The TRINASCO Asphalt PIPE

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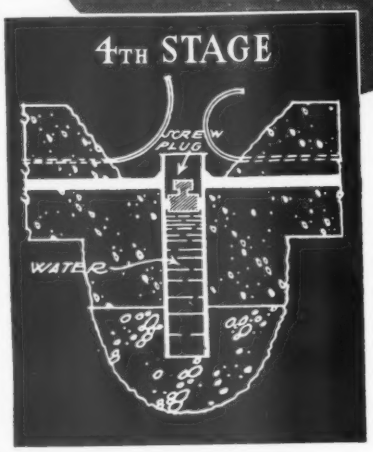

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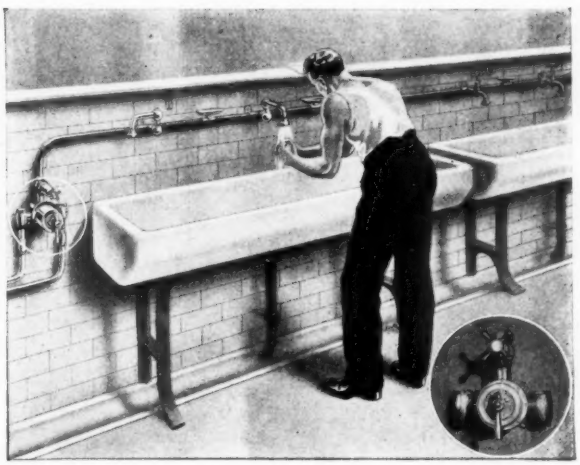

***Leonard-Thermostatic** water mixing valve supplying a range of washing troughs.*

If you are putting in washing equipment you can save money and get better results by specifying Leonard Thermostatic water mixing valves instead of ordinary mixing valves. The Leonard Thermostatic valve holds the temperature steady, so that when the workpeople rush to wash, all they have to do is to turn on the water and out comes blended water at just the right temperature. If they make the blend for themselves, there is bound to be waste. Even when they have at last got the temperature to suit them, if somebody opens another valve elsewhere in the system, down goes the pressure and away goes the blend. Then it has to be fixed all over again, and the owner will be fortunate if the equipment doesn't get damaged when a score of impatient men are held up.

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61-78

THE ARCHITECTS' JOURNAL

THE ARCHITECTS' JOURNAL
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*

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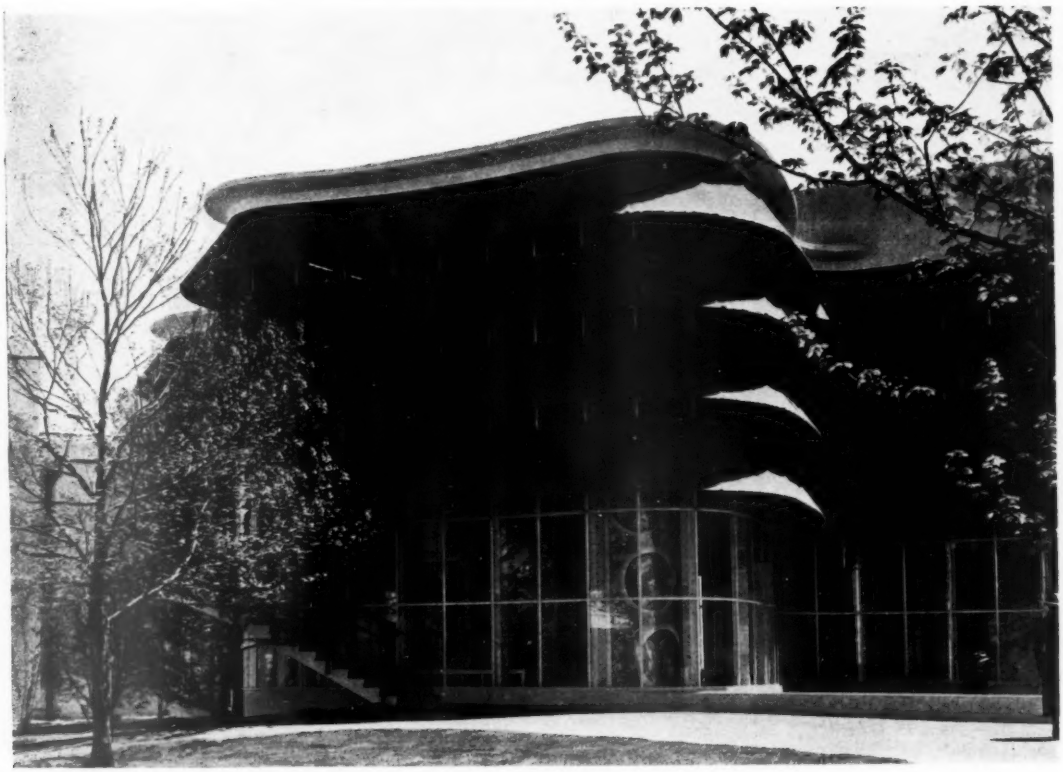
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, FEBRUARY 1, 1940. NUMBER 2350 : VOLUME 91

PRINCIPAL CONTENTS

IRISH ARCHITECT HONOURED



Mr. Michael Scott, M.R.I.A.I., designer of the Irish Pavilion at New York World's Fair, has been made an honorary citizen of New York for "distinguished and exceptional service" to the city of New York.

The Vice-President of the World's Fair (Mr. J. Holmes) in a letter to Mr. Scott, states: "The service which you rendered through your activities in connection with the participation of your country in the New York World's Fair of 1939, was not only an outstanding contribution to the success of the Exposition, but also to the furtherance of international goodwill and amity."

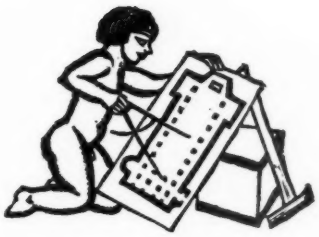
Above is a general view of the Pavilion.

CIVIC CENTRE COMPETITION, MARGATE

Perspective of the winning design. By Lionel Smith and James Melvin, in the competition for the Civic Centre, Margate. Plans and elevations were reproduced in our issue for January 4.

TRANEBERG BRIDGE, STOCKHOLM

This single span reinforced concrete bridge is part of the western development of Stockholm's suburbs and spans one of the many arms of the Mälar Lake. The bridge is for road traffic and includes two lines of tramways and special bicycle track. Through the arch can be seen part of the Kristineberg Housing Scheme.



NOT A DROP FOR A WEEK . . .

NOW is the time when the building fraternity thinks twice before putting a nose out of doors. For three weeks or more Britain's temperature has wavered between 35 and 15 Fahrenheit. Plumbers, builders, architects—the public are in no mood to split hairs—know only too well what that means : the whole guilty confederacy skulks well out of torchlight. Builders are disconnecting their telephones, Home Hints Bureaux are a fortnight behind with their mail, and the R.I.B.A. will soon be resealing the famous door. If the building industry never before knew what *Unity of the Outside World* meant, it knows now.

The great British public, unbathed, unshaved, thirsty, racked with cold, are out for blood and plumbers. From the way they go on you would think there wasn't a sound pipe between Southampton and Lerwick. It is quite possible there is not.

Until the end of the frost it would be very unwise for the building industry to say anything more than is absolutely necessary. A tiny minority, their nerves stretched to snapping point by the crisis, may find themselves reminding householders (over the telephone) of what the brave lads in France have to put up with.

The remainder know their one chance of keeping a whole skin is to offer preferential service (or the assurance of preferential service) to each successive householder ; and, by the disunity thus promoted, prevent a nation-wide indictment being launched until higher temperatures cool (or warm) the blood of counsel, witnesses, judges and jury.

We must remember people are unjust at moments of tension. At any moment during a frost someone might ask the most ridiculous questions. For instance : Why do pipes freeze in temperate Britain and not in Finland or Canada ? Is it costly to put pipes in unfreezable positions ? How much does it cost to protect freezable pipes ?

And once these questions are asked all builders will admit that the cat will be as nearly out of the bag as doesn't matter. For the water system of the average British house can bear examination rather worse than it can bear a touch of frost.

Let all of us who are interested in building consider this system for a moment. Let us begin at the beginning. Pipes buried two feet deep are immune from any likely British frost ; and service branches are therefore almost always put 18 inches deep to give both sides a square deal.

On entering the house, the rising main is always taken up against an outside wall : inside walls being much warmer. The riser and subsequent drops are then confined to the kitchen (or scullery), the bathroom and w.c.—being usually the only unheated rooms in the house. If pipes can adjoin the constant ventilation openings enforced by the local authority (which thus sportingly joins in the game at this point) so much the better. But wherever they go first all pipes eventually arrive in the roof-space where they can cavort together around a tank in winds of 20 degrees F. undeflected by boarding.

Builders and architects, of course, now and then cover their tracks a bit. Sometimes roof pipes are lagged in the certain knowledge that six feet of exposed drop into an unheated bathroom will do the trick ; or failing that, the frozen traps of fittings (always placed on an outside wall) will soon make anyone who tries to use them look pretty silly.

Actually bursting a pipe takes a little more skill. Water expands on freezing about 9 per cent. by volume, and in order to stop the undesired increment merely pushing itself in a caddish way along the pipe, it is necessary for freezing to begin a little way from a stopped end and then move towards the stop. Fortunately a sharp bend in the roof at eaves level and then a six-foot drop down to a basin tap usually does it to a T, as every worth-while plumber knows.

These things are no secrets. The whole building industry has known them for years. But there is something to be said for the view that it would be unwise, just for the moment, to tell the public about them in so many words.

But, afterwards . . . ? Yes, afterwards, when temperatures rise and builders are safe for another eleven months or so, the true story might be allowed, so to speak, to leak out. The industry must then be firm, and put the blame where it belongs—on the public.

The public, builders must point out, has allowed itself to remain saddled with sanitary by-laws which were introduced when every bathroom and closet was regarded as a potentially pullulating germ centre. To put them in the cold and keep them cold is still the ambition of every worth-while sanitary inspector. Simultaneously, every citizen now demands a house at a price so cheap that it contains nothing which he is not likely to notice is missing—as he might notice a missing front door or staircase, for instance. As a result the apartments through which financial pressure and the by-laws compel vital pipes to be run are not warmed, nor the pipes themselves protected.

The cure, builders can add with all their usual good-natured patience, lies in the people's hands. They have only to look at their houses, to demand (and be prepared to meet) an extra £10 or £20 spent on well-placed pipes or well-protected pipes and their worries are over.

Otherwise they can buy a thermometer and stand ready every year to put an oil stove next the tank, nightlights under the pipe runs and hurricane lamps in three to six apartments. They may like doing all this; some people have been known to say it is fun.

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

NOTES & TOPICS

THE WAYS OF THE FRENCH

EVERY night the wireless reminds us how Britain and France are co-operating in everything connected with the war. So that it seems queer, now, that for four months neither architects nor builders thought of asking how the French were tackling the problem of building and the war.

*

Yet it was so. And it was the President of the R.I.B.A. who, a month ago, noticed the little oversight and made enquiries from M. Maigrot, President of the S.A.D.G. M. Maigrot's reply sketches the whole French procedure.

*

The first point British builders will notice is the reference to a High Commissioner for Building and Construction. He and his department are mentioned only in passing; their existence and powers are obviously taken as a matter of course. By this Department French war building and its organization is wholly controlled.

*

The principle on which the High Commissioner has worked is the use of peace-time organization and methods with the smallest practicable changes. In brief, the central organization in Paris decides upon the needed works and their placing, prepares surveys and drawings; local committees of builders and manufacturers state the materials and labour which are available and distribute contracts according to the capacity of local firms; architects (and presumably other associated professions) are employed in Paris, on the site and as liaison officers between the two.

*

To us this seems almost ridiculously sensible: so sensible that it may take the rest of the war to get anything like it going over here. But in France they have not only managed to do it but have found time (and support) for other large-scale innovations. Two examples will be enough.

The work of architects being now broken up in sections —surveying, preparing drawings, supervision on site, etc.— remuneration by fees is thought neither practicable nor patriotic. Architects are therefore given salaries equal to the army pay of differing ranks according to their responsibilities.

*

France also needs accommodation for evacuees from war zones on a much bigger scale than ours. This has all been planned and placed for post-war use as holiday camps or community centres, and standard types of building have been evolved. These types have subsequently been modified to suit local materials in each district; and so keen has been the competition from local suppliers, that camps have been built of permanent materials at prices not appreciably higher than those for mass-produced timber huttings.

LATEST BOMBING EXPERIMENT

In matters of bombing the average Briton has been for some years in the position of a candidate at an oral examination who anxiously asks each preceding examinee, "What was it really like?"

*

Even from well-organized Finland, which now takes the place of Poland, Spain and the rest, it is difficult to get a clear answer. Snippets of information have to do duty for a day-to-day record which would rank particularly high in news-interest just at the moment.

And there is also the difficulty of knowing what portion of facts which are contained in the snippets is due to special Finnish or Russian circumstances. Six hundred bombers dropping 2,000 bombs and securing half a dozen casualties is wonderfully encouraging for potential bombees —until one recollects they were Russian airmen, machines and bombs, flying at 15,000 ft. over scattered Finnish townships. In short, until we know more we know nothing.

*

The same applies to the apparently large damage done by very few incendiary bombs. In a temperature of 30 below zero, towns largely built of wood may be decimated by a single bomb unless a specially well-equipped fire brigade and adequate water are at once available.

*

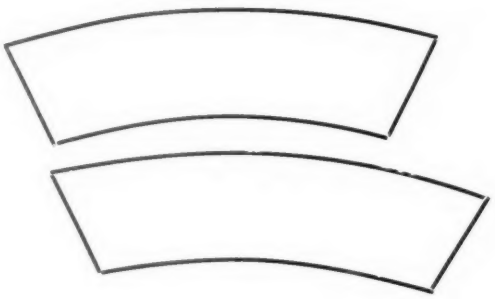
Helsinki probably possesses both the brigades and the elaborately frost-protected hydrants. But smaller towns may be helpless to a degree which can never arise in Britain.

OUR LIVELIHOODS

Several correspondents have pointed out a false conclusion which I drew last week when discussing the figures of the R.I.B.A. livelihood census.

*

I then stated that the figures showed that only one private architect in four has even one assistant, while official principals have, on the average, six each. Since, however, the figures only concern Members of the R.I.B.A., I should have said that only one private architect in four has an *R.I.B.A. Member* as an assistant, while official



principals average six *R.I.B.A. Member* assistants each. A very different story.

