TEAK

withstands the weather

Teak contains a natural oil that is moisture-repellant ; it is also hard and closely grained. These two factors make the wood very resistant to moisture with the minimum of inclination to swell and shrink. Teak, therefore, possesses remarkable steadiness and will " stay put " even when fully exposed to the weather, and so it is the ideal wood for windows and exterior doors of all kinds. It can be specified safely for such jobs as large folding doors where any "movement" in the wood will interfere with proper working.

The same factors give Teak its long life and freedom from deterioration. There is no need to paint Teak to preserve it ; it may be left to weather naturally to a pleasant grey tone. If, however, one wants to keep its normal colour, a pure clean varnish may be used.

WINDOW DETAIL AT STOCKHOLM

Bay windows to living room in a working-class flat block designed by Backström Reinius. The windows are faced with oiled teak on a breeze backing.

WAR-TIME SUPPLIES OF TEAK

Teak is officially recognised as an essential war-time import. Ample supplies are available and the price remains moderate.

Teak—Tectona grandis

The only true Teak is Tectona grandis. (See the recently issued " British Standard Nomenclature of Hardwoods " on this point.) Beware of other so-called " teaks." These woods are not TECTONA GRANDIS and therefore are *not* Teak. They do not possess the properties of Teak.

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BURMA TEAK

Stoneham & Kirk

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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, FEBRUARY 13, 1941. NUMBER 2403 : VOLUME 93

PRINCIPAL CONTENTS

Owing to the paper shortage 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.*

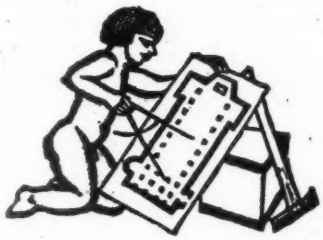
To obtain your copy of the JOURNAL *you must therefore either place a definite order with your newsagent or send a subscription order to the Publishers.*

B R U G E S

The spire of Notre Dame at Bruges from the forecourt of the "Man in the Moon" Museum

DETAIL IN CONCRETE

Except for doors, seating, and chancel furnishings, the structure and decorative finishes of the church of St. Karli, near Geneva, are almost entirely executed in reinforced or mass concrete. The wall shown in the detail is wire-brushed concrete and the figures were carved in situ from specially prepared reinforced concrete blocks. The steps are bush-hammered concrete and the column was cast in special steel shuttering.



MAN POWER AND THE PROFESSION

AT the time of writing a new Schedule of Reserved Occupations is expected to be published at any moment, and it is highly improbable that architects will reappear in it for the third time.

The chief reason for this omission is that the Ministry of Labour and National Service holds, with justice, that a Schedule of Reserved Occupations does not allow our man-power to be allocated with the exactitude now necessary. At the beginning of war a Schedule was a most useful general guide. To-day it is necessary to consider individuals and not professions; to distinguish sharply between an editor of "Mayfair Gossip" and an editor of the *Manchester Guardian*, between an architect completing accounts for a local cinema and an architect working on a munitions factory.

This distinction is plainly just in theory, and there can be no doubt that in the next six months, as the demand for man-power for war work becomes greater, it will be applied in practice.

How do architects stand in this matter? Architects are needed now and will be increasingly needed for four jobs: new building for war purposes; repairs to buildings of great importance; local authorities' work on repairs, shelters, and claims for compensation; and executing repairs and claims for private persons. Members of other professions are also needed for such work. But though the architect has not the specialized knowledge of a structural engineer, quantity surveyor or valuer in one particular field, he has a general knowledge of all aspects of building; and that is the knowledge which is most needed for solving the mass of war-time building problems.

At present, before the new call-up of men and women has begun, architects are still needed for air-raid repair work by local authorities and public utility companies, and architects of the most useful ages for most of this work, those between 25 and 35, are unobtainable. This situation confronts the profession and Ministry of Labour with two important questions: are there enough suitable architects over 35 to supply the existing demand; and what is going to happen if that demand is doubled or trebled?

The answer to the first question is undoubtedly—Yes, but these architects are in the wrong places. Portsmouth, Bristol, Birmingham, parts of the London Region and other cities, have needed or still need additional architects to help local authorities, and local private architects who would normally supply such help are now too few in number and too busily engaged on private repairs and compensation claims to do what is needed. Simultaneously, there are many architects over 40 in areas which have not been bombed who have little to do or are even suffering serious financial hardship. Yet these partly or wholly unemployed architects have not shown themselves willing to move to where they are needed in sufficient numbers.

Now, it is clear that if the labour and skill of the country is to be mobilized on the scale which is promised, this state of affairs cannot go on. Sooner or later—and very soon, indeed, if widespread bombing begins again—the Government will not ask but will order architects to go where they are needed.

It therefore would be wise for the profession to do all it can, at once, to prepare a scheme which will enable architects to take up new duties with the least possible hardship, and in an order which takes proper account of age, qualifications, physique and local commitments.

The preparation of such a scheme will entail consultations between the Ministry of Labour and the R.I.B.A. concerning the rate at which architects are likely to be needed and the types of work for which they will be needed. It will also require a new census of all architects who are not in the Armed Forces; an examination of the work which each is doing and of his personal circumstances; careful decisions by each local Society as to the order in which its members should volunteer to serve elsewhere; and agreement between the R.I.B.A. and the Government as to the method and the degree to which cases of grave personal hardship can be mitigated.

The working out of such a scheme, however tactfully done, is bound to involve decisions and disclosures which everybody concerned will dislike. But if such a scheme is fully prepared it is probable that the Government will accept it, and architects will have the advantage of knowing where they stand, when, approximately, they will be called on, and, possibly, sympathetic consideration of financial hardship.

If no scheme is prepared it is almost certain that there must come a time this year when architects will simply be called up for service in a stated area—at short notice and with little or no consideration of individual qualifications, local commitments or personal hardship.

The Architects' Journal
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Telephone: Vigilant 0087-9.

NOTES & TOPICS

LAND AND AFTERWARDS

ARCHITECTS are rarely experts in the labyrinthine complications of land ownership and values, but all architects know one thing about land and buildings, and know it beyond question: that no town planning scheme can be well carried out unless a fairly large area of land can be regarded for the purposes of the scheme as being under one ownership.

*

To believe this is not to believe that town planning can only be well carried out on publicly owned land—though sometimes it looks as though this was in fact the truth. But it is to believe that the execution of a scheme designed to benefit everyone must take precedence—with allowance for reasonable compensation—over the interest of any individual or small group. In theory, this contention has been admitted and enforceable ever since the first town planning Act. In practice, the interest of individuals and small groups has been so powerful in planning matters, the legal processes so cumbersome, and compensation so heavy, that one can safely say that *never* has public interest triumphed over private interest in any planning scheme of measurable size.

*

The reason for this continued failure is not the cunning, wealth and influence of interested individuals (though no doubt these have played their part), but the inability of the general public to grasp how much they would gain by good town planning. Public opinion can be roused, in the last resort, about appalling factory conditions and appalling slums by describing these conditions in word, picture and film—and it is not difficult to imagine a good factory or good housing. Opinion cannot be similarly aroused among those whose votes matter about the evils of planlessness. Pictures of unplanned places look only like any place, anywhere. Calculations of time lost in traffic jams or in trains and descriptions of what could be done by good planning are too big, too vague and too boring for the man in the street.

*

We are now coming to a time when this public *v.* private issue in planning will have to be looked squarely in the eye—and dealt with. However perfect the plans drawn up for post-war building in town and country, they will clearly never be carried out unless the powers of obstruction possessed by private individuals from 1919–39, and the amounts they could claim for compensation, are both reduced.

*

The Minister of Building has given a first sign that the Government is not going to be afraid of this highly explosive question by warning land speculators in the City of London that they are liable to have their fingers burnt. So far, good. Beyond this preliminary skirmish loom the battles royal—over Betterment outside towns and Pooling inside them.

*

To architects, who are no doubt unworldly people, it has for years seemed flagrantly unjust that a landowner should have the value of his ground raised from £50 to £500 an acre by a main road being taken through it. The owner has done nothing to earn such a profit and if he realizes it by selling building plots he not only does nothing to help the building of the road, but seriously reduces its efficiency. That he should not be compelled (*a*) to keep his land as it was, or (*b*) disgorge the rise in value if he sells it as building plots, constitutes so fantastic a handicap to planning that it alone would explain the absence of constructive town planning between the wars. That nine-tenths of any increase in land values created by public works shall be recoverable by the public will have to be the first plank in post-war planning policy. (The other tenth will be well lost in reducing opposition.)

*

"Pooling" is an even more thorny matter than betterment. The silliness of all the pleas for a new Wren Plan for London is obvious to anyone who bothers to walk through the City. Here and there the Luftwaffe has destroyed as much as a "block" of buildings; but destruction on this scale is rare. Everywhere else, one, two or three buildings together are badly damaged, followed by four or five hundred yards of untouched London before another damaged building is met. No New Plan conceived outside a mental home could use the damaged sites and leave the rest virtually untouched. The only way in which London can be rebuilt better is for all sites in certain reasonably large areas to be pooled—irrespective of whether the buildings on them are damaged or not—and replanned as one unit.

*

Such a scheme would not, of course, mean a new London, only a London in which a few hundred patches had been greatly improved and brought into better relationship with each other and with the rest of the city. But it would be a better London.

*

Yet even so modest a New Plan as this would meet intense opposition. Pooling of sites for redistribution would mean pooling of site values for future redistribution and adjustment. Uncertainty would lay its clammy hand on the neck of each member of that pyramid of interested parties which surmounts almost every site in the City—ground landlords, leaseholders, building owners, occupiers,

mortgagees and all the rest. And City estate agents whose encyclopædic knowledge of property values in that square mile has been worth a small gold mine will go nearly frantic.

*

There is little doubt that all of these will vote solid for keeping things as they are. Pooling, however, will be as essential to reconstruction in towns as public recovery of betterment will be to reconstruction outside towns. And if the post-war Government shies away from the difficulties of either, constructive planning will remain nothing more than a nice idea for the rest of our lives.

ANTI-INCENDIARY

Just at the moment the population of Britain is finding that this fire-watching business is no joke. We have all slept in such odd places since war began, that at first it seemed no great hardship to find three people each night to doss down in the office or the shop. In practice, it is proving very difficult to arrange. And even when it has been arranged, it is clear that man-power is not the only difficulty.

*

In business or commercial districts it is more certain than probable that the heroic band will either have no incendiaries pattering upon them or they will have more than they like. And these incendiaries will not land decently, as practice bombs do, in the concrete yard of an A.F.S. station. They will stick on the ridges of roofs, get behind the tanks in the roof space, and smack through a basement skylight into the far end of the stock room. It is not everybody who is an expert at roof walking, and therefore it is vital that all fire-watchers should know their building so thoroughly that roof walking is cut to a minimum, and have at hand the rope, long rake and short ladder which may rob unavoidable roof walking of its biggest dangers.

