THE ARCHITECTS' JOURNAL

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

*

THE ANNUAL SUBSCRIPTION RATES ARE AS FOLLOWS :
BY POST IN THE UNITED KINGDOM £1 3 10
BY POST TO CANADA £1 3 10
BY POST ELSEWHERE ABROAD £1 8 6
SPECIAL COMBINED RATE FOR SUBSCRIBERS TAKING BOTH THE ARCHITECTURAL REVIEW AND THE ARCHITECTS' JOURNAL : INLAND £2 6s. ; ABROAD £2 10s.
SUBSCRIPTIONS MAY BE BOOKED AT ALL NEWSAGENTS

*

SINGLE COPIES, SIXPENCE ; POST FREE, EIGHTPENCE. SPECIAL NUMBERS ARE INCLUDED IN SUBSCRIPTION ; SINGLE COPIES, ONE SHILLING ; POST FREE, 1S. 3D. BACK NUMBERS MORE THAN TWELVE MONTHS OLD (WHEN AVAILABLE), DOUBLE PRICE.

*

SUBSCRIBERS CAN HAVE THEIR VOLUMES BOUND COMPLETE WITH INDEX, IN CLOTH CASES, AT A COST OF 10S. EACH. CARRIAGE 1S. EXTRA

*

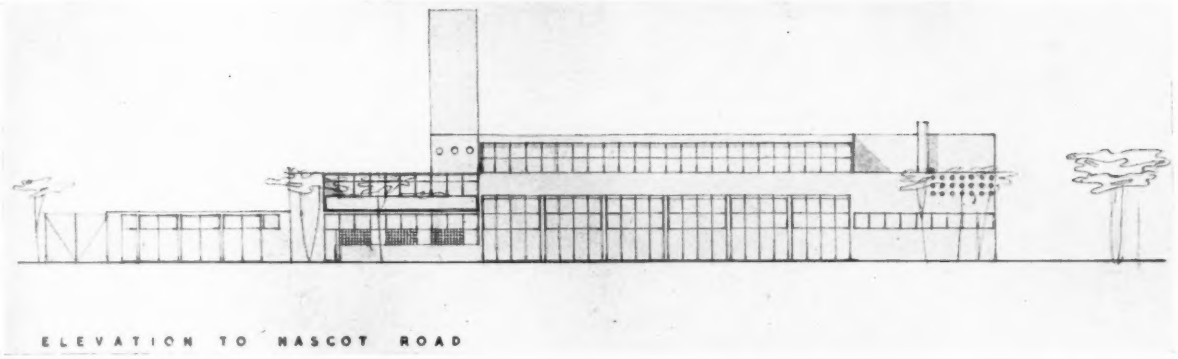
45 The Avenue, Cheam, Surrey
TELEPHONE : VIGILANT 5762

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, OCTOBER 19, 1939. NUMBER 2335 : VOLUME 90

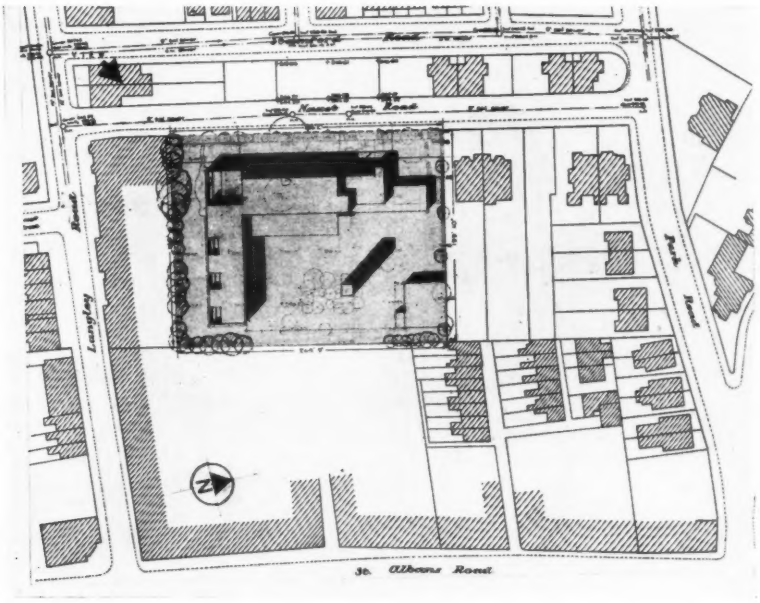
PRINCIPAL CONTENTS

THE WATFORD COMPETITION



ELEVATION TO NASCOT ROAD

PROPOSED FIRE STATION: WINNING DESIGN: BY DAVID W. ABERDEEN



ABOVE, ELEVATION TO NASCOT ROAD; RIGHT, LAY-OUT PLAN

AS announced in last week's issue, Mr. E. Maxwell Fry, the assessor of the competition for a fire-station at Watford for the Borough of Watford, has made his award as follows:

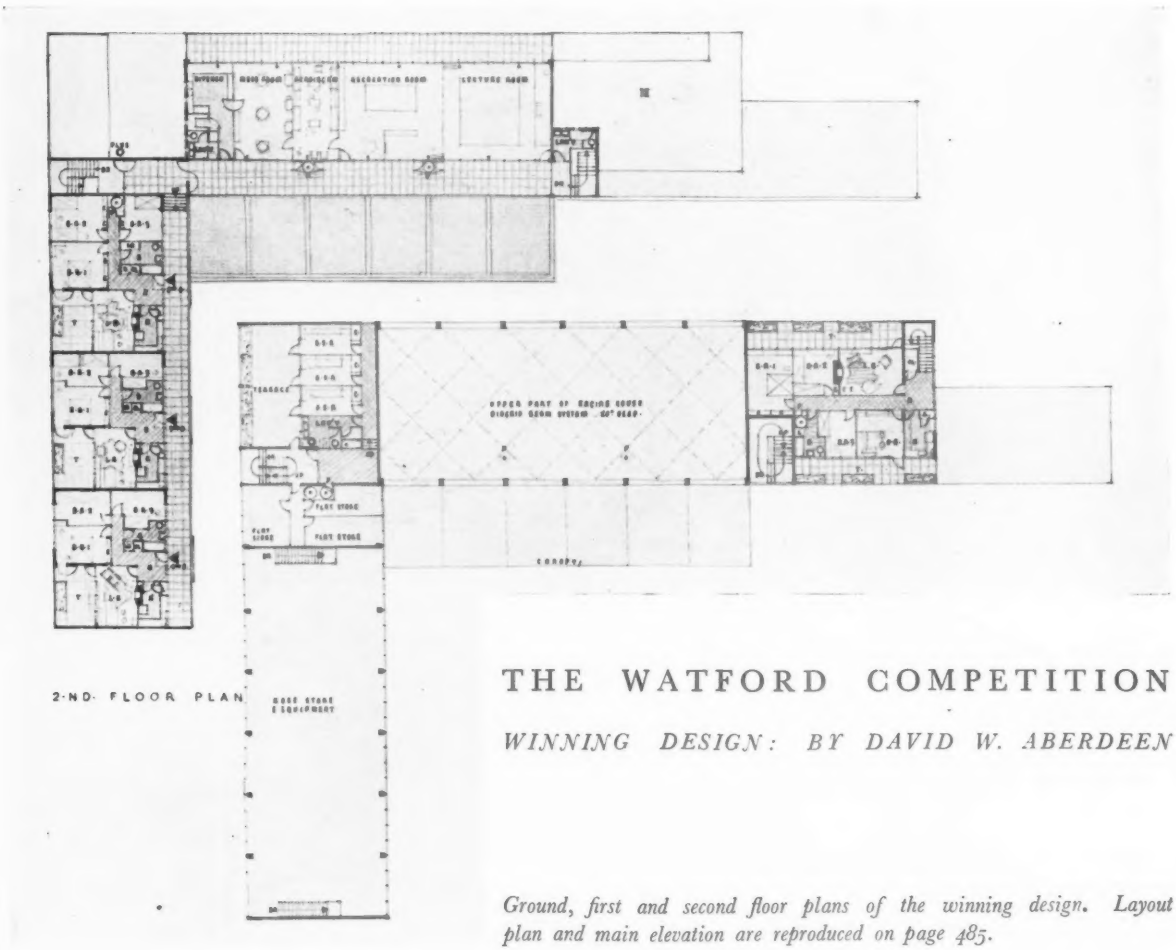
Design placed first (£150): Mr. David W. Aberdeen, B.A., A.R.I.B.A., 22 Green Moor Link, Winchmore Hill, London, N.21.

Design placed second (£75): Mr. Thomas F. Haughey, B.Arch., A.N.Z.I.A., 3 Milford Gardens, Edgware.

Commended: Mr. Birkin Haward, A.R.I.B.A., 9 Tanza Road, Hampstead.

Forty-five designs were submitted. Main elevation and site plan of the winning design are reproduced on this page; ground, first and second floor plans are reproduced overleaf. The assessor, in his report, said: "The design placed first is, in my judgment, the most clear and workable, and combines with a practical solution of the architectural programme an imaginative grasp of the possibilities of the site and of the uses of the building. The planning of the engine-house, with the administration and firemen's cleaning-room and lavatories, is spacious and direct, all vehicles having direct access to the road and to a large drill-yard, on which the A.R.P. store and workshops are conveniently situated. The living and recreational quarters for officers and men provide privacy and allow for an independent life for all without too great a disparity in the level of accommodation offered. Each sub-division of these quarters has an open terrace or garden in addition to a common garden, which may be sub-divided if necessary. It is likely that a secondary staircase will be needed for the officers' quarters.

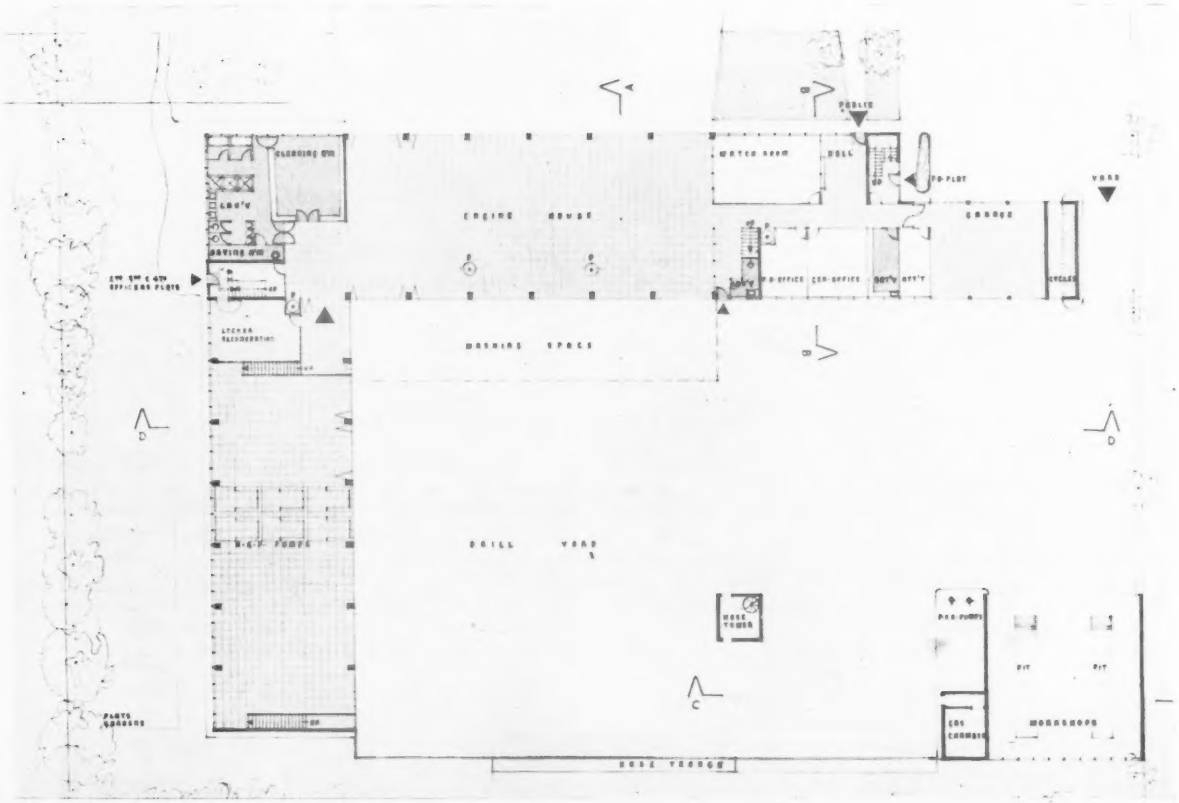
"The use of reinforced concrete as a building material is justifiable in view of the conditions under which the building may have to operate, though to provide a fair degree of immunity from the effects of aerial bombardment the estimate would have to be increased, as, in common with the majority of estimates submitted, I find it to err towards optimism. The boundaries of the site have been kept nearly entirely free of building, so that a maximum of trees is retained to enhance what will prove to be, I think, a building of strong character and considerable elegance."

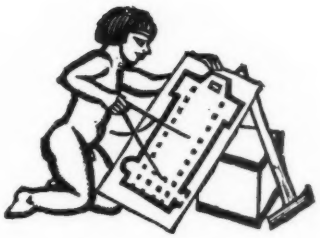


THE WATFORD COMPETITION

WINNING DESIGN: BY DAVID W. ABERDEEN

Ground, first and second floor plans of the winning design. Layout plan and main elevation are reproduced on page 485.





MR. F. R. YERBURY'S ATELIER

IN last week's JOURNAL there was published a letter from Mr. F. R. Yerbury* which suggested the formation of an atelier in which young architects and assistants could study the architectural problems which arise from a state of war.

No one need be ashamed if he reads this letter, for the first time, with apathy. It seems, at first, rather silly to try to make a constructive study of problems arising from a state of war when nearly every relevant factor is changing from day to day.

But only at first. For many young architects there is going to be a period of some months—perhaps a period of a year—before their services are asked for. They must fill this period with work of some kind. What is more, one or two factors in wartime building *are* fixed : the need for speed ; the need for making a few, and in some cases, new, materials do the work for which a hundred have been available in the past ; the certainty that the forces which have blocked new methods for years have disappeared " for the duration."

While the Government is deciding the work to be done and the materials that will be available for it, architects—especially young architects—have the time and exactly the right outlook for essential experiments in how it can be done best. Someone must make these experiments : either on the actual sites in a year's time with much waste and delay ; or during the next few months, and largely on paper, in Mr. Yerbury's atelier.

If architects can achieve the second alternative, there is a possibility of their developing a war service of their own of a most important kind. But they should not take it up with the idea that everybody is going to be terribly grateful to them for doing so, nor must they be afraid of exploiting their nuisance value to the utmost.

What is needed to begin with, in our view, are suitable premises, two or three organizers, a dozen senior men and fifty assistants who can manage to work whole-time unpaid for a few months. If this atelier establishes contact with the Building Research Station and the Building Centre it could begin by working on the host of smaller manufacturers' and constructional problems which have arisen during the war. But this would not be its main work.

That main work would need the accumulation of reliable data on (1) the materials which will be available for essential war-time building and the irrelative proportions ; (2) the types of building which will be needed in large numbers. There is no doubt that the Building Industries National Council and the industry's own war-time committee could accumulate this information rapidly if they are not afraid of a little departmental coolness to begin with.

Once this is made available to the suggested atelier work could be begun on standard plans and details for each building type. If difficulties arise, and they doubtless will, there are the B.R.S., all the allied professions of the industry, the manufacturers and the architects who are already at work on these problems—T. S. Tait, for instance—to help in solving them. If the resources of the industry are to be used with efficiency for war, there must be standardization and much prefabrication. There must be hundreds of foremen and thousands of workmen faced with unfamiliar methods and details. And therefore the need for care in the preparation of drawings and for clearness of detail will be greater than ever before. Architects can supply this care and clearness. They can supply it to the greatest purpose for the first few months through some such organization (or organizations) as Mr. Yerbury's atelier.

They should not be asked to supply it unpaid. But if it cannot be brought into existence in any other way they should supply it unpaid without any hesitation and with all their energies. They can be sure, if they do so, that those who take part in it will not be unpaid for long.

---

* SIR,—Now there are so many young assistants and students who have finished or who were on the verge of finishing their training with nothing to do and time on their hands, would it not be a good thing to organize an atelier for the study of architectural problems and more particularly of those which may crop up as a result of the present war conditions and post-war conditions?

There must be many who would like to make use of such an atelier if started and it could be so arranged that membership was on a monthly or even a weekly basis, more particularly for the benefit of those who are either waiting to be called up or waiting for other jobs and not quite knowing when they will mature.

I have mentioned the idea to a number of people and I am sure that there will be plenty of assistance forthcoming from seniors and instructors. Obviously very few will be able to afford to pay heavy fees, and therefore some arrangement worked out on a co-operative basis should meet the convenience of all.

I think there will be no difficulty in obtaining suitable premises for an atelier and I will be very glad to hear from anyone interested in the scheme so that if necessary a meeting could be called to set things going.

F. R. YERBURY.

158 New Bond Street, W.1.

The Architects' Journal
45 The Avenue, Cheam, Surrey
Telephone : Vigilant 5762

NOTES & TOPICS

NOTICE TO SUBSCRIBERS AND CORRESPONDENTS

The Architectural Press announces that in order to ensure production and distribution of THE ARCHITECTS' JOURNAL, THE ARCHITECTURAL REVIEW, SPECIFICATION *and the numerous books published by the firm, it has taken temporary offices at 45 The Avenue, Cheam, to which address editorial and advertisement matter should be sent. The telephone number is Vigilant 5762.*

Temporarily Therefore :

THE ARCHITECTS' JOURNAL
45 THE AVENUE
CHEAM, SURREY
Vigilant 5762

A.A. GROUPS

ALREADY the A.A. has approached the Office of Works, the War Office, the Admiralty, the Air Ministry, and each of the London boroughs offering to put groups* at their disposal in any convenient form, capable of carrying out contracts of any sort and size and generally in any capacity in which they would be useful. The scheme has the sympathy of the R.I.B.A. and, broadly, the idea is that if the President, or whatever committee deals with the matter, is asked to nominate people for jobs, a certain proportion of the jobs will be handed to the A.A. for distribution among the groups.

*

It would, of course, have been ridiculous for the A.A. to approach Government and local authorities without the groups were in existence. The Association, therefore, wisely formed five groups.

*

The scheme naturally is not an easy one to bring into operation, but it is obvious that such groups, able to deal with really large jobs, should be of the greatest assistance to the various official departments. I am glad therefore that the A.A. definitely intend to go forward with the scheme. Members who desire to join a group should, of course, register with the Association.

STANDING IDLE

The wisdom of planning ahead for peace while planning for war is once more emphasized in a letter from the President of the R.I.B.A. printed in *The Times*.

SIR,—Your timely leading article on " Bureaucracy and Business " ends with the words : " Even in 1918, when the production of munitions reached its peak, the production of other things was not, and could not be, wholly neglected. Nor can it be wholly neglected today."

The building industry, in its component parts of architects, quantity surveyors, contractors, suppliers of building materials, and operatives, falls behind no industry in its determination to subordinate all other operations to the one aim of winning the war. The normal annual expenditure in this industry is £225,000,000 ; and in many parts of England work is, for the moment at least, at a standstill. If the aftermath of the last war is any criterion, the cost of building will advance by leaps and bounds on the resumption of peace, and what may cost £1,000 now may very well cost £2,000 then.

