is towards elimination of waste and greater efficiency of equipment. This will result in a continuous decline in the home market, which will be accentuated by every increase in coal prices.

The increasing pre-war demand for cleaned and sized coal will continue after the war and necessitates the introduction of crushing machines on a much larger scale.

plans for coal

Integration of the collieries will be resumed by the Coal Commissioners after the war, under Part II of the 1938 Act.

The National Council of Labour, in conjunction with the Mineworkers' Federation, have placed before the Government a proposal for the requisitioning of mines and their control by a National Coal Board. The Board would consist of representatives of the Government, the Mining Association, and the Mineworkers' Federation ; its functions would be to plan and organize the industry. Regional Boards similar in composition would handle the day-to-day problems of production, labour relations, etc. Pit Committees would be established of equal representatives of mineworkers and colliery companies.

This proposal is opposed by the Mining Association, who argue that under Government control in the last war output fell, costs increased, and the industry had to be heavily subsidized.

Proposals for improving efficiency and service includes the adoption of standard 20-ton waggons, the pooling of waggons, the concentration of distribution in fewer hands, and the licensing of distributors. It is also suggested that export trade should be handled by a British Coal Export Association.

survey of the gas industry

The industry has an embarked capital of £238,000,000, consisting of £149,000,000 in statutory undertakings, £5,000,000 in non-statutory undertakings, and £84,000,000 in Local Authority Undertakings.

It provides employment, directly and indirectly, for about a quarter of a million persons.

It consists of 1,079 undertakings, 496 owned by independent companies, 310 by 19 gas corporations, 268 by local authorities and 5 by joint gas authorities.

The 15 largest undertakings supply half of the gas sold, and the other half is supplied by over a thousand other undertakings.

There are more than 11,000,000 gas consumers, which means that nearly every household has a gas supply.

In 1937, the industry processed more than 19,000,000 tons of coal, obtaining some 1,500,000,000 therms of gas, 8,500,000 tons of coke for sale, and over a million tons of tar, benzole and other by-products.

In terms of money, the industry converted £25,000,000 of coal into £75,000,000 of gas, coke, tar and other products.

In 1937, 57 coke oven plants supplied 140,000,000 therms, or about 9 per cent. of the total gas sold, to 64 gas undertakings.

72 per cent. of the total gas was sold by 357 undertakings in seven industrial areas, 20½% by 75 undertakings in 73 urban areas and 7½% by 647 undertakings in rural areas.

Gas is normally used in the following proportions :

Domestic ..	60%—70%
Commercial ..	10%—20%
Industrial ..	10%—20%

Cooking accounts for three-quarters of the consumption of the average household.

The high quality of modern industrial work calls for precise temperature control in heat processes, and gas has been used on an increasing scale in recent years in factories. As a result of wartime experiences, an even greater expansion may be expected.

All aspects of the gas industry are covered by a number of national organizations, such as the Institution of Gas Engineers, the Society of British Gas Industries, the British Commercial Gas Association, and the National Gas Council.

A recent development is the Gas Industry Advisory Committee, comprising five members nominated by the gas industry, appointed by the Minister of Fuel, to assist him in dealing with the affairs of the industry.

Fundamental and long-term research is carried out by the Gas Research Board in conjunction with the Department of Scientific and Industrial Research.

As regards industrial and commercial gas, a national scheme of Industrial Gas Centres has operated for several years.

The industry operates under complex statutory regulations, based on the false assumption that gas is a fuel monopoly.

Various methods of integration have been practised :

(*a*) Amalgamation of contiguous undertakings under single management.
(*b*) Association of gas undertakings under a gas corporation.
(*c*) Joint gas authorities.
(*d*) Transmission companies.
(*e*) Joint working arrangements between undertakings.

problems of gas

The industry consists of too many separate units.

Size of itself is no absolute criterion of efficiency. Nevertheless, below a certain size it is difficult for an undertaking to employ specialist personnel, to take advantage of modern developments or to raise capital on favourable terms.

New satellite towns, decentralization of existing towns and rural development will call for new production plant and extensions of distribution mains.

Long-distance transmission, bulk supplies and fringe connections were established before the war. The economic limitations were recognized, but newer mechanical methods may render transmission schemes economic which hitherto have been unremunerative.

The industry cannot remain satisfied while pressures at users' premises are liable to wide fluctuations or while the sulphur content of the gas exceeds reasonable limits. Standards of practice must be set up with which all gas works must comply.

Where material contrasts of commercial policy and practice exist between gas undertakings in the same part of the country, the result is a feeling of exasperation on the part of the consumer.

Integration of undertakings, and co-operative buying would cut down the needlessly wide variations in appliances, and enable consumers to benefit from the economies of mass production.

The research and technical development work of the industry calls for a threefold development scheme. First, long-term research ; second,

technical development work by the manufacturers of plant and appliances; third, the extension of applied research and technical investigation.

Comprehensive statistics are badly needed for the introduction and development of sound policy and practice.

An agreed system of costing is also acquired, so that planning and integration may be firmly based and the management of an undertaking enabled to judge the efficiency of its technical operations and commercial policy.

plans for gas

It is proposed to set up a British Gas Association which will be the accepted authoritative body of the Gas Supply Industry.

In this Association every undertaking will be represented upon the appropriate district council. The district councils will elect the Central Council, which will become the parliament of the industry. The Central Council will have committees to deal with such matters as development, statistics and legislation.

The Central Council will operate through the district councils, of which a dozen will be sufficient to cover the country.

The district councils will form a focus for co-operation between undertakings and will acquire sufficient prestige to challenge undertakings providing indifferent service. They will afford commercial, technical and specialized help to ensure minimum standards and assist in the planning of schemes of integration. Their functions will demand the service of members with initiative and experience.

An expert committee is reviewing, on behalf of the gas industry, the complex and often antiquated provisions of existing legislation, with particular regard to planning and the necessity for its revision and codification.

Whatever the future form of control and ownership of the industry may be, the practical problems will remain the same. Progress has hitherto been associated with personal and collective enterprise. It is proposed to build upon co-operative company and local authority enterprise appropriately controlled, and to support all merging, joint operation or association of gas undertakings where increased efficiency and economy would result.

Minor differences exist within each form of integration, but the intent is the same, namely, that as a result of the co-ordination, efficiency and economy achieved the consumer shall receive the best possible service. Wherever these conditions can be satisfied, integration will be encouraged.

No one of the alternative means of integration could be adapted exclusively to meet all the varying conditions. Each, however, may be suited to particular areas and circumstances. The problem is (i) to ascertain the needs of the area and the circumstances of each undertaking; and (ii) to determine the means by which integration could best be brought about.

Enabling legislation will be necessary if the execution of integration schemes is to be expedited.

To ensure that the further development of integration is not unduly delayed, the British Gas Association should render annual statements to the Ministry of Fuel and Power showing what progress the industry has made during the year.

It is recommended that Parliament should appoint a standing Integration Tribunal, to which could be referred any integrating proposal which could not be agreed. All interested parties should have the right to appear before the Tribunal, the findings of which should be final, subject to the decision of Parliament. The members of the Tribunal should be independent and judicially competent and they should have the assistance of expert assessors having adequate experience of the gas industry.

Increased demand for gas will dictate increased capacity of manufacturing plant. The doubling of gas output would not require a doubling of gas manufacturing plant, whilst the interlinking of adjacent distribution systems would reduce the margin of carbonization plant necessary. Where mains become overloaded, it may not be necessary to replace them bodily, but to adopt the cheaper expedients of high-pressure feeder mains or of increasing the pressure in the mains and fitting governors on consumers' premises.

Interconnections with other sources of gas become desirable where works are too small to be economic engineering units, are handicapped by obsolete plant, have difficult access to coal or for other reasons have a high cost of gas or a low standard of output or service. Wherever desirable, the establishment of transmission companies should be facilitated.

The industry is preparing for long-term changes in engineering technique which in due time must arise as a result of research. High-pressure processing, complete gasification, closer co-operation with electrical generation, district steam heating are developments of the future. Constant gas pressure, removal of sulphur, reduction of variations in calorific value, the observance of agreed standards in gas manufacture, distribution and utilization are goals for early attainment.

In commercial matters the autonomy of the individual undertaking must remain secondary to the well-being of the gas-using community. The broad lines of policy will be formulated by the British Gas Association, but its interpretation will be district and local responsibilities.

There will be a number of undertakings too small to co-operate fully in such common policy. Pending the full development of integration, aid must be given to enable them to provide gas service in conformity with the agreed policy of the area.

District commercial development committees will work in close collaboration with area technical development centres, ensuring close liaison between the technical and commercial side of the industry.

It is recommended that co-operative research and technical development should be undertaken by Area Technical Development Centres which would incorporate the present Industrial Gas Centres. Some half-dozen Centres would cover the country. The work of the Centres would be centrally co-ordinated.

It is proposed to set up a properly equipped Statistical Bureau within the British Gas Association. The accumulation and availability of statistics will reinforce the experience which the British Gas Association will acquire of the various methods of integration, and facilitate its task of advising which alternative is most suitable in each area.

survey of the electricity industry

The industry had in 1938 an embarked capital of £553,000,000 consisting of £330,000,000 in local authorities' undertakings, and £223,000,000 in company undertakings.

There were in 1938 600 separate authorised undertakings, comprising, in addition to the Central Electricity Board, 3 Joint Electricity Authorities, 5 Joint Boards, 377 local authorities and 214 independent companies.

These undertakings vary in size from an undertaking supplying a few hundred acres and selling a few thousand units a year to a few hundred people, to an undertaking supplying 5,000 square miles and selling 500 million units a year, to a million people.

There were 10 million consumers of electricity in Great Britain in 1940.

The number of persons employed amounts to 100,000. If electrical manufacturing and ancillary industries are included, the industry gives employment to about 400,000 workers.

Allowing for the generating capacity of private plants the total consumption of coal in the production of electrical power is estimated at 20 million tons a year.

The Central Electricity Board concentrates the generation of energy in a limited number of selected generating stations, linked by high tension main transmission systems.

The total number of units sold in 1938 was 19,000 millions; 12,000 millions by local authorities and 7,000 millions by companies.

In 1935 the percentage of the total consumption of electricity represented by industrial power was 56%, that by lighting and domestic supplies 35%, and that by electric traction 7%.

In 1935, 12 holding companies controlled 166 supply companies, or 27% of the total number of undertakings in Great Britain, representing a capital of £74 millions, supplying over 1¼ million consumers and having a total sale of 2,000 million units.

The Electricity Commissioners grant powers under

statute to supply electricity, control local authorities' powers to borrow money, and for generating stations and main transmission lines. The Central Electricity Board co-ordinates generation and high-tension transmission. In war time the Joint Committee of Electrical Supply Associations has been speaking on behalf of the Incorporated Municipal Electrical Association, the Incorporated Association of Electric Power Companies, the Provincial Electric Supply Association and the London Electricity Supply Association.

The British Electrical Development Association Incorporated is responsible for commercial development and publicity.

Research is in the hands of the British Electrical Research Association.

problems of electricity

The large number of small undertakings causes a lack of uniformity in such matters as systems of supply and voltages, tariffs and methods of charge, facilities for hire or hire-purchase of apparatus and assisted wiring.

Legislation is based on the idea of electricity as a local problem, to be solved in each town or district by the local authority or a company. When more comprehensive schemes for serving large areas were evolved later, and it became technically desirable for neighbouring undertakings to associate, they were prevented by statutory prohibition. These restrictions are responsible for many of the present day difficulties.

