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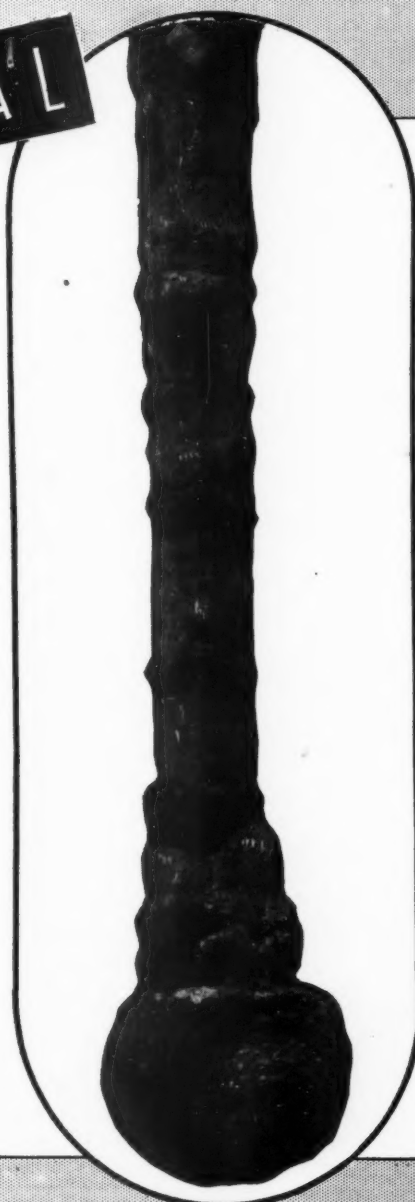
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THURSDAY, JULY 17, 1941.

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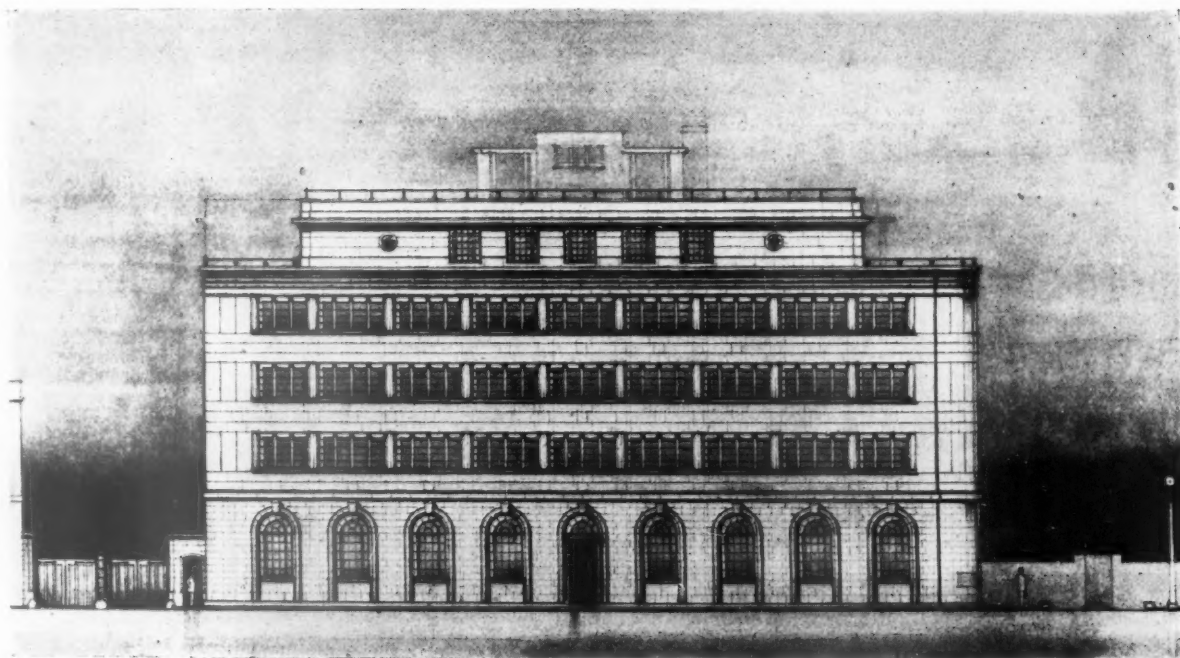
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Owing to the paper shortage the JOURNAL, in common with all
other papers, is now only supplied to newsagents on a "firm
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CROYDON GAS COMPANY

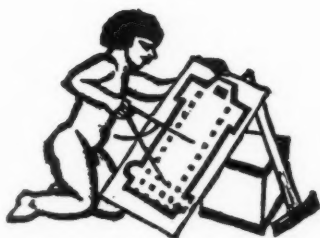


*Headquarters for the Croydon Gas Company.
By William G. Newton and, Partners
(From the Royal Academy Exhibition)*



MECKLENBURGH SQUARE, AIR RAID DAMAGE

The East side of Mecklenburgh Square was the only part of the Foundling Hospital estate in which the Governors' original architectural ambitions were realized. It was built around the year 1812, the design being exhibited in the Royal Academy of that year by a little known architect, Joseph Kay, whose only other works of consequence are the street improvements and the colonnades on either side of the Queen's House at Greenwich. Kay was a pupil of S. P. Cockerell, succeeding him as Surveyor to the Foundling estate in 1807. He laid out the gardens in the middle of the Square and gave great satisfaction to his employers. He lived in Gower Street, was actively interested in the formation of the R.I.B.A. and was buried, at the Governors' request, in the Chapel of the Foundling Hospital.



THOUGHTS INSPIRED *by the* FIRST SITTING of the RIBA RECONSTRUCTION COMMITTEE. 3

WHEN the time comes the programme of post-war construction, now piling up on every hand, will be so overwhelming that normal and customary building methods will fail to cope with it, and we shall have to call other methods to make good the deficiency. Housing alone will tax our capacities.

What is the building trade to do? It must borrow from industry. Long ago Ford, by improving his machinery and methods of production, lowered the cost of motor transport to farm level. This he achieved by vigorously standardizing his models and it is this same principle that will help us in building.

Reviewing our present methods of building, how many parts do we already find standardized? Metal windows, door furniture, plumbing, doors, bricks; in fact, the greater part of the separate or semi-separate parts.

It would be safe to say that in modern construction, about 70 per cent. of the parts are standardized, but by no means all are well standardized, and there are of course far too many models, which means a constant wastage of effort. If this multiplicity of types were reduced to a useful minimum, well standardized and plentifully mass produced, quality could be increased and cost lowered. Let there be but ten instead of five hundred types of door furniture, and let these ten be designed by our best designers, and you would see what standardization could produce in terms of both price and quality. But in reviewing the present state of building technique it is even more interesting to notice which parts of building are not standardized. They are, generally speaking, the larger and the more expensive parts connected with plumbing and with services. We have been apt in the past to treat site and local conditions as separate and particular problems, devising a variety of plans to meet differing emergencies. The parochial outlook of local government administration is mainly responsible for this attitude, but the bulk of architects have been happy to acquiesce.

We are therefore not as experienced as we might be in this important branch of building technique; time and again small scale experiments have been made, but the major problem has been evaded.

Luckily for purposes of standardization, it is un-

necessary that one should have an exact programme in all its detail; what one wants is an estimate of quantity, and a more exact picture of the detailed internal requirements which in any case are ascertainable as constant and not widely variable demands. To translate such a programme into industrial terms requires that a board of designers be set up to design and specify those parts of building which are susceptible to mass production and standardization, and to reduce these to say four or five model types of kitchens for different income levels—four or five types of bathrooms—of wall panels and so on over the range, of building.

This board would serve as a pattern shop and ordering department to the industry, informing the manufacturers of the nature of the programme, its extent, duration and pace. By creating a sure market it would lower costs, obviate the necessity for expensive and fruitless advertisements, and the stimulation of demand based on nothing better than passing fashion.

Lastly to deal with the fear which exists in so many members of the lay public, and even among architects—the fear that standardization will produce a dreary uniformity and that individuality and progress will disappear. Some of the finest housing schemes yet produced have consisted of standardized housing. The London Squares for instance. It is true that the Square form in itself provides an obvious unity, and that if we standardize housing with a proper respect for aspects, squares as we know them may not be regarded with favour. But the principle remains that it will be the form of the housing, rather than the individual house or flat, that will count.

Interiors will be sufficiently varied by furniture and decoration, and where a standard is a good one there is no objection to it being a common one. We do not object to a family likeness in all wash-basins and baths, but we do object to bad wash-basins and baths.

The preliminary work, which will end in the setting up of a Central Board for Standardization, should be started now. Mr. Thomas Tait has already opened the door, and the Reconstruction Committee of the R.I.B.A., which is already under way, is dealing with it as one of its early problems.



