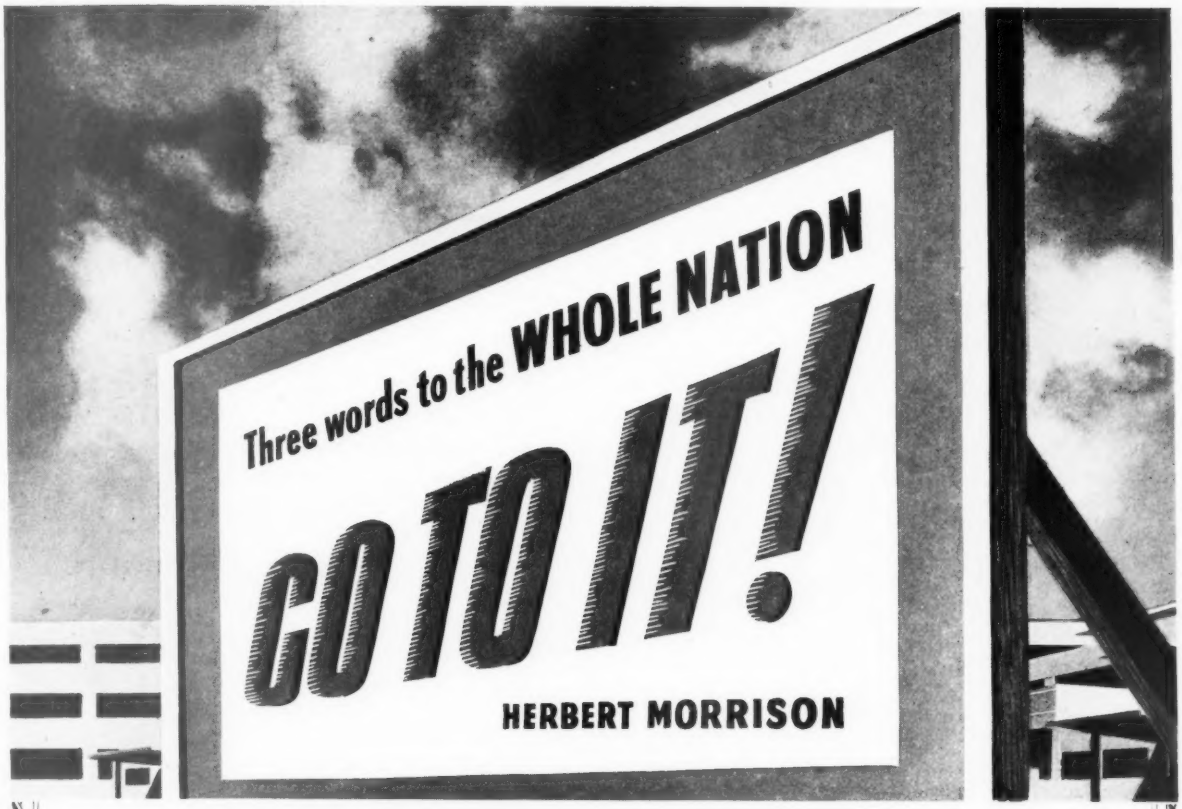

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THE ARCHITECTS' JOURNAL

THE ARCHITECTS' JOURNAL
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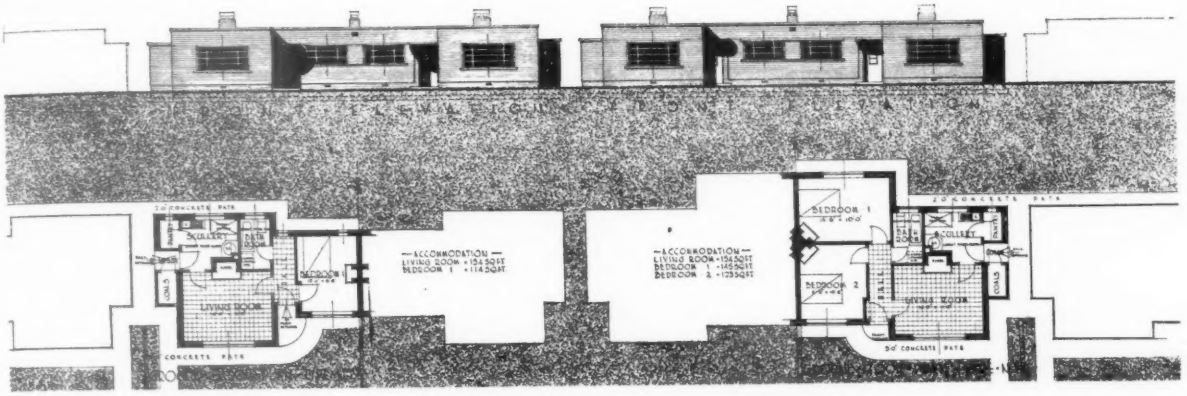
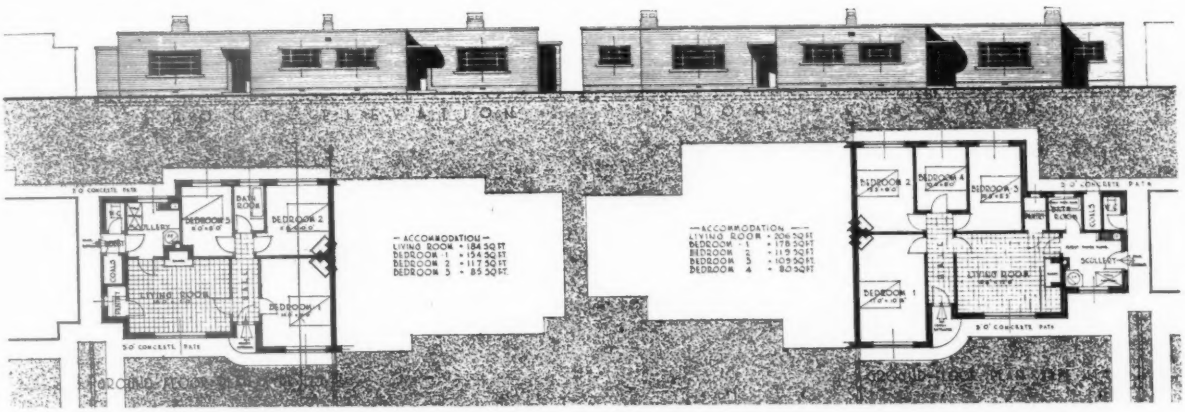
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

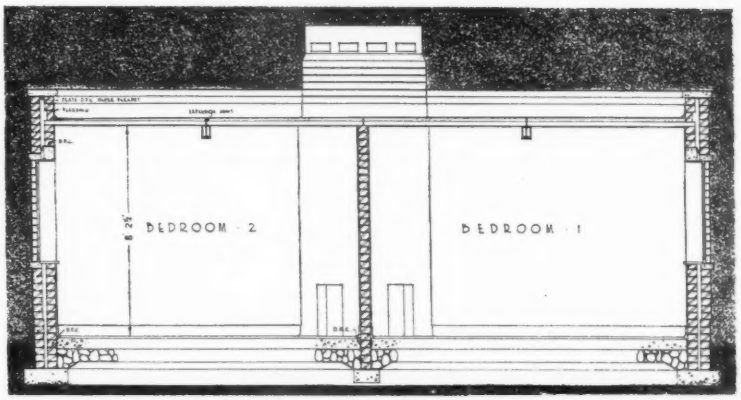
THURSDAY, JUNE 20, 1940. NUMBER 2370 : VOLUME 91

PRINCIPAL CONTENTS

PROPOSED NON-TIMBER HOUSES, EASINGTON







The Rural District of Easington, in common with other authorities, was, at the beginning of the war, actively engaged on rehousing works. At the Ministry of Health's suggestion only houses which had reached a certain stage in construction could be completed, and this programme is therefore being carried out although under difficulties due to shortage of certain materials, the principal one being timber. This matter was explained to the Council by the Engineer and Surveyor, Mr. C. W. Clarke, and, after discussion, he was requested to prepare a scheme with a view to eliminating all materials which are at present unobtainable or nearly so. It was therefore decided to deviate from the usual two-storey buildings with pitched roofs and substitute single-storey houses, one, two, three and four bedroomed, with living room, scullery, bathroom, and the usual offices.

By so doing it was possible to eliminate the use of timber for the roofs, first floor and also the staircases. These new types have, of course, a larger area and a longer frontage, but offset against this is the fact that the land in a rural district is cheaper to purchase than in a town area. Road costs are increased, but with careful and straightforward planning it is possible to cut these to an economic minimum.

The plans reproduced on this page were therefore evolved, and the following materials suggested can, it is claimed, be utilized with good effect and economy of labour.

Floors of the living rooms, halls and bedrooms will be formed of hardcore, concrete, with red quarry tiles on cement screed or with a bitumen-impregnated magnesite type of floor ¾ in. thick laid in two coats, on spade-finished concrete. Bathrooms, sculleries, and out-offices will, as carried out in present schemes, have concrete floors finished with ¾-in. grano, with cement and sand cove and skirting. Windows are to be of steel of standard cottage section built directly into the brickwork without wood frames. Door frames, both internal and external, will be of pressed steel, and if it is not possible to obtain wood doors, pressed steel doors can be substituted. Roofs will be flat, formed of either hollow reinforced type of asbestos slabs, or precast concrete units, covered with ¾ in. rock asphalt on cement screed laid to fall and with the underside skimmed with hard plaster to form a ceiling. Insulation will be formed by the use of these hollow units. It should also be noted that the main roofs require no shuttering and can, if required, be laid by unskilled labour. Roofs to the out-offices will be formed of 3½ in. of concrete, suitably waterproofed. Electric conduit tubing can be run inside the slabs whether they are in asbestos or concrete, or wall bracket type of lights may be substituted as an alternative. Copings to parapets, window hoods and cills, and door hoods will be precast concrete. It is suggested that rainwater pipes, hopper heads, vent pipes, and draining boards be in asbestos, internal window cills formed with quarry tiles and skirtings run in cement and sand with a suitable easy cleaning cove to the floor and wall junctions. All walls, external and internal, will be in brick and in all probability the bricks will be from local yards and will be either clay or pressed type. It is suggested that the front boundaries to houses be built of 9-in. brickwork in the form of a dwarf wall with openings only if wood gates are unobtainable.

Generally, therefore, the position is that the use of timber has been eliminated as far as ever possible, and the scheme is being submitted to the Minister of Health for his approval so as to proceed in a small way with the rehousing programme and also help to keep a portion of the Council's direct labour staff in employment.

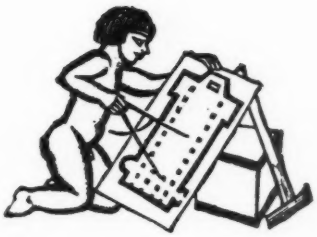
B

EDWIN STANLEY HALL

We regret to announce the death of Mr. Edwin Stanley Hall, President of the R.I.B.A., which took place in London on June 16.

Mr. Hall was born in 1881 and educated at Dulwich College and New College, Oxford. He received his architectural education at the A.A. schools and later was articled to his father, the late Edwin T. Hall, F.R.I.B.A. He became his father's partner in 1920 and, on the latter's death in 1923, he continued the work of the firm for some years. In 1930 he entered into partnership with Messrs. Easton and Robertson, with whom he has carried out many well-known buildings. Mr. Hall was Hon. Secretary of the R.I.B.A. from 1925 to 1928; Vice-President, 1928-1930 and 1935-1937; President of the Architectural Association in 1923, and representative in the United Kingdom of the Royal Architectural Institute of Canada. He succeeded Mr. H. S. Goodhart-Rendel in the Presidency of the R.I.B.A. in May, 1939.

An appreciation, by Mr. W. H. Ansell, will appear in our next issue.



LOCAL BUILDING COUNCILS: 1

THE great majority of members of the building industry have held since Whitsuntide only two opinions about building and the war. First, that it would be useless to press for any change of system in the execution of war building contracts until there was a lull in military events. Second, that the industry cannot at present make any useful internal preparations for future war work.

These opinions provide an excuse for doing nothing beyond one's immediate job and worrying about invasion when these are the easiest things to do. But it is not a good excuse. And it is extremely important that anyone in the building industry should force himself to realize the fact—and force himself to think about the fundamentals of this question of building and the war *as it is now*. Directly one begins to do this one point becomes clear—that builders* should not allow their private feelings about the war to influence their opinions or activities as builders; building is a war service and must go on, whatever happens to private arrangements.

And from the first there follows a second point—that the building industry has two jobs to do in wartime. It has to do what is asked of it, and it has the duty of doing all that it can to make itself more efficient for war purposes. In tackling this second job the industry's members, as builders, are only concerned with military events in so far as they, in conjunction with other factors, foreshadow new demands on the industry or suggest that changes in building organization would be desirable. If it is possible for the industry to make up its mind now concerning the nature of coming demands upon it or the organization which will be most suited to supply them, it is part of its essential job to do so as quickly as possible, and, having done so, to carry on uninterruptedly internal preparations to meet those demands—whatever happens in France. Requests for the Government's collaboration in these preparations may be postponed because of current military events; the preparations themselves cannot.

The central question against which the two general opinions about building and the war must be examined is, therefore, whether future demands on the industry can be foreseen clearly enough *now* to enable the industry to decide what internal preparations are needed for the next phase of its war effort. Let us consider these two opinions with this question in mind.

The first opinion is that it is useless to press for a change of system in the distribution and supervision of Service building contracts until there is a lull in military events. This opinion is one on tactics, and is not directly affected by whether future demands on builders can be foreseen and prepared for. And because it is obvious that an immediate change of system in contracts now in hand or just about to be started would be difficult to attain, and might well produce more slowing down than acceleration in the next three vital months, the opinion seems sound.

But it is only sound as regards contracts in hand or just about to be started. And the second opinion—that the industry cannot at present make any useful preparations for future war work — is entirely wrong.

In the view of the JOURNAL, future demands on the building industry can be foreseen and can be prepared for. These demands will include a large number of smaller works for the War Departments, such as camps, canteens, munition workers' housing and aerodromes; many more shelters; and an unknown amount of air raid repairs. The building industry does not know exactly where and when these works will be needed. It *does* know they will be very numerous, individually small, and widely spread geographically. And therefore it knows that its own peacetime organization in independent and self-reliant units, for the most part small and grouped around larger towns, is in many ways particularly fitted for carrying out such works under conditions which may include air raids and interruption of communications.

But at present that organization lacks a part essential to its efficient use. There is no mechanism available which can ensure, or try to ensure, that future war work is well distributed—that in each building area the right firm is asked to undertake the right job.

This mechanism could very easily be provided. It requires only that in each large town a Local Building Council should be set up, on which is represented every local organization of the building industry and its professions.