There is wide scope for greater standardization of the design and dimensions of appliances, which would lead to economies in manufacture, and help the industry to meet the demands of the post-war housing programme.

There are still too many different voltages and systems of supply, so that people moving from one district to another frequently cannot use the apparatus they have purchased.

There are far too many different forms of tariff in different parts of the country, and many of them are too complicated to be understood by consumers.

Many undertakings do not offer adequate hire or hire-purchase terms for appliances.

In some parts of the country there are overlapping rights of supply, with consequent duplication of mains and plant, and extra costs to consumers.

Many farms and isolated villages and houses are not supplied with electricity and considerable capital and maintenance costs would be necessary to connect them. To keep down the cost of current to what their consumers can afford, it would be necessary to subsidise them from urban areas.

One of the first and most important tasks of any authority responsible for reorganising and supervising distribution will be to obtain uniform and reliable data about comparative distribution costs.

plans for electricity

Planning proposals have been issued by :—

(*a*) The London & Home Counties Joint Electricity Authority.

(*b*) The Electric Power Engineers Association.

(*c*) The Incorporated Association of Electric Power Companies.

(*d*) The Incorporated Municipal Electrical Association —with members of the London and the Provincial electric supply associations and some of the power companies.

The London & Home Counties Joint Electricity Authority proposes that the whole of the distribution of electricity in London and the Home Counties should be placed under a London Electricity Board, to facilitate uniformity and efficiency.

The Electric Power Engineers Association wishes to see national and regional control of the whole of the electricity supply industry.

The Incorporated Association of Electric Power Companies base their proposals on the report of the McGowan Committee of 1936, which recommended regionalisation by the absorption in each area of the smaller and less efficient units by the larger and more efficient undertakings, whether local authority or company owned, and advocated ultimate public ownership of all undertakings after a period not exceeding 50 years. The I.A.E.P.C. would strengthen the Electricity Commissioners, who would delimit electricity districts, appoint district committees to prepare schemes of improvement for each district, and have powers of enforcement. The I.A.E.P.C. would, however, make 50 years the minimum, not the maximum period before which local authority purchasing rights can be exercised. They recommend the standardization of systems, voltages and tariffs.

The Incorporated Municipal Electrical Association and the Supply Associations propose that the Electricity Commissioners should appoint an Advisory Committee to make recommendations for the division of the country into a number of Electricity Distribution Areas. In each area there should be a permanent committee, appointed by the undertakings in the area. Its duties would be to survey the area, to recommend on rights of purchase, improved service by grouping of undertakings, duplication of powers of supply, and interconnections of systems, to consider the needs of rural areas, to promote standardization of voltages, to prepare supplies for new industries, to simplify tariffs, stimulate service facilities and development, encourage central repair depots and central purchasing, and arrange for specialist staff to be available to the undertakings.

common problems

A number of problems are common to the coal, gas and electricity industries. Each industry suffers from an excessive number of units, and excessive variation in size of unit. Each wants an overhaul of existing legislation. Each intends to effect improvements in the efficiency of production, distribution, utilziation and standards of practice. Each will benefit by greater standardization of equipment, with its possibilities of mass production and cheaper prices. Each intends to push forward with research on a great scale.

common plans

The plans put forward by the three industries likewise show certain similarities. Each industry is thinking of national planning and of regional planning, of larger and more efficient working units, of a levelling-up of service to the public in all parts of the country. It seems desirable to knit the plans together into a national fuel policy.

national fuel policy

The final authority in so important a matter as the use of fuel is Parliament, but the highly technical considerations involved place much detailed responsibility upon the Ministry of Fuel and Power, who, in turn, require the co-operation of the fuel industries. This will be greatly facilitated by the National Fuel Advisory Council which is being set up by the Minister of Fuel and Power.

It would not be desired or tolerated by the community that fuels should be rigidly allocated for some purposes and prohibited for other purposes. But a responsible and well-informed National Fuel Advisory Council, containing representatives of the various fuel industries, should be able to establish lines of policy in the national interest. The function of the Council should be not to destroy but to regulate competition, to check abuses, to stimulate improvements and to ensure due regard to the national welfare.

Appropriate influence could be exerted by publicity and by prices and charges, rather than by regulations. Among the first tasks of the National Fuel Advisory Council should be consideration of the national policy regarding coal conservation, smoke abatement and coal prices and the review of the functions and legislation of the fuel industries.

The enormous housing programme after the war, the decentralization of population from existing towns, the creation of new and satellite towns, will raise problems of new fuel production plant, of high-pressure mains, and of the most suitable fuel appliances. It is assumed that the authorities, in the planning and erection of houses, will allow the occupants freedom of choice between the fuels they desire to use for various purposes. This will be assured if all houses are built with flues and piped for gas and electricity at the time of erection. The paramount consideration is that the fuel user should be able to obtain the service most suitable and acceptable for the purpose, consistent with the proper utilization of the nation's fuel resources. This is a complex matter on which invaluable guidance can be given by the National Fuel Advisory Council.

P R I C E S

SIXTEENTH WARTIME LIST

Rates of Wages have not risen since April 2, 1943, and are now as follows :—

LONDON DISTRICT	*Craftsmen.*	*Labourers.*
Within 12 miles radius	2s. 1½d.	1s. 8d.
From 12-15 „ „	2s. 1d.	1s. 7¾d.

GRADE CLASSIFICATIONS

	A	A¹	A²	A³	B	B¹	B²	B³	C
Craftsmen ..	2s. 0d.	1s. 11½d.	1s. 11d.	1s. 10½d.	1s. 10d.	1s. 9½d.	1s. 9d.	1s. 8½d.	1s. 8d.
Labourers ..	1s. 7d.	1s. 6½d.	1s. 6¼d.	1s. 5¾d.	1s. 5½d.	1s. 5d.	1s. 4¾d.	1s. 4¼d.	1s. 4d.

F.S.I.

CURRENT MARKET PRICES OF MATERIALS

BY DAVIS, BELFIELD AND EVEREST.

Prices vary according to quality and the quantity ordered.

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

CONCRETOR

Cements

† All delivered in paper bags (20 to the ton) free.

* Paper bags charged at 7/– extra per ton; jute sacks charged at 35/6 per ton and credited on return at 1/6 each, when received in good condition within two weeks.

		6 Tons and over	In 80-ton freights F.A.S. Safe Wharf in River Thames, London Area.
*Portland	per ton	51/–	48/6
*"417" Ultra rapid hardening	per ton	71/–	—
*Rapid hardening ...	per ton	57/–	54/6
*Water repellent ...	per ton	81/–	—
Atlas White (1 barrel 376 lb.)			per barrel —

		6 ton upwards
*Colorcrete rapid hardening, buff and red	per ton	91/–
*Colorcrete rapid hardening khaki ...	per ton	91/–
†Colorcrete rapid hardening dark ...	per ton	—
†Colorcrete non-rapid hardening ...	per ton	from 175/– to 399/–
†Snowcrete (paper bags free)... ...	per ton	225/–

		1–9 cwts.	10–19 cwts.	1 ton and upwards
*Ciment Fondu, delivered Central London area	per cwt.	15/3	14/9	12/8

Aggregate and Sands (Full Loads)

2" Unscreened ballast	per yard cube	12/–
¾"(Down) Washed, crushed and graded shingle	per yard cube	12/9
⅜" (Down) Ditto	per yard cube	13/9
2" Broken brick	per yard cube	14/6
¾" Ditto	per yard cube	16/–
Washed pan breeze	per yard cube	9/6
Coke breeze 1" to dust	per yard cube	—
$\frac{3}{16}$" Sharp washed sand	per yard cube	14/6
White Silver Sand for white cement (one ton lots)	per yard	40/–

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

Pavings

Brick hardcore	per yard cube	—
Concrete ditto	per yard cube	—
Clean furnace clinker and boiler ashes ...	per yard cube	4/6
Coarse gravel for paths	per yard cube	—
Fine ditto	per yard cube	—
Clean granite chippings	per ton	38/2

CONCRETOR—(*continued*)

Pavings—continued

Red quarry tiles, 6" × 6" × ⅞"	per yard super	8/1
Ditto 6" × 6" × ⅝"	per yard super	6/9
Buff ditto 6" × 6" × ⅞"	per yard super	8/10
Ditto 6" × 6" × ⅝"	per yard super	7/5
Hard red paving bricks, 2"	per 1,000	230/6
Ditto 1½"	per 1,000	208/3

Reinforcement

Home trade maximum basis price for mild steel rods, ⅝" diameter and upwards, ex mills delivered to station or siding ... ... per ton £16 19 6

Extras for :—

$\frac{9}{16}$" and ½" diameter...	per ton	10/–
$\frac{7}{16}$" diameter	per ton	15/–
⅜" diameter	per ton	20/–
$\frac{5}{16}$" diameter	per ton	30/–
¼" diameter	per ton	40/–
$\frac{3}{16}$" diameter	per ton	(0/–
Lengths of 40 ft. to 45 ft.	per ton	10/–
Lengths of 45 ft. to 50 ft.	per ton	15/–

Sundries

Retarding liquid, in 5-gallon drums (for exposing aggregate) per gallon	21/–	Ex Warehouse, Southwark Bridge. Drums chargeable and credited, if returned.
Ditto (for obtaining a bond) per gallon	13/1½	

BRICKLAYER

Common Bricks

†Rough stocks	per 1,000	—
†Third stocks	per 1,000	—
†Mild stocks	per 1,000	—
Sand limes	per 1,000	—
‡Phorpres pressed Flettons	per 1,000	60/–
‡Phorpres keyed Flettons	per 1,000	62/–
Blue Staffordshire wirecuts	per 1,000	287/–
†Lingfield engineering wirecuts	per 1,000	93/–
Firebricks, best Stourbridge 2½"	per 1,000	400/–
Firebricks, best Stourbridge 3"	per 1,000	510/–

Facing and Engineering Bricks

Sand Limes, No. 1	per 1,000	—
Sand Limes, No. 2	per 1,000	—
‡Phorpres rustic Flettons	per 1,000	80/–

‡ At King's Cross (Maiden Lane) Stn. For delivery in W.C. district add 10/- per 1,000. † Price ex works, delivery extra.

BRICKLAYER—(*continued*)

Facing and Engineering Bricks—continued

Midhurst Whites	per 1,000	121/–
†Hard stocks, firsts	per 1,000	—
†Hard stocks, seconds	per 1,000	—
Sand-faced, hand-made reds	per 1,000 from	173/–
Sand-faced, machine-made reds	per 1,000 from	—
Red rubbers (9¾-in.)	per 1,000	—
Uxbridge Flints (white)	from per 1,000	86/–
Uxbridge Flints (creams, light greys, etc.) per 1,000	from	113/–
Dunbriks (concrete), greys or Commons, ex works	per 1,000	63/–
Dunbriks (concrete), various colours, ex works ...	per 1,000	95/–
†Southwater engineering No. 1 (first quality red pressed)	per 1,000	138/–
†Southwater engineering No. 2 (second quality red pressed)	per 1,000	118/–
Blue pressed	per 1,000	313/6

† Price ex works, delivery extra.

Limes and Sand

	1-ton lots	6-ton lots
Lime, greystone ... ... per ton	61/–	—
Lime, chalk ... ... per ton	61/–	—
Lime, blue Lias (including paper bags) per ton	—	—
Lime, hydrated (including paper bags) per ton	70/6	—
Washed pit sand ... ... per yard cube	13/6	

(For cements, *see* "Concretor.")

