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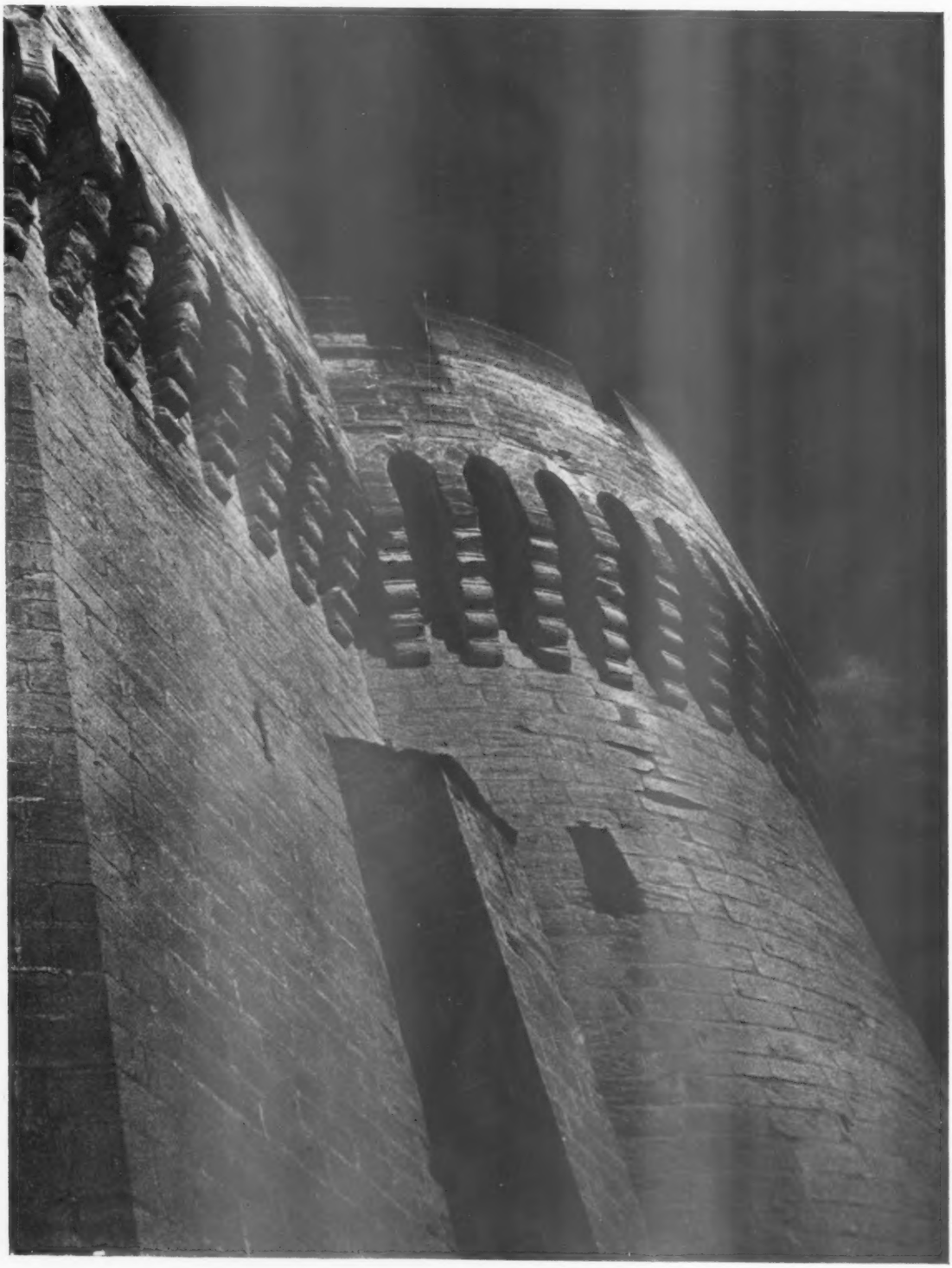
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, DECEMBER 28, 1939. NUMBER 2345 : VOLUME 90

PRINCIPAL CONTENTS

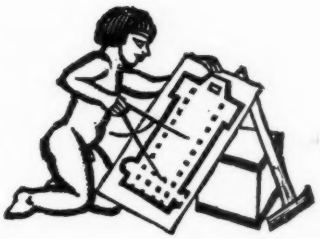
NEW N.B.C. BUILDING, HOLLYWOOD

AIR view of the National Broadcasting Company's new building in Hollywood, recently completed at an estimated cost of $1,500,000. There are four main studios, one storey high, each with seating accommodation for 350 persons, and an office block, three storeys high, facing Sunset Boulevard.



BRICKWORK

A detail of the gateway at Villeneuve - les - Avignon.



DREAMS COME TRUE

THE days between Christmas and New Year have always been a time for reflection on the past and the future. In peace-time, this self examination is caused, jointly, by seasonable queasiness and there being nothing else to do. It is impossible to get hold of anyone with whom to do business. Thoughts wander : back, to the recent terrors of near relations and their children ; forward, to the necessity of getting out and about more, of joining the club, of cultivating that company director who sucks his teeth.

This year there is nothing to be gained by looking forward. The architect who knows enough about 1940 to make resolutions in detail need practise an uncertain trade no longer. He can live happily for ever after in untroubled affluence—if he can only get enough people to believe him.

This year, post-Christmas thoughts can only turn backwards.

At Christmas, 1939, a little had to go far. A glance at the mantelpiece shows that. The line of cards with which other architects annually stage so suicidal a showdown of their taste is shorter this year. But it is comforting to see that financial stringency is not confined to architects. Stockbroker Harold's descent from a half-crown private edition to a sixpenny universal carries the beastly but warming assurance that the burden of our times is being placed on the strong as well as the weak.

A few more glances summarize the whole of a Christmas which was much as Christmas always is. What is more, they show that Christmas gives a first rate excuse to the British race for indulging without self-consciousness, in their grand passion for ROMANCE. Reindeer sledges, antique maps, galleons, robins, thatch and cupids—all are there. Britons, one realizes again, if given the smallest chance, will always show themselves pure romanticists. A minority may send out cards of frigid good taste because they feel they owe it to their position. But dig an inch below such paltry dignity and you find, every time, their fingers itching for two robins on a snowy gate or angels round the bed.

When you come to think of it, it is just this Romance that spoils all architecture. What is it that blights the suburbs, makes fortunes out of bird baths and puts *osocozy* in poker work on a hundred thousand gates ? It is Romance, every time.

Romance in bucketfuls is far more essential than beer for our public : Romance in man-size doses, at about sixpence the dollop. It is that sixpence that does for the architects.

It is not their fault, poor fellows. Their own brand of Romance is good enough in its way, but it has to last for years and be in good shape at the end. Such pathetically durable goods cannot expect a measurable turnover in bustling times ; and only a turnover of millions can allow a sizable pinch of Romance to be included in sixpennyworth.

This regrettable business of unwanted durability has caused bitter disputes between countless architects and clients who want from their new buildings the permanent punch of a hundred full-page advertisements in *Picture Post*.

It is therefore positively astounding that clients should not have noticed that the war has made possible their grandest dreams. What has worried a commercial client about his building hitherto is that its front is really only one full-page ad., which must keep the same for twenty years and costs the earth. *Now*, for many businesses, all that is changed.

In front of all the best buildings now is a backcloth of sandbags, brickwork or planks, on which can appear ANYTHING THEY LIKE. If they fancy architecture, they have merely to say what : Moorish, Tecton, Indo-Saracenic or Aldwych Farcical are theirs to command at about thirty bob a yard super and no fussiness from authority.

Most of them, of course, won't be so silly. They will want Romance straight from the decanter. They can have it on the same terms : Galleons can roll in Regent Street and the Girl Who Wasn't Asked Again can agonize in the Edgware Road. They can have them all, each month or each week, in paint and canvas. As the pace quickens they can have them each minute, on rollers—at some little extra charge.

Architects, mural painters and industrial artists are all made ready by the war to give shops and passers-by the Romance that is needed in 1939. It is terrible to think that shopkeepers don't seem to have seen, even yet, that Paradise (in daytime) stares them in the face.

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

NOTES & TOPICS

WAR RISKS

THE R.I.B.A. was represented at a recent meeting convened by the Association of British Chambers of Commerce to discuss a new "War Pool Plan" for property insurance. Their original scheme, devised last August, suggested the provision of an indemnity pool, started with an initial contribution of 2s. per cent. and with an annual premium not in excess of 1 per cent. of insurable value.

*

This scheme, which was rejected later by the Weir conference, has now been elaborated and revised, and will shortly be re-submitted to the Government if sufficient support is received from the institutes and societies interested.

*

For an actuary who is accustomed to assess premiums only on mathematical certainties, War Risks Insurance is doubtless a nightmare. To the rest of us the difficulties seem exaggerated; and one suspects that what is holding up voluntary schemes is the suspicion that members of any such schemes will be left to help themselves, while the Government may step in to help hard-hit "uninsured" areas before the end of the war.

*

To the ignorant, a compulsory contribution of even *2s. per cent.* on all insured property appears certain to yield a sum sufficient to remedy the damage of several serious raids.

SIDELIGHT ON THE BUILDING FRONT

New Government factories under construction in Coventry will bring 35,000 workers to that locality. They have got to be housed. The *New Statesman and Nation* recently published some interesting facts about how the problem is being tackled.

*

On October 14, the Corporation of Coventry wrote to the appropriate Ministry asking what help it would be prepared to give to this housing problem. There was no reply. The Corporation wrote again on October 26, November 3 and 13; on November 15 the Town Clerk got a new request for houses for another 4,000 workers. The Corporation then telegraphed to the Ministry (presumably employing a reply paid wire) and got this reply: "Endeavour to reply in next post or two."

*

But by the middle of December no reply had been received. But Coventry has not been altogether ignored by Government Departments; the Ministry of Labour has refused the Corporation permission to proceed with the building of the 468 council houses included in their pre-war housing programme.

*

The *New Statesman* concludes this depressing revelation with this statement: "I understand that the Government are considering hutments as the solution of the problem. Coventry had experience of hutments from 1914 to 1918, and only last year had managed to clear away the last of them, condemned as noxious slums."

"B.O.P." TO THE RESCUE

Long ago, before every spoilt little brute had his own home cinema, one provided one's own entertainment by projecting gaily-coloured slides on to a suspended sheet by means of a magic lantern, which became extremely hot and filled the nursery with thick clouds of black smoke. If you read your *B.O.P.* with profit, you may even have gone so far as to construct the lantern yourself out of one of mother's biscuit-tins, but you had to be pretty super with your hands for this, and soldering was always one of the mysteries of life—as it still is.

*

Memories of those days have been called to mind by a consideration of the shop-window lighting which is described in detail in a pamphlet issued by the Ministry of Home Security.*

*

Generally speaking, the suggested light-fittings are of the enclosed biscuit-tin type, painted matt black, and take a 25-watt lamp, the only aperture being covered by tissue paper for purposes of diffusion. A modified form of lighting-tin can be constructed for those shops that still stick to gas, which naturally requires more ventilation, but the sign must be inconspicuous at a distance of 100 ft.; and in no fitting, whether used in the window or light-lock, must the illumination at any point exceed 0·02 equivalent foot candles.

*

Apart from the exhaust, the magic lantern of 1910 fulfils the 1939 specification perfectly.

"MORE FOOL YOU"

The A.A. panto was held as usual this year, in spite of the serious limitations to stagecraft at the Mount House, Hadley Common, where the School is housed for the duration.

*

A deliberate amateurishness in the sets, and the idea of launching the show with a dress rehearsal scene, all helped to give it a more than usually intimate Christmas charade

* *War-Time Lighting Restrictions.* Shops—Window Displays and Illuminated Signs. H.M. Stationery Office. Price 2d.

character. It was this, plus the perpetual verve of the cast, that made the thing go, even with a necessarily small and huddled audience.

*

Except for the Edwardian beach scene (a star number, I thought), this year's panto was, as you might expect, 100 per cent. political. But, of course, there was a world of difference between the Government sponsored radio interpretation of Blunderland and the A.A. interpretation. The satire was at its best on the Home Front : " Tweedledum and Tweedledee " (Chamberlain and Halifax) scored most marks.

SHOP FRONTS

I hear that the National Register of Industrial Art Designers and the Society of Mural Painters have been getting together to promote an exhibition of designs for protected shop fronts, which will make our streets look less gloomy. This exhibition will open at the Building Centre early in January, and it ought to supplement effectively the efforts which some London shopkeepers have already made to improve war-time façades.

FIRES—YESTERDAY AND TODAY

From the number of architects who are enrolled in the A.F.S. (London) either ashore or afloat, a post-war move for the re-establishment of fire-fighting clubs seems quite on the cards, though whether it will be a successful move in these highly mechanized, ultra-efficient days, is another matter.

*

The fire-fighting clubs give a view of our tightly-buttoned grandfathers (or those of them who were well connected) which is unusual. The clubs flourished best during the rule of that terrific whiskered martinet and autocrat, Sir Eyre Massey Shaw, K.C.B., who raised the London Fire Brigade to enormous efficiency, considered it as much his own as his walking stick, and thought nothing of giving a Brigade Call from Covent Garden to provide a show for his friend the Prince of Wales (King Edward VII) and some visiting potentate. Those were the days.

*

The clubs maintained their own horses and equipment, had usually two crews ready every night and one every day, and were linked in the fire telegraph system. The dash of well-groomed Percherons, the polished brass, belching smoke from the steamers, and gentlemanly gallantry at the fires must have amply repaid the extremely heavy subscriptions needed to keep the show going.

*

Fire fighting today is almost an anti-climax. Here are some notes from my man on the spot :—

For four months, whole time and part time, I have wanted a fire—and pictured myself dozens of times in all fiery circumstances. Today I got my fire : I was at the wrong end.

*

In the blackout, in slippers, *en route* for cigarettes, I paused to let a tram go by, cheek by jowl with a fire alarm. The tram sparked, squealed to a stop and *burst into flames* right before my nose.

*

I could not believe it. " A fire ?—*Nonsense,*" I said to myself—while, with all the coolness *I* should have shown, the driver shouted " All out at the back " through his door, leapt off and got to work with a Pyrene.

*

It seemed minutes, was perhaps half a minute, before I was reminded of my fire alarm and BROKE GLASS, PULLED KNOB. Thereafter, the electrical fire gave a dazzling display in the blackout, a steadily increasing number of bus and tram drivers used Pyrenes, and another one refused me his as huffily as though I were touching him for a pound. I lost a slipper for some time, and stepped in a puddle.

*

By the time two red and two amateurs' engines arrived (about two minutes 40 seconds) it was all over. It always is.

NEW YEAR

There is nothing I can say about the coming year except to hope that it will be a better year than it looks like being before we reach it. But I can at least give readers my good wishes. I do so now with special sincerity.