The Architects' Journal
45, The Avenue, Cheam, Surrey
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NOTES & TOPICS

PREFABRICATION IN GOVERNMENT SERVICE

MY recent notes on pre-fabrication have brought some details from a correspondent of the new Admiralty hutments at —. Although pre-fabricated elements were to some extent embodied in these, the hutments have been over 15 months in construction, and are not finished yet. But then, as this was a Government job, no one seemed to be in a hurry.

★

Apart from standard 18-pane metal casements, the principal use of pre-fabricated elements was in the flat roofs, which are constructed of hollow concrete beams. Though good aggregate abounds in the neighbourhood, and the site had to be excavated from it, these beams were all cast on the outskirts of London, a very long way away, and conveyed to the site day after day by lorries—doubtless to economize imported petrol.

★

Brick was adopted for the walls; the bricks being brought by lorries from even further afield, up two of the steepest hills in England.

★

Some attempt at standardization is also evident in the office furniture. The rough timber tables are of even rougher design. The trestle chairs are a perfunctory and not very intelligent imitation of a good rationalized type, the slatted seat being hollowed into an ingeniously uncomfortable curve, while a straight angular bar across the back effectively discourages one from sitting upright.

★

The—very—direct lighting is inflexible, the fixed ceiling points being placed without any regard to the most rational disposition of the washing tables—which the short lengths of telephone flex provided anchor close up to the walls and radiators.

The lavatories are remote, and also inadequate in number and equipment, in relation to the seating capacity of the rooms they serve.

★

These hutments are identical in plan. Each has its own separate heating plant. Every second block or so is slewed round, presumably to defeat identification from the air, which necessitates the conversion of an emergency exit into the principal—or rather only—entrance. Incidentally, the emergency exits are few in number and badly placed for their purpose.

★

Festoons of barbed wire (on which work still proceeds intermittently), punctuated by pill-box central points at every exit or potential line of approach (these have oddly enough stack brick foundations and concrete superstructures) surround this concentration camp. Its inmates declare that their muddy and untidy “little Dachau” is even more like its namesake for those who have to work in it than appearances suggest. Certainly the site has been admirably chosen so as to combine easy identification from the air with physical remoteness, local transport facilities being strained to breaking point in carrying the hordes of temporary civil servants to and from this devastated plot of admirable agricultural land.

THE HARVARD HOSPITAL

The all-timber Field Hospital Unit, which has been shipped to England as a gift from Harvard and the American Red Cross (it is staffed by Harvard), has a floor area of approximately 3,256 ft. by 440 ft. and comprises nine wards, a laboratory, a laundry, a recreation centre, a fully-equipped kitchen, accommodation for a full medical and nursing staff, an administration building, an admission and dismissal building, and a pathological laboratory.

★

The construction has points of interest but is rather overloaded with timber, particularly the roof. Internal finish throughout is excellent—altogether Rolls Royce in comparison with the type of emergency hospitals we are erecting on our own behalf. But what, I wonder, was the cost per cubic foot? I did enquire (on a visit to the hospital last week) but the answer was not available.

★

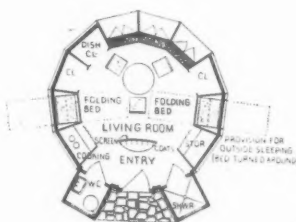
If I appear critical, I hope I do not also appear ungracious. As a gift from America the hospital is handsome; as an example of imported prefabrication it is an achievement of considerable interest; but as a piece of engineering design in timber it is disappointing. Timber never was and never will be used appropriately for structural purposes until it is properly regarded as an engineer's material. “Use more timber” may, to the timberman, sound cheering as a slogan, but “Use less timber and use it more intelligently” is a far wiser one. With this view I know the Timber Development Association concur.

NO TRADITIONALIST IS MARTIN WAGNER

Readers who have glanced at the illustrations on pages 39, 40, 41, will agree with the *Architectural Forum's* opening remark about Martin Wagner's proposals for solving



Distant view of a group of unconventional expandable houses originally designed by Martin Wagner for mass production as a solution for the housing problem in Turkey caused by last year's earthquake. On the right is a plan of the living room, a self-contained minimum unit, to which other accommodation can be added as need arises and circumstances permit. Other plans and photographs on pages 40 & 41.



housing problems. Mr. Martin Wagner is Professor of Architecture (again at Harvard) and his "expandable and contractable steel house of individual igloo-like rooms" was originally intended to solve Turkey's rehousing problems after last year's earthquake, but has since been developed for military camp and general use.

Martin Wagner started with no prejudices to produce an extremely cheap, portable, expandable and contractable house which would be proof against almost everything, and new—earthquakes and fires as well as bombers. Everything else followed almost automatically.

The final basic unit is very like an up-to-date trailer-caravan in everything except form and would be produced and used in much the same way. Its net floor area is 200 ft. sup. and its cubic capacity 1,500 ft. cubic. Mr. Wagner reckons that, once mass production has got going, his basic house could be sold at a profit, ready to inhabit, at about £170 in the U.S. or perhaps £125 over here.

It is suggested that when the young couple inhabiting the basic unit acquire a family their house can expand accordingly and take the form shown elsewhere in this issue. Finally, when the by now middle-aged parents lose their offspring, their house can contract again and provide a nice windfall for wedding presents by the sale of its unneeded components.

It seems probable that something on the lines of Mr. Wagner's invention may in time serve a variety of uses here as well as in the U.S.A. For instance, holiday camps,

camp schools, week-end huts and so on. The chief criticism of it as a contribution to ordinary housing seems to have already been ably put by the *Forum*. It is that the main unit of the Wagner house costs £125, subsidiary units £100, and connecting halls £12; and thus, since a four-room Wagner house would cost about £500, it looks as though the cheap price of the basic unit is due to its small size more than to any other quality.

BUILDER—YOU'RE FIRST ON THE JOB

There has been more about this subject in the papers since I wrote about it last. Mr. Bevin has again emphasized how essential it is for everyone on the jobs to do their damndest and there have even been rumours of a film to emphasize the same point.

We can therefore take it that the general exhortation angle of the problem is being well looked to. We can also assume that the Government does not intend to increase the number of operatives above the present 750,000, and that any grievances these men still have will be speedily removed. But would it not be wise for the Ministry of Building to find out whether there are any other large factors which are delaying war building schemes before resort is had to the uncontroversial but also unstringent device of general exhortation?

Two such factors come readily to mind. Brick-makers are complaining that their coal is placed so low in order of priority by the Mines Department that they will have to cut down production to a shadow of its former self. If this is not true it seems worth while for someone big to say so, for it is widely believed.

Secondly, I am told by several architects that very nearly half of the time that elapses between first announcement and final completion of a war building scheme is caused, directly or indirectly, by changes of mind by the Department for whom the scheme is being built.

A number of these changes are inevitable. Four-fifths of them are caused by Delayed Actions and that alone. Instead of the representatives of all Allied Departments and the building Departments own 44 "persons concerned" being summoned to a single meeting, being presented with the schedules of accommodation or sketches and dismissed with the simple message "well, boys—fourteen days for suggestions and comments: after that—Finish!" The splendid 1938 system of *Passed to You* is still in full operation. From basket to basket, week by week and month by month, the tattered documents pass. And every six weeks or so a suggestion for a radical change struggles up again to some man who matters, is approved, and hurled as a thunderbolt upon the executant architect.

The end of it all was illustrated on a site the other day.

"But Mr. George," said the architect to the contractor's agent, "this is a Final Issue drawing. Why haven't you done something?"

"Well, sir, I may as well be blunt. It's Final Issue—yes. But it's got no Revision letter. And, sir, till we get to Revision 'D' or 'E' its no damn good bringing men on the job. I'll just have to pay them for picking daisies."

ASTRAGAL

NEWS

A VERY FRESH

COMPENSATION AND BETTERMENT

R.I.B.A. Council Memorandum.

The following memorandum, prepared by a small Committee appointed by the President of the R.I.B.A., was submitted to the Expert Committee on Compensation and Betterment on May 13, but was not issued for publication pending consideration by the Council of the R.I.B.A. The memorandum received the approval of the Council on July 1 :—

*Ministry of Works and Buildings
Expert Committee on Compensation and Betterment
Memorandum from the R.I.B.A.*

The Committee appointed by the President of the R.I.B.A. to express their views on the wider aspects of the questions raised by the Expert Committee on Compensation and Betterment of the Ministry of Works and Buildings have now considered these matters and submit the following observations thereon :—

1. The proposals put forward by one of the members of the Royal Commission on the Distribution of Industrial Population envisage :—

- (a) The creation of a National Development Board (paragraph 251) which "would replace the Ministry of Health as the central authority for planning" (paragraph 256). The need for one central authority dealing with all matters of planning is an obvious necessity.
- (b) That such authority would "acquire by compulsory purchase, as from a specified date, the development rights of all the undeveloped land in the country."