The professional men, contractors and employees will gladly put aside all personal considerations in their desire to win the war ; but while, and where, they are remaining idle they would welcome encouragement from the Government to proceed on their lawful occasions at least until such time as they are wanted for more urgent work. Nothing is more discouraging than to stand idle when there is work to be done and when the doing of it now would be an economy in the long run.

E. STANLEY HALL
President

KING CHARLES

In *The Times* of the same date there also appears another letter, signed by W. Reid Dick, K. A. Esdaile, and A. E. Richardson, begging protection for the famous equestrian statue of King Charles I in Trafalgar Square. They remind us that this statue (which I overlooked last week when I was being smart about statues in general) was given very necessary protection during the Civil War through the foresight of John Rivett, the Holborn brazier, who buried it in his garden.

*

It does indeed seem extraordinary (or does it ?) that while some of the more meritorious monuments to the last war are being elaborately sandbagged, this admirable and historic work of art has so far been neglected. The statue of King Charles is one of the few objects we would like to have left when peace comes.

HUTTING POLICY

Sir Cyril Norwood, President of St. John's College, Oxford, has suggested that the Government should " forthwith order, and complete before Christmas, sufficient hutments to provide full office accommodation for their evacuated staffs," in order that hotels and, more important, schools can be used again for their rightful purposes.

*

The Times (it must be obvious by now that I occasionally read this paper) likewise suggests that " the whole question of hutting policy is one which might very properly be surveyed again by the departments and by Parliament with a view to collaboration for the removal of several causes of public irritation and of no small damage to public interests."

*

This hutting policy should certainly be extended to solve the problem of educating and caring for the welfare of the evacuated children.

* See page 494.

Mr. H. S. Goodhart-Rendel, PP.R.I.B.A. : the Presidential portrait by Mr. Augustus John which was formally presented at the R.I.B.A. Council meeting on October 9.

FIRE AND THE PROPERTY OWNER

My book of the month for architects is *FIRE !** by Major C. C. B. Morris, who retired from being chief of the London Fire Brigade last year.

*

I began to read it soon after my enquiries into incendiary bombs. Having read it, I do not feel any admiration for the proposed cut of a third in the London A.F.S. Here are two reasons :—

At 12.45 p.m. on November 19, 1897, a fire started in a warehouse in Wells Street, E.C., and developed into the famous Cripplegate fire. Within eight minutes of the call, eight horse-drawn steamers arrived ; within thirty minutes nineteen steamers and various escapes were on the scene ; and the total within an hour or so was fifty-one steamers and ten other vehicles (288 officers and men). The damage done included forty warehouses burnt out and collapsed, thirteen burnt out and partly collapsed, and sixty-nine damaged. The loss exceeded £2,000,000. That was in the old days.

*

At 3.29 p.m. on September 25, 1935, Nos. 28 and 58F stations were called to a fire at a rubber warehouse at Colonial Wharf, Wapping, E. At 3.40 a *Home Call* was notified at headquarters, followed by a *District Call* at 3.50, and a *Brigade Call* at 4.51.

* Blackie and Son, Ltd. Price 12s. 6d.

WEEKLY FEATURES

Mr. Philip Scholberg's Trade Notes are held over from this issue ; they will be resumed next week.

The total of appliances engaged were eventually about sixty motor pumps, nine turntable ladders, three fire-floats (all there were), various miscellaneous appliances, and 400 officers and men. The fire, as most of us remember, burned for six days. The difference between this fire and its predecessor was that it was confined to the warehouse in which it began, its immediate neighbour and a few barges. The efforts of a brigade at least four times more effective than the 1897 brigade could do no more than this.

*

Major Morris repeats continually, with the utmost emphasis, a warning that architects should tell to every client : " Automatic sprinklers, and sprinklers only, can protect buildings with inflammable contents."

*

Here are some figures for the last 100 fires in sprinkler-equipped buildings before Major Morris's retirement. In 58·17 of the fires *one* sprinkler either extinguished the fire or held it in check. In 95·92 of the fires *eight* sprinklers or less ditto, ditto. In 100 per cent. of the fires *twenty-seven* sprinklers or less *ditto, ditto.*

*

With incendiary bombs due at any time, and the fire service extinguishing the resulting fires in turn without much chance of selection, with payment for damage unlikely to be made till the end of the war—the sensible course of action for every property owner in the country could hardly be clearer.

WILL GLAZING BARS COME BACK ?

Palmers Stores in Hammersmith are putting strips of semi-transparent material over their plate glass windows in a pattern which suggests downward curving glazing bars, breaking up the windows into small, even panes. Will the glazing bar come back ?

*

I put this point to two people, one with interests in metal windows, one with interests in wooden framed windows. Desirable though it may be from the point of view of blast and so forth, the answer in both cases was " No." Reason : It would absorb too much framing material.

*

The answer seems to be, if we are to retain the gifts of modern glass-making technique, more and more reinforced glass, so that wires buried in the glass itself become as much an accepted feature of our big window expanses as glazing bars were an accepted feature 150 years ago.

SIGNS AND WONDERS

Lyons are blacking out some of their display windows and painting just behind the glass a representation of the goods that would normally be displayed, cakes, boxes of sweets, and so forth.

*

It may be the display window of the future will eschew glass altogether and become a canvas upon which is portrayed food, clothes, fancy goods, and other commodities ? Are we in for a revival of the Academy still life on a gigantic scale ? What a blessing for hundreds of commercial artists exhausted by the abstract demands of camouflage. Scene painters, *there is* your vortex.

ASTRAGAL

If you have an A.R.P. problem which demands an expert answer. **If** you want information regarding A.R.P. appliances. **If** you have an A.R.P. problem which requires knowledge you have not got of official recommendations. **If** you want information regarding MATERIALS. **If** you want guidance in finding your way around the new Government Departments. **If** you want the change of address of a firm or manufacturer.

Write to :—

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

The INFORMATION CENTRE itself is working from London, but inquiries should be addressed to this *Journal* unless the question is urgent.

If the question is urgent, ring the *Architects' Journal* INFORMATION CENTRE *at* FLAXMAN 5322.

PLEASE write, don't ring the Centre unless the question is urgent.

These are typical of the questions we have already answered :

Is a 1938 contract binding?

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 a h.e. bomb hit a 330 ft. stack?

What publications are there on camouflage?

What protection is needed for light shafts?

A R C H I T E C T S ' J O U R N A L

E M E R G E N C Y

INFORMATION CENTRE

Q38 HOLBORN. — *Can you inform me whether I (or my clients) require a PERMIT from the Ministry of Supply to obtain the MATERIALS for erection of a small commercial building for the motor trade? The chief materials comprise steelwork, bricks, timber and concrete. Should I apply direct to the Ministry, and will they require production of the drawings and specification?*

There is no permit covering the whole field of building. Many materials are not under any control, bricks at present being among these. The contractor should apply, stating quantities required, to the following controls :

For steel : Iron and Steel Control, Ministry of Supply, Steel House, Tothill Street, S.W.1.

For timber : Timber Control Area Office, 35 Savile Row, W.1.

For cement, sand and shingle : Cement Control, Ministry of Supply, Shell-Mex House, Victoria Embankment, W.C.2.

The contractor will be informed by the authority concerned if and when drawings and specification are required.

Q39 BETHNAL GREEN. — *Under what OBLIGATION is the owner of a building to provide SHELTER FOR THE OCCUPANTS?*

This depends on the character and purpose of the building and the following schedule sets out the obligations for buildings of different types. All obligations are restricted to "dangerous areas" defined in an Order of the Lord Privy Seal under Section 12 of the Civil Defence Act (14.8.1939).

A. Commercial Buildings

According to the definition given in Section 89 of the Civil Defence Act, a "commercial building" is a building in which more than 50 persons work and which does not belong to one of the following groups :

(*a*) Schools, colleges, universities, clubs, places of public entertainment, hospitals and nursing homes ;

(*b*) Buildings wholly occupied by public utility undertakings ;

(*c*) Parts of factory premises or mines.

The owner of any commercial building is under an obligation to provide air-raid shelter, in accordance with the Air Raid Shelter Code, for all people working in such a building. He is entitled to an Exchequer grant for such shelter if it is sufficiently advanced by September 30, 1939. He is also allowed to compensate himself for the whole of the expenses incurred by increasing the rents of all his tenants for a period of ten years, so that the total increase each year is equal to 10 per cent. of the cost of the shelter. If the provision of the shelter decreases the annual income derived from the property (called "annual value" in the Act) he is permitted to add this amount to the already increased rents for the period of ten years. If the owner shares the tenancy of the building he is obliged to contribute proportionally to the increase of rent.

Shops, emporiums, etc., where more than 50 people are employed come under this heading, but there is no obligation for the owner to provide shelter for the public visiting the shop. This responsibility for the public lies with the local authority (*see D*).

B. Factory Buildings

Under Section 89 of the Act, "Factories" are defined in accordance with Section 151 of the Factories Act, 1937, with the exception of factories occupied by the Crown, and with the proviso that more than 50 people are employed.

Factory premises include, apart from the building itself, any other buildings or parts of buildings which are on the premises of the factory and any land which is in the same occupancy, with the following three exceptions :

(i) Restaurants open to people other than those working on the factory premises, and hotels ;

(ii) Mines ;

(iii) Premises occupied by public utility undertakers for the purpose of their undertakings.

For a factory building, or buildings on factory premises the *occupier*, not the owner, is responsible for providing shelter for people working therein. He is entitled to a grant, similar to that for commercial buildings, but he is not able to reimburse himself in any other way. He is not entitled to

charge employees nor any tenants who may have the lease of part of the factory premises.

C. Mines

Mines are defined as mines within the meaning of either the Coal Mines Act of 1911, or the Metalliferous Mines Regulations Act of 1872, or as quarries within the Mines and Quarries Act of 1894 with the proviso, in every case, that there are more than 50 people working in the mine. The owner of a mine is responsible for the provision of shelter for employees. He is entitled to an Exchequer grant similar to that for commercial buildings but to no other reimbursement whatsoever.

D. Buildings for commercial purposes which have been exempted from the definition of "commercial buildings," as, for instance, restaurants, cinemas, schools, etc.

There is no statutory obligation for the provision of air raid shelter and no Exchequer grant is given to the owners for providing such shelter. Shelter may be provided by the local authority, which is responsible for visitors to such premises, in accordance with the A.R.P. Act of 1937.

E. Residential Buildings

In accordance with Section 30, these comprise buildings or blocks of buildings, wholly or mainly "used for residential purposes and let out in separate parts." According to this definition, even a two-storey house which is let out to two tenants comes in this category.

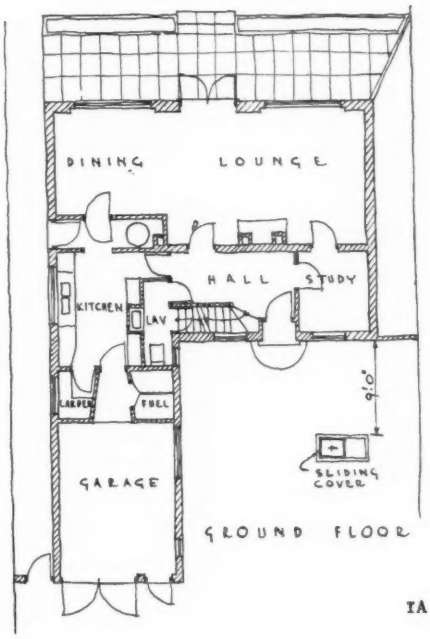
For all such buildings a majority of the tenants is entitled to require the landlord to provide an air raid shelter, and such shelter is in no way defined, so that the shelter may, if required, have a standard of protection less than that required by the Code, or greater (bomb-resisting) or the same. If, for instance, a block of flats is let to 26 tenants, 13 or more have the right to ask for such shelter, independent of the extent of their tenancy.

Where the majority of tenants desire an air raid shelter, the landlord must provide it, but he is entitled to reimburse himself for the cost and interest by increasing the rent for a period of ten years so that the total increase amounts to 12½ per cent. per annum of the cost of the air raid shelter. If he suffers any loss of income by the provision of an air raid shelter—if, for instance, one flat is used as a shelter—he is entitled to make good this loss by a further increase of rent. This increase of rent refers *to all tenants*, independent of whether they were among the number desiring a shelter or not.

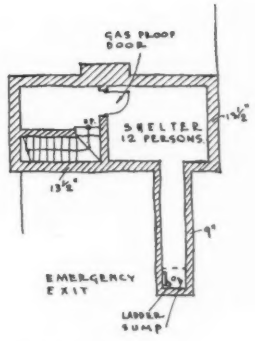
Alternatively, the majority of tenants can give consent for the local authority to erect a public shelter in the grounds used by such tenants, e.g. gardens, etc., and if this consent is given the owner's permission is not necessary.

F. Dwelling-houses

Dwelling-houses are defined as houses for residential purposes in the tenancy of one person only. Neither the owner nor the tenant is under obligation to provide an air raid shelter, but if the tenant's lease does not expire before December 22, 1940, he is allowed to build such shelter without the consent of the owner. If the occupier is entitled to a steel shelter, or materials for basement strutting delivered free of charge by the Government, such materials can be erected without permission from the landlord, and neither the tenant nor the local authority who might carry out the erection is responsible for any damage unless negligence can be proved.



1A



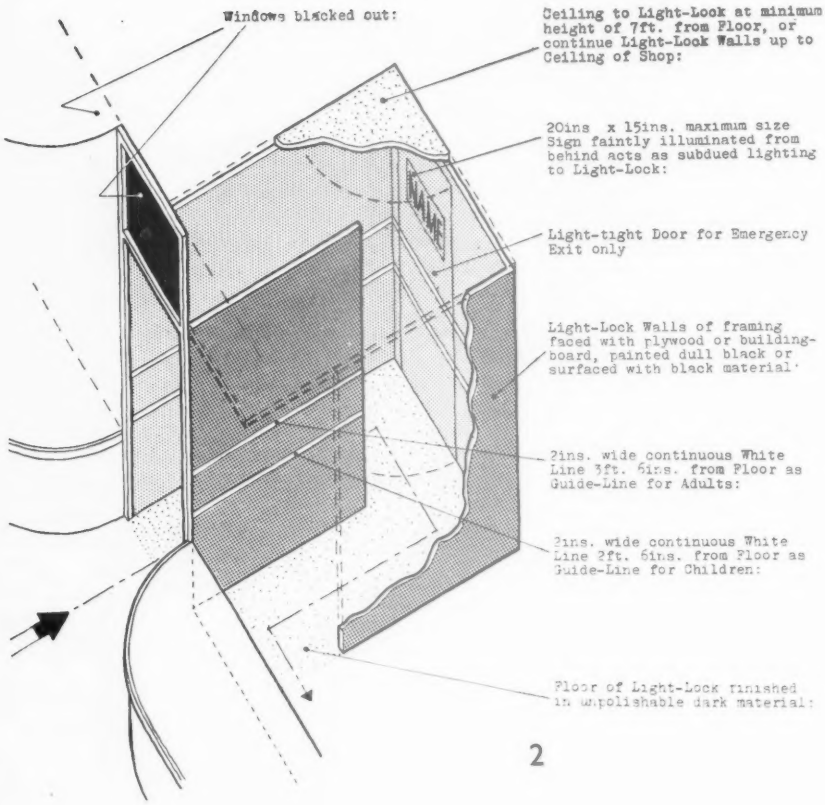
1B

Q40 STREATHAM.—*What is the NEW ADDRESS of Messrs. Holland & Hannen and Cubitts, Ltd.?*

New address is Ivy House, Inner Park Road, Wimbledon, S.W.19. (Putney 7771.) We receive a number of questions concerning changes of address that have already been announced in the JOURNAL. Before phoning please see whether firm you want is in the full list of changes we are printing each week in the Information Centre.

Q41 COVENTRY.—*Building of the house shown on enclosed plans* (FIG. 1A) *has been suspended owing to the outbreak of war, but the site has been purchased, and as my client is now living opposite the vacant plot he has asked for an air raid SHELTER FOR 8 TO 12 PEOPLE on the site. What would be the best method for this? I would like the shelter to be under the proposed house so that it could be used as a cellar, drying room or laundry when the house is eventually built. Could it be under the larder, fuel or garage area and could the stairs go down from the garage? Will you let me have your suggestions?*

With such extensive ground it is most reasonable to provide a trench shelter in the garden. Such a trench shelter should be at least 10 ft. from the building, but as there is a distance of 65 ft. between the garage and road this should not be difficult. If, however, there is a possibility of the house being built during the war, and if your client wishes in that case to use the shelter for laundry or other purpose and to avoid going into the open in order to reach it, it could be arranged under the house. It does not seem convenient to have the staircase in the garage, as the garage will be occupied by a car. The best place for it is under the main stair from the cloak-room. This means sacrificing the present basin position, but a basin can probably be arranged in the corner by the door, or as a bulkhead in the kitchen (FIG. 1A). The shelter then occupies the space under the hall and study, an economical position because the shelter



2

walls are under main walls. Surrounding walls should be 13½ in. and internal walls 9 in. thick. The floor over should be 5 in. reinforced concrete. Temporary cover should be provided for the entrance until the house is completed, and an emergency exit should be provided, which, if the house is likely to be built during the war, should be not less than 9 ft. from it (Fig. 1B).

Q42 NOTTINGHAM.—*Can you tell me whether there is any published information on LIGHT SCREENING FOR SHOP ENTRANCES? Is this not a subject for an article in your* JOURNAL ?

We have had several enquiries similar to yours, and feel this subject is one that justifies a more than usually lengthy reply. The provision of some form of double light-screening for shop entrances becomes more and more imperative as the days get shorter; it is important that the method adopted should operate with the minimum amount of trouble under the most stringent conditions of the black-out. Double curtains are somewhat impracticable. They are difficult to manipulate with one's arms full of parcels and gas mask, and —more important—they cease to be effective should both inner and outer sets of curtains be opened at the same time, which is a very probable occurrence.

The obvious solution is a light-lock* like those used at the entrances to hospital dark-rooms—a permanently open passage-way with two right-angle turns, permitting unobstructed entrance and exit, but allowing no light to penetrate.

Types

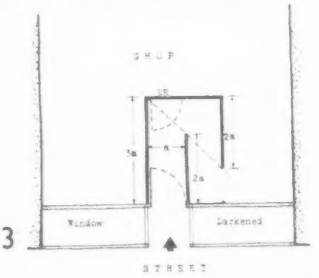
A simple light-lock for a shop is shown in axonometric in Fig. 2 and in plan in Fig. 3. Essentially it consists of a passage with dark, non-reflecting walls, ceiling and floor, and having two right-angle turns, one of which opens on to the street and the other on to the interior of the shop. The width of the passage is denoted by *a*, which will be governed by the space available, but in no case should *a* be less than 2 ft. 3 in. The lengths of the walls ensure that no direct ray of light from the interior of the shop can penetrate further than the end of the passage entered from the street, as shown by the broken diagonal line in Fig. 3.

An alternative form for a single light-lock, where the shop doorway is to one side, is shown in Fig. 4.

In larger shops with double doors, it is possible to use a double light-lock and so separate in-going and out-going traffic (Figs. 5 and 6). The arrangement shown in Fig. 6 is dependent upon the position of the doors, which, situated some little way forward, can open back against the sides of the windows without obstructing the passage-way. Fig. 7 shows the application of a light-lock to a shop with a corner entrance.

Owing to the amount of space involved, some shopkeepers may prefer to have their light-lock in use only after dusk. In that case, it is usually possible to arrange for the walls of the lock to be hinged to fold away during the day, but it should be pointed out that the presence of the light-lock in the daytime will help to familiarize customers with a hitherto unexpected obstruction, and this will make for easier running during black-out hours.