ASTRAGAL

1940

IN the opening days of this war no architect would have cared to be definite about the work and surroundings of architecture in four months' time, and the JOURNAL *found it equally difficult to say what it would be doing after the same period. For the* JOURNAL, *only one plan, one policy, seemed war-proof in September—to keep most of a reduced space ready to meet new developments in very quick time.*

It provided for doing so by—

***1. THE INFORMATION CENTRE,** which would answer, to the best of the* JOURNAL'S *ability, any war-time problem concerning architecture and building.*

***2. ARTICLES ON CURRENT PROBLEMS.** An orgy of shelter construction made it seem best for the first series of these articles to supplement the Special Issues† published by the* JOURNAL *before the war.*

The outlook today is as uncertain as it was on September 3. In six months architects may be busy on work far removed from architecture, or most of them may be grappling with purely building problems of the utmost urgency. But in this state of uncertainty one fact is certain — that TEMPORARY AND SEMI-PERMANENT BUILDING TECHNIQUES will be of first importance during the war and for some time after it.

The JOURNAL *will therefore begin the New Year with four articles, by Eugenio Faludi and Godfrey Samuel, which review such methods, their application abroad and their possibilities in large-scale production.*

The JOURNAL'S *further plans for 1940 depend on what emerges from the Building Industry's appeal to the Government and (once again) on what happens to architects. But in the meantime the INFORMATION CENTRE will be ready to answer any question which is worrying architects.*

† *Now published by The Architectural Press as* " Civil Protection."—*By Felix J. Samuely and Conrad W. Hamann. Price 8s. 6d.*

The Information Centre owed its inception to the difficulties that arose when architects were faced with the problems of A.R.P. and other emergency work that followed the outbreak of war. The specialized questioning goes on, but it is clear that an information centre is needed for general building problems too. This Centre exists primarily to simplify the task of the architect in these days when emergency legislation and defence measures have become his immediate concern, but it does not confine itself to this work alone. The Centre will provide an expert opinion on any question connected with building.

ARCHITECTS' JOURNAL

EMERGENCY

INFORMATION CENTRE

If you have a problem which demands an expert answer send it to:—

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

or ring:

THE A.J. INFORMATION CENTRE
FLAXMAN 5322

The Information Centre itself is working from London, but enquiries sent direct to the JOURNAL will be passed on without delay.

These are typical of the questions we have already answered:

What are the relative costs of sandbagging and brickwork?

How is a gas-lock formed?

How is a factory protected from incendiary bombs?

Are footings necessary to walls sub-dividing basement shelters?

How is wood protected against liquid gases?

How are ventilated black-out window screens formed?

How is sandbagging rotproofed?

How much safer is a 20-ft. deep shelter than a semi-surface type?

How is a light-lock formed?

How should screen walls be arranged?

How is a basement shelter protected from bursting water mains?

What is the definition of a light-proof material?

What publications are there on farm buildings?

What would be the maximum spread of debris if an h.e. bomb hit a 330-ft. stack?

What publications are there on camouflage?

What protection is needed for light shafts?

What is adequate provision for a first aid and decontamination centre?

Is a 1938 contract binding?

Who is responsible for making good air-raid damage to unfixed materials?

What is the cost per head of gas filtration?

Under what obligation is a building owner to provide shelter for the occupants?

How is a leaking shelter waterproofed?

How will the grant be paid?

Are cinemas to be provided with shelters?

Can blast-proof doors be used for naturally ventilated shelters?

Q123 BIRMINGHAM.—*What do you recommend as treatment for unplastered brick walls and concrete floors and ceilings in a DECONTAMINATION centre?*

We recommend the use of a solution of silicate of soda (waterglass) for walls, ceilings and floors. This is more effective on concrete than on brick, and in order to increase its effect on the latter, the walls should first be given a coat of lime white. Brand P.84 silicate of soda should be used, and is obtainable from I.C.I.* as a 25 per cent. solution. This requires breaking down to 5 per cent. solution. That is 4 gallons of water to 1 of soda. Two coats of the 5 per cent. solution should be brushed on lavishly. As an alternative the walls might be rendered with cold glazed cement, but this is much more expensive than silicate of soda.

Q124 VICTORIA.—*Are flush doors, etc., CONTROLLED?*

Manufactured articles, such as flush doors, are not controlled, but the timber from which they are made is controlled. This means, in practice, the manufacturer will be likely to supply doors only for such work as would receive a licence, i.e. for work of national importance. Otherwise he would be unable to replenish his stock.

* Imperial Chemical Industries, Ltd., Thames House, Millbank, London, S.W.1

Q125 CHISWICK.—*Is there a publication on NURSERY SCHOOLS comparable with the Board of Education's No. 107 which deals with Elementary Schools?*

The only publication on this subject is "Nursery Schools and Nursery Classes," No. 106, price 1s. 6d., from H.M. Stationery Office, York House, Kingsway, W.C.2.

Q126 BLAIRGOWRIE.—*I wonder if you could inform me of the address of a trade journal where reliable and up-to-date MATERIALS PRICES including those of plumbers' goods, etc., are available?*

With the market conditions obtaining there has been a tendency among technical journals generally to omit the tabulated price guides ordinarily given. Certain journals continue to give materials prices, but in doing so draw attention to the likelihood of

changes and of difficulties associated with the supply of certain goods, particularly those made the subject of Control orders and into this class come most metals and, obviously, most plumbers' materials. There are no tables of material costs in specialist journals devoted to the interests of the plumber, but material rates on plumbers' goods are to be found weekly in the *Builder* and every fourth week in the ARCHITECTS' JOURNAL and in the *Architect and Building News*.

Q127 LEEDS.—*I should be pleased to know of any simple and economical form of combined GAS-FILTER and ventilator suitable for small private shelters holding a maximum of six persons. I believe there exists a type of plant operated by hand-bellows; drawing air through a non-return valve and passing through a simple gas-filter.*

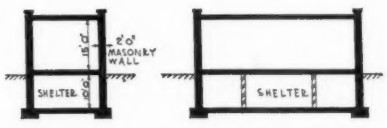
From inquiries made among firms known in the industry for gas filtration units it would appear that units on so small a scale are not a standard product. A few firms*, however, have had experience in making up small units, and would produce filters for six persons. It is expected that the cost of such units would be between £4 and £5 per person exclusive of any site labours or ducting.

Q128 S.W.1.—*What is the ADDRESS of Architecture and Public Utilities Committee?*

Montague House, Whitehall, London, S.W.1. Telephone No. Whitehall 6200.

Q129 BOLTON.—*I am not clear as to the interpretation of the DEBRIS LOADS given in the Air Raid Shelter Code, particularly regarding basement shelters of which the external walls form the side walls of the shelter (Fig. 1, A). Do the loadings given include for the possible collapse of the walls on the roof of the shelter, or are they intended to cover only the debris from floors constructed over? Most of the schemes illustrated in the H.O. books show the shelter placed in a central position in the building, away from the outer walls (Fig. 1, B). Will the debris loading from the wall not increase directly proportionally to the thickness?*

The debris loads given in the Code apply to any position inside a building. The falling masonry, etc., will be checked by each floor and will not reach a maximum velocity, and the debris loads are calculated to allow for this. If the building has heavy



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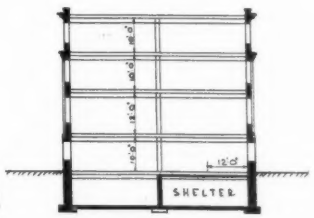
cornices or other features, the debris load should be increased by 50 per cent. for a distance inside equal to the greatest storey height above (Fig. 2). If heavy machinery stores are above the shelter, these also must be allowed for. The area they affect will be their own floor area plus a distance all round equal to half the greatest storey height between the



2

shelter and the heavy load. In the case you illustrate 200 lb. per sq. ft. is the correct debris load, but if you are afraid the heavy masonry wall may fall inwards, it might be increased by 50 per cent. to 300 lb. per sq. ft., but each case must be judged on its own merits and the Code is intended more as a guide than as hard and fast rules.

Q130 GLASGOW.—*We have some FACTORY FLOORS to lay, and the proposed specification is 12 in. excavation, 6 in. bottoming, 4½ in. of 4/2/1 mix concrete reinforced with No. 9 B.R.C., the whole covered with 1½ in. granolithic 2 to 1. The area to be covered is made-up ground, some of which has been thoroughly consolidated by heavy road traffic, and the rest not consolidated except through the action of weather over a period of two or three years. Our difficulty is in connection with the bottoming. It has been suggested the best bottoming is a depth of 6 in., made up from pieces of broken brick about 2–2½ in. in size, spread in layers and consolidated by rolling, the top surface being blinded before the concrete is laid. The alternative suggestion is that ordinary whole and half brick bottoming be laid and consolidated by being lightly broken up, after having been spread, by hammering. It is suggested against the latter method that half bricks and whole bricks do not give as homogeneous a bottoming layer as the smaller pieces of brick, and that in time they tend to move and possibly cause fracture of the top concrete surface. We should be pleased to have your advice as to which type of bottoming for floors is to be recommended. We appreciate, of course, that the load to be carried by the floor is an important factor, but as this in our case is very variable we could not give you any figures, except that we know generally the floor to the above specification suits our requirements.*

As a rule the question of bottoming is settled by the type of material most readily available. Very seldom is the question of best material given consideration. The uses of bottoming are twofold, first to transfer the load from the concrete floor to the subsoil, and second to keep the concrete clear of the earth, and thus minimise damp. The former condition would be of more importance in factory work, and the latter in domestic work. In either case a fairly impervious rubble forms the best material. As to the choice of broken bricks as against whole or half bricks, the former, if properly consolidated, would give a more even load distribution. Two courses of the whole or half bricks laid on the flat would be quite effective, but would be more expensive to lay, and under the circumstances we cannot see any advantage would be gained.

Q131 S.E.1.—*The occupier of a commercial building, who has a lease of less than 10 years, has himself provided air raid shelter for his employees. He did the work in September, 1938, and April, 1939. He is now demanding that the OWNER PAY THE COST of the work, but refuses to contribute because the owner did not serve notice upon him as required by the Act.*

Section 20 of the Civil Defence Act provides for contributions in respect of works *commenced* before the passing

* Abair Engineering, Ltd., 1 Devonshire Square, London, E.C.2; Ozonair, Ltd., Ozonair House, Longmore Street, London, S.W.1.

of the Act. It seems from the wording of this Section that works which are also *completed* before the passing of the Act are within the provisions of this Section, so that the occupier, providing the building is in a specified area and the shelter is of the approved standard, may make a claim to the tribunal for payment of contributions towards the expenses incurred in providing the shelter. There is no need for the owner to have served any notice because the work was carried out by the occupier. The owner should therefore wait for the tribunal to decide how much he must pay, and how he should recover from the occupier.

Architectural Front

R.I.A.I.

It is stated in the report of the Council of the Royal Institute of the Architects of Ireland, submitted to the annual general meeting held in Dublin, that representations were recently made to the Department of Industry and Commerce protesting against the engagement of foreign technical experts and the employment of foreign contracting firms for the design and execution of building works in Ireland. The report continues :

After the outbreak of war a joint committee, representative of the Institute of Irish Architects, the Institution of Civil Engineers of Ireland, the Chartered Surveyors' Institution (Irish branch) and the Builders' Federation, was set up with the object, among others, of keeping records of prices of materials. The committee has received the approval of the Minister for Supplies, and, arising out of the war situation, a Council of the Building Industry of Ireland has been set up, on which the Council's representatives are : Messrs. J. J. Robinson, W. H. Howard Cooke and J. H. Webb. The objects of the Council, from which the Prime Minister is to receive a deputation shortly, are : (*a*) To consider all problems affecting the undertaking of building projects and generally to advise measures to adapt the industry to war circumstances ; (*b*) to investigate the availability of materials and prices, and (*c*) to urge upon the Government, public bodies, and the public generally, the importance from the national point of view of encouraging the undertaking of building projects and public works during war-time.

Building Front

Ministry of Home Security has discussed with Church authorities the possibility of CAMOUFLAGING CATHEDRALS and other historic buildings as an air-raid precaution, and it has been decided that, for several reasons, this is impracticable. It is pointed out that :

Many well-known cathedrals and other historic buildings would inevitably be recognized from the air by their characteristic planning and their position, even if their roofs or other surfaces were partially discoloured by painting or some similar treatment. Moreover, the application of any treatment which could be regarded as camouflage might give the enemy opportunity to suggest that the building was being used for military purposes. Any treatment that could be effective as camouflage would have to be carried to such lengths that a great deal of the beauty of ancient buildings, which is the result of the weathering of centuries, might be lost beyond repair, or, in any rate, for many years to come. It is suggested that structural precautions for protection against the effects of air attack may be advisable in some cases, but that this should not extend to external disfigurement, which might well fail to achieve security.

1940

What the JOURNAL *will do in the New Year depends on what architects do. And that is difficult to forecast. In the meantime—*

★ *The* INFORMATION CENTRE *will continue to try to answer any question which affects architects. It should be emphasized that this does not mean merely war-time problems.*

★ *The next four* ARTICLES ON CURRENT PROBLEMS *will review temporary and semi-permanent building techniques and materials and examine their application to the war-time building programme of Britain. The articles are by Eugenio Faludi and Godfrey Samuel and the first will be published next week.*

Owing to the increase in the control prices of metal the basis PRICES OF COPPER are advanced by £10 per ton to the following : Plain plates, £97 10s. per ton basis with usual trade extras ; rods, £95 per ton basis with usual trade extras ; sheets, £95 per ton basis with usual trade extras ; these prices being subject to 2½ per cent. discount to buyers.

Following notice has been issued by Minister of Supply regarding the CONTROL OF TIMBER :

The Minister of Supply has made the Control of Timber (No. 6) Order, 1939, which amends the No. 5 Order by substituting £5 in place of the £20 mentioned in the No. 5 Order, i.e. the new Order provides that on and after January 1, 1940, the amount of timber, plywood and box boards which (subject to declaration) may be purchased without a licence may not exceed £5 in any one calendar month. The Minister of Supply further announces that on January 1, 1940, the Control of Timber (No. 5) Order, 1939, Direction No. 2, will be revoked by the Control of Timber (No. 5) Order, 1939, Direction No. 3. Under Direction No. 3 sellers will be required to return to the appropriate Timber Control Area Officer, within seven days of the end of the calendar month to which the forms relate, the forms " O.A." (i.e. declaration by purchasers) as well as forward statements on the form "O.C." of disposals during each month. Forms described as O.B.1 and O.B.2 in the Direction No. 2 are no longer required.

BENJAMIN ELECTRIC. Catalogue (No. 1600) just issued illustrates and describes complete range of firm's lighting equipment. A.R.P. features include adaptors to reduce the amount of light from large units by replacing the lamps with smaller sizes. Prices range from 4s. 6d. to 6s. 6d.

RADIATION, LTD.—London showrooms are now centralized at 4 Berners Street, Oxford Street, W.1 ; able to supply, on immediate demand, large-scale cooking equipment suitable for evacuation centres, communal kitchens and war-time canteens.

HOLOPHANE, LTD. — Four-page folder just issued by this firm illustrates and describes Holophane Correctalite reflectors.

