THE ARCHITECTS' JOURNAL

THE ARCHITECTS' JOURNAL
WITH WHICH IS INCORPORATED THE BUILDERS' JOURNAL AND THE ARCHITECTURAL ENGINEER IS PUBLISHED EVERY THURSDAY BY THE ARCHITECTURAL PRESS (PUBLISHERS OF THE ARCHITECTS' JOURNAL, THE ARCHITECTURAL REVIEW, SPECIFICATION, AND WHO'S WHO IN ARCHITECTURE) FROM 45 THE AVENUE, CHEAM, SURREY

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THE ANNUAL SUBSCRIPTION RATES ARE AS FOLLOWS :
BY POST IN THE UNITED KINGDOM £1 3 10
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BY POST ELSEWHERE ABROAD £1 8 6
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45 The Avenue, Cheam, Surrey
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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, NOVEMBER 7, 1940. NUMBER 2390 : VOLUME 92

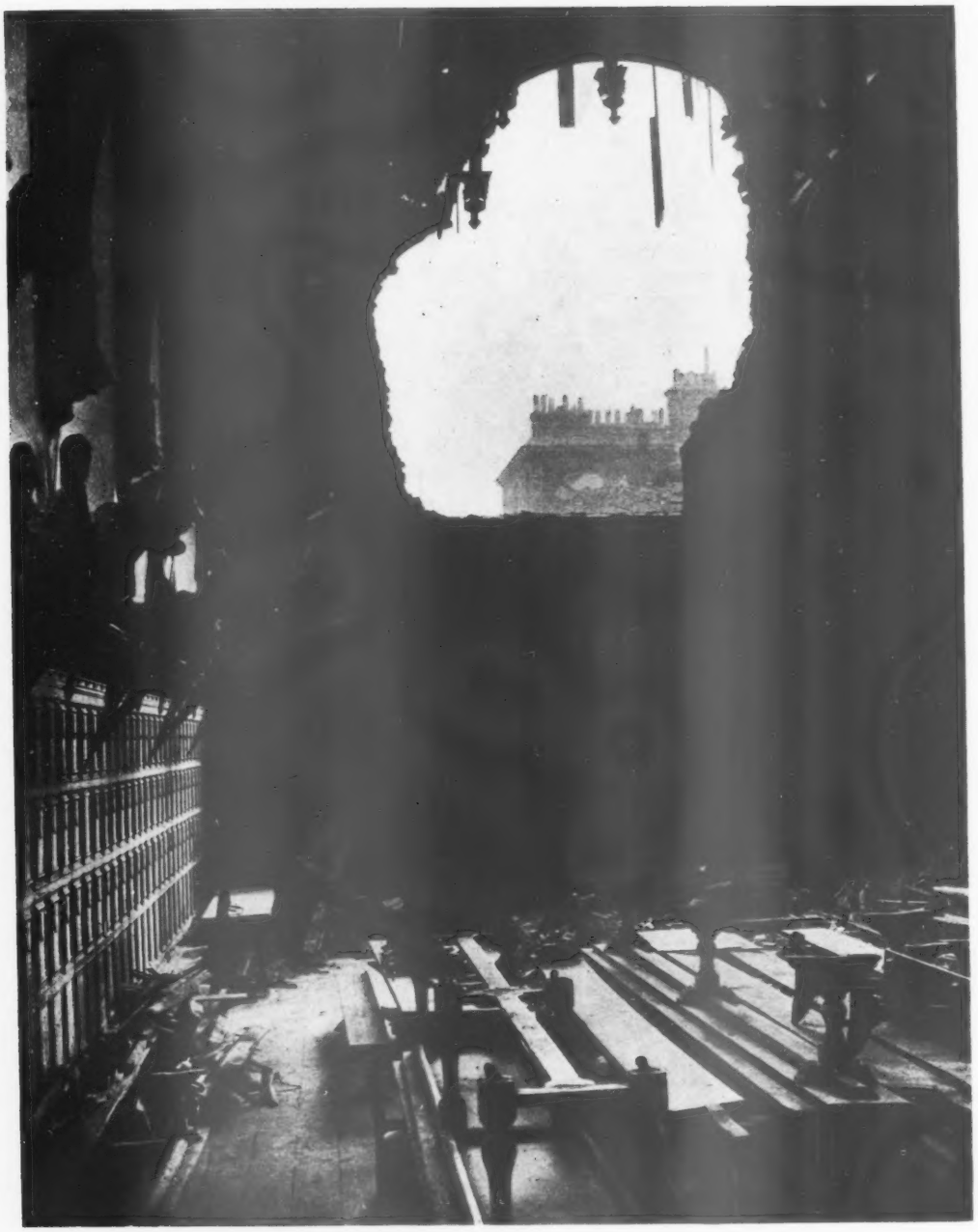
PRINCIPAL CONTENTS

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.*

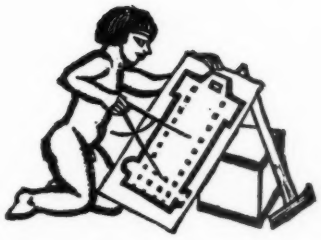
MIDDLE TEMPLE HALL DAMAGED

The exterior of the Middle Temple Hall, showing damage done during a recent air-raid. An interior photograph appears overleaf.



MIDDLE TEMPLE HALL

The interior of the Middle Temple Hall, showing damage done during a recent air-raid. The stained glass windows were removed at the outbreak of war.



A MINISTRY ALMOST TOO LATE

A YEAR ago, after only two months of war, many members of the building industry and its professions were uneasy about the building outlook. Before war broke out, it had seemed that the Government realized how important the industry might prove in a war of bombs ; but by November no steps had been taken to set up a Control for this potentially vital industry and there were many signs of the increasing dislocation of its peacetime organization.

The individual members and representative bodies of the industry who had examined the situation naturally differed over details of remedial measures, but there was almost complete agreement within the industry on major defects, their possible consequences and the general form of necessary remedies. In its issue for November 30, 1939, the JOURNAL suggested that a Committee empowered to speak on behalf of the whole industry (including its professions) should address the Government on these lines :

It is essential for the prosecution of the war to keep our organization in tolerable working order throughout the country —for the work which we may be required to do both in armaments and rebuilding when air attacks develop.

The unavoidable fall in building volumes in wartime enables us to do all you can possibly want (bar bombing) with ease, and still reserve plenty of labour and plant.

The present competition between departments for the easiest materials and quickest results will, if not checked, damage our organization badly—even ruinously.

We therefore ask you to allow US to organize your whole building programme on these conditions :

1. That you tell us as nearly as possible what buildings and other works you will want for the next year (bar bombing)—including a description of each scheme and its component units.
2. That you establish an order of urgency for these schemes which will not be subject to change under pressure from various Departments.
3. That you give us a grant for a War Buildings Bureau which will prepare and standardize designs for all the commonest types of war building in all the building materials which can be used with tolerable speed and at low cost. These designs (and detail drawings) will be available free to all contractors ; and the material used will be decided according to the urgency of the contract.
4. That we are allowed to do our own controlling.

In this outline of the main remedies which seemed plainly necessary *a year ago*, the JOURNAL suggested that a body recruited from the building industry should be charged with their execution. The R.I.B.A. and B.I.N.C., in remedial proposals drawn up at the same time, merely suggested that *some* authority should be charged with a similar duty. But, as has been stated, there was no disagreement over the main remedies themselves.

What happened during the following year ? None of the remedies were carried out, but the consequences foreseen if they were not carried out, took place one by one with impressive completeness.

Since no authority was charged with the management of all building resources, it was no one's job to look ahead, and the control of the industry was vested predominantly in a committee of consuming Departments whose only interest was to allocate *existing* resources to *immediate* needs. At last, when heavy bombing began, it was plain that supplying the needs of the Service and Supply Departments was only one of several vital jobs which the building industry would have to do, and that *a building authority* must be set up to decide how it could best do them. And so a Ministry of Building was set up and charged with these duties :

(1) Responsibility for the execution of all new *civil* buildings and other building works required by all other Government Departments.
(2) The execution of all work now done by the Office of Works and by those sections of the Ministry of Supply which deal with new buildings for war purposes and extensions to existing buildings.
(3) Determining the priority of *all* building works under the direction of the Production Council and subject to appeal ; determining the priority of air-raid repair works ; the control of all materials now rationed and those which may be rationed in future ; the licensing of private building works.
(4) Obtaining information from all Departments which retain control of their own building works.
(5) Research into substitute materials and standardization and power to enforce use of results by other Departments.
(6) General forethought about, and preparation for, reconstruction.

That the powers granted to the new Ministry are substantially those which it stated to be necessary a year ago, is not a matter for which the JOURNAL claims credit. What the JOURNAL is concerned with is why it has taken a year to establish the Ministry.

In the JOURNAL's view it is only too clear why the delay occurred. " Private " representations were made to Government : there were " private " meetings with M.P.s. But when these slight manœuvres did not bring results, nothing else was done. A haunting fear lest anyone, anywhere, should suggest they were even verging on that unspeakable activity which is called " embarrassing the Government " paralysed the representatives of the industry—and particularly the architects (to whom the public looks chiefly for an interpretation of building events)—into forgetting that in this matter *they* were the experts and not the Government. The public remained ignorant of the building situation and through this ignorance the action was delayed until the danger was formidable.

Then architects' remedies were applied. But it is doubtful if architects will get much reward from the Government for " not embarrassing " it until the fat was almost in the fire—or from the public. That section of the R.I.B.A. which devotes great energy to denouncing architects for making public pronouncements on matters lying outside their province, would serve their profession better if they saw to it that architects did make public pronouncements on what lies wholly within their province.

Before very long architects must realize that the continuing negligence of their elected representatives in all matters of Public Relations is diminishing the profession's influence to vanishing point.

The Architects' Journal
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NOTES & TOPICS

CAMOUFLAGE

THE Select Committee on National Expenditure, which said some pointed things about Departmental building methods last autumn and spring, has now turned its penetrating eye on camouflage.

*

The camouflage of certain fortified posts has been described as absurd, the activities of many private camouflage practitioners has been called futile and dangerous, and the amalgamation of the four existing camouflage departments is recommended, together with "greater use of the skill of non-Departmental members of the Camouflage Committee." A research staff for the single camouflage authority is also recommended.

*

Architects, many of whom take a general interest in camouflage without of course pretending to any expert knowledge, have long suspected that camouflage was either very over-rated or else being very badly applied—particularly as regards problems of form and shadow as opposed to those of surface pattern.

*

It seems probable that the coming reforms may be considered as a first victory for *Science in War*,* a book which stated very bluntly the ways in which science could help, but had not been asked to help, in various fields of war activity. No chapter in this book was more trenchant than that devoted to camouflage. I give two quotations :

*

"When we turn to the personnel engaged at the Civil Defence Camouflage Establishment, the prospect is scarcely reassuring. Of some sixty-five technical officers, all but four are either professional artists, or, at the time of recruitment, were students at art schools. Not one member of the Establishment is a qualified biologist. It appears, moreover, that none has attended a course in the science of camouflage, and indeed at the present time there does not exist any such course of instruction which they could attend."

* Penguin Books, Ltd. Price 6d.

"The type of camouflage seen, for example, on Service vehicles displays a ludicrous attempt at disruption which fails entirely since the colours used are of approximately equal tone. Mere differences in tint become invisible at a short range, and objects so coloured are virtually self-coloured, and hence self-evident."

BUNKS AND THE A.A.S.T.A.

By drawing attention at once to faults in the Ministry of Home Security's standard designs for bunks, the A.A.S.T.A. may have prevented several hundred thousand people suffering unnecessary discomfort at night for the rest of the war.

*

Those readers who looked at the dimensioned sketches published in last week's issue of the JOURNAL will recall that the Government's standard design—already sent to local authorities—allows for 20 inches clearance between bunks. The A.A.S.T.A. maintains that, once this height has been reduced by a mattress, it will be too low.

*

This contention is so reasonable that it raises doubts whether the Ministry of Home Security's designer went to the trouble of having a tier of bunks made, and of sleeping on it, before local authorities were urged to go ahead.

*

Let me give an illustration. Like many other architects, I was recently asked to design bunks for a small shelter, and adopted the "interleaving" principle—i.e. each person was to have a headroom of 3 ft. for a distance of 4 ft. from the head of the bunk, and thereafter have a "footroom" of about 16 inches for the remaining 2 ft. 6 ins. Ample and luxurious it looked on the board.

*

Fortunately, when the parts came, a full-dress rehearsal was staged with mattress, bedclothes, the occupant and all—the bunks being roughly blocked up. The drawing-board design was then found quite hopeless. The occupant was one of those who slide down very low in bed, with the result that the outer string of the transverse bunk caught her across her bent knees and compelled her to emerge from the bedclothes almost down to her waist every time she wanted to turn over. This occurrence, in my view, was not funny, nor the occupant unduly fussy : it arose from an insufficiently thought out design.

*

When it is recalled that my design allowed 16 inches for the feet and lower legs only, that the official design allows 20 inches *throughout* and that in cold weather people will tend to bring to shelters all the bedclothes they can get, the usefulness of the A.A.S.T.A.'s criticism is clear.

*

It is an example of the practical, prompt, useful comment on a matter which affects the ordinary man closely, which the public has a right to expect from the architectural profession, and which—apart from the A.A.S.T.A.—the profession never supplies.