The walls and ceiling of the lock may be of framed partitioning faced with plywood or hardboard, which

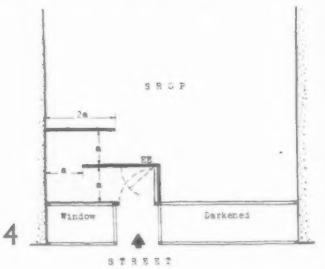


3

may with advantage be treated by some fire-proofing process.

Emergency Exit

For use in case of panic a light-tight emergency door should be provided in the wall opposite the door to the shop, and should form part of this wall in the normal course of events.



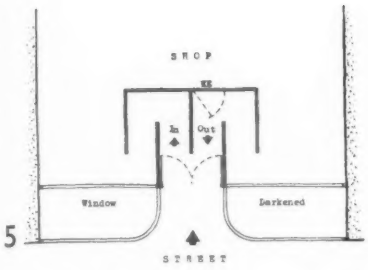
4

It should, of course, open outwards, and should not obstruct the passage when open.

Treatment of Walls

The walls and ceiling of the lock should be painted a flat black, or covered with black velvet or other dull black non-reflecting material. Paint will tend to be rubbed by customers' hands as they grope their

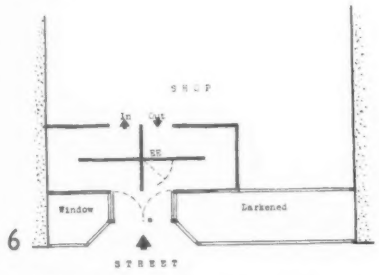
* *British Standard Specification (A.R.P. series) for Light-Locks for Shop Entrances [BS/A.R.P. 15 September, 1939]. British Standards Institution, 28, Victoria Street, London. S.W.1. (Price 3d., post free.)*



5

way in and out, and in consequence the walls may become shiny after a time. Velvet is almost completely non-reflecting, and its use is very strongly recommended in preference to paint, wherever possible.

2 in. wide continuous horizontal white guide lines should be painted along the walls at heights of 3 ft. 6 in. and 2 ft. 6 in. from the floor.



6

The walls can either continue up to the ceiling of the shop, or the lock may be ceiled at a minimum height of 7 ft. In either case the ceiling should be treated in the same manner as the walls.

The floor should also be covered with a dark material that does not take a polish. Any steps at the entrance should be painted white, and a cautionary notice stencilled on the floor just inside the entrance.

Artificial Lighting

A certain amount of subdued lighting may be desirable in the light-lock, and this may be obtained by making an aperture in the wall at a point approximately midway between the two entrances, and covering the aperture with a translucent material allowing subdued light to filter through from the interior of the shop.

The aperture can assume the form of a sign carrying black or white letters on a blue ground, indicating the name of the shop. The sign should have a diffusing backing material of opal glass or cellophane and should not transmit more than 10 per cent. of the light impinging upon it. It should be situated in the wall facing the main entrance to the shop and must not be larger than 20 in. by 15 in.

7

An alternative for lighting the lock is the provision of a 15-watt low-intensity lamp in a shield, mounted on the ceiling with its light projected downwards.

In order to avoid any further light penetrating into the lock, lamps near the entrance to the interior of the shop should be shielded. This will also help to accustom the eyes of the newcomer to the contrast between the bright light inside the shop and the darkness outside.

Q43 KENSINGTON.—*I am temporarily evacuating my house in London and moving to a small house in the country. I will only be able to take about two-thirds of my furniture. If I store the remaining one-third in one room of my London house and seal the remaining rooms up, I understand that I can obtain a considerable REDUCTION IN RATES.*

(1) Is this correct and can you tell me what reduction is allowed?

(2) Could I also apply for a reduction in the property tax payable on the house?

(3) What method of "sealing" has to be adopted?

(1) If there is any furniture at all in the house you are liable for rates, though in the circumstances you might make application for re-assessment on the part of the house used. If there is a garage separately assessed use this, and close the house altogether.

(2) You could apply, but it is unlikely you would get it.

(3) The rating authority would do the sealing or say how it must be done. Battens fixed across door openings would probably be sufficient.

Q44 LETCHWORTH.—*The writer is in the unfortunate position of having to advise the general contractor for a considerable building that, in the absence of a saving "war clause" from his CONTRACT, the client insists on it being carried out in accordance with its terms and cannot see his way to pay for extras arising from the fact that various sub-contractors are insisting upon withdrawing from their contracts unless they are granted an extra for increased cost of materials, transport, etc.*

Believing that this is an experience common to many readers of THE ARCHITECTS' JOURNAL *at the present moment, may I suggest that a statement by you on the present position and on the possibility of that position being made more equitable in the near future would be most valuable?*

Q45 CHICHESTER.—*I have several contracts in progress, viz.: housing schemes and private works. The form of CONTRACT used in most cases is the R.I.B.A. form. Owing to the international situation, materials have risen considerably in price and the work cannot be completed at the original estimates. I shall be obliged for your advice as to whether the contracts become void, or if I can legally claim extras on the increase in prices now being charged by merchants. For example, all contracts and prices placed with merchants for roof tiling, supplies, etc., have been cancelled by the merchants, owing, they state, to the war conditions, and I am assuming that if this legally applies to merchants, the same would apply to the contractor and his employer.*

May we refer you to the answer given BRIGHTON on page 416 of the JOURNAL for September 28, 1939? An increase in the cost of materials and work does not vitiate a contract and a contractor cannot legally claim extras on account of an increase in prices. So long as the contract is in force the terms remain the same, notwithstanding war conditions. Sub-contractors are similarly bound by their contracts. If any of the building contracts are in the 1939 R.I.B.A. form and contain the special condition relating to war risks, the contract is automatically determined.

Q46 WELLINGTON.—*Can you tell me whether there are any STANDARD SPECIFICATIONS FOR A.R.P. work?*

The Home Office A.R.P. Dept. has authorized the British Standards Institution to prepare and issue on their behalf the following special A.R.P. series of British Standard Codes, Specifications and Schedules for materials or appliances required for A.R.P.:—

1. Aggregates for concrete shelters constructed *in situ*.
2. Bituminous paint and bituminous

compound for the protection of steelwork.

3. Electric hand-lamps (fitted with primary battery or unspillable accumulator).

4. Apparatus for decontamination of oilskin clothing.

5. Chemical closets for use in shelter accommodation.

6. Shelter lighting (shelters for 50 persons (210 sq. ft.) or multiples thereof up to 200 persons).

7. Lighting of control rooms.

10. Rubber gasket for rendering doors and windows gas-tight.

11. Adhesive tape for fixing gas-proof material, repairing damaged material or sealing apertures and cracks, etc.

12. Petroleum jelly for sealing gas-tight doors, etc.

14. Black blind material for obscuring windows.

15. Light traps for shops.

16. Specific methods of providing even illumination of low intensity (·002).

20. Specific methods of providing even illumination of low intensity (·02).

Copies of the specifications are available from the offices of the British Standards Institution, 28 Victoria Street, London, S.W.1, price 3d. each post free.

Other specifications are being prepared and will be published shortly. These include :—

Wire netting for protection against flying glass from roof lights and windows.

Blanket felt for rendering doors and windows gas proof and forming gas locks.

Electric lighting of air raid shelters (large).

Fluorescent paints.

Adjustable hinges.

Specific methods of providing even illumination of low intensity (·2).

Blind and curtain material (textile).

Gas-proof cloth for rendering windows gas-proof and weather-proof after breakage.

Mixture for anti-gas cloth.

Q47 EALING.—*I have just completed an AIR RAID SHELTER, the roof of which is 6-in. reinforced concrete, 4 : 2 : 1 mix, the aggregate good shingle and graded sand, and the cement ferro-crete. Mixing water approximately 25 gallons per cu. yd. The slab was cast on Monday, and covered with building paper. Today, Thursday, it was uncovered and found to be LEAKING BADLY. Can you suggest any reason for this?*

The most likely cause of leakage is that the shingle was not properly graded, in which case there would be many voids in the concrete. It is possible the concrete was not properly rammed, and this would have the same effect; or that the shuttering was not tight, which would allow the cement to escape. This last is not very likely, as the water content you mention is pretty well right. If the leakage is as bad as you say, the concrete will certainly be greatly weakened, and should be inspected by an experienced engineer. If the concrete is found strong enough, a coat of asphalt should be effective in excluding rain water.

Q48 BOURNEMOUTH.—*Could you or any reader supply name and address of firm making COUZENS ANTI-FLOODING INTERCEPTOR in stoneware, which was on the market in 1908?*

The firm now making Couzens specialities is Messrs. D. A. Couzens, 6 Park Grove, Cardiff.

Q49 HANTS.—*Although not at the moment actually unemployed, I shall be as soon as a few small jobs on hand are finished, as I cannot see any likelihood of any new work coming in. I should therefore be glad of any advice you may be able to give me as to obtaining some kind of temporary WAR EMPLOYMENT.*

As I should very much like to avoid closing down my office entirely, my preference would be for some kind of part-time employment, such as survey, valuation of building supervision work, in this area (South Hampshire), so that I could occasionally keep in touch with my office. I could provide office accommodation and assistance from a pupil.

Failing this, I shall soon have to seek full-time employment. As an ex-officer I believe I come in a class from which application could be made for a commission. Can you give me any advice as to suitable branches of the army, my age being 53?

If you are already on the Emergency Register of Architects that the R.I.B.A. have deposited with the Ministry of Labour, you will probably hear from them in due course, but if you are likely to be unemployed it is advisable to let the R.I.B.A. know this, because in handing out jobs preference is given to men who have no work. If you are not on the Register you should apply to the R.I.B.A. for enrolment card. On this card there is a question asking whether you are willing to work in a Government office or whether you can undertake Government work in your own office. It is very uncertain how long you will have to wait before you get work from the Register, but we know it is being used and a considerable number of architects have already found work from it. The Inland Revenue have invited some architects to apply for posts as valuers, and we understand names have been given to the Inland Revenue by the Allied Societies; so for this sort of work you should apply to the secretary of your local Architectural Society. Architects between the ages of 30 and 55 can apply for enrolment on the Officers' Emergency Reserve, which is the organization formed for finding a branch of the service suitable for the applicant, who is asked to send in his technical qualifications. Application should be made to A. G. 12, Thames House, Millbank, S.W.1.

[All enquiries not published in these columns should have been answered privately. Any correspondent who has not received an answer by post or in the paper should inform the Secretary, Information Centre, Flaxman 5322.]

Architectural Front

R.I.B.A.

Informal meeting, Monday, October 23, at 4 p.m., for purpose of general discussion on position of profession in relation to war. President will be in the chair; members interested in subject invited to attend and express their views.

A.A.

Meeting held on October 10 to discuss Association's activities. J. Murray Easton (presiding) said : School continuing at Mount House, Hadley Common, near Barnet, Herts. Premises at Bedford Square to be kept open on social side, acting as club for members; hoped arrangements would be made whereby members of R.I.B.A. would be able to make use of it. How much A.A. would be able to do for its members would depend on support received. Proposed it should act as an information bureau and provide secretarial assistance. Shorthand-typist available. Association would also provide drawing space and storage for members who had given up offices. Library to be kept open; skeleton service. Lantern slides would be at school; service for country members would continue, as it had been, a postal one. Proposed to form groups of architects to undertake jobs for Government Departments and others in same way as was done by large firms. Scheme was for benefit of men over thirty not in large practice. Each group would have a leader who would act as liaison officer with Government Department or whoever might give

As a result of the necessity of economising paper in war-time, newsagents will shortly be unable to keep a stock of journals and periodicals for casual sale. If you wish to make sure of receiving your copy of this JOURNAL *in future, you should either place a definite order with your newsagent or subscribe direct to*

THE PUBLISHER, 45 THE AVENUE, CHEAM.

Annual subscription rates £1 3s. 10d. inland; £1 8s. abroad.

work. Work as received would be passed round in turn to members of group. Such a group would be able to carry out first-aid to buildings and to undertake contracts of any sort. Public authorities were accustomed to ask for names of big firms, but group idea would enable men in a smaller way to get jobs. Matter had been discussed with the R.I.B.A. Committee, with result that when Institute was asked to nominate people for Government jobs a proportion would be handed to the A.A. for distribution among its groups. Endeavour being made to stimulate Government Departments to realize that there existed a machinery of the building trade including architects, contractors, etc., and that use should be made of this machinery. Some half-dozen people had been asked to form groups and had done so. Groups had not had any work as yet, but they existed as shadow factories and might be called upon. More social and moral support they could give each other the better. Until now five groups have been formed, first under the leadership of Joseph Hill and P. J. B. Harland, second under V. O. Rees and R. F. Enthoven, third under A. W. Kenyon, fourth under J. R. Leathart and the fifth under L. H. Bucknell.

A.A.S.T.A.

First of A.R.P. lectures in Kingsway Hall held on Monday. Speakers: William Sedley and John Pinckheard. All seats were taken. At least 50 questions asked and answered despite which meeting closed shortly after specified time, 8.30.

Today, October 19, second of series, 6.30. "Blastproof Shelters: the Code." By F. J. Samuely. Third of series: Monday, October 23. "Principles of Design for Air Raid Shelters." By B. Lubetkin.

Evacuation Committee has submitted report on accommodation of evacuees in reception areas to Ministers of Health and Education. Report makes proposals for better use of existing buildings; need for new construction and suggestions as to its planning.

Even the fullest use of existing buildings cannot, of course, solve the problem, and new buildings are an absolute necessity. New buildings required: (*a*) For the school children: Educational buildings with facilities for the serving of a communal midday meal in those villages and towns where the billeting conditions are favourable; residential camp schools in the countryside, with facilities in one building group for education, feeding, and general welfare, for the children now in the larger towns or in unsuitable country billets. (*b*) For the mothers and small children: Social centres with facilities for communal meals, rest, and recreation for the mothers who remain in billets; residential nursery schools for the young children, which can be combined with living accommodation for those mothers who remain with their babies.

All these buildings will, if properly designed, be of the utmost value after the war is over.

Without making a more detailed study it is impossible to estimate the capital cost of a complete building programme as suggested in this report. It is of interest, however, to compare with the cost of new buildings the money the Government are spending on billeting. Assuming the war will last for three years, the Exchequer will spend more than £60 in this time on the weekly payments for lodging only (excluding food) of a mother with her child. For little more than this sum they could be provided with a place in a new building designed for them.

Considering this on a national scale the total cost for all mothers with babies or children under five who normally live in evacuation areas and who, under the Government scheme, should be evacuated, would be around £35,000,000 This sum, which is being spent on a single item, should certainly not be less than half of the total capital cost of a complete building programme for the reception areas.

P.E.P.

Now open for dinner every Tuesday and Thursday evening. Cost of dinner experimentally reduced to 2s. 6d. from Tuesday, October 17.

(*Political and Economic Planning*)

Change of Address

ARCHITECTS AND SURVEYORS

ASHLEY, H. V., AND WINTON NEWMAN
"Frognal Dene," 100 Frognal, Hampstead, N.W.3. (Hampstead 4035.)

AYRTON, MAXWELL
9 Church Row, Hampstead, N.W.3. (Hampstead 3641.)

BAILEY, HAROLD, AND FARRIER
7 Thornton Hill, Wimbledon, S.W.19 (Wimbledon 2865.)

BAILLIE, SCOTT AND BERESFORD
London office closed down. Correspondence to Mr. Beresford at Crown Hill Cottage, West Cliff Drive, Herne Bay, Kent.

BAYNE, OSCAR A., and BUTLER, R. COTTERELL
5 The Grange, Cockfosters, Barnet, Herts. (Barnet 5615.)

BENNETT, T. P., AND SONS
The Sycamores, 19 North Road, Highgate, N.6. (Mountview 6081, 7691, 7692.)

BERKELEY-WILLS, G.
41 High Street, Marlow, Bucks.

BERNARD, OLIVER P., AND PARTNERS
Practice has been temporarily suspended. Any queries relating to recent or current work should be addressed to Marshall and Tweedy, of 51 Berkeley Court, Baker Street; or Deane Anderson, A.R.I.B.A., 2 Glendower Place, S.W.7.

BILLEREY, FERNAND
37 Larpent Avenue, Putney, S.W.15. (Putney 4387.)

BRETT, CHARLES
54 Waxwell Lane, Pinner, Middlesex. (Pinner 508.)

BRIGGS AND THORNELY
28 Brunswick Street, Liverpool.

BROWNE, PERCY L., AND SON
22 Highbury, Jesmond, Newcastle-upon-Tyne. (Jesmond 1078.)

BROWNE, PERCY L., AND SON AND HARDING
22 Highbury, Newcastle-upon-Tyne, 2.

BURNETT AND SONS
Rownhams Mount, Nursling, Southampton. (Rownhams 263.)

CASTLE, SYDNEY E.
269 Burntwood Lane, S.W.17. (Battersea 3002.)

CAWTHORNE, A. M., AND W. K. MCDERMOTT.
312 Ferndale, Tunbridge Wells, Kent. (Tunbridge Wells 408.)

CHERRY, H. G.
Hornboams, Welwyn, Herts. (Tewin 234.)

CHIGNALL, LEONARD
58 Castellan Avenue, Romford, Essex. (Romford 926.)

CHILTON, ERNEST A.
Loxfield Chambers, Uckfield, Sussex.

CLARKE, J. M.
Brentwood, Fulwood, Preston, Lancs. (Preston 7200.)

COLES, GEORGE
2 Selborne Avenue, Albany Park, Bexley, Kent. (Bexleyheath 662.)

COLES, M. E. G.
Present address: c/o P. Perks and Son, Pirbright, near Brookwood, Surrey. Also at London office: 79 Grosvenor Street, W.1.

COWPER, J. B. F.
Continuing at 38 Bedford Square, W.C.1. Should address become impracticable, private address is 96 Wildwood Road, Hampstead Garden Suburb, N.W.11. (Speedwell 2063.)

CROSS, K. M. B.
Greville House, Little Baddow, Chelmsford. (Danbury (Essex) 174.)

CULPIN AND SON
Long Ridge, Carbone Hill, Cuffley, near Potters Bar, Middlesex. (Cuffley 2127.)

DOLBEY, GEORGE W.
63 Bath Road, Cheltenham.

DOOTSON, W.
Union Bank Chambers, The Square, St. Annes-on-Sea.

DOWTON AND HERSCH
107 Jermyn Street, S.W.1. (Whitehall 1182.)

EDLESTON, W. E., AND G. L. CADELL
104 Quakers Lane, Potters Bar, Middlesex. (Potters Bar 2866.)

ELLIOTT, ARCHER AND MARSH
Norwich Union Buildings, High Street, Chelmsford. (Chelmsford 2276.)

EVANS, WILLIAM
8 Oaklands Avenue, Romford. (Romford 677.)

FARMER AND DARK
390 London Road, Earley, Reading. (Reading 615871.)

FENNELL, KENNETH R.
76 Avalon Road, Orpington, Kent.

FOX, CHARLES W.
48 Attimore Road, Welwyn Garden City, Herts.

FRY, E. MAXWELL
8 Lower Mall, W.6. (Riverside 6393.)

GALE, HEATH AND SNEATH
70 High Street, Esher. (London office, 15 New Bridge Street, E.C.4, is still open.)

GEDDES, CHARLES, L.R.I.B.A.
49 Carlton Terrace, Swansea. (Swansea 3888.)

GEDGE, J. V.
On active service; practice discontinued for duration of war.

GILL, J. C.
Woodheads, Grange-over-Sands, Lancs.