TRIPLEX SAFETY GLASS CO.— Research Department has carried out number of experiments to ascertain shatter point of different types of glass now frequently used to prevent splintering. Results summarized below :—

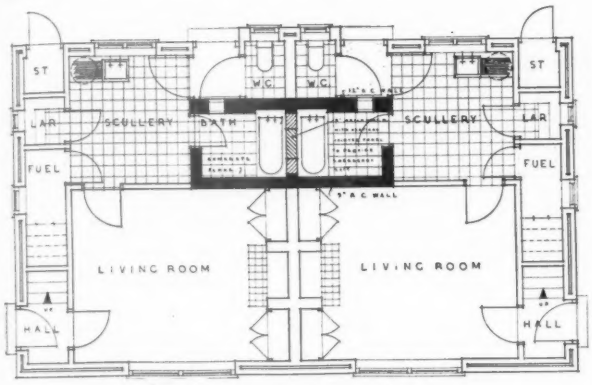
Ten types of glass were tested. Method of test was to take a number of samples of each type 12 inches square, and to drop on each one a steel ball weighing ½ lb. from a minimum height, increasing the height by stages until the sample broke into two or more large fragments. Mere cracking was not recorded as a break. The shatter point given below is the average taken of the various samples. Where strips of reinforcing material are referred to, they were 1 inch wide and 3 inches apart, arranged in diamond pattern. In all cases the ball was allowed to fall on the sample on the side remote from the reinforcing material. Ordinary 24-ounce sheet and quarter-inch plate glass broke at 1 foot 9 inches and 1 foot 10 inches respectively, while the same types of glass reinforced with paper strips 1 inch wide and arranged in diamond fashion broke at 1 foot 11 inches and 2 feet 1 inch. Sheet glass reinforced with cellophane type material, either covering the whole window or in strips, and sheet glass reinforced with adhesive tape both broke at 6 feet ; plate glass reinforced with cellophane type material broke at 8 feet 6 inches and plate reinforced with adhesive tape at 9 feet 6 inches ; sheet laminated safety glass broke at 18 feet, and Georgian cast wired glass at 22 feet. In the case of glasses reinforced with cellophane type material, it was found that almost identical results were achieved whether the whole pane was covered with the material or with strips in diamond formation.

PHILIP SCHOLBERG on

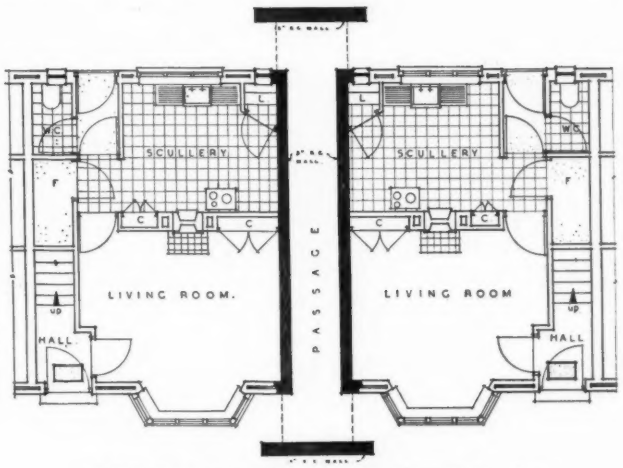
Equipment

Houses with Their Own Shelters

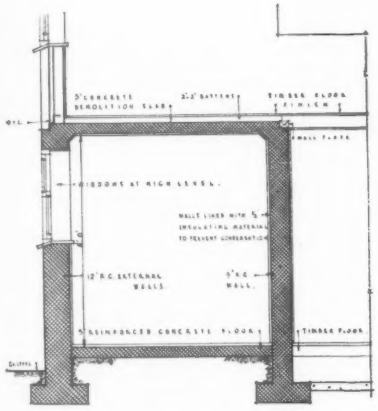
IN a report presented to Sir John Anderson at the beginning of this year, it was recommended that " immediate legislation should be undertaken to ensure that no residential building of whatever size or class should be erected in future without the inclusion therein of an air raid shelter." Several people have been following up these lines of thought, and I have just been shown some suggested designs for small houses, both of the speculatively built and the council type. The general argument in favour of designs of this kind is no more than that any type of house plan and equipment must inevitably reflect the needs and social habits of the period. Bathrooms, for instance, are a comparatively recent development, and it is only since the war that a garage has become a part of the standard plan. Whatever one's personal views may be, one is forced to admit that civilization has now reached the stage where some form of defence against aerial attack appears to be more important than the garage. The provision of a completely bomb-proof shelter is obviously beyond the means of most people, but protection against blast, splinters and incendiary bombs, which many experts seem to think form about nine-tenths of the probable dangers, can be obtained comparatively cheaply. On the principle that the job of the safe manufacturer is to keep one jump ahead of the latest technique of the burglar, it is arguable that by the next war the protection



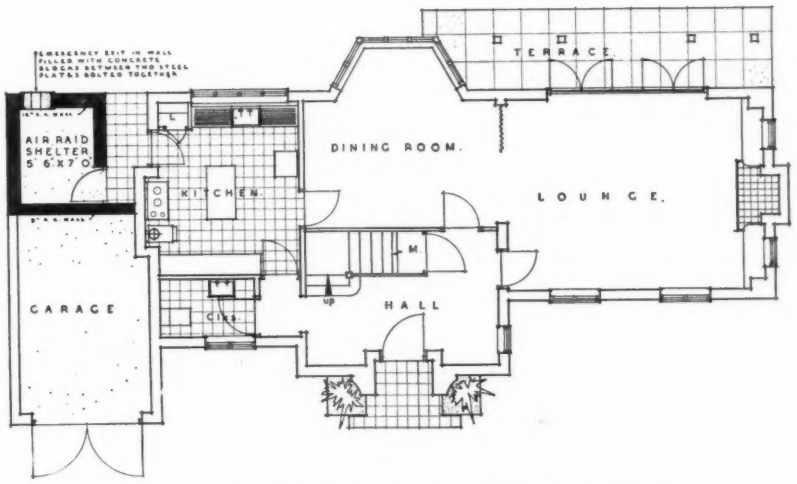
A.R.P. Shelters in Council housing (bathroom scheme)



A.R.P. Incorporated Shelters in Council housing (passage scheme)



A.R.P. Council Housing: Typical Section



A.R.P. Incorporated Shelters in speculative housing

which has proved adequate in this one will be out of date, but this is no more than a vicious circle which would end up with nobody doing anything ever.

Reasonable precautions, therefore, are suggested in all houses, and it should be pointed out that this has two definite advantages. First of all, it makes the shelter immediately accessible and does away with all this business of leaping into siren suits and rushing to the bottom of the garden; and, second, the cost of adequate shelter would be comparatively small if it were provided when the house were first built. Some of the plans reproduced show the shelter as an extension to the garage or larder, a sort of pill-box development; others make one of the rooms serve a dual purpose, and for this the bathroom seems preferable to the kitchen or larder. The desirable feature of a high cill is equally easy to arrange in all of them, but the bathroom has the additional advantage that there is often an airing cupboard or the hot-water cylinder to provide a certain amount of heating, and there may even be some sanitary arrangements as well. The section shows a concrete version of the idea, with a 5-in. roof slab to take the weight of the upper storey, and this is also quite enough to withstand a 2-lb. or 3-lb. bomb. The bathroom idea, of course, implies a position on the first floor, so that in many speculatively built houses the idea will not work, and some form of scullery treatment is therefore necessary.

Tanks for Decontaminating Clothing

Some weeks ago I referred in these notes to a gas- or steam-heated tank for decontaminating clothing. This particular model was made by Radiation, Ltd., but I have just come across another made by James Stott of Oldham. The tank capacity of this model is 150 gallons, and the hinged lid is counterbalanced by a pulley and chain and closes on an asbestos packing ring to form a steam-tight joint, while underneath the lid there is a perforated galvanized plate arranged to keep the clothing completely submerged. Large-bore valves are fitted so that the tank can be quickly emptied and filled, the total heating time from cold being about 1½ hours whether the heating medium is gas or steam, though this time can, of course, be shortened if there is a hot water supply available. Decontamination times vary from 30 minutes for oilskins to three hours for respirator facepieces.—(*James Stott & Co. (Engineers), Ltd., Vernon Works, Oldham.*)

A.R.P. in Catalonia

Following are extracts from a paper entitled "A.R.P. in Catalonia," read by Ramon Perera, Eng. Ind., Chief A.R.P. Engineer to the Government of Catalonia during the Spanish War, at a recent meeting of the Air Raid Protection Institute:—

MUCH has been written about air attacks and shelter construction in Spain, but often the reports have treated the subject from one particular aspect only, making it difficult to follow the reasoning from which conclusions have been drawn. An exception to this state of affairs has been in the very few cases when those who had opportunities to examine the effects of air attacks had wide technical experience.

The subject is so extensive that a detailed explanation would be needed if I were to comment upon all the aspects of it, which, though of a diverse nature, are yet to a great extent inter-connected. I shall try, nevertheless,

to point out only some aspects and show the correlation between the facts and solutions adopted.

Due to my position in the service of the Catalan Government, I will refer especially to facts as they apply to Catalonia, and it should not be inferred therefrom that the solutions adopted and proved satisfactory in Catalonia are necessarily those to be applied elsewhere, because in this problem, as in every engineering problem, the solution is always a consequence of the nature and complexity of the conditions involved.

The four main types of shelters that we considered in our discussion upon shelters for urban areas were :

1. The large cellular type.
2. The tunnel type.
3. The adaptation of basements.
4. The covered trench.

We rejected this last type because :

(*a*) The protection given in proportion to the work entailed is much less than with the other types.

(*b*) The difficulties of finding suitable sites in which to place them, especially owing to the fact that with this type of shelter the area of the site needed to accommodate them is many times larger than the effective floor surface of the shelter.

(*c*) The volume of earth to be excavated is practically the same as that for the more satisfactory types.

(*d*) The open spaces, parks, gardens, suitable for such a type are usually too far from the places for which we need to provide shelters, for we considered that the entrance to a shelter should not be located at a distance greater than 110 yards from the usual place of those for whom it is meant to be a protection.

(*e*) The provision of this type of shelter without overhead protection, except against splinters, could not be accepted as the responsibility of the Government in the general programme of protection, for, as we were building at the same time bomb-proof shelters, it was decided that we should not provide shelters with such varying degrees of protection.

Many basements were examined with a view to adapting them as shelters, but it was found that few were suitable. Sometimes, however, owing to the solidity of the building, the number of floors, the lack of courtyards, and protected sides, it was found that only slight alterations, such as the sealing of windows with concrete and the making of a convenient entrance, were all that were necessary.

Nothing could be done when the basement needed reinforced protection at the sides or overhead. The reasons being :

(*a*) The work and material expended in this way could be utilized to better purpose, in the building of proper shelters ; and (*b*) it was usually found that, owing to the difficulties of internal walls, conduits, entrances, frequently narrow, low ceilings, etc., only a mediocre result could be obtained even after a long period of work ; also in these cases our purpose of providing a uniform degree of protection led us to the conclusion that in spite of the basement being in many cases the safest part of a building, they could not be officially accepted as shelter.

The strengthening of those basements with the idea of providing support against the debris weight of the collapsed building was useless and my experience compels me to think that the cause of such collapses is obviously overlooked. The debris load assumed for the calculation of the strengthened basement is larger or smaller in proportion to the number of floors above. But as you have seen before the collapse of the building, generally speaking, is the result of a direct hit over that same building. This fact affected our decision that any basement under a building which by reason of its number of floors and good construction could not afford a reasonable protection according to the standard established, could not be accepted as shelter. In these cases owing to the chances of the hits that can reach the basement, passing through the wall openings, special care was necessary to provide the shelter in the central area of the basement and affording a substantial lateral protection by means of additional walls.

However, when the basements were suitable, an independent shelter was constructed in them, this proceeding being more advisable. Should the basement be in other ways suitable, yet not have sufficient headroom, it was increased by sinking the floor level. The large cellular type and the tunnel type were built upon all suitable occasions. But, apart from these prototypes, we built many shelters that were adaptations or modifications of the general ideas that have been indicated.

Among the towns in those areas where the passive defence work was carried on with remarkable efficiency, I can mention Tarragona, Reus, Lleida, Manresa, Portbou, Badalona. The two first especially took such effective measures that it may be said without exaggeration that scarcely any of the inhabitants felt themselves to be in any danger from air attacks, although they actually experienced a great number.

In Reus, a town of 40,000 inhabitants, there were nineteen large shelters, some holding up to 2,500 persons each, and eighty-six smaller shelters, mostly holding up to 100 persons. The efficacy of this protection was so great that the life of the town went on regularly up to the moment it fell in January of this year.

A good distribution of entrances, together with an efficient warning system, had the results that with 102 bombardments over this town, in which more than 3,000 bombs were dropped, most of them of 100 and 200 lb., the number of casualties was 246 people killed and 385 injured, and of these, a great number occurred in the period during which the protection was not completed, for the first attack took place in September, 1937.

In some cases the upper layer of concrete was cast over a brickwork arch, the purpose of which was to take the place of shuttering : this procedure had also the advantage that, being self-supporting, the shelter could be used immediately after the roofing work had started, in spite of its not providing total protection till the full thickness had been cast.

Portland cement was not scarce, but in order to economise in transport, we made good use of heavy-plummed concrete. This kind of construction had been used in those places where good stone was handy. The volumetric proportion of stones was about 25 per cent., and the sizes about 12 in. or 18 in.

On some occasions the construction of a permanent shelter offered some difficulties of an æsthetical order. This happened especially when the shelters had to be built in city squares, and the thickness of the top slab was above ground. In some cases, in order to avoid this inconvenience, and to make removal easy in peace time, we built a bearing reinforced concrete slab, above which was laid a thickness of 6 to 8 ft. of broken stone, the nature of this stone being granitic, basaltic or hard chalk. The walls act as retaining walls, and help keep the grade of the top surface. This solution had the advantage that practically all this material which is stored there in war-time is available for normal use again in peace-time.

With the object of making entrance to the shelters as easy as possible with a minimum delay of time, we gave close attention to their disposition and dimensions. We decided against the use of ramps because of their length ; with an easy ramp the relation rise/going must not be greater than one to five.

In stairways our preferred relation was tread+2 riser=25 in. and the tangent of the angle=0.62 to 0.68.

The minimum width advisable is 3 ft. 6 in. Large-capacity entrances of 4 ft. to 8 ft. wide were not exceptional.

A question which has often been asked is whether we had any direct hits upon the shelters. Certainly we had. Over tunnel types and also over an underground station used as a shelter we had several direct hits, without any harm to the people sheltered. I do not refer to the many occasions where bombs exploded near the entrances, also without any ill effect. Not so good is our experience of trenches. In the village of Cervera, when they started the protective work of tunnel-type shelters, they also built a few trenches, in total not having more than 100 persons capacity. In the first raid they suffered, there were eighty bombs dropped ; two of them fell into the trenches, with fifteen people killed.

LETTERS

SIR,—One of the things which we have yet to see dealt with in the Trade Press since the outbreak of war is the question of finance.

Builders and property owners up and down the country tell us that building societies have not been prepared to make advances since the outbreak of hostilities so that projects are held up on every hand. In many instances there are buyers waiting, subject to building society advances.

The builder's lot is certainly not a happy one. Generally his capital, plus something more, is tied up in the buildings. The "something more" represents credit obtained from his suppliers. So that unless he can sell the properties with the assistance of building society finance, he cannot meet his debts.