Such a Council would have full knowledge of local building resources, and with small effort could keep itself informed of the level of employment, the size of contract which each firm was free to handle, and the amount and type of labour which could be freed for work elsewhere.

The existence of such Councils throughout the country and their expert local knowledge would be powerful arguments for a far wider distribution of future war building contracts and for the far fuller use of the industry's peacetime organization. To set up these Councils would not be difficult and it could be done very quickly.

* By which is meant all those who derive their livelihood from the industry.

The Architects' Journal
45 The Avenue, Cheam, Surrey
Telephone: Vigilant 0087-9.

NOTES & TOPICS

THE DEATH OF THE PRESIDENT

MR. EDWIN STANLEY HALL, who died last Sunday, had both the qualities which architects most wish for in their President.

*

He was senior partner of one of the very small number of firms which set a standard for the rest of the profession—of the firms whose members are recognized to be *architects* in the fullest sense.

*

Each of the works of Stanley Hall and Easton and Robertson has been examined, thought about and respected by all architects—whether or not they shared the designers' outlook. And that he should be a member of such a firm is the first thing to be wished for in a P.R.I.B.A.

*

The second desirable quality—experience of the R.I.B.A. and its working—Mr. Hall possessed in abundance. He had been twice Vice-President and was Hon. Secretary from 1925–28.

*

Mr. Stanley Hall's use of these qualities as President was unavoidably little known to the mass of members. War, which broke out soon after he became President, constantly raised new problems and gave little opportunity for their public discussion. But it is known that Mr. Hall worked steadily for unanimity within the building industry concerning the best way it could help in the war, and equally hard to persuade the Government to accept the industry's collaboration. It is sad that he should have died when signs of success in this work were beginning to appear.

CAMBRIDGE

Wartime Cambridge does not approach Oxford in the amount of building still going on. But on the other hand, it seems to have far more undergraduates.

*

For once I was not accompanied there by a downpour of rain (" the first for . . . why, it must be well over four weeks ") ; and youths loitered in the sunshine, leant on bicycles, rubbed chins on bulky volumes and enlarged holes in their gowns with the measureless ease of bygone days. It was difficult not to feel at times that one was looking at the opening shots of a " varsity " film on which a convoy of army trucks had here and there been curiously superimposed.

*

The war has, of course, changed Cambridge : but it takes a lot to change, or to resist, its special atmosphere. I paused on the outskirts to look at a squad drawn up on a path between two lawns. The part of the traditional sergeant-major was being played by a *svelte* and youthful officer.

*

" The left turn," he announced in a clear voice, " is exactly the same : One—pause—Two ! But before that we'll dress again to bring the rear rank off that grass." And the officer glanced anxiously around over his shoulder.

*

Of the new architecture which had appeared since my last visit, Mr. Maufe's extensions to St. John's are easily the most prominent. The new buildings have a hard row to hoe, being flanked at one end by John's Chapel (Gilbert Scott, worst period) and at the other by the Master's Lodge—for so long decently invisible from everywhere. Their elevations are basically Georgian with a pleasant flavour of modern Dutch about their high-pitched roofs, simple outlines, and light-coloured brick. But the windows have horizontal glazing bars.

*

Any architect who has tackled the fenestration of a front which is even faintly Georgian in outline has spent bitter hours over this glazing bar problem. To have none is to conjure up a series of blanks which are apt to get out of control : to reproduce " Georgian " panes in steel is both cowardly and anachronistic.

*

Yet, in my belief, the man who thought he had discovered in the horizontal glazing bar the perfect *via media*, not only thought wrong : he also supplied the modernistic architecture of the '25's–'35's with its most desolating cliché.

*

Since then, only brave men among the architects who matter have tried to do anything with the device. I give them all full marks for courage ; but I have yet to see that courage justified by results.

THE NEW SHELTERS

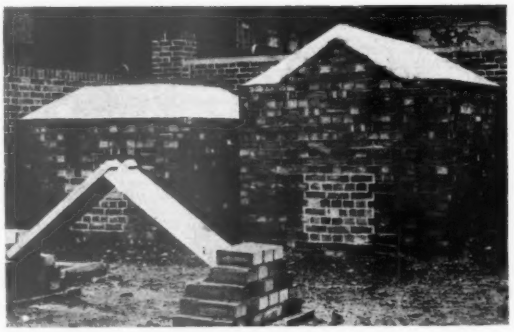
The photographs and drawings on the opposite page are of the new Ministry of Home Security shelters which may be expected to appear in large numbers in the future.

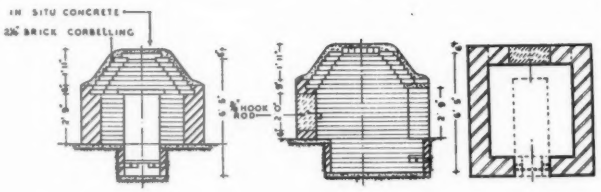
*

I was very impressed with the fool-proof efficiency and simplicity of their design. A great saving in labour and materials is obtained in two of the types by excavating only for foot-space—as is shown in the sections reproduced —but the outstanding attractions of all types are : (1) no steel is used ; (2) no timber is used, not even for centering.

*

Roofs are of three types : brick corbelling with the final 18-in. gap bridged by a small concrete slab ; straight interlocking concrete units (of which two are shown in the lower photograph) and semicircular concrete units. All three roofs are finished with about 4 in. of concrete.





Plan and sections of brick corbel type surface shelter. From "Domestic Surface Shelters." A.R.P. Memorandum No. 14—Ministry of Home Security. Reproduced by permission of the Comptroller of H.M. Stationery Office.

The emergency exits are very ingenious, consisting of a brickwork "panel" in the external walls, measuring about 2 ft. by 2 ft. 3 in., which bonds with the rest of the wall but is laid in dry sand. It is finally pointed in lime mortar. A 15-in. flat iron hook is built into the panel with its upturn behind a header, so that with a good pull the header comes out and the rest of the panel can then be picked to pieces with the hook. Such a panel is visible in the lower photograph.

★

These shelters are each for six persons and cost between £14 and £18 each, according to type and locality. All the roofs have been tested by having debris dropped on them and have stood up well to the blow—so well that I am told that much the same shelters, grouped in multiple units, are to be used for communal shelters in streets and elsewhere.

IN AMERICA

The U.S. Federal Works Agency published three months ago a survey of the public works which had been built between 1933 and 1939 with P.W.A. backing.

It contained over 650 pages of photographs and plans of all sorts of buildings—and not one of the architects, engineers or designers was mentioned by name.

★

We have had much the same trouble over here in different forms; indeed, we still have. But to do our public authorities justice, none of them has produced such original reasons for anonymity as did Mr. Short, chairman of the Architectural Committee of the Federal Works Agency.

★

In reply to the *Architectural Record* he gave these main reasons:—

(1) Only selected examples were shown and the names of their designers were omitted *out of consideration for the feelings of those architects whose projects were left out.* (2) If the names of the architects and engineers were shown, *the construction contractors would probably object* to the omission of *their* names. (3) *It was not feasible* for the PWA to determine which architects and engineers deserved credit. Sometimes one architect had made the preliminary sketches and another the working drawings. (4) Government publications should avoid any form of *advertising* of individuals or firms in private business.

★

The italics are the *Architectural Record's*.

C. H. TOWNSEND

Charles Harrison Townsend is established among the progenitors of the proto-modern movement in this country. I have just been looking through some of his sketches and other papers. The sketches were mostly small highly-coloured elevations of his country houses, which certainly show the utmost freedom from any fashionable trappings, and in planning are libertarian to the point of extravagance. But with their mixed surfaces of stucco, red brick, tile-hanging, timber-framing and rubble, they are often uncomfortably suggestive of the mass individualism of today's suburbia.

★

Townsend's mixtures are arbitrary: intrusions of rubble are introduced at the edge of a red-brick chimney or at one side of a window, partly perhaps to suggest by the effect of patching that the building is a workaday article subject to use and change, and partly to balance a very free pattern of colour and stuffs. But the practice glaringly illustrates the difficulties of extreme freedom, even apart from any consideration of the architect's responsibility to the general vocabulary of building.

★

Among the papers was a brochure on Westminster Abbey which referred to the north transept as "a favourite place for the interment of admirals." This is one of those phrases which irresistibly beget parallels. It starts up visionary hosts of guide books. On Limoges, "a favourite place for the retirement of generals." Of St. Helena, "a favourite place for the internment of tyrants." (It would be worth winning this war for the chance of placing Messrs. H. and M. in one another's exclusive company.)

BUILDING MARKET QUIET

From the *Peterborough Standard*:—

PLANS PASSED

Plans were passed for a brick cowshed at Glatton for Mr. Plant.

ASTRAGAL

NEWS

EMERGENCY FIRE FIGHTING

The R.I.B.A. states that it has been found to be very desirable that at least one member of the Supplementary Fire Parties which are now being formed should have a knowledge of building.

Every member of the R.I.B.A. who is willing to help in this way should at once communicate with the local Chief Officer of the Fire Brigade and offer his services. This action will have the cordial approval of the Ministry of Home Security.

TIMBER CONTROL

Minister of Supply has appointed a Timber Control Board which, subject to the Minister, will be responsible for all questions relating to timber supplies and production.

Chairman of the Board is Mr. George Dallas, J.P., and the other members are Major A. I. Harris, the Timber Controller, and Sir Roy Robinson, Chairman of the Forestry Commission.

A representative of the Mines Department will be added for the consideration of any questions relating to mining timber.

The Secretary of the Board is Mr. R. Meiggs, Ministry of Supply, Adelphi, London, W.C.2.

AIR RAID PROTECTION INSTITUTE

Mr. A. Kirkwood Dodds, M.C., L.R.I.B.A., M.I.STRUCT.E., F.A.R.P.I., has been elected to succeed Mr. Oliver Simmonds, M.A., M.P., as president of the Air Raid Protection Institute, to take office on October 1 next.

STEEL DISTRIBUTION SCHEME

Following note has been received from the Ministry of Supply :—

It has been observed from the returns made that a substantial number of orders still on the books of finished steel producers remain unsymbolized, and it is considered by the Control that sufficient time has been given to all contractors to enable them to obtain the necessary authority from the departments concerned to use the symbol, reference number and period numbers in respect of each order placed with finished steel producers.

The finished steel producers have, therefore, been advised that if they do not receive the symbol, reference and contract numbers with reference to the orders which they have on their books by June 15, 1940, it is proposed to regard these orders as cancelled.

It is essential, therefore, that all firms who have not taken steps to obtain the necessary authority from the Government Departments should do so at once.

COPPER ALLOY BARS

Revised British Standard Specifications for copper alloy bars have just been issued. They are :

B.S. 218. Brass Bars and Sections, suitable for Forgings and Drop Forgings.
B.S. 249. Brass Bars (High Speed Screwing and Turning).
B.S. 250. High Tensile Brass Bars and Sections.
B.S. 251. Naval Brass (Admiralty Mixture) Bars and Sections.
B.S. 252. Naval Brass (Special Mixture) Bars and Sections.
B.S. 369. Phosphor Bronze Bars or Rods for General Purposes.

The revision has been effected to bring these specifications up to date and there are two outstanding features.

The first is that Standards 218, 251 and 252 have been amplified by the addition of a separate section to provide for forgings. The other is the fact that the revised specifications now supersede a number of Aircraft Specifications in the B series as follows :

3 B 1 High Tensile Brass Bars.
3 B 6 Naval Brass Bars.
3 B 11 Brass Bars suitable to be Brazed or Silver Soldered.
3 B 13 Brass Bars (High Speed Screwing and Turning).
DTD 78 Phosphor Bronze Bars.

Copies of the revised British Standards may be obtained from the British Standards Institution, 28 Victoria Street, London, S.W.1, price 2s. 3d. *each* post free (12s. 6d. for the set of six publications).

EXHIBITION

A " Railings-for-Scrap " exhibition is now being held in the Scottish Building Centre. Object of the exhibition is to draw the attention of the public to the potential value of railings as a source of scrap.

The exhibition, which has been organized in conjunction with the Ministry of Supply, will continue until July 13.

R.I.B.A.

ELECTION OF MEMBERS

As Hon. Associate (1). (*Overseas*).—E. J. Hamlin, D.SC., M.INST.C.E., F.S.I. (Johannesburg).

As Fellows (2). (*Overseas*).—S. A. Ali, A.A.DIP. (Hyderabad India); A. S. Robertson (Sydney, N.S.W.).

As Associates (16).—J. R. de C. Bligh (London); F. Booth, DIP. ARCH. (LEEDS) (Bradford); S. J. Clewer (Stourbridge, Worcs); A. D. Dickinson, DIP. ARCH. (LEEDS) (Leeds); A. Dixon, B.A. (Manchester); J. R. B. S. Penoyre (Chalford, Glos); M. C. L. Powell (Petworth, Sussex); (Mrs.) D. G. Rowntree (Scarborough, Yorks); H. E. A. Scard, DIP. ARCH. (CARDIFF) (Milford Haven); G. A. Smart (Hounslow, Middlesex); J. A. H. Stiff (Wembley, Middlesex); G. B. Townsend, P.A.S.I. (Hayes, Middlesex); T. C. Watson (Inverness). (*Overseas*).—C. C. Irvine-Smith (Johannesburg, South Africa); C. C. Kelly (Victoria, Australia); (Miss) W. J. Munks (Johannesburg, South Africa).

As Licentiates (4).—N. Bennett (Manchester); S. D. Clode (Northwood); C. J. Goodman (London); J. D. Green (Liverpool).

JOHN A. PEARSON

The death has occurred of Mr. John A. Pearson, the Canadian architect. He was senior partner of the firm of Darling, Pearson and Cleveland, of Toronto ; Chairman of the Architects' Registration Board, Province of Ontario ; Doctor of Architecture, of Toronto University ; and Associate of the Royal Canadian Academy.

In 1916, the Ottawa Parliament Buildings, designed in 1867 by Fuller and Jones, were burnt down. Mr. Pearson was called in by the Government as architect of the new building, working in collaboration with J. L. Marchand. Later they were responsible for what is known as the " Peace Tower." Among other works executed by Mr. Pearson were a large part of the University of Toronto and the Sun Life Insurance buildings in Toronto and Montreal. He was also responsible for the design of many important public buildings in Ottawa and elsewhere.

DIARY

Thursday, June 20.—SOCIETY OF WOMEN ARTISTS. At the Royal Institute Galleries, 195 Piccadilly, W.1. Exhibition of pictures, sculpture and crafts. Until June 28. 10 a.m. to 5 p.m. HOUSING CENTRE, 13 Suffolk Street, S.W.1. A.R.P. Exhibition : " Protect Your Homes." Until July 12. 10 a.m. to 5 p.m. (Saturdays 10 a.m. to 12 noon).

Friday, June 21.—GARDEN CITIES AND TOWN PLANNING ASSOCIATION. Conference at University College, Oxford. Until June 23.