TOWARDS BETTER THINGS

The control of building up to now has proceeded by checks and balances, checks predominating. Now the dayspring from on high of a conscious integration is at hand. In the meantime we are in all worlds at once. For instance, for a building in progress sufficiently unfinished, the procedure to be deduced from the official notices would be something like this : I apply for a licence from the Ministry Office of Works and Buildings. When I have

that, I apply again to the Ministry (Office) of Works and Buildings for permits for the materials. But I am allowed in the meantime to continue with the building, if I can get materials. To do this I would normally apply to various trade bodies (masked as controls) for permits, coupons or licences. With these, if they have not arrived after their date of expiry, I would approach my merchant, and find with any luck that he has a part of my needs.

*

The way by which one learns better is illustrated by a tale of a provincial architect, which is also the sort of thing that inclines me to suspend judgment. Seeking information on his proper course, he made his difficult way up to and through this new London—feeling, as he said, like an amœba proceeding by trial and error—to Abell House.

*

Arriving shortly before noon he was told that no information, not even a printed notice, could be given out until 2.30 ; by which time he had to be a hundred miles from London. As a special favour he was allowed to leave his name and address. He did so, asking for application forms and any explanatory literature. Two days later the sheet of explanatory notes arrived. Naturally assuming that there were no application forms, he wrote a fully detailed letter of application. In reply to this there arrived, on the day by which all applications had to be in, an application form. It stated, in contradiction of the explanatory notes, that applications for materials were to be made at the same time, on the attached form. The attached form dealt with buildings whose completion would cost less than £500, i.e. for which no inclusive licence was required.

BRICK WALL

I hear also that several brickmakers round a large town have had to close down in the last few months owing to the Corporation's ordering bricks from London, for the sake of a saving whose existence is disputed. The Government is said to be taking steps and hopes to get them into production again sometime in the spring. At the same time customers in neighbouring districts are receiving warning from the London firm that they will not be able to get bricks for some months.

FUTURE BRITAINS

" Every week, in a quiet room in Suffolk Street," a Sunday newspaper informs us, " a group of men and women, including architects, meet to plan a better Britain for after the war."

*

It is to be hoped that among the subjects discussed is the improvement of school accommodation. Conditions in most State-aided schools ranged from the unsatisfactory to the dreadful. Less publicised, but equally common, are the old-world conditions with which many of our public schools for both sexes have to contend.

*

Some of us have seen a large number of these places, some of us have lived in them, and it is no exaggeration to say that, until recently, the average standard of building and equipment had advanced but little from the days when it was necessary, very necessary, to plant college courts with thyme and lavender. For instance, one of the largest public schools in the Midlands, last time I visited it, was still sanitated by earth closets. Warmth, light and colour are rarely considered. Perhaps, like privacy, they are luxuries not to be bought for a mere £300 a year. There are, of course, exceptions. Merchant Taylors has been entirely rebuilt, Stowe is lucky in her lofty aristocratic halls, and Charterhouse has a classy new chapel.

*

Nearly every school, too, has its " new block," often so shiningly collegiate in appearance that it only serves to emphasize the hideous melée around it, created during years of patching and improvization by ingenious headmasters and ignorant clerks of works.

*

For the last hundred years, public schools, like universities, seem always to have been unfortunate in their architects. Perhaps it is because the academic mind is so scared of being charged with lack of business acumen that it deliberately shuns good taste as a sign of weakness, or perhaps, more simply, it is because jobs are given to " old boys." Whatever the reason, the results are the same.

*

Last week I visited one of the largest and most famous girls' schools in the country. In appearance it was a familiar set of buildings, built in a style which the prospectus described as " decorated rather than perpendicular," and grouping itself rather like a headpiece drawing to a school story in the B.O.P.

*

Within, the familiar school smells eddied down long dark corridors walled with brightly coloured and patterned brickwork. High above the huge classrooms, pitchpine trusses, clamped with iron straps, shone stickily in the gloom. Huge steam-heating pipes writhed across encaustic tiled floors to disappear beneath foliated gratings. Reproductions of bible illustrations, twice life size, hung on the walls between varnished maps and busts of famous women supported on pitchpine brackets.

*

In the library, the light filtered angrily through stained glass on to the Gothic cast-iron railings and polished bookcases. The girls, seated on angular ecclesiastical-looking chairs, rubbed their knees moodily against the cusps and crockets springing from the table legs. A typical public-school, in fact, and you may say that its architecture, with all its spiky faults, has at least more guts than the " new block " nearby—a horrible hotchpotch of Tudor gables, nail-studded doors and horizontal window bars. This is true enough. But whatever Messrs. Goodhart-Rendel and Betjeman may say, striped brickwork is unsuitable as an internal wall finish, and varnished pitchpine is entirely without decorative virtues. A lot of whitewash, in fact, a little more taste in the selection of furniture and fittings, and the transformation would be as quick and complete as it would be simple and cheap.

GAD, SIR, THE ARMY DOESN'T NEED TO HIDE

As I drove through a country of stone-grown farmhouses and well-built trees, the world dissolved suddenly into a roseate glory of immeasurable expanse, a contrived desert of uniform virgin red brick. It turned out, of course, to be connected with the military. On a clear day it must, in those surroundings, be visible for fifty miles. Even the night sky must reflect a slight blush from someone's colossal, bright pink, cold-blooded blunder.

ASTRAGAL

NEWS

DEEP SHELTERS

Mr. Herbert Morrison, Home Secretary and Minister of Home Security, in a broadcast statement on the Government's shelter policy last Sunday, announced that the deep shelter provided by London Tubes is to be extended by tunnelling, and that work is also to begin in certain other parts of the country where the slope of the ground and the nature of the soil make tunnelling a relatively easy matter.

He said :

I have examined the question closely and carefully and with a perfectly open mind, as I promised. I have consulted the best expert opinion, including some fresh minds, and have come to these conclusions : Anything like a universal policy of deep shelter for the whole population, or the greater part of it, is beyond the bounds of practical possibility. This fact I cannot alter. To attempt to build more than a limited amount in suitable places would mean providing deep shelter for a given number at the cost of leaving a much larger number with no good shelter at all.

No appreciable amount of this deep shelter, even in the most favourable event, can be ready until this winter is over. This fact, too, I cannot alter. In some places and in some circumstances the construction of deep shelter is practicable and will be undertaken. The deep shelter provided in London by the Tubes will be extended by tunnelling. In certain other parts of the country where the slope of the ground and the nature of the soil make tunnelling a relatively easy matter work will also be begun.

A.A.S.T.A. EXHIBITION

In response to numerous requests from all parts of the country for information, presented in a popular way, on bombproof shelters, the A.R.P. Committee of the Association has prepared a new type of exhibition.

The exhibition consists of fourteen screens, dealing pictorially with the planning of shelters, the lessons of Spain, types of bombproof shelters—surface, underground, multi-storey and tunnels (including proposals for driving new tunnels from the London tubes) and Government policy.

The new feature of the exhibition is that it can be reproduced in any numbers as required, and the Association undertakes to despatch a copy to any part of the country at short notice. It is suitable for showing in such premises as a small hall or empty shop. Already, before it has been publicly announced, orders have been received from local bodies in a London borough and two provincial towns.

The exhibition takes the place, in effect, of a new pamphlet or publication on A.R.P., but it has the advantage of novelty and that it can be continually kept up to date by the replacement of particular screens.

TIMBER CONTROL

Paragraph 2 of the Control of Timber (No. 13) Order, 1940, Direction No. 1, provides that, as regards imported timber, any person who holds stocks of timber acquired before October 4, 1939, may, without licence, treat, use or consume from such timber one standard of softwood and 100 cubic feet of hardwood. The attention of consumers is drawn to the fact that this exemption is non-recurring and does not relate to treatment, use or consumption during any given period—in other words, once one standard of softwood and 100 cubic feet of hardwood have been consumed from pre-October 1939 stocks a licence is required for the consumption of every cubic foot of the remaining stock.

Consumers are also reminded that, while the Timber Charges Orders provide that no charge is payable on imported timber which is consumed without licence within the maximum limits stated above, they are liable for the timber charge on the consumption of " private opening stocks " of imported timber (i.e. imported timber which was acquired before October 4, 1939), in respect of which consumption licences must be obtained from Timber Control Area Officers.

Every consumer liable to pay the timber charge must send a return of the amount payable, accompanied by a remittance, to the Timber Control Officer in the Area in which the timber is consumed. Copies of the forms of return prescribed by the Control of Timber (No. 14) Order, 1940, are obtainable from the Timber Control Area Officers who are prepared to advise on the subject of timber charges. Under Article 2 (4) of the Charges (No. 1) Order these charges are recoverable as debts due to the Crown or by the Minister of Supply in the same manner as civil debts under Section 35 of the Summary Jurisdiction Act, 1879.

SHELTERS

Professor J. B. S. Haldane was the principal speaker at a Conference called by the recently formed A.R.P. Co-ordinating Committee, held in Manchester last Saturday.

Professor Haldane expressed the hope that the conference would mark the beginning of a movement which would help to make Manchester safer for its citizens. When he spoke in Manchester two years ago he advocated the construction of underground shelters, and the experience of London had since shown that they were the only kind that were safe. Right up to the outbreak of war the National A.R.P. Co-ordinating Committee, of which he was the chairman, stuck out for underground shelters of one kind or another, but when war broke out they had to realize that it was only a matter of months, or perhaps of weeks or days, before the shelters were needed. There were, however, areas in the country where the making of deep shelters, even with the war going on, was entirely practicable.

He did not think it possible to make deep tunnels in Manchester in less than six months or a year. The Co-ordinating Committee had come to the conclusion that while they continued their demand for deep shelters where it was possible to construct them, they should ask for surface shelters so designed that at a later stage they could be made bomb-proof.

RAILINGS

The Ministry of Supply (Iron and Steel Control) has just inaugurated a new voluntary scheme to encourage the private owner to give up his railings for the scrap metal campaign. Following details of the scheme have been issued by the Ministry :

A start is being made in the Midlands area—Leicestershire, Shropshire, Staffordshire, Warwickshire and Worcestershire—with Birmingham as the centre, and the scheme will be extended to other districts as soon as results from the Midlands area are received.

Explanatory notes are being sent out to all local authorities and each individual house-owner will be supplied with a leaflet explaining the Ministry's requirements, together with a form to be filled in authorising the removal of the railings. It is pointed out in the leaflet that railings which are of a historical or artistic value or which serve an essential purpose, such as protecting the public from danger, should not be disturbed. But there are thousands of tons of unessential boundary fences, house frontage railings and partitions between gardens. All these might well disappear in the national interest. The occupier of a house, if he is not the owner, will be asked to obtain the owner's signature permitting removal. It is hoped that the distribution of leaflets, canvassing and other preliminary work will be assisted by voluntary bodies—W.V.S., Boy Scouts, and so on—leaving the local authority with greater freedom to concentrate on the collection and disposal of the metal.

The actual work of removal can be carried out either by the local authorities, who would then make good walls and copings, or put out to tender by scrap merchants.

The Iron and Steel Control is prepared to advise on suitable scrap merchants for the purpose, or to give location of mills to which the broken-up metal may be sent, if the local authorities prefer to carry out the breaking up, sorting and disposal themselves.

Although the price of scrap metal is rigidly controlled, it is high enough, when the metal is handled in reasonable bulk, to cover costs of removal and making good walls and also leave a certain amount over. This can be applied to the relief of rates or handed over to the Red Cross or other voluntary appeals.

The Ministry hopes that the campaign will be conducted on a house-to-house and street-to-street basis, both in order to avoid isolated lengths of railing being left, and so making a street unsightly, and in the interests of economical handling.

EXHIBITION

A small exhibition of methods of economising coal and improving ventilation in dwelling houses was opened at the Building Centre on Tuesday last. The central feature of the exhibition is the Hales convector fire, developed by the British Coal Utilization Research Association on behalf of the British coal industry.

PLANNING NOW AND IN PEACETIME

A memorandum entitled " Town Planning in Relation to the Present Emergency and Post-War Reconstruction " has been sent by the Garden Cities and Town Planning Association to the Prime Minister and other Ministers concerned with land use. Extracts from the memorandum are printed below :

1. *Dispersal.*—The wartime need of dispersal of industry and population is broadly consistent with planning thought as developed over recent years. The most important and authoritative statement of the policy which ought to be pursued, for reasons of peacetime efficiency and social amenity, as well as for military reasons, is that set out in the Report of the Royal Commission on the Geographical Distribution of the Industrial Population (The Barlow Report) published after the war began. The nine conclusions unanimously adopted by the Commission recommended a national policy of decentralization and dispersal of industries and industrial population from congested urban areas; the re-development of such areas in a less congested form; the checking of the drift of the industrial population to the larger cities and especially to London; the encouragement of a good balance of industrial development and diversification of industry throughout the various regions of Great Britain; the creation of new small towns and the further development of existing small towns or regional centres, with adequate provision for the requirements of industry and the social and amenity needs of the communities; the correlation of town planning schemes; the influencing of the location of industry in order to anticipate cases where depression may occur; and research and the collection of information necessary for a national policy on these lines.