*

One office manager has trained his fire parties in knowledge of their own building by hiding shillings in white envelopes in whatever unlikely place an incendiary might lodge. The method, I am assured, was wonderfully successful. I was not told to whom the shillings originally belonged.

*

While these nation-wide games are going on, the Home Office has been paying attention to another side of the problem—how the combustibility of the average building can be reduced. Two methods are advocated: clearance of top floors and roof spaces, and increasing their fire resistance.

*

It is suggested that roof spaces should be swept and garnished, and that top floors, if they cannot be cleared entirely, should be used as offices and not as stockrooms. Secondly, it is suggested that the top floor should be made fire resisting by treatment with one or other of the materials laid down in B.S./A.R.P.47 (2 inches of sand, ¾ plaster board, etc.) and that all timber above this level should be treated in conformity with B.S./A.R.P.39 (fire resisting paints).

*

There is no doubt that such treatments would substantially reduce risk of fire from bombs falling on the block actually protected, but in my view there are two serious drawbacks to these schemes for applying protection. First, buildings in dangerous areas often consist of a main block of, say, 5 floors and all sorts of adjoining wings and lean-to's of 1, 2, 3 or 4 floors. To protect the "top floor" of every part of the building would be a Herculean task, and in many cases an impossible one. Secondly, unless compulsion is applied, the mass of property owners and occupiers (who always let the careful few down) will not even clear attics and top floors. And somehow one doubts whether Mr. Morrison will be brave enough to pile on this extra load of compulsion just now.

LANDLORD'S FIXTURE

About two and a half years ago I yielded to the temptation of buying for my office ceilings three charming light fittings. In shape they were a flat bowl and their attraction for me, as for many other architects and their clients, was that they clung to the ceiling with no visible means of support. You held the bowl gently against its backplate, pressed an unobtrusive metal arm at the side, and there you were.

*

And there, for two and a half years, my ceiling fittings have been. They were not illuminated very often and I never had to change a bulb. They were ceiling fittings of excellence.

*

Recently, as have others in London, I moved my office. And during the last and rather sorrowful look round, I noticed that the removal men had moved everything—except my three beautiful bowls. I was annoyed. I fetched a chair and a screwdriver. I supported a bowl with one hand . . . and I pressed the unobtrusive metal arm with the other.

*

The manufacturers of those fittings may consider that two and a half years of efficient service for a very moderate sum is enough for any man. It is a reasonable contention. But the sad fact remains for me that, reasonable or not, it seems I must accept it. For I can think of no method by which those fittings can be moved. After two and a half years of disuse the releasing switches have jammed immovably.

THE MAN WITHOUT A SHIRT

In a letter from Basle to the Earl of Shrewsbury, Augustus Welby Pugin mentions his celebrated ulster in the following terms:—

"I never saw heavier rain, and those who had any luggage got it soaked; thanks to my large pockets and mackintosh I escaped dry. It is quite delightful to travel without incumbrances. I care nothing for custom houses and baggage offices. *I have everything about me, and cannot leave anything, it is the only way to travel with comfort.*"

*

The italics are Pugin's. As can be gathered he was very proud of his invention. But it had limitations. On one occasion, a client making the Channel crossing on the same steamer, accosted the architect, and asked him where he was bound for.

"Germany—for a month or six weeks."

"Travelling light," commented his friend. Pugin then expounded his mode of packing about his person.

"But—What about a change of linen?"

"Oh,—that is no difficulty," replied Welby. "I can borrow a shirt *in any city in Europe*."

ASTRAGAL

NEWS

THE INSTITUTION OF STRUCTURAL ENGINEERS

The following members were elected on January 23:

Studentship.—Paul Stuart Chester, of Malvern, Worcs; Norman Simpson, of Dewsbury, Yorks.

Graduateship.—James Edmondson Langhorne, of Guiseley, Leeds; George Howard Wilkins, of East Molesey, Surrey; George Maxwell Cornfield, B.Sc., of London; Richard Whittle, of Farnworth, Lancs.

Associate-Membership.—Habaraduwa Kudabokola Melson, of London and Ceylon; John William Leslie Dalton, of Manchester; Duncan Milliken, of Chorley, Lancs.

Membership.—Maurice Henry Limb, A.M.INST.C.E., of Fetcham, Surrey; Cecil William James Spicer, of Cheam, Surrey.

LONDON SHELTERS

The following resolution was passed *nem. con.* at the conference convened by the Association of Architects, Surveyors and Technical Assistants and the National A.R.P. Co-ordinating Committee, to which London borough officers and councillors were invited to discuss A.R.P. in all its aspects.

This meeting of councillors and chief administrative officers of local authorities, coming from some thirty councils in the London Area, expresses its disquiet at the effects of Government A.R.P. policy on the provision of measures for safety, health, and welfare of the people of the London Area.

It expresses its views that a much higher standard of safety, health, and welfare are both necessary and practicable, and is therefore of opinion:

(*a*) that in the densely populated areas large subdivided shelters or, where practicable, tunnels, containing all the amenities essential to maintain health and a reasonable standard of comfort should be provided, realizing that only by such means is it practicable to raise all such standards, and to give satisfactory protection against gas attack.

(*b*) that all future shelters in densely populated areas should be so designed as to allow of subsequent strengthening sufficient to render them proof at least against direct hits of medium calibre bombs.

It further expresses its views that the system of Regional Commissioner, as at present constituted, requires local authorities to operate policies with which they may disagree, and it therefore expresses its opinion that such a system should be so reconstituted as to allow to the local authorities both adequate representation and the right to exercise initiative.

Realizing that the implementation of the above opinions involves a change of Government policy, the meeting expresses its views that concerted action by the local authorities to secure such a change is necessary, and those present agree to work for the furtherance of such concerted action.

FACTORY LIGHTING

The Minister of Labour and National Service has made regulations prescribing standards of lighting in certain classes of factories. It will be recalled that the regulations were issued in draft last autumn. The regulations as made are substantially similar to those issued in draft, the main difference being that the list of classes of works of a special character in the schedule to which the regulations apply only in a somewhat modified way has been extended. The regulations came into force on February 1.

SPECULATION AND RECONSTRUCTION

The following statement was made in the House of Lords on January 29 by Lord Reith, Minister of Works and Buildings:

I welcome this opportunity of announcing a particular initial step in the preparatory work for reconstruction. In the debate on November 13 there was reference to the difficulties of compensation and betterment. Existing provisions have not worked satisfactorily. They have been proved an obstruction to planning throughout the country. The Royal Commission on the Distribution of the Industrial Population recommended that the subject should be remitted for expert examination. If it was important then it is imperative now with post-war reconstruction in view. I have accordingly appointed an expert Committee. The Committee will not deal with policy issues; these are the concern of the Government. In addition, confronted with the complication referred to in the Noble Lord's Question—the possibility of speculation during the war hampering or prejudicing the work of reconstruction thereafter—we have asked the Committee to advise urgently on that point.

Membership of the Committee: Mr. Justice Uthwatt (Chairman), with the kind approval of my Noble and Learned Friend on the Woolsack, and Messrs. James Barr, Gerald Eve, F. R. Evershed, K.C., and James Wylie.

Terms of reference: "To make an objective analysis of the subject of the payment of compensation and recovery of betterment in respect of public control of the use of land: To advise, as a matter of urgency, what steps should be taken now or before the end of the war to prevent the work of reconstruction thereafter being prejudiced. In this connection the Committee are asked: to consider (*a*) possible means of stabilizing the value of land required for development or redevelopment, and (*b*) any extension or modification of powers to enable such land to be acquired by the public on an equitable basis; to examine the merits and demerits of the methods considered and to advise what alterations of the existing law would be necessary to enable them to be adopted." The latter part of these terms of reference makes it clear that the Government do not intend that reconstruction after the war shall be hampered or prejudiced in any way by speculative transactions or any other such individual operations carried out in advance.

THE NEW COMMITTEE:

Mr. Justice A. A. UTHWATT. Recently appointed Judge of the High Court of Justice. Called to the Bar 1904. Junior Counsel to Treasury and Board of Trade 1934. Treasurer of Gray's Inn 1939 and 1940. Chairman of recent Government Committees on Responsibility for Repair of Premises Damaged by Hostilities; Liability for War Damage to the subject matter of Contracts; and Principles of Assessment of War Damage to Property.

Mr. JAMES BARR. Vice-President of the Chartered Surveyors Institution and a leading Scottish surveyor. Chairman of Department of Health Committee on Building Costs. (Rendered distinguished service in connection with Empire Exhibition in Glasgow.)

Mr. F. R. EVERSHED, K.C. Chairman Central Price Regulations Committee. Called to the Bar 1923 Bencher 1938.

Mr. GERALD EVE. President of the Chartered Surveyors Institution 1932-33. A leading surveyor, specializing in compensation and rating cases. Member of Committee on Responsibility for Repair of Premises damaged by Hostilities and of Ministry of Health Advisory Committee on Town and Country Planning.

Mr. JAMES WYLIE, C.B.E. Barrister. Called to the Bar 1901. Legal Assistant in Department of H.M. Treasury Solicitor 1914. Author of various legal text books.

ANNOUNCEMENT

Major R. A. B. Smith, M.C., has resigned from the Directorship of the Cement and Concrete Association, a position which he has held since its formation in 1935. He has been concerned with practically every important development in concrete construction during the past seventeen years, and is a member of the Council of the Institution of Structural Engineers and an Associate of the Institute of Town Planning. In September, 1939, his services were placed at the disposal of the Research and Experiments Department of the Ministry of Home Security. He is resigning from the Cement and Concrete Association to set up in private practice as a consultant.

LETTERS

D. M. CROMIE
LIONEL B. BUDDEN
HUBERT F. BATEMAN

Ancient Lights

SIR,—If there is to be any sensible reconstruction in this country after the war, surely the abolition of "Ancient Lights" should take precedence. This institution of legal jumbo-mumbo may provide work for lawyers and surveyors, but it is simply a nuisance.

The lights are *not* Ancient—but should be made so by altering the law from twenty to two hundred years, and the whole business would die a natural death.

Are ancient lights recognized in America or France?

D. M. CROMIE

Liverpool School of Architecture

SIR,—Some time ago it was stated in the course of an article in *The News Chronicle* that the Liverpool School of Architecture had closed. When my attention was drawn to this statement I immediately wrote to the Editor of *The News Chronicle*, who promptly published a correction. Unfortunately, the original statement seems to have obtained wider currency than the correction. As a result, I am still receiving inquiries as to why the school is closed and when it may be expected to open again.

I shall be greatly obliged, therefore, if you will be kind enough to give me this opportunity of saying once again that the school is not closed and that there is no intention that it shall be closed.