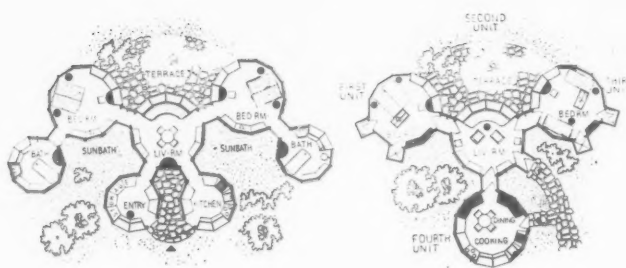
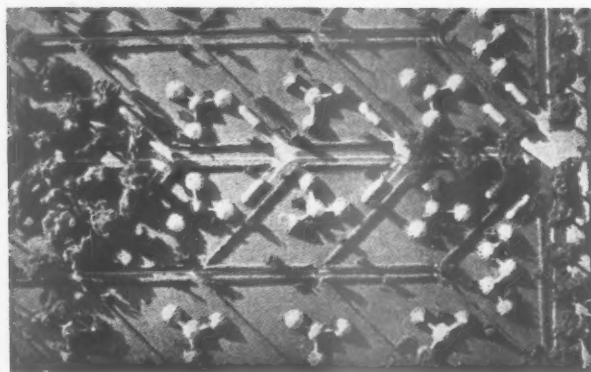
The purpose of this proposal is apparently to enable all development to be controlled by a central government department. If this is the intention the procedure of acquiring an intangible part of every such property, as suggested, and its eventual sale back to the owner or someone else who would then have to negotiate the freehold, would appear to be unnecessarily troublesome and hampering in its effects. It would not affect the redevelopment of existing sites in London or elsewhere and in other cases would be likely to obstruct rather than assist rapid development and planning on good lines.

Simplicity is a first essential and the Committee feel that the scheme outlined (by the member of the Royal Commission) is entirely unsuitable for the purpose proposed and could have no application to the urgent problem of re-planning built areas.

2. Public control of building development is already accepted in principle, but few if any planning authorities at present make full use of their powers under Section 12 of the T. & C.P. Act, 1932, to control the "size, height, design and external appearance" of buildings.

It is suggested that—

- (a) A plan is the first essential.
- (b) That all land, developed or undeveloped, should be deemed to be covered by a planning resolution.
- (c) That all buildings should be designed and superintended by a competent architect.



The Martin Wagner system of housing is the subject of a note by Astragal on page 38. The houses are designed to be mass produced, to be technically equal to more conventional models and yet to sell at half the price. On the right is a photograph of a four-unit house. Above are plans of four-unit and three-unit houses, and an aerial view of a layout.

- (d) That all planning authorities should have the services of a competent planner and of a panel of architects.

When a plan has been prepared and it is known which land is required, its acquisition by the public should be simplified and a reasonable price fixed within a reasonable time. The problem falls into two categories :—

- (i) National (or Regional) Schemes dealing with broad issues. (See attached Memorandum A.)
- (ii) Local Schemes, dealing with detailed development.

In the case of the latter, it is suggested that compensation questions could be largely reduced or even eliminated if every developer were required, as an automatic condition of approval, to contribute a portion of his land (or its value at the option of the authority) to the general improvement of the district.

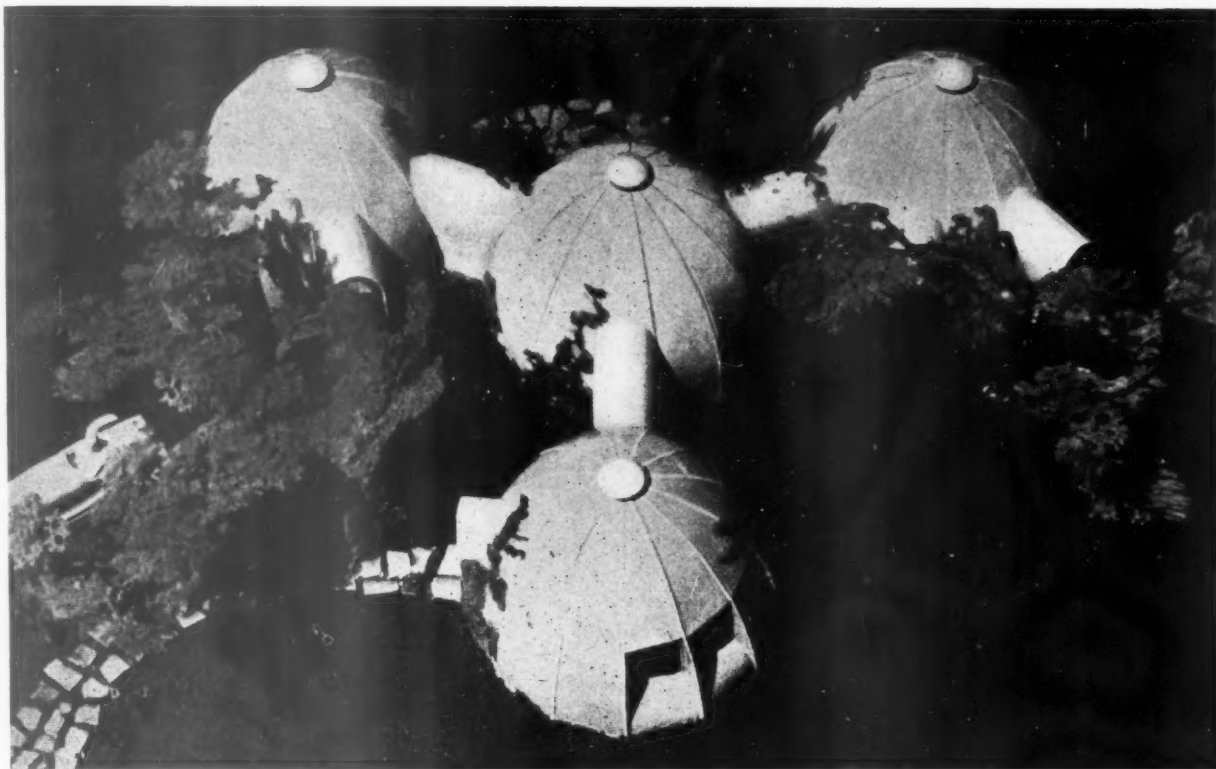
In the case of undeveloped land this might be one-fifth.

In the case of re-development, say one-tenth.

Open spaces and widenings would thus be provided automatically, together with a fund for the payment of compensation wherever and whenever development took place.

The principle of compulsory pooling of ownerships and re-distribution of land in defined areas (*lex adickes*) appears especially suitable for improvement areas. It should be noted, however, that in the comparatively few cases abroad where this principle has been adopted the areas have been strictly limited. Difficulties would almost certainly arise if a whole town or district were thus merged into a common pool, unless some form of nationalisation is adopted.

APPROACH TO HOUSING



Having decided to exploit modern methods of production in order to solve the low cost housing problem, Mr. Wagner, unlike most other prefabricators, has broken not only with traditional methods of construction but also with traditional manner of design.

A circular plan was selected because a circle encloses the greatest area within the least perimeter. The structure is a compromise between a hemisphere and a cone, because these forms are sturdy and self-supporting. The walls are made from insulated steel panels because these can be punched out cheaply and quickly like automobile fenders.

The finished product is a housing unit 11 ft. 10 in. high and 16 ft. 9 in. in diameter, streamlined like a modern automobile, yet reminiscent of the most primitive housing types.

The basic unit contains the minimum furniture and space necessary for a family of two. Furniture includes a table, three chairs, two beds, a range and cupboards. Shower lavatory and toilet are provided in two appendages. The floor area is 200 sq. ft.

The basic or central unit is estimated to cost about £125 complete. Subsidiary rooms £100 and bathroom £50.

Individual initiative should be encouraged, subject to the essential over-riding power of the community. Even if all land were nationalised, some simple means would have to be found to return individual plots for individual developers.

3. Betterment has been much discussed but seldom realized and, even then, generally only by voluntary surrender and as a nominal offset to obvious compensation.

(a) As regards developed land, it is suggested that in the case of special improvements, suitable areas can readily be defined for special rating. Any suggestion of increment tax, if adopted, must obviously wait for the increment to be realised.

The precedents of the special rating areas in the cases of the Wimbledon and Putney Commons Act, 1871, and of the Malden and Coombe

(Golf Courses) Act appear to be worthy of consideration.

(b) As regards undeveloped land, the theory of the acquisition of development rights is unacceptable largely because of the inherent complication of its machinery and its apparent ineffectiveness to secure the desired results, bearing in mind:—

1. Control is essential.
2. Purchase of an intangible asset is speculation and can in no circumstances be recommended.

If any form of nationalisation is to be considered, it is suggested that it must not be allowed to be the subject of long years of argument and negotiation. Simplicity, expedition and fairness are equally essential. To assist the Committee a constructive proposal (Memorandum A) is attached for consideration.