The machinery suggested by the Commission included a central authority or National Board, having powers beyond those of any then existing Government Department, to guide the location of industry, to promote the form of development suggested, by or through authorized associations and municipalities, and to give them the necessary financial assistance, and to undertake the necessary research, collection of information and publicity.

The Minority Report of the Commission developed further the implications of the Majority Report, and proposed a new Ministry, with positive instructions to proceed with an active policy for the control of the location of industry, limitation on the settlement of new industries in any town of excessive size, and the promotion of schemes for new towns, trading estates, national parks, and coastal reservations, and also to take over the work of the Commissioner for the Special Areas. The differences between the Majority and Minority Reports, and the Reservations signed by several members of the Majority, were of emphasis and speed rather than of principle, and the Association consider that the new conditions created by the war tend to increase

the emphasis placed by the Minority on rapid and comprehensive action, both during the war and immediately afterwards.

2. *War-time Evacuation.*—The possibility of the destruction of and damage to industrial premises and houses, and of the dislocation of transport and other public services, especially in London and certain other large cities, makes it very desirable to take the precaution of providing alternative accommodation for industries which may need to be dispersed from such areas. Not all these industries are engaged on the production of war supplies. A good many of them are engaged in the production of commodities required for the civil population and authorized to obtain supplies for this purpose. It is suggested that the Ministry of Building or the Ministry of Supply could speed up the production of a reserve of new factories in suitable situations by utilizing the services of such bodies as the two Garden City Companies, the trading estates in suitable situations, and the local authorities of some of the smaller towns. A Supplementary Memorandum attached hereto suggests a practical scheme for this. The importance of this suggestion lies in the fact that the systematic encouragement of the building of factories in small towns would be at once a substantial contribution to war production and would comply with the general policy of planned dispersal recommended in the Barlow Report. The workers in these new factories could in many cases be temporarily accommodated by billeting, and where necessary housing schemes could be proceeded with in wartime, with the knowledge that they would have permanent utility. It is, however, imperative that the location of new factories should be considered by a competent central body with knowledge of all the wide issues concerned, and that the detailed carrying out of the schemes should be done in consultation with the local Planning Authority. Speedy decisions should, of course, be required from the bodies consulted.

3. *The Ministry of Building and National Planning.*—The recent creation of the Ministry of Works and Building and the setting up of a system of building permits provides a machinery through which wartime development of industry or rehousing will be centrally controlled. It is submitted that such control should be exercised under the advice of a fully qualified Planning Board, competent to consider and to balance all the national interests that arise in new developments. These considerations include industrial efficiency, access to raw material, and to markets or points of delivery, the housing or billeting of workers, the capacity of public services and any necessary extensions thereof, transport of workers to and from the factories, the social amenities of the transferred populations, the preservation of good food-growing land, and strategical considerations. Any developments, however temporary in intention, will have permanent effects, and will lead to immediate developments of a far-reaching character. It is, therefore, important that they should be planned with full regard to the consequences both during and after the war. This is important quite as much for the effectiveness of the national war effort as it is for the efficiency and happiness of the nation in peacetime.

It is submitted that such a National Board, advising the Department responsible for development, is an absolute necessity if grave mistakes are not to be made both as to what is permitted and as to what is to be prevented. A great deal of the relevant information already exists in the Report of the Royal Commission, in Regional Planning Surveys, and in the schemes of Town Planning Authorities, but in order that it shall be fully used it is essential that a body of the kind suggested in the Commission's Report should be set up and that the Ministry of Works and Building should consider its advice in all matters of development.

4. *Statutory Planning.*—It is suggested that the relation of the Ministry of Works and Building to the existing machinery for statutory planning will need to be very close. At present local authorities (often combined on a regional or county basis) are responsible for statutory planning under the Minister of Health, whose powers of direction are limited by his quasi-judicial functions. Planning Schemes are in an advanced stage of preparation for most of those parts of England and Wales where building development has been active in recent years. It is clear that if the Ministry of Works and Building has the power to permit or refuse building in any part of the country, such power must not be exercised without careful regard to national and local planning considerations. A possible method of achieving national planning direction, while making full use of the existing planning machinery and personnel, would be to set up the proposed National Advisory Planning Board, closely linked with the Ministry of Health, and acting in an advisory capacity to the Ministry of Building. It is submitted, however, that the best solution of the administrative problem will ultimately be the creation of a Ministry of Planning (or of Planning and Building), to absorb the functions of controlling building and of directing the statutory planning machinery, and to formulate a broad national policy for the distribution of industry, which would be operated through the regional and local Planning Committees.

5. *Reconstruction of Damaged Towns.*—It is submitted that the National Advisory Planning Board should consider which of the areas now subject to heavy bombardment are in themselves reasonably satisfactory from a planning point of view and not unduly congested, and which of them are so badly planned or so congested that re-planning is advisable. In the former case there should be no ban on re-building or repair at the earliest safe moment, subject to local architectural and planning control, and given the necessity of accommodation locally and the approval of the Ministry of Building from the point of view of the availability of materials and labour. In the case, however, of unsatisfactory areas, it is strongly urged that wholesale expenditure on restoration or re-building should be deferred, and the population evacuated to other areas, including the areas where new factories are being erected. In all such cases, also, the Planning Authorities should be in due course advised to consider the replanning of the areas on a more satisfactory basis, after hearing the views of the National Board as to the density of population and amount of industry that is considered suitable for the permanent reconstruction of the area. It is realized that this work cannot be undertaken at present, while damage is proceeding, and its ultimate extent cannot be estimated; but it is suggested that the general policy on the lines here foreshadowed should be adopted in principle and the arrangements for action prepared in advance.

EMBANKMENT GARDENS

[By DUDLEY HARBRON]

THE Guide Book states cheerily that this is one of the most delightful places in London. If it is, then the rest have not much in the way of adjectives left for them. Still, the author of the guide book is not without support for his opinion; Mr. Shaw has said that he prefers the Thames Embankment to the Surrey hills. I suppose that preference is a personal matter: that it has something to do with associations pleasant and unpleasant. For it was on a wet day that Mr. Shaw made his choice.

The Temple, Lincoln's Inn Fields, Hyde Park, Kensington Gardens, have each their adherents. I have seen barristers and at least one architect training for the long walk to Brighton round the square of Lincoln's Inn. And the architect, although he did not win the race, managed to stay the course—and was wont thereafter to praise the air of the Fields.

The Gardens, like many things English, are inaptly named. Squares in our cities are any shape but square, and Place would generally be a better designation. As there are Woods, Lanes, Fields, that are now devoid of trees, crops or lovers; equally the Embankment Gardens would hardly suggest a thought *On Gardens* for Francis Bacon.

True, it has a few paths, some grass and an occasional seat. But if my memory serves me, it is in a fair way to become an out-of-door Westminster Abbey; not indeed a place of burial, but a gallery of statuary and memorials.

If you enter by the appropriate gate, the first monument encountered is that well known to all students of architecture—York Water Gate. It stands now, with its banded and rusticated Doric columns resting upon a plinth much below the general ground level. At a cost of about two million pounds the land beyond the gate has been reclaimed from the river Thames. It was water when Bacon was born hard by.

Today probably, though transformation takes place in the night, it is still overshadowed by the plain red brick building known as Embankment Chambers, from the fifth floor of which Rudyard Kipling looked over London.

"The Chambers stood much higher than the other houses, commanding a hundred chimneys—crooked cowls that looked like sitting cats as they swung round, and other uncouth brick and zinc mysteries supported by iron stanchions clamped to S-pieces," was how Kipling, in *The Light That Failed*, described his view over Buckingham Street; and "The train rolled out across one of the railway bridges." He was obviously averting his eyes from the Gardens.

It is a problem to determine where to put our statues. They do not seem to be wanted in our main streets, where they get in the way of the traffic, and where, because of this same traffic, it is dangerous to examine them.

There is some convenience in their situation in one place. The Embankment Gardens is as accessible as any other. In the Gardens you can at once sit down and look at them, or if you prefer turn your back, and forget their presence for a moment.

There seems to have been no special appropriateness in the selection of this place as a site. There is no monument to Mr. Podger. The men commemorated had no affinity with the river, nor, indeed, with London. The one exception is that to Sir Arthur Sullivan; he is not too far removed from the scene of his triumph at the Savoy. In other particulars his is the most fitting memorial in the gardens. It is a modish monument of 1900, in the short-lived new-art manner. Further, it has an inscription by his colleague—Gilbert:

> Is life a Boon ?
> If so, it must befall
> That Death, when e'er he call
> Must call too soon.

As near companion in this Valhalla the composer of light opera has Robert Raikes, the founder of Sunday Schools and of Sunday education for those who left school too soon.

I have heard that the true reason that this mixed company is gathered at the water edge is this. It started in the eighties when Cleopatra's Needle was set by the Thames. The amateur of necromancy knows that like attracts like—for although as living persons they differed, as monuments they are akin.

Not far from each other the seated figure of Robert Burns (who needs no introduction), and the erect Sir Wilfrid Lawson, on too small a pedestal. Neither of them was prone to conceal his opinions. On the subject of drink they held opposite ideas, Lawson being a witty advocate of the virtue of water; and Burns of the merit of all brands of liquor. Their common meeting ground is wit and verse. Their common accent the north. Sir Wilfrid hailed from Cumberland. He boasted that he had never been to school or university, but that he had educated himself. He was a lively man, a fine testimony to the stimulus of water. Indeed the licensing trade had to return ridicule in his coin, and dub him "the peregrinating pump handle," because he had spoken against their trade from platforms in all parts of England.

The statue in the Gardens was not the first to Sir Wilfrid. During his lifetime he was represented in the collection of Madame Tussaud's. As a touch of humour there lay a broken bottle at his feet. This, it was said by his opponents, was to be accounted for by reason that the effigy had served formerly as James Dumphy—a heavy drinker. I imagine

NEW NURSERY WING,

The secondary staircase

that Sir Wilfrid would smile did he know that his fellow monument was the author of—

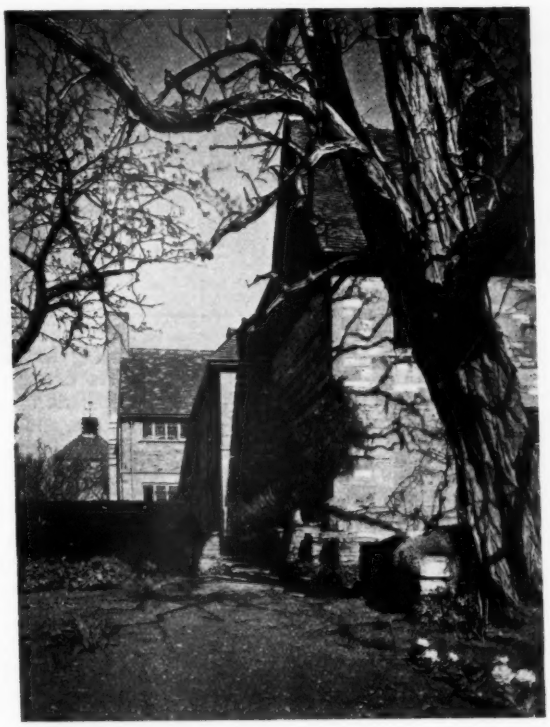
Strong ale was ablution.

Singularly, the memorial which would serve to remind the sightseer of Lawson, a fountain, has been put up from a design by Mary Grant, to that dry character the blind Postmaster General —Henry Fawcett. Of him it has been said that he required a column of the paper to answer a question which required only "Yes," or "No." That he spoke in Miltonic accents even when enunciating the name of the firm—Baxter, Rose and Newton, in the House of Commons. He was an honest man, but he irritated his friends by presuming that he was the only honest man.

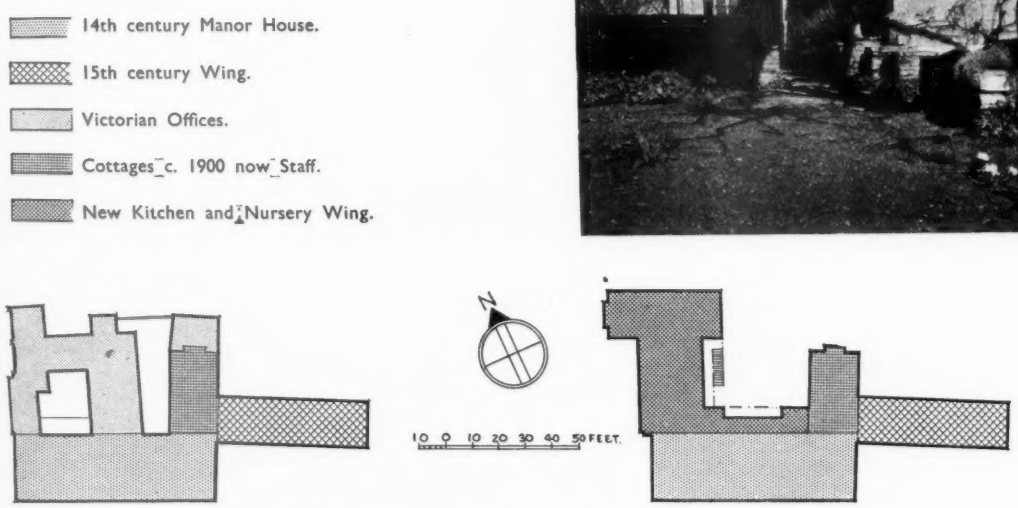
The tiny memorial to the officers and men of the Camel Corps, who lost their lives in the war, is in the centre of them all.