While we no longer have our normal complement of 220 students, we still have over 100 students taking the full five year course, leading either to the Degree or the Diploma in architecture. The school's department of Civic Design also continues to function and includes among its students fifteen who are taking either the Degree or the Diploma Course in architecture.

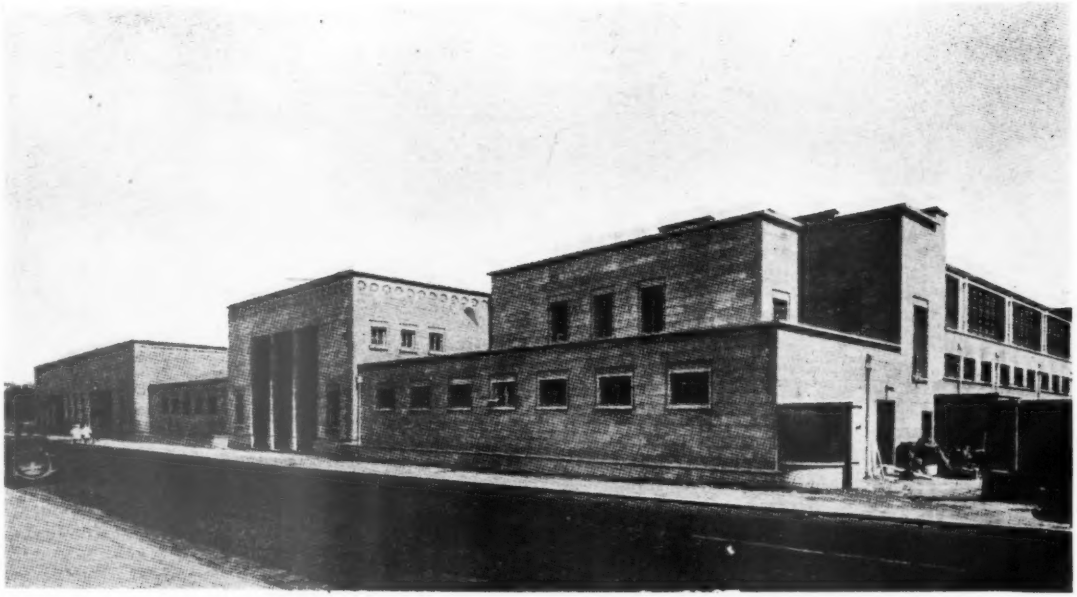
LIONEL B. BUDDEN

War Damage

SIR,—I noted with much interest some photographs of war damaged buildings in your issue of January 16, 1941: among others, St. Lawrence Jewry, E.C. It has occurred to me that where records of such buildings exist a use might be made of the drawings for some purpose, or such records might be photographed for reproduction when the war is over. Among architects there must be a number with records made during student days.

I have a complete set of measured drawings of St. Lawrence Jewry, $\frac{1}{8}$ in. scale, $\frac{1}{2}$ in. details and full size details of the most important architectural features of this famous church, also including the organ case. I also have complete measured details of the elevation of No. 34 Great Tower Street, E.C., one of the old merchant princes houses, details of which were published in your JOURNAL some years back. This house may have been destroyed, as I observed All Hallows, Barking, suffered damage.

HUBERT F. BATEMAN



BATHS AT LANCASTER

BY FREDERICK HILL, CITY ENGINEER AND SURVEYOR

PLAN—The accommodation includes a large bath hall for mixed bathing during the summer ; a smaller bath hall for school children, clubs and public at certain hours ; slipper baths ; foam baths and a café.

The main bath hall is 120 ft. long and 78 ft. wide, with concrete arch trusses rising 35 ft. from the floor. The bath measures 100 ft. by 36 ft. About 600 spectators can be accommodated at galas and water polo on the terrazzo terracing down the sides of the hall. The stepped ceiling has been treated acoustically. The continuous windows are operated by electrical gearing.

The café balcony on the first-floor level overlooks the hall at one end, and at the other end is the proscenium arch of the stage. The bath can be covered and used for dances or social functions, and the changing rooms can be cleared for supper rooms. The pool varies from 3 ft. deep to 8 ft., where a diving stage with 15 ft., 3 metre, 2 metre and 1 metre fixed boards and a 1 metre spring board is provided.

The smaller bath hall is 115 ft. by 44 ft., with a bath 95 ft. long by 30 ft. wide, and varying from 3 ft. to 6 ft. 6 in. deep. There is no seating for spectators, although the bathers have the same facilities as in the large pool.

After undressing and before entering the bath, the bather passes through ablutionary chambers with footbaths, showers and footsprays. In each changing room there are cubicles and steel lockers. The cubicles are used for undressing and dressing, and, while the bather is in the bath, his clothes are stored in a locker which can only be opened by the attendant.

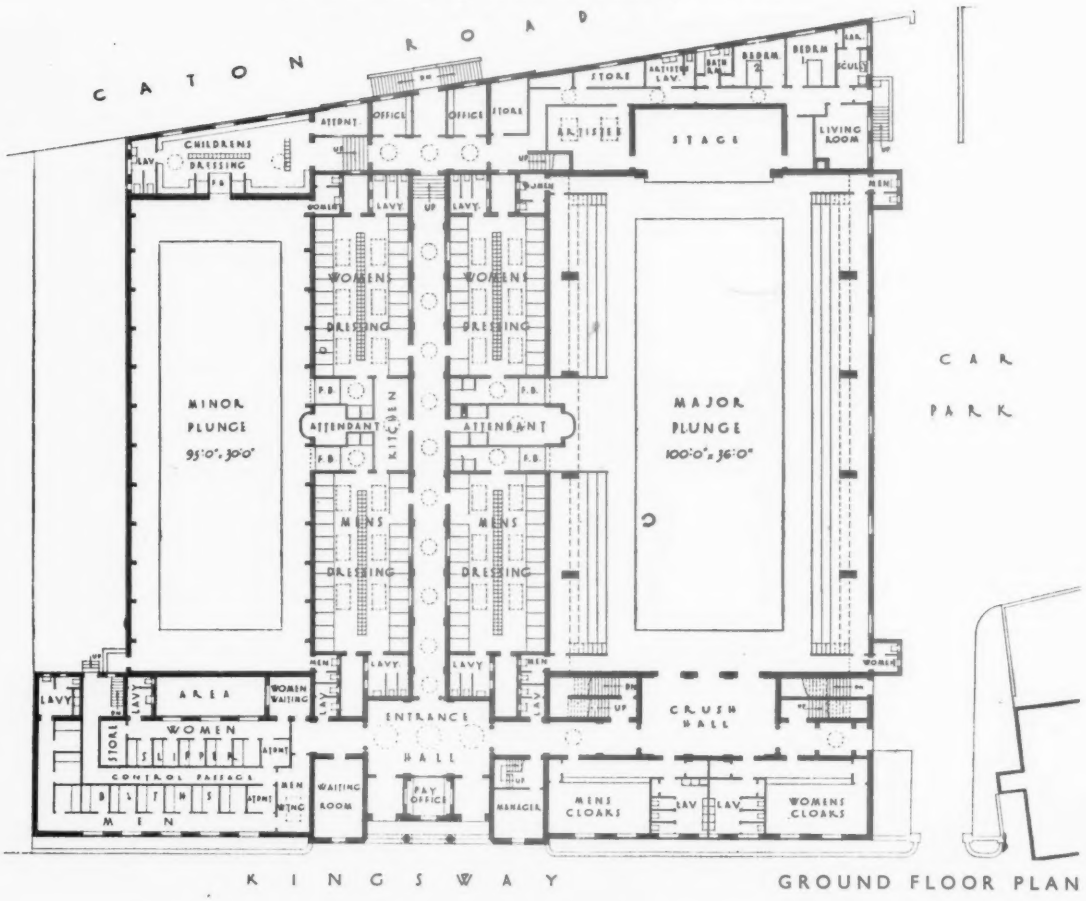
CONSTRUCTION AND FINISHES—Foundation, pools, and framework, reinforced concrete ; walls, brick, rendered externally with sand and cement ; front elevation Longridge stone. The pools are cement rendered and finished with white faience slabs with black racing lines.

In the slipper baths, bath halls, and main corridors the walls are lined with cream terrazzo. The bath surround is paved with 4 in. by 4 in. tiles with non-slip surface.

HEATING AND FILTRATION PLANT—The water is continuously circulating, and the plant is capable of turning over 205,000 gallons, the contents of both baths, every four hours. Before entering the baths the water is passed through three horizontal air-scoured filters using soda alumina coagulent, heated, sterilized with chlorine and ammonia injections, and aerated. The suction sweeper connections in the two baths are connected to the plant and permit the baths to be cleaned without running off the water to waste.

The general contractor was Mr. A. O. Thoms ; for list of sub-contractors see page xx.

Above, the main front.



GROUND FLOOR PLAN

Above, the smaller bath hall

PUBLIC BATHS, LANCASTER • BY FREDERICK HILL

992

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TYPICAL ARRANGEMENT OF RIGID FRAME CONSTRUCTION

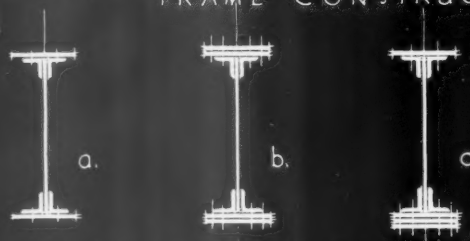


FIGURE 1 : Typical unsymmetrical plate girder sections for corners of frames.

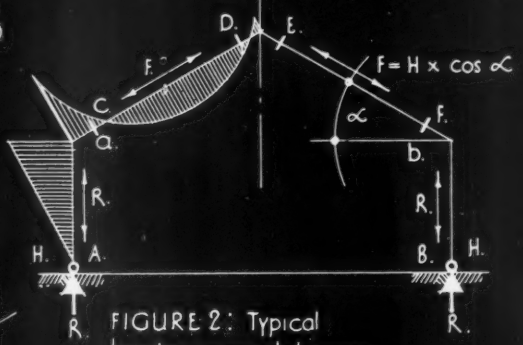


FIGURE 2 : Typical bending moment diagram.

FIGURE 3 : an arrangement of plates for a rigid joist frame.