*

As is pointed out in a letter on p. 134, private architects' assistants are largely Students or Probationers R.I.B.A., or "unattached" architects. Many appointments as senior assistants in public offices, on the other hand, are now restricted to R.I.B.A. Members.

PROBLEM CORNER

A manufacturer recently sent me two samples of a material, cut in the shapes reproduced above, and asked me which of them was the larger in area. Though uneasily conscious that I have probably fallen for a chestnut, I hand on the problem to my public.

COLD SNAP

This year's frost did not freeze the Cam from Cambridge to Ely and therefore, whatever the riff-raff may claim, it was not, of course, a great frost.

*

But it produced two placards of EUROPE FREEZES UP and one (*Evening Standard*) of TWENTY BELOW—by which the *E.S.* meant twenty below freezing point and not, like the rest of the English-speaking world, below zero.

*

It also froze the Thames at Surbiton, cracked cast-iron lamps on Battersea Bridge, set an ice-floe 3 ft. wide in the path of the River A.F.S. and encouraged icicles in a kitchen at the war-time A.A. to defy a fire kept going all night. And, of course, it cut off the sanitary and water services of a million or so buildings.

*

It is gratifying to see that this last inconvenience has not, so far, had its annual result of a witch-hunt—the community *versus* all builders, architects and such like. I really believe that we've broken their spirit at last.

S

One of the most pressing needs in Civil Defence—it was referred to in the JOURNAL's recent "Art of the Black-out"—is the standardization of signs for public air-raid shelters throughout the country.

*

Such a sign should be simple, distinctive, and instantly recognizable day and night, so that the one the A.A. (motoring club) have put up outside the public shelter at their head office, Fanum House, fills the bill excellently. It stands out at right-angles to the building, and shows, on either side, a large white capital S on a black ground, dimly but sufficiently floodlit at night by two lamps incorporated in the hood which covers the whole.

*

It did not take us long to discover that a capital P meant Car Park, so it need not take any longer to decipher capital S. The faces of the sign also bear the words "Shelter Here" in smaller type, which should remove all doubt, but the simultaneous erection of a multitude of such signs throughout the country would be its own advertisement and therefore self-explanatory.

A.A. MEETING

On Tuesday, February 6, at 8.30 p.m., a general meeting will be held at the A.A. to discuss "The Organization of the Building Industry."

*

The meeting has been arranged by the R.I.B.A. Junior Members' Committee and the A.A. Students' Committee. Speakers already booked are Messrs. George Hicks, M.P., Richard Coppock and Howard Robertson. Sir Connop Guthrie, the Government's adviser on building matters, has agreed to attend the meeting.

NEWS FROM THE CUTTINGS

A "commodious, handsome and impos.' g new wing" has been added to Armagh College, Ireland In declaring it open Cardinal Macrory congratulated the 'uilder "on making the best of the situation . . ."

*

A warning that steeplejack touts are at work has been issued by the Central Council for the Care of Churches. Mr. Larkin, the well-known steeplejack, said: "It has come to my ears that this sort of thing is going on. The obvious safeguard is that the work should be done through expert architects . . ."

*

The Newport Pagnell R.D.C. has passed plans for a new cloakroom and w.c. for a clothing factory. Civil building is evidently once more on the upgrade . . .

*

An eighteenth century warehouse at Boston, Lincs, has been converted into a garage without losing its original character. Plans were submitted to the Georgian Group, and Professor Richardson advised on the reconstruction.

*

Two fragments from the reverse (and often more interesting) sides of the cuttings:

"You can do more with a posy of artificial flowers than pin it in your dress . . ."

A portrait of an infant, laughing hysterically, and entitled No 5 in our "Pickles Portrait Gallery."

WE DO OUR DUTY

From the *Evening Standard:*

A constable went to a London house last night and told the occupant that too much light was showing in his windows.

"Which window?" asked the occupant.

"Rather a bad Victorian Gothic window," said the constable. "About 1880, I should say."

ASTRAGAL

★ *Although the war goes on, the first state of emergency, as far as the* JOURNAL *and architects are concerned, may be said to have passed. It is no longer necessary for architects to find their way to the right new Ministry in twenty-four hours and to do the drawings after the work is finished.*

This return to something like orderliness is celebrated in these pages by a return to something more like the pre-war arrangement of our contents.

In future, News and Letters will follow Astragal's Notes, and be succeeded by current buildings. But the Information Centre (pages 142–146), though it has changed its position, will remain ready to answer any question and its "Current Problem" articles to deal with all important war-time developments.

NEWS

●

General

SOCIAL ENVIRONMENT AND THE WAR

Tomorrow, February 2, there is to be an important Conference at the R.I.B.A., convened by the Housing Centre, to discuss the problems of community planning that have been raised by the war. The conference, which will include representatives of all the chief planning, architectural, housing, economic and social services and institutions, will have as one, indeed as its chief, objective, the formation of an autonomous council to watch these issues nationally, co-ordinating and assisting the work of the many existing bodies which have parts of the problem in charge.

The conference will occupy a whole day. For the morning session, Sir Wyndham Deedes will be in the chair, and for the afternoon session, Lord Horder. In the morning it is hoped to establish the central executive and in the afternoon to discuss the means by which the machine thus created can best achieve its ends. For the most part the conference will consist of delegates from societies.

ARCHITECTURAL ASSOCIATION

Following is a list of meetings arranged by the above Association :

Tuesday, February 6. An evening arranged by the A.A. Students' Committee in conjunction with the Junior Members' Committee of the R.I.B.A. "The Organization of the Building Industry." Amongst the speakers will be Mr. George Hicks, M.P., and Mr. Richard Coppock.

Tuesday, February 27. Major-General G. B. O. Taylor, C.B.E., Director of Fortifications and Works, the War Office. "The Problem of Providing Accommodation for the Army on the Outbreak of War."

Tuesday, May 7. Mr. W. L. Stevenson (Technical and Art Master of the A.A. School). Subject to be announced. Nomination of Officers and Council.

EXHIBITION

February 6–23. Annual Exhibition of Photographs by Members.

R.I.B.A. ASHPITEL PRIZE, 1939

The Ashpitel Prize, which is a prize of books to the value of £20 awarded to the candidate who, taking the Final Examination to qualify as an Associate, shall most highly distinguish himself among the candidates in the Final Examinations of the year, has been awarded to the Hon. Lionel Gordon Baliol Brett, A.R.I.B.A.

MINISTRY OF HEALTH

Loans sanctioned during the quarter ended December 31, 1939, to local authorities in England and Wales :

	£
Housing	754,771
Municipal services (including clinics, sanatoria and mental hospitals)	323,157
Swimming pools, playing fields, recreation grounds, open spaces, etc.	32,935
Water supply	496,717
Education services (including libraries and museums) ..	177,875
Roads and bridges	115,206
Other services	2,241,561

A.A.S.T.A.

A meeting called by the Association of Architects, Surveyors and Technical Assistants to discuss the effects of the war on the architectural profession was held on January 23. Mr. Robert Townsend, A.R.I.B.A., presided.

The Chairman said the meeting had been called in an attempt to formulate a policy and give a leadership to the profession so that something definite might be done to bring hope to the future.

Mr. K. K. Campbell said the building industry was one of the big industries most connected with pacific aims of all sorts, producing houses, schools, clinics and so on; but from the point of view of winning the war, these things were not necessary. The building industry did not count among the interests in the war. These were overseas markets, overseas investment and overseas control in various important markets of the world. But the Government could not afford to let the building industry disappear altogether. How was the Government meeting the situation? Civil building was not necessary, but camps and barracks were required, and housing—even if it was only hut housing—for people engaged in armaments production. What was happening was that the smaller firms were being squeezed out, and the requirements of the Government seen to by the ten great firms in close collaboration with it. The appointment of Sir Andrew Duncan to the Presidency of the Board of Trade went to show that this was the type of organisation intended by the Government. The war would last much longer than most people believed. There was no future for civil building. There was no future for architects under the present social system, and they had to make up their minds whether they would fight it and, if so, how they would fight it.

Mr. Colin Penn said they had to discuss organizational means of putting their policies forward. An unfortunate idea had got about that the A.A.S.T.A. was opposed to the private architect and even to the assistants employed in the office of the private architect. Assistants in private offices were exactly the same as those in other offices. Practising architects were finding it increasingly difficult to maintain themselves in their position and would have to find salaried jobs. From this point of view it was their interest to see that conditions of employment were as good as possible. Everybody agreed that the R.I.B.A. required some changes. Its constitution enabled a body of people to get into office who were incapable of directing the profession in the present crisis. Either those leaders must be changed or something must be done to reduce their powers. A desirable step would be one proposed at the last general meeting of the R.I.B.A., i.e. that such meetings should have the power to pass resolutions which the Council would be bound to consider. At the same time as this change was made, another would be necessary to give provincial members an opportunity of taking similar decisions in their allied societies.

Mr. R. D. Manning said that if it was true that a state of war like the present must stop all civil building, it was for architects to make up their minds whether they could justify their supporting the carrying on of the war which meant blotting out all that one was accustomed to regard as civilization.

Mr. L. Desyllas said that the problem before them should be studied not from the personal point of view that they as architects were losing work, but from the wider and what must be called the political point of view. It was right to say that in pursuing war civil building was not necessary. Taxation and sale of foreign investments would not be sufficient to pay for the war : the consumption of an enormous number of people would have to be reduced and civil building would be one of the things dispensed with.

Mr. J. Pinckheard said that it was taking a narrow view to say they opposed the war because it was against the interests of architecture. If they opposed the war it was for other and wider reasons than that their livelihoods were imperilled. This war was said to be in defence of democracy, but we were told that our Government was working in complete harmony and concord with that of France, where the measure of democracy enjoyed by the people had been very greatly reduced within the last three months. This reduction was incompatible with the proclaimed aims of the war.

Mr. John Summerson said that a time when things were quiescent so far as the R.I.B.A. was concerned was a time to get together a policy for reforming the R.I.B.A. After the war the R.I.B.A. would be in a difficult position, because it owed £90,000 now and would owe even more then. If it was to survive, it would have to be really representative of what the profession wanted, and it might be possible now to get together a group of people from the R.I.B.A. and A.A.S.T.A. who would formulate a policy.

Other speakers took part in the discussion, and the following resolution was passed : "This meeting of architects expresses its profound disapproval of the action of the R.I.B.A. Council in applying to the Privy Council for permission to suspend its elections. It believes that in the present circumstances these elections are more than ever necessary, and calls on the A.A.S.T.A. to take whatever steps are possible to ensure that they are held this year with adequate measures to see that all members, whether at home or abroad, have an opportunity to vote."

A.R.C.

Architects are reminded that it is important that any change in their regular business address should be notified immediately to the Registrar, Architects Registration Council of the United Kingdom, 68 Portland Place, W.1, in order that their correct addresses may be recorded in the 1940 Printed Register, as required by Section 3 (4) sub-section 4 of the Architects (Registration) Act, 1931.

Failure to notify change of address may result in demand notices for the annual retention fee going astray and render the architect concerned liable to be struck off the Register for non-payment of his fee.

As registration becomes compulsory from August 1, the consequence of being struck off the Register would be serious and would prevent a person struck off from practising or carrying on business under the title of "architect."

I.A.A.S.

At the last meeting of the London and Home Counties Branch of the Incorporated Association of Architects and Surveyors, it was decided to resume activities as far as possible, and, in consequence, several lectures have been arranged for the near future.

The first of these will be held at headquarters, 75 Eaton Place, S.W.1, at 7 p.m., on February 21, when Sir Alfred Hurst will give a lecture entitled, "The Building Industry in War and Peace." A further lecture dealing with the uses of asphalt will be given, illustrated by a film, on March 20.

APPOINTMENTS

Hull City Council has confirmed appointments of Mr. Andrew Rankine as city architect (at a salary of £800 to £1,000 per annum) and of Mr. H. E. Horrh as deputy city architect (£575 to £650 per annum).

Mr. John Williamson, deputy architect to the Glamorgan County Council, has been appointed county architect, in succession

★ *As from to-day, February 1, Rates of Wages for the Building Industry will be increased. Details are printed on page 150.*

to Mr. W. James Nash, who is retiring. Mr. Williamson has held offices at Newcastle-on-Tyne and Birkenhead. Appointed chief assistant in Glamorgan in 1912, he became deputy architect in 1932.

ANNOUNCEMENTS

Mr. Wells Coates, F.R.I.B.A., has left 18 Yeoman's Row, Brompton Road, S.W.3, to take up an appointment with the Royal Air Force. His associate, Mr. Patrick Gwynne, will handle his affairs, until further notice, at the above address. Telephone : Kensington 9252.

Mr. Misha Black, M.INST.R.A., has closed his office at 4 Bedford Square, W.C.1. All communications should be addressed to him at 22 Lawn Road Flats, N.W.3.

We are informed by Messrs. Farebrother, Ellis & Co., that Messrs. Ralph Ellis and Vincent Galsworthy have retired from the firm and that the business will be continued by the remaining partners.

OBITUARY

We regret to record the death of Mr. Leonard Winn, architect and surveyor, of Truro. Mr. Winn was sixty years of age.

Mr. William F. T. Stewart, F.R.I.B.A., Ellenslee, Balloch, died in the Henry Brock Hospital, Alexandria, last week. He was a partner in the firm of Messrs. Balfour and Stewart, architects, Glasgow, and had carried through many important contracts in the Vale of Leven and Glasgow districts. He was architect for Vale of Leven District Council.

Building

GENERAL POSITION

"The marked decline in building activity imposed by official restriction continues," states the *Building Industries Survey*, published by the Building Industries National Council. "In spite of Government requirements, described in some quarters as 'enormous,' unemployment in the industry has mounted to 155,536 in mid-December. Taking into account the depletion of personnel owing to enlistment in the military and civil defence forces, and to the disintegration of the industry forcing men into other occupations, more than one man in five is unemployed. It is largely due to the cessation of civil building that there are more men unemployed than before the war."

The Council emphasises that this grave position is due to administrative action and not to the war as such. A deliberate policy of restriction of building is being pursued. As the recent Deputation from the Building Industries National Council to the Minister of Supply pointed out, this is not due to shortage of building materials. The Deputation submitted incontrovertible evidence that the only material in short supply was timber, and that, although permits for its use in building were refused, it was released to cover sandbags, statues and shop fronts.

The main policy underlying the machinery of war-time control and production, and informing all branches of the administration and industry, the *Survey* urges, should be the need, paramount in war-time, to mobilize the entire national resources for the common effort, to raise the national economic war potential as rapidly and smoothly as possible, and to maximize the national income from which the resources to pay for the war are derived.