We hear of one concern doing a country-wide business with builders which is standing out of some £300,000 at present.

The question arises : Why are building societies not prepared to make advances at present ? Bad news travels fast and perhaps we have only heard about those areas where they will not make advances, and it may be that there are some areas where they are perfectly prepared to do business as usual.

On the other hand, perhaps the building societies' position is not too easy these days inasmuch as investors who usually deposit their money with the societies may not be giving them the same support today because of a mistaken notion that there is less security in this form of investment than in some other forms, although frankly we cannot see it. Surely the assets of the larger building societies are so well distributed as to put them in a much more favoured category than many ordinary businesses, shares in which are still cheerfully bought by the investing public. Take a big motor car manufacturing concern with its plant and assets worth many hundreds of thousands of pounds, concentrated in one spot: is that not infinitely more vulnerable to the risks of war than a building society with its money invested in properties in all parts of the country ?

But perhaps the investors have not got "cold feet" and maybe the building societies are still ready and prepared to make advances but are handicapped by the Emergency Powers Defence Finance Order, which seems to apply to mortgages ?

Apart from building society loans, builders and property owners appear to be unable to borrow from the banks or private sources today.

This whole question of building finance badly needs ventilating. It is regarded by many as subsidiary to timber supplies.

J. SMITH,
Director, Langley (London) Limited.

HOSPITAL AT LLANDUDNO

DESIGNED BY C. B. PEARSON AND SON

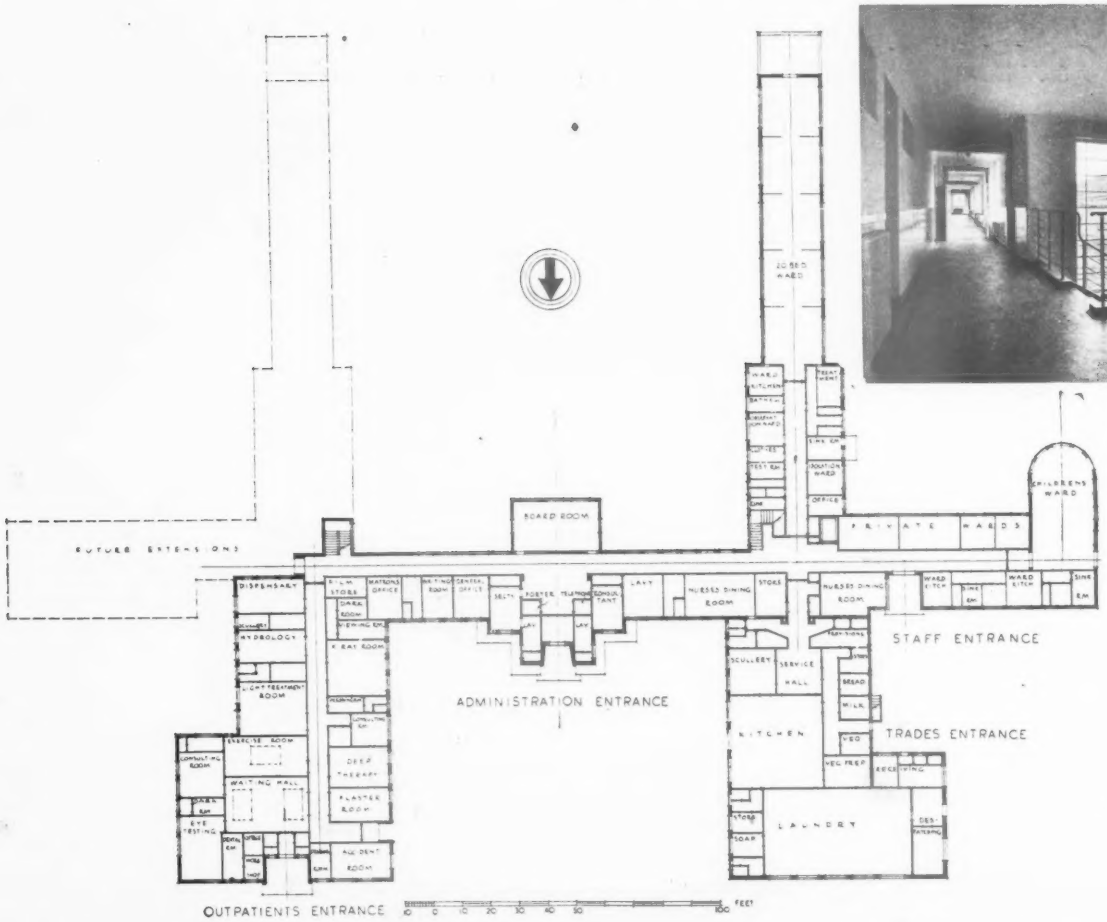
Entrance to the Administration Block

SITE—An island site of 6½ acres—the gift of Lord Mostyn and the Llandudno Town Council.

CONSTRUCTION AND FINISHES—Steel frame, with 16-in. cavity brick walls faced with rustics and pre-cast stone dressings. Staircases are of R.C., covered with cork ; all windows are metal.

PLAN—The hospital when complete will have a total accommodation of 134 beds ; the present accommodation is 67 beds. The present building has, however, been designed so that the administration, kitchens, boiler room and laundry are large enough to cope with the work which will be required when the extra 67 beds are added.

Main corridor on the first floor.



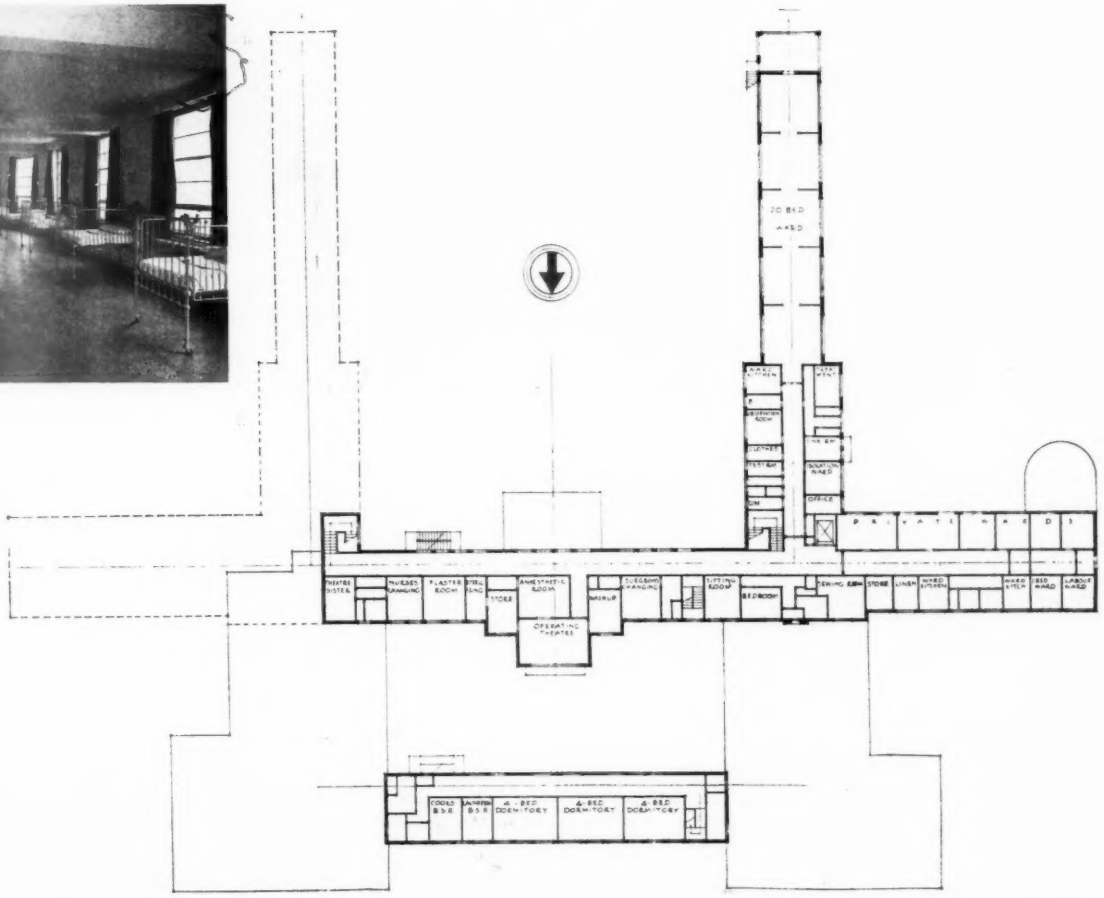
GROUND FLOOR PLAN

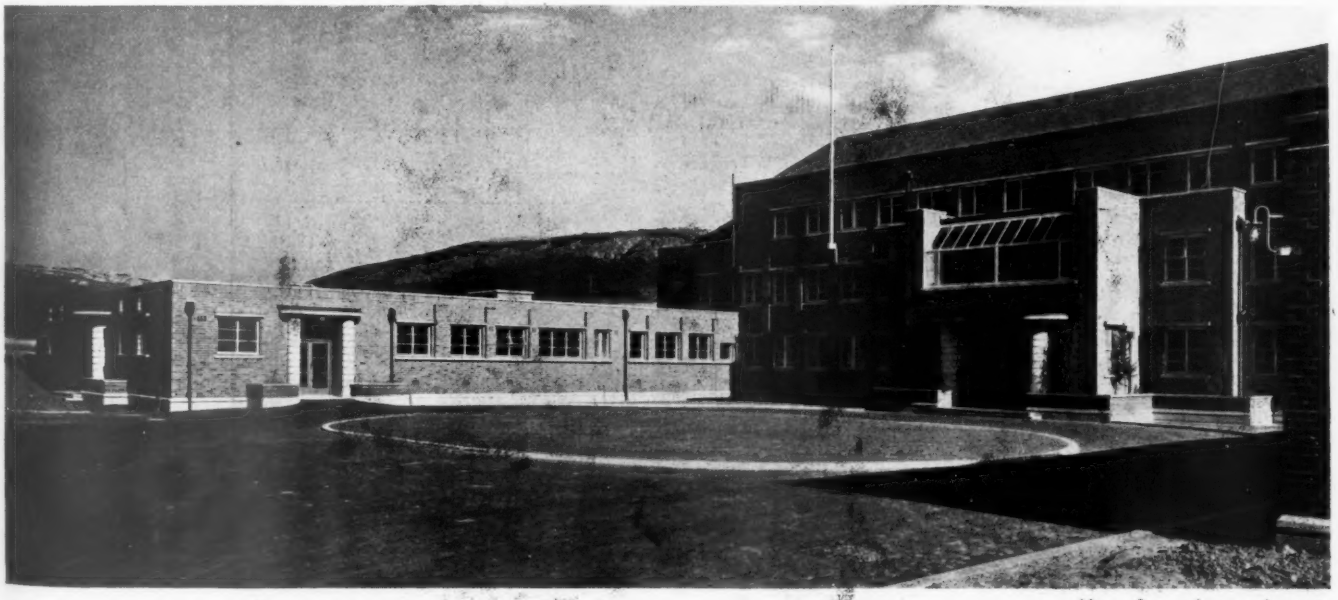
View from the south-east.

PLAN (*cont.*)—Low one-storey wing to the left of the principal entrance accommodates the special departments, such as X-ray, deep therapy, light treatment and hydrology, together with the consulting rooms, dental room, and ear, nose and throat departments. The corresponding wing to the right of the principal entrance contains the main kitchen and stores, nurses' and maids' dining-rooms, laundry, etc. The ground floor accommodates the 20-bed male ward, male private and semi-private wards and

HOSPITAL AT LLANDUDNO • DESIGNED

Children's ward on the ground floor.





View from the north-west.

children's ward, and the first floor the 20-bed female ward, private and semi-private wards and the maternity block.
The nurses' home is planned as a separate block, containing 24 single bedrooms. Sisters' sitting-room and the nurses' sitting-room are divided by a sliding screen, so that they can be thrown into one large room for recreational purposes.
HEATING—Low-pressure system, with automatic stokers to all boilers.

BY C. B. PEARSON AND SON

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HOSPITAL AT LLANDUDNO

Detail of the Main Entrance

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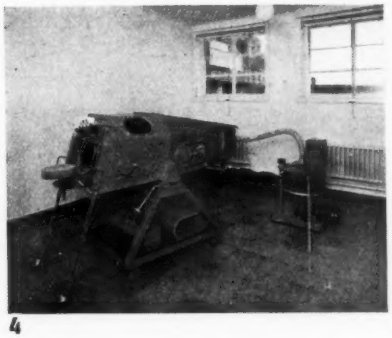

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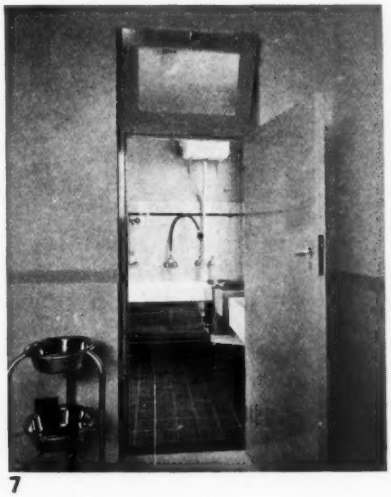

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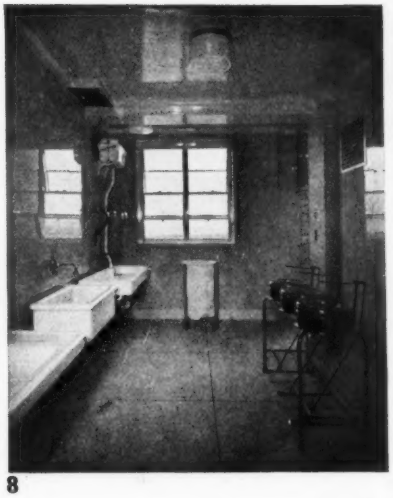

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1: Typical general ward; 20 beds. 2: Operating theatre; vitrolite wall linings and terrazzo floor. 3: X-ray room showing X-ray apparatus; plaster walls, corked tiled floor. 4: The Iron Lung. 5: Typical ward kitchen. 6: Sterilizing room adjoining operating theatre; walls lined with vitrolite, pale green finish; floor finished with cream terrazzo. 7: Typical sluice room; finishes—cream eggshell tiling on walls, with enamelled walls above; floor, quarry tiles. 8: Wash-up next to the operating theatre; vitrolite wall linings (green) and terrazzo floor (cream).

LAW REPORT

LIABILITY FOR FLAT FLOODED BY WATER

Tilley v. *Stevenson.—Court of Appeal. Before Lords Justices Slesser and Luxmoore and Mr. Justice Atkinson.*

THIS was an appeal by Mr. D. S. Stevenson from a judgment of Judge Hargreaves, sitting at the St. Albans County Court, in favour of Mr. P. J. H. Tilley, for £22 15s. damage done to a flat by water percolating into it from the flat above.