Tuesday, June 25.—HOUSING CENTRE. " Industrial Welfare in Wartime." By A. V. S. Lockhead. 1 p.m.

Wednesday, June 26.—SOCIAL CREDIT PARTY, ARCHITECTS' BRANCH. At 2 Fitzroy Street, W.1. " Total War and the Building Industry." Speakers : Andrew Carden and Eric de Maré. 8 p.m.

Friday, June 28.—ARCHITECTS' REGISTRATION COUNCIL, 68 Portland Place, W.1. Quarterly meeting.

ON ACTIVE SERVICE

The JOURNAL regrets to announce the death of Lieut. Paul Quennell, who was killed while serving as a subaltern in his regiment, the Royal Fusiliers.

Paul Quennell was the son of the late C. H. B. and Marjorie Quennell, the well-known historical writers. He was trained at the A.A., and after travelling in Europe he joined in 1937 the office of Messrs. Seymer, Osman and Adie, where, except for a short visit to America, he worked till the outbreak of war. He joined the Territorial Army in May, 1939, and was awarded his commission last autumn. He was engaged to be married.

By his death the profession has lost one of its most able young members and will extend its deep sympathy to Mrs. Quennell.

•

The JOURNAL regrets also to announce the death on active service of Flying Officer John Edmund Seaton MacAlister, eldest son of Sir Ian and Lady MacAlister. Flying Officer MacAlister was born in 1912 and educated at St. Paul's School and at Merton College, Oxford. He was commissioned in the R.A.F. on the outbreak of war, after some years' service in the R.A.F. Reserve.

LETTERS

Technical Journals for H.M. Forces

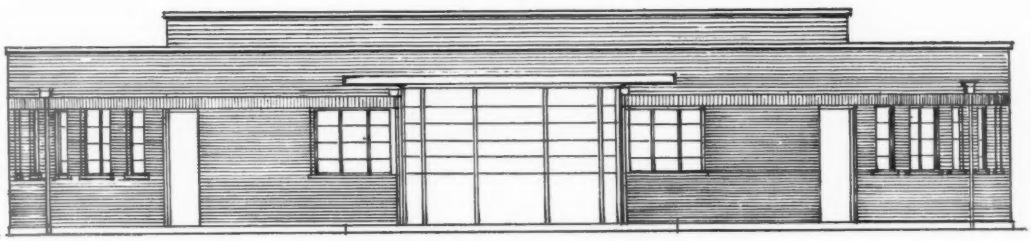
SIR,—It has been part of the policy of this Association, since the commencement of hostilities, to keep in personal touch, as far as possible, with all its members who are serving in H.M. Forces.

One of the most frequent requests from such members has been for current technical journals. These are not accessible to them through the ordinary channels and many, especially students, feel that they would like to keep informed of developments in the building industry and allied professions.

It is impossible for the Association to meet this request as fully as it deserves without the co-operation of non-members, many of whom we feel would be glad to help. We should be grateful, therefore, if any of your readers, who do not wish to retain their copies of this JOURNAL for filing, would send them regularly (not later than the Wednesday following publication) to the Secretary, Association of Architects, Surveyors and Technical Assistants, 113 High Holborn, W.C.1.

A. W. BARR,
Secretary, A.A.S.T.A.

London, W.C.1.



SOUTH-WEST ELEVATION

CAFÉ

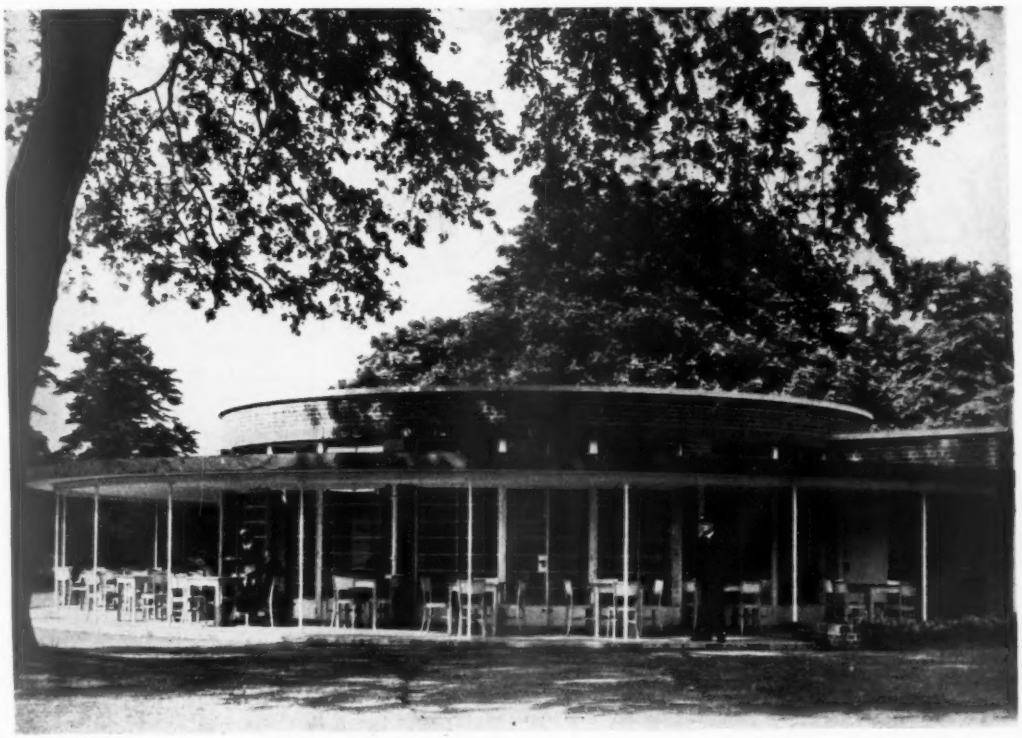
BATTERSEA PARK, S.W.

DESIGNED BY H. A. ROWBOTHAM

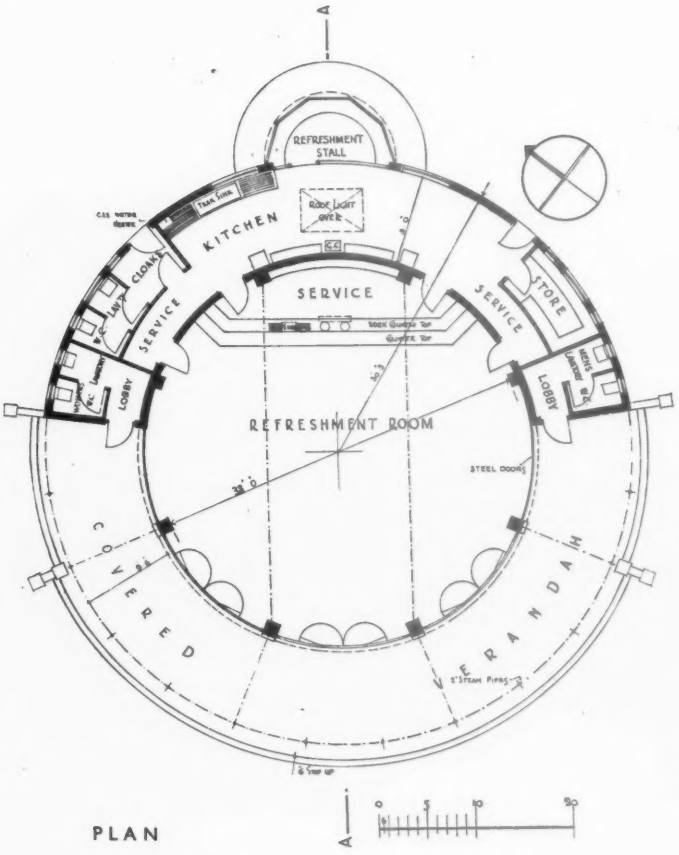
GENERAL AND SITE—Café was built, under the direction of the Parks Department of the London County Council, on the east side of Battersea Park beside the artificial lake and deer enclosure. Site was chosen because of the very fine view across the lake to the waterfall.

CONSTRUCTION AND EXTERNAL FINISHES—Brick; external walls, hand-made multi-coloured facing bricks ; internal walls and partitions, sand lime bricks. Concrete sub-floors. Windows and doors standard metal units. Roof, timber, finished with asphalt. The terrace canopy is carried on steel columns, painted primrose yellow.

Below, café from the direction of the lake showing the covered veranda



Part of the covered veranda



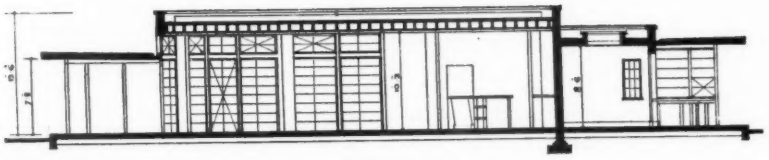
PLAN

PLAN—The refreshment room is circular, about 40 ft. in diameter, and is entirely glass-fronted, with doors opening on to a covered veranda on the south-west side overlooking the lake. On the north-east side there is a projecting kiosk for the sale of chocolates, cigarettes, etc. Lavatory accommodation for both sexes is provided.

View from west

CAFÉ, BATTERSEA PARK, LONDON

Lawn seen from the veranda



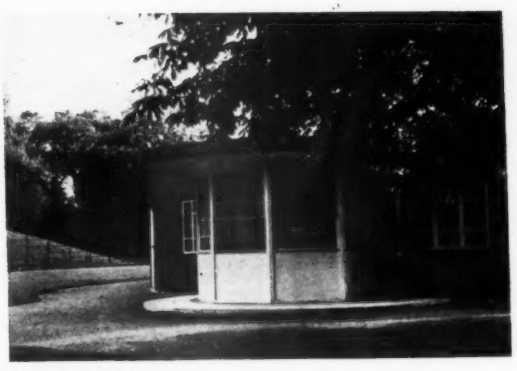
SECTION A–A

INTERNAL FINISHES—Walls and ceilings in the refreshment room are plastered and painted in a pastel cream shade. Floors : refreshment room, rubber ; kitchen, service and lavatories, composition ; veranda, terrazzo. Furniture : cellulosed wood.

SERVICES—Heating, lighting and refrigeration are by gas. Hot water is provided by a multi-point gas water heater.

COST—£2,926. Price per ft. cube, 1s. 7¾d.

General contractors were Burnand and Pickett, Ltd. ; for list of sub-contractors and suppliers see page xviii.



Two views of the refreshment kiosk

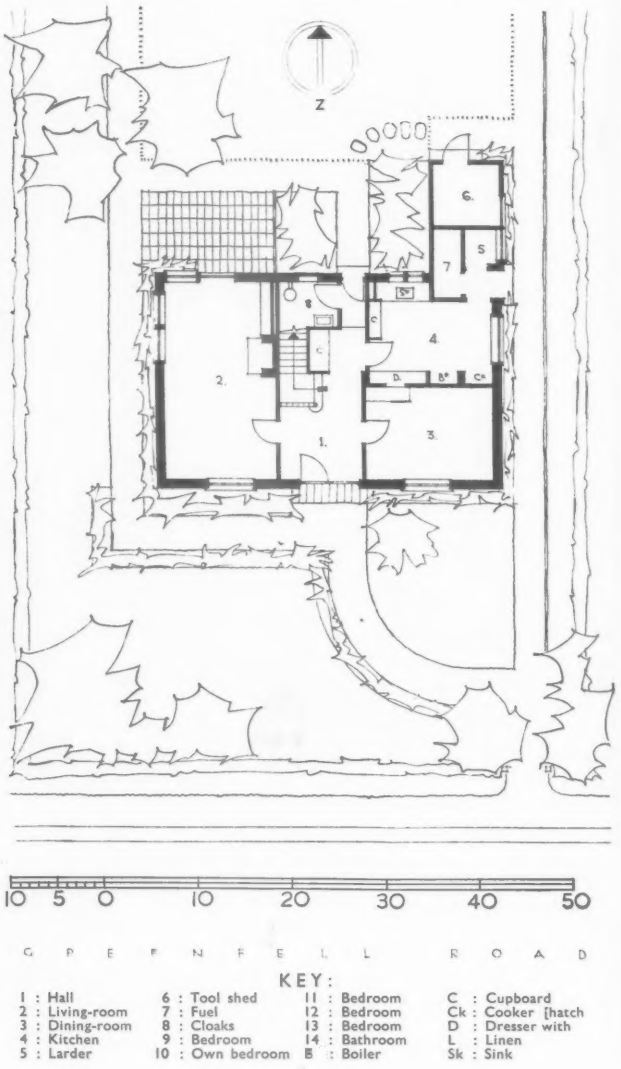
DESIGNED BY H. A. ROWBOTHAM

HOUSE AT BEACONSFIELD,

Top, entrance front; above, garden front

DESIGNED BY CRICKMAY AND SON

PROBLEM—House with five bedrooms for approximately £1,000.
SITE—Flat, with approximately 60 feet frontage, the south side facing onto the road. The estate on which the house was built required brick and tile construction with a pitched roof. There are houses on each side of the site.



KEY:

1 : Hall	6 : Tool shed	11 : Bedroom	C : Cupboard
2 : Living-room	7 : Fuel	12 : Bedroom	Ck : Cooker [hatch
3 : Dining-room	8 : Cloaks	13 : Bedroom	D : Dresser with
4 : Kitchen	9 : Bedroom	14 : Bathroom	L : Linen
5 : Larder	10 : Own bedroom	B : Boiler	Sk : Sink

THOMAS HARDY

[*By J. R. HILTON*]

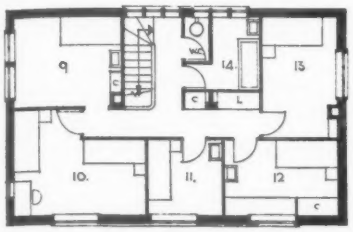
In commemoration of the centenary of Thomas Hardy's birth, which occurs this month, the JOURNAL publishes the following study of the influence which Hardy's early training and practice as an architect exerted upon his work as an author.

She sought the Studios, beckoning to her side
An arch-designer, for she planned to build.
He was of wise contrivance, deeply skilled
In every intervolve of high and wide—
Well fit to be her guide.

THE poem, "The Heiress and the Architect," which so begins, is the daydream of a rather bored draughtsman. The architect "with cold, clear voice, and cold, clear view" can afford to annihilate the lady's romantic projects one by one, until her humbled plea for just a garret with a winding stair is refused, on the ground that her coffin wouldn't get down. Her progressive views on the continuity of house and garden and on large windows are shrivelled by "the man of measuring eye" with the usual specious arguments.