GURNEY, A. E.
17 Woodland Rise, N.10.

GUTTERIDGE AND GUTTERIDGE
31 University Road, Southampton. (Southampton 75314.)

HAMMOND, JACK AND AUSTIN
44 Muswell Hill Road, N.W.10. (Tudor 2156.)

HARRISON AND COX
"Shepley Knoll," Shepley Road, Barnt Green, Birmingham. (Hillside 1393.)

HARRISON, H. ST. JOHN, AND E. G. HARRISON
Eachway, Littlestone-on-Sea, New Romney, Kent.

HARVEY, J. D. M.
c/o E. H. Burgess, Ltd., Contractors, Great West Road, Brentford, Middlesex. (Ealing 5290.)

HENNELL, SIDNEY T.
London Office closed down. Communications to 47 High Street, Bognor Regis. (Bognor Regis 916.)

HINDS, R. ALLSEBROOKE
Knoll Side, Esher Place Avenue, Esher, Surrey. (Esher 196.)

HODGES, J. S.
Knoll Side, Esher Place Avenue, Surrey. (Esher 196.)

HOLLIS, H. CLIFFORD, A.R.I.B.A.,
5 Cyprus Road, Finchley, N.3. (Finchley 1035.)

HOOPER, BELFRAGE AND HOOPER
Two Elms, Beckenham Place Park, Beckenham, Kent. (Beckenham 4047.)

IMRIE AND ANGELL
Little Simors, Clare Hill, Esher, Surrey. (Esher 770.)

JAMES AND BYWATERS AND ROWLAND PIERCE
Hornbeams, Winnington Road, Hampstead Garden Suburb, N.W.2. (Speedwell 1089.)

JOHNSON, FRANCIS F.
Craven House, High Street, Bridlington.

JOSEPH, MESSRS.
Leconfield House, Curzon Street, W.1.

KAUFMANN, E. C.
24 Pentley Park, Welwyn Garden City, Herts. (Welwyn Garden 3284.)

KEY, WILLIAM D.
Cardington, Hall Lane, Upminster, Essex. (Upminster 364.)

KING, LAURENCE
The Wayside, Shenfield Common, Brentwood, Essex. (Brentwood 438.)

KNIGHT, FRANK W.
Continuing at present address (3 Verulam Buildings, Gray's Inn, W.C.1) until London becomes impracticable; offices will then be transferred to The Pantiles, Marshalwick Lane, St. Albans, Herts.

LAFONTAINE, LT.-COL. CART DE
3 Lisson Grove, N.W.1. (Paddington 3641.)

LANCHESTER, LODGE AND DAVIS
Bank Chambers, Carfax, Horsham, Sussex. (Horsham 1144.)

LAST, BERTRAM
90 Worcester Road, Cheam, Surrey. (Vigilant 0899.)

LAW, OLIVER
Corner Cottage, Old Point, Middleton-on-Sea, Sussex.

LEECH, JOHN, F.R.I.B.A.
High Ridge, Kinsbourne Green, Harpenden, Herts.

LLOYD, A. P.
37 Beechwood Avenue, Finchley, N.3. (Finchley 1539.)

MAUGER AND MAY
Mr. Mauger, 26 Pentley Park, Welwyn Garden City. (Welwyn 816.) Mr. May: 21 Granville Road, Barnet. (Barnet 2465.)

MAY, T. W. V.
Conducting correspondence from Lymores, Rosehill, Lostwithiel.

MERRIMAN, HAROLD I.
Earl's Riding, Berkhamsted, Herts. (Berkhamsted 216.)

MILNE, OSWALD P.
Hartley House, 103 South End Road, N.W.3. (Hampstead 5926.)

NEWTON, WILLIAM G., AND PARTNERS
Old Rectory, Manningford Abbas, Marlborough, Wilts.

NICHOLSON, SIR CHARLES
Continuing at 2 New Square, Lincoln's Inn, W.C.1. If compelled to leave that office his private address is Church House, Old Headington, Oxford.

NICHOLSON, CHRISTOPHER
Hillcrest, Waltham Chase, near Southampton. (Bishop's Waltham 193.)

NICKSON, RICHARD
Hinderton Lodge, Hinderton Road, Neston, Wirral, Cheshire. (Neston 159.)

NIELD, G. E., AND SON
17 Weech Road, Hampstead, N.W.6. (Hampstead 5360.)

NORMAN AND DAWBARN
Julian Hill, Brooklands Road, We dge, Surrey. (Weybridge 2344.)
NORTH, E. S.
Woodside Road, Beaconsfield, Bucks.
O'DONOGHUE AND HALFHIDE
CI/BA Laboratories, Wimblehurst Road, Horsham, Sussex. (Horsham 1132.)
PALMER-JONES, W.
Spreakley, Frensham, Surrey.
PARKES, C. W., LEES AND SON.
Business transacted from their Fowey office only.
PAXTON, WATSON AND SON
Redcourt, Crawley Down, Sussex.
PEARSON, GEORGE, AND SON
162 Hamilton Avenue, North Cheam, Surrey.
PICKARD, R. L., & Co.
Wolsey Road, East Molesey, Surrey.
PITE, SON AND FAIRWEATHER
16 Market Square, Westerham, Kent. (Westerham 78.)
PORTSMOUTH CITY ARCHITECT'S DEPARTMENT
Northern Secondary School, Mayfield Road, Portsmouth.
PYM, JOHN
On active service; practice discontinued. Correspondence dealt with at 28 Park Village East, N.W.1.
RANK, JOHN S.
34 Inglemire Lane, Beverley High Road, Hull.
REDGRAVE, C.
6 The Quadrant, Warwick Road, Coventry.
RICHARDSON, E. E., AND DAVIS
87 Marsh Lane, Mill Hill, N.W.7. (Mill Hill 1833.)
RIGHTON, C. S.
Brookfield, Ley Hey Park, Marple. (Manchester Office.)
ROBSON, P. A.
21 Dartmouth Row, Blackheath Hill, S.E.10. (Tideway 1183.)
ROSCOE, FRANK
23 Shrublands Road, Berkhamsted.
ROWSE, HERBERT J.
Chapel House, Puddington, Wirral, Cheshire (Burton 223.)
RUSHTON, T. J.
Continuing at 2 New Square, Lincoln's Inn, W.C. If necessary, office will be moved to 53 Clarendon Court, Finchley Road, N.W.11.
SARGENT, RAYMOND J.
Eaton Park, Cobham, Surrey. (Cobham 197.)
SCOTT, SHEPHERD AND BREAKWELL
The Pond House, Stoke Row, near Henley-on-Thames.
SEELEY, HON. JOHN, AND PAUL PAGET
16 Coulsdon Road, Coulsdon, Surrey. (Uplands 6678.)
SMEE AND HOUCHIN
21 Gills Lane, Radlett, Herts. (Radlett 6976.)
SMITHERS, ALEX.
Water House, Bishop's Stortford, Herts. (Bishop's Stortford 816.)
SPALDING AND MYERS
Continuing at their branch office: Norwich Union Chambers, St. Andrew's Street, Cambridge. (Cambridge 4117.)
STEPHENSON, ELWELL AND KNIGHT
11 Kingsmead Avenue, Worcester Park, Surrey.
SUTTCLIFFE, TAYLOR, FARMER AND MILLARD
Communications to E. J. Barnes, Greenroofs, 97 Park Road, New Barnet, Herts (Barnet 5319), or J. Stacey, 60 Holders Hill Drive, Hendon, N.W.4. (Hendon 6301.)
SWAN, EDWARD A.
Briars, Forest Row, Sussex.
TAYLOR, J. A. CHISHOLM
Continuing (with skeleton staff) at Halifax Chambers, Yorkshire Street, Oldham.
THOMAS AND THOMAS
Linga, Antoneys' Corner, Pinner Green, Middlesex. (Pinner 1348.)
THOMPSON, LONGSTRETH
London office temporarily closed: communications to 108 Riddlesdown Road, Purley, Surrey. (Uplands 1150.)
URQUHART, R. B.
Rysyde, 250A Peckham Rye, Dulwich, S.E.22.
WALLIS, GILBERT AND PARTNERS
Head Office: As before (Coastal Chambers, S.W.1). Drawing Office: 151 Friern Barnet Lane, Whetstone, N.20 (Hillside 2946). Surveyors' Department, Desmond House, Romanhurst Avenue, Bromley (Ravensbourne 5151).
WESTWOOD, P. J. AND SONS
Nutfield, Heath Road, Weybridge, Surrey. (Weybridge 182.)
WHITE, E. JULIAN
35 Langford Crescent, Cockfosters, Herts.
WIDNELL AND TROLLOPE
Continuing at London office; emergency office opened at Brook Place, Chobham, Woking.
WILLAN, W. S.
23 Dane John, Canterbury.
WILLIS, ARTHUR J., F.S.I.
3 Denbigh Road, West Ealing, W.13. (Perivale 2865.)
WILSON, A. NEEDHAM
15 Luctons Avenue, Buckhurst Hill, Essex.
WINCKWORTH, HARVEY
61 Lattice Avenue, Ipswich.
WISE, H. J.
Chubnals, Newton Blossomville, near Turvey, Bedford.
WOOD AND OAKLEY
4 Elm Grove, Forest Hall, Northumberland. (Forest Hall 61065.)
WRIGHT, LAWRENCE
10 Blomfield Road, W.9. (Abercorn 4670.)

Building Front

[What is happening in the trade? The emergency tends to affect every firm in a different way, and the notes found under Building Front *give the latest details. We are prepared to publish any vital information that is sent to us by manufacturers regarding their activities.]*

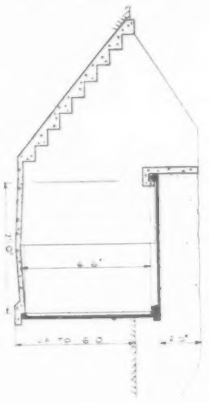
BELLING & CO.—List prices of all electric fires and cookers and water heaters shown in 1939–40 catalogue advanced by 7½ per cent. Increase made necessary by additional heavy expenditure in connection with compulsory War Risks Insurance and other circumstances beyond firms' control.

COCHRAN BOILERS.—Carrying on as usual. Anticipate home business under high pressure as in last war. Highly optimistic. Only grouse: architects rarely provide adequate boiler houses, make them too small, wrong shape or almost inaccessible.

DOULTON & CO., maintaining headquarters at Lambeth, London, S.E.1; also hope before end of year to occupy new head offices and showrooms on corner of Albert Embankment, facing Lambeth Bridge. Six-storey building, now nearing completion, designed to exemplify many uses of modern ceramic materials in service of architecture and building. National requirements making heavy demands on production of all seven Doulton works, every effort, nevertheless, being made to maintain company's usual services.

ELECTROWAY HEATERS.—Business as usual, and in addition 24-g. steel black-out lampshades and other sheet-metal work in gauges 20–27.

MARLEY TILE CO.—In addition to roofing tiles, are making precast units for air-raid shelters (diagram) for municipalities and industrial concerns. Home Office approval. Also domestic 3 in. r.c. unit splinter- and blast-proof shelters to hold eight persons for £15 delivered.



CHARLES P. MOODY.—Business as usual but priority regulations may affect deliveries of metal for ball bearing sheaves and track. No Government licence needed, however, for fibre sliders and track; still available from stock.

LEAD INDUSTRIES DEVELOPMENT COUNCIL.—Supplies of metallic lead for white and red lead paints now controlled. Subject to approval of control authorities hope to obtain sufficient supplies of raw material to fulfil requirements. Priority for Government work. Builders, etc., able to obtain reasonable requirements for normal maintenance painting.

GLASS FIBRES—Supplying Euphon Quilt (fine fibrous glass mats) for insulating lining to walls and roofs of timber huts.

Decision made by National Joint Council for Building Industry concerning effect on building industry working hours of extension of statutory summer time.★

★ The executives of adherent bodies have requested the National Joint Council for the Building Industry to issue a statement, for the guidance of adherent parties, concerning the effect on building industry working hours of the Governmental extension of statutory Summer Time beyond the normal date (i.e. the night of October 7–8) and up to the night of November 18–19.

Consideration has been given to the whole of the circumstances, including the facts:—

(*a*) That the intention underlying the Government's action is to make the maximum use of the available daylight in order to enable production (of materials, goods and constructions essential to the conduct of the war) to be maintained on something approaching a Summer-Time level for as long a period as possible, especially in open-air occupation.

(*b*) That under the National Rules summer working hours continue to apply for two weeks after the end of the period of Summer-Time "as presently determined by Statute" (this being the Statute which has applied in peace-time throughout the currency of the present National Joint Agreement but which the Government are now varying by extending the period).

(*c*) That under the National Rules it is also provided that winter working hours apply, where artificial light cannot be reasonably supplied, during a winter-period "comprised within the six weeks immediately before and the six weeks immediately after Christmas (or within such shorter period as the local parties may agree upon)." The period now extended up to November 18 would overlap this winter-period.

Having regard to these factors, and with a view to the working of the Agreement by a general adherence to uniform principles, the following ruling is issued for the information of adherent bodies and regional and local joint committees:—

(1) Up to and including November 18, 1939, the normal summer working hours at present applying to each locality shall continue to be operated.

(2) From November 19, 1939, the normal winter working hours applying to each locality shall commence to be operated and shall thereafter continue to the end of the usual winter period (normally six weeks after Christmas).

Change of Address

MANUFACTURERS AND AGENTS

ADAMSEZ LTD.
York Cottage, Holdfast Lane, Haslemere, Surrey. (Haslemere 920.)
ALPHA CEMENT, LTD.
The Club House, Coombe Hill, Kingston-on-Thames. (Kingston 2140.)
ARNOLD-LACY CO., LTD.
Glyndon, near Wellington, Somerset. (Wellington 295.
ASCOT WATER HEATERS, LTD.
255 North Circular Road, Neasden, N.W.10. (Willesden 5121.)
ATHENA COMPOSITION FLOORING CO.
3 Waldegrave Park, Twickenham, Middlesex. (Popesgrove 4883.)
BAKELITE, LTD.
Brackley Lodge, Brackley, Northamptonshire. (Brackley 144–145.) Telegrams, Bakelite, Brackley, Northants.