Mr. Robert Fortune, for the appellant, said his client was the defendant in the action in the County Court. The facts of the case were that Mr. Stevenson arranged to take an upper flat at Kenton Gardens, St. Albans, and was given a key. Another key was retained by the builder, and other persons could enter the flat. His client visited the flat once or twice in December, 1938. At Christmas there was a sharp frost, with the result that the pipes burst in the flat, and the water got into the flat below, which was occupied by Mr. Tilley, and did damage. The County Court judge held in favour of Mr. Tilley. Counsel argued that there had been no negligence on the part of his client, and further that he had no duty towards Mr. Tilley.

Mr. Hackforth-Jones supported the judgment of the County Court judge.

The Court allowed the appeal with costs.

Lord Justice Slesser, in giving judgment, said in his opinion the County Court judge was clearly wrong in holding that Mr. Stevenson was negligent. In order to prove negligence there must be a duty. If there had been a duty—and in this case he found there was not—it would be a terrifying one for prospective tenants of flats. From the moment they entered into occupation they would have to remain there to see that nobody turned on the water and to decide whether there was going to be a frost and then take precautions to prevent pipes bursting. His lordship could not believe that there was any such duty on a tenant. The only astonishment he had was that the plaintiff ever succeeded.

The other members of the Court concurred.

HOUSE, WELWYN GARDEN CITY

DESIGNED BY EUGEN C. KAUFMANN

SITE—The site is triangular with the apex pointing towards open fields with woods beyond.

PLAN—The house has been placed as far north as possible, leaving garden space to the south, south-east and east. A number of large trees on the site determined, to some extent, the layout: for example, an old oak tree on the northern part was made the central feature of a paved courtyard between house and garage. This yard is closed off from the street by a 7 ft. high brick wall. A covered terrace has been provided adjoining the dining-room in the south-east corner to have both the view and as much sun as possible.

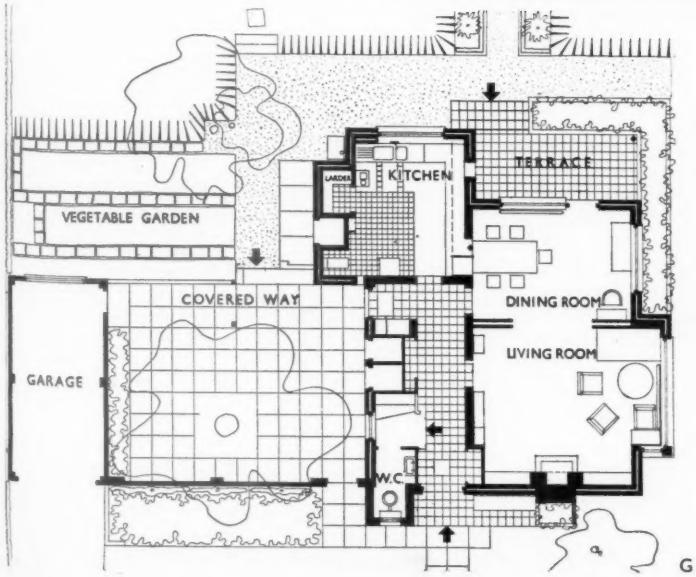
CONSTRUCTION—Brick construction with a flat roof covered with 3-ply bitumen with half-inch macadam on top and surrounded by a 2-ft. high parapet.

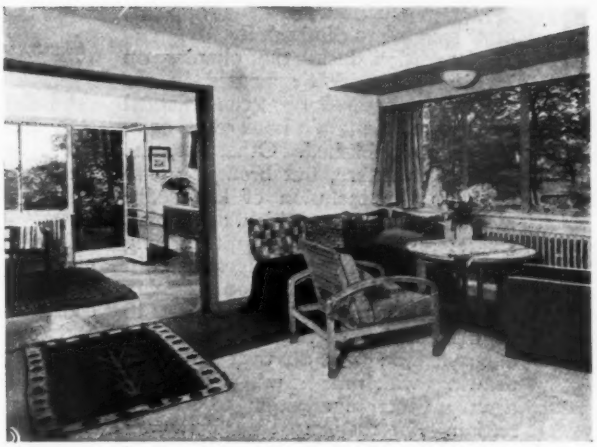
EQUIPMENT AND SERVICES—All wardrobes and cupboards are built-in. A hatchway is provided from the kitchen to the terrace and to the dining-room, and there is a delivery hatch for tradesmen and a sliding hatch to the coal bunker. Centrally heated, with an alternative electrical immersion heater for summer use.

Above, and left, two views from the street.

Right, view from the south-west, showing the terrace which overlooks the garden. Below, the living-room and dining-room; sliding doors between the two rooms open to a width of 7 feet.

SCALE





GROUND AND FIRST FLOOR PLANS

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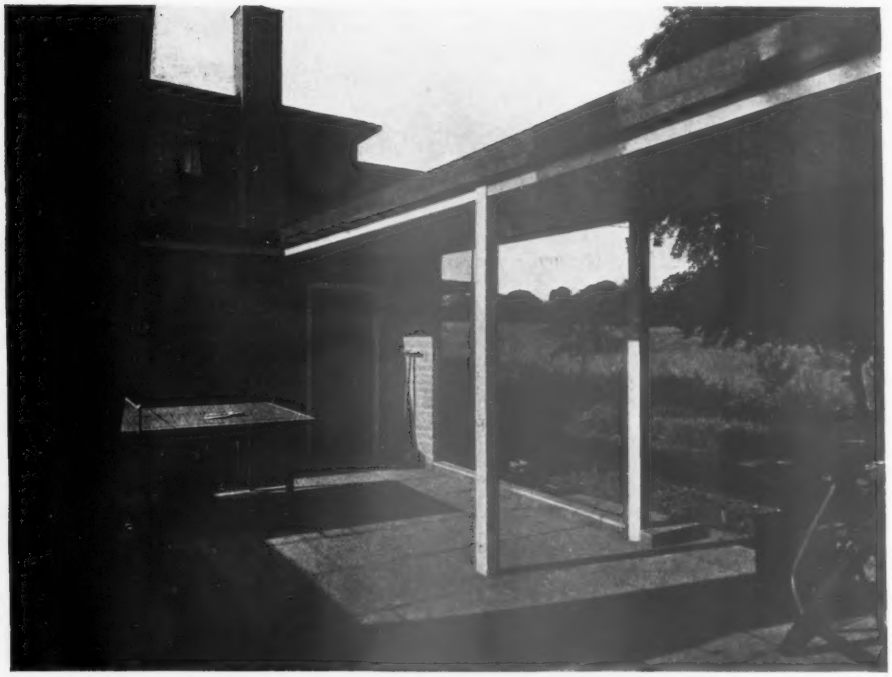

HOUSE, WELWYN GARDEN CITY

BY EUGEN C. KAUFMANN

The paved courtyard overlooking the garden.

LITERATURE

HOSPITALS

Hospital Organization and Management. By Captain J. E. Stone. Third edition. London : Faber and Faber. Price 31s. 6d. net.

CAPTAIN STONE'S vast book appears panoplied with four forewords and three introductions by various lordly and otherwise distinguished hands and with three prefaces by his own. The modest journalist may well feel shy of adding to such a mountain of commendation as appears, or of seeming to diminish it.

This edition lacks the chapter on hospital law which appeared in the two earlier ones—it has been enlarged to the dimensions of a book on its own, and is so published. Otherwise, the book is as before, but brought up to date by the inclusion of knowledge available since 1932, which, as hospital studies go nowadays, is quite a long time. For the architect experienced in such things, the chapters on planning and construction may seem in parts to be composed very much in words of one syllable ; nor do they have the drawings which might well have made a very valuable addition to such a section. But they are thorough, very reasonably detailed, and pay proper attention to the special needs of specialist departments ; there is also a short review, with descriptions of three modern hospitals, of American systems.

Captain Stone has had the misfortune to bring out his book at the beginning of the war and at a time when a very large part of the hospital system of the country has been modified with forcefulness and speed to meet so far rather hypothetical war conditions. The change will no doubt provide him with material for further studies. In the meantime this record of ideal practice, the fruit of long experience in hospital administration and hospital authorship, has lost none of its value.

A.

HOUSE PLANNING

Planning the Little House. By Alice Waugh. McGraw-Hill Publishing Co. Price 15s.

AT Iowa State College, the foreword to this book informs us, " a course in house-planning is required of all home economic students, and is taught in the Applied Art Department." Potential home-makers in fact must be taught how to read a plan, or if necessary, even how to draw one. The material used in this course has been expanded by the author into book form, and is by no means as whimsy and " what-to-do-with-the-corner-under-the-stairs " as the title would suggest. The text is clear, simple, informative and uneven, and fails sometimes through being either too technical or not technical enough. The photographs are well chosen, and many of the diagram drawings are good. By reading this book, it is claimed, students will be able, not to dispense with the services of an architect, but to co-operate with him. Such co-operation might be welcomed, but clients with potted knowledge are more likely to be a nuisance than a help. However, any book which even suggests employing an architect should be encouraged these days, even if it's an American architect.

H. C.

SCOTTISH PRESERVATION

Scotland under Trust. By Robert Hurd, with an introduction by Sir Iain Colquhoun. London : Adam & Charles Black. Price 6s. net.

SASSENACHS who have never been farther North than Scarborough—unless you count the Isle of Man—are wont to think of Scotland as a bleak, lumpy, comic-strip country inhabited by sombre-visaged Elders and sandy-haired, kilted Jocks with a bottle of Scotch in one hand and the poems of Robbie Burns in the other. That the Scot is a publicist there can be no doubt, and that he really has something to noise abroad can readily be proved by crossing the Cheviots.

It was to preserve the beauties of this land that the National Trust for Scotland was formed in 1931, and it is to give some account of the work of the Trust that this book has been written.

One views preservation societies with a certain amount of apprehension, but

here at least is one society that recognizes that preservation and modern innovation can run side by side, and that a building is not necessarily good just because it is old ; in fact, as Mr. Hurd points out, Scottish housing generally has been one of the major disgraces of Europe. Glencoe, Bannockburn, Culloden have claims to preservation quite apart from those of history. The Antonine Wall ; Balmerino Abbey ; twelfth-century Crookston Castle and fifth-century Culross ; Hamilton Dower-House ; Souter Johnny's Cottage ; these and many other properties (not forgetting Barrie's birthplace) have been rescued by the Trust from future or immediate destruction.

" Scotland under Trust " is a graphic and well-illustrated review which the Scot will read with pleasure, and even if at times it is a trifle reminiscent of a guide-book, the Sassenach, too, can bang twelve saxpences to very good account.

G. B. H.

A.A.S.T.A.

THE annual general meeting of the Association of Architects, Surveyors and Technical Assistants was held at the National Trade Union Club, 12 Great Newport Street, London, W.C.2, on December 16. The first part of the meeting was devoted to the business of the Association—the annual report was adopted, the accounts were passed, and officers and members of the Council for the Session 1939–40 were elected.

Mr. V. L. Nash, A.R.I.B.A., was re-elected President. The four Vice-Presidents are to be Messrs. R. C. Fisher, A.R.I.B.A. ; R. D. Manning, A.R.I.B.A. ; P. J. Marshall, A.R.I.B.A., and C. T. Penn, A.R.I.B.A. Members of the new Council are Messrs. H. L. Barton, A.R.I.B.A. ; F. N. Brayshaw ; J. Conn ; T. Connor, P.A.S.I. ; R. E. Cooper ; F. P. Harrison ; H. S. King ; F. Lasserre, B.ARCH. ; A. G. Ling, A.R.I.B.A. ; F. J. Maynard, A.R.I.B.A. ; J. H. Millman ; D. E. Percival, A.R.I.B.A. ; J. A. Pinckheard, A.R.I.B.A. ; J. W. Poltock, A.R.I.B.A. ; H. J. E. Pyne, L.R.I.B.A. ; C. H. Rattenberry ; L. H. B. Roberts ; H. G. Speakman, A.R.I.B.A. ; E. A. D. Tanner, A.R.I.B.A. ; R. L. Townsend, A.R.I.B.A. ; W. L. Vinycomb, A.R.I.B.A. ; D. M. Wilson, A.R.I.B.A.

After the tea interval an open meeting was held ; the three main speakers were Mr. O. W. Roskill, well-known industrial consultant, Prof. W. G. Holford, A.R.I.B.A., M.T.P.I., and Mr. R. L. Townsend, A.R.I.B.A. Mr. Colin Penn was in the chair. In introducing the first speaker, Mr. Roskill, the Chairman said that he would be speaking in purely a personal capacity. Mr. Roskill remarked that the basic material resources of the nation remain the same in war as in peace, but these resources could not now serve certain social needs, but must be used solely to win the war. In order to do this we must, first, cut new capital investment and expenditure on the maintenance of existing capital investments ; second, increase production ; and third, reduce personal consumption. A high level of expenditure on civil activities during the war was not in the interests of the nation. The war could not be fought without reducing expenditure on social services. Not only would any previous rise in standards of living have to be stopped, but a reduction was essential. For a number of years the proportionate expenditure of local authorities on housing had decreased—from over 68 per cent. in 1935 to under 57 per cent. in 1939. In opposing the continuation of housing work, the Minister of Health said that such work would strain personnel of local authorities when they were already overburdened with emergency work, that it was necessary to conserve the capital resources of the country by restricting the borrowing power of local authorities, and that it was necessary to reserve materials for essential work.

With regard to the labour position, the speaker said that the change over from civil employment to employment on military work could not be a smooth one. In mid-October there were 224,990 unemployed in the building and public works sections of the industry, 13 per cent. and 26 per cent. of insured workers in the two sections. This unemployment was creating a demand for the continuance of building work, but the policy should be to organize a transfer of these men to essential war work. The employment situation had a marked regional character. London had, in effect, become a new depressed area. The great growth of certain industrial areas had created a housing problem in these areas, and a minimum of building was necessary there.

The Government had decided on a great reduction in public works expenditure, a cut of £50,000,000 in the four-year roads programme, but Mr. Roskill said that he hoped authorities would remember that as much as three years' preparatory planning and designing work was necessary before it was possible to embark on any large new public works programme.

As for architects, unemployment was certainly growing and was especially serious among those relying on private building. The speaker said that he saw no chance of employment for them other than in the Services or in other similar activities. In the great American economic slump, men had been put to work surveying the technical difficulties of the industry. He believed that the present method of contracting on a cost-plus basis and the use of traditional building materials should be subjected to a critical examination. The time factor should be considered, building policy and technique co-ordinated.

In the later discussion Mr. Roskill said that he thought the efforts of the Building Industries National Council to obtain a resumption of civil building was doomed to failure.

Professor Holford, who followed, said military people did not seem to look with favour on planning, the typical militia camp resembling a box of bricks emptied haphazard over the site. The Ministry of Supply had a use for engineers but little for architects, while other Government Departments seemed to neglect architects altogether. Unemployment among architects was worse than in the building industry as a whole. In some places, such as London, assistants were having a pretty raw deal.

Professor Holford added that he believed planning might develop in any one of three directions in the future. We might have a continuation of the present situation with families in the country, essential workers in the towns—a situation which might last for years. We might have a return to urban conditions, living in towns but with spare accommodation, and with camps and similar accommodation ready in the country for an emergency. Thirdly, we might have a super urbanization, with a few satellite towns provided with well planned and effective A.R.P. in order to minimize the dislocation and movement of population. A compromise among the three would probably be made.