The promethean conversation in the gardens cannot lack variety. Hans Andersen could from its echoes have set down a fascinating set of dialogues. For the effigies in the garden are a various assembly. And though they may disagree in many matters they would probably agree that their subscribers had done them honour.

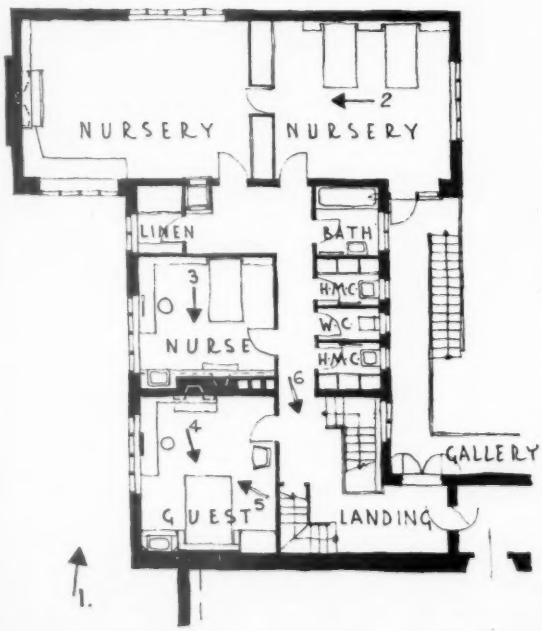
SHOTTERY MANOR



Above, the main front of the old house which was restored in the early part of this century. Right, the south-west end, looking along the side of the new wing.



PLAN SHOWING ALTERATIONS AND ADDITIONS



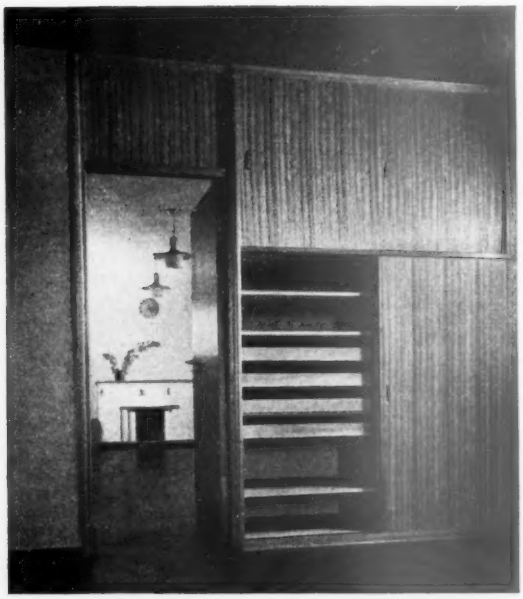
DESIGNED BY F. W. B. AND F. R. S. YORKE

GENERAL—This is primarily a work of restoration to the fourteenth century Manor House at Shottery, near Stratford-on-Avon. The main addition consists of a new kitchen and nursery wing which replaces an old kitchen block.

PLAN—The new wing contains kitchens and a servants' hall on the ground floor with nursery accommodation and a guest's bedroom on the first floor, the latter being illustrated in these pages. An external gallery and stair connect the nursery with the garden and with parents' room.

EXTERNAL FINISHES—The external materials and details follow closely those of the old house.

INTERNAL FINISHES—The wall of the old manor, dating from the fourteenth century, was a little out of plumb and internally the old stonework was left exposed and painted the same colour as the walls, a warm off-white shade in a flat finish. The floors of the staircase, stair treads and risers are covered with 12-in. and 9-in. square cork tiles.



INTERNAL FINISHES (*continued*).—The balusters are steel, painted white, and the handrail is teak. The remaining joinery is painted metallic grey in a glossy finish. A partition between the night nursery and the day nursery is formed by the built-in wardrobes, with sliding doors, carried out in Indian white mahogany. Walls in the day nursery are painted pale primrose and in the night nursery a pinkish white with a delphinium blue ceiling. The floors in both rooms are covered with cork tile squares. The fireplace in the nurse's room is built with bricks from the old building, and these are painted white to match the walls. The mantel-shelf of slate slabs is continued to form ledges on either side of the built-in lavatory basin. The floor is covered in 12-in. squares of dark cork tile. The bedhead fitment in the guest room includes a wardrobe on the left, 2 ft. 3 in. deep, and on the right an enclosed wash-basin in an electrically-lit recess lined with opaque coloured glass. Reading lights on either side of the bed are arranged to avoid glare and to give light only over a restricted area. The fittings are a standard recessed type operated by lifting the reflector flap. The wood used for the fitment is African cherry.

SERVICES—The impossibility of concealing hot water pipes in the old parts of the house prevented the installation of a hot-water heating system, and central heating by means of electric thermovents, with thermostatic control was found most suitable.

Left, looking from the night nursery into the day nursery. Right, the guest room. Below, the nurse's room.

NURSERY WING, SHOTTERY MANOR
DESIGNED BY F. W. B. AND F. R. S. YORKE

R.I.B.A. FINAL EXAMINATIONS

ALTERNATIVE PROBLEMS IN DESIGN

INSTRUCTIONS TO CANDIDATES

Candidates should acquaint themselves with the general regulations governing the Testimonies of Study printed in the official form of application, which may be obtained on application to the Secretary, R.I.B.A.

The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 66 Portland Place, London, W.1, on or immediately before the dates specified below.

The Problems in Design may be submitted in a cardboard roll or in a portfolio. When they are sent to the R.I.B.A. by post or by carrier the roll or portfolio in which they are sent should be strong enough adequately to protect the drawings against damage during transit.

Each set of drawings must be signed in ink by the author and must bear his full name and address and the name of the school, if any, in which the drawings have been prepared.

All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work, and that the drawings have been wholly executed by him. In the preparation of the design the student may profit by advice.

Drawings for subjects (*a*) are to have the shadows projected at an angle of 45 degrees in line, monochrome, or colour. Drawings for subjects (*b*) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly and unaffected character. Prints of drawings are not submissible.

After a design has been approved it may be re-submitted together with the specified working drawings on one of the two published dates for the receipt of drawings immediately following the date on which the design was submitted.

All candidates taking the Final Examination will be required to include in the four Testimonies of Study for which they must secure approval before being admitted to the Examination, at least one constructional subject (working drawings of an approved design), and one problem involving an acoustical treatment. In addition, considerations of common-sense acoustics as they apply in ordinary modern design must not be ignored in any Final Examination Testimony of Study. Where a reverberation table is asked for it should be as complete as possible and the reverberation formula should be quoted. Acoustic diagrams showing the reflection of sound beams should be to a scale of one-eighth of an inch to a foot. The two subjects set for 1941 which may be treated acoustically are Problems Nos. 44 and 47. The two subjects which may be treated acoustically may be submitted *on any of the published dates* for receiving Problems in Design in any particular year, *provided that they are treated acoustically*. Candidates treating a Problem in Design acoustically must submit the acoustical calculations, etc., when they first submit the design. A list of articles and books on the subject of Acoustics to guide candidates in obtaining the necessary information may be obtained free on application to the Secretary, R.I.B.A. Design subjects taken from one year's list may not be submitted in any subsequent year.

Drawings which have been submitted by candidates and rejected by the examiners may not be revised and re-submitted.

A set of approved Final Examination Testimonies of Study has been deposited in the R.I.B.A. Reference Library for the information and guidance of students.

DATES FOR THE SUBMISSION OF DESIGNS IN 1941

Subject No. 43 : February 28
Subject No. 44 : April 30
Subject No. 45 : June 30
Subject No. 46 : August 29
Subject No. 47 : October 31
Subject No. 48 : December 31

No. 43

(*a*) A BLOCK OF FLATS.—A Block of Flats is to be erected upon a freehold plot of land bounded by streets on three sides, in a quiet residential district (see figure 1). The tenants of the Flats will probably be junior members of the teaching staff of a university and clerical workers who require inexpensive accommodation in peaceful surroundings. Owing to the low level of external noise, any transmission of sound between Flats will be the more noticeable. Living-rooms must not be placed against bedrooms on party walls and the design must follow as closely as possible the recommendations for flats given in the recent publication of the Department of Scientific and Industrial Research

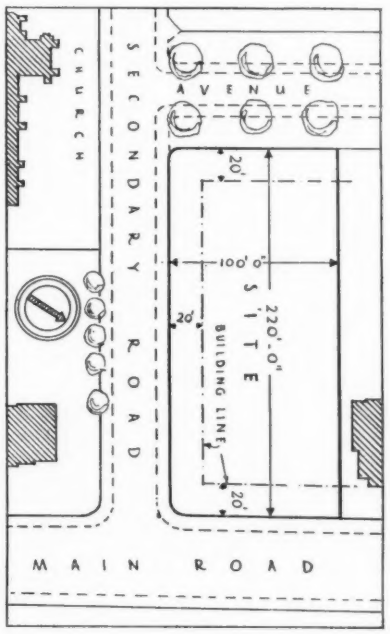


Fig. 1

entitled "Sound Transmission in Buildings: Practical Notes for Architects and Builders," by R. FitzMaurice and W. Allen (Stationery Office, 4s.).

It is intended to erect 20 Flats on the site of the following accommodation :—

8 Flats each having—Living Room, Kitchen, 2 Bedrooms, Bathroom.
4 Flats each having—Living Room, Kitchenette, Bedroom, Bathroom.
8 Flats each having—Bed-sitting-room, Kitchenette, Bathroom.

Provision must be made for passenger and service Lifts, alternative means of escape, ample pipe service ducts, Porter, Heating Chamber, Meters, etc.

Garages will be provided elsewhere and need not be included in this scheme.

The surrounding houses are of rubble stone, highly respectable in character, but having no architectural merit: they do not exceed 42 ft. in height to the eaves.

Drawings required :—

Ground Floor Plan, showing layout of site
Plans of other floors (no repeat plans required)
2 Elevations
2 Sections
} Scale 1/16th in. to a foot
Half-inch Detail of a portion of the building.

A brief report is required to describe the proposals for sound insulation and planning for quiet.

(*b*) WORKING DRAWINGS FOR A BLOCK OF FLATS.—The Design for a Block of Flats may, after it has been approved, be re-submitted with the addition of the following Working Drawings :—

Site Plan, showing Drainage, to a scale of 1/32 in. to a foot. (Combined soil and stormwater drainage is allowed.)
Ground Floor and typical upper floor Plans } Scale ½ in.
2 Sections } to a foot
Half-inch Detail of a portion of the Building.

No. 44

In accordance with "Instructions to Candidates," this problem may be treated acoustically.

(*a*) A VILLAGE COLLEGE.—A Village College combines the functions of a Senior School and an Adult Community Centre. The children are thus more readily absorbed into the adult life of the community, and the interest of the adults in continued education and community life is retained and stimulated.

This College will accommodate a mixed school of 240 children, drawn from a group of four villages. The buildings will be used, in addition, for public meetings, concerts, lectures, cookery demonstrations, adult physical training, and continuation classes: and they will serve also as the headquarters of the local clubs and societies. The County Branch Library will also be accommodated in the building.

The site selected is shown in figure 2. It is above flood

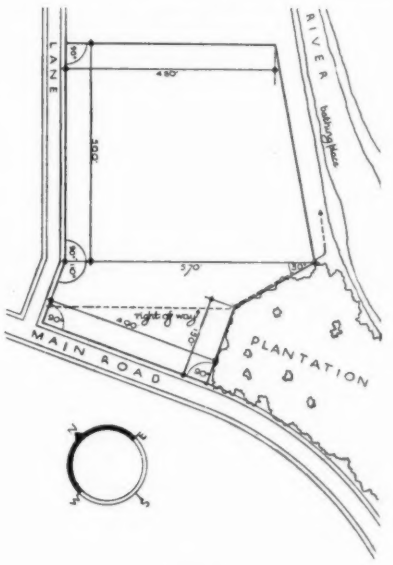


Fig. 2

level and is level within the boundaries, but there is a fall of 20 ft. to the normal water level beyond the boundary on the river bank. Access to the bathing place must be provided, but the present right of way may be diverted if desired. There is a soil sewer in the main road and electricity is available from overhead cables. Building lines of 30 ft. must be maintained on the road frontages.

The buildings may be constructed of any reasonable materials, but candidates are urged to consider the cost of upkeep in relation to the first cost when making their selection. The materials, together with any applied colour to be used, should be indicated on the drawings. Any compartments or areas in the scheme, which may be sources of noise, should be suitably isolated in the planning, or adequately insulated in the construction.

General Accommodation.

Entrance Hall of sufficient size to accommodate small exhibitions.

Hall to seat 300 people with a platform at least 15 ft. deep with proscenium, and two dressing rooms and a small scenery dock or theatrical workshop adjoining. The children will use the Hall for assembly and for their mid-day meals. It will be available at other times for meetings, dances, concerts, etc.

	sq. ft.
Adults' Common Room	750
Kitchen to serve the Adults' Common Room and the Hall.	
Adults' Lecture Room	650
Library	650
Gymnasium	1,800
With 2 changing rooms and store. The changing rooms will be used to serve the playing fields as well as the Gymnasium.	
Domestic Science Room	1,000
Science Room	1,000
Workshop	1,000
This must not adjoin or come opposite any teaching room on account of noise.	
5 Classrooms each	520
Covered playing space, at least	600
Boys' and Girls' Cloakrooms and Lavatories.	
Cycle Store.	
Heating Chamber and Fuel Store.	
Adequate storage space for materials and equipment.	