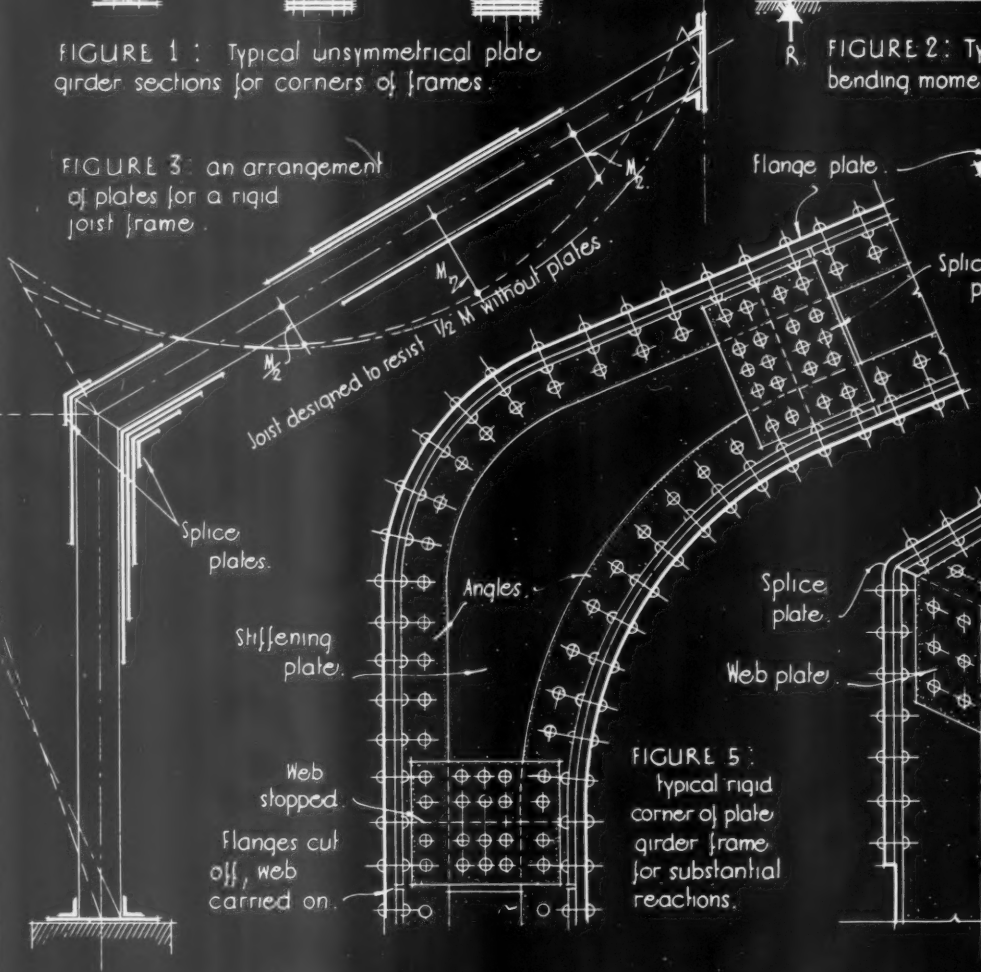


FIGURE 5 : typical rigid corner of plate girder frame for substantial reactions.

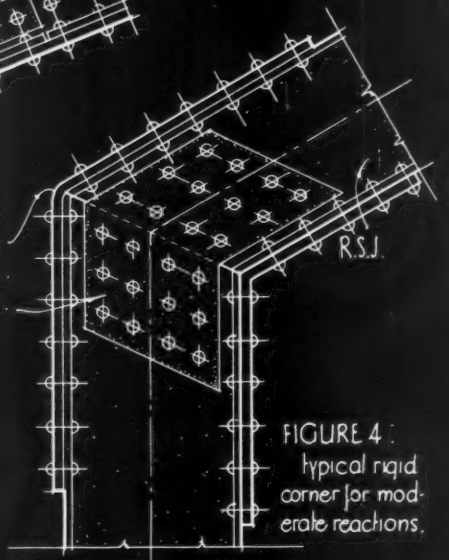


FIGURE 4 : typical rigid corner for moderate reactions.

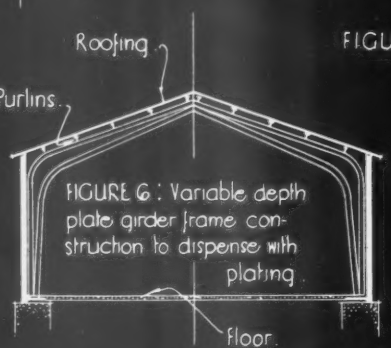
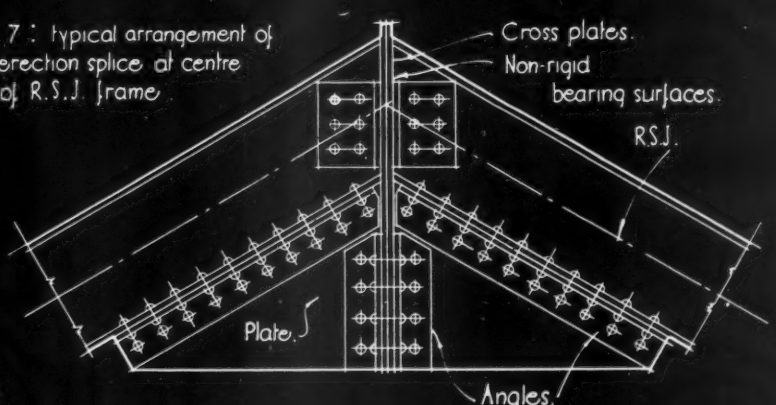


FIGURE 6 : Variable depth plate girder frame construchon to dispense with plating.

FIGURE 7 : typical arrangement of erection splice at centre of R.S.J. frame.



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Compiled by C.W. Hamann, Consulting Engineer.

INFORMATION SHEET : STEEL FRAME CONSTRUCTION : No. 43.
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INFORMATION SHEET

• 816 •

STRUCTURAL STEELWORK

Subject : Steelwork for Roof Construction, 11 ; Rigid Frame Construction.

General :

This series of Sheets on steel construction is not intended to cover the whole field of engineering design in steel, but to deal with those general principles governing economical design which affect or are affected by the general planning of the building. It also deals with a number of details of steel construction, which have an important effect upon the design of the steelwork.

Both principles and details are considered in relation to the surrounding masonry or concrete construction, and are intended to serve in the preliminary design of a building so that a maximum economy may be obtained in the design of the steel framing.

This Sheet is the forty-third of the series, and deals with rigid frame construction.

Function :

The function of rigid frames is to carry bending as well as compressive stresses.

Sections :

The same sections as for columns are applicable, but, in addition, owing to the fact that the bending moments vary considerably, a section similar to that of a plate girder is often used, which allows a greater variation in the section modulus. Also, as the normal force and the bending moment at certain points always have the same sign, unsymmetrical sections are suitable. Certain typical sections for such frames are given in Figure 1.

Bending Moments :

In the left-hand half of Figure 2 a bending moment diagram is indicated for a typical frame, and in Figure 3 an arrangement of plates is shown for a frame consisting of plated joists. The joist itself is calculated to carry the compression and the bending moments in the neighbourhood of the points of contra-flexure C, D, E and F, and the supports A and B, which, as the diagram shows, are small. The additional plates give the necessary increase of strength where it is required.

Corners :

In Figure 4 the construction of a rigid corner is shown where the forces concerned are moderate. A more substantial corner is shown in Figure 5.

Section Modulus :

If a plate girder section is chosen, the depth may be varied and the increased section modulus can be produced by this method rather than by the addition of plates.

See Figures 5 and 6, where the construction of a rigid corner in the case of a plate girder frame is also shown.

Erection Splices :

Erection splices can be so arranged that they are not in the corners but in positions as indicated by *a* and *b* in Figure 2, where bending moments would be small. They would be carried out in accordance with the connections shown in Sheet No. 22 of this series.

Apex :

An erection splice is generally required in the centre, and as it is often intended to act as a hinge, it is not constructed rigidly, and the construction of each half is then similar to the base of a column. See also Figure 7.

The arrangement of a hinge in the centre usually means an increase in the bending moments at the other corners, and a decrease between corners. Such a bending moment diagram has been indicated by the chain dotted line in Figure 3, and indicates an increase in bending moment at the corners and a reduction near the apex. If the increase in section modulus, which becomes necessary, is effected by means of additional plates at the corner, while plates otherwise necessary for the bending moments at the apex are omitted, there would not be much difference in material, and the erection advantages given by a hinge-like construction in the centre make the latter arrangement more economical.

Previous Sheets :

Previous Sheets of this series on structural steelwork are Nos. 729, 733, 736, 737, 741, 745, 751, 755, 759, 763, 765, 769, 770, 772, 773, 774, 775, 776, 777, 780, 783, 785, 789, 790, 793, 796, 798, 799, 800, 801, 802, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, and 814.

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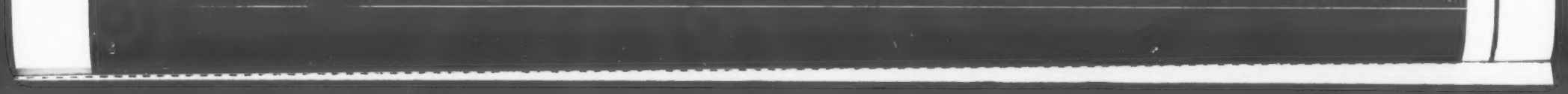

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ZEISS DYWIDAG CHISARC & SHELL D CONSTRUCTION:

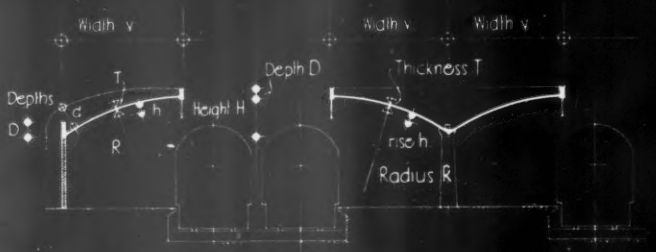

FIGURE 1: VAULTS & END FRAMES FOR RAILWAY PLATFORMS

FIGURE 2: EXPOSED END FRAMES FOR GRANDSTANDS

FIGURE 3: COVERED END FRAMES FOR GRANDSTANDS

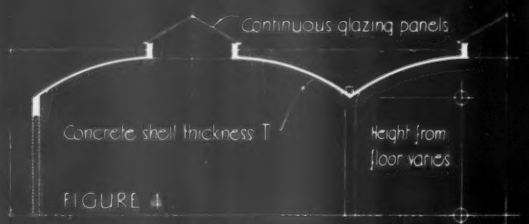

FIGURE 4

END FRAMES FOR BUILDINGS HAVING EQUAL BAYS

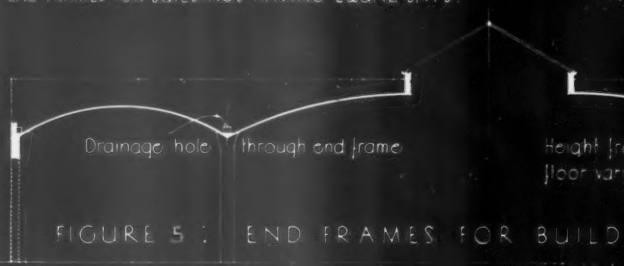

FIGURE 5: END FRAMES FOR BUILDINGS HAVING UNEQUAL BAYS

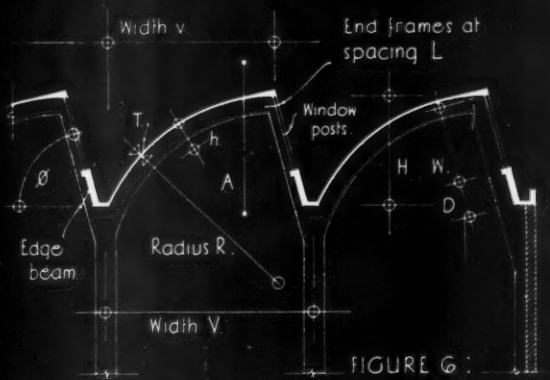

FIGURE 6: CROSS SECTION OF NORTH LIGHT SHOWING END FRAMES

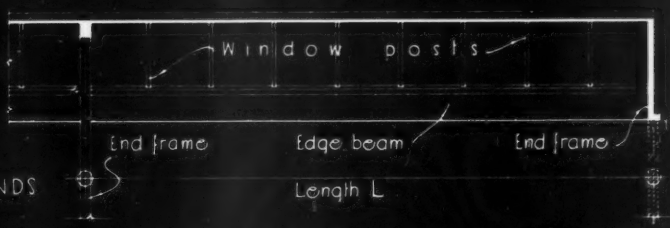

FIGURE 7: LONGITUDINAL SECTION A.