BINNS, A. J., LTD.
Continuing at London office (53 Great Marlborough Street, W.1). Temporary offices have been taken at 14 Patterson Road, Upper Norwood, S.E.19. (Livingstone 2728.)
BIRMINGHAM GUILD, LTD.
Continuing at London office (22 Bruton Street, W.1). Temporary address (if London becomes impracticable) will be 607 Upper Richmond Road, Richmond, Surrey. (Prospect 4520.)
BOBY & CO., LTD.
Chorley Gate, Chorley Wood, Herts. (Chorley Wood 280.)
BRAITHWAITE & Co.
Neptune Works, Newport, Mon.
BRIGGS, WILLIAM, AND SONS, LTD.
37 Prentis Road, Streatham, S.W.16.
BRITISH ALUMINIUM CO., LTD.
Head Office: The Raven Hotel, Shrewsbury. (Shrewsbury 2067–2068.)
BRITISH INSULATED CABLES, LTD.
Fairmile House, Cobham, Surrey. (Cobham 2893-2894.)
BRITISH MAGNESITE FLOORING CO.
25 Waverley Avenue, Sutton, Surrey. (Bermondsey 3031.)
BRITISH REINFORCED CONCRETE ASSOCIATION
Irwin House, De Tillens Lane, Limpsfield, near Oxted, Surrey.
BRITISH STEEL PILING CO., LTD.
Claydon, Suffolk.
BUILDING INDUSTRIES SERVICES, LTD.
191 High Holborn, W.C.1. (Holborn 7666.)
CALLENDER'S CABLE AND CONSTRUCTION CO., LTD.
2 Surrey Street, Strand, now closed; all communications to Head Office.
CARRIER ENGINEERING CO.
Bolney Court, Bolney, Sussex. (Bolney 42–432).
CELLACTITE AND BRITISH URALITE, LTD.
Sales Office, Higham, near Rochester, Kent.
CEMENT AND CONCRETE ASSOCIATION
Lincoln Buildings, 15 Turl Street, Oxford. (Oxford 47952.)
CEMENT MARKETING CO., LTD.
Secretary and all Sales Departments (except Brick Sales): The Club House, Coombe Hill, Kingston-on-Thames, Surrey. (Kingston 2140 (20 lines).) Brick Sales Department: 22 Liverpool Road, Kingston Hill, Kingston-on-Thames, Surrey. (Kingston 0966.) Accountant and Cashier: Cement Marketing Company Ltd., Saxon Works, Coldham's Lane, Cambridge. (Cambridge 54275.)
CHANCE BROS. & CO., LTD.
16 Higher Green, Ewell, Surrey (Ewell 2522.)
CLAY PRODUCTS TECHNICAL BUREAU OF GREAT BRITAIN
191 High Holborn, W.C.1. (Holborn 7666.)
COMBUSTIONS, LTD.
Southfields Engineering Works, 19 Fairfield, South Kingston. (Kingston 6384.)
CONCRETE, LTD.
Green Lane, Hounslow West, Middlesex. (Hounslow 6172.)
CONCRETE PILING, LTD.
6 Craven Road, Addiscombe, Surrey. (Addiscombe 1944.)
CORKBOARD INFORMATION AND RESEARCH BUREAU
99 Elwill Way, Beckenham, Kent.
CRITTALL MANUFACTURING CO., LTD.
Head office at 210 High Holborn (Hol. 6612) is open, and a reduced staff is in attendance to deal with all enquiries. Majority of the staff is at the Braintree Works, Manor Works, Braintree, Essex (Braintree 106); others are distributed among their branch offices.
CRITTALL, RICHARD & CO., LTD.
444 Upper Richmond Road, Barnes. (Prospect 3172), and 1 Grange Mansions, Totteridge Lane, N.20. (Hillside 2705.)
DURATO ASBESTOS FLOORING
Yeoman Street, S.E.8. (Bermondsey 3237.)
EMPIRE STONE CO., LTD.,
Narborough, near Leicester. (Narborough 2202.) Telegrams, Empirstone, Narborough, near Leicester.
ERWIN, WASEY & CO., LTD., ADVERTISING
2 Dean Trench Street, S.W.1. (Abbey. 3093.) (Temporary Brighton Office closed.)
ERWIN, WASEY & CO., LTD.
1 Stonehill Close, East Sheen, S.W. (Prospect 1258.)
EXCEL ASPHALTE CO., LTD.
4 Kingston By-pass, Hinchley Wood, Esher, Surrey. (Emberbrook 4152–3–4.)
EXPANDED METAL CO., LTD.
"Dunedin," Underwood Road, Caterham, Surrey. (Caterham 76.)
FRANKI COMPRESSED PILE CO.
Sunny Down, Court Hill, Chipstead, Surrey. (Downland 1426.)
GENT & CO., LTD.
6 Draycott Avenue, Harrow, Middlesex. (Wordsworth 4002.)
GLIKSTEN DOORS, LTD.
7 Almond's Green, West Derby, Liverpool 12. (Stanley 1217—8—9.)
GODDARD, R. J.
Continuing at Frederick Street Wharf, Caledonian Road, N.7. Correspondence to L.N.E.R. Depot, High Barnet Station, Barnet, Herts.
GREAVES, HERBERT, LTD.
"Wingate," Grange Road, Bramhall Lane, Stockport. (Bramhall 389.)
HARVEY, C. A., & CO. (LONDON), LTD.
Woolwich Road, S.E.27.
HENLEY'S, W. T., TELEGRAPH WORKS, LTD.
Milton Court, Westcott, Dorking, Surrey. (Dorking 3241.)
HERITAGE PETERS ADVERTISING SERVICE, LTD.
74 Kenilworth Road, Coventry. (Coventry 2959. Telegrams: "Advertise.")
HIGHWAYS CONSTRUCTION, LTD.
3 Erleigh Road, Reading.
HILLS PATENT GLAZING CO., LTD.
Returned (from Merton) to London address: 40 Trinity Square, E.C.3.
HOLBORN CONSTRUCTION CO.
Milton Court, Westcott, Dorking. (Dorking 3341.) Telegrams, Henletel, Dorking.
HOLLAND & HANNEN AND CUBITTS, LTD.
Ivy House, Inner Park Road, Wimbledon, S.W.19. (Putney 7771.)
HOLLOWAY BROS. (LONDON), LTD.
The Priory, Wimbledon Common, S.W.19. (Wimbledon 3047.)
HOYLE, ROBSON, BARNETT CO., LTD.
How Hatch, Chipstead, Surrey. (Downland 1206–1207.)
HUGHES AND LANCASTER
Acrefair, Wrexham, Denbighshire. (Ruabon 2.)
I.C.I. DIVISIONAL SALES OFFICES
Western Division: Chance and Hunt Social Club, Dog Kennel Lane, Birmingham. (Broadwell 1531.)
South-Eastern Division: Belmont, The Ridgeway, Mill Hill, N.W.7. (Mill Hill 3600.)
North-Western Division: The Ridge, Alderley Edge, Manchester. (Alderley Edge 2231.)
South-Western Division: Eagle House, Colston Avenue, Bristol, 1. (Bristol 20051/5.)
Northern Division: 5 St. Leonard's Place, York (York 2155.)
Scottish Division: 4 Blythswood Square, Glasgow, C.2. (Douglas 7020.)
Northern Ireland: Imperial House, Donegall Square East, Belfast. (24433/7.)
Eire: 12 Dawson Street, Dublin, C.8. (76576/8.)
I.C.I., THE KYNOCH PRESS
Witton, Birmingham. (Birchfields 4848.)
JENKINS, ROBERT, & CO., LTD.
London office: "Ivanhoe," West View, Swanley, Kent. (Swanley Junction 80.)
JENNINGS, GEORGE (LAMBETH), LTD.
57/9 Old Church Street, Chelsea.
KEAY, E. C. AND J., LTD.
London office: 100 Easton Street, High Wycombe, Bucks. (High Wycombe 378.) Head office: "Runnymede," Stratford Road, Henley-in-Arden, Warwickshire. (Henley-in-Arden 179.)
KEIR, J. L., & CO.,
88 Wimbledon Hill, S.W.18.
LAFARGE ALUMINOUS CEMENT CO., LTD.
The Kilns, Ripley, Surrey, and Fordu Works, West Thurrock, Essex.
LEEDS FIRECLAY CO.
Sanitary Fittings Department, 8 North Drive, Ruislip, Middlesex. Glazed Bricks, Tiles, etc., Showrooms: 2 Cavendish Place, W.1. Terra Cotta Department: 8 Hillfield Close, Harrow, Middlesex.
LENSCRETE, LTD.
Continuing at 11 Buckingham Gate, S.W.1. Case of emergency offices will be transferred to Queen's Circus, Battersea, S.W.8. (Macaulay 4668.)
LILLINGTON, GEORGE, & CO., LTD.
11 Higher Drive, Banstead, Surrey. (Ewell 1851.)
LIMMER AND TRINIDAD LAKE ASPHALT CO.
Berry Hill, Taplow, Bucks. (Maidenhead 2222.)
LINOLEUM AND FLOORCLOTH MANUFACTURERS' ASSOCIATION
c/o The Linoleum Manufacturing Co., Ltd., Staines, Middlesex.
LLOYD BOARDS, LTD.
Kemsley Mill, Sittingbourne, Kent.
LONDON BRICK CO.
Stewartby, Bedford. (Kempston 311.)
LONGLEY, H. C., LTD.
Paradise Lane, Hall Green, Birmingham 28. (Springfield 2341.)
MCALPINE, SIR ROBERT, AND SONS
Dorchester Hotel, Park Lane, W.1.
MCNEILL, F., & CO., LTD.
Pixham Firs, Pixham Lane, Dorking, Surrey. (Dorking 3271–2.)
MCNULTY, J. P., & CO., LTD.
Accounts sent to: 36 Dartmouth Road, Ruislip. (Ruislip 4573.) Communications: Mr. J. P. McNulty, 12 Lancaster Road, Wimbledon, S.W.19. (Wimbledon 4555.)
MELLOWES & CO., LTD.
London office: "Fairleigh," 38 Priest Hill, Caversham, Reading. (Reading 72383.)
MOLER PRODUCTS, LTD.
Hythe Works, Colchester, Essex. (Colchester 3191.) Telegrams, "Furmol, Colchester."
MOND NICKEL CO., LTD.
Accounting Sales, Shipping (delete words inapplicable). Head Office, Clydach, near Swansea. (Clydach 101.) Telegrams Carbonyl, Clydach.
Administration and Secretarial, Cannon Hill, Bray Wick, Berks. (Maidenhead 1503.)
MOUCHEL, L. G., AND PARTNERS.
23 All Saints' Road, Sutton, Surrey. (Fairlands 8836.)
NATURAL ASPHALTE MINE-OWNERS AND MANUFACTURERS COUNCIL, THE
91 Petty France, Westminster, S.W. (Abbey 1010.)
NEWALLS INSULATION CO.
Broxbournebury, Broxbourne, Herts. (Hoddesdon 2911.)
NOEL WOOD-MOSAIC, LTD.
Yeoman Street, S.E.8. (Bermondsey 3237.)
O'CONNOR, S. P., & CO., LTD. (KEYSTONE ADVERTISING SERVICE)
77 Rodney Court, W.9. (Cunningham 5752.)
PENNY, C. E., ADVERTISING
53 Parade Mansions, Hendon Central, London, N.W.4. (Hendon 2234–5.)
PHILIPS LAMPS, LTD.
Sales and Order Departments: Century House, Shaftesbury Avenue, W.C.2. (Gerrard 7777.) Accounts and Administrative Departments: "Bonaly," Beadles Lane, Oxted, Surrey. (Oxted 513.)
PINCHIN JOHNSON & Co.
Witley Court, Witley, Surrey. (Wormley 280–4.)
RAINFORDWARE, LTD.
Mill Lane, Rainford, near St. Helens. (Rainford 225.)
RELIANCE TELEPHONE CO.
39–41 Parker Street, London, W.C.2. (Chancery 5341/5.)
RHEOSTATIC CO., LTD.
Head office, Farnham Road, Slough. (Slough 23311.)
RONEO, LTD.
Hornchurch Road, Romford, Essex. (Romford 1060.)
SANKEY-SHELDON
Bridge House, Tadworth, Surrey. (Burgh Heath 3281.)
SCULL, ARTHUR, AND SON, LTD.
Sanitary and Heating Engineers, 121 Wickham Avenue, Cheam, Surrey
SETCHELL AND SONS, LTD.
22 Coppetts Road, Muswell Hill, N.10. (Tudor 1183.)
SHARP BROS. AND KNIGHT, LTD.
Burton-on-Trent. (Burton 3350.)
SIEGWART FIREPROOF FLOOR CO., LTD.
43-44 Franklin Close, Croxley Green, Watford. (Rickmansworth 2268.)
STANDARD METAL WINDOW CO.
London office closed.
STUBBS, JOHN (MARBLE AND QUARTZITE), LTD.
Thames Works, Thessaly Road, S.W.8. (Macaulay 2882.)
SYNCHRONOME CO., LTD.
Sales, Service and Contracts Dept.: Abbey Electric Clock Works, Mount Pleasant, Alperton, Middlesex.
TELLING, W. A., LTD.
Correspondence to 154 Field End Road, Eastcote, Middlesex. (General office, Pinner 598; Surveyors' office, Pinner 3178.)
TROLLOPE AND COLLS, LTD.
Correspondence to Leconfield House, Curzon Street, W.1. (Grosvenor 3841/7.)
TROUGHTON & YOUNG, LTD.
Technical Staff: 143 Knightsbridge, S.W.1. (Kensington 8881-6.) 6 Basil Street, S.W.3. (7457-9 and 7450.) Night and Emergency enquiries: Putney 6106 and 0288. General offices and skeleton Technical Staff transferred to Birtley House, Bramley, Nr. Guildford, Surrey. (Bramley 3325-7.) All correspondence to 143 Knightsbridge.
TRUSSED CONCRETE STEEL CO., LTD.
In order to avoid concentration and congestion in so important an area as Westminster, their staff has been decentralized. Address for postal purposes remains: Horseferry House, Westminster, S.W.1 (Victoria 4477, 12 lines). Stenographers operating on each line to receive messages and distribute to appropriate officials.
TUNNEL PORTLAND CEMENT CO., LTD.
Pitstone Works, near Leighton Buzzard, Beds. (Cheddington 293.)
TURNERS ASBESTOS CEMENT CO.
"Broxbournebury," Broxbourne, Herts. (Hoddesdon 2911.)
VAL DE TRAVERS ASPHALTE PAVING CO., THE
Merele Wood, Mount Harry Road, Sevenoaks. (Sevenoaks 1827–1828.)
WALPAMUR CO., LTD.
133 Park Road, Teddington, Middlesex.
WATSON AND SONS (ELECTRO-MEDICAL), LTD.
76 Castle Street, Reading. (Reading 3237.)
WOOD PRODUCTS, LTD.
4 Rosebery Avenue, New Malden, Surrey. (New Malden 2774.)
WRIGHT JOHN AND SONS (VENEERS), LTD.
Avon Wharf, Longfellow Road, E.3.

GENERAL NEWS

L.C.C.

At Tuesday's meeting of the London County Council it was stated that arrangements had been made for the terminating (Eros) figure o the Shaftesbury Memorial Fountain in Piccadilly Circus to be removed to a place of safety and the fountain itself is to be suitably protected. The Council also proposes that, in view of its architectural merit, protection shall be afforded to the York Watergate in the Victoria Embankment Gardens.

AN ARCHITECT'S WILL

Mr. John Bradshaw Gass, F.R.I.B.A., of Messrs. Bradshaw Gass and Hope, of Bolton, left £122,967. Bequests included £500 and his share in the goodwill of Bradshaw Gass and Hope to his partner, Arthur John Hope; £100 each to William Scott, James Robertson Adamson and Robert Mackeson McNaught, all of the firm.

OBITUARY

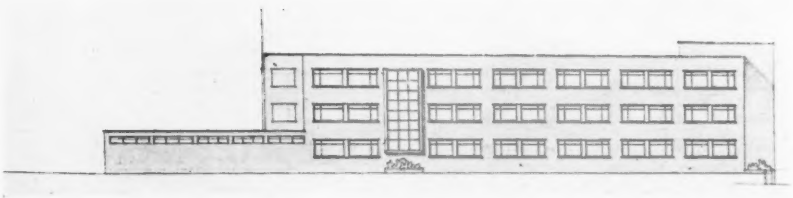
A verdict of "Death from natural causes" was returned at the inquest on Saturday on Thomas Nicholson (51), architect, of Stainburn Road, Workington. Witnesses stated that Nicholson went fishing with friends the previous evening. Later in the evening, his friends found him lying peacefully on the river bank beside his rods.

Dr. Mungo McKerrow said that in August, 1938, Nicholson had suffered from an attack of paroxysmal tachycardia, and more recently he had suffered from a gastric ulcer. His first attack of tachycardia, Dr. McKerrow said, had come on after he had been fishing. Death, he thought, was due to this complaint, as there had been no signs that it was due to the ulcer.

NURSES' HOME, MA

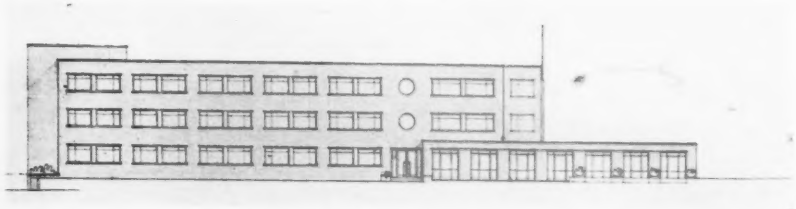
EAST ELEVATION

DESIGNED BY FREDERICK GIBBERD



COMPETITION DESIGN
EAST ELEVATION

RIGHT, WEST ELEVATION FROM THE NORTH. BELOW, COMPETITION DESIGN, WEST ELEVATION



GENERAL—*This building is the outcome of an open competition held in 1937, of which the assessor was Professor R. A. Cordingley.*
CONSTRUCTION AND EXTERNAL FINISHES—*External walls, a series of 13½ in. thick brick piers, tied together by reinforced concrete beams,*

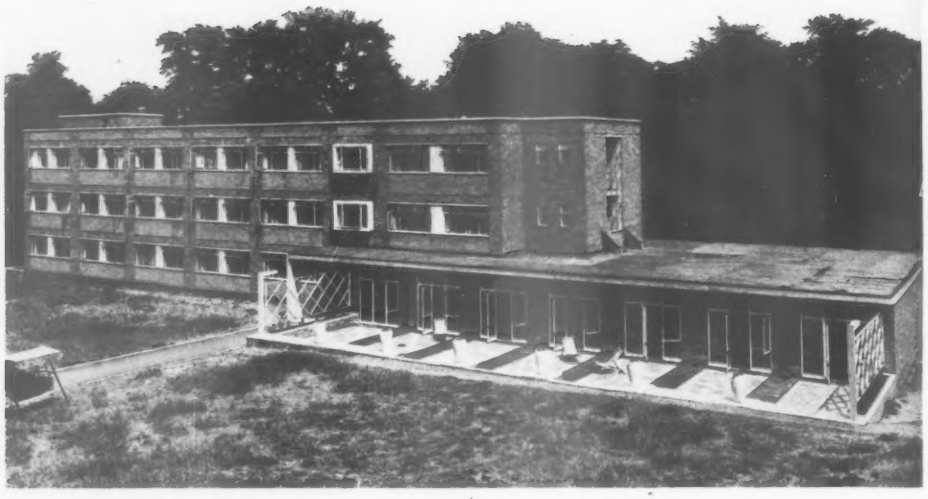
MACCLESFIELD GENERAL HOSPITAL

STAIRCASE WINDOW ON THE EAST FRONT

continuous with the floor slabs. Spaces between the piers are filled with steel windows and 3 in. thick brick panel walls. Reinforced concrete floors span from the external wall beams to the brick spare walls of the corridor. Structural brickwork is of a golden-brown colour ; panels under the windows are a pale brownish-buff. Back-to-back planning of the bedrooms is emphasized in the windows, which are planned in pairs with a common stone mullion, head and cill. Cantilevered elements, such as the hood over the recreation room windows, are in reinforced concrete. The entrance door is in sand-blasted plate glass in a French polished mahogany frame. Door furniture, architrave and letter-box are in bronze, and the door surround in lunel marble. The reinforced concrete canopy is painted a brilliant blue.

KEY TO PLANS

1 : Entrance lobby
2 : Hall
3 : Enquiry office
4 : Cloaks
5 : Laundry
6 : Kitchen
7 : Trunk store
8 : Linen room
9 : Recreation room
10 : Junior nurses' sitting-room
11 : Senior nurses' sitting-room
9-11 : Entertaining space
12 : Sisters' sitting-room
13 : Assistant matron's sitting-room
14 : Maids' bedrooms
15 : Maids' sitting-rooms
16 : Maids' baths, w.c.s, H.M.C.s
17 : Fire exit
18 : Boiler-house entrance
19 : Nurses' bedrooms
20 : Nurses' baths, w.c.s, H.M.C.s
21 : Store and roof access
22 : Sisters' bedrooms
23 : Sisters' bath
24 : Sisters' w.c., H.M.C.s



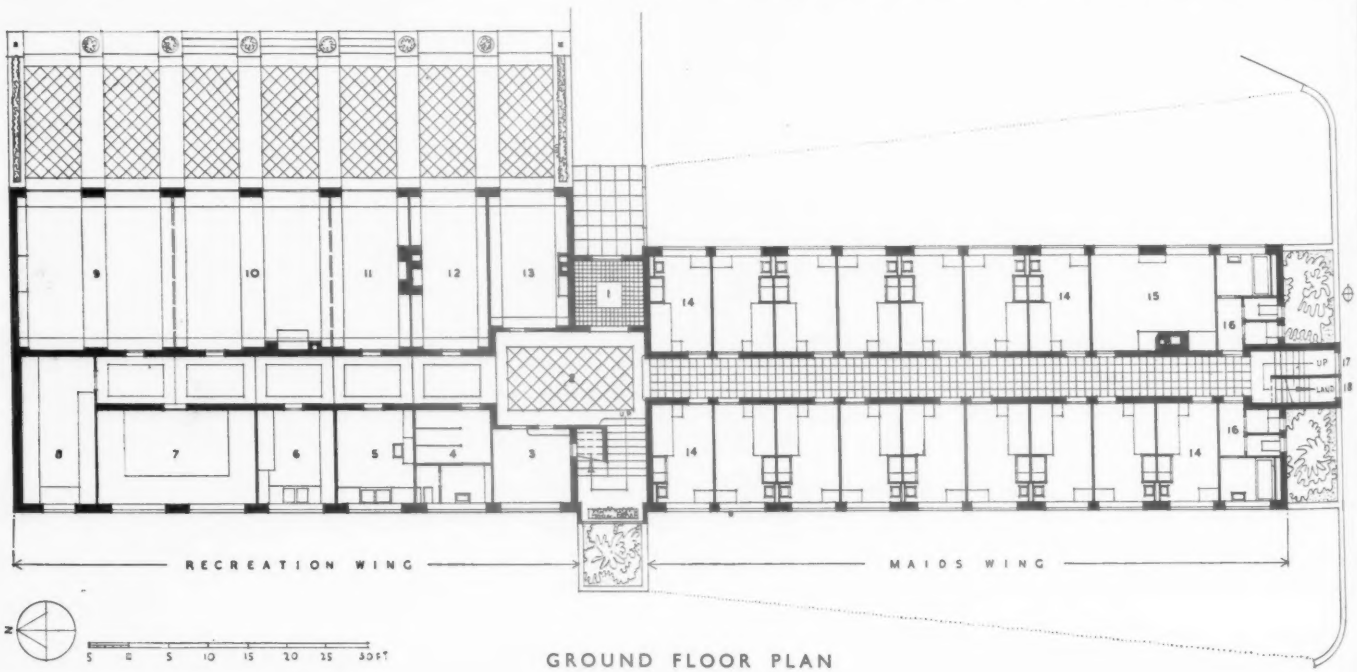
THE WEST FRONT FROM SOUTH SHOWING RECREATION WING AND TERRACE

PLAN—*The occupants of the building are of three distinct grades—maids, nurses and sisters—and the plan is arranged so that the bedrooms, bathrooms, w.c., etc., of each group are in a self-contained unit, with access from the hall and main staircase. Recreation and sitting-rooms are in the one-storey wing on the west.*

INTERNAL FINISHES—*Side walls of the entrance hall are panelled with Nigerian blistered mahogany, one end wall is painted apple green and the other is lined with mirrored plate glass. Lighting fittings are sunk in the ceiling, the central part of which is recessed and finished with acoustic plaster. Entrance lobby is finished in pale pink distempered plaster. Staircase is finished in cream terrazzo with black carborundum insets. Metal window is glazed with alternate squares of clear and wired glass and is held in a reinforced concrete frame. Walls are finished apple green.*

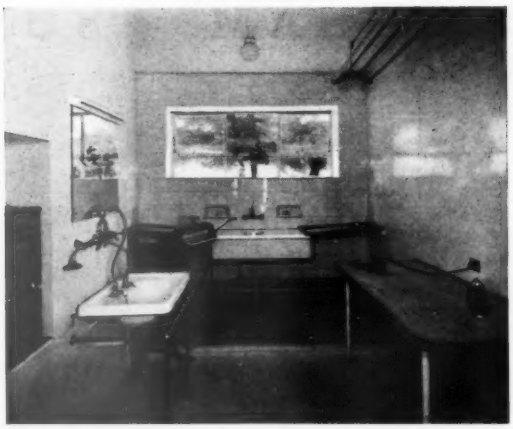
Sitting-rooms all overlook the paved terrace, with windows running from floor to ceiling. They are separated by folding doors which can be thrown open when a very large room is needed for entertaining. Floors are of dark reddish-brown Jarrah wood blocks, walls are distempered pale blue with lighter blue on the supporting arches. Ceilings are finished in acoustic plaster in a beige colour. All joinery is in mahogany.