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

Sundries

Wall ties, self coloured ... ... per cwt.	—
Wall ties, galvanized... ... ... per cwt.	—
D.P.C. slates, size 18″ × 9″ ... ... per 100	44/9
D.P.C. slates, size 14″ × 9″ ... ... per 100	38/3
D.P.C. slates, size 14″ × 4½″ ... ... per 100	11/6
‡Ledkore D.P.C. Grade A ... ... per foot super	8½d.
‡Ledkore D.P.C. Grade B ... ... per foot super	10½d.
‡Ledkore D.P.C. Grade C ... ... per foot super	1/–

‡ Trade discount 5 per cent. and cash discount 5 per cent. Prices include delivery on minimum of £5 orders.

Airbricks:	9″×3″	9″×6″	9″×9″	12″×9″	14″×9″
Red and buff terra cotta ... ... each	1/–	2/1	4/7	—	12/7
Black cast iron, School Board pattern airbricks	9″×3″	9″×6″	9″×9″	12″×6″	12″×9″
per doz.	—	—	—	—	—
Galvanized ditto per doz.	—	—	—	—	—
Black hit and miss cast iron ventilators					
per doz.	—	—	—	—	—
Galvanized ditto per doz.	—	—	—	—	—

Buff terra cotta chimney pots ... ... each	1′ 0″ 3/8	1′ 6″ 4/4	2′ 0″ 6/4	2′ 6″ 8/4	3′ 6″ 19/–	5′ 0″ 32/5
Fireclay ... per ton	67/6					

Wall reinforcement supplied in standard rolls containing 25 yards lin.

*2″ wide black japanned ...	per roll	2/5
*2″ wide galvanized ...	per roll	—
*2½″ wide black japanned...	per roll	3/–
*2½″ wide galvanized ...	per roll	—

Greater widths pro rata 2½″ price carriage paid on orders of £5. Discounts for quantities

Partitions, etc.

		2″	2½″	3″	4″
Breeze ...	per yard super	2/4	2/9	3/4	4/4
Pumice ...	per yard super	3/9	4/9	5/6	6/–
Hollow Block	per yard super	2/8	2/11	3/6	4/–
Plaster ...	per yard super	5/–	5/8	6/11	7/3
†1″ Wood-wool Slabs ...	per yard super from				4/2 to 4/10
†2″ Wood-wool Slabs ...	per yard super from				6/7 to 7/6½
†3″ Wood-wool Slabs ...	per yard super from				8/6 to 9/8½

† Prices according to quantity ordered. 2½% Cash Discount.

Gas Flue Blocks

	Single Flues	Double Flues
Straight blocks ... ... each	1/3	2/3
Backing Block... ... ... per set of 3	3/1	5/6
Cover blocks ... ... each	1/7	3/4
Raking blocks 45° ... ... each	3/–	4/8
Raking blocks 60° ... ... each	2/1	3/3
Offset blocks ... ... each	3/8	5/3
Closer blocks ... ... each	1/3	2/3
Closer flashing blocks ... ... each	1/1	1/9
Straight flashing blocks ... ... each	1/1	1/9
Terminal and cap ... ... per set	7/–	12/–
Middle terminal and cap ... per set	6/6	11/3
End terminal and cap ... per set	6/9	11/9
Corbel block ... ... each	5/2	10/9
Gathering block ... ... each	—	3/5

DRAINLAYER

Agricultural Pipes

	2″	3″	4″	6″
Pipes in 12″ lengths ... per 1,000	77/6	110/–	147/6	285/–

(Delivered in full loads Central London Area.)

Salt Glazed Stoneware Pipes and Fittings

		4″	6″	9″
Pipes (2′ lengths)	each	1/8	2/6	4/6
Bends, ordinary	each	2/6	3/9	6/9
Single Junction, 2′ long	each	3/4	5/–	9/–
Yard Gulley, without grating ...	each	6/3	6/10½	11/3
Ordinary round or square Grating, painted	each	–/7½	1/3	2/6
Ordinary round or square Grating, galvanized	each	1/0½	2/1	4/4½
Extra for Inlets, horizontal	each	1/6	1/6	1/6
Extra for Inlets, vertical	each	2/3	2/3	2/3
Intercepting Trap with Stanford Stopper	each	17/6	22/6	37/6
Grease and mud interceptor with bucket for removing silt and grease for 6″, 9″ and 12″ drains, with iron grating, painted	each	20/–		
Ditto, with iron grating galvanized	each	21/10½		

The above prices to be varied by the following percentages for the different qualities given. All subject to 2½ per cent. cash discount.

	British Standard	British Standard Tested
Orders for 2 tons and over	Plus 15%	Plus 40%
Orders under 2 tons, 100 pieces upwards	Plus 32½%	Plus 57½%
Orders under 2 tons, less than 100 pieces	Plus 42½%	Plus 67½%

	Best	Seconds
Orders for 2 tons and over	Plus 7½%	Subject to 15% off the price of best quality for all sizes
Orders under 2 tons, 100 pieces upwards	Plus 25%	
Orders under 2 tons, less than 100 pieces	Plus 35%	

Cast Iron Drain Pipes and Fittings

Socket and Spigot Pipes :—

Weight (per 9 ft.)	Size	9 fts.	6 fts.	4 fts. each	3 fts. each
1 . 1 . 8	4″ per yard ...	8/3	9/3	14/9	11/2
1 . 1 . 20	4″ per yard ...	8/7	9/6	15/1	11/6
2 . 0 . 6	6″ per yard ...	12/9	15/2	24/5	19/6
4 . 0 . 2	9″ per yard ...	23/1	30/3	52/6	40/–

		2 fts.	18 ins.	12 ins.	9 ins.
1 . 1 . 8	4″ each	9/3	7/10	7/3	6/6
1 . 1 . 20	4″ each	9/5	—	—	—
2 . 0 . 6	6″ each	14/8	—	—	—
4 . 0 . 2	9″ each	—	—	—	—

Tonnage Allowances :—

Orders up to 2 tons nett.
Orders 2 to 4 tons less 2½%
Orders 4 tons or over less 5%

		4″	6″	9″
Bends	each	8/2½	17/1	52/9
Single junctions	each	14/6	30/–	91/3
Intercepting traps	each	39/7	66/–	162/3
Gulleys ordinary trapped ...	each	19/2	—	—
Extra for inlet 4″...	each	5/3	—	—
Grease Gulley trap	each	152/6	—	—
H.M.O.W. large socket gulley trap with 9″ gulley top and heavy grating and one back inlet	each	33/3	61/8	—

Channels in Brown Glazed Ware

		4″	6″	9″
Half round straight channels 24″ long	each	1/3	1/10½	3/4½
Half round straight channels 30″ long	each	—	—	4/2½
Ditto, short lengths	each	1/3	1/10½	—
Half round ordinary channel bends ...		1/10½	2/9½	5/0½
Ditto, short	each	1/10½	2/9½	—
Ditto, long	each	3/9	5/7½	10/1½
Three-quarter round branch bends	each	5/–	7/6	—

		6″×4″	9″×6″
Half round taper channels 24″ long	each	3/9	6/9
Half round taper channel bends	each	4/8½	8/5½

The above prices are subject to the same discounts as those given for "Best" quality salt glazed stoneware pipes.

Manhole Covers, etc.

	Black	Galvanized
24″ × 18″ single seal for foot traffic. (Weight 0.0.3 in lots of 24) ... ... each	16/6	33/1
24″ × 18″ single seal for light car traffic. (Weight 2 cwts. in lots of 24) ... each	49/7	88/2
24″ × 18″ Wood Block pattern. For road traffic. (Weight 3 cwts.) ... ... each	Coated 79/3	

DRAINLAYER—(*continued*)

Manhole Covers, etc.—(continued)

		Fine Cast	Galv.
Cast iron steps, 13½″ long, 6″ wide, 9″ in wall, approximate weight 5½ lb. each	per dozen	17/4	28/11
Galvanized fresh air inlets with cast brass		4″	6″
fronts (L.C.C. pattern)	each	7/7	31/-

MASON

Yorkstone

Building quality Robin Hood and Woodkirk Blue Stone.

Blocks scrappled, random sizes... ...	per foot cube	6/1
Add for blocks to dimension sizes ...	per foot cube	8d. (each dimension)
Templates with sawn beds, edges rough (up to 4 ft. super and not over 2′ 6″ long) ...	per foot cube	6/9
Templates with sawn beds, sawn one edge,	per foot cube	8/1¼
Templates with sawn beds, sawn two edges,	per foot cube	9/5½
Prices f.o.r. Yorkshire, railway rate to London Station per ton. (Minimum 4-ton loads.)		29/1

Artificial Stone

6″ × 3″ Copings and sills	per foot run	2/1
6″ × 6″ Copings and sills	per foot run	3/2
9″ × 3″ Copings and sills	per foot run	2/6
9″ × 6″ Copings and sills	per foot run	4/6
12″ × 3″ Copings and sills	per foot run	3/3
12″ × 6″ Copings and sills	per foot run	5/2
Cornices according to detail, per foot cube (from)		9/3

SLATER, TILER AND ROOFER

Best Bangor Slates

		£ s. d.
24″ × 12″	per 1,000 actual	—
20″ × 10″	per 1,000 actual	—

Prices include for delivery to site in lots of 1,000 and upwards.

Tiles

		£ s. d.
Hand-made sandfaced 10½″ × 6½″ red roofing tiles	per 1,000	—
Machine-made sandfaced 10½″ × 6½″ red roofing tiles	per 1,000	—
Berkshire rustic pantiles...	per 1,000	—

Asbestos-cement

†6″ corrugated sheets, grey	per yard super	3/0¾
†Standard 3″ corrugated sheets, grey ...	per yard super	2/9½
Slates (*Manufacture temporarily suspended*) :—		
* 15¾″ × 7⅞″ grey	per 1,000	£6 15 9
* 15¾″ × 15¾″ diagonal, grey ...	per 1,000	£13 11 6
* 15¾″ × 15¾″ diagonal, russet or brindled	per 1,000	£21 19 6
Pantiles (*Manufacture temporarily suspended*).		
* Large russet brown	per 1,000	—

* Prices are for minimum two-ton loads, and are subject to 5% trade discount.

† Do., but 3¾% advance and 5% trade discount.

JOINER

Asbestos-cement and Asbestos Products

†$\frac{3}{16}$″ Semi-compressed flat building sheets, grey	per yard super	1/3½
†$\frac{3}{16}$″ Ditto	per yard super	1/4
†¼″ Ditto	per yard super	1/11

†Prices are for orders of two tons and over and are subject to 10% advance and 5% trade discount.

⅛″ Asbestos wallboard (in sheets 8′ 0″ × 4′ 0″),	per foot super	-/4⅝
$\frac{3}{16}$″ Ditto	per foot super	-/3¾
*$\frac{3}{16}$″ Asbestos wood (in sheets 8′ 0″ × 4′ 0″)	per yard super	2/2¾

*Prices are for orders of 2 tons and over and are subject to 5% advance.

The following asbestos prices are subject to 10 per cent. trade discount :—

Asbestos-cement stipple glazed sheets (in sheets 8′ 0″ × 4′ 0″ and 4′ 0″ × 4′ 0″) ...	per yard super	8/-
Marble glazed sheets (in sheets 8′ 0″ × 4′ 0″ and 4′ 0″ × 4′ 0″) ...	per yard super	8/-
½″ Asbestos Insulating Board	per foot super	—

		25–75 yards	150–300 yards	Over 600 yards
⅜″ Fireproof plaster board	per yard super	2/5	2/1	1/9
⅜″ Ditto	per yard super	2/3	1/11	1/7
Joint tape (approx. 250 feet run)	per roll	—	—	1/6
Joint filler	per lb.	—	—	-/4

Sundries

Slaters or sarking felt	per yard run	-/9
Roofing felt (1-ply bitumen)	per yard sup	1/-
Bituminous hair felt	per roll	58/-

All rolls 25 yards long by 32″ wide.