Staff Accommodation.

Head Teacher's Room	150
Staff Room	240
Warden's Room	150
Staff Cloakrooms and Lavatories.	
Caretaker's Cottage, with small garden adjoining.	

Other accommodation to be provided on the site.

Small car park adjoining the Main Entrance.
Paved playground.
School garden with tool shed, small glass house and cold frames.
The glass house should adjoin the Science Room if possible.
Playing pitches for football, hockey and cricket.
Air-raid shelters for 350 people.

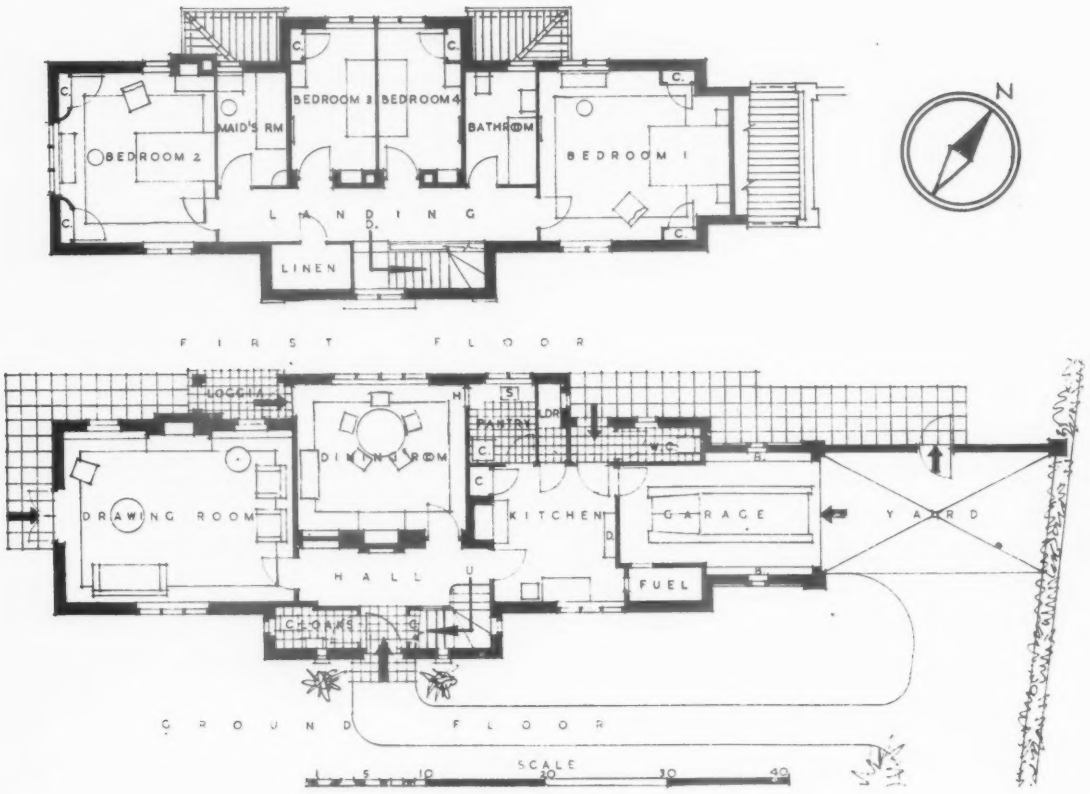
Drawings required :—

Site plan to 1/32-in. scale.
Sufficient plans, sections and elevations to 1/16-in. scale to explain the scheme.
A detail of the Main Entrance to ½-in. scale.

Acoustics.

Candidates who wish to take this subject as their specific acoustic subject must state a suitable reverberation time for the Hall and submit a reverberation table showing what sound absorbing materials they propose to use and how

HOUSE, WOODCOTE PARK



SITE—A level plot of 100 ft. width on the Woodcote Park Estate, with established hedgerow along frontage.

CONSTRUCTION AND EXTERNAL FINISHES—11-in. cavity walls with buff Dutch facing bricks upon dark brick plinth of Sussex stocks. Garage projection 9-in. solid brickwork covered with straight-edge elm boarding (treated with colourless preservative), now weathering natural grey. Internal walls 4½-in. brick with 3-in. slab partitions. Timber joist floors and roof, roofing of battens upon untearable felt covered with dark brown double Roman tiles, at 55 degrees, with dormer cheeks hung with cherry red plain tiles. Standard domestic metal windows in wood frames, painted cream, as also pine doorcase. Shutters, doors and ironwork painted emerald green.

INTERNAL FINISHES AND EQUIPMENT—Walls and ceilings, rendered and set with hard plaster, distempered, with fireplace wall of drawing-room

they would calculate the reverberation by the Sabine formula. They are also asked to show a long section to illustrate the reflection of sound from the ceiling.

(*b*) WORKING DRAWINGS FOR A VILLAGE COLLEGE.—The design for a Village College may, after it has been approved, be re-submitted with the addition of :—

1. Complete ⅛-in. scale working drawings.
2. ½-in. scale details showing the construction and finishes of a typical classroom and the gymnasium.

No. 45

(*a*) A BRIDGE.—A comprehensive town-planning and traffic re-planning scheme for a large city includes the formation of a new main road, to avoid the central congested area.

This road is to be carried across the river flowing through the city by a new bridge, which, together with its approaches, is the subject of this programme.

The road goes through an area on the north side of the river that will be developed as an office district; on the south side it goes through a park before connecting with a ring road round the outskirts of the city. The particulars of the site for the Bridge are given in figure 3.

The Bridge will form one of the main gateways to the city and accordingly a large "place" is to be planned on the north side where the Bridge connects with the various roads into the city. This "place" would be bounded by office buildings with banks, cafés, restaurants, etc., on the ground floors: in planning it, traffic circulation must be taken into account and it should be of such a character as to provide an amenity for the people of the city and a pleasant introduction to visitors entering by the new road and bridge.

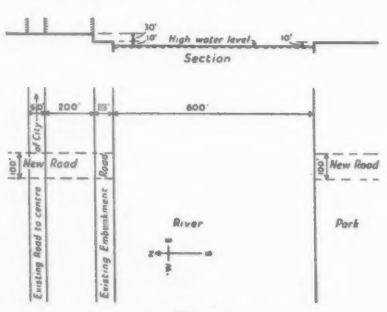


Fig. 3

Either in the "place" or on the Bridge there should be some form of monument commemorating the completion of the planning scheme. There should be connection by steps for pedestrians between the lower embankment road and the upper road or "place," but no connection for traffic between the upper and lower road is desired. The Bridge should be designed to take six lines of traffic.

Any area considered suitable may be taken for the "place" which may be of any shape at the discretion of the designer: the buildings surrounding the "place" should not exceed 100 ft. in height.

Drawings required :—

1. Plan of Bridge, approaches and "place." } To
2. One elevation of whole Bridge, approaches and "place." } 1/32-in. scale.
3. Details, in plan, section and elevation of northern end of Bridge, and part of "place" sufficient to show the connection of the Bridge to the "place" and to the lower road, and details of the Bridge itself. } To ¼-in. scale.
4. A perspective or axonometric view from any viewpoint desired.

ESTATE, PURLEY, SURREY

DESIGNED BY EDWARD L. BANKS

panelled full height flush in pine ply squares, natural waxed finished. Bathroom and pantry walls, 6 in. by 6 in. cream glaze tiled. Floors, narrow pine strips on ground floor with waxed finish, deal boards on first floor, close carpeted. Fireplaces in selected marbles with cellulosed hardwood framings. Staircase in pine, stained grey with ebonized treads, open outer string and metal balustrade. Doors flush pine throughout, grey stained and waxed.

SERVICES—Heating by open coal fires to living-rooms, and one bedroom, other rooms provided with wall panel electric fires. Water heating by kitchen grate boiler, and auxiliary immersion heater for summer use. Cooking by "Triplex" grate, with alternative of gas cooker.

COST—£1,450 or 1s. 2½d. per foot cube, including built-in furniture.

General contractors were R. D. Taylor, Ltd.; for list of sub-contractors, see page xviii.

(*b*) WORKING DRAWINGS FOR A BRIDGE.—The design for a Bridge after it has been approved may be re-submitted with the addition of the following working drawings:—

Complete ½-in. scale detail drawings, of a type suitable for issue to a contractor, of the façade of one of the office buildings fronting on to the "place."

These drawings should include complete elevation; plans at each floor level where these vary, and section or sections as necessary to show all construction: all materials, services, drainage from roof, etc., should be shown; it may be assumed that the buildings would have two basements below the level of the "place."

No. 46

(*a*) A CENTRAL LIBRARY FOR A COUNTRY TOWN.—Designs are invited by the council of a provincial town for a central municipal library to be built on part of the site reserved for the Civic Centre. The buildings comprising the civic group will be the Town Hall and Municipal Offices, Law Courts, Art Gallery and Central Library.

An existing central part has been selected for the group of buildings which will be distributed on either side of a wide parkway running east and west. The Library will be situated to the south-west of the group and the site forms a rectangle of 400 ft. frontage to the parkway on the north side by 300 ft. in depth towards the south. The site is quite open to the east, south and west, and level. Approach is possible only from the parkway. The portion of the site not occupied by the building should be attractively laid out with lawns and shrub borders. The Reading Loggia and Garden may be more formal in character.

Accommodation for Public:—

A. Lending Library (open access system) to contain 12,000 volumes calculated at ten volumes per superficial foot of shelving elevation, issuing desk, display cases, card catalogue, and a number of small tables each to seat one or two persons and conveniently disposed for the use of borrowers. Approximately 3,000 sup. ft.

B. Reference Library which will also accommodate the Magazine readers. It must provide for sixty readers with not more than six readers per table, and 2,500 books calculated at eight volumes per superficial foot of shelving elevation.

C. Junior Library and Reading Room, with open access shelving for 4,000 volumes on the same basis as the Lending Library, and seating accommodation for forty readers at tables for four each. Ample circulation space should be allowed.

D. News Room planned with internal access for supervision, but with independent access from outside for readers. It should provide for forty readers at tables for not more than six each, and fifteen newspaper stands.

E. Lecture Room, to seat 200 persons with dais and screen. This room may have external entrance, Lecturer's Retiring Room should be provided, also Projecting Room.

F. Reading Loggia and Garden conveniently placed in relation to Lending Library and communicating with it.

G. Vestibule and Entrance Hall of ample dimensions.

Other accommodation to include:—

Reserve Stock Room for approximately 18,000 volumes, convenient for both Reference and Lending Rooms. Accommodation for Librarian and Sub-Librarian, Staff Room, File Room, Repair and Store Rooms. Suitable Lavatory accommodation for readers and for staff, Heating and Fuel storage, Cycle store.

Readers will have the use of the nearby municipal car-park. Careful consideration should be given to the special requirements of lighting and sound insulation.

Drawings required:—

One-sixteenth inch scale plan showing layout of site and approaches. ¼-in. scale plans of each floor, and sufficient sections and elevations to fully illustrate the design. ½-in. drawing showing part external and part internal treatment.

(*b*) WORKING DRAWINGS FOR A CENTRAL LIBRARY FOR A COUNTRY TOWN.—The design for the Central Library for

a Country Town may, after it has been approved, be re-submitted with the addition of ¼-in. scale working drawings sufficient for contract purposes, together with ½-in. scale detail clearly indicating the construction.)

No. 47

In accordance with "Instructions to Candidates," this problem may be treated acoustically.

(*a*) CONCERT HALL AND PLAYHOUSE.—A county musical society wishes to build a hall for musical competition, and to add also a small theatre to meet the requirements of amateur dramatic societies. The site is on a rural property acquired outside the chief town for recreation purposes. The area allotted for the building is in an angle made by two secondary roads and forms a parallelogram 300 ft. by 200 ft. with the long side pointing north-west and with the roads bounding the north-east and south-east sides. The site must include a small parking space for cars and bicycles and may be laid out formally. The Committee ask that since the building is to express rural, not urban, activities it shall be designed with this in view and shall not look like an industrial building.

The Concert Hall must accommodate 16 local choral societies of 20 persons each; that is, a massed chorus of 320 persons on the platform together, with an orchestra of 50. The auditorium must seat 800, including a gallery. The choir staging must be curved on plan and no proscenium is required. A conductor's rostrum must be provided and also a movable rostrum for judges, to seat two, at a distance some 30 ft. away from platform on the floor of the hall and raised 9 in. above ordinary seating. The whole or a large part of auditorium floor must be flat for dancing. No organ is required.

The Concert Hall must also include a large assembly room for competitors, at least 600 sq. ft. super, with good access both to platform and to auditorium. The assembly room must have a lunch bar at one end with small kitchen and pantry adjoining. It is suggested that the assembly room open out on to a loggia where tea can be served and sandwiches eaten. There is also required a small room for soloists near the entrance to platform, and preferably on conductor's left-hand side; also a judges' room and a committee room, each 160 ft. super and a large chair store. Also a small caretaker's flat, consisting of living-room, bedroom, bath and w.c., must adjoin, or come over, the kitchen and pantry serving the assembly room, so that these may be used by the caretaker. There must be ample cloak room and lavatory accommodation for competitors adjoining the assembly room.