Part of the same theme, in the shape of a newly-qualified architect meeting an orphan heiress with a £100,000 job to offer, is the centre of the novel *The Laodicean*. A guess, based on these two works, that Hardy had applied himself to the profession of architecture without marked success, would be about right. For seventeen years or so, off and on, he remained an assistant; pulled away more and more by his desire to write, and tugged fitfully back by the weakening leash of "practical" considerations. The case was not that of being pitchforked into a trade for which he was quite unsuited. His scattered comments show a generous understanding of architectural qualities; his sensibility to form and colour are evident; and the masterly organization of the novels would probably have been adapted, without any very violent

BUCKS



PLAN — Client required separate dining and living rooms without communicating door. Dining-room is planned to obtain south sun and living-room south and west. None of the bed-rooms faces north.

CONSTRUCTION and EXTERNAL FINISHES—11-in. cavity brick external walls. Timber roof covered with sandfaced pantiles. Internal walls of brick. Floors of timber construction. Partitions of 3-in. wallboard. Facing bricks are golden buff Burnham stocks. Roof is covered with red pantiles. Paintwork generally, ivory, with a blue front door.

INTERNAL FINISHES—Walls and ceilings of living rooms, hall and stairs are in plaster finished with a wood float and left uncoloured. Remainder of walls and ceilings plastered and distempered. Doors to ground floor rooms are flush birch, wax polished.

SERVICES—Cooking is by electricity. There is a stove in the living room, and radiators in hall and dining room. Hot water supply and heating by independent boiler.

COST—£950. Price per cubic foot, 1s. 0½d.

Entrance hall

alchemy, to another sort of planning. His introduction to building was enviable. His father and father's father were flourishing country builders near Dorchester; and to John Hicks, architect in this town, he was articled at sixteen. His education had been rounded by performing as unpaid orchestra with his father at every wedding and dance for miles around, as well as in church, and he now proceeded to fill up the circle by reading Greek with a fellow apprentice instead of attending to the church "restorations." The second Mrs. Hardy, in her biography, suggests that only the necessity of doing some work at his trade kept him from becoming a don. She seems to regard this as the only use his architecting ever was. It did also bring him to the acquaintance of his first wife (in the circumstances described in *A Pair of Blue Eyes*). His literary work at this time consisted in writing accounts of Hicks' restorations for the reporter of the *Dorset Chronicle*.

After six years of this he launched, 1862, into the wide world of London and found harbour after a week in the office of Arthur Blomfield, who wanted "a young Gothic draughtsman who could restore and design churches and country houses." Here he spent five years, amusing himself by singing glees and catches with the staff, including Blomfield, during office hours; and delivering to them short addresses on poets and poetry. One day a newly-built church tower fell down. "The designer was quite exonerated by having it rebuilt stone by stone as before and so proving the construction to be quite unimpeachable; for there it has stood ever since without a crack. What had caused the fall was always a mystery." But while the principal's work may seem to have consisted in designing without supervision, the assistant complains of being "bored with drawing without much designing." Springrove in *Desperate Remedies* discussed the qualities necessary for architectural success. "A certain kind of energy which men with any fondness for art possess very seldom indeed—an earnestness in making acquaintances, and a love for using them. They give their whole attention to the art of dining out, after mastering a few rudimentary facts to serve up in conversation." "Having besides little inclination for pushing his way into influential sets," writes Mrs. Hardy, "which will help him to start a practice of his own, his tastes reverted to . . . literary pursuits." He wrote an R.I.B.A. prize essay. *Chambers's Journal*

published a trumpery article called, "How I Built Myself a House," dwelling on the client's terror on being invited to climb the scaffolding, and the large bill of extras. He notes down passing thoughts.

"In architecture men who are clever in details are bunglers in generalities. So it is in everything whatsoever."

"He feels himself shrink into nothing when contemplating other people's *means* of working. When he looks upon their ends he expands with triumph."

He is frequently troubled by the longevity of the objects of geology compared with the life cycle of buildings.

He wants to be a poet, but feels that poetry and architecture, "particularly in London," would not work well together. Poetry might combine better with the Church. "A literary architect," he noted later, "was always suspect in the profession in those days." Trumpetings of "practical" men were already loud.

The first novel was written in 1867, and architecture became fitful. He went back to Hicks for a time; to London again; to G. R. Crickmay of Weymouth, who bought Hicks's practice; finally, in 1872, to Professor T. Roger Smith of London, whom he helped to win competitions for schools. The year before, he had written to his betrothed lady that he was giving up novels and going on with architecture. Her reply, that he was to be an author, was enough to maintain his resolve for some months. An epitaph to his professional interest in design may be found in the record that in 1876 the married couple bought £100 worth of mid-Victorian furniture in two hours.

The experience of these seventeen years was social as well as professional, and the absence of overt architectural themes from the more famous novels does not mean that they owe nothing to the earlier activity. In a number of works direct use is made of the architectural copy acquired. The first novel was unfortunately liquidated, after publishers' readers Meredith and Morley had doubted the wisdom of its politics. (Note that there is never a hint in the known novels of the possibility of political activity, in spite of an almost morbid preoccupation with class differences.) It was a "sweeping dramatic satire of . . . church restoration and political and domestic morals in general"; and centred on an architect in precarious circumstances, who got his mistress, a music-hall dancer, to design church furniture for him.

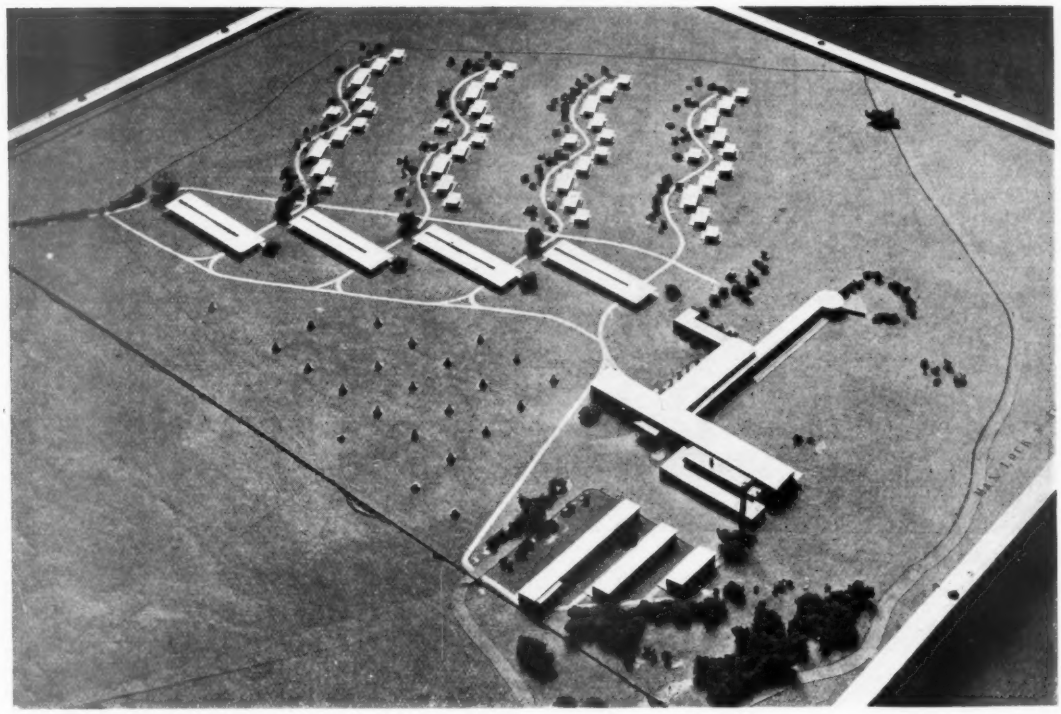
The four chief male characters in the first published novel (*Desperate Remedies*) are architects. There is a scene at the R.I.B.A. in which official notepaper is purloined. *A Pair of Blue Eyes* begins with the autobiographical church restoration. But the young architect, whose father is a country mason, is banished to a successful career in India. The novel which can be called a truly architectural romance is *The Laodicean*. This is a grand rousing yarn of professional misconduct and the ultimate triumph of the R.I.B.A. scale of ethics. The hero is rambling round Wessex on the eve of beginning practice on his own. He is first met regarding a nasty brick chapel, which turns out later to be the work of his professional rival. The two of them become involved in a limited competition for the job of making habitable a large castle, lately acquired by the orphan daughter of a railway contractor. The rival is persuaded to break into the hero's office and copy his designs at the last moment. This so confuses the R.I.B.A. jury of three that they call it a draw, and the heroine decides to allot the work in two shifts. The solidarity of the profession is worthily rescued by the repentance of the rival and by making the real villain, suitably enough, a photographer. The work contains sensible observations on restorations and the fickleness of revivalist fashions, but ends rather surprisingly with the decision of the united couple to "show the modern spirit for evermore" and (the castle having been burnt by the photographer, who has taken all the views he wants of it) to build a new house "eclectic in style." The castle scenery is relieved by two architectural tours through Europe. And there is a tantalizing statement that the heiress has herself drawn up a "Plan of the Town" for the development of the estate as a centre for the manufacture of Hellenic pottery, but no light is thrown on her or the author's views on town-planning. This novel, perhaps the most cheerful he wrote, was largely produced during a prolonged illness.

One of the most important sciences now waiting to be disembarrassed of their fœtal trappings is that of the comparative morphology of expressions and receptions of the human spirit in differing media. Hardy is not as good a specimen for study as, say, Vanbrugh, as his architectural creation seems to have been small. But it is possible, without strain, to detect throughout his work a pervasive influence of his earlier occupation. Mr. John Betjeman, in some recent remarks on topographical poetry, has included Hardy as one of its main exponents. There is in the novels a persistent awareness of position in space; of people in rooms, buildings in landscapes, villages in Wessex and at the extreme, as in *Two on a Tower*, of the earth in the star-spangled continuum. (There are some remarks in *Two on a Tower* on the effects of differing sizes through dignity, grandeur, solemnity and awfulness to ghastliness.) The effort is made to see events as organic with their surroundings; often successfully; though lapsing sometimes from true ecology to a violent selection of circumstance to suit the event. One of the devices for ensuring this width of context in a purely spatial sense is the presentation of scenes through the eyes of observers at a distance: the painter steps back from his picture and his characters are hanged or fall off church towers in a composition which includes large tracts of human and natural activity. The characters are observed approaching or skirting crucial occasions over wide stretches of country. Their carriages, trains and packet boats loom up over the rim of the horizon, more portentous for their distance, like the Black Monk of Tchekov. (Chesterton also uses this trick.)

The plots rely excessively on coincidence, and particularly on the species of coincidence which may be called collocation. This can be partly pardoned, to the extent that it arises from Hardy's interest in spatial relationships. He is fascinated by the fact that two centres of interlocked but discreet consciousness are brought into adjoining rooms in the same hotel, quite apart from its usefulness to the movement of the story. (Compare Mrs. Dalloway's feelings about the unknown woman in the opposite house.)

Apart from collocations, the plots rely to a very great extent on relations of characters which are still essentially external relations: those of social position and those of family. These are generally hidden from the reader for some time. The effect of their disclosure is not unrelated to that, say, of the meeting of supposedly far apart persons in the hotel corridor. The whole nexus of relations swings into a new structure in a movement to which there are chemical and biological parallels, but which may perhaps be not too fancifully compared with the sort of thing that happens to an architect when, after approaching a problem from several separate angles, he first sees a possible solution.

There is no reason to suppose that Hardy's mind would have worked very differently if he had never seen a drawing board. He had in any case acute visual interests. (See, for instance, some impressionistic colour analyses in *Desperate Remedies*. "The light so intensified the colours that they seemed to stand above the surface of the earth and float in mid-air like an exhalation of red." "It was just that stage in the slow decline of the summer days, when the deep, dark and vacuous hot-weather shadows are beginning to be replaced by blue ones that have a surface and substance to the eye.") But it is foolish to assume watertight compartments anywhere, and particularly so in a creative mind. Hardy's was certainly strengthened in some directions by many years of dealing with spatial structures: the masterly, and sometimes obtrusive, ground-plans of the novels may be a case. Perhaps it is to be mourned, for the sake of at least science, that the conditions of his age did not favour an architectural output as accessible to inspection as the literary.

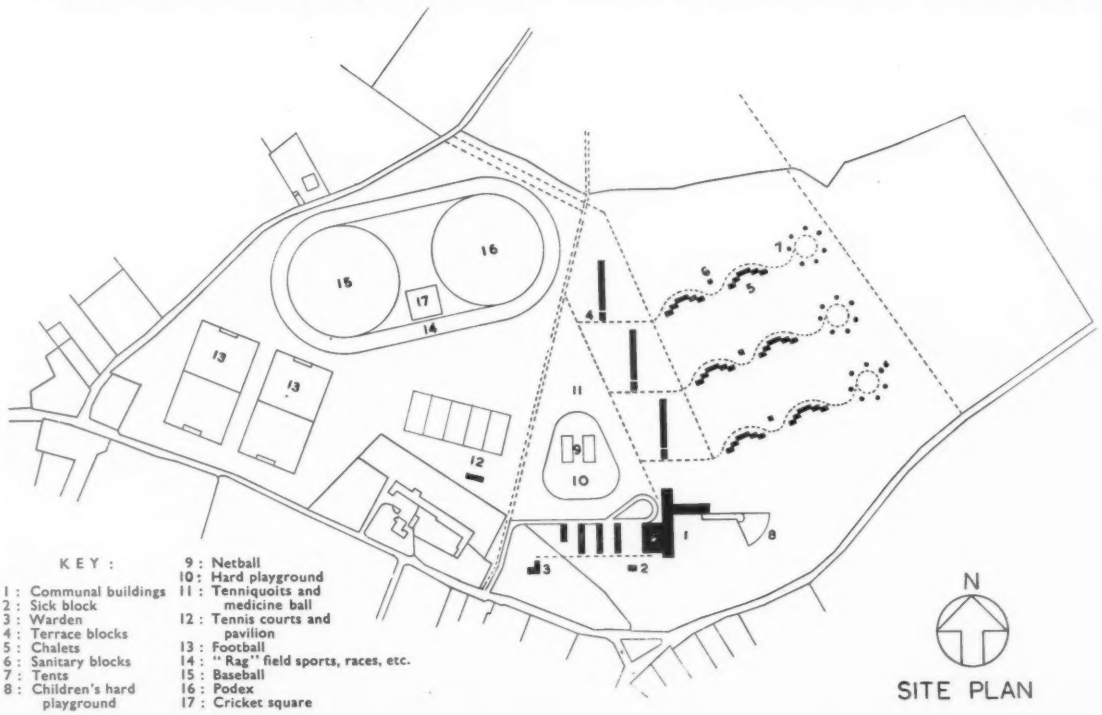


HOLIDAY CAMP

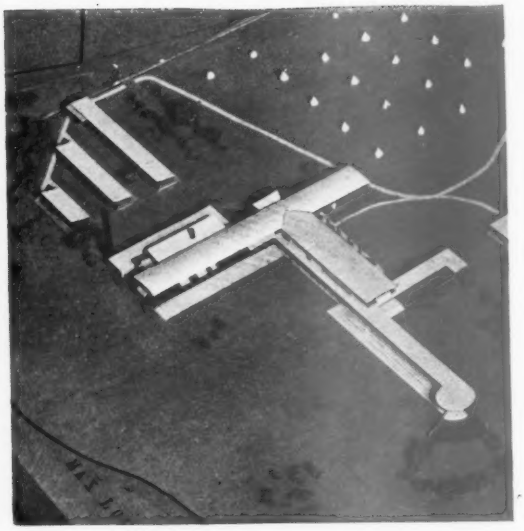
HILLBOROUGH, HERNE BAY

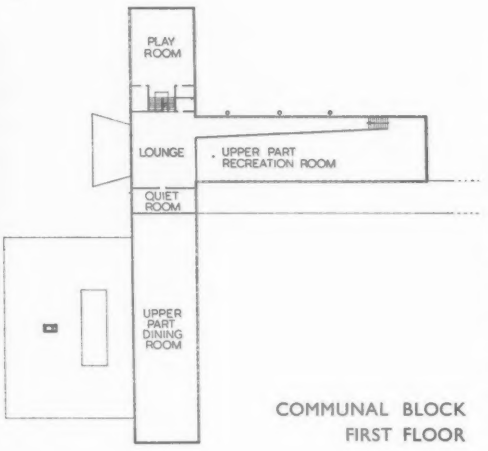
BY MAX LOCK AND JUDITH LEDEBOER

GENERAL—Shortly before the outbreak of war the Lambeth B.C. purchased a fifty-acre field on the north coast of Kent at Hillborough, and commissioned the architects to prepare a scheme for a holiday centre. At a later date the Southwark B.C. decided to join in the venture. The scheme was approved by the Council, but, owing to the war, was not put into execution. The object of the scheme was to provide a camp for the poorer inhabitants of Lambeth and Southwark at a fee of not more than 25s. a week per person. The Herne Bay Council, who sold the land to the Lambeth Council, stipulated that no buildings should be placed on the western half of the site.