JOINER—(*continued*)

Sundries—(continued)

Building paper, 50″ wide (B.I. 20)	per yard run	1/1
,, (K. 40)	per yard run	-/5¼

" Cabots " Quilt :—(Ex Works) Twenty roll lots delivered carr. free.

Double ply ... ... per roll — per half-roll —

All rolls 28 yards long by 36″ wide. Special terms for quantities.

Cut steel clasp nails	1″	per cwt.	40/3	4″	per cwt.	31/3
,, ,, floor brads	2″	,,	30/9	3″	,,	29/6
Bright oval wire nails	1″	,,	43/4	4″	,,	31/3

Galvanized wire staples with slice cut points	1″ × 12 gauge	per cwt.	52/-
Scotch glue		per cwt.	—

STEEL AND IRONWORKER

Steelwork

		£ s. d.
Basis price for rolled steel joists sections 5″ × 3″ to 16″ × 6″, in 10 ft. to 50 ft. lengths	ex mills per ton	15 10 6

PLASTERER

Plaster and Cement

		1-ton loads	
Sirapite (coarse)	per ton	91/6	
,, (fine)	per ton	90/6	
Victorite No. 1	per ton	110/-	
,, No. 2 or non-sweat	per ton	105/-	
Thistle (browning) ...	per ton	91/6	
Thistle (haired)	per ton	—	
Pink plaster	per ton	84/-	
White plaster	per ton	93/-	
Keene's pink	per ton	138/-	
Gypstone	per ton	70/6	ex Works, Kent
Glastone	per ton	73/-	ex Works, Kent
Paristone (haired)	per ton	70/6	ex Works, Kent
Snowcrete (Tyrolean Finish) 1 ton lots and upwards	per ton		149/-

Sundries

Sharp washed sand	per yard cube	14/6
Cow hair	per cwt.	64/-
Goat's hair	per cwt.	93/-
Expanded metal lathing, 9′ 0″ × 2′ 0″ ⅜″ mesh × 26 gauge	per sheet	2/9
Wire Slate nails (galvanized) 1¼″ × 15 gauge	per cwt.	62/5
,, ,, ,, (bright wire) ,, ,,	per cwt.	—

		Less than 150 yds.	Less than 300 yds.	Over 300 yds.	Over 600 yds.
⅜″ Plaster board	per yard super	2/-	1/8	1/7	1/6
1¼″ Galvanized nails ...	per cwt.	58/3			
Scrim cloth in 100-yard rolls	per roll	3/10			

Wall Tiles

The following prices are subject to 75 per cent. addition :
Commercial quality.

Ivory, white, etc., glazed 6″ × 6″ × ⅜″ ...	per yard super	10/1
Angle beads (1½″ wide)	per yard run	1/2¾
,, ,, (1″ ,,)	per yard run	-/10
Rounded edge tiles	per yard run	2/6½
Coloured enamelled bright glazed, 6″ × 6″ × ⅜″	per yard super	14/3
Angle beads (1½″ wide)	per yard run	1/4¾
,, ,, (1″ ,,)	per yard run	-/11¼
Rounded edge tiles	per yard run	2/7
Eggshell gloss enamelled, 6″ × 6″ × ⅜″ ...	per yard super	15/-
Angle beads (1½″ wide)	per yard run	1/7¼
,, ,, (1″ ,,)	per yard run	1/0¾
Rounded edge tiles	per yard run	2/8¼

Special rates for quantities

PLUMBER

Lead

3½ lb. and upwards milled sheet lead in quantities of 5 cwts. and upwards	per cwt.	38/-
Add if cut to sizes	per cwt.	3/-
Lead ternary alloy, No. 2 quality extra over sheet lead	per cwt.	7/-
Allowance for old lead delivered to merchant	per cwt.	18/-

PLUMBER—(*continued*)

Cast Iron Goods

	Percentage Adjustment on List No. 3100 A.B, 1/2/40
Rainwater Goods (painted or unpainted) ...	*Plus* 17½%
Soil goods (coated or uncoated)	*Plus* 17½%

Mild Steel Rainwater Goods

The following prices are subject to 2½ per cent. trade discount and 40 per cent. advance.

24 gauge rainwater slip jointed pipes.

	2″	2½″	3″	3½″	4″
Galvanized round pipes with ears ... ... per 6′ 0″	2/7½	3/1½	3/9	4/3	4/9
Painted round pipes with ears per 6′ 0″	2/4½	2/9	3/1½	3/7½	4/-
Painted or galvanized short lengths with ears, extra each	-/6	-/6	-/6	-/6	-/6

18 Gauge gutters.	3″	3½″	4″	4½″	5″	6″
Galvanized half round gutters per 6′ 0″	2/-	2/3	2/4½	2/9	3/-	3/7½
Painted half round gutters ... per 6′ 0″	1/6	1/9	2/-	2/3	2/6	3/-
Painted or galvanized short lengths extra each	-/3	-/3	-/3	-/3	-/3	-/3

Asbestos-Cement Rainwater Goods

The following prices are subject to 15 per cent. advance and 12½ per cent. trade discount.

Orders over £30 are subject to 17½ per cent. trade discount.

Rainwater pipes.

Prices are for 6′ 0″ lengths, and 10′ 0″ lengths in 2″, 2½″ and 3″ diameters. Short lengths up to 2′ 0″ are charged as one yard. From 2′ 0″ to 4′ 0″ charged as 1½ yards. From 4′ 0″ to 6′ 0″ charged as 2 yards. Over 6′ 0″ charged as 10′ 0″.

Round pipes.

2″	per yard run	1/10
2½″	per yard run	2/0¾
3″	per yard run	2/5¾
3½″	per yard run	2/11¼
4″	per yard run	3/4¾
4½″	per yard run	4/10¼
5″	per yard run	5/9¼
6″	per yard run	7/1¾

Gutters.

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

	3″	4″	4½″	5″	6″	8″
Half round gutters per yard run	1/3¾	1/6¾	1/7¾	1/11	2/8	3/3½
Ogee gutters per yard run	—	1/11	2/0¾	2/5¾	3/0¼	3/11¼

INTERNAL PLUMBER

Lead pipe in coils, 5 cwts. and upwards ...	per cwt.	38/6
Lead soil pipe	per cwt.	42/6
Add if ribbon marked	per cwt.	-/6
Lead ternary alloy, No. 2 quality extra over lead pipe	per cwt.	7/-
Plumber's solder	per cwt.	145/-
Tinman's solder	per cwt.	200/-

Drawn lead traps with brass screw eye, 6 lb.

		1″	1¼″	1½″	2″
S. trap	each	2/9	3/2	3/11	5/8
P. trap	each	2/5	2/7	3/3	4/7
Extra for 3″ deep seal ...	each	-/8	-/8	-/8	-/8

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

Tubes.

		½″	¾″	1″	1¼″	1½″	2″
Tubes 2 ft. long and over	per ft.	-/5½	-/6¾	-/9¼	1/1	1/4½	1/10
Pieces 12″ to 23½″ long	each	1/1	1/5	1/11	2/8	3/4	4/9
Bends	each	-/11	1/2	1/7½	2/7½	3/2	5/2
Fittings.							
Elbows, square ...	each	1/1	1/3	1/6	2/2	2/7	4/3
Elbows, round ...	each	1/2	1/5	1/8	2/4	2/10	4/8
Tees	each	1/3	1/7	1/10	2/6	3/1	5/1
Crosses	each	2/9	3/3	4/1	5/6	6/7	10/6
Sockets, plain ...	each	-/4	-/5	-/6	-/8	-/10½	1/3
Sockets, diminished	each	-/6	-/7	-/9	1/-	1/4	2/-
Flanges	each	1/-	1/2	1/4	1/9	2/-	2/9
Caps	each	-/5	-/6	-/8	1/-	1/3	2/-
Plugs	each	-/4	-/5	-/6	-/8	-/10	1/3

INTERNAL PLUMBER—(*continued*)

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

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

	Tubes	Fittings	Flanges
"Light Weight" ...	51½%	47¼%	28%
"Heavy Weight" ...	44%	39¾%	15¼%

COPPERSMITH AND ZINC WORKER

Copper

Hot rolled copper sheeting in 1 cwt. lots, all gauges to 24 wire gauge	per lb.	1/0½
Light gauge copper tube, solid drawn	per lb.	1/3¼
Copper tube, solid drawn screwing sizes ...	per lb.	1/2½
Copper wire, 10 and 12 gauge	per lb.	1/2
Copper nails, 1″ and up	per lb.	—

GLAZIER

Sheet Glass cut to size (ordinary glazing quality)

18 oz. clear sheet	per foot super	3¾d.
24 oz. ditto or "R" quality	,, ,, ,,	5d.
26 oz. ditto	,, ,, ,,	6½d.
32 oz. ditto	,, ,, ,,	8½d.
⅛″ figured rolled and cathedral glass (white)	,, ,, ,,	6¾d.
⅛″ ditto, approved tints	,, ,, ,,	9½d.

British Polished Plate Glass cut to size

Ordinary ¼″ Substance — In Plates not exceeding		Glazing for Glazing Purposes	Selected Glazing Quality	Silvering Quality
2 ft. super ...	per foot super	2/2	2/4	2/10
3 ,, ...	per foot super	2/9	3/-	3/9
5 ,, ...	per foot super	3/-	3/6	4/3
*45 ,, ...	per foot super	3/6	4/-	5/5
*100 ,, ...	per foot super	4/6	5/7	7/2

*Plates exceeding 100 ft. super or 160 in. long or 100 in. wide at higher prices.

Special quotations should be obtained for other qualities and thicker substances.

Wired Glass Cut to Sizes

¼″ Wired rolled or wired cast	per ft. super	9½d.
‡¼″ Georgian wired cast	per ft. super	10d.
‡¼″ Polished Georgian wired plate	per ft. super	3/2

‡ For cutting to allow for wires in adjacent pieces to be "lined up," add 4d. per foot super.

PAINTER

Snowcem paint	per cwt.	56/-
White ceiling distemper	per cwt.	22/-
Washable distemper	per cwt. from 44/- to	66/-
Ready mixed white lead paint (best), 5 cwt. lots, 14 lb. tins	per cwt.	96/6
Aluminium paint	per gallon	—
White enamel	per gallon	—
White enamel paint	per gallon	27/-
Stiff white lead (genuine English stack process, 1 ton lots, 1 cwt. kegs)	per cwt.	74/6
Liquid driers	per gallon	23/-
Linseed oil raw (5 gallon drums)	per gallon	6/11
,, ,, boiled (5-gallon drums)	per gallon	7/2
French polish	per gallon	15/6
Knotting	per gallon	24/-
Oil stain (scumble)	per lb.	3/-
,, ,, red oxide	per cwt.	72/-
,, ,, middle Brunswick green	per cwt.	95/-
,, ,, dark umber	per cwt.	105/-
,, ,, golden ochre	per cwt.	82/-
Varnish (outside quality) oak	per gallon	22/-
,, ,, ,, copal	per gallon	24/-
,, ,, ,, flatting	per gallon	26/-
Turpentine, genuine American 5 gallon lots	per gallon	—
,, substitute	per gallon	4/-
Creosote, 1 gallon lots	per gallon	1/9
Putty	per cwt.	23/6
Utility Glazing Putty	per cwt.	21/3
Size	Per ½ cwt.	30/-
Best quality English gold leaf, 23 carat ...	per book	3/6
Extra thick, ditto	per book	4/2

INFORMATION CENTRE

The function of this feature is to supply an index and a digest of all current developments in planning and building technique throughout the world as recorded in technical publications and statements of every kind whether official, private or commercial. Items are written by specialists of the highest authority who are not on the permanent staff of the Journal and views expressed are disinterested and objective. The Editors welcome information on all developments from any source, including manufacturers and contractors.