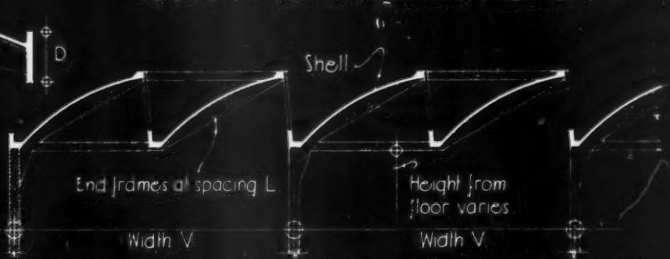

FIGURE 8: END FRAMES FOR TWO NORTHLIGHTS

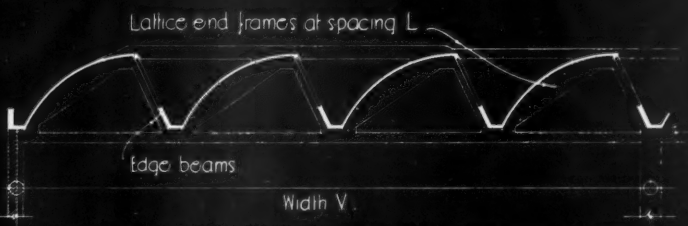

FIGURE 9: END FRAMES FOR FOUR NORTHLIGHTS.

Issued by Ernest A Newton, Chartered Architect Compiled by H G Cousins, Chartered Civil Engineer

INFORMATION SHEET: ROOF CONSTRUCTION: R·C BARREL VAULTS - 2 - UNSYMMETRICAL.

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INFORMATION SHEET

• 817 •

ROOF CONSTRUCTION

Subject : Unsymmetrical Reinforced Concrete Barrel Vaults : Zeiss, Dywidag, Chisarc, and Shell " D " Construction, No. 2.
(British Letters Patent No. 362473.)
Egypt Patent Nos. 223/51, 10/51 and 107/51.

General :

This series of Sheets is intended to give an outline of the application of the many types of roof construction available. It is not intended to give the full details of the reinforced concrete, which are readily adaptable to the particular problem to be solved. There is a great variety in the shapes and dimensions of the roof surface and of the supporting members, the details of which can be varied to suit the required column spacing and height of the structure, and the details of the wall fillings ; each design in this construction includes the roof slabs together with all supporting beams, columns and foundations.

This Sheet is the second of the series and illustrates the dimensions of unsymmetrical reinforced concrete barrel vaults, or those in which the radius passing through the centre of the arc is inclined to the vertical. The first Sheet dealt with cylindrical reinforced concrete barrel vaults of small radius.

General Design :

The concrete shell slab is not rigidly supported at its springings as is common practice with vaulted roofs. Instead it spans as a beam of span (L) between the end frames which are rigid. (See Figure 7.)

The members at the springing or edge beams act only as tie members.

The total vertical height (H) of the barrel (see Figures 1, 2, and 3) should be at least one-eighth of the span (L). The rise of the arc (h) should be at least one twenty-fifth of the span (L).

The depth (D) of edge beams (see Figures 1, 2, 3, and 6) should be at least one-eighteenth of the span (L). Where, however, two barrel slabs meet at a considerable angle, as in Figure 2, the edge beam can be omitted. In the case of north light roofs (see Figures 6, 8, and 9) the edge beam at the upper edge of the barrel is very small, being supported by means of posts from the lower edge beam. These posts are usually 6" square and spaced at about 6' to 9' centres. Except in the case of north light roofs, the end frames are usually cantilevered and are therefore placed on the upper side of the shell slab, giving a very clean appearance to the underside of the roof. If, however, the outline of the roof is such that the end frames are more conveniently placed on the underside of the slab, this can readily be effected, see Figure 3.

As the end frames have to carry the whole load in one bay of the roof, the depth of the such cantilevered end frames at the supporting columns should be at least one-fifth of (V) ? or one-twelfth of (L).

The end frames of north light roofs are of the portal type ; compare Figure 8 on Sheet No. 1 of this series. Where the spacing of the columns in a north-south section of building is large, two or more north light roofs can be carried on one end frame usually of the open lattice type, see Figures 8 and 9.

The end frames at external walls can be made similar to the internal end frames as shown on this Sheet, or they can take any of the forms indicated in Figures 4 to 8 of Sheet 1 of the series.

The table below gives some typical dimensions for various spans of cantilever type, Figures 1 to 5.

Roof Lighting :

Roof lighting for buildings such as those illustrated in Figures 4 and 5 can be obtained by glazing the space between the upper edge beams of adjacent cantilever barrels with patent glazing or concrete and glass panels. A continuous bay of light is thus obtained. The curved surface of the roof shell free from obstructions gives a very high quality of light. This is particularly the case in the north light roofs where the reflection from the south prevents shadows cast by the light from the north.

Span (L)	Radius (R)	Depth (H)	Width (V)	Rise (h)	Depth (D)	Thickness (T)	Depth (d)
25′	28′	3′ 9″	14′	1′	1′ 6″	3″	3′
30′	33′	4′ 6″	16′ 6″	1′ 1½″	1′ 8″	3″	3′ 6″
35′	120′	13′ 3″	56′	3′ 4″	2′ 3″	2″	10′
40′	25′	5′	15′	1′ 3″	2′ 3″	3″	3′ 6″
55′	33′	12′	25′	2′ 6″	3′ 6″	2½″	5′
65′	80′	12′	50′	4′	4′	3½″	10′
80′	36′	10′	40′	6′	4′ 6″	2½″	9′
100′	66′	20′	75′	13′	6′	2¾″	13′ 6″

The following table gives some typical dimensions for various spans of north light roof, Figures 6 to 9 :

E. & W. span (L)	N.-S. span (V)	Width (V)	Radius (R)	Depth (H)	Rise (h)	Depth (D)	Depth (W)	Angle (Ø)	Thickness (T)
375′	35′	15′	27′ 6″	8′ 6″	1′ 5″	2′ 2″	6′ 6″	80 deg.	2¼″
375′	35′	31′	45′	13′	3′ 1″	3′	10′	80 deg.	2¼″
525′	90′	16′ 6″	17′ 6″	10′ 3″	2′ 9″	3′ 1″	8′	65 deg.	2¼″
60′	60′	15′	16′ 6″	12′	3′	3′ 6″	9′	75 deg.	2½″
76′	28′	21′	23′	13′	3′ 6″	4′ 6″	8′ 10″	70 deg.	2½″
80′	26′ 3″	21′ 6″	23′	13′ 6″	3′ 6″	4′ 6″	9′ 3″	75 deg.	2½″

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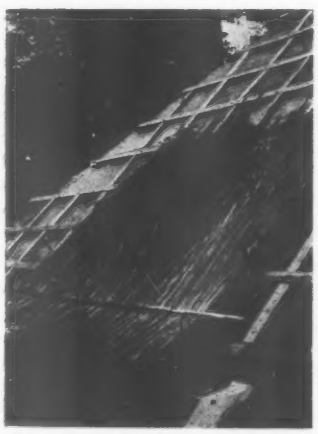
1: *The tilting fillet at eaves level and the first layer of Norfolk reed thatch being placed in position.*

2: *Wedging the first layer of reed tight under the hazel, which is then secured with an iron spike to the batten.*



3: *The first layer of reed in position and the first strip of hazel fixed.*

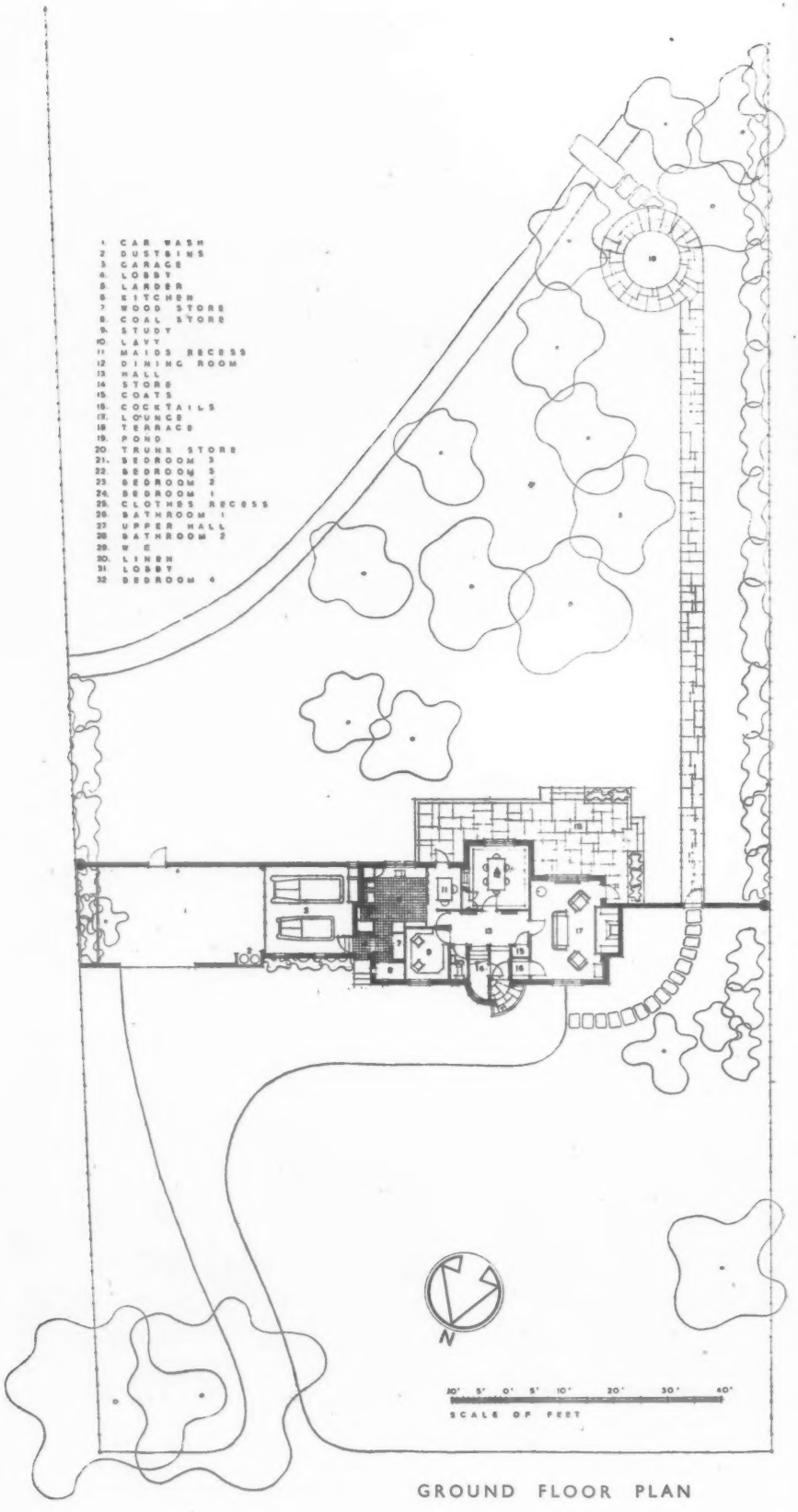
4: *The sweep round the dormers and the second layer of reed in position.*