SITE PLAN

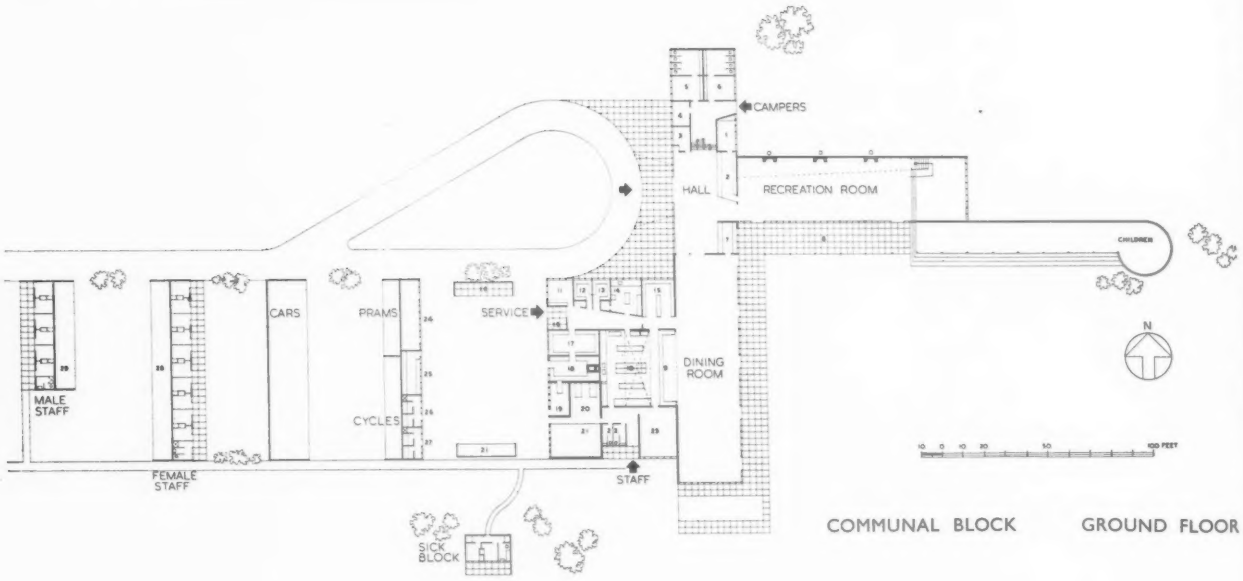




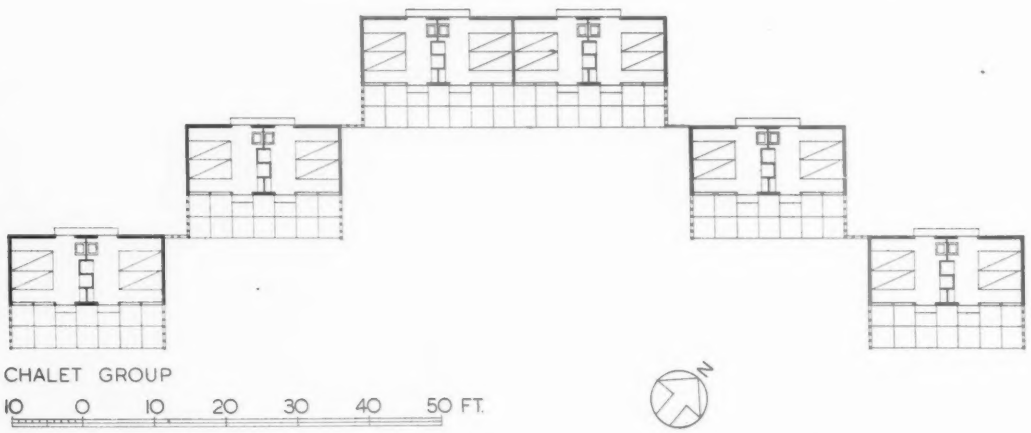
COMMUNAL BLOCK
FIRST FLOOR

KEY :

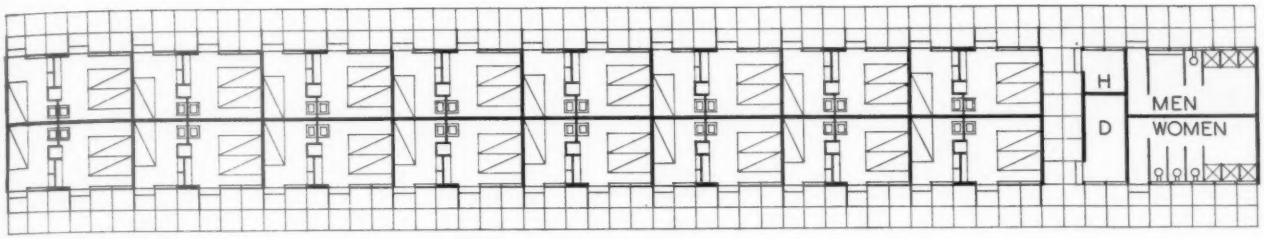
1 : Warden
2 : Reception
3 : Chair store
4 : Store and cleaner
5 : Women's cloaks and lavatories
6 : Men's cloaks and lavatories
7 : Canteen
8 : Covered terrace
9 : Tray service
10 : Kitchen
11 : Office
12 : Dry store
13 : Vegetable store
14 : Larder and refrigerator
15 : Wash-up
16 : Dustbins
17 : Crockery, etc.
18 : Linen
19 : Disinfection
20 : Boilers
21 : Fuel
22 : Staff lavatories
23 : Staff room
24 : Camp tackle and furniture store
25 : Ironing room
26 : Men's baths
27 : Women's baths
28 : Material store
29 : Machine store



COMMUNAL BLOCK GROUND FLOOR

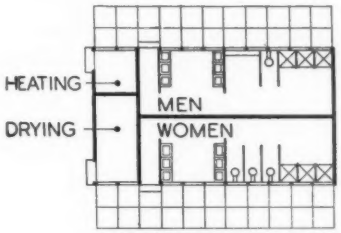


PROPOSED HOLIDAY CAMP, HILLBOROUGH, KENT

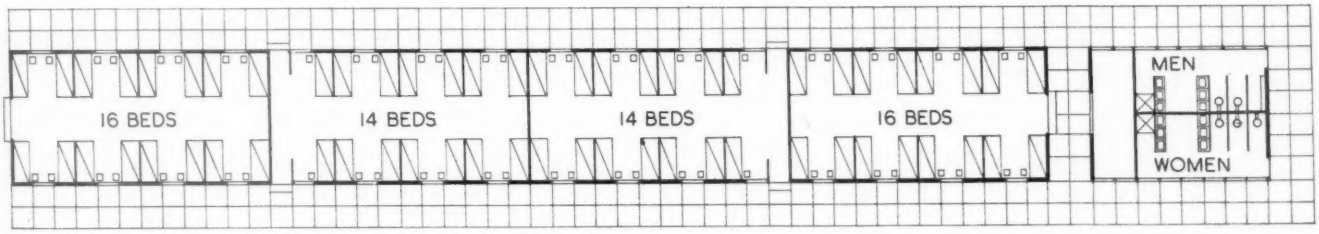


TERRACE BLOCK

10 0 10 20 30 40 50 FT.



ALTERNATIVE PLAN FOR COMMUNAL WASHING



DORMITORY BLOCK

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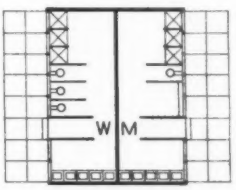


SANITARY BLOCK

LAYOUT—The main principle followed in the consideration of the layout was that of proper segregation of the functions of a holiday community serving various needs. It was decided that the main path of circulation, being the path between the community block and the sea, should be kept away from buildings and that the paths to the sleeping quarters should lead off from it. The terrace blocks were placed facing east and west to the east of the path, and the chalets facing south beyond. The tent accommodation was located beyond the chalets so as to keep the noisiest section of the campers the farthest away from the main blocks. The layout was deliberately kept very open, as the size of the site permitted of this. The communal block was placed on the highest portion of the site, to gain advantage for the very slight rise in levels, and was so placed to face the best views.

CONSTRUCTION AND FINISHES—It was the wish of the Lambeth authorities that the external facing material of the buildings should be of wood. Planning was therefore based on a uniform grid to permit prefabrication. Various methods were considered, including the use of resin-bonded plywood as a stressed skin glued to a light framework in standard sections. Ultimately it was decided, with the prices rising owing to war demands, that only the chalets and outhouses should be built in prefabricated sections in units of 8 ft. by 6 ft. and 8 ft. by 3 ft., with an external skin of cedar drop siding, 4 in. by 2 in. framework and an internal wall and ceiling lining of hard compressed fibre board. Framework of the communal block would be built on a uniform grid with standardized Belfast trusses spanning 30 ft. at 12 ft. intervals.

COST—Cubic cost of the buildings was estimated at slightly over 10d. a cubic foot for the communal buildings including kitchen and heating equipment, 7½d. for the sleeping accommodation, and 6d. for the service stores. Approximate cost of the buildings was estimated to be £26,000.

DESIGNED BY MAX LOCK AND JUDITH LEDEBOER

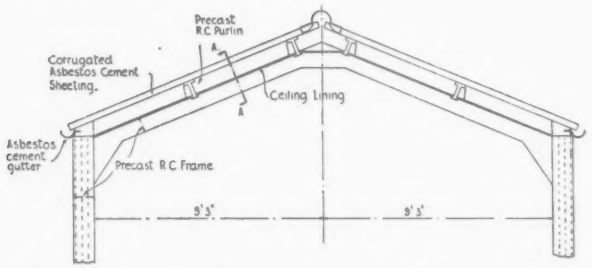
WARTIME BUILDING BULLETIN No. 3

The object of the D.S.I.R. Wartime Bulletin No. 3* is to consider the hut type of building for which a big demand has arisen as a result of the war. Whilst the details of huts to be used for different purposes may vary to some extent, the general requirements remain very similar in all cases. In this bulletin the requirements of the normal army living-hut have been taken as a basis and studies have been made of varying types of design which fulfil all normal conditions whilst reducing the quantity of timber and steel used to the lowest possible amount. The aim has been to lay down certain standards rather than to give an exhaustive list of detail designs.

Certain requirements are demanded by planning, loads and working stresses, conditions of comfort, such as heat insulation and rain penetration, and the availability of materials and labour. These are discussed in the first part of the bulletin, and two tables are given, the first of which shows the estimated heat loss per hour for varying types of floors, walls and roofs, while the second shows the comparative total heat loss for huts erected from combinations of these components.

Various types of construction for walls, floors and roofs are then discussed, mainly with the idea of eliminating steel and timber to as great an extent as possible. Tables are given to show the advantages and difficulties of these different constructions. Roofs present the most difficult problem, since it is necessary to take account of the supporting structure when designing them. Drawings are given for nine different kinds of roof construction using asbestos-cement, hollow tiles, *in situ* and precast reinforced concrete, etc., of which seven are reproduced on this page. The aim of the bulletin is to lay down certain standards rather than to give an exhaustive list of detail design.

* Wartime Bulletin No. 3: Type Designs for Small Huts. Issued by the Department of Scientific and Industrial Research. H.M. Stationery Office. Price 6d.

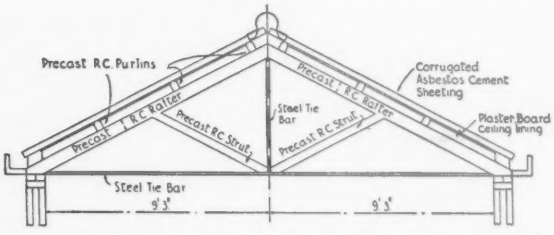


Corrugated asbestos-cement sheeting on precast R.C. purlins and precast R.C. two-pin frames. Total weight of steel in roof and frames—10 cwt. Weight of one precast purlin—2·2 cwt. Weight of one precast half frame—7 cwt.

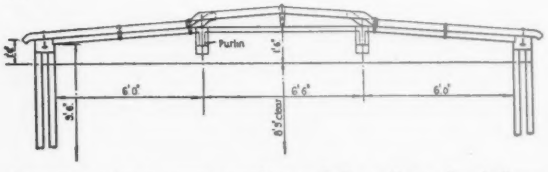
BUILDING RESEARCH BOARD

The Building Research Station is one of a number of national research organizations whose origin can be traced directly to the lessons learnt during the war of 1914-18, which brought home the need for the organization of research on a national basis. The station has acquired very full experience in its field during the past twenty years, which is proving of great service to the industry during the present emergency.