If the first direction was followed, we might see an improvement in reception units, schools, and possibly houses, with green belts around towns, a certain amount of central redevelopment and traffic relief schemes. If the second direction was adopted, evacuation building schemes of very large proportions would be necessary, while the third direction involved the whole question of planned A.R.P. and the making of proper civic surveys.

Professor Holford said that while Mr. Roskill mentioned only quantitative unemployment in the industry, there was also the qualitative factor. Building contracts were going out only to large firms, work was not passing through the hands of architects, and the little man was suffering. The older building craftsman was finding it more difficult to secure employment than the younger and more mobile man. Architects faced a slump, yet there was much work to be done, and trained men were being wasted.

Liaison between the profession and the authorities must be strengthened. A deputation should enlist sympathy in Parliament. Architects must press for a long-term A.R.P. policy and for the absorption of architects into war departments. They must also put forward reconstruction schemes. The profession must prove its *bona fides* by doing this work without payment, but some form of public assistance for the work might be obtained once started. Surveys not only of rural but also of central urban schemes were necessary. The Government was employing 5,000 censors, and there was no reason why 5,000 assistants, at, say, £4 a week, should not be employed on this initial survey work. It was common knowledge that the profession might be taken off the Register of Reserved Occupations very soon. Engineers might be indispensable for war, but architects were certainly indispensable for peace.

The R.I.B.A. had made a very bad start and had not yet got back to normal. Professor Holford said that he believed it impossible to expect a militant policy from the R.I.B.A., but that any policy should come from the A.A.S.T.A. and the support of the R.I.B.A. sought for it. For example, the R.I.B.A. Executive had considered the A.A.S.T.A. Evacuation Report and had forwarded it to the Ministry of Health. The A.A.S.T.A. must continue its work of research. It must hold more general meetings. To be effective it must strengthen its forces by increasing its membership.

Mr. R. L. Townsend deputized at very short notice for the President of the A.A.S.T.A., Mr. V. L. Nash, who was unfortunately unable to be present. Mr. Townsend said that he could not personally accept the standpoint taken by Mr. Roskill The A.A.S.T.A. arose out of the ferment at the end of the last war, when returning men felt that they had been let down by their rulers who had not succeeded in dealing adequately with their problems. During the period of relative prosperity up to 1931 the development of the A.A.S.T.A. was slow, and it was not able to play its proper part in the slump period. Since 1933 there had been a changing attitude to and within the Association, which was playing an increasingly important part in the

profession. The number of architects working in their own right was steadily decreasing, while that of assistants employed on responsible work was increasing. Mr. Townsend said that architects could not accept Mr. Roskill's view of the position unless they wished to commit suicide. They must agitate for a resumption of civil building and the proper employment of architects.

In the discussion that followed the main points brought out were that essential building, particularly for evacuation purposes, must go on, and that what architects were suffering from chiefly at the present moment was lack of essential planning and lack of professional organization. Mr. Roskill's point of view was endorsed as truly realistic by some and severely criticized by others as an unnecessary acquiescence in present difficulties.

THE BUILDINGS ILLUSTRATED

HOSPITAL AT LLANDUDNO (pages 757-761). Architects, C. B. Pearson and Son. General contractors were Thomas Lowe and Sons, Ltd. Sub-contractors and suppliers included: Thomas Blackburn and Sons, Ltd., constructional steelwork; Hopwood Bros., Ltd., reconstructed stone; Bolton and Hayes, Ltd., flat roofs, suspended concrete floors and staircases; Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt to flat roofs; Wormells, plating; J. B. Johnson & Co., Ltd., plastering; Russell Edwards & Co., Ltd., metal windows; Compton Bros. Glass Works (1936), Ltd., glazing; British Challenge Glazing Co., Ltd., patent glazing; Tarmac, Ltd., granolithic floors; W. J. Furse & Co., Ltd., electrical installation, lightning conductors; Etchells, Congdon and Muir, Ltd., electric bed lift; C. Seward & Co., Ltd., heating, hot water, steam and mechanical ventilation installation; H. Tattersall, Ltd., plumbing, cold water services, etc.; Shanks & Co., Ltd., sanitary fittings; F. A. Norris & Co., Ltd., iron staircases and cat ladder; Vitreflex, Ltd., enamelled iron rain-water goods; Thomas Blackburn and Sons, Ltd., wrought iron railings and gates; Williams and Turpie, Ltd., wrought iron balusters to staircase, locks and door furniture; Mather and Platt, Ltd., cast-iron tanks; Gliksten Doors, Ltd., flush doors; Cork Insulation Co., Ltd., cork tile flooring; Wall and Floor Tiling Co., Ltd., Vitrolite wall linings, wall and floor tiling; Conway, Ltd., terrazzo floors; Roneo, Ltd., ward screens; Charles Thackeray, Ltd., sterilizing equipment and instrument cupboard; Sankey-Sheldon, anæsthetic cupboards; James Stott & Co., Ltd., kitchen equipment; Tarmac, Ltd., precast curbs and fencing; Irving & Co., Ltd., dark room blinds; Garnier & Co., Ltd., door name plates; Charles Turner and Son, Ltd., paint; H. Higginbotham and Sons, painting.

HOUSE AT WELWYN GARDEN CITY (pages 762-764). Architect: E. C. Kaufmann. General contractors were Viner and Son, Ltd. Sub-contractors and suppliers included G. M. Callender & Co., Ltd., dampcourses; Hertingfordbury Brick Co., bricks; A. D. Dawnay and Sons, structural steel; Williamson Cliff, Ltd., tiles; D. Anderson and Sons, Ltd., macasfelt for special roofings; Wellinlith, Ltd., partitions; James Clark and Son, Ltd., obscured glass in bathroom and w.c.; R. Cattle, Ltd., wood block flooring, joinery, furniture; Cork Insulation Co., Ltd., cork flooring in bathroom and kitchen; W. Richardson & Co., Ltd., central heating; G. Matthews, Ltd., fireplace in living room; Ideal Boilers and Radiators, Ltd., boilers; Phoenix Electrical Co., Ltd., electric wiring, electric heating; New Light Fittings, Ltd., electric light fixtures; Alfred Goslett & Co., Ltd., sanitary fittings; Stanley Jones & Co., Ltd., J. D. Beardmore & Co., Ltd., door furniture; Crittall Manufacturing Co., Ltd., casements; Loft Ladders, Ltd., loft ladders; O'Brien Thomas & Co., Ltd., Coburn track to sliding door between living and dining room; J. Starkie Gardner, Ltd., metalwork; E. Barton & Co., Ltd., tiling; John Line and Sons, Ltd., wallpapers; F. C. Courten, Ltd., shrubs and trees; Permutit Co., Ltd., water softening plant; Henry Wiggins & Co., Ltd., monel metal sink; Sparton Refrigerator, refrigerator; Servis Co., Servis washing machine.

An Architect's Will

Mr. Godfrey William Ferguson, of Carnamenagh, Antrim Road, Belfast, architect, a former High Sheriff of co. Antrim, who died on August 25 last, left estate valued at £30,318.

Obituary

We regret to record the death of Mr. John Falkingbridge Parker, J.P., L.R.I.B.A., of The Nook, Halfway Street, Sidcup.

He was born in London in 1871, the son of the late Mr. John Parker, of the Civil Service. Mr. Parker started in general practice when about 25 years of age in Coleman Street, E.C.,

(*Continued on page* xviii)

PRICES

***IMPORTANT NOTE.**—Prices given below are for works executed complete and are for average job in the London area; all prices include overheads and profit for the general contractor. The prices given in italics are for materials only and represent the cost of the materials included in the measured rates. They are based on the prices given in current market prices of material with the addition of ten per cent. for overhead charges and profit, though owing to present conditions many of these prices may no longer hold good.*

***The cost of labour** (including its proportion of overhead charges and profit) can be ascertained by subtracting the prices in italics from the prices in heavier type.*

PART 4: CURRENT PRICES FOR MEASURED WORK—II

BY DAVIS AND BELFIELD

JOINER

The prices given below are based on the controlled prices for orders of not less than £15 in value for any one size and quality. 20% must be added for smaller orders and owing to restrictions it is seldom practicable to place large orders except under licence.

Deal Flooring

		1″	1¼″
Plain edge flooring in batten widths	per square	42/–	51/2
		32/–	*40/2*
Ditto tongued and grooved ditto ..	per square	46/7	56/8
		35/6	*44/8*
T. & G. B.C. Pine rift flooring in narrow widths	per square	53/9	—
		40/5	

Secret Nailed Tongued and Grooved Strip Flooring, fully Desiccated, including Polishing

		1″ nominal	1¼″ nominal
		£ s. d.	£ s. d.
Austrian Wainscot Oak ..	per square	11 3 2	13 5 9
Plain Japanese Oak ..	per square	9 8 4	11 7 8
Plain American Oak ..	per square	9 3 9	11 9 8
Pitch Pine	per square	8 15 8	10 19 6

JOINER—(*continued*)

		1″ nominal	1¼″ nominal
		£ s. d.	£ s. d.
British Columbian Pine ..	per square	5 18 2	6 14 6
Canadian Maple	per square	8 13 10	10 13 3
Burma Teak	per square	11 3 2	13 11 8
English Oak	per square	12 15 11	15 19 11
Gurjun	per square	8 13 10	10 13 3
Jarrah	per square	8 7 4	10 8 0

Wall Linings

⅝″ B.C. Pine tongued and grooved V-jointed Matching in narrow widths	per square	34/2 *23/1*
¼″ (6 mm.) Birch (A) Plywood and fixing to walls	per square	52/5 *42/6*
3/16″ Asbestos cement sheets butt jointed	per foot super	–/4 *–/2½*
½″ Fibre board and fixing to walls	per yard super	3/6 *2/11*
Deal battens as grounds plugged to brickwork	per foot super	–/1½ *–/0½*
2″ × ⅜″ wrot and chamfered fillets	.. per foot run	–/1¾ *–/0¾*
2″ × ½″ wrot and moulded ditto	.. per foot run	–/1¾ *–/0¾*

CURRENT PRICES

BY DAVIS AND BELFIELD

JOINER

Skirtings

	Deal	Austrian Oak
1″ stock chamfered or moulded 4″ high, fixed to and including grounds and backings planted on per foot run	–/3½	–/10½
	–/2	–/7½
Add for plugging to brickwork .. per foot run	–/0½	–/0¾

Fitted ends on hardwood price as 4″ of skirtings, mitres as 6″.
Fitted ends, etc., on deal skirting included in price per foot run.

Casements and Fanlights

	1½″		2″	
Deal stock moulded sashes divided into squares with glazing bars per foot super	1/4½	–/4½	1/5½	–/5
Add for hanging casements (butts measured separately) .. .. each	1/9		2/–	

Cased Frames and Sashes

Deal cased sashed frame, including 2″ double hung stock sashes, with 6″×3″ Oak cill and brass axle pulleys, sash line and weights, average 15 feet super per foot super	3/9 *1/7*

Doors in Deal

	¾″	1″
Matchboarded, ledged and braced door per foot super	1/–	1/2
	–/4¾	–/5¾

	1½″	1¾″	2″
Framed, ledged and braced door, filled in with matchboarding .. per foot super	1/7½	1/10	2/1
	–/6	–/6½	–/8½
Ditto garage doors in pairs per foot super			1/10
			–/5½
Labour rebated and beaded meeting styles, per foot run			–/1

	4-panel	
1½″ square framed, both sides per foot super	1/8	–/7¾
2″ ditto .. .. .. per foot super	2/–	–/9¾
1½″ bead butt panels one side, but square the other .. .. .. per foot super	1/9	–/7¾
2″ ditto .. .. .. per foot super	2/2	–/10½
1½″ moulded both sides .. per foot super	2/–	–/9½
2″ ditto .. .. .. per foot super	2/4	–/11½
For fixing only, stock or p.c. doors, allow per foot super	–/2½	

Doors in Hardwood

Austrian quartered oak:
Labour, 2 × as much as deal.
Materials, 3½ × ditto.
Labour and materials, 2½ × ditto.
Cuban mahogany:
Labour, 3 × as much as deal.
Materials, 4½ × ditto.
Labour and materials, 3½ × ditto.
Teak:
Labour, 3 × as much as deal.
Material, 3½ × ditto.
Labour and material, 3¼ × ditto.

Deal stock glazing beads, mitred and bradded per foot run	–/1½	–/0½
Ditto and fixed with brass cups and screws per foot run	–/3	–/1

Window and Door Linings

	1″	1½″	1¾″
Deal linings, 6″ wide, tongued at angles and planted on including backings per foot run	–/6½	–/7½	–/8¼
	–/2¾	–/3¼	–/4
Add for plugging to wall .. per foot run	–/0½	–/0½	–/0½
Add for rebating .. .. .. per foot run	–/0½	–/0½	–/0½
Add for ¾″×1½″ stock Deal stop planted on per foot run	–/1¾	–/1¾	–/1¾
	–/0¾	–/0¾	–/0¾
Deal window board 9″ wide, with rounded nosing, tongued at back and on and including bearers plugged to brickwork per foot run	–/9½	–/10¾	1/0½
	–/4½	–/5½	–/6¼
1″ Deal scotia mould .. .. per foot run		–/1¾	
		–/0¾	
Austrian quartered oak linings 6″ wide tongued at angles and planted on including backings per foot run	1/2½	1/5½	1/8¾
	–/8¼	–/10¼	*1/0½*
Add for plugging to brickwork .. per foot run	–/1	–/1	–/1
Add for rebating .. .. .. per foot run	–/1	–/1	–/1

JOINER—(*continued*)

	1″	1¼″	1½″
Add for ½″×2″ Austrian quartered oak stop planted on .. .. .. per foot run	–/3½	–/3½	–/3½
	–/1¼	–/1¼	–/1¼
Austrian quartered oak window board 9″ wide, with rounded nosing tongued at back and on and including bearers plugged to brickwork per foot run	1/9	1/11½	
	1/0¾	*1/3¾*	
1″ Austrian quartered oak scotia mould per foot run		–/3½	
		–/1¼	

Window and Door Frames

	Deal	Austrian Quartered Oak
4″×3″ door frames .. .. .. per foot run	–/9½	2/2
	–/4½	*1/4½*
4″×3″ window frames .. .. per foot run	–/11½	2/6
	–/4½	*1/4½*
4″×3″ transomes and mullions .. per foot run	1/3½	3/2
	–/4½	*1/4½*
6″×3″ door cill, sunk weathered twice throated and grooved for water bar (measured separately) per foot run	—	3/5½
		2/0½
6″×3″ window ditto .. .. per foot run	—	2/9½
		2/0½
Add or deduct for variation in sectional area per square inch .. .. .. per foot run	–/0¾	–/1½
Add for each labour, for chamfer, bead or rebate, etc. .. .. per foot run	–/0½	–/1
Add for each moulding .. .. per foot run	–/0¾	–/1½