The function of a particular industry in war-time thus depends on two main groups of factors : the extent of Government requirements on the one hand and the extent of the available resources on the other. The Government requirements depend as to their size and direction on military and other considerations with which industry as such is not directly concerned, but the exact form those requirements take is a matter with regard to which industry has often a definite point of view to express. The available resources will comprise the resources of the industry itself in men, materials and capacity, and the availability of fluid resources, particularly finance.

In the case of the building industry, states the Council, the precise extent of the Government requirements is not known. It is understood that they will be considerable and that they include the provision of stocks of materials in case of emergency which will require no labour, apart from that involved in manufacture, until after the eventuality for which they are provided has arisen.

It is true that there has been official consultation with individual sections of the building industry on certain problems, but there has been no consultation with the industry as a whole nor with the important manufacturing section as to Government requirements. Yet it is particularly true of building that, although Government requirements as to accommodation, etc., may be known, the precise form which the programme should take can only be efficiently determined by reference to the available resources. Only so can a drain on a few kinds of labour and materials, with consequent distortion of the industry, be avoided.

As regards the resources of the building industry, it is pointed out that there has been no official consultation with the building materials interests as a whole on the question of supply, although this is a key to the position. On the one hand, balanced employment can only be assured for the labour resources of the industry if materials are available in the correct proportions. On the other hand, difficulties arising from a shortage of key materials such as timber, the only material for which we rely on overseas supplies, largely depend for their solution on the knowledge, adaptability and research of the materials industries in the development of alternatives.

As regards availability of labour, it has been credibly stated that one of the reasons for the widespread stoppage of building work was an official belief that the industry would be needed to repair air-raid damage and that men must therefore be "reserved." It is true that the building industry comprises the only trained body of men competent to repair and restore damaged property, but labour and industrial capacity are not reserved for this purpose by being kept in idleness. Compulsory unemployment leads to disintegration of industrial resources. Labour and capacity can only be reserved by being kept active. There is no justification for stopping work on account of labour supply, unless the men released are absorbed in the war effort, and most of the occupations in the building industry figure in the Schedule of Reserved Occupations.

As regards availability of finance, it is also true that resources are not conserved by being kept idle. The only source of funds to finance the war effort, including the satisfaction of civilian war-time requirements, are depletion of capital by realization of foreign investments and failure to repair or renew equipment, overseas borrowing and internal borrowing and taxation which depend for their scope on the size of the national income. An attempt to "conserve" resources by restricting investment, even when it would meet the needs of the civilian population, leads only to a reduction in the national income and hence in the yield of taxation and borrowing unless the industrial resources released are absorbed in the war effort. The financial problem is not merely one of diverting funds to war purpose but also one of building up the total resources available.

The Council urges that the national interest points clearly to the need for a relaxation of the financial ban. Finance and industry are interdependent. Although withdrawal of facilities can damage building, a crippled building industry cannot possibly benefit financial interests or the community.

Moreover, the organized building industry must place the responsibility for the effects of restrictions on its activity where it rightly belongs—on those imposing the restrictions.

TIMBER CONTROL

Last Friday the Timber Controller (Major A. I. Harris) met representatives of the Press at the Ministry of Supply, to give them an account of the work of his Department and answer their enquiries. He said :

Since its inception, timber control had necessarily been directed towards conserving supplies, especially in the case of softwoods. Our imports from the Baltic had been cut off, including those from ports which before the war had sent us most of the timber we received from Sweden. It was unlikely we should get anything from Russia. Plywood had come chiefly from Finland, but even before the Russian invasion we had been unable to get anything from that country. To make up for the deficiency home-grown timber was being further exploited and trade was being developed with Canada. Regarding the home supply, we had to use everything that could be produced in this country in order to save shipping; and he hoped those who had standing timber would appreciate the position. It was a national duty as well as a matter of self-interest for land agents and estate owners to sell, and sell now, because the maximum prices fixed at the outbreak of the war would not be increased. Forestry Commission were charged with the particular duty of stimulating the production of home-grown timber and worked in close liaison with the Timber Control. Licences for cutting and using British timber would be given a great deal more freely than for imported timber.

Until such time as home-grown exploitation had gone a great deal further than at present it would be necessary to obtain the bulk of our requirements from overseas, but the Control was most scrupulous not to demand ships that were not absolutely essential. This was in order that as many ships as possible might be released for food, munitions and other materials even more vital than timber. One great difficulty in utilizing Canada's resources was that so much of her timber came from the west coast. In present circumstances it took several months to send a ship out to British Columbia and get the timber over here; but arrangements were being made to bring part of this timber across the American continent by railway.

The army's requirements for the prosecution of the war were so great that trades which used the bulk of our timber in peace-time were to a large extent faced with having to give over. This fact created a feeling in the minds of people engaged in those trades that they were prepared to see their businesses dwindling and a great many of their employees becoming redundant, provided they could be sure that the timber going into consumption was being really used for war purposes, not wasted. The Control was able to give the assurance that this was so. Various economies were being effected such as the use of crates instead of boxes, the making seats of slats instead of solid boards, and so on; and these would in the aggregate reduce the consumption of softwoods by the Services by a quarter of a million tons per annum.

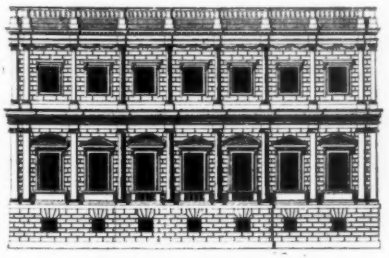
Between 350,000 and 400,000 tons dead weight of shipping which would be required to bring this amount of wood to this country would thus be diverted to foodstuffs or something else which at the time might be even more important than timber.

After his address Major Harris answered a number of questions on various aspects of the timber problem. Among other questions he was asked whether some part of the Canadian shipments of softwoods were to be devoted to civil building.

He replied that timber was being released for housing wherever additional houses were required within reasonable reach of the new munition factories. What might almost be called munition towns were being put up. With regard to new houses for ordinary civilian use, it was perhaps going rather beyond his province to make an announcement on something which was practically a matter of major Government policy; but he understood that the Government did not wish the Timber Control to release timber for ordinary civilian building, housing schemes and so forth, except so far as the completion of houses already started was concerned.

Asked as to the furniture trade, the Timber Controller said the advice he had to give was on similar lines to that he had given to the building trade. But there were still in this country considerable stocks of the very expensive hardwoods, e.g. Austrian oak, Japanese oak and some of the mahoganies. These were being released freely and there was nothing to prevent merchants selling. Licences would be given also for home-grown hardwoods for furniture.

On the question of prices, Major Harris said the prices in the Control of Timber Order were maximum prices to consumers, and prices charged in peace-time in centres like Hull and London were entirely different from those that ruled in some of the remoter parts of the country. Some of the larger consumers who had been able to buy at the cheapest rate would now have to pay more than they had done before the war, but on the other hand some of the smaller people would be paying less. It was difficult to fix an average price which reflected the market, but he knew that some of the northern prices were actually lower than some people were obtaining before the war.



NEO-CONTOURING OR HOLLYWOOD FROM THE OUTSIDE

[BY JOHN GLOAG]

SOME harsh person once described Los Angeles as "seven suburbs in search of a city." The suburbs are very much in evidence. The city suggests that a number of rich and irresponsible people were once very enthusiastic about the place, but their enthusiasm cooled off. The results are mixed and most peculiar. Perhaps I expected too much from Los Angeles. After passing through the orange orchards that flank the railroad from Pasadena you can't help expecting something exotic to burst upon you ; and the magnificent railway terminal, large, spacious, untroubled by advertising of any description, suggests the foyer of some superb and dignified government building. As usual, no name is visibly apparent on the station ; but

you know it is Los Angeles, because your baggage has been removed and you march down to the waiting taxi feeling that a city with such a name and with the hot eyes of Hollywood gleaming in the background of its life must have some special enchantment of its own, not unallied with what used to be called wickedness but is now called glamour. Well, there *is* a certain amount of glamour : there are some of those abnormally large civic buildings ; there are palm trees ; there is a strong smell of Spain—the peculiar burnt scent which haunts almost any southern Spanish town. There is a Broadway, which, with its close-packed Neon lighting, imitates another and longer Broadway. There is Main Street, once important but now full of cheap dives and risque sideshows ; there is also the Angelus Temple where Aimee Semple Macpherson announces " Continuous Revival." (But it is perhaps unfortunate that quite close to this announcement a poster, forming part of a co-operative advertising campaign by Los Angeles morticians, announced : " In time of need consult your local funeral director.")

The Angelus Temple, which adjoins the large nineteenth century house of Aimee Semple Macpherson, is a building of richly mixed classic style : and you have to fight to get in. (" Some Day my Prince Will Come," was the theme of Miss Macpherson's address on the day I inspected the temple.)

Loss Angeles is a mixed-up city—large sprawling and casual. In the residential suburbs, the most fashionable outfits rub shoulders with houses where, shall we say, the lipstick has worn off and the make-up has gone flaky ; but the whole place is architecturally self-conscious. For example, I stayed at the Biltmore Hotel ; and in what other hotel guide would you find, after the vital information as to where dancing and dining could be carried out in a discreetly appropriate way, the heading entitled " Architecture "? And this is what appeared under the heading :—

" An iron gateway, finished in antique gold, leads to the main dining-room. It unfolds into rows of massive pillars at either side, setting off the perfect proportions of the room.

" These pillars still all echoes and render the room free from conversational hum. The room is distinctly Italian. The Northern Italian manner has been kept as the salient character of the painted ceilings.

" Strictly Biltmore — in taste and dignity."

Another example : After looking at a particularly dreary apartment block which gained glamour from the fact that George Raft occupied the penthouse, I was shown another apartment block where Mae West had the whole of the top floor. Everything, I was told, was in white, even the ceilngs, and walls. I pointed out that this decorative treatment was not unusual ; but then I was told, in a hushed tone, that the ceilings and walls were covered with white satin. Any comment that I might have made would have been like shouting in church. Make no mistake of it, the stars are worshipped here, and occasionally they step out and influence taste in a big, whimsical, or quite unbearable fashion. Walt Disney, for instance, has attached to his studios a little bungalow court for his artists. Around a small green lawn, some dear dainty little houses cluster, all resembling the dwarfs' cottage in " Snow White."

Hollywood is full of flags, signs, stunts, palms, abandoned enterprises and mushroom growths. There's a street which is called " Poverty Row " because it is distinguished by half-formed businesses that have swallowed up all the available capital before getting to the stage of producing anything. The place is a mad medley of style—everything from almost-Tudor to practically-Spanish, Mexican or French, and occasionally some calm, open modern building, like the house and studio of Mr. Richard J. Neutra. But the Silver Lake district, which is the snooty residential suburb, does show to the world a community that longs for architectural expression and is occasionally capable of commissioning architectural distinction.

There is, of course, a tourist trap, namely, Olvera Street, full of high-priced " craft work " of unspeakable incompetence ; there are parks ; there are lakes and open spaces ; but the place, Los Angeles and its suburbs, seems to lack any coherent civic character. It has been practising, ever since its rise to prosperity, the peculiar activity which I saw announced over a shop in Hollywood, namely, " Neo-Body Contouring." This shop sold corsets ; all kinds of speculative builders and almost-architects have been selling shapes to the inhabitants of Los Angeles, who are always game for a bit of " Neo-Body Contouring " in an architectural way. The result is that the place has no shape as a whole, and is an extraordinary admixture of squalor and luxury, sense and stupidity, and the most amazing museum of styles. It is a fortuitous city of tomorrow—with vacant blocks left for car parks and refuse ; a city inhabited by people of muddled tastes. I found it difficult to think of it as a city at all after the pure style and consistent architectural character of most of the cities I have seen in this large land of large and sometimes wasted opportunity.

LETTERS

Gunn v. *Jordan*

SIR,—In reference to " Architecture of the Great Truce " in the New Year's Number, two of the dates of the buildings illustrated are not correct by something like 10 years ; i.e. my Kelling Hall was designed in 1911 —built 1912 : it is pre-last war, which might affect Gunn's and Jordan's arguments.

Also, I see Heal's is put down as 1921. This was designed by Smith and Brewer in 1914, built 1915–16.

EDWARD MAUFE

London.

[*We specially regret the mistake concerning Messrs. Heal's, in that the right date (1916) is plainly shown on the front of the building in the photograph which was reproduced.* —Ed. A.J.]

Art of the Black-out

SIR,—Mr. F. R. Jelley's letter entitled " The Art of the Black-out " draws attention to a very bad state of affairs regarding sandbags as a protection from bomb explosions. I very much doubt if any of them would stand the shock of a bomb in their present state, and when they are covered with wood, as many of them are, the risk of fire is intensified. What is wanted is for the Ministry of Civil Defence to consult architects as to the best means of protection ; and, having carefully designed a protection with some sort of beauty and safety, have leaflets printed and delivered giving everyone the knowledge they have gained by going to the fountain head of designers and not leave the job to carpenters, bricklayers, and the hundred and one people who are endeavouring to protect their premises but making a very bad job of it, both as regards efficiency and safety.

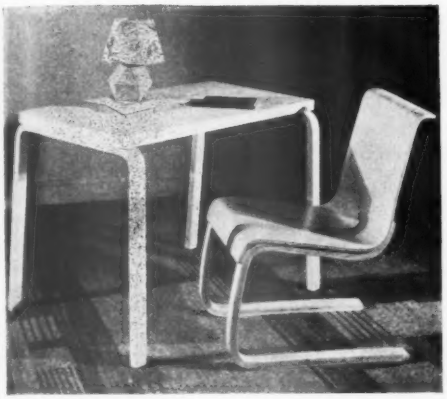
F. C. PRESTOE

Hornchurch

Livelihood Census

SIR,—The War Executive Committee of the R.I.B.A. has published a Memorandum containing some figures, not apparently for their intrinsic importance, but merely in an attempt to refute a statement that " salaried architects already account for 75 per cent. of the profession," contained in a letter to *The Builder* of January 5.

The Memorandum starts by referring to " misunderstanding about the distribution of the membership of the R.I.B.A. as regards private practice and official employment." There is, however, no such " misunderstanding " ;



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EXHIBITION OF FINNISH GOODS

A small display of Finnish goods (mostly furniture and pottery) is now being held at Heal's showrooms in Tottenham Court Road, W.C. Part of the proceeds of the Exhibition is to be given to the Finnish Red Cross Society. The illustrations show exhibits designed by Alvar Aalto. 1 : Table and chair in polished birch. 2 : A chaise longue built of laminated birch plywood. 3 : Polished birch plywood trolley wagon. The decorated earthenware tray has a glazed finish and is interesting technically on account of its large size. The decoration was designed by G. de Snellman Jaderholm.

there *is* a claim that the control of the R.I.B.A. does not reflect the composition of the Institute and is heavily weighted in favour of private practitioners. This claim can be easily substantiated by reference to the composition of the Council.