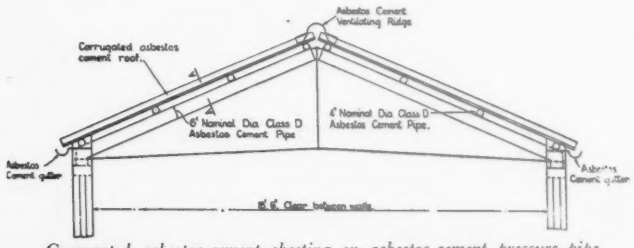
The "Report of the Building Research Board for the year 1939," published by H.M. Stationery Office (price 1s.), points out three of the ways in which this assistance is being given: by supplying technical information relevant to a point at issue; by carrying out investigations of new materials or methods of construction; by undertaking general investigations which may be necessary on the more economical use of materials, the use of alternative materials, or the possible use of materials at present waste. Such work is now being actively pursued by the Building Research Station, the result being given in a series of wartime building bulletins, the first two of which have appeared in this JOURNAL. At the same time the general work of the station is continuing as far as is consistent with war needs, and the report of the Director of Building Research gives brief summaries of the progress of the various investigations carried out at the Building Research Station during 1939.



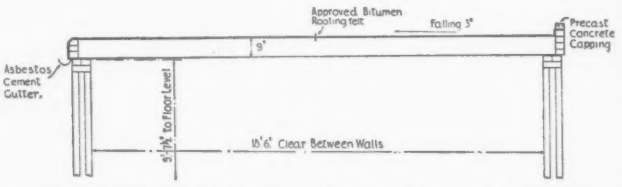
Corrugated asbestos-cement sheeting on trussed concrete purlins and precast concrete and steel trusses. Total weight of steel in roof—4 cwt. Weight of one purlin—1·75 cwt. Weight of one truss—5·5 cwt.



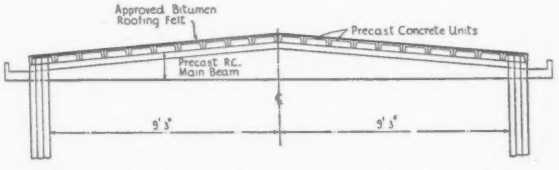
Long span asbestos-cement troughing on R.C. purlins and main beams. Total weight of steel in roof — 3·75 cwt., plus 27 lb. in lintels. Weight of one purlin—3 cwt. Weight of one beam—12½ cwt.



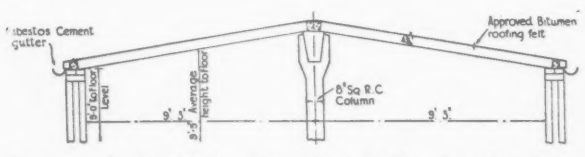
Corrugated asbestos-cement sheeting on asbestos-cement pressure pipe purlins and trusses with steel rod ties. Weight of steel in roof—1·7 cwt. Weight of one purlin—1 cwt. Weight of truss—5·5 cwt.



Hollow tile with reinforced concrete ribs and top screed 9 in. thick overall, cast in situ *and spanning full width of hut. Weight of steel in roof—8·75 cwt., plus 27 lb. in lintels.*

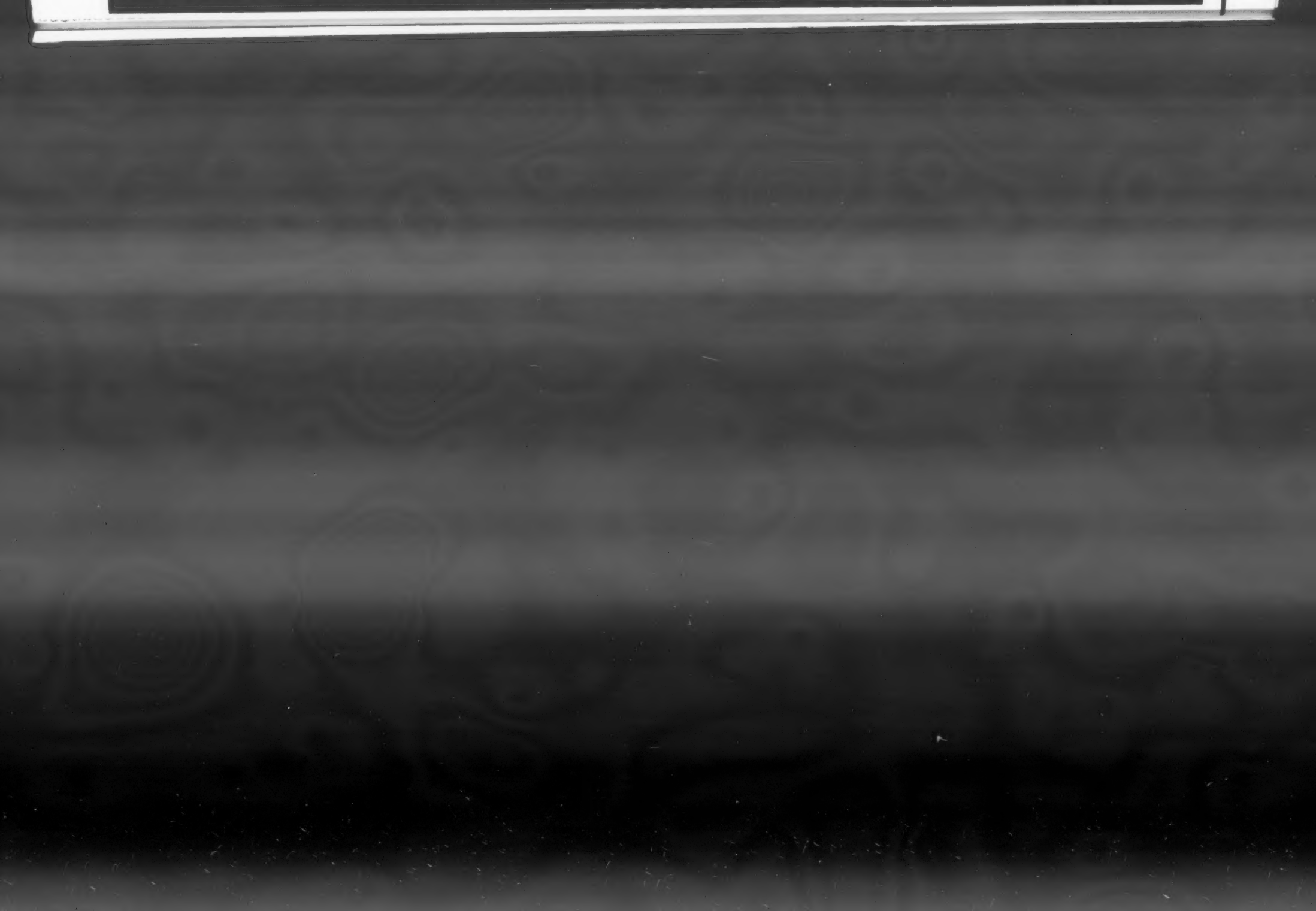


Precast roof units of thin reinforced concrete with stiffening ribs supported on precast R.C. beams spanning full width of hut. Weight of steel in roof—7·75 cwt. Weight of one roof unit—2 cwt. Weight of one beam—12 cwt.



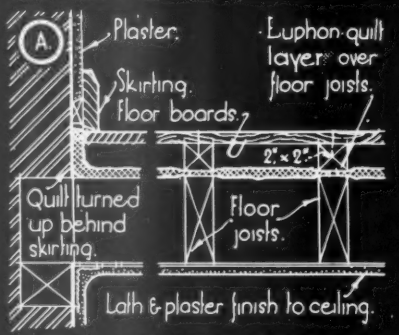
Precast roof units of hollow tiles with reinforced concrete ribs, 4¾ in. thick, supported on precast R.C. beams on two precast R.C. columns on centre line of hut. Weight of steel in roof—8·3 cwt., plus 27 lb. in lintels. Weight of one roof unit, 3·1 cwt. Maximum weight of one precast R.C. beam, 26 cwt. Weight of one precast column, 6·75 cwt.

(Drawings on this page are reproduced by permission of the Comptroller of H.M. Stationery Office.)

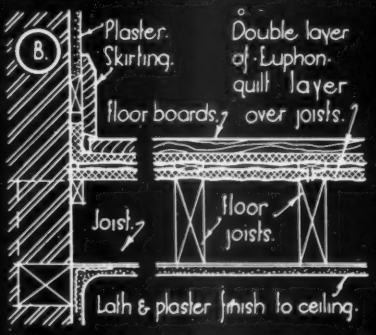


922. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

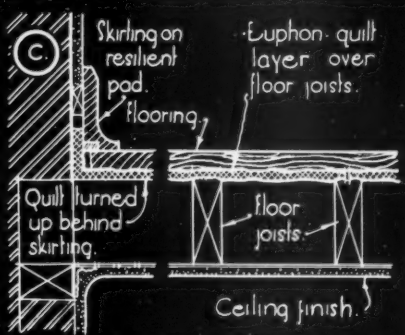
SECTIONS SHOWING METHODS OF USING ·EUPHON· QUILT FOR THE INSULATION OF TIMBER FLOORS & CEILINGS.



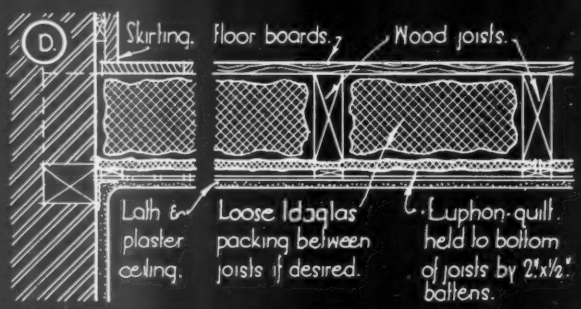
·EUPHON·QUILT LAID ON FLOOR JOISTS BENEATH 2"×2" FLOOR NAILING BATTENS.



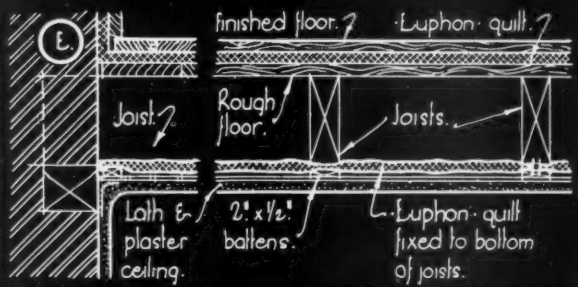
TWO LAYERS OF ·EUPHON· QUILT SEPARATED BY 2"×3/8" BATTENS.



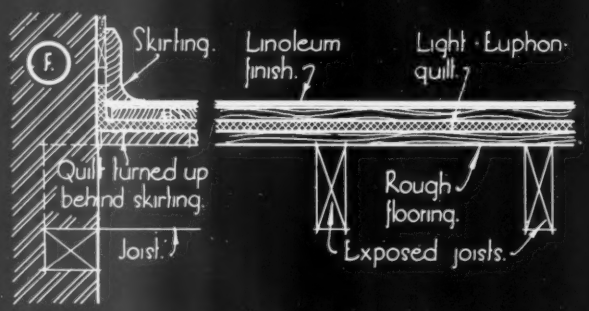
·EUPHON·QUILT LAID ON FLOOR JOISTS DIRECTLY BENEATH FLOOR BOARDS.



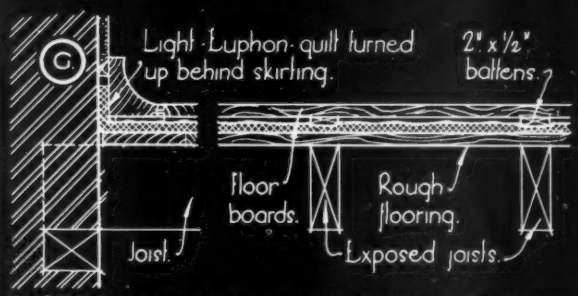
·EUPHON· QUILT USED FOR INSULATING CEILINGS: FIXED TO BOTTOM OF JOISTS BY 2"×3/8" BATTENS.



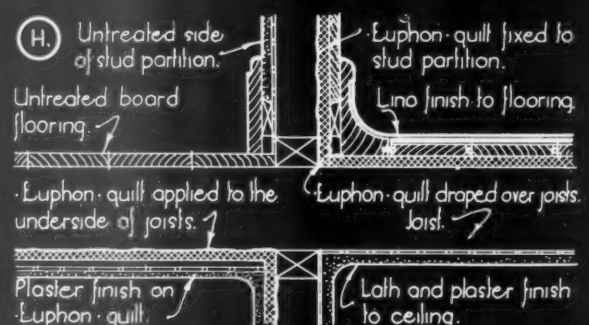
·EUPHON· QUILT USED FOR INSULATING FLOORS & CEILINGS: BETWEEN ROUGH & FINISHED FLOOR AND BATTENED TO BOTTOM OF JOISTS.



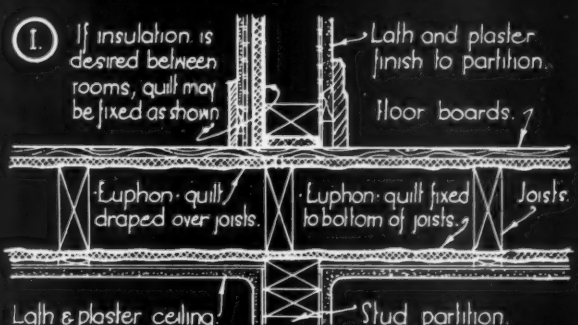
·EUPHON· QUILT FOR INSULATING EXPOSED JOIST FLOORS: SANDWICHED BETWEEN ROUGH & FINISHED FLOOR.



ANOTHER METHOD OF INSULATING EXPOSED JOIST FLOORS: ·EUPHON· QUILT BETWEEN ROUGH FLOOR & BATTENS SUPPORTING FINISHED FLOOR.



METHOD OF APPLYING ·EUPHON· QUILT AT TOP AND BOTTOM OF STUD PARTITIONS.



METHOD OF APPLYING ·EUPHON· QUILT AT PARTITIONS RUNNING PARALLEL WITH FLOOR JOISTS.

Information from Closs fibres Limited.

INFORMATION SHEET: SOUND INSULATION OF FLOORS AND CEILINGS: No 2

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET
• 797 •
SOUND INSULATION

Subject : Sound Insulation of Floor and Ceilings, No. 2

General :

This is the second of two Sheets dealing with the sound insulation of floors and ceilings, and is confined to timber work. For application of "Euphon" Quilt to solid floors see Sheet No. 782.

Description :

"Euphon" Quilt is manufactured from glass drawn into long flexible fibres possessing high tensile strength. The fibres are spread to the required thickness, enclosed on both sides with Kraft paper, and stitched with strong thread to form a quilt.

Properties :

The glass silk is incombustible, chemically inactive and odourless ; it does not attract moisture and will not rot. "Euphon" Quilt will not harbour vermin.

Sound Insulation :

The ideal construction for the reduction of structure-borne sound in buildings usually involves the complete separation of walls and ceilings. For a more detailed explanation of the general method of isolating walls and ceilings, see material on the reverse side of Sheet No. 782.