MATERIALS

1444 Book on Quantity Surveying

ELEMENTS OF QUANTITY SURVEYING. *A. J. Willis.* (*Third Edition. Crosbie Lockwood.* 15*s.* 0*d.*) Useful book brought up to date with improvements on previous editions. General survey of origin and functions of a quantity surveyor and of principles of quantity surveying. Various stages in preparation of Bill of Quantities.

As Mr. Willis has written a more advanced book on the same subject, he has not been tempted to introduce complicated examples which might confuse the student and, at the same time, by giving examples in script and adopting the usual surveyors' abbreviations, he has kept the book close to reality.

This is much more than an examination textbook ; it does, incidentally, serve this purpose admirably but it is also an invaluable guide to anyone who wants to learn something of the procedure to be expected in a well-conducted surveyor's office.

1445 BSS for Twisted Steel Bars

BRITISH STANDARD SPECIFICATION FOR COLD TWISTED STEEL BARS FOR CONCRETE REINFORCEMENT. (*B.S.* 1144 : 1943 ; *price* 2*s. net.*) New standard not covered by B.S. 785 and 405.

B.S. 785 provides for rolled bars for concrete reinforcement of mild steel, medium and high tensile steel and for hard drawn steel wire. B.S. 405 covers steel expanded metal for concrete reinforcement. These specifications do not, however, apply to mild steel bars which have, had their yield stress raised by cold twisting. This specification has, therefore, been prepared to fill this gap, and it covers both single-twisted and twin-twisted bars. The material used for these bars is required to conform to the requirements specified in B.S. 785.

1446 Square Twisted Bars

TESTS ON SQUARE TWISTED BARS AND THEIR APPLICATION AS REINFORCEMENT OF CONCRETE. *Dr. K. Hajnal-Kónyi.* (*The Structural Engineer, September*, 1943, *pp.* 327-368). See also discussion in *The Structural Engineer, February*, 1944, *pp.* 68-92, and *March*, 1944, *pp.* 114-118. Properties of square bars obtained from mild steel by twisting. No yield point, increased ultimate strength. Importance of bond. Possibility of using the full strength of the bars as compared with mild steel where the yield point is the critical value. Suggested increase of permissible tensile stresses by 50 per cent., i.e. up to 30,000 lb./sq. in.

The strength of mild steel can be increased by stretching beyond the yield point, a process called work hardening. Steel treated in this way has no yield point. A great number of comparative tests has been carried out on beams reinforced with mild steel and square twisted steel respectively. These tests have proved that bond between concrete and reinforcement is maintained until the stress reaches the ultimate strength of square twisted bars, whereas with mild steel bars the destruction begins at the yield point. Square twisted bars were fractured when the beams failed. Mild steel bars cannot be fractured in normal cases, only at very low percentages, far below the limit of practical application.

The ultimate strength of square twisted bars embedded in concrete is greater than their strength obtained from the usual method of testing. This phenomenon needs further research and explanation.

The efficiency of square twisted bars in concrete is 50 to 67 per cent. greater than that of mild steel bars and an increase of the permissible steel stress by 50 per cent. is on the safe side.

The deficiencies of the present method of designing reinforced concrete beams are discussed and the introduction of the plastic theory of design is advocated. The test results agree very well with the plastic theory and contradict the standard method.

The fundamental difference between the two methods is that the standard method is based on working stresses, the plastic theory on ultimate loads. However, for psychological reasons it is suggested that for the time being the standard method should be maintained and square twisted bars should be substituted for mild steel in the ratio 2 : 3.

The main reason for a limitation of permissible stresses is the danger of corrosion if the maximum width of the cracks exceeds a certain limit. .01 in. is considered as a safe limit on the Continent. The tests have proved that this width is never reached at first loading under 40,000 lb./sq. in. The maximum width corresponding to a steel stress of 30,000 lb/sq. in. is .006 in.

The deflection of reinforced concrete beams under design load is nearly the same whether mild steel or work-hardened steel is used. From the point of view of fire resistance the objection was raised that work-hardened steel exposed to heat loses its higher strength after cooling down. Consequently, after fire a building with work-hardened steel at higher working stresses would be weaker than a building with mild steel. Tests have proved that work-hardened steel loses its strength only if the heat exceeds 500°C. If this temperature is reached in mild steel reinforcement the building is likely to collapse. The objection is therefore not justified.

LIGHTING

1447 Report on Munsell Colours

MUNSELL COLOURS. (*J. Opt. Soc. Am., July*, 1943, *p.* 385). Final report of a sub-committee of the Optical Society of America on the spacing of the Munsell colours.

The Report is a technical document of considerable complexity, presenting the characteristics of a modified and enlarged Munsell solid which has been evolved from the 1940 visual estimates of the Munsell Book of Colour samples.

As a report, architects will find this of limited interest. But ultimately these steps which the Americans are taking to provide a standard colour reference system are likely to prove of the very greatest value to anybody who has any professional interest in colour. It should at least be noted, therefore, that these advances in a very difficult field are being made.

1448 Daylight in Factories

DAYLIGHT ILLUMINATION IN FACTORIES AND WORKSHOPS. *P. J. Waldram.* (*Journal of the Junior Institution of Engineers, December*, 1943, *p.* 65). Methods of analysis for daylighting.

Mr. Waldram's latest paper on daylighting is devoted in the main to a discussion of a few methods of daylighting analysis and the elementary mathematics which form their basis. There are some limited references to specific points about factory lighting.

The discussion of methods of analysis represents the most useful part of the paper, and reflects much of the author's own work. It will be of interest particularly to lighting specialists to have these detailed descriptions of various gauges and grids. The list, in a sense, is supplementary to the group of methods given by P. V. Burnett in his paper for the ASB at the RIBA (see the JOURNAL, August 12, 1943, pp. 116-118, and Information Centre No. 1283, November 11, 1943), for Waldram makes only a passing reference to the BRS daylight factor protractors and the new and simplified methods developed by Walsh, Smith and Dufton to which Burnett referred in detail. What one fails to see, unfortunately, is any agreement among these various experts as to the best method for common practice. Perhaps the new tables of window performance, which Burnett described and which sound an admirable development, will provide a focus for agreement when they are published.

The references to factories as a specific problem are limited in the paper to a plea for standards of lighting, and to the use of the so-called monitor skylights.

1449 Lighting for Wool Sorting

LIGHTING FOR WOOL SORTING. *G. G. Cousins and G. H. Brooks.* (*Illuminating Engineering, September*, 1943, *p.* 433). Technique and intensity of lighting for special task.

This is an article for the specialist factory architect. Wool sorting requires plenty of light, from a wide angle, to indicate the correct fibre size. Hitherto sorting has often been restricted to the middle hours of the day because artificial light was not found practicable. These authors experimented with placing fluorescent lights, and found that wide spacing in pairs over the wool was acceptable. The intensity is about 135 ft. candles.

1450 Railway Stair Lighting

LIGHTING FOR SAFETY. *E. E. Dorting.* (*Illuminating Engineering, September*, 1943, *p.* 421). Platform and stair lighting in New York underground railways, with accident statistics.

The platform lighting problem in the New York Underground was primarily one of directing hurried passengers' attention to the platform edge, for there was a gap of 7-12 in. between it and the car doors in some cases. Treatment was by light-coloured tiles in a band 8 in. wide, where the doors are known to come when trains are at the station. The tiles were lighted by a pair of spotlights. Accident rates were effectively reduced.

The stair problem proved first to be a question of good stair design. A tread of

10-11 in. and a riser of 7-7½ in. arranged so that two risers and one tread equal 25 in., is recommended, with tolerances of ½ in. from stair to stair. Lighting sources were arranged so that they were not exposed to the view of descending people (to whom most accidents occur), but faced generally towards the bottom of the stair. Illumination value on the stair is 12 foot candles. Accident rates were again brought under effective control.

HEATING and Ventilation

1451 — *Book on Heating*

HEATING AND AIR CONDITIONING OF BUILDINGS. *Oscar Faber and J. R. Kell.* (*Architectural Press*, 45s.). Second edition of detailed treatment of whole subject except district heating.

The first edition of the book, published in 1936, is well known. The authors now revise this in the light of more recent knowledge and development and add chapters on *Heating by High Pressure Hot Water* and *Ventilation*. The early part of the book deals with principles and should be valuable to both architects and engineers. Thereafter most types of heating and heating apparatus are described in considerable detail. Many illustrations and tables are included and there is information on costs based on pre-war prices.

Since the original version was published in 1936 there has been considerable development in heating and ventilating science. The tables in the present book have been revised to bring them into line with the *Guide to Current Practice* of the IHVE. Some new data in this same guide has made it necessary for the authors to revise their section on *Air Conditioning*. Considerable developments have also taken place in large-scale heating systems and these are taken account of in an enlargement of the chapter on *Steam* and in a new chapter on *Heating by High Pressure Hot Water*. District Heating is not dealt with as it is the subject of a separate treatise by the same authors.

This new material, and, indeed, a considerable proportion of the old, is rather formidable reading for the average architect, although the book must be reckoned as a fine and comprehensive reference book for architects. Although few are likely to have either the time or inclination to digest the whole of the 572 pages, 353 figures and 87 tables, all would benefit by making a careful study of the first part of the book, more especially the first three chapters where general principles are dealt with. A real understanding of this part of the book would be a help in the design stage of any building and would also put the architect in a position to talk with understanding to heating engineers.

1452 — *Central Heating*

IMPROVED CENTRAL HEATING EQUIPMENT. *C. C. Downie.* (*Heating and Ventilating Engineer, January*, 1944, *p.* 252.) Describes a few modern developments.

1453 — *The Gas Industry*

REPORT ON THE PLANNING OF THE GAS INDUSTRY. (*British Gas Federation, October*, 1943). Review of post-war position of Gas Industry by Central Federation of Employers.

1. By its annual processing of 20 million tons of coal costing £25 million, the Gas Industry secures gaseous, solid and liquid fuels and numerous by-products to the value of £75 million, each of which is better suited to the performance of specialized tasks than was the original coal.

2. Wasteful competition between the fuel industries must be eliminated and co-operation substituted, to facilitate which a National Fuel Advisory Council should be established.

3. Substantial economies in installation and consumption are possible if the house is planned from the outset for the use of gas.

4. The regional supply of gas throughout the country by District Gas Boards, indirectly under the control of the State through its nominees on the Boards, could not be justified as being preferable to the extension of present methods of integration.

5. The inter-connection of an Undertaking with Gas Works and/or with Coke Oven plants for the supply of gas, becomes desirable where Works are too small to be economic engineering units, are handicapped by obsolete plant, have difficult access to coal or for other reasons have a high cost of gas or a low standard of output or service. There are, however, definite limits to the distances over which gas can be economically transmitted and adequate wayleave facilities are essential.