4. Alterations are desirable in the existing law and machinery to secure under the above paragraphs:

Para. 1: A national planning authority, with power to plan, with powers of defining functions and areas of regional and local planning authorities.

Para. 2: That all land is covered by planning powers; that all buildings are designed by competent architects and shall fit into the plan. That land acquisition should be simplified but not limited to building rights. That all developers contribute a definite proportion in land or cash to a local improvement fund. That compulsory pooling of ownerships be possible by order of the Minister in areas defined by him after local inquiry.

Para. 3: That special rating areas be similarly made possible by order of the Minister in cases of special improvement.

(Signed) H. V. LANCHESTER (Chairman)
ERNEST G. ALLEN
PERCY V. BURNETT
W. R. DAVIDGE
SYDNEY TATCHELL

MEMORANDUM A.

(For National (or Regional) Application.)

1. All land, developed and undeveloped, would become vested in the Crown, as from a definite date, with an implied lease back to the existing owner.

2. A valuation, based on capitalised Schedule A assessments, made and compensation paid in the form of Reconstruction Loan Bonds, bearing interest, and not in cash.

3. Owners of land would remain in occupation as tenants of the Crown subject to reasonable notice to vacate, paying rent to the Crown in the form of the interest on the amount of the Bonds for the period of continued occupation. In other words, the interest would become payable only when the Crown enters into possession. This would enable re-development to be carried out gradually, and would not mean dispossessing a large part of the population at a time when alternative accommodation is not available.

4. The responsible Authority (National, Regional or Local) would re-plan, clear affected sites, construct new roads, open spaces, etc.

5. When this work has been completed, sites would be revalued and re-allocated on the Lex Adickes principle, afterwards being offered firstly to the previous owners as nearly as possible, the Reconstruction Loan Bonds being accepted as part or whole payment, as the case may be.

6. The cost of clearing sites, formation of new roads and services, open spaces, etc., the cost of administration, and the nominal value of the Bonds, plus interest, together with any addition or deduction for betterment or compensation, would, in proportion to the area concerned, be assessed by the Authority.

7. New sites, which owners of previous sites when offered do not wish to purchase, to be sold or leased by the Crown on the lines of the L.C.C. Improvement Act, 1899, to approved developers, or developed by the Authority itself.

8. Owners of Reconstruction Loan Bonds not taking up new sites would continue to receive interest for a fixed number of years, after which the Bonds would be paid off by the Exchequer at par. The period before repayment to be made long enough to enable the Authority to complete the re-development and sell or develop the new sites before repayment of the Bonds.

9. The finance for the re-development carried out by the Authority to be raised by the issue to the public of further and similar fixed term Reconstruction Loan Bonds, bearing interest, as an investment.

10. In areas not to be re-developed, the Exchequer could repay the Bonds at the end of the requisite period by returning the fee simple of the land to the previous owners or their successors or otherwise.

11. It will be necessary to make provision for the prevention of speculation in re-allocation rights. This can probably be effected simply by making the transfers of such rights subject to the approval of the Authority. This scheme has the following advantages:—

- (a) It applies equally to developed and undeveloped land, and the Authority would have a free hand to plan.
- (b) The cost to the Exchequer would be the minimum possible.
- (c) Eventually all land could return to private ownership, or the freehold be retained by the Crown.
- (d) The assessment of compensation would be simple and immediate.
- (e) Re-development could be gradual, within the capacity of the building industry, under control at all stages.
- (f) Provision would be made for priorities in urgency of reconstruction by localities by adjusting the period of notice in the Crown tenancies.
- (g) Notices to vacate could be served or withheld according to the alternative accommodation available. Buildings becoming vacant through tenants wishing to terminate tenancies would be available to the Authority for re-housing during re-development.

12. **Building Finance:** The scheme could be extended to provide for building finance for approved developers if desired on the following lines:—

- (1) Local Authorities, when approving plans submitted to them, would issue a certificate of the value of the work described by the plans, excluding the value of non-essential features.
- (2) The developer would deposit with the Authority Reconstruction Loan Bonds equal to one-third of the value of the certificate, for cancellation.
- (3) The Authority would then lend the full building finance for the approved work as certified by the Local Authority, excluding the value of non-essential features, on suitable terms.
- (4) Repayment of the building finance to be by instalments of capital and interest over a number of years, and might be collected through the Building Society movement.
- (5) Finance for this purpose to be raised either (a) from the general Reconstruction Loan Bond pool; (b) from the Exchequer, if there is not sufficient response from the public to the issue of the Reconstruction Loan Bonds as an investment; or (c) entirely by the Building Society movement, who could arrange the necessary finance from public deposits by their usual methods, but on standardised conditions.

A.A.S.T.A. OPEN MEETING

An open meeting of the A.A.S.T.A. will be held in the Small Conway Hall, Red Lion Square, W.C.1, on July 24, at 6.30 p.m. Subject, "Trade Unionism in the U.S.S.R."; Speaker, Pat Sloan, of the Russia To-day Society. (Mr. Pat Sloan has worked in the Soviet Union for several years and is a well-known speaker on the subject.)

LETTERS

R. A. H. LIVETT, A.R.I.B.A.

Housing Director, Leeds

JOHN GLOAG

Architects must Standardize

INDUSTRIAL HOUSING IN WARTIME



"Industrial Housing in Wartime" referred to by Mr. Livett in his letter; published by the R.I.B.A., price 2/- net.

SIR,—I have read with interest your article "Architects must Standardize," published in your issue for March 6, and written in support of the R.I.B.A. publication "Industrial Housing in Wartime."

I agree with you when you say that the book is short and admirably produced, but are you really satisfied in your own mind that this book summarizes the problems of wartime housing in our industrial cities, or that it will be of any real value to local authorities when they are again in a position to carry on with their programmes of housing reform.

I have no desire to quarrel with you regarding standardization, I have always advocated it and, to some extent, applied it to large-scale industrial housing over a period of many years, but standardization alone will not solve our housing problems unless applied to good planning, good detailing, and brought into being as a result of the experience gained during the last 20 years, not only by housing architects but also by housing estate managers, and I should like to take this opportunity of suggesting that architects who are engaged on housing work should bear in mind that such

people as housing estate managers do exist and that their advice is often most valuable.

I have examined with great care the plans illustrated in this book "Industrial Housing in Wartime," and as one would expect there are to be found a few new ideas but what about the return to the bad old ideas, the pitfalls associated with the Housing Acts of 1919 and indeed 1924, which have again found their way into these modern house plans. Some, I agree, are minor details but, nevertheless, of such importance as not to be accepted by those local authorities that for the last ten or fifteen years have been juggling with the legacies left by their predecessors.

An examination of the peace-time plans in this book reveals the return of the combined bathroom and water closet adjoining the front entrance door or leading directly from the scullery.

One plan shows the front door, kitchen door and back door in a straight line. This is indeed a cold and unfortunate arrangement for a north-country house. There is a fuel store accessible only from the living room; cannot the architect have some sympathetic consideration for the tenants' property?

In another case there is a fuel store over 40 feet away from the only coal fire, and upon a further study one finds the unfortunate housewife when fetching a scuttle of coal will be expected to travel approximately 30 yards on the outward journey and, in so doing open and close four doors and then travel a similar distance and deal with a similar number of doors on her return.

I notice there is a kitchen for a 3-bedroom non-parlour house with a superficial floor area of approximately 54 square feet and, to make things worse, there are four doors leading from it.

One plan shows a beam approximately 9 in. deep running across the centre of the living-room ceiling which in itself is only 8 ft. 0 in. high.

Another plan shows three windows at the top of the staircase. Surely, this is an unforgivable error; this is where the architect would be well advised to consult the working-class housewife who has responsibilities of bringing up a young family.

There are storage tanks and cylinders adjoining outside walls which, in some cases, will have a north aspect and therefore provide a real harvest for the jobbing plumbers in the cold and frosty weather.

One upper floor plan shows the third bedroom with a floor area of only 48 square feet. It is quite evident that the author is not conversant with the Housing Act dealing with overcrowding. One can forgive the author, but not the R.I.B.A. for allowing such an error to be put into print.

Another plan shows the largest bedroom only 110 square feet; it is true that this conforms to the regulations

of the Housing Act for accommodating two persons but what a room to expect a married couple to sleep in. Do you know of one single case where a local authority has accepted such a low standard? I don't.

Another upper floor plan shows the first bedroom 16 ft. 0 in. long but only 8 ft. 9 in. wide.

In many cases the dwellings are designed with flat roofs but without false ceilings. One cannot imagine why, unless it is to freeze the tenants in winter and roast them in summer.

There are staircase landings without natural light and ventilation, coal fire flues without gatherings, casement windows without hopper lights, gas cookers on inside walls and placed as far away from natural light as possible, and so one could go on.