Application :

Diagram (*A*) at the top of the Sheet represents a fully floating floor, the 2 in. by 2 in. battens simply resting on the "Euphon" Quilt blanket. The floorboards are nailed to the 2 in. by 2 in. battens only. This is recommended for very best results. Where additional height is of importance or where some definite fixing is insisted upon, 2 in. by $\frac{3}{8}$ in. battens can be substituted for the 2 in. by 2 in. battens. These are then nailed through the quilt into the joists, the quilt being compressed to about half its unloaded thickness. Floorboards are then nailed to the 2 in. by $\frac{3}{8}$ in. battens. This method has been extensively used and gives excellent results. Diagram (*B*) shows a method of providing extra heavy insulation. Diagram (*C*) shows a method involving minimum extra height of floor. It gives, however, less certain results than the method described in (*A*). Diagram (*D*) shows a method of insulating a ceiling. It also shows how additional insulation can be obtained by packing the joist spaces with "Idaglas" loose glass silk. The ceiling treatment and/or the extra packing can, of course, be applied to any of the constructions (*A*) to (*E*). Diagram (*E*) shows a method of insulating the floor where a rough board floor with additional wood surface finish is contemplated. The method of insulating the ceiling is illustrated also in this diagram. Diagrams (*F*) and (*G*) are methods of insulating exposed joist floors, whilst (*H*) and (*I*) show methods of dealing with partitions.

Quilt should be laid in the direction of joist runs and the edges should be butted together on top of a joist (in the case of floors) or on the under surface (in the case of ceiling insulation). This ensures a good air seal between upper and lower surfaces of the "Euphon" layer.

Flooring should be tongued and grooved for best results.

Alteration :

When the standard of the sound insulation of *existing* structures requires improvement, this may be effected by the methods shown on Sheet No. 782, diagrams 4, 5 and 6. Some of the necessary structural alterations are indicated.

Sizes and Weights :

"Euphon" Quilt is obtainable in light, medium and heavy weights. Rolls 1 yd. wide.

Grade	Uncompressed thickness	Yds. per Roll	Weight per sq. yd.
Light ...	$\frac{3}{4}$"	27	$2\frac{1}{2}$ lb.
Medium ...	1"	27	$3\frac{1}{2}$,,
Heavy ...	$1\frac{1}{4}$"	$13\frac{1}{2}$	$5\frac{1}{2}$,,

Costings :

It is estimated that a normal wood floor with 9 in. by 2 in. joists plastered and distempered on soffit and with 1 in. deal t. and g. flooring would cost 12s. 2d. per yard super.

The following prices represent the estimated cost of similar floors plastered and distempered as above, but using light grade "Euphon" Quilt, and the various battens and rough sub-floors shown in the details on the front of the Sheet. Plaster and distemper have, of course, not been included for details F. and G. and lino p.c. 5s. 6d. per yd. super laid complete has been included for detail F.

The method of packing loose "Idaglas" for additional deadening has been illustrated in detail D., but it could well be used in any of the other details. The cost of "Idaglas" has not been included, therefore, in the price for detail D., but it would cost, approximately, 18s. 6d. per yard super laid complete.

Detail (A) : 16s. 2d. per yard super
Detail (B) : 17s. 9d. per yard super
Detail (C) : 14s. 8d. per yard super
Detail (D) : 15s. 4d. per yard super
Detail (E) : 21s. 3d. per yard super
Detail (F) : 20s. 5d. per yard super
Detail (G) : 15s. 4d. per yard super

All prices are average pre-war prices for work in the London area including overhead charges and profit. Estimates by Messrs. Davis and Belfield.

Prices (pre-war) :

Grade	Prices per sq. yd. net	
	Quantities up to 500 sq. yds.	Quantities over 500 sq. yds.
Light	1/9	1/8½
Medium	2/2	2/1¾
Heavy	3/3	3/2

Issued by : Glass Fibres, Ltd.
Address : Firhill, Glasgow, N.W.
Telephone : Maryhill 2141
London Office : 10 Princes Street, Westminster, S.W.1
Telephone : Abbey 6803

SOME QUESTIONS ANSWERED THIS WEEK:

★ *IS it possible to make concrete oil-proof so that a concrete reservoir could be constructed to take crude oil or petrol?* - - - Q370

★ *CAN you give me a comparative report on the advantages and disadvantages of an "Imhoff" sewage tank compared with the ordinary septic tank?* - - - - - - - - Q372

★ *WHO are the manufacturers of "Cellocrete" waterproofer for concrete?* - - - - Q375

★ *PLEASE inform me if there is any chance of obtaining small quantities of metal-faced or ordinary 5-ply wood for use as window shutters* - - - - - - Q377

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

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 services are available to any member of the industry.

Questions may be sent in writing to THE ARCHITECTS' JOURNAL, 45 The Avenue, Cheam, Surrey, or telephoned direct to the Information Centre: Regent 6888.

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers by post or telephone 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. Samples and descriptive literature sent to the Information Centre by manufacturers for the use of a particular enquirer are forwarded whenever the Director of the Centre considers them likely to be of use.

Finally, if an answer does not provide all the information needed, the Centre is always glad to amplify any point on which the enquirer wants fuller explanation.

Any questions about building or architecture may be sent to:

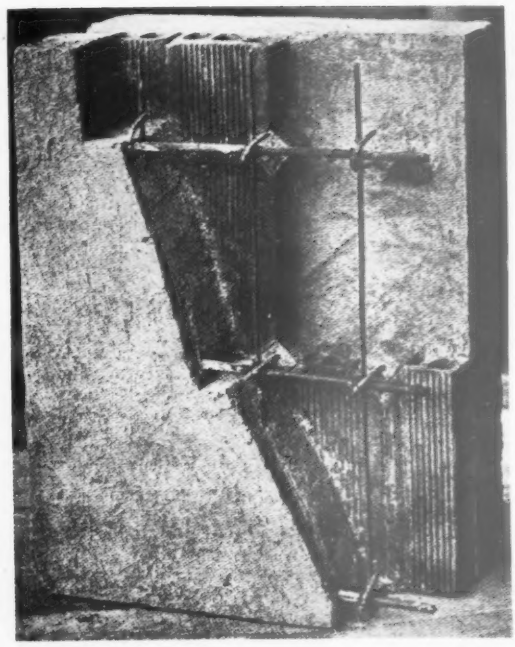
THE ARCHITECTS' JOURNAL
45 THE AVENUE, CHEAM, SURREY.
Telephone: *VIGILANT 0087*

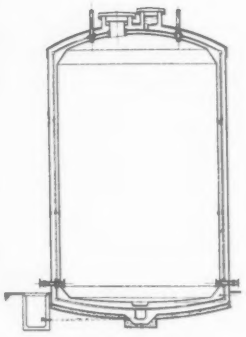
or ring the Architects' Journal Information Centre at

REGENT 6888

Q369 ARCHITECT, LONDON. — *In shop premises we had intended using WOOD STRIP FLOORING over battens let into concrete, but now that the work is to be done the contractors inform us that it is impossible to procure the ordinary battens and strip flooring, but that they can provide 1¼-in. wood block flooring in lengths of 12 in. and 14 in. But in the depth of the battens, which were to be 2 in. by 4 in., I had arranged to accommodate various service pipe-runs and have no wish now to fill this space solid with concrete and so prevent access to the pipes. What method of finishing would be best in the circumstances?*

Considering the difficulties of obtaining timber at present the contractors' offer to provide wood blocks should certainly be accepted. But the problem of providing for access to the pipes is difficult. It would first be advisable to examine whether the pipes can be laid or relaid to run mainly beneath counters or fittings, or to come within a 4-ft. margin round the walls and one or more 4-ft. strips across the room. If the latter can be done the main floor spaces could be laid with blocks bedded solid, while over the pipe-runs the blocks could be laid over 4 in. by 3 in. nailable concrete fillets at, say, 14-in.





The "Hydrowall" System—See Question 370. Left, tank wall: showing interconnecting porous blocks. Below, section showing small water tank above oil-tank.

centres. Admittedly this would give straight heading joints to the marginal blocks. But this seems impossible to avoid, for fillets at 7-in. centres would give very problematical access to pipes. If this solution is considered worth trying it should be remembered that pumice aggregate may not be obtainable. Alternatives for aggregate are Foamed Slag* and Moler Earth.†

Q370 COLLEGE AUTHORITIES. — *Can you inform me if it is possible TO MAKE CONCRETE OIL-PROOF so that a concrete reservoir could be constructed to take crude oil or petrol?*

For this particular purpose there is a specially patented form of construction carried out by the Hydrowall Concrete Tank Co., Ltd., 14 Palmer Street, London, S.W.1, and details of the system are shown on this page. The principle of this system is simple. Oil or petrol will not penetrate wet concrete, therefore a vertical layer of hollow porous earthenware blocks is inserted in all walls of the tank. These hollow blocks, which inter-connect, are filled with water and kept topped up by a small water tank with ball-valve on top of the main tank. The loss of water by percolation through outer leaf of tank is claimed to be very small, and none can take place through inner leaf, at some point in which oil and water meet. The water cannot be forced out of the concrete by oil pressure, since the water pressure is always slightly higher than the oil pressure—the water tank being on top of the main oil tank.

* *Enquiries should be made from F. McNeill & Co., Ltd., Pixham Firs, Pixham Lane, Dorking.*

† *Normally supplies are available from Moler Products, Ltd., Hythe Works, Colchester, Essex; or Building and Insulating Material Co., Ltd., Horseferry House, Westminster, London, S.W.1.*

Q371 BUILDING CONTRACTORS, LONDON.— *What are the BUILDING TRADE LABOUR RATES in Liverpool?*

The published rates are as follows: Craftsmen, 1s. 10½d. per hour; Labourers, 1s. 4¾d. per hour. Painters are 1d. per hour less, and the Plasterers' rate is 1s. 11d. per hour. There is an allowance of 2s. per week tool money to joiners, plumbers, bricklayers, tilers and masons.

Q372 ENQUIRER, CHESHIRE. — *Would you be good enough to give me a comparative report on the advantages and disadvantages of an "IMHOFF" SEWAGE TANK compared with the ordinary septic tank?*

The advantages of one sewage disposal system over another depend upon the circumstances of each particular case: on site conditions, distance between house and tank, the money available, the efficiency of service required, and so on. No opinion which does not take account of these circumstances is of any practical use. Data and diagrams of the Imhoff tank are to be found on pages 107 and 181 of the book, *Sewage Disposal from Isolated Buildings*, by G. M. Flood, published by the Sutherland Publishing Co., Ltd., 9 Albert Square, Manchester, price 12s. 6d. This book can also be obtained from the Central Library, Manchester. If the enquirer has any technical knowledge, a study of this book will enable him to appreciate the advantages of the Imhoff system for the particular case he has in mind. If he has not this knowledge, an independent opinion can only be obtained by consulting an architect, qualified surveyor or engineer.

Q373 ARCHITECT, CORK.—*I should be grateful if you would let me have the names and addresses of firms supplying plastic sheeting suitable for SNACK BAR COUNTER TOPS. It must not only be heat resisting, but also unmarked by lighted cigarettes or matches accidentally dropped on it. Also, is this material available now for export to Eire?*

Metropolitan Vickers Electrical Co., Ltd., Trafford Park, Manchester, and Messrs. Bakelite, Ltd., Brackley Lodge, Brackley, Northampton, both produce plastic sheeting suitable for bar counter tops. They are also in a position to accept orders for export to Eire.

Q374 PROPERTY DEPARTMENT, BURTON-ON-TRENT.—*SANDBAG REVETMENTS which have been sprayed with cold emulsion on the outside surfaces are rotting and the sand is falling out of the bags. It is suggested that a cement rendering reinforced with wire mesh should be put on as a protection. The revetments are approximately 7 ft. high, slightly battered and approximately 14 ft. long, covered on top with roofing felt. Can you advise as to the suitability of the proposed treatment and the thickness of rendering and gauge of wire netting reinforcement?*

In the Home Office A.R.P. Department publication, "Notes on the Construction, Maintenance and Replacement of Sandbag Revetments," obtainable from H.M. Stationery Office, York House, Kingsway, London, W.C.2, price 2d., useful data are given on the preservation of sandbags, also on the cost of alternative forms. In this publication no mention is made of the method of rendering over the sandbagging,

The Information Centre must make clear that, while it gives general opinions on problems involving legal matters, such advice must in no case be taken as a legal opinion on the facts of a particular case. It must also be made clear that the Centre, in helping to solve inquirers' problems, can accept no responsibility for any action taken as a result of its advice.

although this system of covering in sandbagging is widely adopted. Usually a frame of wood battens is made up with the battens at about 18-in. centres and fixed through the sandbagging. Galvanized wire netting or metal lath of about $\frac{5}{8}$-in. mesh is then stretched across the frame and given two or three coats of cement rendering. Provision should be made for ventilation of the enclosed sandbagging. This is done usually by omitting portions of the rendering of about the size of ordinary air bricks and dubbing out the rendering in bellmouth shape over these ventilation openings. Provision should be made also for a bottom kicking rail and this can be done by building two courses of brickwork on edge around the base, with open vertical joints to allow water to drain off the enclosed revetment.

Q375 BUILDERS, FOREST GATE.—*Can you tell us the name of the manufacturers of "CELLOCRETE" WATERPROOFER for concrete?*

Despite careful enquiry we have been unable to trace a concrete waterproofer of this name. It might be, however, that the material indicated is "Sealocrete," a waterproofer for concrete and cement products produced by Sealocrete Products, Ltd., Atlantic Works, Macbeth Street, London, W.6.

Q376 ARCHITECTS, LONDON.—*Large panes of window glass in an exposed part of the premises were BLACKED OUT at the outbreak of war by painting over with black paint direct on the inside of the GLASS. Recent examination shows that a number of these panes are NOW CRACKED across. Is there any reason which would explain this happening?*

This enquiry was referred to the Research Laboratories of Messrs. Pilkington Bros., Ltd., to whom we are indebted for the following notes: "The urgency of providing obscuration in the early autumn of 1939, coupled with the acute shortage of blackout materials, made it necessary in many cases for windows to be obscured temporarily by painting with black paint. Compared with other methods of fulfilling the requirements regarding obscuration, painting is very cheap and there has been a growing tendency to retain this method of obscuration for the duration of the war in cases where the consequent loss of daylight would not be too serious. While painting may be unobjectionable and even advantageous on many grounds, however, it should be realized that in certain circumstances it may result in the glass being broken. In strong sunlight, whichever side of the glass is painted will get hotter than the unpainted side, and this will set up severe strain in the glass. Fracture may occur under extreme conditions, the risk depending on how large temperature difference becomes, the thickness of the glass concerned, and the dimensions of the panes.