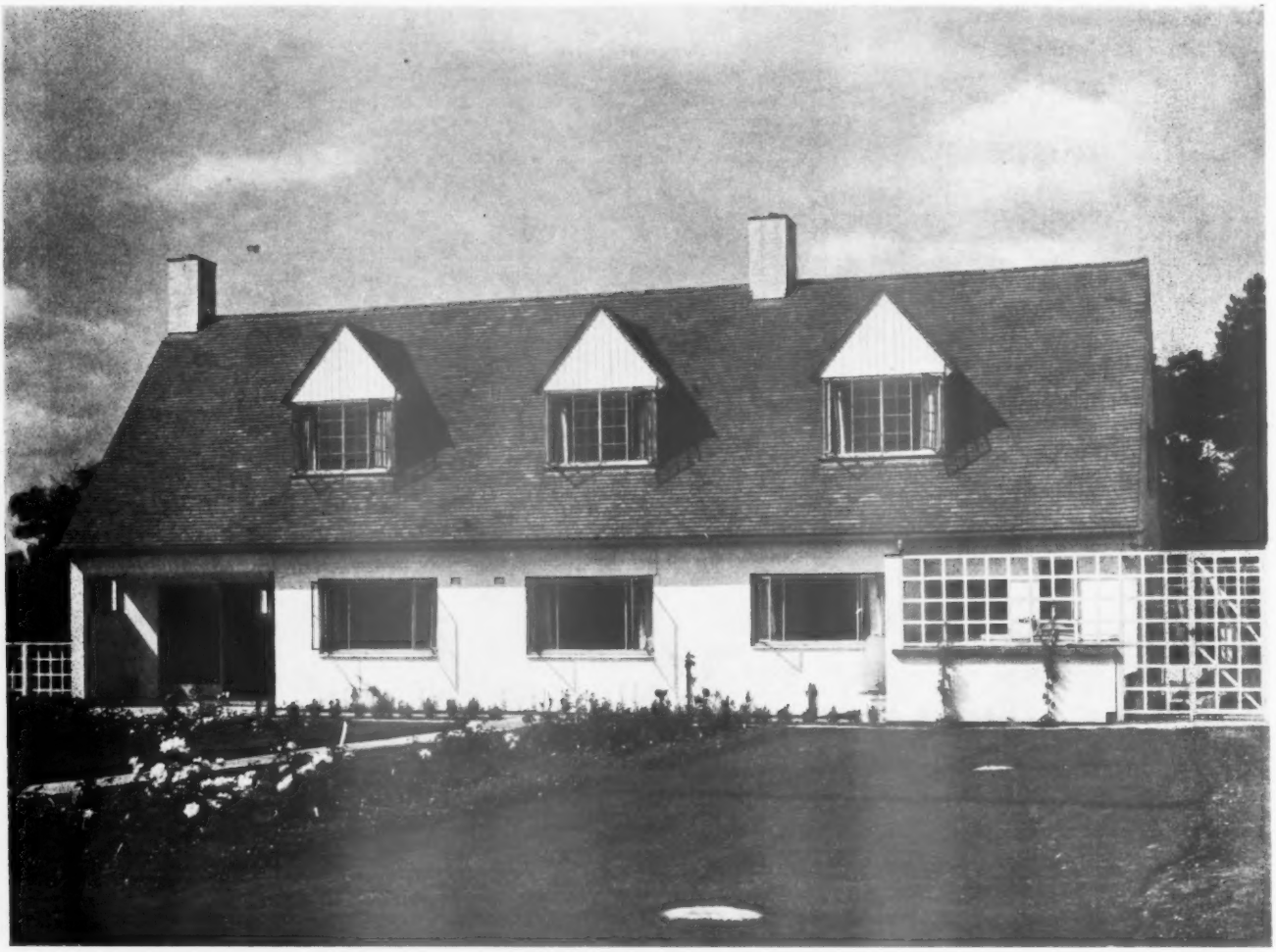
The Memorandum ends with the assertion that the figures it contains disprove the statement made in the letter referred to, and qualifies its claim by saying "as far as the R.I.B.A. is concerned." But the statement in the letter which appears to have so upset the War Executive Committee (a statement made, by the way, on the authority of Mr. R. A. Duncan, a member of that committee) refers to *salaried* architects in the *whole* profession. It cannot be answered "as far as the R.I.B.A. is concerned," nor is it refuted by figures relating to private and official architects.

The Committee asserts that the census "has brought the true figures to light." These figures, however, repay examination. The census apparently yielded 6,415 replies, of which 3,240 were from private practitioners and 840 from assistants in private offices. Adding these together, the Committee claims that 63.5 per cent. of the *whole* are "members engaged in private practice." But an assistant in a private office is not engaged in private practice; he is a salaried architect. The only deduction of any significance from these figures is that private and salaried architects are approximately equal in numbers.

This deduction is nevertheless a false one, inasmuch as the figures are obviously very incomplete. Most private practitioners hold R.I.B.A. qualifications, and it is possible that the figure of 3,240 is fairly accurate. But is it credible that there is only one assistant to every four practitioners? In fact, it is well known that many of the younger salaried architects never filled up their registration cards, having no faith in the utility of the Register. Moreover, the active membership of the R.I.B.A. contains (1939-40 Kalendar) 8,594 qualified architects; in addition, there are 2,061 students and 4,880 probationers, most of whom are in salaried posts, and a large body of architects outside the R.I.B.A. In the absence of any indication in the Memorandum as to how the figures given are split up amongst the various categories, it is impossible to know whether the census returns are proportionately true, either for the whole profession or "as far as the R.I.B.A. is concerned."

The fact is that this Memorandum appears tendentious in character and confused in matter; the figures it presents are used disingenuously to support an irrelevant contention, and are themselves meaningless in their present form. It may be surmised that the criticisms made recently by the A.A.S.T.A. and others of the conduct of architectural affairs by the R.I.B.A. have upset the equanimity and affected the judgment of those against whom these criticisms were directed; it would

HOUSE AT BARNT GREEN



GENERAL AND SITE—Open, relatively large, site in residential district, about 10 miles south of Birmingham.

PLAN—View is towards the south away from road, and rooms are arranged accordingly, with pantry, larder, hall, bathroom, etc., on the north. Special requirement: one bedroom with adjacent bathroom on ground floor.

CONSTRUCTION AND EXTERNAL FINISHES—11-in. cavity brickwork; 2⅝-in. hand-made facings, whitewashed; dark burnt clay roofing tiles. The dormers have a filling above the windows of 4-in. tongued and grooved boarding painted white; this avoids heavy appearance usual with big dormers.

INTERNAL FINISHES—All walls distempered pinkish off-white; colour of paint-work varies in different rooms.

be more in accordance with their pretensions if they were to issue a revised edition of the census figures, properly analysed, not in the form of a misdirected refutation of one of their own members, but simply as information which is needed by the profession as a whole.

K. J. CAMPBELL, A.R.I.B.A.
Chairman, Public Relations Committee of the A.A.S.T.A.

SIR,—With reference to the R.I.B.A. "livelihood" figures published in your issue for January 25, as these figures apply only to members of the R.I.B.A. the conclusion drawn by Astragal, viz. that only one in four private architects has even one assistant, while the official principal has 6.1 assistants at his beck and call, is misleading.

It would be more correct to say that one in four private architects employs one assistant who is a member of the R.I.B.A., while each official architect is responsible for employing 6.1 members of the R.I.B.A. In recent years it has been usual for public authorities to insist, when advertising for assistants, that applicants shall be members or students of the R.I.B.A., but I have never heard of an architect in private practice making such a stipulation. Why is this?

My own experience, gained in both types of office, has convinced me that, while the public authority, in most cases, is prepared to pay the sort of salary that a chartered architect (although only an assistant) might reasonably expect, the private practitioner is not, and he cannot, therefore, insist on such a qualification.

"Interesting responsibility" is very poor compensation for a low income, and this, I believe, is why there are so many more qualified assistants in the offices of public authorities than in those of private architects.

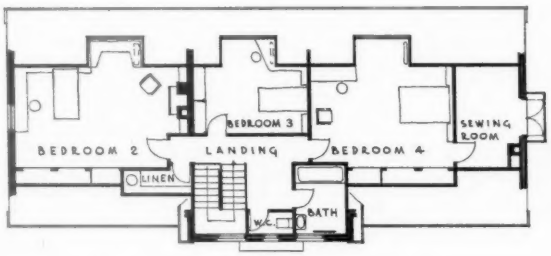
JOHN L. HOPE

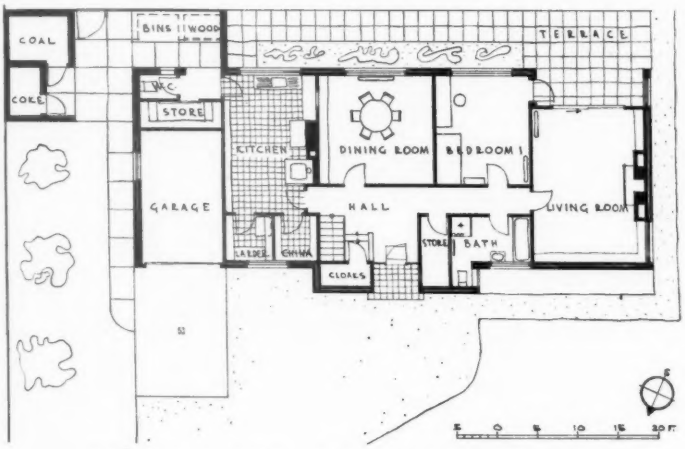
Maurice Webb Memorial Fund

SIR,—I should be grateful if you would allow me to call the attention

N WARWICKSHIRE

DESIGNED BY F. W. B. YORKE





GROUND AND FIRST FLOOR PLANS

Top, the living room looking towards the terrace ; bottom, the entrance hall and staircase. Facing page : the south-east front.

Exposed brickwork to fireplace surround is painted same as plastered walls. Built-in furniture is wax-polished mahogany. Floors to ground floor rooms are Columbian pine, beech, or cork tile, except kitchen, pantry, etc., which have buff quarry tiles. Floors upstairs are close-boarded for close carpeting. Shower enclosure is formed with pre-cast and *in situ* travertine terrazzo. The staircase balustrade is formed with $\frac{3}{4}$-in. round mahogany balusters. Built-in wardrobes occupy the roof space. They have flush doors, like the room doors, but in pairs, same height and same details.

COST—1s. 5½d. per ft. cube measured 2 ft. 6 in. below ground floor level to half height of roof, i.e. ceiling level.

General contractors were J. A. Brayer, Ltd. ; for list of sub-contractors, see page 149.

of your readers to the above fund, which is being raised as a memorial to the late Maurice Webb. You were good enough to print the original appeal which was issued, and I am glad to say that the response has been, as one would have expected, a generous one.

There are, however, many who, with the fullest intention of subscribing, have not yet done so, and as we are anxious to close the fund at the end of February at the latest, when it will be decided with the Architects' Benevolent Society how to dispose of the money raised, I am sure this reminder in your columns will do what is required of it.

It is not proposed to publish a list of subscriptions, but later a list of subscribers will be circulated privately amongst those whose names are included.

Money is needed for the Architects' Benevolent Society, and this appeal provides a means of helping the society and also of paying a tribute to one who was held in great affection and who would have liked nothing better than his memory being honoured by assistance being given to the Society which claimed so much of his interest.

Donations, small or large, should be sent to the Honorary Secretary, Maurice Webb Memorial Fund, Architects' Benevolent Society, 66 Portland Place, W.1.—F. R. YERBURY, Hon. Sec., Maurice Webb Memorial Fund.

Camps and Washing

SIR,—It was very interesting to see the articles in the JOURNAL for January 18 about Government camps, and more interesting still to see the photographs, but can you tell me why no Press photographer from an architectural paper ever thinks it worth while to take a photograph of either the shower rooms or the wash-basins ?

There are photographs of the dormitories, the dining-room, the gymnasium, the assembly hall, and miles of photographs of the exterior. Does one infer

that washing is the sort of thing that is just not done in evacuation camps ?

I can understand that formerly washing equipment would not stand inspection, but the washrooms of modern places are extremely interesting and often very handsome, and as a personal accomplishment, washing is at least as interesting as dining.

Would it not be a good idea to pass word down to the illustrations editor that wash-rooms and shower-rooms are very interesting, and worth a place even in these days of scanty periodicals ?

WALKER, CROSWELLER & CO., LTD.
J. M. WALKER, DIRECTOR
Cheltenham

Camouflage

SIR,—I see in Astragal's column in the January 11 issue of the JOURNAL that some engineer has at last put forward the theory that England could be rendered almost invisible from the air by the general application of a carefully selected shade of pale green paint. This idea has, I believe, long been highly thought of in certain quarters, and is comparable to the suggestion to paint the hulls of our shipping sea-green in order to avoid detection by submarines.

Frankly, I am amazed at the ignorance

DISTRICT NURSES' HOME, B

DESIGNED BY E. VINCENT H

Above and facing page: two views from the north.

GENERAL AND SITE—Residence for five district nurses and a housekeeper. Site adjoins Fountain Square and has a frontage to High Street, Braintree, Essex, the building line being set back 20 ft. from the boundary. There is a small garden in the rear upon which the whole of the rooms front with a south aspect. A garage for two cars and tool shed has been provided.

PLAN—The apartments arranged in the building are : Ground floor : Sitting room, dining room (these two rooms can be thrown into one), kitchen, pantry, housekeeper's room and district nursing office. First floor : Six bedrooms, with built-in wardrobes and lavatory basin ; bathroom and linen store.

CONSTRUCTION AND EXTERNAL FINISHES—Facing bricks, 10-in. by 2-in. Northwick bricks with Portland stone dressings. Roofs are covered with Delabole slates ; and oak windows are fitted. The Portland stone figure of the nurse over the door and the lettering were executed by Eric Gill.

INTERNAL FINISHES AND EQUIPMENT—Walls, generally, plastered to all rooms, excepting kitchen, pantry and bathroom, which are tiled. District nursing office is fitted with sink, draining board, sterilizer and heated drying cupboard with fan for drying nurses' coats.

HEATING—Heating is low pressure hot water operated by an automatic stoker.

General contractors were Chas. Deaves and Son ; for list of sub-contractors, see page 149.

of the public at large—and not only of the public—on this matter of camouflage. Nearly every day I come across people who think that the sole object of camouflage is to render buildings invisible; this is neither desirable nor practical. The most the camoufleur can do is to render the objective in question unrecognisable as such, which may be done in many ways.