The Playhouse must seat 500 in audience and the proscenium opening must be not less than 30 ft. wide. A fore-stage is required projecting at least 10 ft., with entrances on to it in front of the proscenium. An orchestra pit is not required. The stage house must not be less than 20 ft. deep behind proscenium and must have ample wing space and a flat cyclorama on rear wall. It must adjoin a scenery dock, which can serve also as a theatrical workshop (at least 300 ft. super). There must also be two dressing-rooms, with a lavatory and wash-basin each; a small wardrobe room (50 ft. super); and a judges' room about 200 ft. super, which can serve as a green room. The floor of the theatre can be either flat or sloping. A gallery can be either introduced or not, but if omitted special care must be taken with the sound absorption treatment of rear wall. Rear walls of theatre and concert hall must not be curved. In both halls adequate escape doors must be provided.

The two halls are to be let separately or concurrently, and if a single entrance vestibule is planned it must be so arranged as to admit of this. Separate entrances and pay desks are permitted, but there must be covered access between the two halls. Small cloak-rooms only are required at entrances; also a heating chamber to serve both halls.

There must be the fullest protection against noise transmission so that rehearsing can go on in the theatre with a full choir singing in the concert hall; also the knocking up of scenery in the theatre or scenery dock must not be heard in the concert hall.

Acoustics.

All candidates taking this subject must provide good shapes on plan and section for hall and playhouse and it is recommended that the hall be of a total volume to give at least 200 cu. ft. per seat. Candidates taking this as their special acoustic subject must also give a reverberation table showing how they would calculate the reverberation time by the Sabine formula for *either* the hall or the playhouse. It is recommended that the reverberation time for the hall be about 2 seconds with the hall full or, alternatively, for the playhouse of about 1·3 seconds with two-thirds audience. In addition, a diagram showing the direct and reflected beams of sound on section only must be shown for the auditorium chosen.

Drawings required :—

One-eighth inch scale drawings to illustrate adequately the whole scheme, and a site plan to 1/32nd in. scale.

(*b*) WORKING DRAWINGS.—The design for Concert Hall and Playhouse may, after it has been approved, be re-submitted with the addition of ½-in. scale details of both Hall and Playhouse.

No. 48

(*a*) A HOUSING SCHEME.—A rural village in Hampshire which is already established as a Village Centre for the treatment, re-training and settlement of disabled ex-service men, and the Organization concerned has decided to build a group of cottages for married men and a small hostel for single men to meet the needs of those returning to civil life.

The selected site is an open 10-acre field roughly rectangular in shape, with an even slope of 1 in 25 towards a "non-classified" road on its southern boundary. The field has a frontage of 872 ft. to the road, a width of the same dimension on its back (northern) boundary and a depth of 500 ft.

Public services exist in the road, including a 12-in. sewer, electricity and water mains.

The buildings required comprise the following :—

(1) 28 *Cottages*, each containing Living Room, Kitchen, Bath and separate w.c., and 3 Bedrooms, with adequate larder, fuel and tool house;

(2) *A Small Hostel* for 20 single men, which must contain a separate suite for the Warden and his wife, a bed-sitting room for each bachelor resident and six bathrooms, including the Warden's bath;

(3) A Common Reading or Club Room, which may be incorporated in the Hostel.

The sizes of rooms in the cottages should conform generally with the requirements of the Ministry of Health for State-aided Housing Schemes, and the cottages may be designed in pairs, or in blocks of four or six as desired.

It is anticipated that many of the disabled men may be permanently injured and so will have difficulty in negotiating awkward staircases, etc.

A portion of the site not required for buildings, private gardens or access roads, is to be planned as a Children's Playing Green, of not less than one acre, and for Allotments for some of the settlers.

Drawings required :—

(1) Layout Plan to 1/500th scale, showing all buildings (in block), gardens, playing-greens, allotments, roads, paths and fences.

(2) Plans, elevations and sections to ¼-in. scale of typical cottages and the hostel sufficient to illustrate the scheme. (Note: no repetitions need be drawn to ¼-in. scale.)

(*b*) WORKING DRAWINGS FOR A HOUSING SCHEME.—The design for the ex-service men's housing scheme may, after it has been approved, be re-submitted with the addition of :—

(1) Complete *working drawings* to ¼-in. scale of the cottages (but not of the hostel), with ½-in. scale selected details showing the construction.

(2) A drainage block plan of the whole scheme to 1/500th scale, showing the direction, fall and size of drains. Drainage is to be on the combined system connecting to the sewer in the road, the invert of the public sewer being approximately 8 ft. below the surface of the housing site at the south-east corner. The fall of the sewer is from east to west.

PHYSICS AND WINDOWS IN WARTIME

The wartime problems arising from the widespread use of glass in buildings are principally (*a*) the obscuration of all artificial lighting at night-time; (*b*) the protection of windows against fracture due to blast; and (*c*) the prevention of personal injury resulting from flying pieces of glass when windows are broken either by blast or splinters; to some extent these are interconnected. The attention of physicists has lately been directed to these problems, for they involve the behaviour of materials and other branches of physics such as light, heat and sound. Among the investigations which have been carried out are those of the Research Department of Messrs. Pilkington Brothers, Ltd., under the direction of Dr. H. Moore, F.INST.P. For some time now this firm has been conducting an experimental investigation towards the solution of these problems. A brief account of this work, and the conclusions deduced from it, has just appeared in the October issue of the *Journal of Scientific Instruments*.

Among the "black-out" difficulties discussed by Dr. Moore in this article is the cracking of glass which has been painted black, due to greatly increased absorption of radiation and consequent development of temperature differences in the sheet sufficient to cause strains beyond the elastic limit.

The tests on methods of preventing the fracture of glass due to blast have been fairly exhaustive, and all confirm that it is virtually impossible to safeguard glass except by completely enclosing it. The article shows that only massive forms of reinforcing systems, such as protective grilles, can be of any value in reducing risk of fracture of the glass itself. It has been found that windows usually burst outwards, due to the suction wave, but there is a risk of splinters breaking through the window, and occasional inward bursts have been observed.

Dr. Moore discusses the many different treatments that have been suggested to prevent fragments of glass from flying, such as the fixing of fabric netting and other substances to the glass by various adhesives and by suitable freely hanging screens covering the window on the inside. The article includes some interesting photographs showing the type of fracture which occurs to windows treated in various ways.

RAILINGS

The following notes on railings by Mr. Clough Williams-Ellis have been received from the Society for the Protection of Ancient Buildings.

Most of us cherish private hopes that the war will change and for ever put an end to many things. All of us (who are not ironmongers) probably agree in hoping that never again will our inordinate desire for iron railings be allowed such unbridled expression as during the last half century or so. Now, the "scrap campaign" has at last given us a reasonable excuse for breaking a most unreasonable and boorish habit—that of unnecessarily and hideously railing ourselves in or our neighbours out, as though either or both were still too savage to be trusted free and at large.

It is a peculiarly unfriendly national failing, almost warranting the gibe that the Englishman's home is his cage.

Why do we do it? Are we so much more destructive and predatory than the Americans, in whose country park or garden railings are almost unknown and where private lawns lie trustfully open to the road without provoking trespass or outrage? At most they will have an elegant row of white posts with chains slung between them—more as a frill and a finish than as a serious deterrent to anything but wheeled vehicles.

Yet the flower-beds bloom unravished, the turf is not dishonoured with litter, nor are the fruit trees robbed or mutilated.

The Continent, too, seems to get along very well without our elaborate defences, confidently lining hundreds of miles of its unfenced public highways with productive fruit trees. Even the inhabitants of the Balkans, whom we are prone to regard as less civilized than ourselves, substitute good manners that are gracious for palisades which are not.

No doubt we should be told, "Oh, but you have no idea how destructive the public would be—especially on dark nights." Very well, if we have no idea, by all means let us form one—but on adequate evidence. Let the railings of *one half* of the gardens in, say, Eaton Square, be removed by way of a test case, and let us see the result and have an authoritative report on the desperate experiment.

One can scarcely believe that the atrocities thus risked would be so very frightful.

And why, in a country where spring-guns and man-traps have been long since made illegal, are *spiked* railings still permitted? They are even placed waist high on bridges and around flower-beds where everything else invites the leisurely to lean and linger. With care and practice one *can* contrive to lean on spiked railings such as those that so surprisingly enclose the Hudson Memorial Bird Sanctuary in Hyde Park—but it is an uneasy business.

They are more of a provocation than a deterrent to a healthy-minded boy, who risks death or mutilation each time that he accepts their hostile challenge.

It is strange that we should so cheerfully risk the immolation of our children by disembowelling spikes such as no humane person would dream of placing round his dog kennel.

Here and there, of course, there are railings that justify their retention, either by fulfilling a really necessary function as a barrier, or by reason of their distinguished design and fine craftsmanship.

So rare, however, are these exceptions (particularly, alas, in Wales, from where I write) that I can only recall single examples in widely scattered ones or twos to every thousand tons of ugly rubbish.

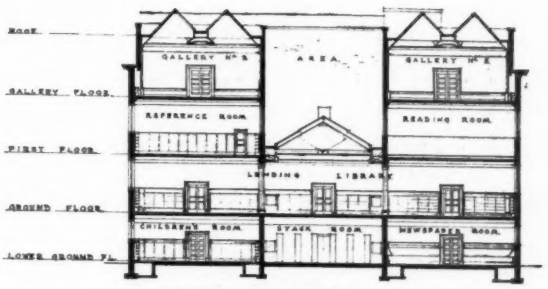
Needless to say, these precious exceptions to the dismal rule should be cherished for the charming works of art they are, in the hope that, once the great mass of dross has been purged away, we may come to see once again the true qualities of ironwork, its limitations and its proper use, as did the skilful smiths of eighteenth-century London, Bath and Bristol.

We are now given in this matter, as in others, the chance of a clean slate and a fresh start. Let us not miss it.

HUDDERSFIELD LIBRARY AND ART GALLERY

DESIGNED BY E. H. ASHBURNER LIBRARY ARCHITECT

(G. H. ROWLEDGE, CHIEF ARCHITECTURAL ASSISTANT)



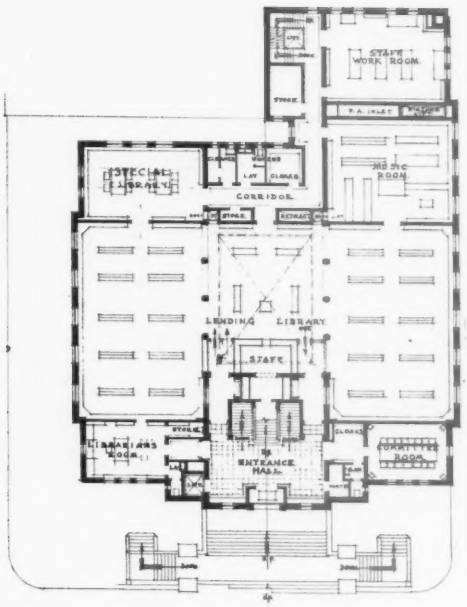
CROSS SECTION

GENERAL—The new building serves to replace the existing obsolete library in Church Street; to provide for present and future readers' needs; to act as a distribution centre for local branch libraries; and to contain an art gallery of sufficient accommodation to house the existing permanent collection of pictures and such temporary collections as are arranged from time to time. 75,000 volumes—in addition to over 33,000 bound news, music and patent folios—are housed.

CONSTRUCTION AND EXTERNAL FINISHES—Steel-framed, with rolled-steel beams and stanchions cased in concrete, with minimum cover of 2 ins.

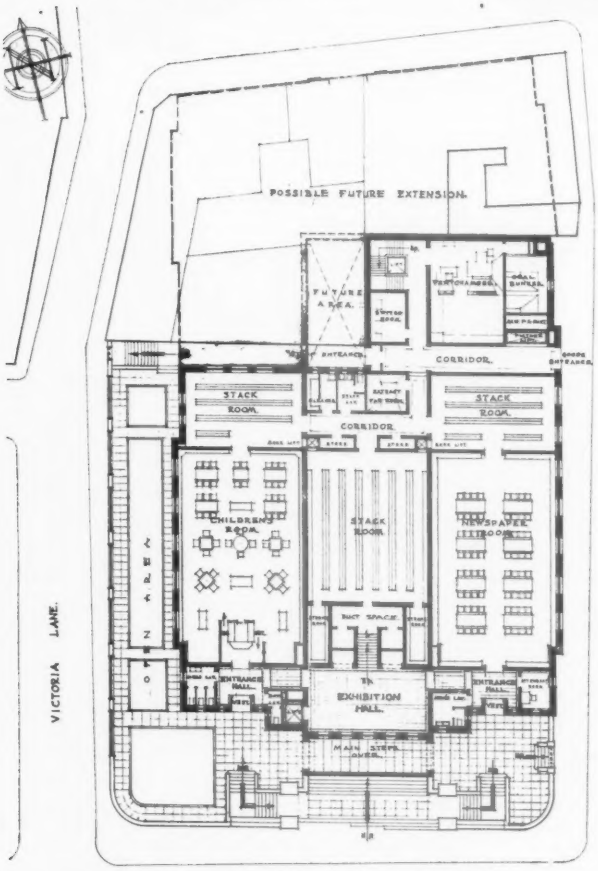
The building is faced externally with the local Crosland Hill stone, 4½ ins. and 9 ins. on bed. Steps to main entrance are in Elland Edge stone. Flats and sloping roofs have three-coat asphalt laid on wire mesh. Staff and stack rooms are faced with sand-lime bricks in lieu of plaster.