HOUSE
AT ESHER

DESIGNED BY H. V. LOBB

THATCHING THE ROOF—Untearable felt was spread across the rafters and 2 in. by ¾ in. battens were laid over the felt and rafters to form squares of 1 ft. The first layer of Norfolk reed was laid and held in position by a strip of hazel secured to the lowest horizontal batten by a long iron spike. The next layer of reed was placed on top, so that only the ends of the reed of the first layer were visible, and were secured by another hazel spiked to the next horizontal batten. This method continued from the eaves to the ridge. Finally the reed was beaten into position until only the ends were visible in the finished roof. Hardly any cutting was done. Each layer is about 5 in. thick, and the total thickness of the roof about 15 in. Before fixing the reed was dipped in fireproofing solution. The ridge was made of sedge, a finer material of a grass-like nature, and covered with wire netting after fixing.

D



GROUND FLOOR PLAN

SITE—One acre in area, adjoining Esher Common, Surrey. It contains many fine trees and is separated from the common by a stream. Screen walls have been built to give privacy to the garden and protection to the fruit trees.

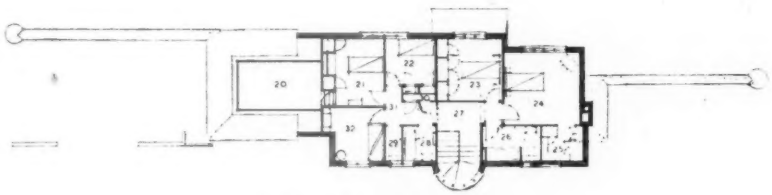
CONSTRUCTION — Walls, external, 11 in. cavity brick ; internal, 4½ in. brick ; roof, Norfolk reed thatch.

INTERNAL FINISHES — Floors : ground floor, 1 in. oak strip ; kitchen, quarry tiles ; first floor, deal, close carpeted ; bathrooms, rubber. Walls, generally, plaster, rough finish ; kitchen, tiled ; bathrooms, tiled.

HOUSE AT ESHER • DESIGNED

CLIENTS' REQUIREMENTS—The clients, who had lived in London, desired all the amenities of a modern flat. They did not object to small rooms if the maximum of built-in furniture was provided. The exterior was to be of cottage type.

Above, the south front ; bottom, north front



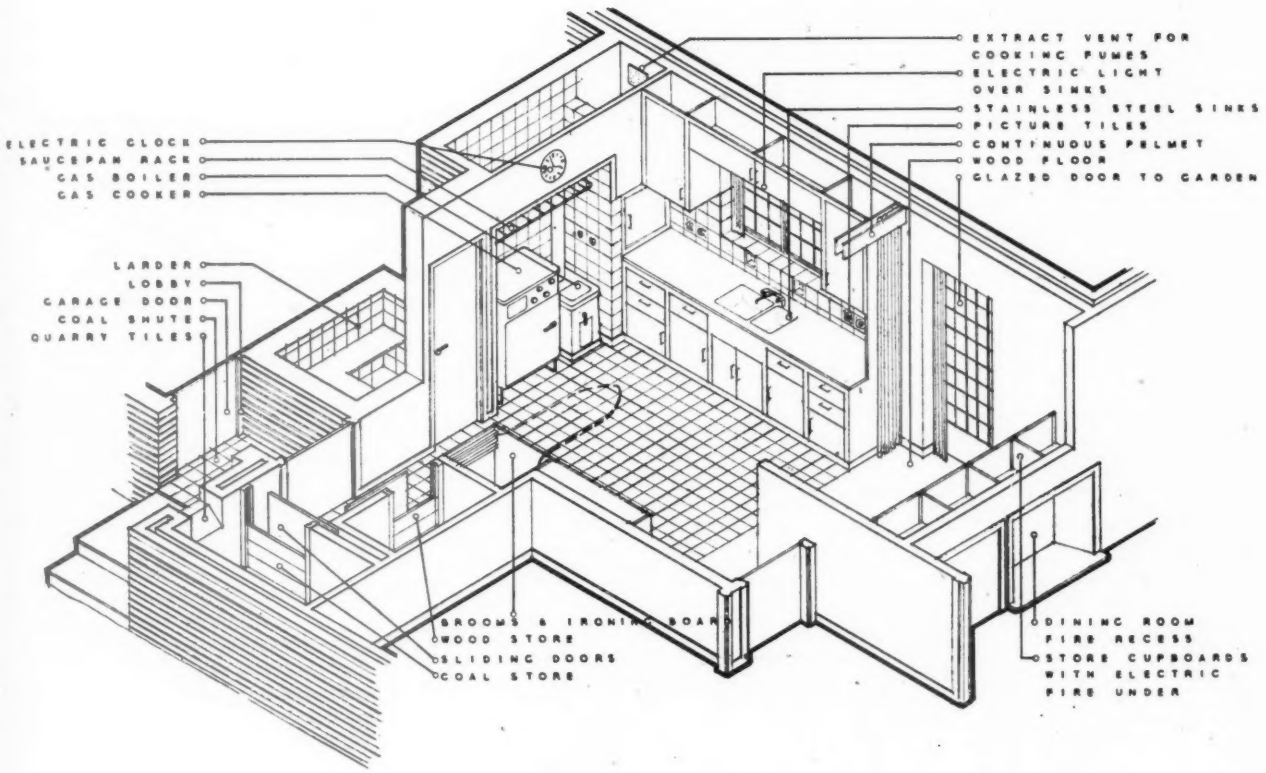
FIRST FLOOR PLAN

BY H. V. LOBB

HOUSE AT

Left, the kitchen sink; below, looking from the hall into the study, and from the hall into the lounge.

ESHER • DESIGNED BY H. V. LOBB

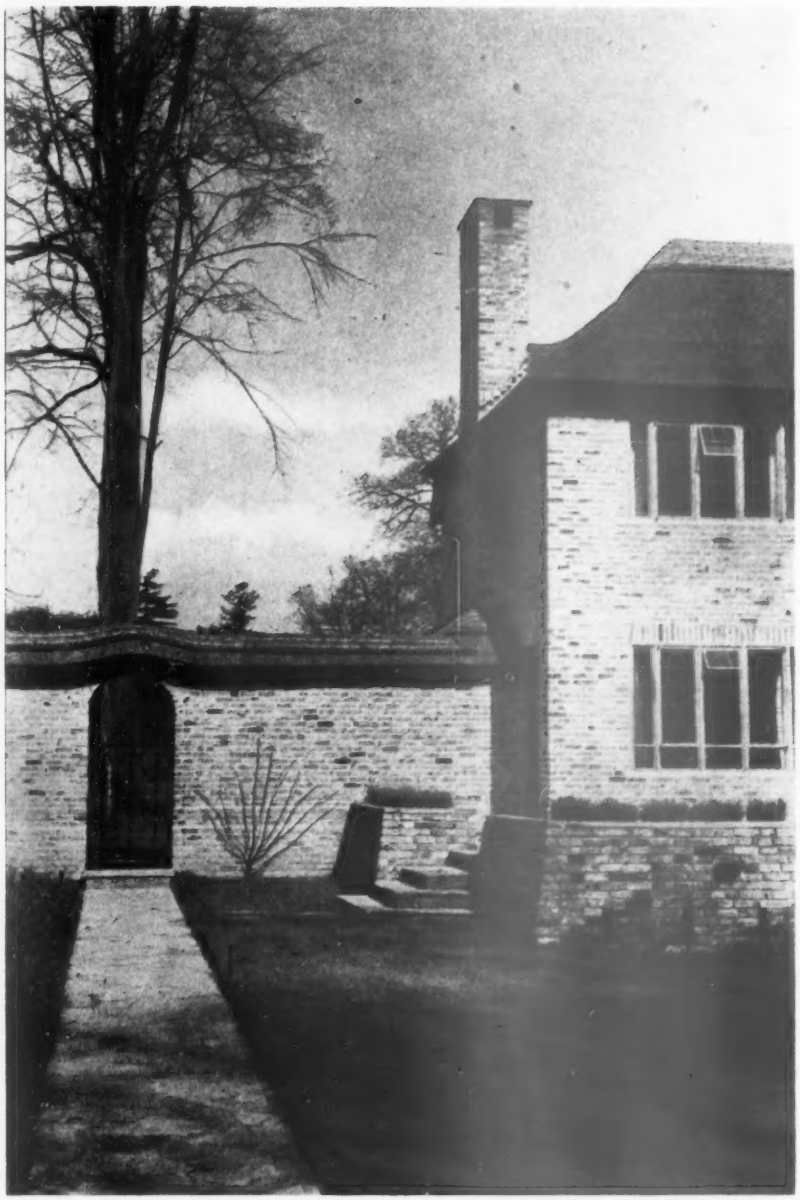


ISOMETRIC OF KITCHEN

FITMENTS—Bedroom No. 1, recess, cupboards, softwood, painted; bedroom No. 2, cupboards and fitments, birch, polished; study, fitments Australian walnut and copper; kitchen, built-in fitments, including ironing board, deal.