Many of us have been guilty of some, if not all, of these mistakes in the past but is it necessary in wartime to publish a booklet reminding us of them?

Leeds.

R. A. H. LIVETT.

(Letters continued on page 47)



CHURCH

A T H O O K

H A M P S H I R E

B Y E D W A R D M A U F E



N O R T H E L E V A T I O N

GENERAL—Church dedicated to St. John the Evangelist, accommodating approximately two hundred persons.

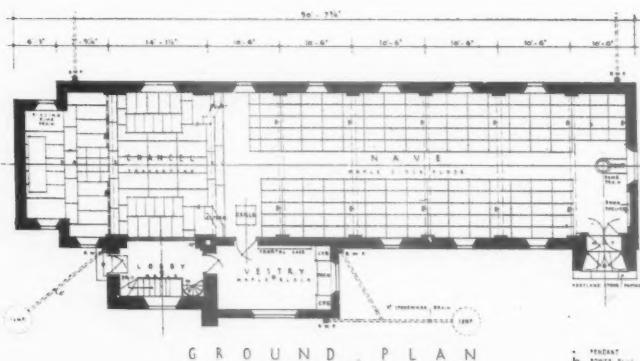
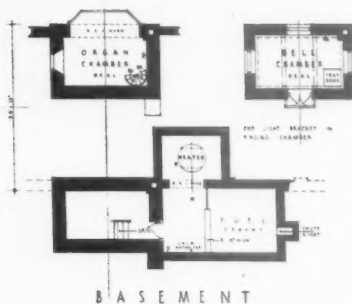
SITE—On the outskirts of the village of Hook, Hampshire, within a curve of the main Basingstoke Road. The tower of the church is placed at the axis of the curve. The church is designed to give the appearance of good silhouette mass from all points on the curve.

Above, the north front.

ST. JOHN THE EVANGEL-



PLAN—The plan is simple: the nave and chancel in one line, correctly orientated, and the vestry and entrances on the road side approached from a car park. The tower serves four practical purposes: in the basement is the heating chamber, at ground level the entrance to the vestry, above it the organ chamber, and above that the ringing chamber and the bells. The balcony to the tower is used for taking in the bells.



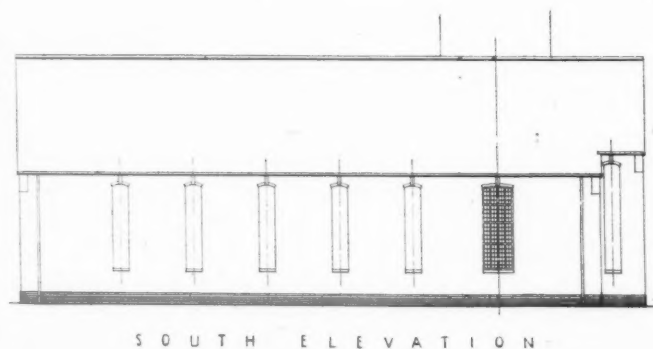
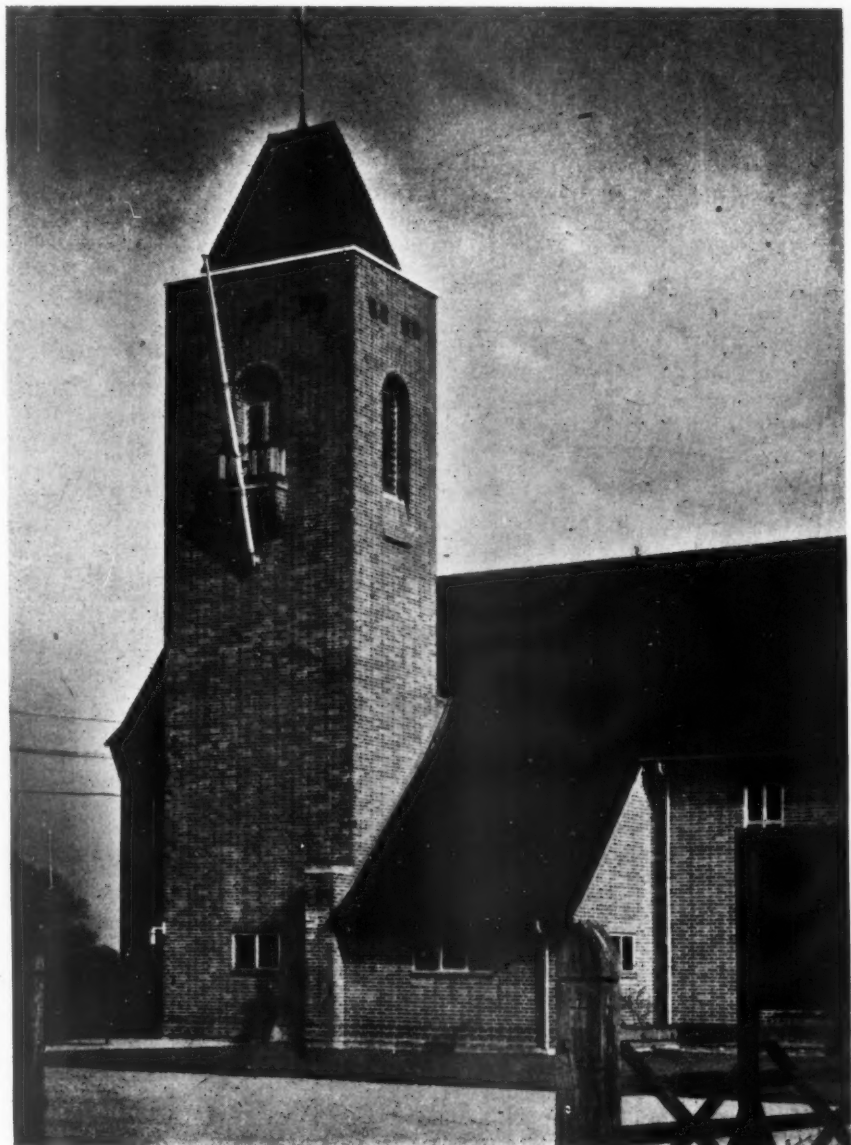
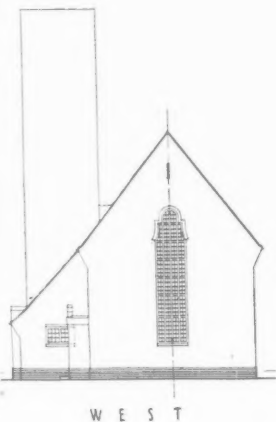
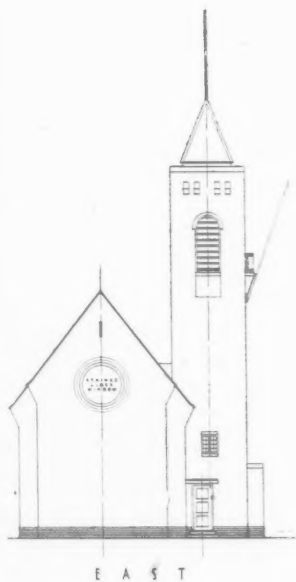
CONSTRUCTION — Exterior walls, local Daneshill bricks; roofs, hand-made sand-faced tiles. The entrance to the church is by a lead-roofed porch with a cast lead frieze bearing in gold the lettering *Venite Exultemus Deo*, with a cable pattern above and below it. Windows, oak; balcony to tower corbelled brickwork with an oak balustrade. Surmounting the tower is a wrought iron gold cross and at the base a pedestal to support a stone figure of St. John.

INTERNAL FINISHES—Walls, white brickwork treated with ivory slurry. Above the altar is a painted tester of counter-changed panels depicting the Eagle of St. John the Evangelist and the Arms of the Diocese of Winchester, all in gold.

* Above, another view of the north front. Facing page, the tower.

D E S I G N E D B Y

IST, HOOK, HAMPSHIRE



and red on an azure field. This azure colour is continued over the walls of the chancel, the ceiling being left in the natural colour of the acoustic boarding. Tie-beams are green. Floors are : nave, beech blocks ; floor and steps of chancel, travertine. Chairs, beech ; font, Doulting stone. The pulpit and lectern are both built into the main structure and are in cream coloured brickwork, capped with Doulting stone. The lighting fittings are fixed on the tie-beams and cast the light eastwards. All the furniture, including the lighting fittings, were designed by the architect. Pipeless heating is installed.

E D W A R D M A U F E

CHURCH AT HOOK, HAMPSHIRE



DESIGNED BY
EDWARD MAUFE

CONTRACT PRICE—A little over
£5,000 and this was not exceeded.

Above, the Chancel; right, looking
east (left) and west.

The general contractors were
Musselwhite and Son.

For list of sub-contractors see
page xxiv.