Q377 ARCHITECT, HERTS.—*Please inform me if there is any chance of OBTAINING SMALL QUANTITIES OF metal-faced or ordinary 5-PLY WOOD for use as window shutters. I am an Architectural A.R.P. Consultant working under the Ministry of Home Security Scheme and have had many enquiries upon this matter from householders. If such materials are still available, please give information where. If not, can you suggest suitable alternatives?*

The timber stocks of this country are released only on production of a certificate to purchase, and under the present circumstances such a certificate to purchase is not likely to be issued except for priority work and no private building work of any description would be assigned to this class. That being so, it will not be possible in the normal way to obtain plywood or metal-faced plywood. Enquiries from firms responsible for supplying this material confirm this position. In all cases it was said that supplies were available only for priority orders, but from time to time very small quantities might be available for private work. In this case it would be best for the householder or builder concerned to make his requirements known to the merchant with whom he normally deals and see whether supplies were available. As to alternatives to use as window shutters, since it cannot be hoped that light shutters of this type will do more than prevent the glass splinters from flying into the room, any sheet material would be equally suitable for the purpose. Asbestos wallboard or asbestos wood could be used (these are not nearly so rigid as asbestos cement products). They are available from Turners Asbestos Cement Co., Ltd., Erith, Kent. Durasteel 3 DF2 fire protection sheeting could also be used, and is still available from Durasteel Roofs, Ltd., Oldfield Lane, Greenford, Middlesex.

Q378 BUILDERS, WILTS.—*We have been informed that there is a form of sectional STEEL FORM WORK capable of adjustment vertically and in both horizontal directions. Can you give us the name of the firm producing this system?*

The description given would seem to indicate the new system of formwork devised by Messrs. Arup and Arup, Ltd., Colquhoun House, Broadwick Street, London, W.1.

Q379 ARCHITECT, LONDON.—*I have been asked TO FIREPROOF, against incendiary bomb attack, A ROOF of a typical London terrace house, The roof being slate covered and 4 ft. in height between the ridge and the ceiling joists and the ceiling joists of 3 in. by 2 in. and 10 ft. span. Other than the use of Durasteel fire protection sheeting, of which I have particulars, what can be done inexpensively under such circumstances?*

In view of the scantlings of the ceiling joists and the confined roof space, two alternative methods are worth consideration. Chicken wire could be stretched over the joists and $\frac{1}{2}$ in. asbestos wood board,* or $\frac{1}{2}$ in. Kimoloboard†, laid on top. Alternatively, protection could be obtained by using $\frac{1}{2}$ in. plaster board on top of the joists and then to lay $1\frac{1}{2}$ in. thickness of sand over the whole area. In the latter case hangers could be arranged between the ceiling joists and the rafters every second or third joist. Fireproofing of the timbers of the exposed rafters will also be needed, and it is recommended that such fireproofing treatment should be applied to all exposed woodwork. For the purpose of fireproofing the Pioneer‡ or Thistle§ A.R.P. finish

* *ASBESTOS WOOD. Turners Asbestos Cement Co., Ltd., Erith.*
† *KIMOLOBOARD. Cellactite and British Uralite, Ltd., 396 High Holborn, London, W.C.1.*
‡ *PIONEER A.R.P. FINISH. Casebourne (I.C.I.), Ltd., Imperial Chemical House, London, S.W.1.*
§ *THISTLE A.R.P. FINISH. British Plaster Board Co., Ltd., Erith, Kent.*

could be used. This is supplied in the form of a dry powder and mixed with water and applied as a slurry.

REFERENCE BACK

[*This section deals with previous questions and answers.*]

Q265. *April* 18, 1940.

In regard to this enquiry, which was for alternatives to woodboarding as floor finish over 2-in. wood joists at 18-in. centres already in position, Messrs. Turners Asbestos, of Erith, Kent, have written as follows :

"Poilite" Asbestos-Cement Flat Sheeting, supplied in standard size 8 ft. by 4 ft., will form a suitable substitute for wood flooring, preferably screwed to joists with countersunk wood screws. According to the strengths stipulated in B.S.S. 690/1940, they will provide for the following minimum uniformly distributed breaking loads, and, according to the nature of the building, suitable factors of safety :—

"Poilite" A.C. Flat Sheeting laid on joists at 18-in. c.c.: ⅜-in. thickness, 279 lb. per sq. ft. breaking load distributed ; ½-in. thickness, 498 lb. per sq. ft. breaking load distributed.

IN PARLIAMENT

AIR-RAID SHELTERS

INTERESTING details of progress in the provision of air-raid shelters were given in the House of Commons by Sir John Anderson, the Home Secretary. He pointed out that the degree of protection provided by an ordinary soundly constructed house was, in fact, very substantial, and if people who had not special shelters provided in their houses or close to them would carry out the advice given in a booklet which had been widely distributed, called "Your Home as an Air-Raid Shelter," they would be well advised, when an air-raid warning was given, to stay in their houses rather than rush out into the streets and try to find their way to communal shelters.

"We have recently issued to local authorities a memorandum giving particulars of a method of providing really effective shelters by making use of derelict houses," said Sir John. "It is a very ingenious method which has recently been evolved by my technical officers. It takes the form of adapting derelict houses of two storeys. The great problem in the provision of shelters is that of materials and labour, and anything which can reduce the demand on those two rather scarce commodities is all to the good. What can be done with a derelict house is this : Strip the roof, prise away the roof beams, cut the roof beams into suitable lengths for strutting the ground floor, use the bricks of the upper courses to cover the top of the first floor so as to provide overhead shelter, and with the bricks that are over block up window openings and so forth. The result is that, without any expense on material and by using labour which may be more readily available than the skilled bricklayers for which there is a great demand, you can in a very short time provide a really adequate form of shelter. In that way it will be possible in a number of areas where shelter provision is not quite adequate to make up the deficiency to a large extent very rapidly. These instructions were issued only within the last few days, but there are already indications that some local authorities are proceeding to act on them."

Turning to the question of deep or strongly protected shelters, Sir John Anderson said that the Government had been criticized because they concentrated attention on what could be provided quickly, namely, on the splinter and blast-proof shelter which does undoubtedly give protection against by far the major part of the risk to which the civil population would be exposed. The decision reached after consideration of the matter was that to provide special strongly protected shelters for the workers in those establishments would involve technical problems so difficult that it must be regarded as impracticable in any short space of time to provide such shelter on any substantial scale. The difficulties were due partly to the time factor, partly to considerations of space and partly to questions of labour and material, but they were also psychological. It was found that there was a definite reluctance on the part of workers to support plans for the provision of shelters for themselves at their places of work which would be out of all scale with the shelter provided in the ordinary course for their wives and families.

He was devoutly thankful that they did not adopt a general policy of providing deep or strongly protected shelters. Had they done so they would at this moment have been in a far worse position. The country would have been caught with a very limited amount of shelter in course of construction and not completed. They would have been faced with the two inevitable shortages of labour and material which had now occurred and which were affecting even the provision of splinter and blast-proof shelter. The period of warning on which they could rely, which was estimated at from 5 to 7½ minutes, might in many cases be much shorter. The period of warning was an important factor in considering the sort of shelter that it was best to provide. The longer the period of warning, the less the objection to large and strongly protected shelters, for it would take people some time to go to them. The shorter the period of warning, the greater the danger of people leaving the comparative shelter of their homes and being caught in the streets and perhaps machine-gunned while trying to find their way to communal shelter.

There had recently come into prominence an idea that, without going to the length of providing deep or heavily protected shelters, they might have provided a type of splinter and blast-proof shelter which would serve its purpose well in the first instance and could be converted later into something intermediate between the splinter and blast-proof type and what is called a deep shelter. He did not dismiss that idea at all. A long time ago he put it to his technical advisers, and they said then that it looked a good idea, but that they believed it was impracticable for the reason that in order to provide a more strongly protected shelter at a later stage they would, at the beginning, have to make the surrounding walls so substantial that the task would be almost as complicated and difficult, and as heavy in terms of material and labour, as if they set about providing heavily protected shelter from the start. Further examination of the problem had led us to the conclusion that that was an erroneous view, and they now considered that a 50-unit communal shelter of the splinter and blast-proof type could be built which could, without great difficulty, be adapted later to afford substantial increased protection ; and he had made arrangements to ensure that where local authorities provide splinter and blast-proof shelters, according to designs to be modified on the lines he had indicated, the Government would pay the full grant.

In the debate which followed, Mr. Ellis Smith said that he had read closely the trade journals which were concerned with this matter, such as THE ARCHITECTS' JOURNAL, the *Builder*, and publications of that character. He found that, generally speaking, adequate air-raid shelter accommodation had been provided for those who were relatively well placed, but this had not yet been done for the people in the lower grades of income. He pleaded for immediate and energetic action to have the advice given in the Government circulars carried into effect in certain areas. They found, from the experience of Rotterdam, how essential it was that effect should be given to this plea. Accommodation should be made available for those people who were working so hard to secure an increase in industrial production.

Mr. Mabane, Parliamentary Secretary to the Ministry of Home Security, promised that the Ministry would try to secure that shelter was provided at the greatest possible speed.

Manufacturers' Items

Twisteel Reinforcement, Ltd., announce the following changes of address and telephone numbers as from June 24 :—

Head Office and Works : Alma Street, Smethwick, Staffs (Birmingham). Telephone (5 lines) : Smethwick 1991.

London Office : 8 Buckingham Palace Gardens, S.W.1. Telephone (2 lines) : Sloane 9218.

Northern Works : Bruche Works, Manchester Road, Warrington. Telephone : Warrington 273.

Business transacted at New Malden, Surrey, and Treforest Trading Estate, Glamorgan, should be transferred to Smethwick or London office on and after July 1.

Telephones : Smethwick (5 lines) 1991 ; Sloane (London) (2 lines) 9218 ; Warrington 273.

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Cement Marketing Company, Ltd., state that circumstances now compel them to pack a proportion of their cement in jute sacks, and, owing to the probability of further fluctuations in the cost of paper, it has been decided that, until further notice, all prices for Portland cement shall be exclusive of the charges for packages, which will be shown as separate

Owing to the paper shortage caused by the German invasion of Scandinavia, the JOURNAL, *in common with all other papers, is now only supplied to newsagents on a "firm order" basis. This means that newsagents are now unable to supply the* JOURNAL *except to a client's definite order.*
To obtain your copy of the JOURNAL *you must therefore either place a definite order with your newsagent or send a subscription order to the Publishers.*

items on invoices. Coincident with this change, the price of Blue Circle and Ferrocrete rapid hardening Portland cement will be reduced as and from June 10, 1940, by 4s. per ton. Paper bags will be charged at the rate of 5s. net per ton of cement.

Jute sacks will be charged at 1s. 9d. net each, and 1s. 6d. net each will be allowed when they are received at their works or depots within two weeks from the date of delivery, provided they have not been damaged, have been properly protected from wet, and have not been used for any purpose other than holding the brand of cement supplied.

Revised prices and conditions also apply to rapid hardening Colorcrete, Aquacrete, Pozzolana cement, and Thistle brand cement.

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At a meeting of Banister, Walton & Co., Ltd., held on June 14, the directors presented their report, together with the balance sheet and profit and loss account for the year ended March 31, 1940. Details are given below :—

	£ s. d.	£ s. d.
The profit for the year, after providing for income tax, Sch. "D" 1940–41, National Defence Contribution and directors' fees for the year ended March 31, 1940, amounts to		27,393 8 6
Add balance brought forward from previous year		14,730 11 6
		42,124 0 0
Less payment of interim dividend at 5 per cent. actual (less tax) on 490,548 ordinary shares of 5s. each, fully paid, for the year ended March 31, 1940 (declared December 1, 1939) ...		3,985 14 1
Leaving a balance of ... ... which your directors recommend be appropriated as follows :—		38,138 5 11
Payment of a final dividend at 10 per cent. (less tax) for the year ended March 31, 1940, on 490,548 ordinary shares of 5s. each, fully paid (making, together with the interim dividend of 5 per cent. actual, a dividend of 15 per cent. (less tax) for the year)	7,664 16 3	
Carry to reserve (making the reserve £100,000)	25,000 0 0	
		32,664 16 3
Balance to be carried forward ...		5,473 9 8

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Sankey's super acid-resisting cement is the subject of a four-page leaflet just issued by J. H. Sankey and Son, Ltd., of Ilford, Essex. It is supplied in a fine powder, and has to be mixed with Sankey's acid-resisting solution. The mixing is done simply and quickly ; the plastic cement then obtained is applied in the usual way, i.e. for jointing, pointing, patching and rendering. It adheres strongly to brick, tile, earthenware, stone, concrete, iron, etc., surfaces.

Firm state that this cement is suitable for acid plants, acid tanks, acid vats, acid towers, acid retorts, leaching tanks, bonding brickwork in acid-laden soil, neutralizing sumps, acid-resisting walls and floors, jointing sewage pipes, jointing acid-carrying pipes, jointing chimneys that carry acid fumes. Prices are as follows :—

Super Acid-resisting Cement Powder : In 1 cwt. jute waterproof-lined bags, free and non-returnable :—

1 cwt.	39/6
5 cwt. lot	38/– per cwt.
10 cwt. ,, ...	37/6 ,,
1 ton ,, ...	36/– ,,
2 ton ,, ...	35/– ,,

Net, carriage paid England, Wales and Scotland.

Acid-resisting Solution (for mixing with the cement powder). In air-tight steel cans with screw neck and seal, free and non-returnable :—

1 gallon can }	3/9 per gall.
4 gallon can }	

Net, 4 gallons and upwards carriage paid England, Wales and Scotland.

THE BUILDINGS ILLUSTRATED

LAKESIDE CAFÉ, BATTERSEA PARK (pages 611–613). Architect : H. A. Rowbotham, A.R.I.B.A. General contractors were Burnand and Pickett, Ltd. Sub-contractors and suppliers included : Permanite, Ltd., asphalt roof ; British Reinforced Concrete Engineering Co., Ltd., B.R.C. fabric in foundations ; Sussex and Dorking Brick Co., Ltd., hand-made sand-faced multi-coloured facings ; H.B. Concrete, Ltd., artificial stone ; Measures Bros. (1911), Ltd., structural steel ; W. Briggs and Sons, Ltd., roofing felt to veranda ; Modern Surfaces, Ltd., patent cement wall glazing ; North British Rubber Co., Ltd., rubber flooring to café ; Veronese, Ltd., terrazzo floor to veranda ; Great Metropolitan Flooring Co., Ltd., composition flooring to kitchen and lavatories ; Gas Light and Coke Co., Ltd., gasfitting ; Standard Metal Window Co., metal casements and doors ; British Plaster Board, Ltd., plaster boards to ceilings (Thistle) ; Stic B. Paint Sales, Ltd., decorative plaster ; Stockall, Marples & Co., Ltd., clocks.