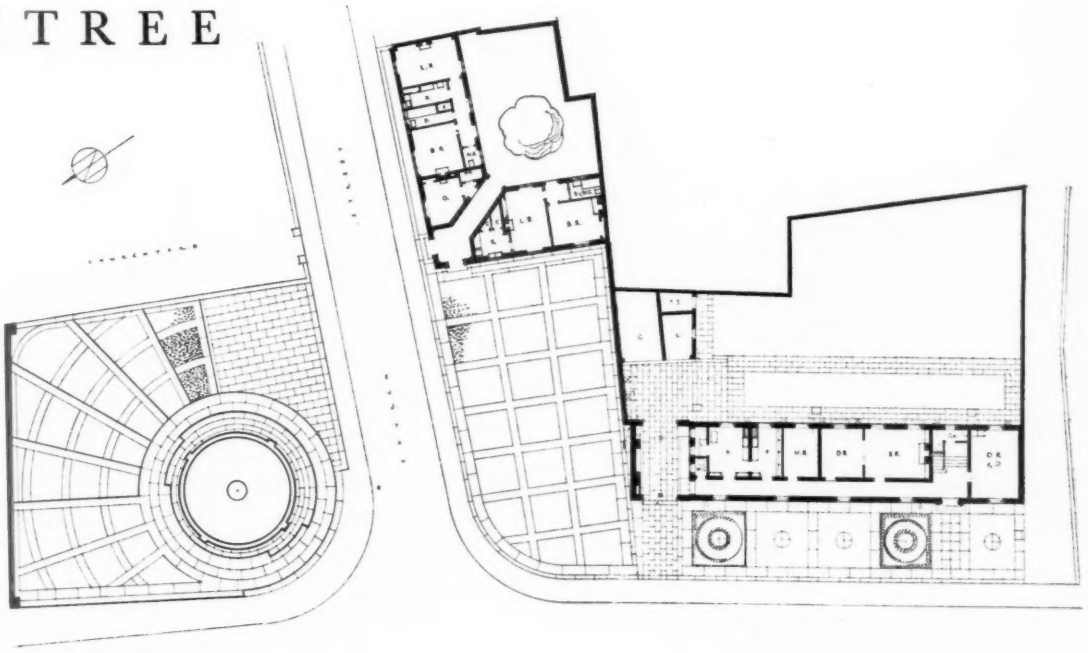
There are, of course, no hard and fast rules governing design in camouflage. Every job must naturally be considered in relation to the surrounding countryside, local weather conditions, roads, railways and many other details which vary very greatly all over the country; and it rather amazes us at the Design Unit, who have been responsible for the camouflage of over a million square feet of property each week since war began, that this suggestion should be put forward for serious consideration.

It would not, however, surprise me in the least to see this idea boosted in the Press—doubtless under the slogan of "England's green and painted land."

R. F. INGLES
Design Executive, Design Unit
Camouflage Division, London, E.C.4.

BRAINTREE

HARRIS

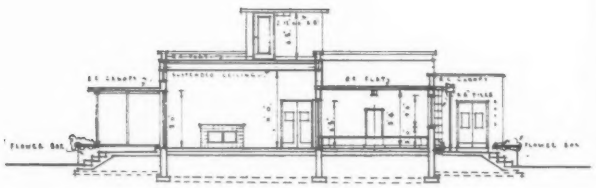


GROUND FLOOR PLAN

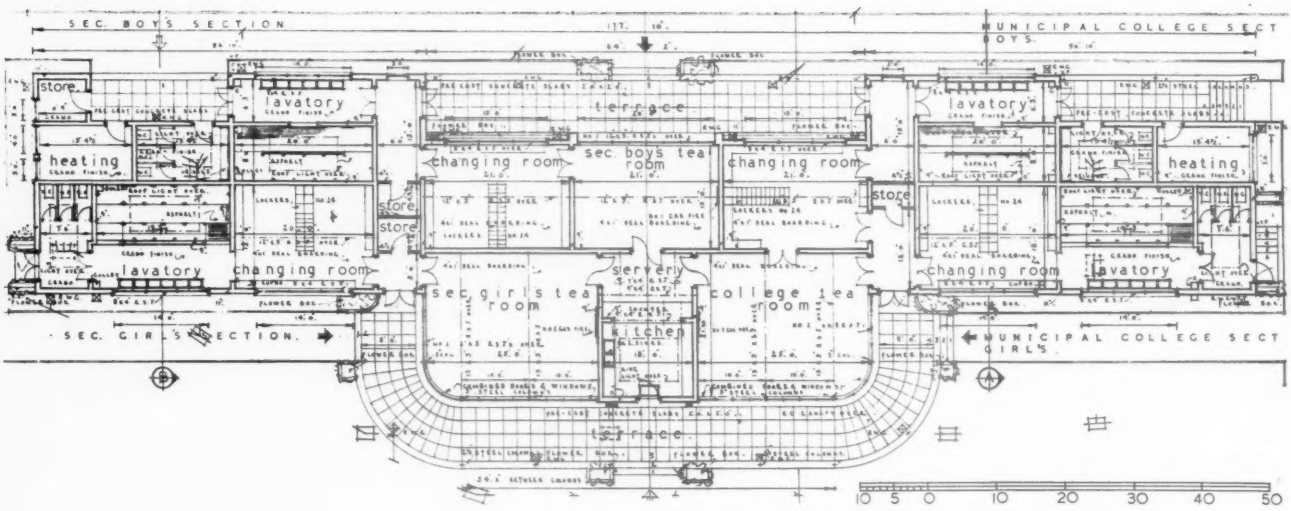
PAVILIONS, BO

DESIGNED BY W.

PAVILION No. 1



PLAN AND SECTION



GENERAL—Two sports pavilions on 28-acre school playing fields. Pavilion No. 1 provides accommodation for (*a*) the Bournemouth School for Boys, (*b*) the Bournemouth School for Girls, (*c*) the Municipal College, Men and Women. Pavilion No. 2 provides accommodation for a certain section of the elementary schools of the County Borough which lie within easy reach of the playing fields. This pavilion was to be sub-divided into two sections for boys and girls.

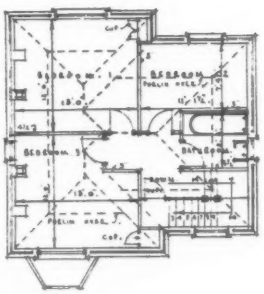
PLAN—Pavilion No. 1 : Separate tea rooms were required for the Municipal College and both the secondary schools. Pavilion No. 2 : Separate tea rooms were required for elementary school boys and girls with a fully glazed sliding folding screen between the two, so that one large room could be used for special occasions.

CONSTRUCTION AND EXTERNAL FINISHES—11-in. brick cavity walls externally, 9-in. internally, weight bearing ; R.C. canopies. Roofs are solid slab reinforced concrete. Floors are solid on hard core ; 4-in. by 1-in. deal strip finish to tea rooms and changing rooms.

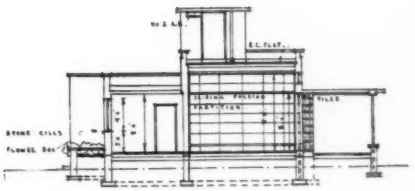
INTERNAL FINISHES—Finishes apply to both pavilions. Tea

BOURNEMOUTH

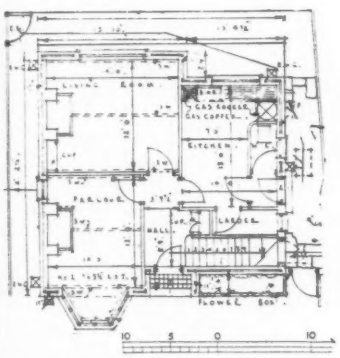
W. L. CLOWES



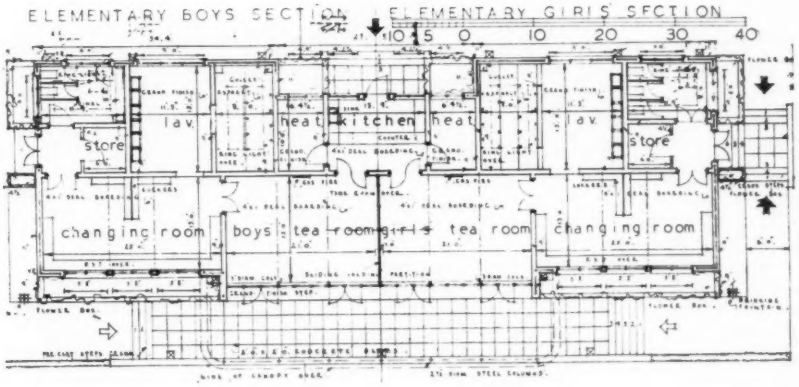
PAVILION No. 2



PLAN AND SECTION



GROUNDSMAN'S HOUSE:
GROUND AND FIRST FLOOR PLANS



Rooms : 3 ft. birch plywood dado, wax polished on the natural wood, plaster finish over. Floors are of deal boarding, stained. Two gas fires heat each tea room, and are grouped together and finished in Nile green enamel to match general paint work. Changing rooms : 3 ft. birch plywood dado stained with special water stain to a silver grey finish. All lockers and seating are stained to match. Plaster finish over dado ; deal boarded floors, stained.

Lavatories : Dado of seamless cement finish with cream base colour to match wall finish, and Nile green spot to pick up the colour of paintwork on metal windows. Floor, granolithic. Showers : Red asphalte floors.

SERVICES—Each pavilion has two separate heating units so that there is adequate storage of hot water within easy reach of all shower compartments. Water is heated by gas-fired boilers.

COST—One contract for both pavilions and the house for the groundsman. Contract price, £13,100.

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. After five months building work has become less hand to mouth and the various building controllers more generally known. But this does not mean that the need for the Centre has grown less. The passing of the first emergency has in fact stressed the need for an Information Centre to deal with all aspects of wartime building and architectural practice, and the Centre will continue to answer all such questions.

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?

Q154 NORTHAMPTON.—*Are there in existence any COURSES IN CAMOUFLAGE which civilians may attend? According to the press one such course has been organized at the South-Eastern Technical College at Barking. Are there others?*

The statement which appeared in the "press" was quite unauthorized, and was in some respects incorrect. We understand from the South-Eastern Technical College that their course is an evening one on the Principles of Camouflage, and is in no way connected with the Military Authorities. This course is open to senior students of architecture and art. We do not know of any similar courses and, in fact, the Government is not greatly in favour of them because of the possibility of giving information to the enemy.

Q155 HUDDERSFIELD.—*I have completed an Air Raid Shelter for a commercial building under the Civil Defence Act, 1939. The occupiers, according to the Act, have to pay their contributions to the cost in regular instalments over 10 years. In this case, the TENANTS DESIRE TO PAY the cost in two or three instalments spread over two or three years, to which the landlord agrees. Is there any legal objection to this?*

If both parties agree to the altered period, we understand there is no legal objection.

Q156 EALING.—*Can you recommend a building paper for COVERING SAND-BAGS?*

We suggest either "Sisalkraft," "Ibeco," "Econocrete" or "Conloy."*

Q157 FALKIRK.—*About five years ago I built a two-storey house for a client, the outer walls of which are constructed of 12-in. hollow walls (4½-in. inner and 4½-in. outer walls and 3-in. cavity), finished on the outside with two coats cement plaster and dry dashed with Sussex Pebbles, the inside face being finished off with ¾-in. coat of plaster. One of the corners in one of the rooms periodically becomes very damp, the DAMPNESS gathering on the face of the plaster and rising from the top of the skirting to a height of nearly 4 ft. and gradually disappearing. The under building has been opened up and the dampcourse carefully examined, and not the slightest indication of any dampness has been discovered. The wall ties have also been carefully scrutinised and cleaned, and there is no appearance of dampness travelling across these. The dampness dries up for a time and then reappears, and although several waterproofing liquids have been tried none has proved successful. If you have had any experience of this matter, I shall be very glad to have your views, as it is causing a good deal of anxiety to the proprietor of the house.*

There are so many causes of dampness that without making an inspec-

"Sisalkraft": Messrs. J. H. Sankey and Son, Aldwych House, London, W.C.2. "Ibeco": Messrs. C. Davidson and Son, 23 Upper Thames Street, London, E.C.4. "Econocrete": Messrs. J. Steel & Co., Cranemore Street, Nechells, Birmingham, 7. "Conloy": Messrs. Robinson Waxed Paper Co., Fishponds Bristol.

tion, it is impossible to give an opinion. We suggest that you call in a firm of experts, such as British Knapen, Ltd.,* who are prepared to guarantee a cure if they can discover a cause.

Q158 MANSION HOUSE.—*I have to provide an AIR RAID SHELTER UNDER THE NAVE of a church, which is 60 ft. high to the springing of the roof. What debris load am I to take? Can I assume 200 lb./sq. ft., as it is only one storey?*

The 200 lb./sq. ft. prescribed in the Air Raid Shelter Code can hardly be meant for exceptionally high buildings like churches. Pieces of masonry falling from a height of 15 to 20 ft. would doubtless pierce a construction dimensioned to this low limit. The minimum load should be 400 lb./sq. ft. The best protection for a shelter under a church would be 2 ft. 6 in. of earth, which would be able to take a large proportion of the kinetic energy of falling debris. If 2 ft. 6 in. of earth were provided above the shelter ceiling, it would be sufficient if the ceiling were designed to withstand a debris load of only 200 lb./sq. ft., in addition, of course, to the ordinary dead and live loads.