Lavatory basin in each bedroom is separated from the bed by a built-in wardrobe which provides hanging and shelf space. Bed recess is lined with oak plywood to prevent marking. All doors are flush. Joinery



GROUND FLOOR PLAN

NURSES' HOME, MACCLESFIELD GENERAL HOSPITAL



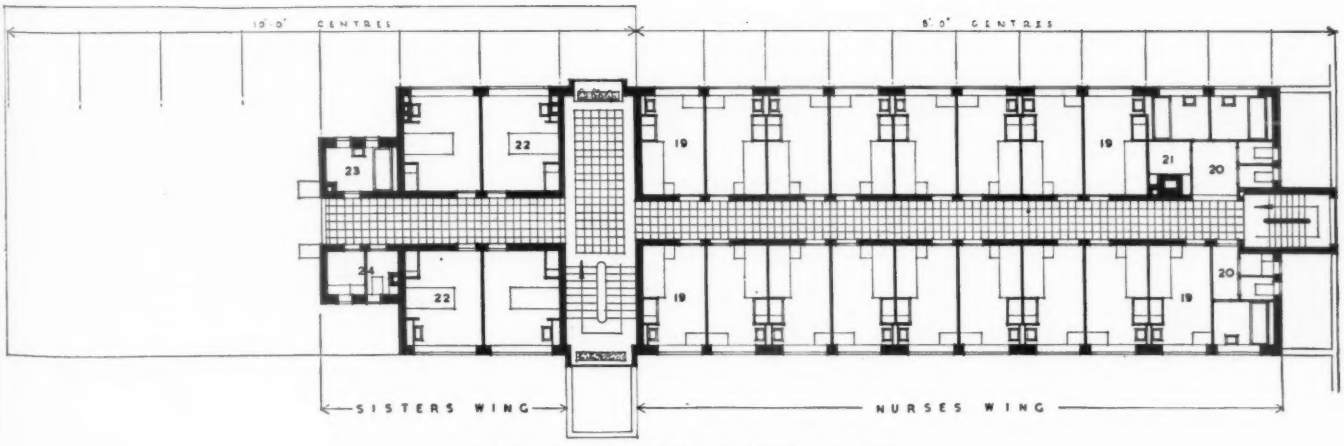
ABOVE, LAUNDRY : RIGHT, KITCHEN

and all furniture is in oak and the floor is of oak blocks. Windows have a side-hung casement and a long top-hung hopper window for night ventilation. Pelmet, curtain rail and ventilating slots at the top of the window were designed as one unit by the architect. The radiator is recessed under the window.

Corridor runs north and south along the building with bedrooms on either side, fanlights providing cross-ventilation. The name and number plate are in cast bronze. The handles for the bedroom doors were designed by the architect.

General contractors : Cooper Bros. ; for list of sub-contractors, see page 508.

SITTING-ROOM



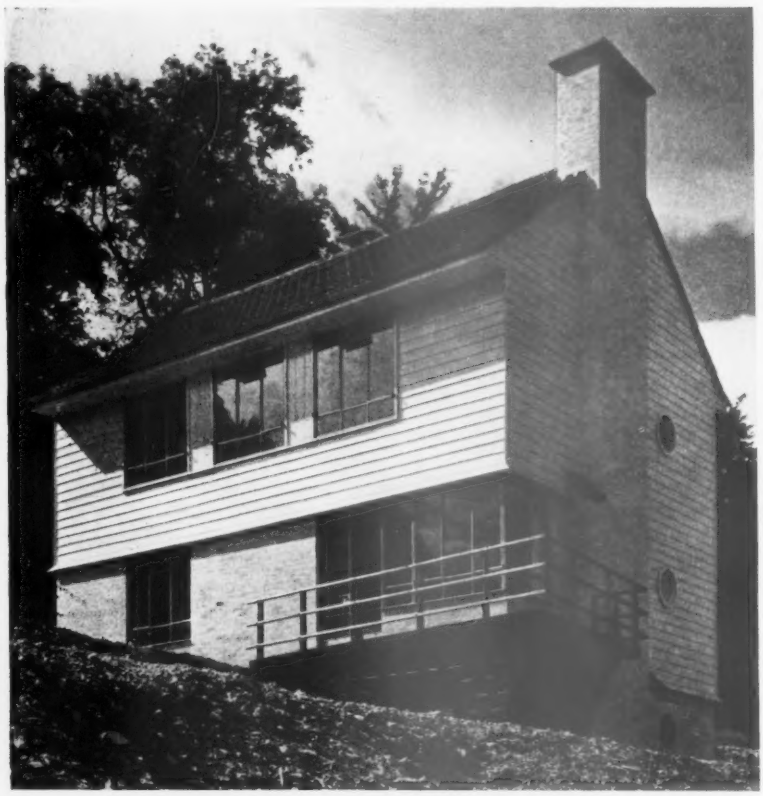
FIRST AND SECOND FLOOR PLANS

• DESIGNED BY FREDERICK GIBBERD

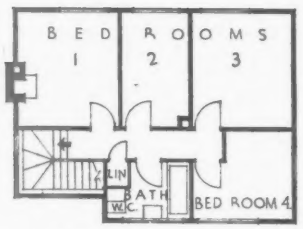
HOUSE AT WOLDINGHAM, SURREY

DESIGNED BY

ELIE MAYORCAS



LEFT AND BELOW: TWO VIEWS OF THE SOUTH FRONT



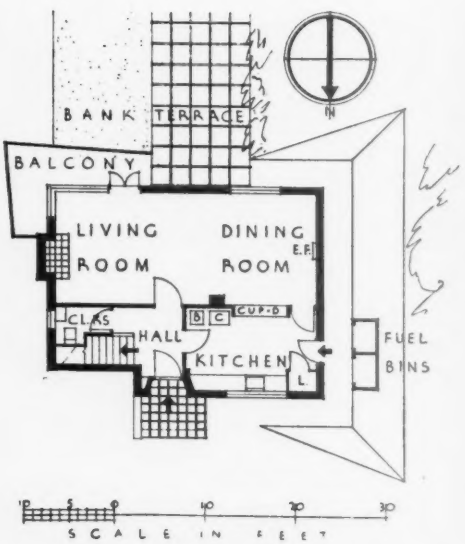
FIRST FLOOR PLAN

GENERAL AND SITE—*The client desired the house to be traditional in design, in case it was necessary to make a quick sale. An all-timber construction was rejected for the same reason, and a compromise of a timber first floor was made. Site slopes sharply to north-east, protected by woods to north and west. Local authorities required a gradient of 1 : 6 for approach drive. Garage is sunk under the house, thus saving space and lowering gradient of the drive.*

CONSTRUCTION AND EXTERNAL FINISHES—*External walls at ground floor level and below : 11-in. hollow brick, on solid concrete ; above, timber-framed, sheathed with untearable bituminous felt and wrot and rebated deal weatherboarding, painted. Internally, framing is covered with insulation board, skim-coated. Floors and first floor partitions are timber framed. Steps and entrance surround are of buff quarries. Standard steel windows.*

INTERNAL FINISHES—*Light washable distemper generally. Flush doors finished in beech, slightly waxed. Door furniture : satin-finished chromium plating.*

SERVICES—*Coal fire in living-room and main bedroom. Inset electric fire in dining-room ; Ideal boiler and one large radiator ; wired for power and electric immersion water heating. Cost : 1s. 2½d. per ft. cube.*



GROUND FLOOR PLAN

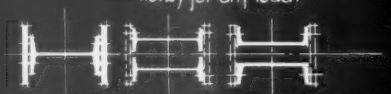
THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

THE USE OF STEEL SECTIONS AS COLUMNS AND STRUTS.

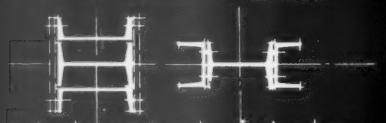
Columns and struts can be carried out in a great variety of sections, examples of which may be grouped as follows :-

(1) Columns for loads up to 150 tons and normal floor heights, consisting of joist section. (This Information Sheet refers to columns made from this section only).

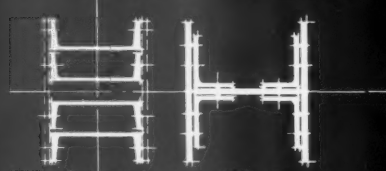
(2) Columns consisting of composed sections, for any load.



Joist section with plate(s). Two joist or channel sections with or without plate(s).

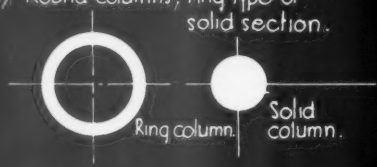


Joist section & 2 channels, with or without plate(s). Joist section & 2 channels.



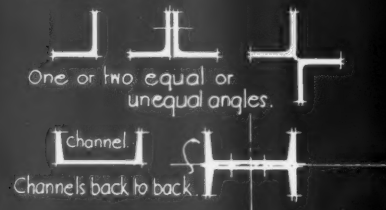
Four channel sections. Web plate, flange plates & angles.

(3) Round columns, ring type or solid section.



Ring column. Solid column.

(4) Struts for trusses or other purposes, consisting of one or two angles or channels.



One or two equal or unequal angles.

Channel.

Channels back to back.

(5) Chords for trusses to take heavy loads.

Boxed plates with angles. Tee plates with angles. Two channels with plate.

Issued by Braithwaite & Co, Engineers, Ltd.
Compiled by C.W. Hamann, Consulting Engineer.

TABLE GIVING EFFICIENCY FACTORS (e) FOR B.S.S. JOIST SECTIONS AS CENTRALLY LOADED COLUMNS (STRUTS).

Size d x b, inches.	LENGTH OF COLUMN OR STRUT IN FEET.														
	6.	6·5.	7.	7·5.	8.	8·5.	9.	10.	11.	12.	13.	14.	16.	18.	20.
3 x 1½.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3 x 3.	0·49	0·46	0·42	0·39	0·36	0·32	0·26	0·22	0·18	•	•	•	•	•	•
4 x 1¾.	0·17	•	•	•	•	•	•	•	•	•	•	•	•	•	•
4 x 3.	0·47	0·43	0·40	0·37	0·34	0·29	0·25	0·21	0·17	•	•	•	•	•	•
4¾ x 1¾.	0·17	•	•	•	•	•	•	•	•	•	•	•	•	•	•
5 x 3.	0·47	0·43	0·40	0·37	0·34	0·29	0·25	0·21	0·17	•	•	•	•	•	•
5 x 4½.	0·76	0·72	0·69	0·64	0·59	0·55	0·51	0·44	0·39	0·34	0·29	0·25	0·21	•	•
6 x 3.	0·46	0·42	0·41	0·37	0·33	0·29	0·25	0·21	0·17	•	•	•	•	•	•
6 x 4½.	0·71	0·67	0·61	0·57	0·53	0·50	0·45	0·38	0·33	0·28	0·25	0·21	0·17	•	•
6 x 5.	0·78	0·75	0·71	0·67	0·62	0·58	0·54	0·47	0·40	0·36	0·32	0·27	0·22	0·17	•
7 x 4.	0·64	0·57	0·53	0·48	0·44	0·40	0·37	0·31	0·26	0·22	0·19	0·17	•	•	•
8 x 4.	0·61	0·54	0·50	0·45	0·41	0·38	0·34	0·28	0·25	0·21	0·18	•	•	•	•
8 x 5.	0·78	0·75	0·71	0·67	0·62	0·58	0·54	0·47	0·40	0·36	0·32	0·27	0·22	0·17	•
8 x 6.	0·86	0·83	0·81	0·78	0·75	0·72	0·70	0·62	0·56	0·49	0·44	0·39	0·32	0·26	0·21
9 x 4.	0·61	0·54	0·50	0·45	0·41	0·38	0·34	0·28	0·25	0·21	0·18	•	•	•	•
9 x 7.	0·90	0·89	0·87	0·85	0·83	0·80	0·78	0·73	0·68	0·62	0·57	0·51	0·43	0·36	0·30
10 x 4½.	0·70	0·65	0·60	0·56	0·51	0·47	0·43	0·37	0·32	0·27	0·23	0·21	•	•	•
10 x 5.	0·76	0·72	0·69	0·64	0·59	0·55	0·51	0·44	0·39	0·34	0·29	0·25	0·21	•	•
10 x 6.	0·85	0·83	0·81	0·78	0·74	0·71	0·68	0·61	0·55	0·49	0·43	0·38	0·32	0·25	0·21
10 x 8.	0·92	0·91	0·89	0·88	0·86	0·84	0·82	0·79	0·76	0·70	0·64	0·58	0·49	0·41	0·36
12 x 5.	0·73	0·69	0·65	0·60	0·56	0·52	0·48	0·41	0·36	0·31	0·27	0·23	0·19	•	•
12 x 6. L	0·85	0·82	0·78	0·76	0·72	0·69	0·65	0·58	0·51	0·46	0·40	0·36	0·29	0·24	0·19
12 x 6. H	0·85	0·82	0·79	0·77	0·73	0·70	0·66	0·59	0·53	0·47	0·41	0·37	0·30	0·24	0·20
12 x 8.	0·92	0·91	0·89	0·88	0·86	0·84	0·82	0·79	0·76	0·70	0·64	0·58	0·49	0·47	0·36
13 x 5.	0·74	0·70	0·67	0·62	0·57	0·53	0·49	0·42	0·37	0·32	0·28	0·24	0·20	•	•
14 x 6. L.	0·83	0·80	0·77	0·74	0·71	0·67	0·63	0·54	0·49	0·43	0·38	0·35	0·27	0·22	0·18
14 x 6. H.	0·85	0·82	0·78	0·76	0·72	0·69	0·65	0·58	0·51	0·46	0·40	0·36	0·29	0·24	0·19
14 x 8.	0·92	0·91	0·89	0·88	0·86	0·84	0·82	0·79	0·76	0·70	0·64	0·58	0·49	0·40	0·35
15 x 5.	0·72	0·68	0·63	0·58	0·54	0·51	0·46	0·39	0·34	0·29	0·26	0·23	0·18	•	•
15 x 6.	0·83	0·80	0·77	0·74	0·71	0·67	0·62	0·54	0·48	0·42	0·37	0·34	0·26	0·20	0·17
16 x 6. L.	0·83	0·80	0·77	0·74	0·71	0·67	0·62	0·54	0·48	0·42	0·37	0·34	0·26	0·20	0·17
16 x 6 H	0·83	0·80	0·77	0·74	0·71	0·67	0·62	0·54	0·48	0·42	0·37	0·34	0·26	0·20	0·17
16 x 8.	0·91	0·90	0·88	0·87	0·85	0·83	0·81	0·76	0·71	0·66	0·60	0·56	0·47	0·39	0·34
18 x 6.	0·83	0·80	0·77	0·74	0·71	0·67	0·62	0·54	0·48	0·42	0·37	0·34	0·26	0·20	0·17
18 x 7.	0·87	0·85	0·83	0·81	0·78	0·74	0·71	0·66	0·58	0·53	0·47	0·43	0·37	0·28	0·23
18 x 8.	0·91	0·89	0·88	0·86	0·85	0·82	0·80	0·75	0·70	0·65	0·59	0·54	0·45	0·38	0·32
20 x 6½.	0·85	0·82	0·78	0·76	0·72	0·69	0·65	0·58	0·51	0·46	0·40	0·36	0·29	0·24	0·19
20 x 7½.	0·90	0·88	0·85	0·83	0·81	0·78	0·75	0·67	0·64	0·58	0·53	0·49	0·38	0·32	0·26
22 x 7.	0·85	0·83	0·81	0·78	0·74	0·71	0·68	0·61	0·55	0·49	0·43	0·38	0·32	0·25	0·21
24 x 7½.	0·89	0·86	0·84	0·82	0·79	0·77	0·73	0·68	0·61	0·55	0·50	0·45	0·37	0·30	0·25

* The values given to the right of, or above the zig-zag line may be applied to secondary compressive members. They should not be applied to main structural columns or struts, for which the values lie to the left of the zig-zag lines. The criterion is a slenderness ratio of 150.

INFORMATION SHEET : STEEL FRAME CONSTRUCTION : No. 11
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET
• 765 •
STRUCTURAL STEELWORK

Subject : Economical Column Sections

General :

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

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

This is the eleventh Sheet of the series, and sets out in tabular form the comparative economic efficiency of plain, single joist sections used as columns or struts.

To the left of the Sheet are shown typical examples of each of the five main groupings into which single and composite columns and struts may be placed according to use and loading.

Efficiency Coefficient :

The efficiency factor for columns is not constant for a given section, but depends on its length also. The permitted stress for steel (allowing for reduction for buckling) is in accordance with B.S.S. No. 15, $S = 7 \cdot 2e$, where e is the efficiency co-efficient taken from the table on the front of this Sheet for joists.

The efficiency factor can never be greater than unity, but it may be as low as 0·17.

Struts with an efficiency factor of less than 0·278 are not permitted for columns or for chords of trusses, and of less than 0·17 are not permitted at all.

Loading :

The actual loading W in tons which any section may carry can be found by the formula $W = 7 \cdot 2eA$, where A = sectional area of column. As the expression explains, e is a measure for the efficiency, and if two different types of column may be used, the one with the higher efficiency should be chosen.

Calculations show that for centrally loaded columns, joists compare very well, with regard to efficiency, with channels and angles, while they are inferior to composed sections particularly where the buckling length is great. The most efficient joists are 10 in. by 8 in., 12 in. by 8 in. and 14 in. by 8 in.

Buckling :

The buckling length is to be taken between $0 \cdot 75h$, and h, where h = storey height, i.e. floor level to floor level for intermediate storeys, and from surface of next floor to top of foundation for the lowest storey.

The distance is to be taken as h where such columns are not restrained in direction (hinged), but it may be taken as $0 \cdot 75h$ where full restraint may be assumed. Where any doubt exists, it is recommended that the column be taken as hinged.

The top and bottom of any column are to be perfectly held in position. Where latticed girders and trusses are used, for diagonals and verticals the length is to be taken as equal to the theoretical length between the intersections of centre lines.

The amounts shown in the table on the front of this Sheet are for centrally loaded columns only, and have no significance where columns are subject to bending moments.