Fronting Ramsden Street, between the three-light windows at ground- and first-floor levels, are low-relief sculptured panels symbolizing various cultural activities. Flanking the main entrance steps are two sculptured figures symbolizing the Spirits of Inspiration in Art and Literature. The sculpture is the work of Mr. James Woodford, A.R.A.



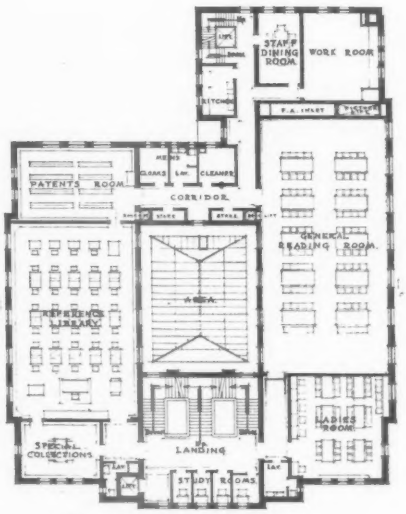
GROUND FLOOR PLAN

Entrance hall



LOWER GROUND FLOOR PLAN

PLAN—Separate entrances are provided to the children's library and the newspaper room, both of which are at lower ground-floor level.
INTERNAL FINISHES—The entrance hall is lined with San Steffano marble, the paving being a chequer design of Bianco del Mare and Swedish green. The committee room is lined with French walnut, relieved by horizontal ebony strips, and the gallery landing walls are of Gaboon with walnut strips. Wood fittings generally are of



FIRST FLOOR PLAN

PUBLIC LIBRARY AND ART GALLERY,

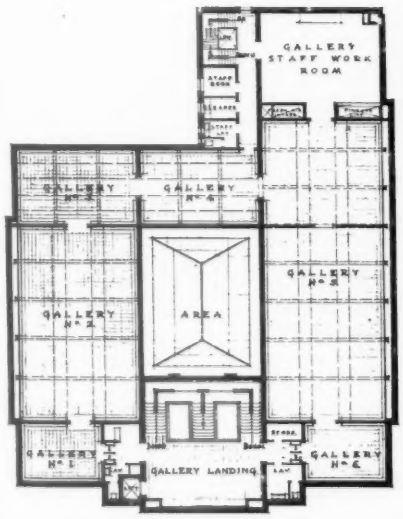
Lending library

light oak, but those for the news room are in light Honduras mahogany. In the children's library, a series of mural panels, the work of Mr. Napier, of the Huddersfield College of Art, decorate the inner wall. Floor finishes : main reading rooms and staff rooms, ¼-in. thick cork carpet in varying colours. Art galleries and central area of lending library, ½-in. cork tiles set in mastic ; children's and news rooms, wood blocks ; stack rooms, grano.

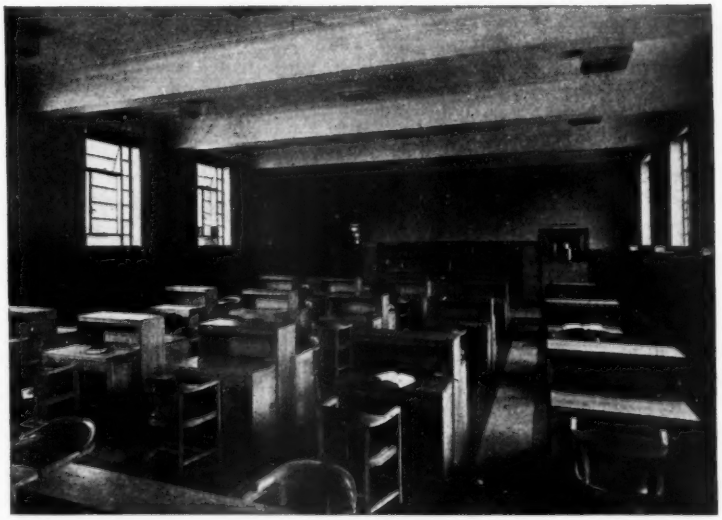
SERVICES—Four " Self-Stoke " coke-fired boilers provide the general heating, with an auxiliary hot-water supply boiler for domestic purposes. Heating of all rooms is by the low-pressure and temperature accelerated hot-water panel system.

COST—£102,500.

The general contractors were Messrs. J. Wimpenny & Co. For list of sub-contractors and suppliers, see page xviii.



SECOND FLOOR PLAN



Reference library

HUDDERSFIELD • BY E. H. ASHBURNER

SOME QUESTIONS ANSWERED THIS WEEK:

★ *I SHOULD be glad of your advice as to removing oil spattered on property both externally and internally by the oil bombs dropped by enemy aircraft. I am very anxious to have some method of cleaning away the oil stains and making the properties presentable?* - - Q581

★ *CAN you suggest where we can obtain three-tiered metal bunks?* - - - - Q582

★ *IN the issue of the JOURNAL of September 26 last there was published a useful list of glass substitute materials. I wonder if it would be possible for the Information Centre to keep a register of manufacturers of these materials who have stocks for immediate delivery* - - Q585

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its services are available to any member of the industry.

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

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers by post or telephone as soon as they have been prepared.

The service is confidential; and in no case is the identity of an enquirer disclosed to a third party. Samples and descriptive literature sent to the Information Centre by manufacturers for the use of a particular enquirer are forwarded whenever the Director of the Centre considers them likely to be of use.

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

Any questions about building or architecture may be sent to:

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

or ring the Architects' Journal Information Centre at

REGENT 6888

Q581 ENGINEER, METROPOLITAN DISTRICT. —*I shall be very glad if your Centre could give me any advice as to removing OIL SPATTERED on property both externally and internally BY the oil bombs being dropped by enemy AIRCRAFT. I am very anxious to have some method of cleaning away the oil stains and making the properties presentable.*

So far as we can trace no recent work has been done on this subject. Some time ago the Building Research Station in one of their *Questions and Answers* published in the technical press dealt with the removal of oil from brickwork, and the method advocated was as follows:—

"Petrol or benzene should first be applied around but not directly upon, the affected areas by means of a rag. A paste prepared from a mixture of petrol, or benzene, and whiting, or some other inert material which has a high suction when dry, is then applied to the affected area, and left in position until the solvent has evaporated, or until the whiting falls off. This treatment may have to be repeated depending upon the depth to which the oil has penetrated into the brickwork. The applications of solvents alone may drive the oil further into the brickwork, but when

mixed with whiting there is a definite suction of the solvent and oil from the brickwork into the whiting, and a test has shown that oil is effectively removed in this way." This remedial treatment may prove effective in the case stated.

Q582 BUILDERS, SURREY.—*Can you suggest where we can obtain THREE-TIERED METAL BUNKS?*

From inquiries made it would seem that such bunks involve no special manufacturing process, and that no firm has yet stock types available. It would, however, be very easy to make three-tier bunks by using standard tubular stretchers. The names of firms making such stretchers are given below.*

Q583 ARCHITECT, DERBYSHIRE. — *I have been asked if there is on the market a suitable substitute for WOOD FOR the FLOOR OF a TEMPLATE-MAKING SHOP. In view of the present difficulty in obtaining timber, do you consider it possible to use some form of asphalt, or alternatively, battleship linoleum fixed to the concrete sub-floor? It is necessary at times to nail down to this floor, and it must, therefore, not splinter or be too hard. It has also to be black and to take a chalk line. I shall be pleased to receive your comments and suggestions.*

The choice would seem to lie between an asphalt flooring, an asphalt-rubber mix and linoleum, but with the conditions laid down as to black colour, nail-holding and concrete sub-floor all may have disadvantages. Mastic asphalt when clean will be near black, but experiments should be carried out as to its nail-holding qualities and brittleness under this treatment. An asphalt-rubber mix such as Semtex flooring by Messrs. Semtex, Ltd., 13 Victoria Street, S.W.1, will be less brittle, but again the nail-holding properties would have to be the subject of experiment. Black linoleum certainly will give little if any grip on nails, so that any holding qualities must be obtained from the underlying concrete and specially hardened nails will be necessary for driving into concrete, or alternatively plugs would first have to be driven into holes bored in the concrete. Again, linoleum laid over a concrete floor which is itself in contact with the ground may present difficulties of adhesion, and this permanency of adhesion should be taken up with the laying firm. Considering the special conditions every effort should be made to obtain supplies of timber flooring, and if the templates are to be used for any work connected with the war effort a priority certificate should be obtainable. A black surface can be maintained on a wood block floor by periodical painting.

* *Messrs. Cox & Co., Ltd., Watford Bypass, Watford, Herts; Messrs. Kingfisher, Ltd., 22 St. Andrew Street, Holborn Circus, London, E.C.4; Messrs. Pel, Ltd., 15 Henrietta Place, London, W.1.*

Q584 ARCHITECT, YORKS.—*In a four-storey mill building (probably seventy to one hundred years old) the BRICKS at the base, about 4 ft. high, are CRUMBLING, more inside than out. They are PROBABLY HAND-MADE BRICKS and may, in the past, have been affected by dyes used in the manufacture of cloth. The site is near a river and is inclined to be wet but is now drained and well kept. Is there any applied treatment by proprietary solution which would harden these bricks, and/or would a cement rendering be likely to stay on?*

Various surface applied solutions have the power to harden crumbly brickwork, but in this particular enquiry the depth of impregnation of these liquids will be of importance. It would be dangerous to form a hard surface skin over a still crumbly interior, since any ensuing failure might result in the hardened skin falling off as a whole. In approaching manufacturers of the solutions given below,* some indication of the depth of crumbly face should be given and their comments asked for concerning the probable efficacy of their solutions as a permanent remedial measure. Similarly with an application of cement rendering over a soft or crumbly base, ultimate failure of adhesion is to be expected. With a cement render treatment, good results could be expected only if the crumbling portion of the brickwork is cut away and the renderings applied over normal brickwork, with brick joints cut back to give the applied rendering some mechanical keying to the background provided.

Q585 ARCHITECT, LONDON.—*In the issue of the JOURNAL of September 26 last there was published a useful list of GLASS SUBSTITUTE MATERIALS. I wonder if it would be possible for the Information Centre to keep a register of manufacturers of these materials with STOCKS FOR IMMEDIATE DELIVERY. My own experience in trying to obtain supplies suggests that to do so would save a lot of time for individual inquirers. I myself spent the most of one day locating supplies and the number of telephone calls I made must in many cases have caused only annoyance to firms, firms who had nothing to offer for months ahead and firms again who deal only through wholesale merchants. Also, have there been any additions to the list as published in your previous issue?*

* *Messrs. George Lillington & Co., Ltd., 11 Higher Drive, Banstead, Surrey; Messrs. R.I.W. Protective Products Co., Ltd., 16 Devonshire Square, London, E.C.2; Messrs. Jos. Freeman, Sons & Co., Ltd., Cementone Works, Wandsworth, London, S.W.18.*

The list of glass substitute materials mentioned was that contained in Memorandum C.10 entitled "Flexible Substitutes for Glass" issued by the Publications Department of the Ministry of Home Security, Horse-ferry House, Thorney Street, London, S.W.1 (unpriced). The list of manufacturers known to the Centre is given below,* and this list includes the names given previously in Memorandum C.10 and, in heavier type, materials since brought to our notice. To keep stock lists of materials so much in demand as glass substitutes

* *GLASS SUBSTITUTES:*

(A) TRANSLUCENT MATERIALS

WIRE MESH REINFORCED: *Windolite—Windolite, Ltd., Harlow, Essex; Sunralite—Sunralite, Ltd., Chestnut Road, Tottenham, N.17; Un-named—H. E. Harrison, 250 Gain Lane, Thornbury, Bradford.* METAL LATH REINFORCED: *Ferrophane—Ferrophane, Ltd., 52 West Ham Lane, E.15.*

FABRIC REINFORCED FILMS: *Cellofabrics—Cellofabrics, Ltd., 11 Gillingham Street, S.W.1; Nuart Replacement—A. and F. H. Parkes, Ltd., Anglo-Scotian Mills, Beeston, Notts; DelBeta—Dobsons and Browne & Co., Ltd., DelBeta House, Nottingham; Dufaymesh—Dufay-Chromex, Ltd., Elstree, Herts; Celiglas—British Celilynd, Ltd., Burwell Works, Burwell Road, E.10; Pullmesh—Pullman (Spring-Filled) Co., 21 Gloucester Gardens, Golders Green, N.W.11; Rowley Gallery of Decorative Art, Ltd., 140 Church Street, Kensington, W.8; H. E. Harrison, 250 Gain Lane, Thornbury, Bradford; Flexolite—Inglesby Products Co., 79 Davies Street, London, W.1; Silkite—Silknit, Ltd., Park Royal Road, N.W.10.*