Q159 WESTMINSTER.—*Contractors, experiencing difficulties in obtaining SUPPLIES OF TIMBER for concrete shuttering, have for the particular job in question been able to hire supports in pressed steel units, and are seeking suggestions for materials other than timber and steel for the shutter linings and to span over these pressed steel supports, which would be arranged to run longitudinally at 12-in. centres.*

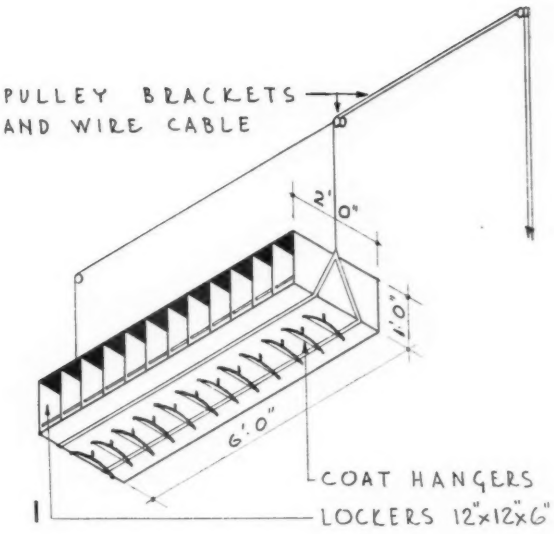
The most obvious alternative material, other than waterproof plywood, which is said to be likewise unobtainable, would be one of the wood fibre hardboards. Over the past ten years there has been continued use of these boards for shutter lining, but, generally speaking, such boards were of the tempered or ultra hardboard class of fibreboard. It is to be expected that in these days supplies of ultra hardboard are limited or even non-existent. But the ordinary or standard hardboard could be used. Certainly it may not be so resistant to damage by water infiltration, but its useful life could be prolonged by using a thin waxed paper between the board and the poured concrete. The particular firm of contractors enquiring are also well known as manufacturers of precast concrete units, and it was suggested they themselves might like to adopt shutter linings formed of thin concrete slabs lightly reinforced, say in sizes of 36 in. by 12 in. By painting the surfaces of such units with aluminium paint in a spirit medium and the subsequent application of mould oil, it can be imagined that the units will be readily detachable from the set concrete. Again, it might be that these shutter units in thin reinforced concrete could be designed to key mechanically to the poured concrete and left in position as part of the structure.

* *Messrs. British Knapen, Ltd., Stone Grove Manor Edgware, Middlesex.*

Q160 CITY.—*I am not certain whether the Code requires a connection from the mains as well as an independent LIGHTING INSTALLATION. I propose using a dry battery installation only, in a shelter for a commercial building. Will this satisfy the authorities?*

Yes, provided a sufficient supply of batteries is always kept in the shelter. The Code demands that the normal lighting service shall not be depended upon alone, because of the chance of failure.

Q161 GLOUCESTER.—*We propose to store WORKMEN'S CLOTHES in our factory by means of racks suspended in the depth of north light roof trusses.*



Can you tell us of any contractor who manufactures this kind of equipment?

Fig. 1 shows a nest of sheet steel lockers with coat hangers. This 6 ft. unit weighs approximately 60 lb. loaded, and can be suspended by pulleys from the roof truss. It is made by Pinders.*

REFERENCE BACK

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

Q61

BRISTOL.—*Since I wrote my first letter I have been puzzled by two further points, as follows: There seems to be a discrepancy between the* ARCHITECTS' JOURNAL *of October 12, page 46, paragraph 1, where it is stated in connection with commercial buildings "the owner is supposed to receive the full expenses due to the erection of the air raid shelter, paid back to him in the course of ten years, but apart from that he receives the Exchequer grant," and the* ARCHITECTS' JOURNAL *of October 26, page 519, question 56, answer 2, where it is stated that in "computing the rent increases for tenants in a commercial building, the exchequer grant should be deducted from the gross expenditure as provided by Section 18, subsection 3, of the Civil Defence Act." On referring to the Act it seems to me that the subsection mentioned refers only to factory premises, but I should be glad to have your confirmation of this.*

Section 18 refers only to factory premises and the exchequer grant is

* *Messrs. Pinders (Metalworkers), Ltd., 26 Lordship Lane, Tottenham, London, N.17.*

deductable as provided by that section. Section 19 applies to commercial premises and the expression "expenses" means expenses reasonably incurred. As the exchequer grant is to be a proportion of the capital expenses incurred it would appear that in order to arrive at the actual expenses reasonably incurred the amount of the grant should be deducted. Apparently this is not the intention of the framers of the Act because, when the matter was debated in the House of Lords, it was stated that the grant would not be deducted. Until the point is judicially decided the exchequer grant should be ignored for the purposes of the calculations in this section. The situation with regard to the distribution of expenses is rather involved, especially as the responsibility for the shelter, and consequently the payment of the grant, refers, in some cases, to the occupier, and in others to the owner. We have endeavoured, however, to analyse the rights and duties of owners and occupiers of different buildings. Part 3 of the Civil Defence Act refers to mines, factories and commercial buildings, and Part 5 to Undertakers for Public Utilities purposes. It is clear, therefore, that no regulations governing mines, factories and commercial buildings can apply to Undertakers for Public Utilities, even if they could be otherwise classed under the same heading. The three terms "mines" "factories" and "commercial buildings" are clearly defined in the Act, but while there can be no doubt of the meaning of "mines" and "factories" (which are defined by reference to the Factory Act, 1927), the definition of "commercial buildings" does not always agree with the accepted meaning of the words. Factories, within the meaning of the Act, refer only to such factories that occupy the whole of a building. Where a factory is situated either entirely or partly in a building which is not totally occupied by the factory, such a building is not classed as a factory but as a commercial building. Where, however, the occupier of a factory occupies the whole of a site (premises), but certain buildings on this site are used for purposes other than the factory, e.g. as offices, etc., even those buildings come within the definition of a factory. The only exception to this is where parts of such factory premises are used as a hotel or restaurant where people other than the employees of the factory are served. Commercial building does not refer only to offices as is sometimes supposed. Commercial building means every building in which more than 50 people work and which is neither a factory, part of a factory premises, nor one of the following: School, college, university, hotel, restaurant, club, place of public entertainment or amusement, hospital, nursing home and, of course, undertakers for public utilities purposes. The person responsible for the erection of a shelter is (*a*) the owner, in the case of a mine or commercial building, and (*b*) the occupier in the case of a factory. However, in the Act "owner" does not necessarily mean the owner in the usual sense of the word. If any person holds a lease for the whole of a building, the unexpired term of which is ten years or more, this lessee is regarded as the "owner" of the building. If, however, only parts of the building are leased for more than ten years, the occupiers are not regarded as owners. "Occupier" means the person entitled to the possession of the building and an owner may be both an owner and an occupier. In accordance with the above definition, a factory building can never have two occupiers, so the word "occupier" cannot be ambiguous.

In the case of a commercial building, the owner may be either (*a*) the occupier of the whole building, or (*b*) share the occupancy with one or more persons, or (*c*) be not an occupier at all, having leased the whole of the building to one or more persons for an unexpired term of less, or to one or more persons for more than, ten years.

The following examples may help to clarify this explanation :—

Example 1.—An industrial establishment consists of a main building, an administration building, a canteen for the employees only, several houses in which employees and their families live and a public-house on the edge of the estate. In this case "factory premises" refers to the whole of the estate with the exception of the public-house. Shelter is therefore to be provided for everybody on this estate, even the wives and children of the employees living in the houses. This shelter is to be provided by the occupier, who can only charge a proportion of the cost to the owner if his lease terminates within ten years. *See* example 4.

Example 2.—A man owns a five-storey building, four of which he uses for factory purposes. The ground floor is let to another occupier for use as a small factory. This building, having more than one occupier, is classed as a commercial building and not a factory. The owner, in this case, is obliged to provide shelter for everybody employed in the building and this includes the occupier of the ground floor, who, although himself an employer, is regarded as an employee. The owner is entitled to charge a proportion of his gross expenses to the occupier of the ground floor. *See* example 5.

Example 3.—A man owns a row of five buildings—Nos. 1, 2, 3, 4 and 5. Part of No. 1, and the whole of No. 2 are leased to a firm for industrial purposes. The remainder of No. 1 is let as offices. No. 3 is leased to a single occupier as an office building for an unexpired term of 15 years. No. 4 is leased to a single occupier as an office building for an unexpired term of eight years. No. 5 is let to three different occupiers, each of whom has a lease, the unexpired term of which is 12 years. No. 2 is classed as a factory building, and Nos. 1, 3, 4 and 5 are classed as commercial buildings, having more than one occupier. The owner of the five buildings, however, is, according to the Act, regarded as the owner of Nos. 1, 2, 4 and 5 only, as the unexpired term of 15 years classes the single tenant of No. 3 as the owner. The "owner" of the five buildings must provide shelters for the occupants of Nos. 1, 4 and 5 only. No. 2, being a factory, becomes the responsibility of the occupier, and No. 3 the responsibility of the temporary "owner." Thus, shelters for the employees of the factory which occupies No. 2 and part of No. 1 must be provided by two different people. No particular problems arise with regard to a factory as it is only in one occupancy, except where the lease terminates within a very short period. If it terminates within ten years the occupier is entitled to charge part of his expenses to the owner, on termination. Therefore, if his lease terminates after x years, the proportion of his expenses which he is entitled to charge to the owner

$$= \frac{10 - x}{10}.$$

This refers to his net expenses, i.e. any grant which he has received from the exchequer must first be deducted. This is explained by the following example :—

Example 4.—The occupier of a factory spends £1,000 on a shelter. After 7 years his lease expires. He received an exchequer grant of £350 so that his net expenses were £650. The proportion of this which he can charge to the owner on the termination of his lease is therefore

$$\frac{10 - 7}{10} - 0.3 \times 650 = £195.$$

The owner of a commercial building is entitled to charge the occupier with the whole of his expenses, without first deducting any grant which he may have received from the exchequer. If there is more than one occupier, the charge is to be distributed among them in proportion to the annual value of each portion occupied. If

the owner is also an occupier of a part of the building, he is to share the expenses as though he were an independent tenant. Every occupier is obliged to repay his share of the expenses in equal instalments spread over a period of ten years, without interest. This might be explained by the following example :—

Example 5. — The owner of a commercial building himself occupies 20 per cent. of the building and lets the remainder to two different occupiers (*a*) and (*b*), to (*a*) 70 per cent., and (*b*) 10 per cent., and assuming that the respective annual values of the portions occupied as above is in proportion of 20 per cent., 70 per cent. and 10 per cent. of the total annual value of the building. The owner spends £1,000 on a shelter for which he receives an exchequer grant of £350. He must apportion this £1,000 in the following way :—

£200 to himself,
£700 to (*a*),
£100 to (*b*).

Occupiers (*a*) and (*b*) must pay him an increase of rent, (*a*) £70 per annum, and (*b*) £10 per annum for a period of ten years. The owner thus receives £350 immediately, and £80 every year for ten years. Where an occupier's lease expires before the ten years have elapsed, the amount which is still outstanding to the owner is charged back to him again, and he may in turn charge it to future occupiers (if he is able to do so).

CURRENT PROBLEMS: *11th Article*

TEMPORARY & SEMI-PERMANENT BUILDINGS

BY EUGENIO FALUDI AND GODFREY SAMUEL

4: ALL DRY CONSTRUCTION PART III.

E. THE FLOOR

Alternative types are :

(1) *Concrete Surface Slab*

This is advisable where (*a*) heavy loading is expected ; (*b*) where much water or other liquid is used.

The slab should be 3 in.–6 in. thick on 3 in.–6 in. of hard core. Special waterproofing, though seldom required, can be provided by (*a*) the use of special waterproofing powders or liquids ; (*b*) the use of a layer of bituminous felt under the concrete.

The surface should be screeded with cement, preferably with expansion joints for surfaces over 15 ft. square, or granolithic, in cases of hard wear. Linoleum stuck down with waterproofing material is a desirable finish where there is no hard wear, but greater warmth and dryness are required.

(2) *Suspended Slab*

This may be necessary where a solid floor is required on a sloping site, though in some cases excavation may be more economical. It can be either :

(*a*) reinforced concrete or hollow tile, advisable for more permanent work ; or (*b*) concrete laid on dovetail steel sheeting, useful for temporary work.

(3) *Raised Timber Floor*

For normal conditions, i.e. with live loading under, say 50 lb. per sq. ft., and little likelihood of internal damage by moisture, this type is most satisfactory. It should be reasonably airtight.

(*a*) The normal covering is tongued and grooved boarding. This should be ¾ in.–1 in. thick, 5 in.–6 in. wide, in lengths that are multiples of the joist spacing. In large works it may be economical to have tongued and grooved ends as well. This allows jointing between joists and the use of odd lengths.

In more permanent work a sub-floor, preferably of 1-in. butt-jointed diagonal boarding, can be used.

Advantages are : Better insulation, the provision of a temporary working platform (the finished floor being laid at the end of the job) and cross bracing of the structure.

Disadvantages are : Extra cost, time and weight.

Joists are usually most economically fixed across the building. Where there are studs at 16-in. centres and no separate sole-plate, floor joists should be spaced the same to allow fixing to studs as well as to plates, or external bearers. 1 in. boarding is then advisable. It is possible to span up to 16 ft. or more without bearers, but usually uneconomical to go above 8 ft., and unwise to do so without extra cross strutting.

Where the bays do not exceed 8 ft. and wall panels are self-supporting, it may be economical to span the joists the other way.

The transverse bearers can sometimes be cantilevered with advantage.

In a typical case (with a wall load of 300 lb., floor load of 20 lb. dead and 40–50 lb. live, and span of 20 ft.), by cantilevering about 2 ft. 10 in., a saving in bearer section of 16–20 per cent. is possible ; this may be an economy where a lower standard size can be used.

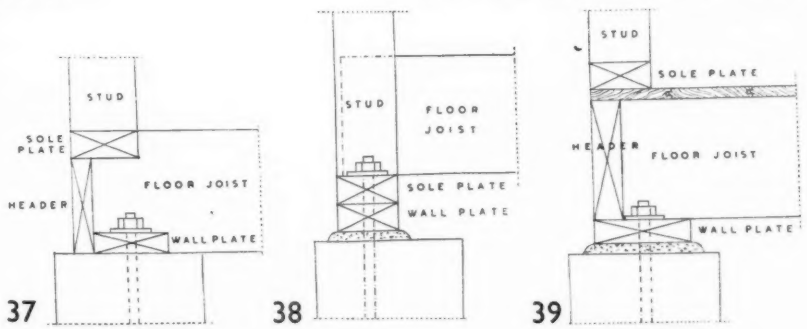
With transverse bearers joists can be spaced at any interval ; with 14 in., ¾-in. boarding can be used.

By arranging the floor so that short timbers, under 8 ft., are used, the cost of material can often be reduced. In America the saving has been estimated at 15–35 per cent.

If joists are notched, resistance to shear can be greatly increased by cutting away below (Fig. 36). Alternative

systems of joining floor and wall are shown in Figs. 37–39.

(*b*) Another type of timber floor is that developed by the U.S. Forest Products Laboratory by the use of glued plywood. This is a good type for prefabricated floor panels with spans not exceeding 12 ft. The plywood acts in conjunction with the joists and a considerable



37-39 : *Alternative treatments of junction between wall and floor (U.S.A.)*

reduction in thickness is therefore possible but the system is more expensive.

Protection against Damp

Raised timber floors should be kept at least 1 ft. above ground level. Vegetable growth below should be destroyed by suitable chemicals before the erection of the building. Adequate ventilation under must be provided.