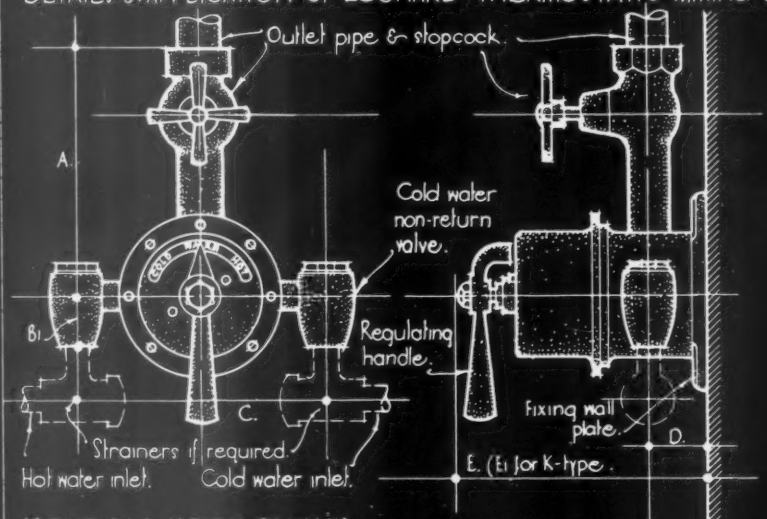
Previous Sheets :

Previous Sheets of this series dealing with structural steelwork are :

No. 729 : Basic steel sections.
No. 733 : Mechanics of sections, 1.
No. 736 : Mechanics of sections, 2.
No. 737 : Economical framing, 1.
No. 741 : Economical framing, 2.
No. 745 : Economical beam sections, 1.
No. 751 : Economical beam sections, 2.
No. 755 : Economical beam sections, 3.
No. 759 : Riveted plate girders.
No. 763 : Fire resisting cover to steel beams.

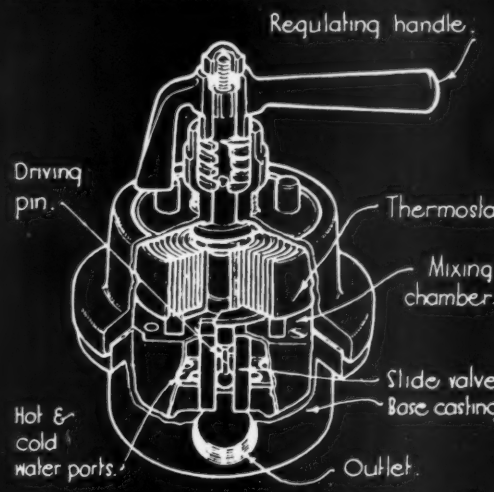
Issued by : Braithwaite & Co., Engineers, Ltd.
Address: Horseferry House, Horseferry Road, London, S.W.1
Telephone : Victoria 8571

DETAILS & APPLICATION OF 'LEONARD' THERMOSTATIC MIXING VALVES FOR WATER TEMPERATURE CONTROL:

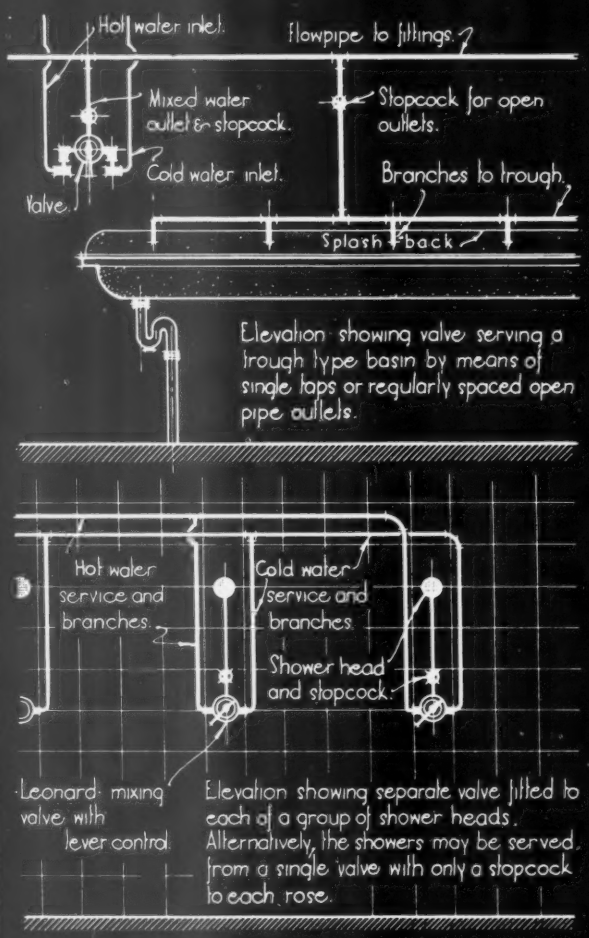


FRONT ELEVATION OF VALVE. (Shown with lever control.)

SIDE ELEVATION OF VALVE.

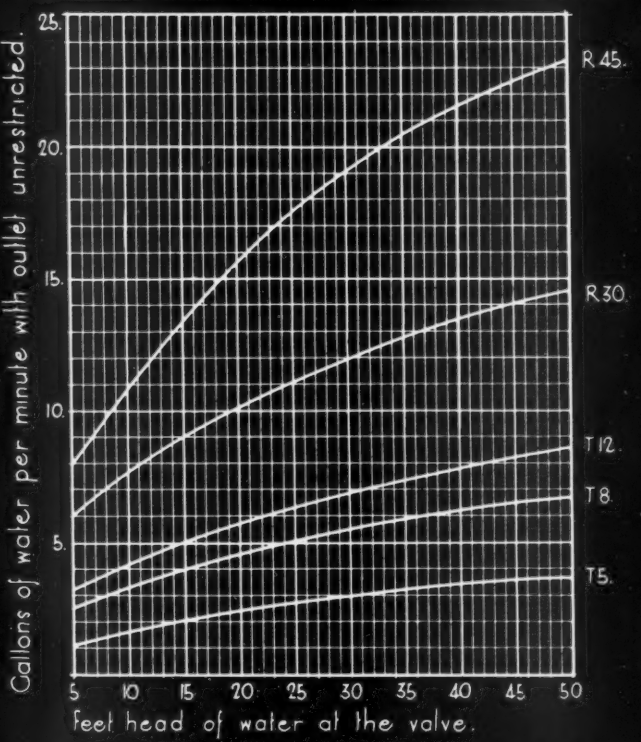


SKETCH OF ASSEMBLED VALVE (type T) SHOWING GENERAL ARRANGEMENT.



GRAPH SHOWING CAPACITIES OF 'LEONARD' VALVES.

Note. The capacities shown below are the results of tests with hot & cold supplies at equal pressures and with outlets unrestricted (open discharge.)



CAPACITIES IN GALLONS PER MIN. AT 100°F.

Information from Walker, Crosweller & Co. Ltd.

INFORMATION SHEET : PLUMBING : THERMOSTATIC WATER MIXING VALVES.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 766 •

SANITARY EQUIPMENT

Product : Leonard Thermostatic Water-mixing Valves

General :

Leonard Thermostatic valves keep the temperature of blended water constant no matter what variations of pressure take place in the supply of hot and cold.

The sudden opening of taps or valves in other parts of a building therefore does not affect the temperature of showers or other washing equipment in the same system.

Risk of scalding from failure of a cold supply is thus eliminated, or shock from failure of a hot.

The temperature of the mixed water can be set by the authority, thus saving waste arising out of each user making his own blend by trial and error. A further economy follows from this that only one tap per basin is required instead of two.

Operation :

The mechanism is shown on the front of this sheet. The hot and cold water supplies are led separately into the mixing chamber, where a shuttle valve moving over a spindle covers or uncovers the ports which admit separately the hot water and the cold water.

A thermostat of bi-metallic strip in coil form carries a driving pin which moves the shuttle. The thermostat lies in the stream of blended water and reacts whenever the temperature of the mixture varies from the set figure. This moves the shuttle and thereby holds the temperature steady in spite of fluctuations in the pressure of either supply.

Should the cold or the hot supply fail for any reason, delivery from the outlet is shut down automatically to a trickle.

Application :

The valves are suitable for showers and baths generally ; school showers and hand-basins, single or grouped ; factory and mine washing fountains, troughs and footbaths ; hospital sprays, infant baths and sluicing slabs ; public showers and pre-cleansing apparatus, as well as for equipment in military, naval, police and A.R.P. establishments.

Capacities :

When using the graph, it should be remembered that the pressure in the hot supply is often lower than in the cold, and thus usually determines the capacity of the valve. To compensate for back pressure set up by taps, shower heads, etc., a suitable margin over normal outflow should be allowed.

Installation :

The thermostat operates by difference in temperature, and this should be preferably not less than 30° F. Thus the temperature of the hot water supply to the valve should be not less than 130° F. when apparatus requires a permanently fixed temperature of 100° F. A stopcock is fitted in the outlet to control the flow of blended water.

Non-return valves are supplied on each inlet to prevent seepage through the valve from one supply to the other when the outflow is closed.

Strainers :

Strainers to arrest dirt, scale, or other impurities should be fitted in the hot and cold water supply lines before the non-return valves. They are particularly recommended for use in new installations.

Types and sizes :

Types T5 and T8 are for single units (showers, basins, etc.) T12 is for small groups. R30 and R45 are for larger groups. TK and RK have loose keys and can be locked at a given temperature.

Pipe connections are screwed B.S.P.T. (iron). Dial thermometers can be supplied.

Type	Supply Pipe Diameter		Approximate Dimensions					
	Inlets	Outlet	A	B_1	C	D	E	E_1 for K-type
T5 and TK5	½ in.	½ in.	$6\frac{5}{16}$	$1\frac{1}{2}$	$6\frac{1}{4}$	$1\frac{1}{4}$	6	$4\frac{7}{8}$
T8 and TK8	½ in.	½ in.	$6\frac{5}{16}$	$1\frac{1}{2}$	$6\frac{1}{4}$	$1\frac{1}{4}$	6	$4\frac{7}{8}$
T12 and TK12	¾ in.	¾ in.	$6\frac{7}{16}$	$1\frac{21}{32}$	$7\frac{1}{4}$	$1\frac{1}{4}$	6	$4\frac{7}{8}$
R30 and RK30	1 in.	1 in.	$6\frac{13}{16}$	$2\frac{1}{16}$	$7\frac{1}{4}$	$1\frac{1}{2}$	$8\frac{3}{8}$	7
R45 and RK45	1 in.	1¼ in.	$7\frac{7}{16}$	$2\frac{1}{16}$	$8\frac{1}{4}$	$1\frac{1}{2}$	$8\frac{3}{4}$	$7\frac{5}{8}$

Issued by : Walker, Crosweller & Co., Ltd.
Address : Whaddon Works, Cheltenham (Glos.)
Telephone : Cheltenham 5172
Telegrams : Instrukemi Cheltenham
London Office : 6 Gordon Square, London, W.C.1
Telephone : Museum 3107

Notes from the Building Research Station on*

NOISE IN BUILDINGS

TECHNIQUE OF SOUND INSULATION

PART II—DISCONTINUOUS CONSTRUCTION

PRELIMINARY

THE present note is the second part of a review of some points of interest in the technique of sound insulation which will be dealt with more fully in a forthcoming report by the Building Research Station.†

In the first part sound insulation in *Rigidly Continuous Structures* was discussed, and reasons were given why it was impossible to achieve an insulation in such buildings greater than that which one might expect from, say, 4½-9 in. brickwork. It was also shown that while this was sufficient for certain types of occupancy, there were many cases where it was not adequate and that recourse must then be had to a new method —the introduction of discontinuity.

In this second part it is proposed to give some account of the investigations into the construction and behaviour of discontinuous construction, and to describe briefly one or two of the applications of the new technique recommended for practice.

EXPERIMENTAL WORK

Very early in the joint researches by the National Physical Laboratory and the Building Research Station it was realized that experiments on *individual* walls and floors could never by themselves lead to a comprehensive solution of the problem, since it was known that, in some cases, at least, a great deal of sound travelled by indirect paths in buildings, of which such tests took no account. It was decided, therefore, that it was necessary to carry out tests in a building in which all the paths for sound transmission could be controlled and studied. Fortunately, about this time a very suitable light steel-framed structure in the grounds of the Research Station became available, and the opportunity was seized to commence work there.

The building has two storeys, and at present the basic structure consists of the light steel frame, floors and roof of pre-cast hollow concrete blocks, and outside walls of 4½ in. brickwork. Stairs are provided on a frame detached from the building.

Up to the present time, the experimental work has involved the construction of two rooms on each floor, each with a single large window and double doors. These rooms were the special feature of the building, for they were, of themselves, complete boxes, resting on rubber blocks, and thereby detached as completely as possible from the structure and from one another. The floors of the rooms were of concrete, of the floating type patented by the Research Station‡; the walls of the rooms (as distinct from the outer walls of the building), were of clinker concrete blocks, plastered, and were carried upon the floating floors: the ceilings were of two-coat plaster on wood laths, carried by wood joists which were, in turn, supported by the box walls of the room. Windows and doors were double, the inner elements in each case being in the box structure, and the outer in the building frame itself.

The insulation which was achieved between neighbouring rooms, vertically or horizontally, with the building in this state was of a very high order indeed, being equivalent to some six to ten feet thickness of brickwork, although the total actual weight of the structure had not been materially increased. From the nomogram given in Part I of the Note it will be apparent that insulation of this order is far superior to that obtainable in "continuous" structures.

Various modifications were then tried, directed to simplifying the structure without losing this high insulation. For example, it was found possible to dispense with double doors and windows in certain cases without sacrificing any appreciable degree of sound insulation. At the present time, studies are being made of ceiling constructions. Later, additional work will be done on the floors and it is hoped to achieve further simplification in this direction.

It should perhaps be mentioned that the idea of a box-like construction is by no means a novel or untried one. For example, reference is made by Davis and Kaye in their book, "The Acoustics of Buildings," to a case where the idea was carried out quite successfully in a building erected as long ago as 1913. What is new in the recent work is the study which has been made under controlled conditions of the possibilities of this type of construction or of the general methods of introducing structural discontinuities, with a view to advancing fresh recommendations for construction which would be within the region of practical politics, depending on the circumstances of different types of cases.

The tests made with this building have made it possible to visualize treatments of varying efficiency for all types of problems where an insulation in excess of that obtainable in rigidly continuous structures is required, and in the report now in the Press suggested applications of the technique have been described to deal with such typical problems as flats, hospitals, semi-detached houses, and so on. In addition to this, sufficient information of a fundamental character is given to enable architects readily to devise other treatments for individual problems which arise. It is not possible to describe in full here the suggestions for treatment of any of the problems dealt with. The following, however, may serve to indicate the approach which has been adopted in dealing with one or two of them.

EXAMPLES

1. *Semi-detached Houses*

Normally sound is transmitted not only by way of the directly intervening party wall, but by the common walls which form the front and rear of the houses. For this reason any superficial treatment of the party wall alone is doomed to failure. This path, of course, is one which has to be treated with others and the obvious procedure seems to be to divide the party wall into two separate leaves, and to interrupt the continuity of the common flanking walls at this point.

Methods for doing this are shown in the accompanying diagram (Diagram 3), together with details for the treatment of the party wall and its junction with the outer walls, whether the latter are of solid or cavity construction. The larger detail deals with the point where the chimney, divided by the cavity in the party wall, is joined together above a layer of resilient asbestos cloth just below its junction with the roof.

These are the essential details of the discontinuous construction in this case, but lesser points such as (*a*) the division of foundations, (*b*) the treatment of windows in cavity walls, and (*c*) points of planning and general design must be taken into account if success is to be achieved.

It may be of some interest to mention that, at the present time, one builder is constructing several semi-detached houses along the lines recommended in an endeavour to provide adequate sound insulation at less than the cost of a comparable detached house. The Station proposes to examine the houses when they are finished.

2. *Hospitals*

Hospitals will, perhaps more than most buildings, present markedly individual problems in each instance. For this reason the recommendations made are, of necessity, rather in the nature of generalizations.

Roughly speaking, it may be said that hospitals require to be carefully "zoned" in planning, as experienced hospital architects are well aware. The wards are commonly a region where quiet is demanded and where the noise sources are not usually intense, while the kitchens and various offices are usually sources of considerable mechanical noise, although a high resistance to penetration of sound from outside is not necessary.

In the "quiet zones" probably the requirements for air-borne sound insulation are within the limits for rigid continuous structures and can thus be easily dealt with (*see* Part I of this note), and impact sounds, which might be a nuisance, can be adequately dealt with by the use of a floating floor.

In the "service zones" also the requirements of insulation are probably within the limits for rigid continuous structures.

Between the two regions, however, it is quite probable that insulation of a higher order will be required, and for this purpose a discontinuity should be introduced into the structure.

The accompanying diagram (Diagram 4), illustrates these points both in general in the two upper sketches, and in detail beneath, where methods are shown for closing the cavity which would have to be provided to interrupt the structure. These details are of considerable importance in practice, since, comparatively speaking, a very small amount of rigid contact can entirely destroy the insulation provided by a large area of cavity construction. Closing the gap around a single doorway with rigid materials would, for instance, damage the insulation over perhaps the whole of the area of the cavity. The cavity should apparently be treated throughout as an expansion joint in the building. In some cases, of course, this may be a useful function quite apart from sound insulation.

D

 First part published in THE ARCHITECTS' JOURNAL for September 21.

† "Sound Insulation in Buildings. Practical Notes for Architects and Builders." H.M. Stationery Office.

‡ British Patent No. 466,044.

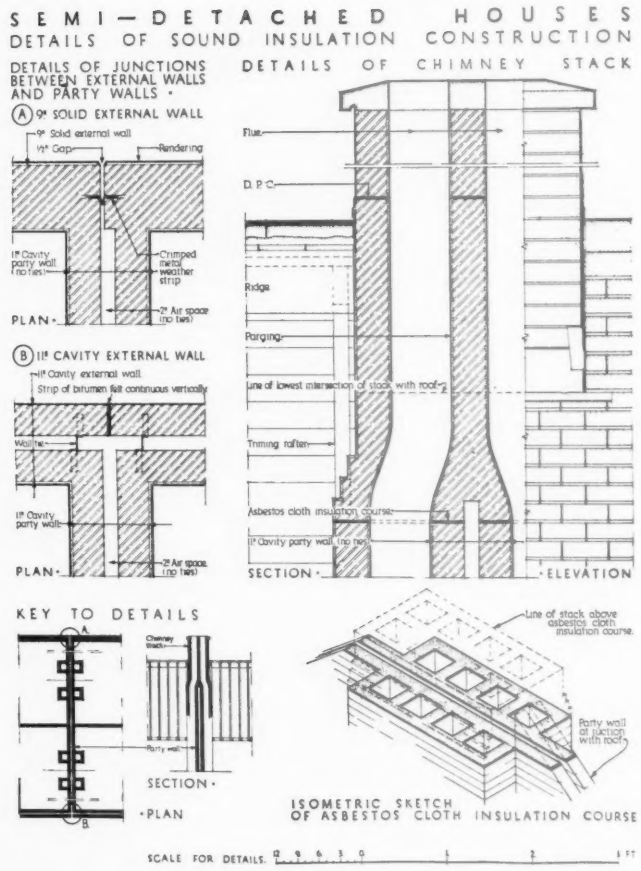


Diagram 3

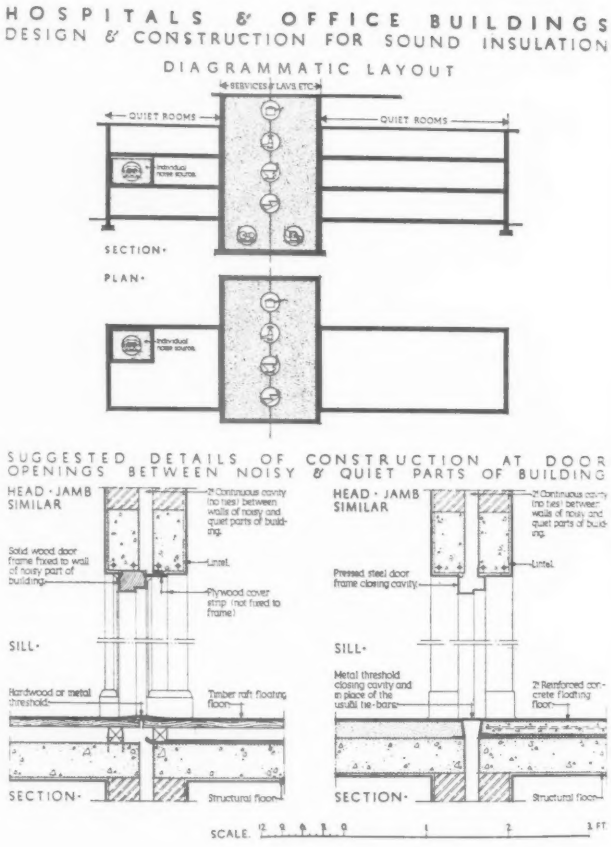


Diagram 4

In hospitals occasions may arise where a single room or group of rooms, where there are sources of noise, may have to be placed in the midst of a quiet zone. These could be treated like the box constructions described earlier in connection with the experimental work. Details for the simple construction of such rooms are given in the section on the treatment of flats, which, again owing to the limitations of space, cannot be dealt with here. Such constructions offer, of course, a very high degree of insulation.