QUESTIONS and Answers

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential, and in no case is the identity of an enquirer disclosed to a third party. Questions should be sent to: THE ARCHITECTS' JOURNAL, 45, *The Avenue, Cheam, Surrey.*

1454 — *Defence Regulation 56A*

Q *Defence Regulation* 56 (a) *controlling expenditure on civil building, presumably does not include fixtures, fittings and equipment. If this is the case, is any hard and fast line laid down, and if so, should repairs and alterations to such items as lifts; cooking equipment; blackout screens and curtains; shopfront enclosures and counters; shelving, racking and stockbins, which may or may not be fixed to walls; temporary screens; outside clocks; built-in refrigerators; etc., which are on the border line between building work proper and equipment, be included in estimates and accounts of expenditure returned against building licences and licences granted for current maintenance?*

Also, what is the position of expenditure of repairs on such items (if the ruling is that they should be included) where they are removed from the site and repaired at workshop?

A The present regulations include construction, reconstruction, alteration, demolition, repair, decoration or protection against hostile attack. We are not prepared to give a legal definition of what is properly included and what is not included under this heading, but you will find that the Licensing Authorities consider that the regulations extend to practically everything on or about a building, excluding furniture and similar chattels.

It is doubtful whether most people would regard blackout curtains as coming under the regulations although blackout generally may be considered as "protection against hostile attack." With regard to all the other items mentioned, there is little doubt that the Licensing Authorities would consider that all expenditure incurred should be returned against the building or maintenance licences, whether repairs are carried out on the site or not.

If you are in any doubts, your best course is to consult the Licensing Authority, who will give you a ruling. In the unlikely event of you wanting to dispute it, you would be advised to consult a solicitor.

1455 — *Project A62*

Q *Can you tell me whether* Project A. 62, *by the Modular Service Association of America, is obtainable direct from that Association or who it is published by?*

A The *Project A.* 62 is published by the American Standards Association, 29, West 39th Street, New York, U.S.A.

SOCIETIES AND INSTITUTIONS

Speeches and lectures delivered before societies, as well as reports of their activities, are dealt with under this title, which includes trade associations, Government departments, Parliament and professional societies. To economise space the bodies concerned are represented by their initials, but a glossary of abbreviations will be found on the front cover. Except where inverted commas are used, the reports are summaries, and not verbatim.

BBC

Homes for all

March 24, second broadcast in the series HOMES FOR ALL—THE BBC LOOKS AT THE PROBLEM. Chairman, G. O. Slade, K.C. Assessors, Mrs. Doris White and C. S. McCulloch. Witnesses, Percy Thomas, P.R.I.B.A., and F. R. Yerbury.

G. O. Slade: This evening Mr. Percy Thomas, President of the Royal Institute of British Architects, and Mr. F. R. Yerbury are coming along to help us. Mr. Thomas, obviously, will be speaking as an architect, while Mr. Yerbury, who's travelled extensively in Europe, will tell us what we have to learn from our continental neighbours; that's to say not only what to do but—just as important—what to avoid. Mr. Thomas is detained in Cardiff but he's recorded his answers to a questionnaire we sent down there to him.

Lloyd-Jones: Mr. Thomas, you are the President of the Royal Institute of British Architects. I think it is your second term of office.

Percy Thomas: Yes, I was President for two years in 1937.

Lloyd-Jones: So naturally it will be chiefly the architect's point of view you will be giving us. Now, before I put to you some questions which

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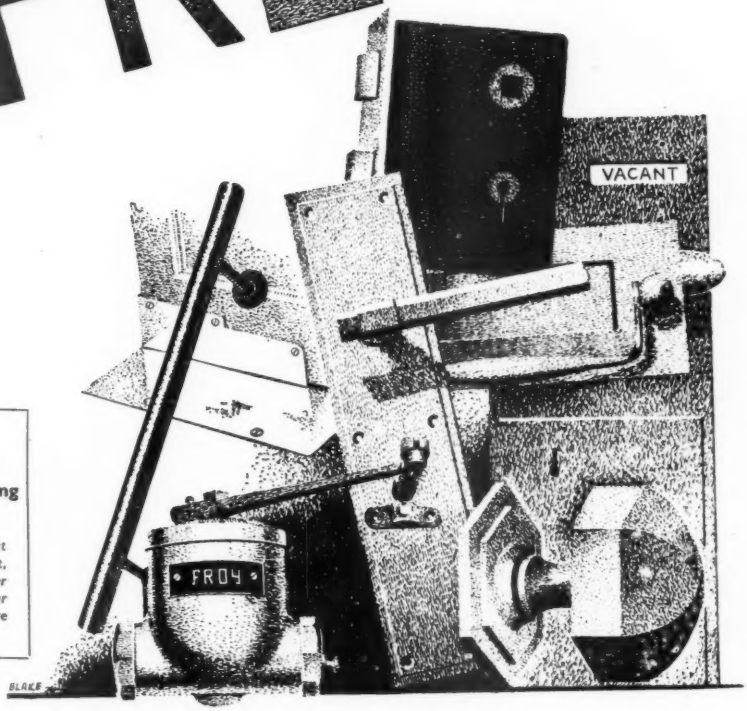

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BRANCHES AND DEPOTS THROUGHOUT THE COUNTRY

have been sent us from London, I think people would probably like to know whether we in Wales have any special housing problems of our own.

Thomas : I don't think there's any special problem. Housing problems in Wales are very much the same as in other parts of Britain. We're hopeful after the war, that New Industries will be brought into the valleys—and in that case the miners will need more and better houses. But there's one thing to remember, they love these valleys and have grown up in them and what they will want most of all is not to be planned out of existence.

Lloyd-Jones : The Chairman, Mr. Slade, and the two assessors, Mrs. White and Mr. McCulloch, want to know whether you think prefabrication is likely to sweep all before it after the war.

Thomas : No, I do not. I daresay that for some years we'll try this and that and one thing and another. But I believe that in the end we shall return for most purposes to traditional building as we've always known it. . . . It seems to me that local materials always look exactly right in their own place and it would be a pity to give up using them in favour of something made in the factory which again might look all right in its own place but would be a perfect eye-sore dumped down in our countryside.

Lloyd-Jones : But all these traditional methods and materials were new once. Don't you think we may be on the verge of a new tradition now ?

Thomas : Well, it's possible but it's too early to say until the new materials and the new methods have stood the test of time.

Lloyd-Jones : Do you think that every house should be designed by an architect ?

Thomas : I certainly think that every house should be designed by a competent architect. If that were done there would be a tremendous difference in the appearance of our towns and villages. I don't know if you realize that only one house in every five in this country is architect-designed. I think that's a fair statement. I'm glad to say, however, that people *are* coming round to the advantage of employing us.

Lloyd-Jones : Mr. Slade has a rider to that question. He asks, would the employment of an architect increase the cost ?

Thomas : No. People forget — this applies to a single house for a private client and also to houses for local authorities—people forget that the architect can save them a lot of money by getting competitive tenders, by choosing suitable materials, and by seeing that his client gets just what he has contracted to pay for. And all that, of course, is quite apart from the improvement in planning and appearance. People ought to demand not merely houses but good-looking houses. They don't cost any more ; in fact the architect can save you money by getting his effects from good proportion and simple lines—much better effects than all that hideous ornamentation with bogus half timber so popular with the jerry-builder.

Lloyd-Jones : But if houses were mass produced in factories what part could the architect play ?

Thomas : Well, he could at least prevent factory made work from being merely a bad imitation of craftsman's work. Two houses of the same size—having the same number of rooms, I mean—could differ from one another in looks as much as two motor cars of the same size. But one might be the latest stream-lined model and the other would look more like some prehistoric vehicle dating from the 'nineties. In the new factory-made house, you want something corresponding to the streamlined model and that's where the services of the architect will always come in.

Lloyd-Jones : Mr. McCulloch wants to know whether architects couldn't arrange that the principal rooms in houses in different parts of the country had the same floor dimensions so that if you have to move you find that your carpets and lino fit the new house.

Thomas : Doesn't Mr. McCulloch allow anything for progress ? Is the ordinary man always going to stick to the same size of house ? I don't think that as an architect I could agree to anything which ties you down so much—both householder and architect—in the matter of design.

Lloyd-Jones : Then here is a special question from the other Assessor, Mrs. White. She asks " Does an architect consider the inside of a house to labour-save the wife's skill, to enable her to have more pleasure and prevent her becoming a drudge in the kitchen ? "

Thomas : I'm glad Mrs. White brought that up. Because it's in the *planning* to avoid unnecessary labour and movement that the architect comes in. That's quite a different matter from labour-saving gadgets. Refrigerators, electric irons, potato-peelers, dish-washers, and so on are all just a question of £.s.d. But it's the skill of the planner who saves the house-wife's legs by placing the sink and the door and the stove in their correct positions in relation to each other. That costs no more. It's merely a matter of good planning.

Slade : You have written a number of books on modern architecture abroad, Mr. Yerbury. Can you tell us in which countries you've had personal experience of building ?

F. R. Yerbury : In most of them—Holland, Belgium, France, Sweden, Norway, Denmark, Germany, Czechoslovakia, Hungary, Russia.

Slade : Have you travelled in a professional capacity or a " busman's holiday " ?

Yerbury : Both. I knew most of the housing architects in Europe of any standing and I think I can say that I've seen practically all the typical housing schemes in each particular country. Every country has some contribution to make to our problem, but I think we mustn't overlook, as we so often do, what we've done ourselves ; we're rather inclined to exaggerate the importance of things which appear to be new to us but which often we find we've had in this country for years.

C. S. McCulloch : Was the general trend of building in Europe flats or small houses ?

Yerbury : That's a very interesting question, because generally speaking the Continentals are rather jealous of our cottage programme. They prefer the small house but they can't afford to build 'em. . . . The reason is that on the Continent generally speaking the accommodation provided is so much smaller than the accommodation we consider the proper thing. Take Denmark as one case, and I think it's fairly general. You'll find in blocks of flats there a living-room, two bedrooms and a kitchen, with a bath in the basement. . . .

Doris White : In the basement ?

Yerbury : Communal baths in the basement of the building for the use of all the tenants. Well now, if you attempt to build that small accommodation under a small roof with four walls and its own foundations, you can see the costs come very high.

Slade : Yes, I see that.

Yerbury : Cottages *have* been built—that's one of the things which Hitler insisted on doing—putting people in cottages rather than big blocks of flats. I rather think this had some political urge behind it, as I gathered that the Nazis contended that big blocks of flats bred communism.

McCulloch : What struck you most abroad, Mr. Yerbury ?

Yerbury : Well, there's so much—I can only skip over just a few points. Take Rome now. Rome has enormous blocks of flats, very congested and over-populated both as regards the actual interior of the flats and the sites on which the flats are erected. There's little or nothing to be learned from these except how *not* to do things.

Slade : Outside England, which country would you say was building to the highest standard ?

Yerbury : If I may confine myself to a city, I'd say Paris ; Paris and the department of the Seine, particularly a place called Maison Alfort—lovely flats. Then there's a place called Drancy, where there's perhaps the biggest example of pre-fabrication in building in Europe, at least pre-war. The system of flat building was worked out by a French engineer, together with architects and the whole building was erected from prefabricated units in steel and slab concrete. I must say we've learned from that scheme already—practically the same principle was applied on a very big scale in the Quarry Hill flats at Leeds. . . . One scheme they have in Paris—they put up these blocks of flats in some places where the amenities on one side of the building are much greater than on the other. There's a block on the banks of the river Seine, the flats facing the Seine have been let at much higher rents to more wealthy people because they have the amenity of the river and they're rather bigger and have garages in connection with them. So that the ordinary working-man has a flat at the back and pays a cheaper rent and by getting a higher rent from the front flats looking over the river they're able to reduce the rent of the working-class tenant.