E

BY

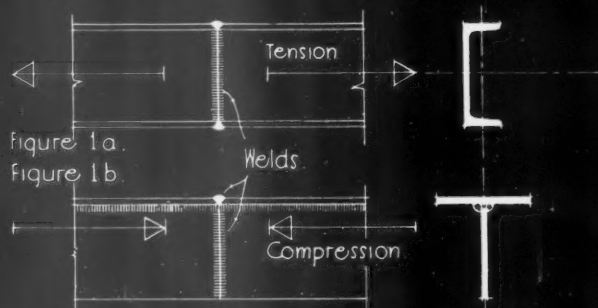
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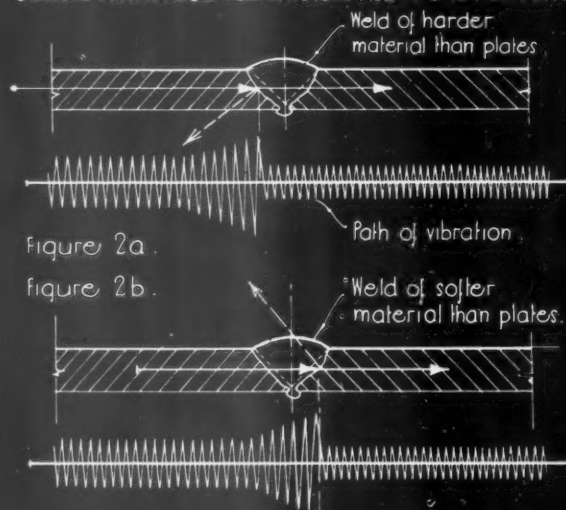


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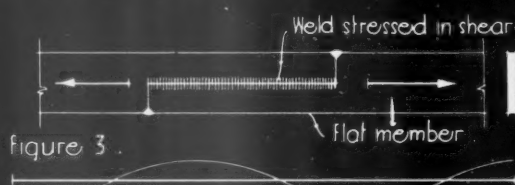
PRACTICAL CONSIDERATIONS INVOLVED IN CONSTRUCTIONAL WELDING, 3 :



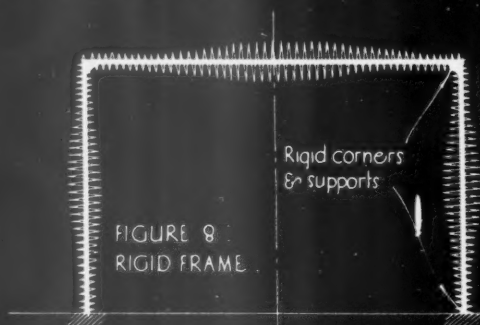
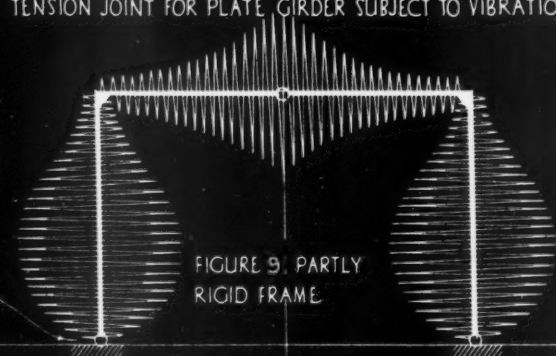
JOINTS ARRANGED FOR STRESSES ALL IN ONE MEMBER.



DIAGRAMS ILLUSTRATING PART DEFLECTION OF SHOCK WAVES AT CROSS WELDS.



STRESS DIAGRAM FOR SHOCK WAVE PARALLEL TO WELD.

FIGURE 8
RIGID FRAMEHinged
supportsFIGURE 9
PARTLY
RIGID FRAME

DIAGRAMS ILLUSTRATING RELATIVE INTENSITY OF VIBRATION IN RIGID & HINGED CONSTRUCTIONS.

Issued by Braithwaite & Co., Engineers, Ltd. Compiled by Samuels & Hamann, Consulting Engineers.

INFORMATION SHEET : STEEL FRAME CONSTRUCTION, 54 : WELDING N° 10
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 836 •

STRUCTURAL STEELWORK

Subject : Welding, 10 : Practical Considerations Involved in Constructional Welding No. 3, Shock or Vibration.

General :

This series of Sheets on welded steel construction is a continuation of a preceding group dealing with riveted and bolted construction, and is intended to serve a similar purpose, namely, to indicate the way in which economical design as affected by general planning considerations may be obtained.

Both the principles of design and the general and detailed application of welded steelwork, are analysed in relation to the normal structural requirements of buildings. The economies in cover and dead weight resulting from the use of lighter and smaller steel members and connections, are taken into consideration in the preliminary arrangement of the building components in order to obtain a maximum economy in the design of the steel framing.

In Sheets Nos. 2, 3 and 4 of this group, the advantages of the welding of structures are set out ; but it is only to be expected that welding will involve a number of practical considerations. These are illustrated and discussed in this and the two previous Sheets.

The difficulties encountered in the welding of structures are set out in Sheet No. 8 of the welding series, and the fourth factor, which has been used as an argument against welding, will be discussed here. This is the fact that certain types of welds are inferior to others when subjected to shock or vibration.

It should be noted in passing, that exact knowledge of the potential difficulties associated with the welding of structures, enables the steelwork to be constructed in such a way that these can be avoided, while the advantages set out in the previous Sheets are retained.

Stresses in Welds :

It has been shown on Sheet No. 5 that welds can be stressed in shear, tension or compression. The greatest economy is often found by using welds in tension or compression rather than in shear. In certain cases, particularly in the members of lattice girders or in flanges of plate girders, joints may be arranged so that they are all in one section of the member. See Figure 1. If such a member is subjected to shock or vibration which has to be transmitted along it, the whole weld is subjected to the periodical increase or decrease of stress.

Reflected Shock :

Although welding material to-day has generally the same ductility as the parent metal, a difference in the materials, however

slight, cannot be avoided and at the lines of contact shock waves are partly reflected, producing an appreciable difference of vibration on either side of the weld, and finally resulting in stresses which are greatly increased compared with those for which the weld may have been calculated. Figure 2. Such an increase in stress cannot occur if a weld is arranged parallel to the line in which the vibration travels, as only certain parts of the weld, and never the whole, will be subject to an increased stress, while there is a possibility of their finding relief from the neighbouring sections which are stressed to a small degree. Figure 3. These longitudinal welds are generally stressed in shear.

Principles for Design :

All that has to be done in order to prevent damage due to vibration, is to ensure that where there is danger of vibration, welds should be stressed in shear or at least in a combination of tension and shear.

Application :

In ordinary domestic buildings, as well as in office buildings, warehouses, etc., the question of vibration and shock need not usually be taken into account. In industrial buildings, particularly in the case of crane girders, garages and bridges, vibration cannot be neglected. Figure 4 gives a typical joint in a tension member for a roof truss of a building not subjected to vibration, and Figure 5 gives the same joint for a building in which a crane runs, or which is in the immediate neighbourhood of a railway cutting. Similarly, Figure 6 shows an ordinary flange-plate joint for a plate girder, but where special precautions are necessary, the tension joint in Figure 7 would be preferable. As a rule, vibration affects plate girders and frame construction to a lesser degree than it does trusses.

Framed Construction :

If hinged connections are avoided and the whole building is constructed with rigid connections, the vibrations are approximately equal in intensity everywhere, while hinge connections tend to decrease them in parts and increase them in others, the maximum vibration wherever it occurs being much greater. Rigid construction can, therefore, sustain vibration much better than a hinged system. Figures 8 and 9 indicate the relative intensity of vibration to be expected at various points of a rigid and partly-rigid structure. The above remarks show that vibration can be serious only if it is not properly provided for in the design.

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, 814, 816, 819, 821, 822, 823, 824, 826, 827, 828, 830 and 832.

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Whitehall 3993.

LETTERS — *continued* *Has the D.I.A. a Future?*

SIR,—I have read with the attention it deserves, Noel Carrington's article, which asks whether the D.I.A. has a future. I agree with his conclusion that "it was probably a salutary purge": because before 1915 many branches of design were suffering from the Victorian hang-over. "Look back, young man!" was the advice given to young designers in those far-off days, and obediently the young men turned their eyes back to the past, even as William Morris did.

The D.I.A. began its work with a grand mixture of ideas and personalities. Its adherents and pioneers were interested in everything, from folk dancing to child welfare, social uplift, economic reform, hand-woven underwear, poker work, and getting back to the land, although getting back to the land often meant having a week-end cottage with all modern conveniences, so that from Friday to Tuesday they could pass as semi-intellectual plough boys.