Architraves

	Deal	Japanese Oak
1″×3″ stock chamfered or moulded architraves, including mitres on softwood, planted on per foot run	–/3	–/7½
	–/1½	–/4½
Mitred angles on oak price as 6″ of architrave.		
Add for plugging to brickwork .. per foot run	–/0½	–/0¾
Add for narrow splayed grounds .. per foot run	–/1½	–/1½
	–/0¼	–/0¼

Shelving

	Deal	Austrian Quartered Oak
Slat shelving of 1″ × 2″ spaced ¾″ apart per foot super	–/9	—
	–/3¾	
1″ shelving .. .. .. per foot super	–/10	2/2¼
	–/5	*1/4¼*
1½″ ditto .. .. .. per foot super	1/0½	2/8½
	–/6½	*1/8¼*
1″ cross-tongued shelving .. per foot super	1/–	2/6½
	–/5½	*1/5½*
1½″ ditto .. .. .. per foot super	1/2½	3/0¾
	–/6¾	*1/9¼*
1″×2″ chamfered bearers planted on per foot run	–/2½	–/5½
	–/0¾	–/2¾
Add if bearers plugged to brickwork per foot run	–/0½	–/0¾

Teak Draining Boards and Twice Oiling

1½″ Moulmein cross-tongued fluted draining board fixed to slight falls .. per foot super	3/9 *1/11½*
½″×2″ rounded rim bedded in white lead and screwed to edge of draining board per foot run	–/6½ –/2¼
½″×4″ rounded skirting fillet ditto per foot run	–/8½ –/3¼

Staircases

	Deal	Austrian quartered Oak
1¼″ treads and 1″ risers .. per foot super	2/–	4/6
	–/9	2/–
2″ strings, fixed .. .. per foot run	1/9½	4/6½
	–/7½	2/8½
Housing treads and risers to strings .. each	–/9	1/6
3″×2½″ Moulded handrail .. per foot run	—	1/6½
		–/10½
1¼″×1¼″ square balusters 2′ 6″ long .. each	–/10	1/9
	–/2	–/5½
4″×4″ Newels with chamfered edges and fixing per foot run	1/4½	3/2
	–/8½	*1/11*

CURRENT PRICES

BY DAVIS AND BELFIELD

Ironmonger, Steel and Ironworker, Plasterer and External Plumber

IRONMONGER

Fixing only

4″ Butt hinges to softwood	per pair	1/–
4″ ditto to hardwood	per pair	1/4
16″ T. hinges to softwood	per pair	1/6
48″ Collinges patent gate hinges to softwood	per pair	7/6

		Softwood	Hardwood
6″ Cabin hooks	each	–/7½	–/10
Hat and coat hooks	each	–/3	–/4
Cupboard knobs	each	–/3	–/4
Night latches	each	1/6	2/–
Thumb latches	each	1/6	2/–
Letter plate and knocker, including perforation in door	each	2/6	3/4
Barrel or tower bolts	each	–/10	1/1
Flush bolts	each	1/6	2/–
Rim locks and furniture	each	2/–	2/8
Mortice ditto	each	3/–	4/–
Rebated ditto	each	3/6	4/8
Grip handles	each	–/6	–/8
Cupboard locks	each	1/–	1/4
Spring catches	each	–/10½	1/1½
Casement fastener	each	1/–	1/4
Ditto stays	each	–/10	1/1
Sash fastener	each	–/8	–/11

STEEL AND IRONWORKER

(For Rainwater Goods—*see* "Plumber.")

Steelwork

		£	s.	d.
• Basis for plain rolled steel joists	per ton	17	5	0
		14	*10*	*0*

Fabricated Steelwork

		£	s.	d.
• Joists cut and fitted	per ton	21	8	0
• Stanchions, ordinary sections with riveted caps and bases	per ton	24	18	0
• Stanchions, compound	per ton	26	19	0
• Plate girders	per ton	29	7	0
• Framed roof trusses, 25′ 0″ span	per ton	31	12	0
• Ditto ditto 60′ 0″ span	per ton	29	12	6

Wrot Iron Work

Simple balusters and handrail fixed (excluding mortices, etc.)	per cwt.	56/–
Bolts and nuts fitted	per cwt.	45/– *38/6*

Galvanized Corrugated Sheeting

		20 B.G.	22 B.G.
Sheeting in 3″ corrugations and fixing on wood framing with screws and galvanized embossed curved washers including laps	per square	52/3 *42/3*	46/1 *36/8*
Ditto fixed to steel framing	per square	60/1 *47/7*	54/7 *42/1*

PLASTERER

Lime and Sirapite Plastering

	Per yard super	In narrow widths per foot super
Expanded metal lathing	1/8 *1/1½*	–/3
1″ × ⅛″ sawn laths	–/9½ *–/5*	–/1½
Render and set in lime and hair	1/8 *–/6½*	–/3¼
Render, float and set in lime and hair	2/– *–/8¾*	–/3¾
Plaster, float and set ditto on lathing (measured separately)	2/1½ *–/9½*	–/4
Render and set with Sirapite	1/9½ *–/8*	–/3½
Plaster, float and set ditto on lathing (measured separately)	2/3 *–/10¼*	–/4
Skimming coat Sirapite	1/5½ *–/4½*	
• ½″ thick plaster board fixed including covering joints with scrim cloth	2/2½ *1/4¼*	

PLASTERER—(*continued*)

Keenes

	Per yard super	In narrow widths per foot super
Cement plain face on and including a backing of Portland cement and sand	2/6 *–/8½*	–/5 —

Mouldings and Labours

		Lime and Sirapite	Keenes
Plain cornices and mouldings 6″ girth	per foot run	–/9½ *–/1½*	–/11 *–/2*
Labour arris, quirk or throat	per foot run	–/1½	–/1½
Ditto rounded angle	per foot run	–/2	–/2
Ditto staff bead	per foot run	—	–/7½

Mitres price as 12″ of moulding, stopped ends as 6″, and rounded angles as 18″.

Portland Cement and Sand (1 : 3)

		½″	¾″
Screeds to floors for wood or tiles	per yard super	1/2½ *–/4½*	1/4 *–/6½*
Screeds for tiling, etc., on walls	per yard super	1/4 *–/4½*	1/6 *–/6½*
Renderings to walls—one coat float finish	per yard super	1/6 *–/4½*	1/8 *–/6½*
Plainface	per yard super		2/– *–/6½*

Coloured Cement Plainface

Cullamix No. 2 or 3 cream, on and including water repellent cement and sand backing	per yard super	3/10 *1/9*
Snowcrete mixture on and including ditto	per yard super	3/10 *1/8½*
Snowcrete and white silica sand on and including ditto	per yard super	3/4½ *1/3½*

For keyed bricks or hacking face of concrete, to form key for plastering, *see* "Bricklayer."

Wall Tiles, Commercial Quality

6″ × 6″ × ⅜″ ivory or white	per yard super	17/8 *12/11*
Extra for rounded edge tiles	per yard run	1/2½ *1/1½*
6″ × 6″ × ⅜″ coloured enamel bright glazed	per yard super	22/11 *18/2*
Extra for rounded edge tiles	per yard run	–/4½ *–/3½*
6″ × 6″ × ⅜″ eggshell gloss enamelled	per yard super	23/10 *19/1*
Extra for rounded edge tiles	per yard run	–/4½ *–/3½*

EXTERNAL PLUMBER

Lead

	Flats	Gutters, Flashings, etc.	Stepped Flashings	Soakers cut to size
Milled sheet lead and labour per cwt.	43/11 *30/5*	45/– *30/5*	46/2 *30/5*	38/9 *30/5*

Bedding edges in white lead	per foot run	–/2
Lead wedgings to flashings	per foot run	–/1½
Ditto to stepped flashings	per foot run	–/2
Dressing 6-lb. lead over glass and glazing bars	per foot run	–/3½
Copper nailing	per foot run	–/1½
Close ditto	per foot run	–/2
Bossed ends to rolls	each	–/7½
Extra labour dressing through shoots and into rainwater heads	each	3/–
Ditto to cesspools, including extra solder	each	5/3

• Items marked thus have risen since November 30.

CURRENT PRICES

BY DAVIS AND BELFIELD

EXTERNAL AND INTERNAL PLUMBER

EXTERNAL PLUMBER—(*continued*)

Cast Iron Rainwater Goods

Rainwater Pipes fixed to brickwork.

	3″	4″
Round pipes .. .. .. per foot run	1/6½	3/4
	1/1½	*1/5¼*
Extra for bends .. .. each	2/4	2/11
	1/6	*2/1*
Ditto 6″ offset .. .. each	2/4	2/11
	1/4	*1/11*
Ditto single branches .. .. .. each	2/10	3/8
	1/10	*2/8*
Ditto shoes .. .. each	2/4	3/–
	1/7	*2/–*

	3½″ × 3½″	4″ × 3″
Square and rectangular pipes .. per foot run	3/1	2/10
	2/6¼	*2/3*
Extra for elbows (fitted) .. .. .. each	6/6	5/11
	5/3	*4/8*
Ditto single branches .. .. .. each	6/7	6/3
	5/1	*4/9*
Ditto shoes .. .. each	7/2	6/6
	6/1	*5/5*

Gutters fixed to fascia.

	4″	5″	6″
Half-round gutters .. per foot run	1/1	1/2½	1/7½
	–/9	*–/10*	*1/2¼*
Extra for angles .. .. .. each	1/9	2/–	2/6
	1/–	*1/2½*	*1/8*
Ditto nozzles .. .. .. each	1/7	1/10½	2/3
	1/–	*1/3*	*1/7*
Ditto stop ends .. .. .. each	1/0½	1/3	1/4½
	–/8¼	*1/–*	*–/10¾*
Ogee gutters .. .. per foot run	1/2	1/4	1/8¼
	–/10	*–/11½*	*1/3¼*
Extra for angles .. .. .. each	1/9	2/1½	2/3
	1/–	*1/4*	*1/5*
Ditto nozzles .. .. .. each	1/8½	2/2¼	2/5
	1/1½	*1/7*	*1/9*
Ditto stop ends .. .. .. each	1/1¾	1/4½	1/7¼
	–/9½	*1/–*	*1/2½*

INTERNAL PLUMBER

Lead Pipes

Service.

	½″	¾″	1″	1¼″
Pipes laid in trenches .. per foot run	1/0¼	1/4½	1/11¾	2/8¼
	–/7¾	*1/–*	*1/5¾*	*1/11¼*
Add if fixed on walls .. per foot run	–/1¾	–/2	–/2½	–/3¾
Ditto if in short lengths .. per foot run	–/1	–/1	–/1½	–/2

	1½″	2″	2½″	3″
Pipes laid in trenches .. per foot run	3/4½	4/7	—	—
	2/5½	*3/6*	—	—
Add if fixed on walls .. per foot run	–/5	–/6	—	—
Ditto if in short lengths .. per foot run	–/3	–/4	—	—

Distributing.

	½″	¾″	1″	1¼″
Cold water pipes fixed to walls per foot run	–/11¾	1/4	1/10	2/5½
	–/5½	*–/8¾*	*1/–*	*1/3½*
Add if in short lengths .. per foot run	–/1	–/1	–/1½	–/2

	1½″	2″	2½″	3″
Cold water pipes fixed to walls per foot run	3/0½	3/11½	—	—
	1/7¾	*2/2¾*	—	—
Add if in short lengths .. per foot run	–/3	–/4	—	—

Waste and Warning.

	½″	¾″	1″	1¼″
Waste and overflow pipes fixed to walls per foot run	–/9½	1/–	1/3¼	1/6½
	–/3½	*–/5½*	*–/7¾*	*–/10*

	1½″	2″	2½″	3″
Waste and overflow pipes fixed in short lengths .. .. .. per foot run	2/0	2/8½	—	—
	1/1	*1/5¾*	—	—

Soil and Ventilating

	3½″	4″	4½″
Pipes fixed, including lead tacks per foot run	4/7½	5/9½	6/11¼
	2/11¾	*3/10¼*	*4/9¼*

	1½″	2″	2½″	3″	3½″	4″	4½″
Bends .. each	1/6	2/–	2/9	3/9	4/3	4/6	5/6
Soldered joints to fittings	½″	¾″	1″		1½″	1½″	2″
each	1/9	2/–	2/3½		2/7	2/10½	3/5
	–/6	*–/9*	*1/–*		*1/3*	*1/6*	*2/–*
Soldered branch joints (price as largest branch) .. each	½″	¾″	1″		1½″	1½″	
	1/11	2/2	2/5½		2/9	3/0½	
	–/6	*–/9*	*1/–*		*1/3*	*1/6*	
Soldered branch joints (price as largest branch) .. each	2″	2½″	3″		4″	4½″	
	3/7	4/–	4/7		5/7	6/1	
	1/6	*2/4*	*2/10*		*3/9*	*4/2*	

Wrap small pipes with hair felt .. per foot run –/6 –/3½

INTERNAL PLUMBER—(*continued*)

Drawn Lead Traps

	1″	1¼″ 3″ deep seal	1½″	1½″ 3″ deep seal	2″	2″ 3″ deep seal
P. Traps 6 lb. with cleaning eye and two soldered joints .. .. each	7/5	7/11½	8/7	9/2	10/8	11/3
	4/2	*4/8½*	*5/1*	*5/8*	*6/11*	*7/6*
S. ditto .. .. each	7/9	8/4	9/1	9/7	11/5	12/–
	4/6	*5/1*	*5/7*	*6/1*	*7/8*	*8/3*

Brasswork (Best Quality)

	½″	¾″	1″
Brass screwdown stop cocks including two soldered joints .. .. each	7/10½	10/5½	14/5½
	5/4½	*7/11¼*	*11/10½*
Ditto, including two red lead joints for iron each	5/–	7/–	10/4
	3/6	*5/4*	*8/6*
Ditto, including one soldered and red lead joint .. .. each	6/8	7/10½	12/7½
	4/8	*5/9½*	*10/4¾*
High pressure Portsmouth pattern ball valve with flynut and union and one soldered joint each	9/6	12/3	21/5
	6/9	*9/6*	*18/6*
Ditto, including red lead joint for iron each	7/9	10/1½	18/3
	5/8	*7/10½*	*15/10*

	2″	4″
Brass thimble and soldered and cement joints each	5/1	9/–
	2/11	*6/–*
Ditto, with solder and caulked lead joints each	5/8	10/1
	3/5	*6/4*

Fixing Only (Connections to Pipes measured separately)

24″ × 18″ × 6″ sinks including taps, etc., and pair of brackets cut and pinned to brickwork .. .. .. each	6/–
24″ × 18″ lavatory basins ditto .. .. .. each	6/6
W.C. suite comprising pan and trap, seat, W.W.P. and brackets .. .. each	10/6
Baths, including taps, etc., and setting in position .. each	10/6

Screwed and Socketed Galvanized Steam Quality Steel Tubes and Fittings

Pipes up to and including 1½″ include short running lengths, sockets, connectors, elbows, bends, fire bends; Tees and Diminishing Pieces enumerated.

Distributing.