Slade : What about Sweden ?

Yerbury : Funnily enough, I'm fresh from Sweden. I was there last autumn. . . . They're building quite a lot of new flats there just now. Stockholm's practically a city of flats. They're congested there—much too tightly packed in certain parts of the city. Of course, Stockholm is a city with woods and rocks and lakes and sea round it—an openness quite exceptional—so that you might quite easily put up with this state of affairs, but I think we'd be very strongly criticized if we built at the same density in England as they do in Sweden. Also the kitchens are getting smaller and the accommodation of the flats is getting smaller —fewer rooms and smaller.

White : And they're definitely overcrowded ?

Yerbury : Yes—they are, I think, very congested and they say there that it has a rather serious effect on the problem of family life—that the families are getting smaller as the flats get smaller. But they have other amenities, and we can learn from them in this respect that they have in most of their buildings, in the basements, very well equipped laundries for washing, drying, ironing and everything complete.

White : Who does the laundry ?

Yerbury : It's assumed that the wife will do her own washing. She clocks in for the particular day she wants to wash.

McCulloch : In Scotland we'd couple that up with the old question of the wash-house key, which has always been a trouble and a source of squabbles !

White: Do they get on all right over the communal laundry?

Yerbury: Yes, but you must remember that the equipment is slap up to date and they've very handsome affairs. You wash, iron, and—what d'you call it?

White: Mangle?

Yerbury: Mangle everything by electricity.

McCulloch: Do you think that the British housewife would like the idea of washing her clothes in a place where a neighbour might come down at any moment and see what she's washing?

Yerbury: That seems to be the big objection.

White: I think the young wives have got more pride and they prefer to do their own washing in their own small kitchens.

Yerbury: Well, that doesn't seem to be a big success. What shall I try now?

Slade: Holland?

Yerbury: No, I ought to say first that one of the things Sweden *can* teach us is about prefabricated timber houses. It's been the general thing for years past for the Swedish house to be built of timber. The houses are made in sections in the factories near the forests. Any time in the summer one can see families hard at work putting their own new house together.

McCulloch: Of course, they're fortunate in having an endless supply of timber.

Yerbury: Yes, that's quite true, but in recent years they've found that the by-products of timber can be so valuable that for building they're now experimenting with prefabricated concrete to save the timber.

Slade: Really. What about Holland, Mr. Yerbury.

Yerbury: Well, Holland—take Amsterdam. The municipality owns practically the whole of the land in the neighbourhood of Amsterdam. For years past they've been roping in areas for many miles around as well as in Amsterdam itself, so that they have control of everything. And some years ago they produced a plan for the development of Amsterdam for many years to come. And as the city grows they've got this plan to work to and they know exactly where everything is going, which is something we don't know here, and as they own the land they can call the tune when anything is built. It's possible, for instance, to take a lease of a piece of land for a particular purpose: a private individual says, "I want to build a factory"—and they say, "Well, you can only do it just here"—and it means that of course you don't get your houses mixed up with factories.

McCulloch: That, of course, would come in what is developing in this country as the Town Planning Scheme.

Yerbury: Certainly, but there's this interesting point that supposing you take a site from the municipality and you think, "Well, I won't build now—I'll just wait for a bit and sell on the rising value"—you can't do that: if you don't build you forfeit your site.

McCulloch: Even if the buyer is going to build a similar factory?

Yerbury: Yes, it has to go back to the municipality.

Slade: That's suggestive, isn't it? Anything else, Mr. Yerbury?

Yerbury: I'd like to say a word about layout, I think. There's more imagination in the layout of many of the Continental housing schemes than there is in ours.. Take Vienna, just after the last war they built enormous blocks of flats there but they were most charming with their fine gardens, interesting sculptures by the best sculptors on the staircases, fountains and so forth. Of course, that didn't make up for the lack of accommodation inside. But in appearance they're much more friendly and charming than we've had, and you'll find that in many of the Continental ones.

McCulloch: This sort of thing you would put down as uplift for the flat dweller?

Yerbury: Yes, I wouldn't like to criticize the London County Council housing blocks because taking it all round they're well built and you've got ample accommodation, but they're rather grim. If you can imagine one of those blocks set in a rather nicely laid out garden with a fountain or two and a bit of sculpture.

White: But then you see we have the cottages—I mean when you get into the suburban districts there's more cottages than what there is flats, and we build those more pleasantly. We don't go in for blocks of flats so much, do we?

Yerbury: No, Mrs. White, that's true, and there's nothing on the Continent anywhere to equal a cottage estate where it's nicely developed.

White: I think our men, if they've got their own garden they take more interest in it than what they would in a garden for everybody.

NFBTE and NFRHB

Deputation to MOH

On March 31, the Minister of Health, Mr. Henry Willink, accompanied by Sir Hugh Beaver, Director-General, Ministry of Works, received a deputation concerning the PREPARATION OF HOUSING SITES SCHEME, from the National Federation of Building Trades Employers and the National Federation of Registered House Builders, which was introduced by Sir J. Walker-Smith, M.P., Mr. J. G. Grey, President of NFBTE, and Mr. C. D. Calverley, President of NFRHB, spoke for their respective bodies.

In its submission to the Minister of Health the National Federation made the following points:—

(1) The preparation of building sites for the Government's post-war housing programme will be better and more economically done if it is left in the hands of local builders. (The Government's present proposal is that sites should be grouped, and the preliminary work handed over to a number of big contractors using equipment released from aerodrome contracts).

(2) The suggested grouping of a number of small road and sewer contracts does not make the type of large contract upon which the employment of the largest type of firms is considered to be necessary.

(3) The work should therefore be let by individual local authorities in contracts capable of being undertaken by the smaller and medium-sized firms.

(4) If this were done local firms would be most likely to give the best service.

(5) The type of plant required, being mostly hired for the purpose, is equally available to large, medium and small contractors; much of this plant has been borrowed from medium and small contractors for use on aerodrome construction; if no longer required for the purpose for which it was borrowed it should be returned to its original owners.

(6) The labour being directed by the Ministry of Labour is equally available to large, medium and small contractors.

(7) If men can be employed in the area of their home town and so live at home (*a*) better output will result; (*b*) the necessity for paying lodging allowances will be avoided; (*c*) billeting difficulties will be considerably reduced and (*d*) the employment of local men by local firms would enable local rates of wages to be paid instead of, in many cases, London rates.

(8) Even if it is considered necessary or desirable to obtain tenders from the larger contractors on the basis of group contracts aggregating large sums, alternative tenders should be obtained from the smaller contractors for the individual small contracts comprised within the proposed group. If the sum total of the estimates for the various small contracts is not greater than the large contractor's estimate for the group contract the work should be spread over the small contractors.

(9) Whether the work is let in large or small contracts the conditions of contract should not require (as is prescribed by Circular 14/44) that the contractors should gamble upon the results of applying the Essential Works Order and the Uniformity Agreement to the works.

In reply, Mr. Willink assured the Deputation that the Government fully recognized the good housing work done by small and medium builders before the war, and appreciated that if new houses were to be built quickly it would be as necessary as in the past to employ builders of all types—small, medium and large. The object of the present scheme was to turn over the labour and organization which had been employed so successfully on airfield and similar construction to the special preparatory work on housing sites. The shortage of labour and the factors of time and cost made it essential that mechanical means should be used to the utmost. To ensure this it was important that only suitable firms, that is, those who could organize the work, should be employed; but there was no distinction between larger or smaller firms. It was not intended to restrict local authorities to a select list prepared by the Government or to exclude suitable local firms. Indeed, it was open to local authorities to advertise for tenders in the ordinary way, or, if they preferred, to make their own select lists. The Ministry of Works would ensure that where necessary plant is made available for the finally accepted tenderer. The special features of the scheme, including the grouping of local authorities, were due entirely to the special conditions which existed, and would clearly not be necessary in normal times.

In reply to a question, the Minister gave an assurance that the Federations and other representative bodies would be consulted before any further scheme connected with house-building was adopted.

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FELLOWS (5).—Bagenal, Philip Hope Edward, D.C.M. (Hertingfordbury, Herts), Bond, Robert Owen (Norwich), Jackman, Frederick (London), Kingsford, Geoffrey Montague, Sqdn. Ldr. R.A.F.V.R., M.A.(CANTAB.) (London), Sugden, Howard Davy (London).

ASSOCIATES (3).—Broodbank, Denis Arthur (The Polytechnic, Regent Street, London) (Otford, Kent), Chapman, Peter Paul Frederick, B.ARCH. (University College, Dublin) (Longford, Eire), Wright, Hilton (Architectural Association) (London).

LICENTIATES (14).—Bratton, Leslie (London), Bushell, William George (London), De Helsby,

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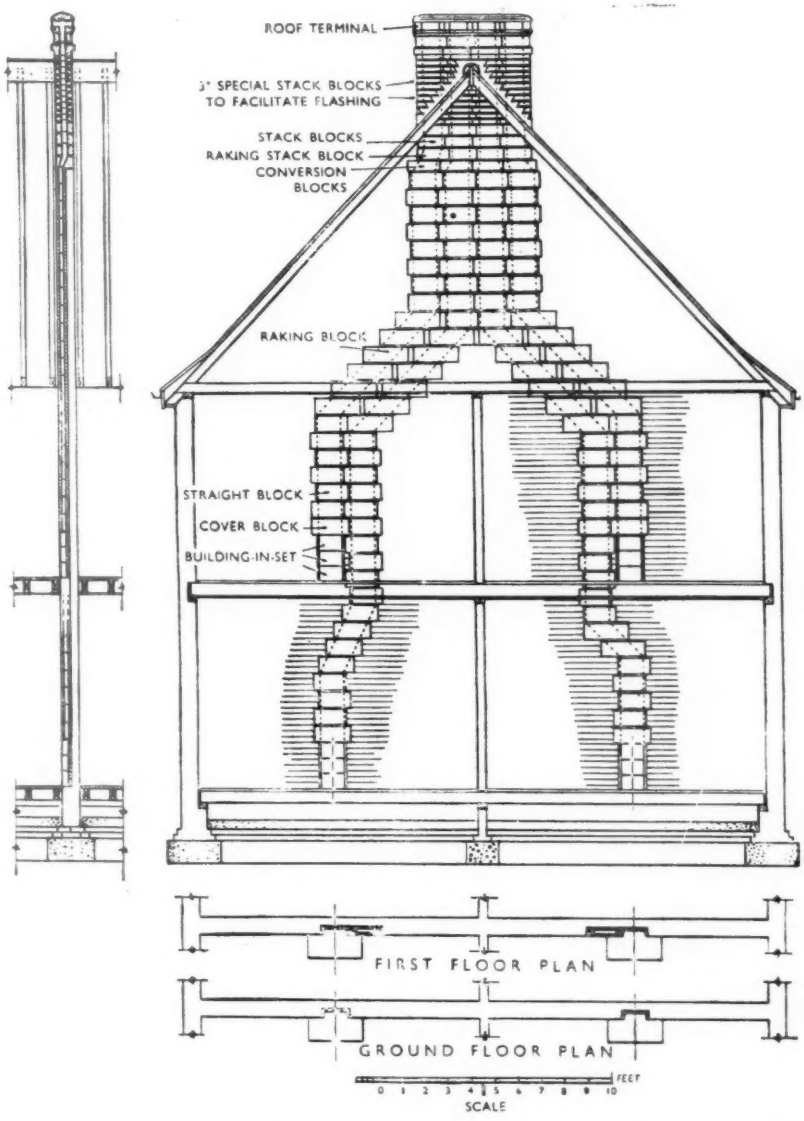

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Prizewinners

The winners of the Leicester and Leicestershire Society of Architects prizes for the 1943-44 Session are as follows :—

President's Prize value £10 10s. for measured drawings of Keythorpe Hall, Leics., D. Harmer. Prize value £3 3s. measured drawings (Junior) of Evington Church, Leics., D. J. Dainton.