SERVICES—Hot water and central heating from gas boilers thermostatically and clock controlled; G.P.O. telephone plug points in each room; coal fire in lounge. All pipes are in ducts inside the house.

Left, the gas cooker and the gas boiler in the kitchen.



The west corner of the south front

The general contractors were Messrs. H. Fairweather & Co.; for list of sub-contractors see page xx.

HOUSE AT ESHER • BY H. V. LOBB

NEWS ITEMS

WAGES IN THE BUILDING INDUSTRY

The following statement has been issued by the National Joint Council for the Building Industry:

The National Joint Council for the Building Industry have reviewed the wages payments now in force under the National Joint Agreement, with the view of deciding what, if any, variation of current standard rates should be made in accordance with the sliding scale provisions of Rule 11 (b) (i), as amended under the Terms of Settlement of April 17th, 1935, and of November 22nd, 1939. The Council found that the Ministry of Labour Index Figures of the cost-of-living, published monthly during the antecedent twelve months, February, 1940, to January, 1941, inclusive, showed an aggregate of 1,026, so that the average monthly cost-of-living figure was 85½. Under decision (7) of the War-Time Emergency Wage Agreement, adopted and published by the Council on November 22nd, 1939, this average monthly index figure of 85½ corresponds to a Grade A standard rate of 1/10 per hour. The Grade A standard rate authorized at the last substantive review was 1/9 per hour, but it is recalled that an interim adjustment to 1/9½ per hour was made as from December 1st, 1940, and was prescribed to be "on account of (and to be merged in) any adjustment which is found to be due by the Statutory Meetiug of the Council in January, 1941."

Under the Emergency Agreement standard rates for other grades maintain their normal relation to Grade A standard rate in all cases and, by decision (5) thereof, equal adjustments have to be made in Labourers' rates (as a war-time emergency measure only).

Having the foregoing facts before it, the Council has resolved:—

"That, having reviewed the wages payments in force under the War-Time Emergency Agreement of November 22nd, 1939, the Council finds that a Variation Amendment of the Current Standard Rates is due to be made under that Agreement as from the 1st day of February, 1941. The adjustment would be by way of an increase of 1d. per hour on the rates authorized in September, 1940, the same increase of 1d. per hour being due also in the Labourers' rates. But, in view of the ½d. per hour increase to the standard and Labourers' rates which has already been in operation since December 1st, 1940, and which was prescribed to be merged in the present review in accordance with the decision of the Emergency Committee of October 22nd, 1940, the *actual increase* to the standard and Labourers' rates of wages due to be paid as from February 1st, 1941, shall be *one-halfpenny per hour.*"

Resulting from the application of this decision, the authorized grade rates payable on and from February 1st, will be as under:—

Grade Classification.		A	A¹	A²	A³
Craftsmen	.. ..	1/10	1/9½	1/9	1/8½
Labourers	.. ..	1/5¼	1/4¾	1/4½	1/4
Grade Classification.	B	B¹	B²	B³	C
Craftsmen	.. 1/8	1/7½	1/7	1/6½	1/6
Labourers	.. 1/3¾	1/3½	1/3	1/2½	1/2¼

London District.—Within the 12 mile radius, Craftsmen, 1/11½; Labourers, 1/6½; from 12-15 miles radius, Craftsmen, 1/11; Labourers, 1/6.

The statement is signed by Messrs. I. Ernest Jones (Employers' Secretary) and R. Coppock (Operatives' Secretary).

•

The National Joint Council desire to remind all concerned of the Constitutional Amendments, made by decisions of the Council of January 12th, 1939, and ratified by the parties, the effects of which were:

(1) That a tool allowance of 2d. (twopence) per day be payable to all carpenters and joiners.

(2) That, as from the date of the operation of the tool allowance for carpenters and joiners, the extra payment as prescribed in National Working Rule 3 (j) be removed.

These decisions were to become operative on February 1, 1941.

Accordingly, from February 1, a tool allowance of 2d. (twopence) per day will be payable to all carpenters and joiners but from the same date the extra payment hitherto operating under National Working Rule 3 (j) will cease to be payable, namely, the provision:

"Carpenters if and when required by the employer to cut and alter materials for re-use in concrete work . . . 1d. per hour."

MAINTENANCE SCHOLARSHIPS IN ARCHITECTURE

The Architects' Registration Council of the United Kingdom offer for award in June, 1941, certain maintenance scholarships in architecture. The scholarships will consist of a grant for the payment, in whole or in part, of the school fees and necessary subscriptions, instruments, books, etc., and, when necessary, a maintenance allowance not to exceed as a rule £100 a year. The scholarships will be renewable from year to year until the student has finished his or her school training. They will be available for students of British nationality who could not otherwise afford such training to enable them to attend architectural schools approved by the Council. The scholarships will be available both for students who have already begun their training and for students wishing to begin their training. They would not normally be granted to students under 17 years of age.

Particulars and forms of application may be obtained from the Secretary to the Board of Architectural Education, Architects' Registration Council of the United Kingdom, 68 Portland Place, London, W.1. Copies of previous years' examination papers may be obtained on payment of 6d. The closing date for the receipt of applications, duly completed, is March 19.

When the night lights of our cities once more glow on the clouds, when daylight and sunshine can pass, unobstructed by precautionary measures, into the rooms of our houses, into our offices and into our factories, we shall not just resume building where it stopped when war began. We shall have learned many new and instructive things about all kinds of materials, and particularly about glass. This war has produced scores of substitutes for this, that and the other familiar material; but there is no substitute for glass, nothing that can give transparency with strength, nothing that has such an array of remarkable qualities allied with those two unique properties: transparency and translucency. Glass will be able to play a much more important part in structural work than hitherto, and although, temporarily, we have forgotten the decorative attributes of glass, they will be remembered at the right time, and used once more, gaily and agreeably, in the right place. MEANWHILE THERE *ARE* THE WAR GLASSES — glasses with special powers of resistance, where extra strength is giving such excellent service in wartime structural work. The properties of these specialised glasses are summarised on this page.

1. "ARMOURPLATE" GLASS

"ARMOURPLATE" Glass has special powers of resistance to shock and impact, and to high temperatures. It is produced in thicknesses ranging from $\frac{1}{4}$ in. to $1\frac{1}{2}$ in. Its resistance to severe impact is five to six times that of ordinary Polished Plate Glass of the same thickness.

When broken, this glass disintegrates into innumerable fragments neither large nor sharp enough to cause serious injury. It does not splinter, and possesses to the full the transparency, lustre, and flatness of ordinary Polished Plate Glass. In connection with official tests with 500-1,000 lb. bombs bursting at distances of 50 ft. or more, A.R.P. Handbook No. 5 "Structural Defence," states, "$\frac{1}{2}$-in. toughened glass,* solid or hollow building lenses or glass bricks set in concrete frames are highly resistant to blast."

2. "ARMOURLIGHT" LENSES

Toughened Lenses have been specially manufactured for fixing into concrete. They can be used for a flat roof, or, in the case of vertical walls, by building them up in the form of a pre-cast panel. These lenses are specially toughened and provide approximately twenty times greater resistance to impact than a similar lens in ordinary annealed glass. Toughened lenses have the same characteristic break as "ARMOURPLATE" glass, and in the event of a lens breaking it will exert a lateral thrust upon the concrete in which it is fixed and remain firmly in position. Official tests have proved that they are highly resistant to blast pressure. In addition, they provide full protection against an incendiary bomb burning on the surface of the lens, and have resisted the high temperatures of thermite and kilo electron bombs. When double-glazed "ARMOURLIGHT" Toughened Lenses are used they give considerable protection from direct impact. A very severe test of their resistance was made by firing a .45 Colt Revolver at distances of 10, 7 and 5 yards. The lenses were fixed in 5-in. thick concrete slabs. The results of such a drastic experiment may be regarded with satisfaction. In double-glazed units the front lens was pierced (and fractured), but there would still have been protection for any person behind the glass, for the rear lens was undamaged, even at 5 yards range. Second shots were fired in some cases, and the results showed that a front lens which has already been fractured still affords considerable protective value to the rear lens.

3. INSULIGHT GLASS BRICKS

These are hollow glass units made in two halves and sealed together, and are designed for use in vertical walls. Glass bricks are laid in the same way as ordinary bricks, but being a non-load-bearing unit they should be regarded as a panel within a structure. Recent bombing has shown that they are highly resistant to blast pressure, and, as a result of a test at the Building Research Station Fire Testing Station they have been classified Grade D under the conditions of the British Standard definitions No. 476, as a fire-resisting building material.

4. WIRED GLASS

This is a well-known type of glass, but its efficiency, especially in war-time, is not perhaps fully appreciated. There have been certain references in A.R.P. publications on the effectiveness of wire netting placed over windows as a measure of protection, but in wired glass the wire netting is actually embedded and firmly fused into the middle of the glass itself. In the former case it is highly probable the blast will break the glass, the fragments become dislodged, and the wire netting *may* remain in the aperture; the aperture itself, however, will be left fully open to the weather.

Wire reinforced glass, on the other hand, is highly resistant to blast pressure, and although the glass may be cracked, the wire holds it together as a complete panel and, except in cases of extreme severity, remains in the window opening.

A Department for Technical Problems

This advertisement is issued by Pilkington Brothers Ltd. Our Technical Department, at St. Helens, Lancashire, is always available for consultation on the use of glass under present conditions, in A.R.P. work, and in any form of structural work.

* *The toughened glass referred to is* "ARMOURPLATE."

SOME QUESTIONS ANSWERED THIS WEEK:

★ *HOUSE damaged by a bomb. Owner does not want to apply to the Building Society for repairs. Will the local council undertake repairs under the "Housing Emergency Powers Act, 1939"?* Q650

★ *CLAIMS for war damage: materials spoilt by weather after explosion. Can you give any advice?* - - - - - - Q651

★ *WHAT claim can be made on the local authority for building a private shelter? My income is under £250 a year* - - - Q652

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

DO NOT RING REGENT 6888

SINCE the Information Centre was set up in October, 1939, to help architects solve war-time problems, readers have been able to ask questions either by post or telephone.

The JOURNAL now announces that the telephone service of the Information Centre will be discontinued. There are two reasons for this curtailment. First, the great majority of questions which are now put to the Centre cannot be answered at once over the telephone. Second, the number of questions asked by telephone has been diminished by the interruptions and delays in the telephone system which have been unavoidable in recent months. During the same period postal enquiries have much increased.

The JOURNAL has therefore decided to suspend the telephone service of the Centre for the present. But it will do all it can to offset loss of time in the post by replying to all enquiries with the least possible delay.