	½″	¾″	1″	1¼″	1½″	2″
Pipes fixed to walls per foot run	–/10½	–/11½	1/3¾	1/10½	2/4¾	3/–
	–/5	*–/6*	*–/8*	*–/11*	*1/2¼*	*1/6¼*
Ditto in short lengths, fittings, etc., measured separately per foot run	–/10¾	–/11½	1/4	1/10¾	2/5¾	3/1¼
	–/4¼	*–/5*	*–/6¾*	*–/9¼*	*1/0¼*	*1/3¼*

Extra for

		½″	¾″	1″	1¼″	1½″	2″
Firebends	each	–/4	–/6	–/9	1/3	1/6	2/–
Bends	each	1/2	1/5	1/9	2/6	3/1	4/9
		–/7½	*–/10*	*1/1½*	*1/10*	*2/3*	*3/7*
Round elbows ..	each	1/4½	1/7	1/9½	2/3½	2/9½	4/5
		–/10	*1/–*	*1/2*	*1/7½*	*1/11½*	*3/3*
Square ditto ..	each	1/3½	1/5½	1/8	2/2	2/7½	4/1½
		–/9	*–/10½*	*1/0½*	*1/6*	*1/9½*	*2/11½*
Tees	each	1/6	1/9½	2/–	2/6	3/0½	4/9
		–/10½	*1/1½*	*1/3½*	*1/9*	*2/1½*	*3/6*
Crosses	each	2/9	3/2	3/10	5/–	6/–	9/1
		1/11	*2/3*	*2/10*	*3/9½*	*4/6½*	*7/3*
Diminishing pieces	each	–/10	–/11	1/2	1/6	1/11	2/8
		–/4½	*–/5*	*–/6½*	*–/8½*	*–/11*	*1/4½*
Caps	each	–/7	–/8½	–/10	1/1½	1/5	2/1
		–/3½	*–/4½*	*–/5½*	*–/8½*	*–/10½*	*1/4½*
Plugs	each	–/6	–/7	–/8½	–/10	1/1	1/6½
		–/3	*–/3½*	*–/4½*	*–/5½*	*–/7*	*–/10½*

Cast Iron Waste, Soil and Vent Pipes

	2″	3″	4″	5″	6″
L.C.C. pipes in 6′ 0″ lengths fixed to brickwork .. per foot run	1/9	2/0½	2/6½	4/5	5/4
	1/3	*1/5*	*1/10½*	*3/8*	*4/4*
Extra for bends .. .. each	3/11	4/10	6/7	9/4	12/8
	2/3	*2/10*	*4/2*	*6/5*	*9/–*
Ditto single branches .. each	5/9	6/7	7/9	8/7	10/7
	2/11	*3/2*	*3/7*	*3/6*	*4/3*
Ditto swannecks 6″ projection each	4/5	6/5	8/5	12/5	16/11
	2/3	*3/10*	*5/4*	*8/9*	*12/3*
Extra for access door or any fitting .. .. .. each	6/9	6/9	7/3	8/6	8/8

CURRENT PRICES

BY DAVIS AND BELFIELD

INTERNAL PLUMBER, GLAZIER AND PAINTER

INTERNAL PLUMBER—(*continued*)

Zincworker

	13 G.	14 G.	15 G.	16 G.
Rolled sheet zinc on flats per foot super	-/8¾	-/9	-/10	-/10½
Ditto in gutters, cover flashings, etc. per foot super	-/9	-/9½	-/10½	-/11
Ditto in stepped flashings per foot super	-/11	-/11½	1/0½	1/1½
Labour and risk dressing over glass per foot run	-/4½	-/4½	-/4½	-/4½
Capped ends to rolls .. .. each	-/2½	-/2½	-/2½	-/2½
Extra labour to cesspools .. each	2/7½	2/7½	3/2	3/2

Copperworker

Distributing.

	½″	¾″	1″	1¼″	1½″	2″
Solid drawn copper tube fixed to walls per foot run	-/9	-/11¼	1/4¾	1/9¾	2/4½	3/1¾
	-/5½	-/7½	-/11	1/1½	1/3¾	1/11¾
Add if in short lengths per foot run	-/0¾	-/0¾	-/1	-/1½	-/2	-/2½

Fittings for copper tubes

Compression type						
Straight couplings each	1/11	2/3½	3/2	3/11½	5/4½	7/7½
	1/4	1/7½	2/5	3/1½	4/5½	6/7½
Obtuse elbows .. each	2/10½	3/4	4/8	5/9	9/4	13/4
	2/2½	2/7	3/10	4/10	8/4	12/3
Tees .. .. each	3/3	3/8½	5/7	7/9½	11/10½	16/6
	2/6	2/10½	4/8	6/9½	10/9½	15/4
Crosses .. .. each	4/4	4/11	7/1	8/6	13/11	19/1
	3/6	4/–	6/1	7/5	12/9	17/10
Reducing couplings each	—	2/3½	3/2	3/11½	5/4½	7/7
	—	1/7½	2/5	3/1½	4/5½	6/7
Bends .. .. each	2/6½	3/1	4/3	5/3½	8/8½	12/8
	1/10½	2/3	3/5	4/4½	7/8½	11/7
Brass stopcocks each	5/7½	8/–	11/1	19/8	26/9	44/2
	4/5½	6/8	9/7	18/–	24/11	42/2
Capillary type						
Straight couplings each	1/7	2/–	2/9½	3/5	4/4	5/9½
	–/9	1/–	1/7½	2/1	2/10	4/1½
45° Elbows .. each	2/6½	3/2½	4/2	5/8½	7/4½	10/5½
	1/7½	2/1½	2/11	3/10½	5/9½	8/8½
Tees .. .. each	2/9½	3/2	4/7½	6/4	8/6	12/–
	1/9½	2/–	3/3½	4/10	6/10	10/2
Crosses .. .. each	3/4	3/9	5/6½	7/7	10/6½	14/9
	2/3	2/6	4/1½	6/–	8/9½	12/10
Reducing couplings each	—	1/7½	2/0½	2/7½	3/5½	5/0½
	—	–/7½	–/10½	1/3½	1/11½	3/4½
Bends .. .. each	2/10½	3/5	4/7½	6/–	8/10	11/11
	1/11½	2/4	3/4½	4/7	7/3	10/2
Pillar tap connections each	2/0½	2/9½				
	1/2½	1/9½				

	24 G.	28 G.
• Rolled sheet copper on flats .. per foot super	1/7	1/9
• Ditto in gutters, cover flashings, etc. per foot super	1/8	1/10
• Ditto in stepped flashings .. per foot super	2/2½	2/5½
Labour and risk dressing over glass .. per foot run	-/4½	-/4½
Capped ends to rolls .. .. .. each	-/3½	-/3½
Extra labour to cesspools .. .. .. each	3/8	3/8

GLAZIER

Sheet Glass (Ordinary Glazing Quality)

18 oz. clear sheet and glazing to wood, sprigged and with back and front putties, to all normal sizes not exceeding 60″ in length or 40″ wide .. .. per foot super	-/6½
24 oz. ditto .. .. per foot super	-/7¾
26 oz. ditto .. .. per foot super	-/8½
32 oz. ditto .. .. per foot super	-/11½
Obscured ground sheet glass, net extra to above prices per foot super	-/1¾
¼″ figured rolled white glass and glazing to wood with beads (measured separately) .. .. per foot super	-/10½
Ditto, normal tints, ditto .. .. per foot super	1/2¾
Hammered double rolled cathedral white ditto per foot super	-/10
Ditto, normal tints, ditto .. .. per foot super	1/1¾
Add for glazing into metal frames (ordinary rebates) per foot super	-/1½
Ditto, metal sashes with ferroput .. per foot super	-/2¼
Ditto, solid metal casements and screw beads per foot super	-/2¼
Wash leather strip or similar material and bedding edge of glass .. .. per foot run	-/3¼

Glazing only, thick drawn sheet glass, polished plate or wire polished plate for all normal sizes. (For prices of glass *see* materials section and add profit, say 10 per cent.) per foot super -/6¼

Under certain conditions the above prices are subject to 5 per cent. increase.

PAINTER

Whitening, Distempering and Painting (on new Plastered Walls)

Twice distempering white .. per yard super	-/4½ -/1
Ditto, in common colours .. per yard super	-/7 -/3½
Add for stippling .. .. per yard super	-/2 —
Preparing and painting two coats of undercoating and one coat of enamel .. per yard super	1/9 -/8

Preparing and Painting Two Coats of Oil Colour on Ironwork after fixing

General surfaces .. .. .. per yard super	1/– -/4
Perforated landings and staircases both sides (one side measured) .. .. .. per yard super	2/6 -/8
Pipes, bars, balusters, etc., not exceeding 3″ girth per yard run	-/1¾
Metal window frames .. .. .. per yard run	-/2¾
Eaves gutters .. .. per yard run	-/7½
2″ Rainwater pipes .. .. .. per yard run	-/3
4″ ditto .. .. per yard run	-/6
Squares one side .. .. per dozen	1/9
Large ditto .. .. per dozen	2/3
Extra large ditto .. .. per dozen	3/–
Edges of casements .. .. each	-/3

Painting on New Woodwork

		Knot, prime, stop and paint three coats oil colour		Add or deduct for each coat more or less	
General surfaces ..	per yard super	2/–	-/8	-/6	-/2
Fascias and soffites	per yard super	2/6	-/8	-/7½	-/2
Fillets, skirtings, etc., not exceeding 3″ girth	per yard run	-/3	—	-/0¾	—
Ditto, not exceeding 6″ ..	per yard run	-/5½	—	-/1½	—
Ditto, not exceeding 9″ ..	per yard run	-/7	—	-/1¾	—
Ditto, not exceeding 12″..	per yard run	-/9	—	-/2	—
Squares one side	per dozen	3/6	—	-/9	—
Large ditto	per dozen	4/6	—	1/–	—
Extra large ditto ..	per dozen	6/–	—	1/4	—
Edges of casements	each	-/6	—	-/1½	—

Sundries

Twice creosoting woodwork ..	per yard super	-/6	-/2
Twice limewhiting brickwork ..	per yard super	-/4½	-/0½

		Sizing	Staining	Once Varnish
General surfaces ..	per yard super	-/2	-/4½	-/6
		-/¾	-/1½	-/2¼
Wax polishing	per foot super	-/4½		
Body in and French polish on hardwood surfaces	per foot super	1/–		

Writing

Plain letters or figures, two coats, 2″ to 12″ letters per dozen inches in height	1/10½
Ditto, shaded .. per dozen inches in height	2/6
Plain gold, 2″ to 12″ letters per dozen inches in height	2/6
Ditto, 12″ to 24″ .. per dozen inches in height	3/9

Gilding

	Single Gold	Double Gold
Preparing and gilding in best oil gold per foot super	5/3	8/4
Ditto in matt or burnished gold per foot super	7/4	11/6

Paperhanging

	On walls		On ceilings	
Preparing new plastered walls for papering per piece (60 feet super)	1/4	-/5¼	1/5½	-/5¼
Pasting and hanging only.				
Plain lining paper per piece (60 feet super)	1/4	-/1½	1/8	-/1½
Common printed papers per piece (60 feet super)	2/–	-/1½	2/6	-/1½

• Items marked thus have risen since November 30.

(*Continued from page 766*).

his work including the designing of country houses in Surrey and Yorkshire, factories in London, the restoration of Tudor buildings in Sussex, and he acted as surveyor for some extensive London estates.

He joined the Architectural Association in 1887, and was elected to the Society of Architects in 1900, and to the R.I.B.A. in 1925.

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United Artists' Exhibition, 1940

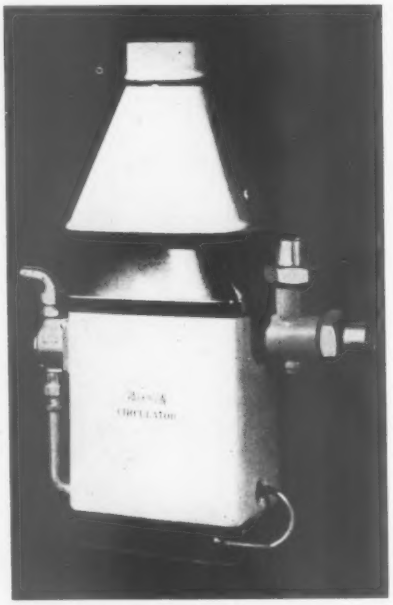
The Hanging Committee of the United Artists' Exhibition, which is to be held at the Royal Academy from January-March, 1940, in aid of the Lord Mayor's Red Cross and St. John Fund and the Artists' General Benevolent Institution, has begun the arrangement of the Exhibition. Twenty-five British Art Societies and a number of eminent artists who are not members of a society are contributing works; in all, about 1,800 artists were invited to contribute. The final sending-in day was on December 6.

The exhibition has been arranged by the following members of the societies :—

Royal Academy of Arts, Sir E. L. Lutyens, K.C.I.E., P.R.A.; Royal Society of Painters in Water Colours, W. Russell Flint, R.A.; Royal Institute of Painters in Water Colours, N. Wilkinson; Royal Institute of Oil Painters, W. E. Webster; Royal Society of British Artists, B. Nicholls; Royal Society of Painter-Etchers and Engravers, M. Osborne, R.A.; Royal Society of Portrait Painters, G. Harcourt, R.A.; Royal Society of Miniature Painters, S. A. Lindsay; Royal Society of British Sculptors, G. Bayes; New English Art Club, W. L. Clause; The London Group, R. O. Dunlop, A.R.A.; Society of Women Artists, Miss E. Gabain; Society of Mural Decorators and Painters in Tempera, Miss V. Borradaile; Society of Graphic Art, F. L. Emanuel; National Society, Bernard Adams; Society of Marine Artists, C. Pears; Pastel Society, H. Davis Richter; Royal Scottish Academy, Sir George Pirie; Royal Hibernian Academy James Sleator; Royal Scottish Society of Water Colour Painters, H. Davis Richter; Royal Cambrian Academy, Miss Lindsay Williams; Senefelder Club, W. P. Robins; Women's International Art Club, Mrs. Cameron Morris.

The following artists comprise the Hanging Committee: Sir Edwin L. Lutyens, K.C.I.E., P.R.A., W. Russell Flint, R.A., Miss E. Gabain, Miss V. Borradaile, M. Osborne, R.A., G. Bayes, B. Nicholls, W. E. Webster, C. Pears, W. L. Clause, R. O. Dunlop, A.R.A., Bernard Adams, G. Harcourt, R.A., A. Turner, R.A., V. Pasmore, H. Hubbard.

The Exhibition will be the first comprehensive survey of every aspect of British Art since 1920.



Gas circulator for providing hot water in first aid posts and decontamination stations. (*Parkinson Stove Co.*)

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Institution of Electrical Engineers

A formal ordinary meeting will be held in the Lecture Theatre, Savoy Place, London, W.C.2, on Thursday, January 11, at 12.30 p.m., for the suspension of a list of names of applicants for election and transfer approved by the Council.

The first ordinary meeting of the programme for the second half of the session will take place on Thursday, January 25, at 6 p.m., when a discussion on "Fire Fighting Equipment for Electrical Installations," based on the E.R.A. Report on this subject contained in the current number of the Institution's Journal, will be introduced by Messrs. H. W. Swann, J. Hacking and R. A. McMahon. Their introductory remarks will be illustrated by a cinematograph film in colour.