Sketches Prize, value £5 5s., G. A. Bass.

David M. Nesbit Design Prize, value £7 7s. for a Pavilion on the banks of the River Soar, G. A. Bass. Second Prize, value £3 3s., Miss Wenning. Third Prize, value £1 1s., A. T. Powell.

TRADE NOTE

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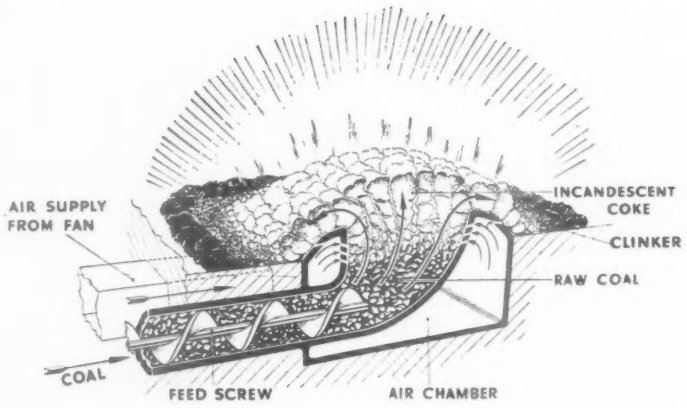

The Underfeed Stoker. See trade note.

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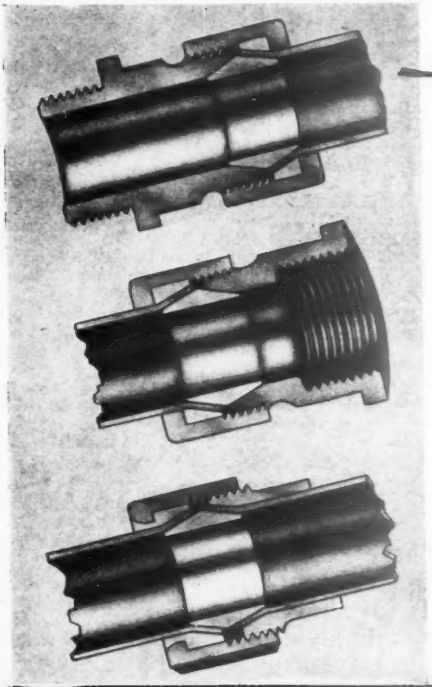

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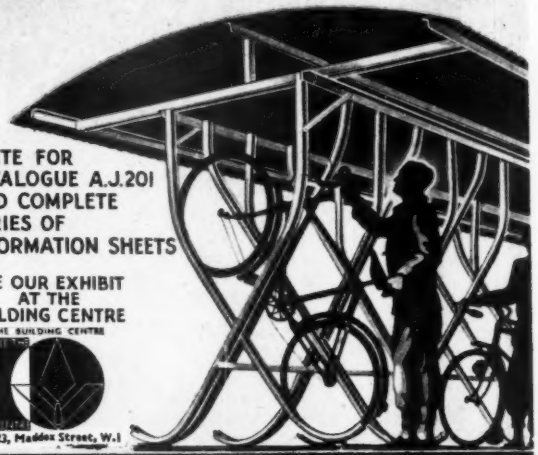

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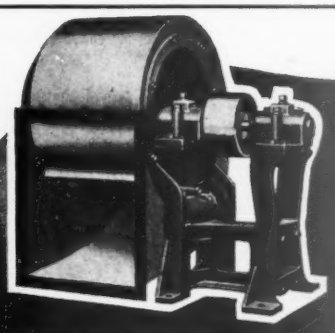

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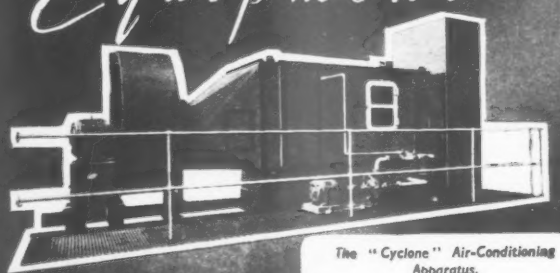

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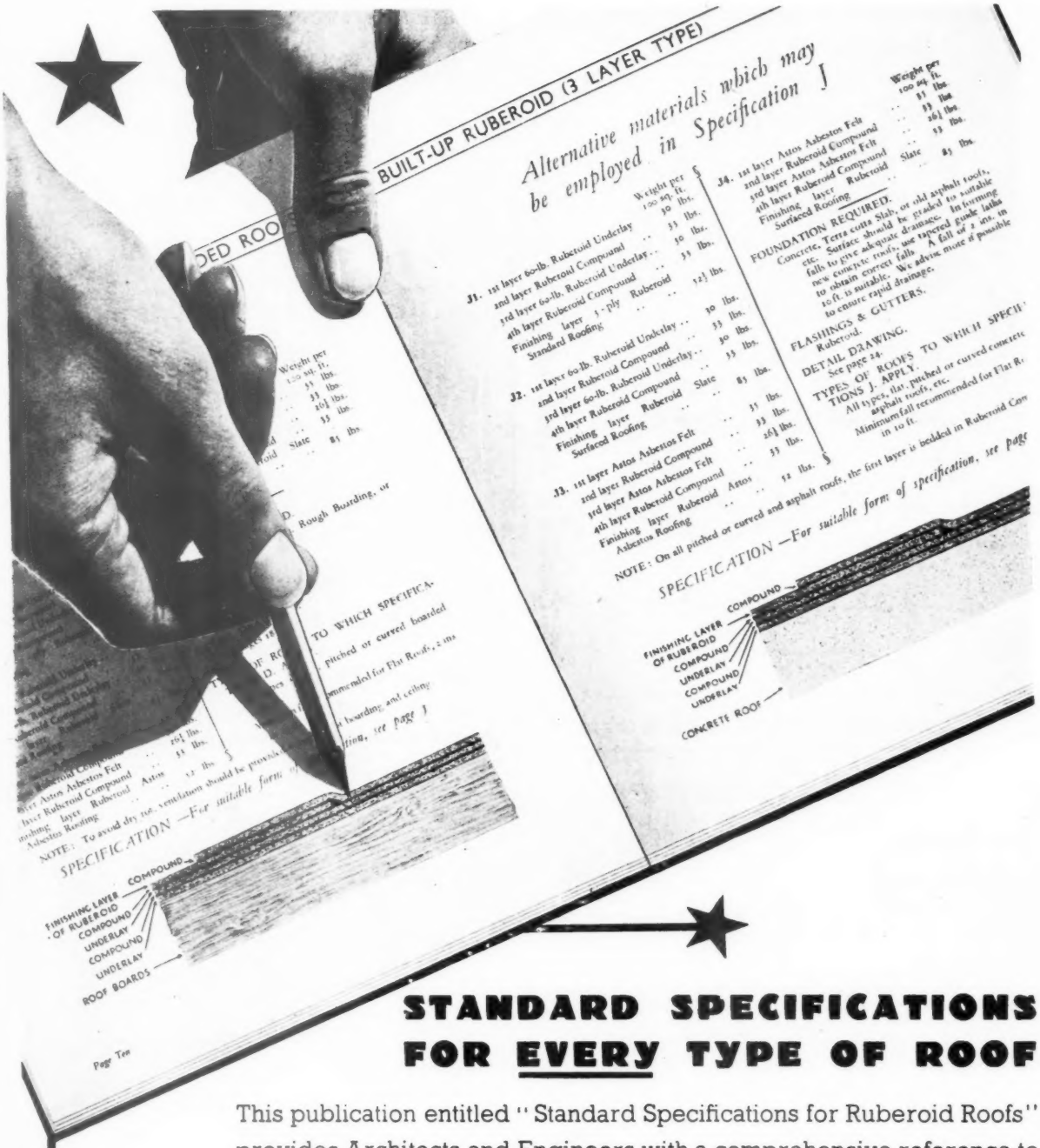

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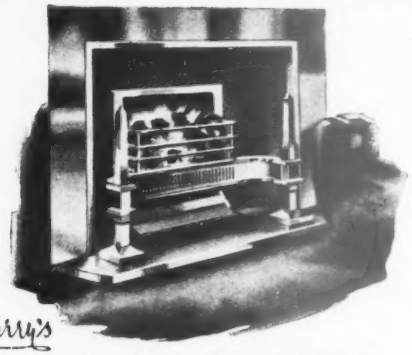

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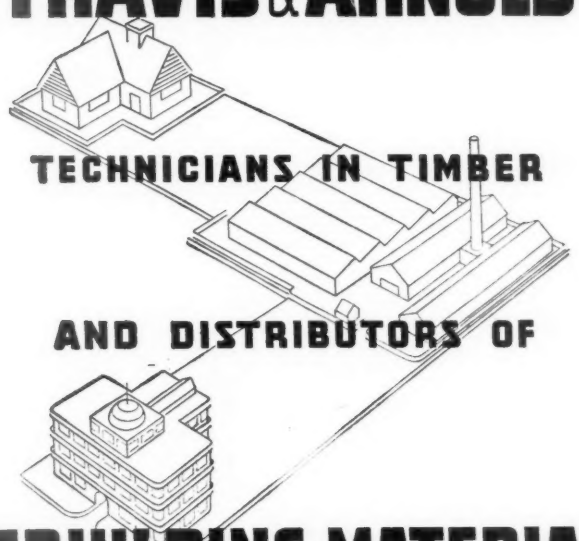

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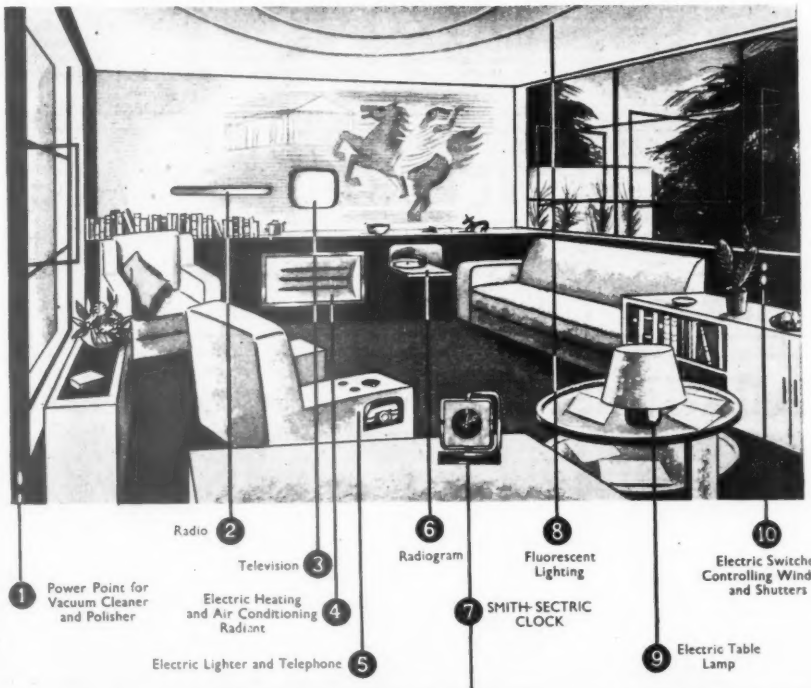

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