Floor bearers or sleepers should be thoroughly treated with preservatives. With continuous foundations, damp-proof courses of lead core sheets or bituminous felt are necessary. With point foundations, pads, preferably of bituminous felt, should be placed between the bearers and concrete or brick piers, extending slightly beyond the piers.

Where no sub-floor is used under boarding, it is desirable, especially with point foundations, to provide a damp-proof sheet between boarding and joists. This can be of light bituminous felt or stout bituminous paper.

F. The Foundations

Determining factors in the choice of system and material are:

(i) Nature of soil.
(ii) Levels of the site.
(iii) Ratio of roof load to floor load.

Alternative systems are:

(i) Sleepers direct on soil, useful for very temporary portable buildings.

(ii) Concrete surface slab, useful especially for semi-permanent buildings where (i) the floor load greatly exceeds the roof load; (ii) the site is level and the bearing capacity low. Slabs should not exceed 15 ft. square without expansion joints. (*See* Part I, Fig. 3).

(iii) Continuous sleeper walls, useful where (*a*) the site is level and the roof load continuously distributed; (*b*) the site is level, roof load heavy and concrete floor desirable for use. Walls can be 4½ in. brick in normal conditions or 9 in. for heavier loads, or 4 in. or 6 in. concrete, cast on the site. With raised floors air bricks should be inserted in each bay, not more than 8 ft. apart. (*See* Part I, Fig. 1).

(iv) Piers or posts are useful where (*a*) the site is not level; (*b*) a raised timber floor is required without heavy loading. (*See* Part I, Fig. 2).

1. Brick piers are only desirable if the site is very steep or relative costs of labour and materials call for it. More site work is required. 9 in. by 9 in. piers are adequate for light (living accommodation) building. For heavier buildings 13½ in. by 13½ in. are preferable. The use of a 4½ in. by 4½ in. concrete core in the centre is economical.

2. Concrete posts are generally preferable, although the time required for casting may sometimes be a disadvantage. The most economical form is that of a truncated pyramid. The top dimension is determined by the width of the bearers; 4 in. is usually adequate. The bottom dimension is determined by the bearing capacity of the soil; the practical minimum is 8 in. square. The height depends on the levels of the site. The practical minimum is 1 ft. 6 in.

Anchorage of the structure to the posts is determined by wind pressures. Alternative types available are:

(*a*) Ragbolts, preferable for better-class work where large numbers are required.

(*b*) Sockets to receive screws may be preferable where accurate fixing can be depended upon.

(*c*) Wrot iron straps, useful for cheaper quality work, where few anchors are required.

On exposed sites, anchoring to every external pier is necessary, but for purely temporary work, one anchor to every 20 ft. to 25 ft. is generally enough.

3. Wood posts.

(*a*) In structures without floors, e.g. covered ways, columns can be taken into the ground for temporary work. In this case they must be thoroughly treated with preservative.

(*b*) Separate posts of thoroughly treated softwood or of hardwood can be used elsewhere in temporary work. Intermediate props, 7 in. by 3 in., are used by the War Office for spans of 19 ft. and over, 6 in. by 3 in. for spans of 16 ft. and under.

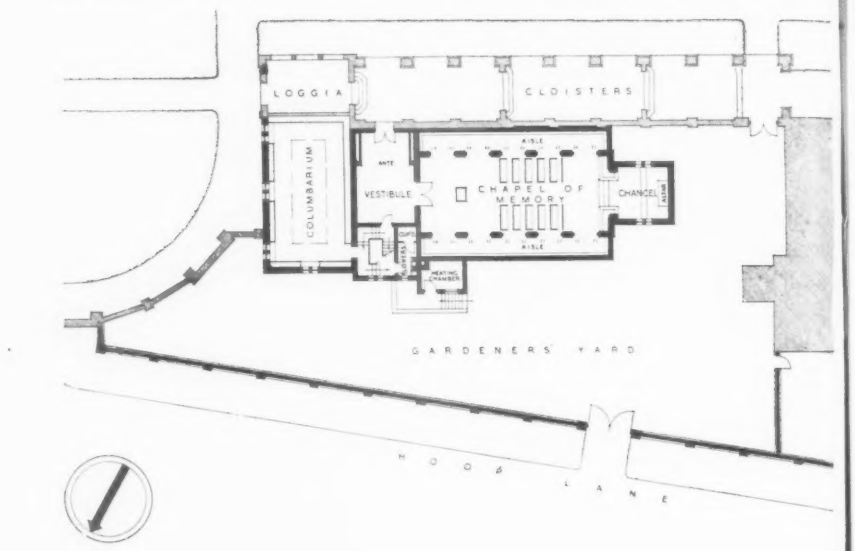
If the hardness of the soil requires it, iron shoes can be fitted to the timber to make driving easier.

In addition to foundations for the columns, with wider spans, intermediate supports to the floor are required. Adjustment between sizes of bearers and spacing of foundations will depend on the span required and the standard sizes of material. In normal conditions it will be found economical to support the bearers about every 8 ft.

(To be continued.)

CHAPEL AT GOLDERS

BY MITCHELL & BRIDGWATER: ASSISTANTS, E. G. MEMBERY



BIBLIOGRAPHY

1. F. R. S. Yorke ..	Specification	1939	The Arch. Press	London.
2. Forest Products Laboratory.	Wood Handbook ..	1935	U.S. Department of Agriculture.	Washington.
3. H. E. Desch ..	Timber, its Structure and Properties ..	1938	Macmillan & Co., Ltd.	London.
4. D. F. Holtman ..	Wood Construction ..	1929	McGraw-Hill Book Comp. Inc.	London–New York.
5. K. St. G. Cartwright–W. P. K. Findlay.	Principal Decays of Softwood used in Great Britain.	1938	H.M. Stationery Office.	London.
6. H. Stolper	Bauen in Holz. ..	1937	J. Hoffman Verlag	Stuttgart.
7. Ed Jobst Siedler ..	Die Lehre vom Neuen Bauen.	1932	Bauwelt-Verlag..	Berlin.
8.	Systems of Prefabrication.	1936 (Sept.)	American Architect and Architecture.	New York.
9. A. Fouilhoux ..	Prefabricated Units for Home.	1935 (Dec.)	The Arch. Forum.	New York.
10.	Technical News and Research.	1936 (July)	Arch. Record.	New York.

GREEN

AND L. W. AKED

Looking eastwards along the aisle. Below : The Altar, and the Memorial Table.

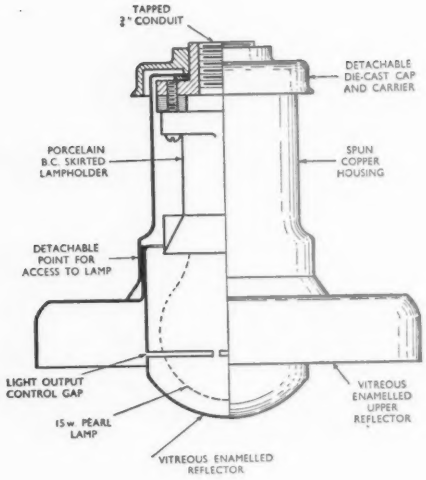
PLAN—The design of the chapel makes no radical departure in style from that of the existing crematorium buildings to which it is adjacent. Its use is principally as a quiet place for visitors, only thirty seats being necessary.

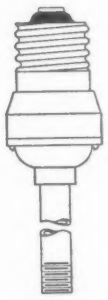
CONSTRUCTION AND EXTERNAL FINISHES—Brick construction with R.C. foundations and floors. Wood roofing is covered with special pantiles.

INTERNAL FINISHES—Whole of the floor except under the seats is covered with a greyish green and brown marble, that under the seats being cork. Interior is faced with a brownish brick. Ceiling of the side aisles is sky blue and the same colour is used on the roof boarding where it shows between the oak rafters and main roof trusses.

HEATING—Low temperature hot water panels in floor and walls.

General contractors were Pitchers, Ltd.; for list of sub-contractors, see page 150.




ADAPTOR
G.E.S. CAP PATTERN

TRADE NOTES

[*By PHILIP SCHOLBERG*]

Internal and External Lighting

Now that official starlight is likely to remain as a standard for some months, manufacturers are producing the appropriate lighting fittings. Shades giving a limited amount of light are already available for factory and semi public areas; but for street purposes something a little more elaborate is necessary, if only because cleaning costs are high and labour is likely to be scarce. The section above shows a fitting recently produced by Ediswan to conform to the starlight standard, or, if you prefer it, B.S.S. A.R.P./37. This has been designed so that maintenance costs are kept at a minimum, there being no wire gauzes or glass reducing screens. It contains two reflectors and the light gap is masked to adjust output to the mounting height, which is marked on each fitting. 15-watt pearl lamps are used, and the reflector and cup forming the lower part of the fitting are fixed so that they can be quickly detached for lamp renewals and cleaning. The top of the fitting is tapped to take ¾ in. conduit, and this should, in many instances, make it possible to fix the fittings direct to existing lanterns without using any special adaptors. For awkward jobs there are special adaptors: these consist of a short length of ¾ in. conduit, one end of which is fitted with a porcelain moulding to which is attached and wired a B.C., E.S., or G.E.S. cap as necessary.—(*The Edison Swan Electric Co., Ltd., 155 Charing Cross Road, London, W.C.2.*)

For internal use Messrs. Tucker and Edgar have a range of screened units to take 25, 60 and 100 watt lamps. For halls, corridors and bathrooms this fitting can be obtained in a variety of colours, or in polished copper, and it should be equally useful in shops or offices where a definite cut off angle is needed. Prices vary from 8s. 9d. to 14s. 6d. according to size and finish, and the spacing recommended is two-thirds of the mounting height.—(*Tucker and Edgar, Ltd., Berkley Road, London, N.W.1.*)

A New Small Cooker

Economy, evacuation and the general fuss and bother suggest that small cookers should be popular during the next few months, and a new Junior model recently produced by the G.E.C. should make the job of extra meals comparatively simple. The price is a little over £5, and overall dimensions are 20 in. wide by 24 in. deep by 14 in. high, with an oven 12 in. by 10 in. by 12 in. At the top of the cooker is a single griller

boiler plate, which is also the top oven heater, and which is controlled by a 3-heat switch. The total loading of the cooker is only 2,800 watts, so that it may be safely plugged into the standard 15-amp socket. To the left of the oven is a warming compartment large enough to take nine large dinner plates, and the oven itself has a bi-metal heat indicator. The general design is simple and neat, though I could wish that the manufacturers had refrained from describing it as "designed on the modern streamline principle." — (*The General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2.*)

Lighting in the Country

In country districts where householders are beyond the end of the mains there is nothing for it but paraffin lamps or bottled gas, for most of the lighting plants available are rather too expensive for the small house. Two manufacturers, however, produce miniature self-contained lighting plants which are quite powerful enough for a small cottage or bungalow. Prices start as low as £12 10s. for a small unit with an output of 200 watts and a weight so small that it can easily be carried about. All units are petrol-driven, and it seems that, in spite of rationing, petrol is quite readily obtainable for purposes such as this, though the amount would probably be limited to a reasonable figure lest the temptation to transfer any surplus to a car tank might prove irresistible.

Sets of this kind are already widely used in America, and in this country they are popular for lighting small cruisers and even caravans. When lights are run direct from the generator there is sometimes an irritating flicker, and the most satisfactory method is to use the power units for charging car type batteries during the day. Maintenance is easy, for most models are started by pressing a button, and it is only necessary to see that there is an adequate supply of petrol and oil. Fuel consumption is not heavy, 1 gallon, for instance, giving 18 hours charge on the 200-watt model.

Combination models are available to give 230 v. A.C. and 6 v. D.C. supplies at the same time, and the larger and more expensive types have outputs up to 5,000 watts. As an A.R.P. measure these units could easily be used for working pumps or emergency lighting, but they are not suggested for shelter lighting.—(*The British Motor Boat Manufacturing Co., Ltd., Ampton Street, London, W.C., and E. P. Barrus, Ltd., Upper Thames Street, London, S.E.3.*)

NEW SPECIFICATIONS

NEW STANDARD TEST FOR GALVANIZED WIRE

A British Standard Specification for the testing of the zinc coating on galvanized wires was issued in 1932. The method employed was the copper sulphate dipping test, but it was at that time appreciated by the B.S.I. Committee that the copper sulphate test left much to be desired as a real criterion of the quality of the galvanizing.

During the last few years considerable research work has been carried out in many countries, and this is reflected in a new edition of British Standard Specification No. 443 which has just been published. The principal feature of this new edition is the introduction of a test for the minimum weights of zinc per unit area on zinc-coated wires. This test has been introduced in substitution for the copper sulphate test on straight wires, but the latter test is retained for testing wires after being wrapped and unwrapped round a mandrel of specified diameter. Any advantages which the copper sulphate test may possess, such as an indication of the uniformity and concentricity of the coat, are therefore not lost in the new specification, but the specification is strengthened by the

definition of the minimum weight of coat which the wire itself should carry.

The method of determining the weight of coat is the same as that recommended by the American Society for Testing Materials, the wire being stripped of the zinc coating by immersion in a solution of antimony chloride and hydrochloric acid. The minimum weight of coat is graded according to the diameter of the wire, and is expressed in ounces per square foot and in g. per metre.

In an appendix some useful formulæ are given for calculating the percentage weight of the zinc coating.

In the foreword to the specification it is emphasized that the specification is intended to cover galvanized wire of good commercial quality, and that it is recognized that for certain purposes tests of greater severity may be required. In such cases the existence of this specification is not intended to prejudice purchasers in placing more severe specifications before manufacturers for their acceptance, but it is suggested that in such cases the wire should be specified to the British Standard Specification plus the additional or more severe requirements which the purchaser may require.

Copies of this specification (B.S. 443—1939) may be obtained from the British Standards Institution, 28 Victoria Street, London, S.W.1 price 2s. 2d. post free.

A NEW LIGHTING OF A.R.P. SHELTERS

A new specification has been issued by the British Standards Institution under the title of "A Reduced Scheme for the Lighting of Shelters where A.C. Mains are available" (B.S./A.R.P. 26). The principal object of this specification is to provide for a lighting installation from the mains, together with a battery and associated equipment for emergency use, at an over-all price of approximately 5s. per person accommodated in the shelter. An installation at about this cost but deriving the lighting entirely from batteries, with other batteries in the reserve, is already provided for in Part I of B.S./A.R.P. 6, which was published some time ago; but up to the present there has been no standard scheme which would enable the supply to be derived from the mains and at the same time provide for reserve and for a reasonable standard of quality at this low cost.