OILED FABRICS: *Steadoglass—Storey Bros. & Co., Ltd., 23 Lawrence Road, London, E.C.4; Oiltex—M. Barr & Co., Ltd., 51a Miller Street, Glasgow, C.1; Ioco Rubber and Waterproofing Co., Ltd., Vickers House, Broadway, S.W.1; Edward McBean & Co., Ltd., 1 Newman Street, London, W.1; Morton Sundour Fabrics, 15 Cavendish Place, W.1; Rexine—I.C.I. Rexine, Ltd., Imperial Chemical House, Millbank, S.W.1.*

TRANSPARENT FILMS: *Cellulose and Cellulose Acetate Types: Celilynd—British Celilynd, Ltd., Burwell Works, Burwell Road, E.10; Cellophane—British Cellophane, Ltd., 17 Stratford Place, W.1; Diophane—Transparent Paper Co., Bury, Lancs; Rayophane—British Rayophane, Ltd., Wigton, Cumberland; Sidac—British Sidac, Ltd., St. Helens, Lancs; Bexoid—B.X. Plastics, Ltd., Hale End, E.4; Clarifoil—British Celanese, Ltd., Celanese House, Hanover Square, W.1; Dialux—Dufay Chromex, Ltd., Elstree, Herts; Erinfort—Erinoid, Ltd., Stroud, Gloucester; Rhodophane—May and Baker, Ltd., 42 St. Paul's Churchyard, London, E.C.4.*

TRANSLUCENT (*unclassified as to type*): *Marvol—Saville Marvel & Co., Ltd., Port Street Works, Manchester, 1; Textuff—Textuff, Ltd., c/o Captain Kilner, Tree Tops, Dollis Avenue, N.3; Flexiglass—Grant and West, Ltd., Furlong Road, N.7; Un-named—Jenson and Nicholson, Ltd., Jenson House, Stratford, E.15; Winterbottom Book Cloth Co., Ltd., 60 Wilson Street, Finsbury, E.C.2; Horrockses Crewdson & Co., Yard Works, Preston; James Clark and Eaton, Scoresby House, Glasshill Street, S.E.1.*

(B) OPAQUE MATERIALS

BITUMINOUS FELTS—WIRE REINFORCED: *Bennieflex—Bennie Lifts, Ltd., Tinworth Street, London, E.11; H. E. Harrison, 250 Gain Lane, Thornbury, Bradford.* FABRIC REINFORCED: *Zylex — Ruberoid Co., Ltd., Sentinel House, 49 Southampton Row, W.C.1; Twinflex—D. Anderson and Son, Ltd., Roach Road Works, Old Ford, E.3.*

FIREPROOF SHEETINGS: *Steelbestos—Southerns, Ltd., King William Street House, Arthur Street, E.C.4; Limpet—J. W. Roberts, Ltd., Armley, Leeds, 12 Durasteel fire protection sheeting—Durasteel Roofs, Ltd., Oldfield Lane, Greenford, Middlesex; Kimoloboard—Cellactite and British Uralite, Ltd., 5 Laurence Pountney Hill, London, E.C.4; Turnall Asbestos Wood—Turners Asbestos Cement Co., Ltd., Erith, Kent.*

would entail daily if not hourly contact with each of the manufacturing firms. But when told the type of substitute and the total quantity required by an inquirer, the Information Centre is always prepared to suggest the names of the firms where the requirements are most likely to be met.

Q586 ARCHITECT, KENT.—*Would you be good enough to let me know if you have any information as to whether the AIR-PURIFIER (details of which were enclosed) is an efficient piece of apparatus. Would it be suitable for a shelter room that houses 22 small children and three staff? Can you by any chance let me know the names of either suppliers or makers of GAS CURTAINS in Bristol?*

The Ministry of Home Security have a scheme of testing gas-filtration units and on approval Certification Marks are issued to manufacturers. This Certification Mark is attached to all approved models, and is usually mentioned in advertisements. Models are designed for particular capacities. These are not referred to in the advertisement attached to the enquiry, and on communicating with the advertisers, satisfaction on these two points should be obtained. We ourselves have no knowledge of the particular apparatus described. The firms in Bristol who are given below* make up gas curtains.

** The Artistic Blind Co., Ltd., London Road, Nelson Place, Walcot, near Bath; Messrs. John Wood and Sons (Bristol), Ltd., 32 Montague Street, Bristol, 2; Messrs. J. Dean, 6 Bristol Bridge, Bristol; Messrs. Jos. Bryant, Ltd., 95 Old Market Street, Bristol, 2.*

REFERENCE BACK

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

Q505 *September* 19, 1940

The question concerned food cupboards for fixing against an external wall, to which air-brick ventilation can be introduced. Messrs. John Fletcher and Dixons, Ltd., Slate Works, Caernarvon, have sent details of a white stove-enamelled slate food cupboard produced by them. The size is 37 in. by 12½ in. overall and 11 in. deep inside, with two inside shelves, and the back is perforated for air-brick ventilation. The price of these cupboards is 55s. 6d. each and orders of £10 and upwards are sent carriage paid.

TRADE NOTES

Bulldogs

"Bulldogs"—specially designed steel timber joint plates for reinforcing all kinds of bolted timber constructions—are the subject of a leaflet received from the Palnut Co., Ltd. Full details are obtainable from the firm at 26/30 Holborn Viaduct, E.C.1.

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Waterproofing Anderson Shelters

Following details of waterproofing Anderson shelters have been received from George Lillington & Co., Ltd.

"This company has devoted considerable attention during the last year to the most effective means of waterproofing Anderson shelters. A special specification has been

PRICES

BY DAVIS AND BELFIELD, CHARTERED QUANTITY SURVEYORS

MATERIALS

The only items in the list of basic materials given below which have changed are Iron Rainwater Pipes and Soil Pipes. These have risen generally by a further 3½ per cent. since pre-war days. The standard list has changed slightly, however, and 3-in.–4-in. rainwater pipes and 6-in. half round gutters have been increased by more than the general 3½ per cent. rise.

LABOUR

Labour Rates remain the same, i.e. 1s. 10½d. for Craftsmen and 1s. 5¼d. for Labourers in the Central London Area, which represents an increase of 7.14 per cent. and 9.52 per cent., respectively, since pre-war days.

BASIC MATERIALS	Increase over pre-war prices at end of									
	Jan., 1940	Feb., 1940	March, 1940	April, 1940	May, 1940	June, 1940	July, 1940	August, 1940	Sept., 1940	Oct., 1940
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Portland cement	+ 9·8	+ 9·8	+ 9·8	+ 9·8	+18·3	+20·7	+20·7	+20·7	+20·7	+20·7
2-in. Unscreened ballast	+17½	+17½	+17½	+17½	+17½	+17½	+21¾	+21¾	+30·4	+30·4
Fletton bricks (at station)	—	—	—	—	—	+ 5·9	+ 5·9	+ 5·9	+10·3	+10·3
Stoneware drainpipes (British Standard), 2 tons and over	+ 9·4	+ 9·4	+ 9·4	+ 9·4	+ 9·4	+ 9·4	+ 9·4	+ 9·4	+ 9·4	+ 9·4
Roofing tiles	+ 7½	+ 7½	+ 7½	+ 7½	+12½	+12½	+12½	+12½	+23·0	+23·0
Steel joists (basic sections) ex mills	+19	+19	+19	+19	+19	+19	+30·8	+30·8	+30·8	+30·8
Lime greystone	+14·3	+14·3	+14·3	+14·3	+19	+19	+19	+19	+19	+19
Sheet lead	+50	+50	+50	+50	+50	+50	+50	+50	+50	+50
Iron rainwater goods	+ 3¾	+12½	+12½	+12½	+12½	+12½	+12½	+12½	+12½	+16
Iron soil pipes	+ 3¾	+12½	+12½	+12½	+12½	+12½	+12½	+12½	+12½	+16
Copper tubes	+23½	+25½	+25½	+25½	+25½	+25½	+25½	+25½	+25½	+25½
White lead paint	+21¼	+22¾	+22¾	+22¾	+22¾	+22¾	+22¾	+22¾	+26½	+26½

W. A. Davis.

F.S.I.

prepared dealing exclusively with this type of work, and we shall be pleased to send copies to your readers. It involves the use of our No. 1 Metallic Liquid, for waterproofing the concrete work, and our specification has been adopted by City Corporations and Borough Councils for waterproofing very many thousands of these shelters. The cost of the waterproofer is only a matter of shillings, and a perfectly dry shelter is obtained. A guarantee is given that No. 1 Metallic Liquid will be successful. The same preparation is advised either for waterproofing a leaking shelter or for one which is to be constructed.

"Lillington's waterproofer was selected for waterproofing the mass concrete of the largest aircraft factory which has ever been erected in this country, and it has been used in a large proportion of War Office and Air Ministry Contracts.

"If any of your readers are confronted with difficulties over waterproofing air-raid shelters, our Technical Director will advise them (without any obligation to use our waterproofer) if they will write us at 30 Denman Street, London Bridge, S.E.1."

SOUTH WALES INSTITUTE OF ARCHITECTS

A lecture illustrated by films and lantern slides and entitled "Glass in A.R.P. Work" was given to the Central Branch of the South Wales Institute of Architects and the Welsh School of Architecture, October 29, at the Technical College, Cardiff, by Mr. T. M. Rudall of Messrs. Pilkington Brothers, Ltd. Mr. W. S. Purchon, M.A., F.R.I.B.A., Head of the Welsh School of Architecture, presided over a very large and representative gathering of architects and students of architecture and others interested in the technical aspects of the subject, including members of the Armed Forces, A.R.P. wardens, etc.

Mr. Rudall showed films dealing with incendiary bombs on armoured toughened lenses, the effect of blast on various glasses and types of protective window treatments, and the effect of blast on wired glass. He also showed slides illustrating glass in use as an A.R.P. material.

In the ensuing discussion Mr. Rudall gave detailed replies to many questions asked by members of the audience.

THE BUILDINGS ILLUSTRATED

NURSERY WING, SHOTTERY MANOR (pages 371–372). Architects, F. W. B. Yorke and F. R. S. Yorke. General contractors, J. G. Fincher & Co., Ltd. Sub-contractors and suppliers included: N. W. Dixon, Ltd., electric heating; E. K. Cole & Co., Ltd., "Thermovent" heating units; Williams and Williams, Ltd., metal casements and antique fasteners; Gordon Russell, Ltd., furniture and fabrics; Dryad Metal Works, Ltd., door furniture; Birmingham Sculptors, Ltd., marble and stone fireplaces and woodcarving; Haskins, rolling shutters; Frank Organ & Co., rubber flooring; George Bence and Sons, Ltd., sanitary fittings; Cork Insulation Co., Ltd., cork tile flooring; Henry Wiggin & Co., Ltd., monel metal sink units; Dunsmore Tile Co., Ltd., wall tiling; Ascot Gas Water Heaters, Ltd., hot water heating; W. J. Clayton & Co., Ltd., hard wood flooring; Troughton and Young, Ltd., electric fittings; James Clark and Son, Ltd., glass and mirrors; Screeton Paintmaker, paint; E. J. and A. T. Bradford, Ltd., clocks; Charles P. Moody, Ltd., sliding door gear.

HOUSE, HILLCROFT AVENUE, UPPER WOODCOTE, PURLEY. Architect: E. L. Banks (pages 376–377). General contractors were R. D. Taylor, Ltd. Sub-contractors and suppliers included: Roberts, Adlard & Co., Ltd., roofing; Colthurst, Symonds & Co., Ltd., roof tiles (brindled double roman); R. G. Ward & Co., Ltd., brick suppliers (buff Dutch facings); W. Allen, stonework; Buxton and Longley, Ltd., electrical contractor; W. N. Froy and Sons, Ltd., fireplaces (special marble designs); Pryke and Palmer, Ltd., Triplex grate; W. Taylor, wall tiling; Eyles, Byrne & Co., Ltd., sanitary fittings (primrose coloured suites); Stainless Steel Sink Co., Ltd., metal sink; Wenham and Fowler, metalwork; Nobel Chemical Finishes, Ltd., paints and wall finishes; Ronuk, Ltd., stains (woodwork: ebony and grey).

HUDDERSFIELD PUBLIC LIBRARY AND ART GALLERY (pages 379-381). Architects: E. H. Ashburner and G. H. Rowledge, A.A.R.I.B.A. General contractors were J. Wimpenny & Co. Sub-contractors and suppliers included: Octavius Atkinson and Sons, structural steelwork; Bolton and Hayes, Ltd., suspended floors; A. Higginbottom and Sons, plumbing and painting; T. B. Tunnacliffe, plastering; Rosser and Russell, Ltd., heating and ventilating; Drake and Gorham, Ltd., electrical wiring; General Electric Co., Ltd., electrical fittings; Henry Hope and Sons, Ltd., metal windows, lantern lights and laylights; R. Blackett and Son, Ltd., wood fittings (shelving); W. Higgin, Ltd., wood fittings (special); J. and H. Patteson, Ltd., marble; J. Cooke and Sons, Ltd., terrazzo flooring and asphalting; Asbestos and Rubber Co., Ltd., cork and lino flooring; J. Wimpenny & Co., wood-block flooring; Evans Lifts, Ltd., passenger, book, and goods lifts.