Therefore any questions about architecture or building should be sent to:

THE ARCHITECTS' JOURNAL
45 THE AVENUE, CHEAM, SURREY★

★Readers in urgent need of an answer to a short question may be able to save time by telephoning it to VIGILANT 0087. The reply will come by post.

Q649

ARCHITECT, HEREFORD.—*I wish to collect data on THE DESIGN and layout OF the MODERN type of FACTORY-ABATTOIR and should be glad to have recommendations of books or literature which might be useful—particularly official publications. It seems to me that there should be some useful literature coming from the Argentine but so far I have been unable to trace any. If you do not know of anything yourself, perhaps you could tell me where I could seek the necessary information.*

The Bibliography obtained from the Royal Institute of British Architects' Library gives the most complete list of books we have been able to obtain.* The Ministry of Agriculture and Fisheries, Economic Series No. 40, Abattoir Design: Report of Technical Committee, 1934 (mentioned in the Bibliography), is the most useful official publication. In addition to books there have been numerous articles in periodicals and we suggest that the following might be of interest:

Modern Municipal Abattoirs: Dr. M. D. Baldocchi. Journal of the Institute of Municipal and County Engineers, 1938, 13th September, page 375.
Abattoir at Dunblane: A. V. Samuel.

* *A copy of this bibliography has been sent to the inquirer.*

Journal of the Institute of Municipal and County Engineers, 1940, 8th June, page 812.
Architecture d'Aujourd'hui, 1940, Nos. 3 and 4.
Architect and Building News, 1939, November 7th, page 155.

There have also been a number of articles in continental periodicals which you can probably see at such technical libraries as the R.I.B.A., but it would obviously be difficult to obtain them from other sources at present. We regret that we are unable to trace any recent publications from the Argentine, but you will appreciate that most libraries have the majority of their books in store at the present time and it is difficult to get precise information. We can only suggest that you write to the Argentine Embassy, Chancery Offices, 9 Wilton Crescent, London, S.W.1.

Q650

ENQUIRER, LONDON.—*A friend of mine has had his HOUSE DAMAGED BY A BOMB and he does not want to apply to the Building Society for repairs. Will the Local Council undertake repairs under the "Housing Emergency Powers Act*, 1939."

Local authorities are empowered to undertake repairs if they can be done at reasonable expense and if lack of accommodation in the area renders it advisable that the building should be repaired. It is, however, obligatory for local authorities to carry out "first-aid" repairs to render a house wind and weather tight if only minor damage has been done.

Q651

ARCHITECTS, CROYDON.—*We have to deal with a good many compensation cases in connection with WAR DAMAGE AND find it difficult to decide how much can legitimately be claimed for MATERIALS which will undoubtedly be SPOILED BY THE WEATHER, although not actually damaged by the force of the explosion. Any information or advice you can give us on this point will be much appreciated.*

The Government Compensation Scheme (First report, para. 1) refers to physical damage to property "arising from enemy action such as bombardment from the air" and states that "the scheme is directed to the physical damage arising from the causes mentioned above and does not extend to consequential losses such as loss of trading and other profits, cost of providing alternative accommodation . . ." The words "arising from" seem to imply that the claim need not be restricted to damage caused directly from blast, bomb fragments, etc. "Consequential damage" is not clearly defined, however, and it is unlikely that the owner would be able to claim for all damage done by the weather if the building were left unprotected for the duration of the war—particularly if protection was a practical proposition. Some notes were published after an informal meeting at the Chartered Surveyors' Institution, which contained the following passage :—

> "It is probable that deterioration due to weather or other causes will not be considered as original damage for the purposes of the assessment except in so far as deterioration occurred during the period before a builder, by normal standards, could begin to carry out the repairs."

Since this expression of opinion the contents of the War Damage Bill have been made known, and although it is not yet in force it seems likely that payments will be based on the actual cost of reinstatement as and when it is carried out, rather than on a figure assessed shortly after the damage occurred. This may make it even more difficult to distinguish between original damage and damage caused by the weather and, in consequence, there is a bigger possibility of the latter being allowed. We can only advise you to claim everything to which there is a reasonable chance of your client being entitled. Should a portion of your claim be disallowed no harm will be done.

Q652

ENQUIRER, ESSEX.—*What CLAIM can be made on the Local Authority FOR the BUILDING of a PRIVATE SHELTER? I live at Woodford Green, Essex, which was not a danger zone when Anderson shelters were available although it has since become a danger zone. My income is under £250 a year.*

No definite information can be given as to whether you will be able to obtain a shelter free of charge or not. Application must be made to the Local Authority. Lists will be compiled and sent to the Home Office for approval to ensure that those in the greatest need obtain the available supply of shelters first. It is understood that there are some Anderson shelters available in most districts for those of limited means.

TRADE NOTES

Protective Treatments for Window Glass

Much has been written in this journal on the subject of "shatterproofing" materials. In the issue for 24th October of last year there was published a comprehensive survey describing the many and varied methods of glass treatment that have been proved, by tests, to give reasonably satisfactory results, and subsequently in these notes I have given particulars of different proprietary materials and shatterproofing treatments.

No material or protective treatment can be described as completely shatterproof, but some are good, some fairly good and some are, frankly, quite useless. In a "blitz" area it is folly to leave one's windows untreated, it is almost equally foolish to make use of any material just because you happen to have heard of it or read about it in advertisements. Reputable manufacturers have been careful to apply stringent tests to their materials before putting them on the market, and the Building Research Station at Watford is continually carrying out tests on manufacturer's materials and have compiled an "approved" list which can be obtained on request.

"Lassolastic," "Lassophane" and "Lassoband" are three types of self-adhesive tapes which are new to me. Manufactured by Herts Pharmaceuticals, Ltd., of Bessemer Road, Welwyn Garden City, they afford good protection, are satisfactorily transparent, and are made in standard widths of 2 in. and 1½ in. They should be applied so that at least 50 per cent. of the window is covered—they give best protection when crisscrossed vertically and horizontally.

Glass treated with these tapes has been submitted to careful and thorough testing and the results indicate that, provided they are applied in accordance with the manufacturers' instructions, a satisfactory measure of protection is afforded.

A New Glass Substitute

"Lassolite," manufactured by the same firm, is a glass substitute that seems to have much to commend it. It has high tensile strength and durability, and is claimed to be windproof and weatherproof; it is flexible, washable and, with scissors or a knife, is easily cut to any required size or shape. It is supplied in rolls 18 in. wide and can be fixed to the window by tacks or by means of "Lassoband" or other self-adhesive plaster—where large areas of "Lassolite" are required, pieces can be cemented or sewn together. In appearance it is pleasing (a compliment that cannot be paid to the many bitumastic sheetings largely being used to replace windows that have suffered through blast), being white in colour and translucent.

Cost 2s. 6d. per square yard plus 7½d. purchase tax.

Shelter Lighting

A. Bell & Co., Ltd., of Gold Street, Northampton, and 60 Berners Street, London, have designed a lighting fitting specially for the interior illumination

of air raid shelters. It gives a three-way illumination, through obscured glass panels for better diffusion of light, and the special " Lynlights " oil burner gives approximately two-candle power and one hundred hours' continuous light on one fuel charge of 1½ pints of paraffin oil. A short length of tube is fixed to an outlet at the back of the lantern and carried through the brick joint of the shelter wall (or through a cutting in the concrete) so that combusted products are exhausted into the open air.

A similar model is also made for connection to mains electric supply which, should there be a breakdown of the mains supply, is immediately convertible for oil burning.

As can be judged from the illustration, the " Bell " lantern is of robust construction, and fixing is carried out by means of a pair of stamped steel brackets.

The lantern weighs approximately 56 lb. and is 9 in. by 9 in. by 14¼ in. in height. Prices vary from 32s. 6d. each to 27s. 6d. each according to the quantity ordered.

For building in the wall angles of surface shelters there is a two-way lamp for connection to mains electric supply and convertible to oil burning—its weight and dimensions are the same as the " C " model illustrated and prices range from 28s. 6d. each to 23s. 6d. each, excluding lamp, B.C. holder and nipple.

" Bell " oil burner shelter light that gives 100 hours' continuous light on 1½ pints of paraffin oil.

BUILDINGS ILLUSTRATED

PUBLIC BATHS, LANCASTER (pages 111-112). City Engineer and Surveyor, Frederick Hill, M.INST.M. & CY.E. The general contractor was Arthur O. Thoms. Sub-contractors and suppliers include: Wm. Moss and Sons, Ltd., concrete; W. and I. Peill, joiners; T. Gardner, plasterer; W. B. Clarkson, painter and decorator; G. H. Blatchford, plumber; Bolton and Hayes, Ltd., asphalters; Simpson's, electricians; Shaw's Glazed Brick Co., Ltd., faience bath lining; Carter and Co., Ltd., floor tiling; Conway and Co., Ltd., terrazzo; G. N. Haden and Co., Ltd., heating and hot water; Bell Bros., Ltd., filtration and purification plant; Thomas Bradford and Co., laundry equipment; William Hastings, ironmongery; Henry Hope and Sons, Ltd., steel windows and electrical opening gear; Shanks and Co., Ltd., sanitary fittings; Wicksteed and Co., Ltd., diving equipment; Doodson and Bain, Ltd., bronze railings, etc.; Abbott and Co., Ltd., coat of arms, lettering, etc.; Trussed Concrete Steel Co., Ltd., concrete designers; J. Christie and Sons, furnishings; J. W. Whittaker and Sons, linoleum; Attwater and Sons, terrace seating, etc.; Milner's Safe Co., Ltd., steel lockers; Soapless Foam, Ltd., foam bath equipment.

HOUSE AT ESHER, (pages 113-118). Architect, H. V. Lobb, F.R.I.B.A. The general contractors were H. Fairweather and Co., who were also responsible for the excavation and foundations. Sub-contractors and suppliers include: Ragusa Asphalte Co., Ltd., asphalt; R. W. Farman, Norfolk reed thatch roof; Faulkner Greene and Co., Ltd., and C. Clifford, Ltd., glass; Hollis Bros. and Co., Ltd., patent flooring; J. H. Shouksmith and Co., Ltd., Ideal radiators, plumbing; Berry's Electric Co., Ltd., stoves, electric light fixtures, electric heating; Hyder and Co., stoves, metalwork; Ideal Boilers and Radiators, Ltd., main gas stove and boilers, sanitary fittings; Wandsworth and District Gas Co., gasfitting; Troughton and Young, Ltd., electric light fixtures, clocks; Rely-a-Bell Electric Co., electric wiring, bells; Doulton and Co. and Alfred Johnson and Son, Ltd., sanitary fittings; Yannedis and Co., Ltd., door furniture; Crittall Manufacturing Co., casements; W. H. Shephard, built-in furniture and joinery; Moffatt and Co., metalwork; Carter (London) Ltd., tiling; Muntzer and Son, textiles, furniture; H. E. Lesser, garden work.