But from this mass of contradictions, from all these diffused intentions, something *did* emerge, something that gave all kinds of people a basis for exercising, in an elementary way, their critical faculties. That slogan "fitness for purpose" did a job of work, and although Mr. Carrington may say that "it became a convention to assume that good design is not only not antagonistic to profits, but that it pays handsomely," at least the D.I.A. has made it easier for many branches of industry to understand what industrial design means. The future of the D.I.A. depends on whether we are going to enjoy the benefit of an industrial civilization after the war, without its disadvantages. The spade work done by the D.I.A. in the past makes it much more likely that post-war industrial civilization will have the chance of being a better sort of affair, because industry will have a better understanding of design, and a wider knowledge of how and when to employ industrial designers. I wish all the people who are making such a superior shindy about the so-called failure of capitalist organization would remember that we are a trading nation, that we live by trade, and that, despite the flapping of innumerable left wings, trade is not a criminal activity.

JOHN GLOAG

BUILDING SOCIETIES AND WAR DAMAGE

The Chancellor of the Exchequer has received assurances on behalf of building societies that they will extend the most sympathetic treatment possible to borrowers whose property has suffered war damage and that they will not ask the borrowers to pay more on account of their debts than is in the circumstances clearly within their resources.

OFFICES AT ST. HELENS



SITE—At St. Helens, Lancashire: a new wing added to the offices of Messrs. Pilkington Brothers, the glass manufacturers. The accommodation includes offices with main entrance, hall and staircase, visitors' lunch room, directors' lunch room and directors' smoking room, etc.; and a works canteen.

MATERIALS—The opportunity has been taken to display the uses of the occupiers' own products, which appear in various forms, decorative and structural, in every room: notably, glass bricks, opaque glass panels for wall-linings, etc., clear glass panels for staircase balustrades, other forms of glass on the surface of doors and counters, and decorative panels of etched and embossed glass. The first-floor corridor shows glass bricks used to obtain light from the offices on either side. The walls are lined with pink opaque glass sheeting with a black capping and base. The floor is of brown cork composition with ivory inlay strips, and the doors are painted turquoise blue. In the visitors' lunch-room the walls are veneered in Australian walnut, forming a background to a series of decorative glass panels on one wall and a recessed mirror on the opposite one. The panels all have a satin-finished and silvered background and various decorative techniques such as brilliant cutting, acid embossing and copper-bronze spraying.

Above, first floor corridor.

The general contractors were Wm. Moss & Son, Ltd.

For list of sub-contractors see page xxiv.

B Y H E R B E R T J . R O W S E

OFFICES AT ST. HELENS



Top, visitors' lunch room; left, directors' lunch room.

DESIGNED BY HERBERT J. ROWSE

SOME QUESTIONS ANSWERED THIS WEEK:

★ *WHAT is the position of Chattels under the War Damage Act?* - - - - - Q 751

★ *ARE Local Government Officers (Technical) reserved?* - - - - - Q 752

★ *WHEN is compensation payable under the War Damage Act?* Q 753

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 help is available to any member of the industry.

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential; and in no case is the identity of an enquirer disclosed to a third party.

Questions should be sent by post to—

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

—but in cases where an enquirer urgently requires an answer to a simple question, he may save time by telephoning the question to—

VIGILANT 0087

The reply will come by post.

Q 751

ARCHITECT, LONDON.—*Can you let me have a brief explanation of the position with regard to DAMAGE TO CHATTELS both before and after the passing of the War Damage Act.*

The Government Insurance Scheme came into force on May 1, 1941. It is made retrospective in the sense that anyone suffering war damage before that time will receive compensation, less the amounts of the premiums which they would have paid if the Insurance Scheme had been in force earlier.

Since May 1, householders have had free insurance up to £200, if single, and £300 if married (man and wife living together). There is also an extra allowance of £25 for each child under 16.

Any additional insurance is over and above the free insurance; thus a married man wishing to insure for £500 need only pay a premium for £200.

Premiums are £1 per cent. up to £2,000, £1 10s. 0d. per cent. for the next £1,000 and £2 0s. 0d. per cent. for the next £7,000. Policies

may be effected with the Board of Trade through an insurance agent.

As far as free compensation is concerned, it is not possible to recover more than £25 on any one article. If you take out a policy you can recover up to £50 on any one article or 5 per cent. of the total sum insured, whichever is the greater. You cannot recover more than £100 or 20 per cent. of the total sum insured (whichever is the greater) for "valuables"—works of art, jewellery, furs, etc.

In order to make the scheme work some notice had to be given and in consequence any policy which was taken out before the end of May will be deemed to have been taken out on May 1. Thus if your chattels were destroyed during May you could take out a policy to insure the chattels already destroyed, as the policy would be dated May 1.

In future nothing will be recoverable except the amounts covered by the free Insurance Scheme, unless a policy has been previously taken out.

Q 752

ARCHITECTURAL ASSISTANT, LINCOLN-SHIRE.—Please tell me if a LOCAL GOVERNMENT OFFICER (Technical)—is included in the REVISED SCHEDULE OF RESERVED OCCUPATIONS. The age at time of registration was given as 33 years, and the "technical" occupation stated to be that of Architectural Assistant.

According to the Schedule of Reserved Occupations and Protected Work, revision April 10th, 1941, the age of reservation for a whole time officer employed by the local authority (except for certain officers not in the category you mention) is 30, but this age will be raised to 35 at some future date to be announced. Men who become de-reserved at the latter age will not, as a rule, be required to join their units before October 31, 1941, but may be required to attend for a medical examination before that date.

The ages mentioned above apply when the officer is not specifically reserved at a lower age by reason of the occupation in which he is employed. As the age of reservation for architects is 35 at the present time, this will not affect your situation, and ages previously mentioned will apply.

Q 753

ARCHITECTS, LONDON.—We understand from the War Damage Act, 1941, that as no COMPENSATION will be payable by the Government FOR any WAR DAMAGE until

the end of the war, interest will be paid at the rate of 2½ per cent. on the agreed amount of compensation. A client of ours states that a notice was recently issued by one of the Government Departments stating that compensation would be paid immediately to owners of business premises which had suffered little damage, and which could be repaired sufficiently to enable their business to proceed.

Your impression that no compensation will be payable until after the war is incorrect. See Section 8 of the War Damage Act. In the case of "Cost of Works" payments, payment will be made on completion of the works, or after sufficient time has elapsed to enable the Commission to ascertain the appropriate cost. This means that compensation for first-aid repairs or other repairs carried out now will become due immediately, although some delay is inevitable owing to the number of claims confronting the Commissioners. Compensation for more permanent repairs which will not be executed until after the war, will not become payable until they are completed.

In the case of "Value" payments (usually applicable when the damage is such that re-instatement is impracticable) compensation will be paid at a time specified in regulations made by the Treasury and probably these payments will not be made until after the war. Interest at the rate of 2½ per cent. is only allowed on value payments.

If you have already submitted a V.O.W.1 Form you will receive Form C.2/V from the War Damage Commission in due course, which asks amongst other things for the account of the contractor who has carried out any repairs to date. When the Commissioners have satisfied themselves as to the amount, compensation will be paid for such repairs as mentioned above.

It is obviously in the interests of the owner to have first-aid repairs done and, in fact, he will not be able to obtain compensation for subsequent damage due to neglect. You would do well to remember, however, that no private building work can be undertaken at the present time except under licence, if the cost is likely to exceed £100.

Q 754

ARCHITECT, NOTTINGHAM.—I understand that in cases of extreme emergency, certain hospitals in this country have found it necessary to instal anthracite or solid fuel (fumeless) HEATING STOVES in their OPERATING THEATRES, to keep up the temperature when their heating installation is out of commission.

I shall be glad if you could give me details of such stoves together with the names and addresses of the various manufacturers.

Messrs. Geo. Wright, of Burton Weir Works, Rotherham, and Messrs. Yates, Hayward & Co., of Effingham Works, Rotherham. Two other firms also supply special stoves. One of these is Messrs. Smith & Wellstood, Ltd., of 11, Ludgate Circus, London, E.C.4, who can also be communicated with c/o The Esse Cooker Company, 63, Conduit Street, London, W.C.1, and the other is Messrs. Musgrave & Co., St. Anne's Ironworks, Belfast, who also have an address at Sardinia House, Sardinia Street, London, W.C.2.

Q 755

SURVEYOR, WALES.—A house under my care has WOOD-WORM in the staircase and front door. Can you recommend any treatment to get rid of this?

The wood should be painted or, better, sprayed, with one of the following:—

A mixture which can be obtained, already made up, from some chemists, consisting of 97 per cent. Orthodiachlorobenzene, 2 per cent. Castille soap, 1 per cent. cedar wood oil; or one of the following proprietary brands:—

"Rentokil." Rentokil 'Sales' Ltd., 12, Stockwell Road, S.W.9.

"Toritna." The Dry Rot & Fire Prevention Co. Ltd., 20, Harp Lane, London, E.C.3.

"Wycamol." Richardson & Starling Ltd., 48, Andover Road, Winchester.

It would be advisable to treat other woodwork near the affected part, as a precautionary measure, as wood-worms usually spread and lay their eggs in other wood, particularly where there are cracks.