The new specification is applicable to shelters of any size, large or small, but the equipment is specified in terms of units of 50 persons, and the estimated cost of 5s. per person has been based on prices for a 50-person shelter. Incidentally, this figure does not include an allowance for the cost of bringing the main supply to the shelter.

The lighting is at 12 volts, derived from the mains through a transformer, or from a battery through a change-over switch. Four lighting points are to be provided for every 50 persons, these being wired as two sub-circuits; normally both sub-circuits are supplied from the transformer, but under emergency conditions one of the sub-circuits can be switched over to the battery. Details are given of the wiring, lamps, switches, fuses, transformer, batteries and spares.

Copies of this B.S./A.R.P. Specification (No. 26) may be had from the British Standards Institution, 28 Victoria Street, S.W.1, price 3d. post free.

Notes from the Building Research Station on*

BRICKLAYING IN FROSTY WEATHER

IT is the usual practice in the British Isles to cease bricklaying in frosty weather because of the risk of injury to the work. In many cases, however, it may be desirable or even imperative that work should continue without interruption.

For this purpose, practice in countries such as North America (especially Canada), and Russia, where long severe winters are the rule, provides a lead. There it is found possible to continue building in winter, often at a temperature below zero, by taking a few simple precautions. These precautions were described by Gilbreth in an American work published thirty years ago, "Bricklaying System, Chapter XV, Methods of Laying Bricks under Special Conditions," and the methods may be summarized as follows:—

1. Keep the bricks as dry as possible.
2. Warm the bricks.
3. Use warm mortar.
4. Use clean sand, not "soft" sand.
5. Fill the top course of the wall solid at the end of the day's work, to keep out snow.
6. Cover the unfinished wall at night.
7. Use cement mortar.

The object of these precautions and possible methods of putting them into practice are discussed below.

If the bricks are kept dry in the stack and are not dipped, if it can be avoided, there will be a rapid abstraction of water from the mortar, creating voids in which ice can form without disrupting the setting mass.

The hardening of cement mortar practically ceases when it is cooled to 32° F. The hardening process must be encouraged to proceed uninterruptedly, for when a fair degree of strength is attained the mortar becomes practically immune from the effects of frost. Bricks may be warmed by piling them round a coke brazier. Sand can be heated either by thrusting into the sand a perforated pipe connected by a hose to a source of steam, or by piling it over a tunnel formed of corrugated iron in which a brazier is placed. The mortar can be taken by the bricklayer from a pan on a brazier and could be at blood heat or warmer. If necessary, the water used in mixing can be heated.

Presumably the recommendation that "soft" sand should not be used is because it involves the use of more mixing water and the mortar hardens more slowly.

The importance of keeping the work as dry as possible cannot be over-emphasized: it is brickwork which is saturated with water which is most likely to suffer from lifting and disintegration in frosty weather. Any form of covering will also reduce the rate of cooling of the wall, and this will be beneficial.

The advantages of relatively weak mortars for ordinary brickwork must be forgone in the special conditions of cold-weather bricklaying for the reason given above.

A deciding factor may be the difficulty or impossibility of the bricklayers continuing work with bare hands. This is not attempted in cold climates; ordinary gloves which restrict the circulation are unsatisfactory. Lined leather "mitts" are customarily worn, though bricklayers may find working with them awkward at first.

A rough tarpaulin shelter around the working point facilitates operations, especially in windy weather. In North America, under very severe conditions, the scaffolding is often enclosed with tarpaulins and stoves placed within the shelter; this may not be necessary in the relatively milder British conditions.

No tests have been made at the Building Research Station to try out the above methods, but as representing common practice in cold countries they may safely be taken as affording a good guide.

* Crown Copyright Reserved.

THE BUILDINGS ILLUSTRATED

HOUSE AT BARNT GREEN, WORCESTER (pages 136–137). Architect: F. W. B. Yorke. General contractors were J. and A. Brazier, Ltd., who were also responsible for the electric wiring and plumbing. Sub-contractors and suppliers included: Blockleys, Ltd., bricks; Hinton, Perry and Davenhills, Dreadnought tiles; Chance Bros., cross reeded glass; Pilkington Bros., glass bricks; Vitrolite, Ltd., splashbacks; Hollis Bros. & Co., Ltd., woodblock flooring; Ruberoid Co., Ltd., waterproofing; Walpamur, Dulux glossy paint; Ideal Boilers and Radiators, Ltd., hospital radiators; Ferranti, electric heating; Dryad, door furniture; Williams and Williams, casements; Starkie Gardiner, iron balcony; A. Johnson & Co. (London), Ltd., stainless steel sink; Art Pavements, Ltd., shower surround; Venesta, Ltd., flush doors; Birmingham Sculptors, Ltd., decorative plaster; Gordon Russell, built-in furniture; Noelite, external paving.

NURSES' HOME, HIGH STREET, BRAINTREE (pages 138–139). Architect: E. Vincent Harris, A.R.A. General contractors were Chas. Deaves and Son. Sub-contractors and suppliers included: Val de Travers Asphalte Co., Ltd., asphalt work, flat roof and garage roof; Northwick Brick and Tile Co., bricks; Bath and Portland Stone Co., stone; Roberts, Adlard & Co., Ltd., slates; Arthur Scull and Son, Ltd., parapet gutters, etc.; G. N. Haden and Sons, Ltd., central heating; Bratt Colbran

& Co., Ltd., grates; Braintree Gas Co., gas-fittings; E. E. Bloomfield, electric wiring; General Electric Co., electric light fittings; Leeds Fireclay Co., Ltd., sanitary fitting; Joseph Kaye and Sons, Ltd., door furniture; R.B. Studios, Ltd., wrot iron balustrades and gate to boiler room, wrot iron furniture to entrance gates and bronze wall lamp: the carved figure in Portland Stone was executed by Eric Gill, A.R.A.

SCHOOL SPORTS PAVILIONS AND HOUSE FOR GROUNDSMAN, CHARMINSTER ROAD, BOURNEMOUTH (pages 140-141). Architect: W. L. Clowes. General contractors were A. S. Prince & Co. Sub-contractors and suppliers included: Val de Travers Asphalte Co., Ltd., asphalt; Billett, Sandleheath, facing bricks; Sykes and Son, common bricks; Allied Guilds, Ltd., artificial stone; Hunt & Co., structural steel; Bournemouth Gas and Water Co., central heating, gas fixtures and gasfitting; Aish & Co., electric wiring; Kennedys, Ltd., electric light fixtures; Willis, sanitary fittings; Dibben and Sons, door furniture; British Incorrodible Metal Co., casements; J. Caslake, Ltd., metalwork; Carter & Co., Ltd., tiling; County Borough of Bournemouth (Parks Dept.), shrubs and trees.

CHAPEL OF MEMORY AT GOLDERS GREEN (pages 146–147). Architects: Mitchell and Bridgwater. Assistants: E. G. Membery and L. W. Aked. Quantity Surveyor: R. W. Ord. General contractors were Pitchers, Ltd. Sub-contractors and suppliers included: Lawford Asphalte Co., Ltd., asphalt; F. Bradford & Co., Ltd., reinforced concrete floors and staircase; Finnis and Rualt, bricks and tiles; Pilkington Bros., Ltd., glass; J. Whitehead and Sons, Ltd., marble flooring; Cork Insulation Co., Ltd., cork floor; Richard Crittall & Co., Ltd., low temperature panel warming; A. H. Cornwall, Ltd., electric wiring; Troughton and Young, Ltd., electric light fixtures; John Bolding and Sons, Ltd., sanitary fittings; Wing and Webb, Ltd., door furniture; Crittall Manufacturing Co., Ltd., casements; C. A. and A. W. Haward, iron staircases; Heal and Son, Ltd., altar curtain, seat squabs and cushions; H. H. Martyn & Co., Ltd., altar, pews, Book of Memory table; Eric Munday, Ltd., lettering on all doors; Thomas Ash & Co., Ltd., flower chute in flower rooms; Omar Ramsden, cross and candlesticks.

Manufacturers' Items

In addition to the staff at the headquarters of the Coal Utilization Joint Council at Grosvenor Gardens House, Victoria, London, S.W.1, there are engineers attached to the branch offices at the following addresses:

Southern Branch: Grosvenor Gardens House, Victoria, London, S.W.1. Telephone: Victoria 4366 (4 lines).

Midland Branch: Somerset House, 37 Temple Street, Birmingham, 2. Telephone: Midland 3736.

Eastern Branch: c/o G. M. Atkinson, Jade Glen, Groby, Leicester. Telephone: Markfield 218.

South Wales and South-Western Branch: c/o G. H. Barnard, 18 Glen Drive, Stoke Bishop, Bristol, 9. Telephone: Bristol 81022.

North-Eastern Branch: 38–39 Pearl Chambers, East Parade, Leeds, 1. Telephone: Leeds 23616.

North-Western Branch: 42 Deansgate, Manchester, 3. Telephone: Blackfriars 4081.

Scottish Branch: Coal-Burning Section, Building Centre (Scotland), Ltd., 425 Sauchiehall Street, Glasgow, C.2. Telephone: Douglas 0372.

Irish Branch: Bank of Ireland Chambers, 1–2 Westmoreland Street, Dublin. Telephone: Dublin 23034.

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At a general meeting of the English Joinery Manufacturers' Association, Mr. William E. Adams, J.P., F.C.I.S., Director and Secretary of Messrs. John Sadd and Sons, Ltd., of Maldon, Essex, was appointed Honorary Treasurer of the Association.

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Mr. Sidney W. Rogerson (Imperial Chemical Industries, Ltd.) and Mr. Barrington Hooper (Industrial Newspapers, Ltd.) discussed the war-time value of the trade and technical press at a recent luncheon meeting in London, organized by the Trade, Technical and Vigilance Committee of the Incorporated Society of British Advertisers.

Both speakers were agreed as to the necessity for supporting the trade and technical press during the war—and indeed found that in some respects its value had been enhanced by present conditions. Mr. Rogerson pointed out that, where sales staffs had been reduced, advertising

(*Continued on page xviii.*)

PRICES

NOTES ON PRICE CHANGES

[*BY DAVIS AND BELFIELD*]

RATES OF WAGES

As from today, February 1, Rates of Wages for the Building Industry will be :—

	12 Miles' Radius Charing Cross	12–15 Miles' Radius Charing Cross
Labourers ..	1s. 4¾d.	1s. 4½d.
Craftsmen ..	1s. 10d.	1s. 9½d.

This means a percentage increase for Central London of 6·35 per cent. for labourers and 4·76 per cent. for craftsmen since pre-war days (as shown in the Basic (pre-war) Schedule of Prices).

MATERIALS

As the last notes on Price Changes were published only a fortnight ago, there are no noteworthy changes to report.

It is the intention to re-publish the list of basic materials showing the approximate percentage differences between the prices published in August and present-day prices; and although the list given in the front of the Supplement published on January 18 remains unchanged, it is reprinted here to make the series complete.

Portland cement	+ 9·8%
2-in. unscreened ballast	+ 17½%
Fletton bricks at station	No change
Stoneware drainpipes (British Standard) 2 tons and over	+ 9·4%
Roofing tiles	No change
Steel joists	+ 3%
Lime greystone	+ 14·3%
Sheet lead	+ 50%
Iron rainwater goods	+ 33%
Iron soil pipes	+ 33%
Copper tubes	+ 23·4%
White lead paint	+ 21·2%

These percentages include the increased cost of delivery in London, except for steel joists, which are priced ex mills, and Fletton bricks, which are priced delivered to King's Cross Station. Although timber may be regarded as a "basic" material, it has not been included in the above list, owing to the complications previously explained and to the fact that the difference in cost for the various sizes and grades is not consistent.

The following material is being Sherardized for

CHEMICAL [redacted] EQUIPMENT

CHASSIS COMPONENTS FOR [redacted] VEHICLES:—
BOLTS, NUTS, WASHERS.
ENGINE FITTINGS.
STEEL INSTRUMENT CASES

HARDENED LOG LINE HOOKS

ELECTRICAL SWITCHGEAR COMPONENTS:—
CAST IRON CASES,
STUDS, BARS, LEVERS,
PRESSED STEEL FITTINGS

SPRINGS AND SPRING WASHERS OF ALL KINDS.

Reproduction of a page from a booklet just issued by the Zinc Alloy Rust-Proofing Company. Firm states: "The erasures in this publication, which we regret, were made in the national interest by the Press and Censorship Bureau. The informative value of the leaflet has been thereby reduced but we can assure you nevertheless that Sherardizing is fulfilling an important rôle in the national effort."

(*Continued from page 150*)

must be employed in their place. He emphasized that his company were continuing to advertise for business reasons rather than for sentimental reasons. Mr. Hooper felt that the trade and technical press of the United Kingdom formed an indicator, to foreign countries, of the condition of British trade.

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Because of the importance of aluminium to the country, especially for the construction of aircraft and aero-engines, the Northern Aluminium Company, Ltd., were called upon to suspend all ordinary commercial work immediately upon the outbreak of war, and to confine their production to the execution of Government contracts and sub-contracts. This state of affairs, combined with the incidence of various forms of control over the disposal of their output, has resulted in their being cut off from direct contact with a large number of customers and, in an effort to keep in touch with them, they have produced a new form of monthly journal called the "Noral News."

This is intended to be of considerably more general interest than a house organ, and copies may be obtained on application to the firm at Banbury, Oxfordshire.

The late Edward Pollard.

A practical contribution to Lord Derby's plan for employing young men between school and military age has just been made by the Dunlop Rubber Company, Ltd., who announce the offer of scholarships providing free commercial training under expert supervision with a maintenance grant at the rate of £52 a year. The qualifications for preliminary consideration are: age from 17½ to 19 years at the commencement of the course, and an educational standard equivalent to that of matriculation. Most of the training will be at Fort Dunlop, and as far as practicable at the Dunlop depot nearest the pupil's home: short periods at Dunlop branches in other cities will be necessary. Training may be given at the Dunlop sales and service depots in Aberdeen, Birmingham, Bristol, Cardiff, Edinburgh, Glasgow, Leeds, Liverpool, London, Manchester, Newcastle-on-Tyne, Norwich, Nottingham, Plymouth and Southampton.

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As from today, the offices and showrooms of Gent & Co., Ltd., will be 47 Victoria Street, London, S.W.1. (Abbey 6888.)

OBITUARY

EDWARD POLLARD

We regret to record the death of Mr. Edward Pollard, at the age of 71. Mr. Pollard was the founder and joint managing director with his son, Mr. H. Edward Pollard, of the firm of E. Pollard & Co., the well-known shopfitters.

SIR FRANCIS GOODENOUGH

We regret to record the death of Sir Francis Goodenough, C.B.E., who was, for many years, executive chairman of the British Commercial Gas Association.