Q 756

SURVEYOR, DERBYSHIRE.—A church council has asked me to advise as to the REMOVAL OF some valuable early English leaded GLASS WINDOWS.

The lights are each about 6 ft. high and 1 ft. 3 in. wide. They are fixed direct into stonework with what seems to be ordinary cement. The leadwork appears to be fairly sound.

Information is sought as to the best method of removing the lights and as to precautions which may be taken to safeguard them from collapse in case portions of the leadwork prove to be too weak for handling.

Are there any specialist firms who undertake this work?

The only precaution you can take is to put the work in the hands of a responsible firm who employ crafts-

FACTS ABOUT GLASS FOR ARCHITECTURAL STUDENTS

No. 2—Polished Plate Glass

★ Polished Plate Glass has the two surfaces ground, smoothed and polished, the object being to render the surfaces flat and parallel, and thus to provide clear and undistorted vision and reflection.

THICKNESSES

Ordinary range $\frac{1}{8}$ " to $1\frac{1}{4}$ " and up to $1\frac{1}{2}$ " if desired. The normal substances supplied, unless otherwise stated, are approximately $\frac{1}{4}$ ". If a substance other than $\frac{1}{4}$ " is required, it must be stated. It should be noted that glass thinner than $\frac{1}{4}$ " is more costly than $\frac{1}{4}$ " glass, because, to arrive at this reduced thickness other processes are involved.

QUALITIES AND CHARACTER

Plate Glass is characterised by its flat surface and high polish. In its normal thickness of $\frac{1}{4}$ " it is approximately four times as strong as the thickest Sheet Glass ordinarily used for glazing windows (24 oz. $\frac{1}{16}$ "). Compared with such Sheet Glass, also, it offers considerably higher insulation against sound and heat. Polished Plate Glass is supplied in three qualities.

G.G. — for ordinary glazing

S.G. — for selected glazing

S.Q. — for selvering quality

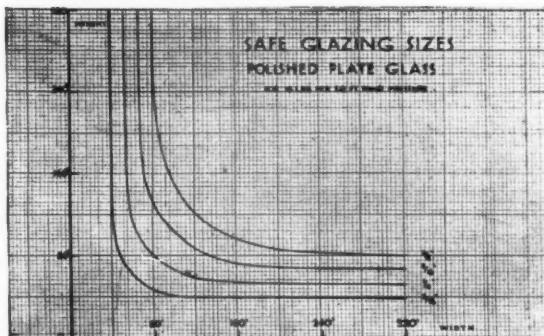
LIGHT TRANSMISSION

The light absorption is so small that, even though 8% is allowed for reflection, the total transmission is approximately 90%.

USES

Polished Plate Glass should be used in preference to sheet glass wherever cost permits. For shop windows, display cases, and in all instances where undistorted vision is required, Plate Glass is essential. For public and commercial buildings, hotels, hospitals, schools, office blocks, etc. Plate Glass is desirable on account of its extra tensile strength and superior thermal insulating quality.

GLAZING SIZES



Curves corresponding with each thickness have been prepared to show the maximum safe glazing sizes in that substance in condition of exposure not exceeding a wind pressure of 15 lbs. per square ft. (68 m.p.h. wind velocity.)

Any square, rectangular, or circular size that can be fitted *under* the curve corresponding to each substance fulfils the L.C.C. requirements. For abnormal sites — e.g., when a window forms a wind-pocket or when the building is in an unusually exposed position — requirements should be referred to our Technical Department, St. Helens.

SPECIFICATIONS

In preparing specifications, the following clauses should be included for glazing :—

- (1) General Clause : All glass to be of the type, quality, and substance specified, and to be of British manufacture. The glazier must be prepared to produce at the completion of the job invoice or voucher from the manufacturer to show that the glass supplied is of the specified standard.
- (2) Glasses should be described by the recognised trade terms, thicknesses and qualities.

This is published by Pilkington Brothers Limited of St. Helens, Lancashire, whose Technical Department is always available for consultation regarding the properties and uses of glass in architecture.

men used to this type of work. The following firms would be suitable.

Humphreys, Jackson and Ambler Ltd., Decorative Glass Works, Lucy Street, Hulme, Manchester.

Morris & Sons Ltd., Scoresby House, Glasshill Street, Blackfriars, London, S.E.1.

Norman & Underwood Ltd., Free School Lane, Leicester.

the question of whether it was harmless, in reply to which we stated that it was impossible to give a definite opinion without seeing a sample, but that the moss was probably harmless unless in sufficient quantities to produce dampness.

Messrs. G. Tucker & Sons, Ltd., Brick and Tile Contractors of Loughborough, have written to say that they have known a case where moss 1 in. thick attracted sufficient moisture to cause very bad tile rot. Apparently satisfactory results were obtained in this instance by scraping off the moss with a wooden scraper and allowing the roof to dry out.

Ltd., iron staircases; Fenning & Co., Travertine paving; Mealing Bros., Ltd., chairs; Heal & Son Ltd., altar hangings and frontals; Charles Farris, Ltd., alms boxes; J. Starkie Gardner, Ltd., flag mast; Ariel Chase, central heating; James Gibbons, Ltd., door furniture.

HEAD OFFICE BUILDING FOR PILKINGTON BROS. LTD., ST. HELENS (pages 47-48). Architect: Herbert J. Rowse, F.R.I.B.A. Wm. Moss & Sons, Ltd., Roscoe Street, Liverpool, 1, general contractors; Trussed Concrete Steel Co., Ltd., reinforced concrete struc. floors; Pilkington Bros., Ltd., Greengate facing bricks, Greengate common bricks, glazing, decor. glass, glass wall coverings—Vitrolite, armoured Vitrolite, glass floor tiles, glass bricks for partitions and exterior walls; Val de Travers Asphalt Co., Ltd., damp-proofing; Pearson Bros. & Campbell Ltd., artificial stone; John Stubbs & Sons, Ltd., marble; Conway & Co., terrazzo; Fredk. Tibbenham, Ltd., revolving door, decor. woodwork and furniture; Leaderfush, Ltd., doors; Quiggin Bros., Ltd., plastics; R. W. Houghton, Ltd., plumbing; Rowe Bros., Ltd., sanitary fittings, baths, basins, etc.; Baxendale & Co., Ltd., sanitary fittings, baths, basins, etc.; Doodson & Bain, Ltd., metalwork; Henry Hope & Sons, Ltd., ornamental cast iron, metal windows; John Hunter & Co., Ltd., lighting, electrical installation; Ingram & Kemp, Ltd., electric light fittings; Waygood-Otis, Ltd., lifts; Richard Crittall & Co., Ltd., panel heating and air conditioning; J. A. King & Co., Ltd., lenses; Mellows & Co. Ltd., patent roof glazing; British Vitrolite Co., Ltd., armoured Vitrolite, Vitrolite; Newalls Insulation Co., Ltd., acoustic plaster; Keenes Cement, special plasters; J. B. Johnson & Co., Ltd., fibrous plaster; James Stott & Son, Ltd., paint; J. & R. Smith, Ltd., carpets; Lamson Engineering Co., Ltd., dispatch tubes; Roneo Ltd., steel equipment; Korkoid Decorative Floors Ltd., linoleum; Daymonds Ltd., plastic letters; Stemco Ltd., petrol tanks; Luxfer Ltd., pavement lights; H. H. Martyn & Co., Ltd., clock dials.

REFERENCE BACK

[This section deals with previous questions and answers.]

Q 720

Messrs. Radiation, Ltd., of 7, Stratford Place, London, W.1, have pointed out that their name was omitted from a list of firms providing cooking apparatus suitable for use in communal feeding centres. Their booklet, "Planning the Canteen in Wartime," contains information on this subject.

Q 734

This enquiry dealt with extensive coverings of moss on a tiled roof and

THE BUILDINGS ILLUSTRATED

CHURCH AT HOOK, nr. BASINGSTOKE (pages 43-46). Architect: Edward Maufe, A.R.A. Musselwhite & Son, Eastrop Works, Basingstoke, general contractors. Daneshill Brick & Tile Co., bricks; Stoner & Saunders, Ltd., cast lead fascia; Chas. Arnold (Isleworth) Ltd., slating; Wainwright & Waring, Ltd., windows and glazing; Hollis Bros. & Co., Ltd., wood-block flooring; Eric Munday, foundation stone and lettering; J. W. Gray & Son, Ltd., lightning conductor; Barlow & Young, Ltd., electric wiring; Tucker & Edgar, electric light fixtures; Mears & Stainbank, bells; Haywards,

LEVERHULME SCHOLARSHIP

The Leverhulme Scholarship in Architecture, tenable at the A.A. School of Architecture, value £1,000, which includes payment of fees and maintenance for a period of five years, has been awarded this year to Mr. Ronald H. Sims, of Bournemouth, Hants.

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