CONCLUSIONS

From this second part of the note three important deductions can be made which might well be added to the summary given in Part I.

Firstly, it will be obvious that *in practice the solution of the problem of sound insulation is primarily in the hands of the architect* and is not merely a question of applying "sound insulating materials." Such special materials as the architect will need from time to time will be required essentially for their property of resilience, and for the rest his principal aids are the ordinary structural materials, and within reason the simpler and the more robust these are, the better they will serve his purpose.

Secondly, the demonstrated principles of sound insulation, and the suggestions for practice which have been made are both so comprehensive that it seems highly probable that efficiency and economy will be best served by considering them in the earliest stages of the design of a building. In some cases perhaps, planning alone may then be sufficient, or a few changes in constructional detail, but in others it seems likely that best use of the ideas can only be made if they are allowed to operate as a function of the design.

Thirdly, the technique of discontinuous construction properly used can provide insulation of a very high order, adequate in fact for almost any conceivable noise problem, but involving, on the whole, very little intricate or heavy construction.

THE BUILDINGS ILLUSTRATED

NEW NURSES' HOME, MACCLESFIELD (pages 498-501). Architect: Frederick Gibberd. General contractors were Cooper Bros. Sub-contractors and craftsmen included Caxton Floors, Ltd., reinforced concrete work; John Bolding and Sons, Ltd., sanitary equipment; E. Hill Aldam & Co., Ltd., sliding door gear; Cork Insulation Co., Ltd., cork floors; William Ryder, Ltd., bathroom equipment; MacAndrews and Forbes, Ltd., doors; R.I.W. Protective Products, Ltd., waterproof painting; Garton and Thorne, Ltd., staircase balustrades; William Sugg & Co., Ltd., gas incinerator; Frederick Braby & Co., Ltd., cloak room fittings; Holophane, Ltd., flush ceiling lighting fittings; Paul and Moore, Ltd., ironmongery; Ragusa Asphalte Paving Co., Ltd., asphalt roofing; Williams and Williams, Ltd., metal windows; Norris Warming Co., Ltd., heating installation; British Trane Co., Ltd., Vectair radiators; T. and R. Williamson, Ltd., paint and distemper; Joseph Freeman, Sons & Co., Ltd., concrete paint; Tentest Fibre Board Co., Ltd., insulating board.

R.I.B.A.

ELECTION OF MEMBERS

As Fellows (23): Messrs. R. C. Blampied (Jersey); J. Cohen (London); H. C. C. Couldrick (Hove, Sussex); A. A. V. Montagu (London); C. H. Rose (Woking, Surrey); G. W. Silk (Leamington Spa, Warwickshire); J. C. P. Toothill (Sheffield); A. R. Twentyman, M.A. (Wolverhampton); R. B. Walker (Brighton); D. T. Wallis (London); J. Williamson (Cardiff); R. R. Wilson (London); G. G. Winbourne (London); K. Wood (Woking); R. L. Honey (Chatham, Kent); J. S. Johnston (Leith, Scotland); D. C. Nichols (London); L. A. Reynolds (Beverley, East Yorks); W. R. Steel (Luton, Beds). *Overseas:* I. Davies (Nairobi); F. G. B.-B. Hawkins (Perth, Western Australia); A. W. Hodges (Hong Kong); O. Than (Rangoon).

As Associates (20): J. A. Ashworth (Liverpool); J. Black (Airdrie, Lanarkshire); E. R. Carr (London); T. Clokey (Liverpool); R. H. Coles (March, Cambridgeshire); M. G. Gilling (Liverpool); J. T. Lupton (London); T. Mellor (Lytham St. Annes); L. Monks (Radcliffe, Lancs); T. N. Montgomery (Dublin); W. O. B. Morrissey (London); A. W. Nicol (London); A. P. Porri (London); L. A. Porri (London); J. D. Sephton (Southport); R. B. Verdon (Blackpool, Lancs). *Overseas:* H. J. Billimoria (Bombay); D. G. Karanjgaokar (Bombay); R. R. Sarma (Bombay); A. E. Welbourn (Adelaide, South Australia).

As Licentiates (7): Messrs. F. G. Chapman (London); E. P. Cooper (York); P. L. Davidson (Keswick, Cumberland); H. C. Ellis (Swansea); R. E. Farquhar (London); J. F. Jones (London); G. W. Smith (South Shields).

SCHOLARSHIPS

In accordance with the terms of the will of the late Sir Archibald Dawnay, the Institute has awarded three Scholarships of £50 for the academical year 1939-40, one to Mr. D. C. Williams, of the Welsh School of Architecture, Cardiff; one to Mr. R. J. Naismith, of the School of Architecture, Edinburgh College of Art; and the third to Mr. Francis Murray,

continued on page xx

PRICES

On the following pages appears Prices for Measured Work—Part I, with prices last published on September 14, brought up to date.

IMPORTANT ★ NOTE

The prices given below are for work executed complete and are for an average job in the London Area; all prices include overhead charges and profit for the General Contractor.

The prices given in italics are for "Materials Only" and represent the cost of the materials included in the measured rates. They are based on the prices given in "Current Market Prices of Materials" with the addition of 10% for overhead charges and profit, ***though owing to present conditions many of these prices may no longer hold good.***

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

PART 3

CURRENT PRICES FOR MEASURED WORK—I

BY DAVIS AND BELFIELD

PRELIMINARIES

Water for the works		
Third party and other insurances to persons and property, employer's liability, unemployment and Public Health insurances, and fire insurances (based on value of contract) ..		1½%
Single scaffolding	per yard super	2/–
Independent scaffolding ..	per yard super	2/8

EXCAVATOR

		Ordinary Ground	Clay
Surface digging average 9″ deep and wheeling and depositing on spoil heap, not exceeding two runs	per yard super	–/9	1/1
Excavating not exceeding 5′ 0″ deep to form basement and getting out	per yard cube	1/11	2/10½
Ditto, exceeding 5′ 0″ deep and not exceeding 10′ 0″ deep	per yard cube	2/5	3/6
Excavating not exceeding 5′ 0″ deep to form surface trenches and getting out	per yard cube	2/7	3/10
Ditto, exceeding 5′ 0″ deep and not exceeding 10′ 0″ deep	per yard cube	3/7	5/0
Ditto, not exceeding 5′ 0″ deep to form basement trench excavation commencing 10′ 0″ deep, and getting out	per yard cube	3/4½	4/6
Returning, filling in and ramming around foundations	per yard cube	1/1	1/5

EXCAVATOR—(*continued*)

		Ordinary Ground	Clay
Filling barrows and wheeling and depositing excavated soil not exceeding two runs	per yard cube	1/1	1/5
Spreading and levelling from excavated heaps in layers not exceeding 12″	per yard cube	–/9	1/–
Filling into carts or lorries and carting away	per yard cube	4/6	4/10
Planking and strutting to sides of basement, excavation, including strutting	per foot super	1/–	–/9
Planking and strutting to surface trenches (both sides measured)	per foot super	–/4½	–/3
Hardcore, broken brick, filled in under floors and well rammed and consolidated	per yard cube	6/6	*4/6*
Hardcore, broken brick, deposited, spread and levelled, and rammed to a true surface 6″ thick	per yard super	1/4	*–/9*

CONCRETOR

Foundations and Mass Concrete

Portland cement concrete 1 : 6 with unscreened ballast, in foundations and masses exceeding 12″ thick	per yard cube	20/2	*16/8*
Ditto, 1 : 3 : 6, with one part of cement and three parts of sand and six parts of clean gravel	per yard cube	20/9	*17/3*
Ditto, 1 : 2 : 4 with one part of cement, two parts of sand and four parts of ¾″ crushed graded shingle	per yard cube	25/7	*22/1*

CURRENT PRICES

BY DAVIS AND BELFIELD

EXCAVATOR, CONCRETOR AND BRICKLAYER

CONCRETOR—(*continued*)

Add if mixed by hand, labour ..	per yard cube	2/–	
Add if in foundations not exceeding 12″ thick	per yard cube	2/3	
Add for mechanical hoisting ..	per yard cube	1/6	
Add for hand hoisting per 10 feet	per yard cube	2/3	
Surface Beds			
Portland cement concrete 1 : 6, bed 6″ thick, spread and levelled	per yard super	3/10	*2/9½*
Add or deduct for each inch over or under 6″ in thickness	per yard super	–/5½	
Add for surface finished with spade face	per yard super	–/3½	
Add if laid in two layers with fabric reinforcement (measured separately) ..	per yard super	–/3½	
Upper Floors and Flats			
Portland cement concrete 1 : 2 : 4 as before described, 6″ thick, packed around fabric reinforcement (measured separately) finished with spade face	per yard super	5/3	*3/8½*
Add or deduct for each inch over or under 6″ in thickness	per yard super	–/7½	
Casings			
Portland cement concrete 1 : 2 : 4 as before, in encasing to steel joists	per foot cube	1/3	*–/9¾*
Ditto, packed around rods (measured separately) in lintols, sectional area not exceeding 36 inches	per foot cube	1/5½	*–/9¾*
Ditto, ditto, over 36 inches and not exceeding 72 inches sectional area	per foot cube	1/4½	*–/9¾*
Ditto, ditto, over 72 inches and not exceeding 144 inches sectional area	per foot cube	1/3½	*–/9¾*
Ditto, ditto, over 144 inches sectional area	per foot cube	1/2½	*–/9¾*
Walls in Situ			
Portland cement concrete 1 : 6 with unscreened ballast in 9″ walls packed around rods (m/s)	per yard super	6/6	*4/2*
Ditto, in 12″ walls ditto	per yard super	7/11	*5/6½*
Reinforcement			
⅜″ diameter and upwards mild steel rod reinforcement, cut to lengths, including bends and hooked ends and embedding in concrete lintols ..	per cwt.	21/8	*15/7*
Under ⅜″ diameter, ditto	per cwt.	23/2	*17/1*
Formwork			
Close boarded formwork to soffites of floors and strutting up	per yard super	3/9	*1/6*
Vertical formwork to sides of concrete walls, including struts, etc. (both sides measured)	per yard super	3/–	*1/3*
Formwork to sides and soffites of concrete lintols and beams	per foot super	–/6	*–/2½*
Wrot ditto	per foot super	–/7	*–/2⅝*

BRICKLAYER

		Flettons £ s. d.	Second Stocks £ s. d.	Blue Staffordshire Wirecuts £ s. d.
Reduced brickwork in lime mortar 1 : 3 with ¼″ joints..	per rod	22 19 9	31 18 8	
		13 19 6	*22 18 5*	
Ditto, ⅜″ joints.. ..	per rod	22 12 7	30 17 2	
		13 18 8	*22 6 10*	
Reduced brickwork in cement mortar 1 : 3 with ¼″ joints	per rod	24 14 9	33 13 2	50 13 2
		14 16 0	*23 14 8*	*37 3 9*
Ditto with ⅜″ joints	per rod	24 13 3	32 16 11	49 4 9
		15 1 4	*23 8 10*	*36 5 2*
Add if lime mortar hand mixed	per rod	5/8	5/8	
Ditto cement mortar ..	per rod	12/9	12/9	9/–
Half brick walls in lime mortar 1 : 3 ¼″ joints	per yard super	5/1	7/–	
			3/– 5/–	
Ditto in cement mortar 1 : 3	per yard super	5/5½	7/5	11/1
		3/2	*5/1½*	*8/2*
Labour forming 2″ cavity to hollow walls including wall ties, etc.	per yard super			–/9

		£ s. d.
Add to the price of reduced brickwork for brickwork in underpinning	per rod	4 0 0
Ditto, for brickwork circular on plan to flat sweep	per rod	5 0 0
Ditto, ditto, to quick sweep	per rod	10 0 0
Extra for internal fairface and flush jointing	per yard super	1/1½
Extra for grooved bricks as key for plaster	per yard super	–/3
Hacking concrete ditto	per yard super	–/6

BRICKLAYER—(*continued*)

Horizontal double slate damp-proof course 4½″ wide bedded in cement mortar ..	per foot run	–/4	*–/1⅞*
Ditto exceeding 4½″ in width ..	per foot super	–/10	*–/5*
Vertical ditto	per foot super	1/–	*–/5*
" Ledkore " (Grade B) D.P.C. ..	per foot super	–/9	*–/7*
Plumbing angles	per foot run	–/1	
Rake out joints and point to lead flashings	per foot run	–/2	
Ditto stepped	per foot run	–/3	
Bedding door frames	per foot run	–/1	
Ditto and pointing one side	per foot run	–/2	
Ditto and pointing both sides	per foot run	–/3	
Parge and core flues	each	4/–	
Set and flaunch only chimney pots	each	5/–	
Hoisting and fixing metal windows size 3′ 6″ × 4′ including cutting and pinning lugs to brickwork and bedding frames in cement mortar and pointing in mastic on one side	each	5/–	
Ditto, including screwing to wood frame (measured separately)	each	3/–	
		9″×3″	9″×6″
Form opening for air brick including slate lintol and render around in cement and sand to 13½″ wall and build in Terra Cotta air brick	each	1/6 *–/10½*	2/6 *1/7*
Galvanized cast iron School Board pattern air bricks and building in	each	1/1½ *–/6*	1/10½ *1/–*
Fixing only fireplace simple interior and surround	each	27/6	

Partitions

		2″	2½″	3″	4″
Breeze set in cement mortar	per yard super	2/11	3/5	4/1½	5/1½
		1/8	*1/11*	*2/2*	*2/11*
Clay tile ditto ..	per yard super	4/5	4/11	5/8	6/4½
		2/9	*3/1*	*3/5*	*3/11*
Pumice ditto ..	per yard super	4/6	5/2½	6/3	7/2
		3/3	*3/10*	*4/4*	*5/–*
Plaster ditto ..	per yard super	4/–	4/11	6/–	7/2
		2/9	*3/5*	*4/–*	*5/–*
White glazed both sides best quality bricks, set in cement mortar and pointed in Parian cement	per yard super		42/5	*33/–*	

Facings

Prices are extra over Fletton brickwork and are for raking out joints and pointing with a neat struck weathered ¼″ joint in cement mortar. For raking joints and pointing in white cement add an extra 11d. per yard super to the following prices.

		Flemish Bond	English Bond	Stretcher Bond
Stock facings p.c. 93/– ..	per yard super	4/11	5/4	4/1
		3/2	*3/6½*	*2/4*
Rustic Flettons p.c. 70/6	per yard super	3/4	3/6	2/11
		1/6	*1/8*	*1/3*
Blue pressed p.c. 180/– ..	per yard super	11/7	12/11	9/1
		8/6	*9/7½*	*6/6*
Sand faced hand made reds p.c. 120/–	per yard super	8/–	8/7	6/4
		5/2½	*5/10*	*3/11*
White glazed headers p.c. 470/– and stretchers 480/– ..	per yard super	32/–	36/–	24/8
		28/2½	*32/2*	*21/4*
For a variation of 10/– per M. in p.c. of facing bricks size 8¾″×2⅝″ on face with ¼″ joints add or deduct	per yard super	–/9	–/10	–/6½

	Rustic Flettons	Stock Facings	Sand Faced Hand Made Reds
Half brick wall stretcher bond in cement mortar built fair and joints raked out and pointed in cement mortar on one side .. .. per yard super	8/7½	9/9½	12/–
	4/4½	*5/6½*	*7/1½*
Ditto and pointed both sides per yd. super	10/6	11/8	13/10
	4/5	*5/6¾*	*7/1¾*
One brick wall in cement mortar built fair and joints raked out and pointed in cement mortar on one side per yard super	15/5	17/8½	22/1
	8/9½	*11/1*	*14/3*
Ditto and pointed both sides per yd. super	17/3	19/6½	23/10
	8/10	*11/1½*	*14/3½*
Half brick wall built in best quality white glazed one side bricks, stretcher bond, in cement mortar built fair and pointed in Parian cement per yard super		31/–	*24/2*
Ditto white glazed both sides and pointed both sides .. .. .. per yard super		41/9	*32/7*

CURRENT PRICES

BY DAVIS AND BELFIELD

BRICKLAYER, DRAINLAYER, ASPHALTER AND PAVIOR

BRICKLAYER—(*continued*)

Facings—(continued)

Labour and material in hand made sand faced red brick on end window head and pointing to face and 4½″ soffite .. per foot run	1/3	*–/7*
Hand made, sand faced brick on edge coping including double course of tile creasing with two cement angle fillets to one brick wall per foot run	2/3	*1/3*

DRAINLAYER

Excavate to form drain trenches for 4″ pipes and get out, including planking and strutting, filling in and ramming, and wheeling and spreading surplus.

Prices per 12″ average depth per foot run :	Ordinary ground	Clay
Trenches not exceeding 3′ 0″ deep	–/2½	–/3
Ditto, exceeding 3′ 0″ and not exceeding 5′ 0″ ..	–/5½	–/7
Ditto, exceeding 5′ 0″ and not exceeding 10′ 0″ ..	–/8½	–/9½

	4″ pipes	6″ pipes
6″ thick Portland cement concrete bed 6 : 1, 12″ wider than diameter of pipe, and flaunched halfway up sides of pipe .. per foot run	–/8½	–/10
	–/6	*–/7½*
6″ ditto, and completely encasing per foot run	1/7	1/11
	1/2	*1/4½*

Agricultural land drain pipes, laid complete with butted joints, exclusive of digging .. .. .. per yard run	2″	3″	4″	6″
	–/4	–/6	–/8	1/1
	–/2½	*–/3½*	*–/4½*	*–/8½*

British Standard Quality Salt Glazed Socketed Stoneware Drainpipes and Fittings

	4″ pipes Under 2 tons, Over 2-ton lots	4″ pipes Under 2 tons, 100 pieces upwards	6″ pipes Under 2 tons, Over 2-ton lots	6″ pipes Under 2 tons, 100 pieces upwards	9″ pipes Under 2 tons, Over 2-ton lots	9″ pipes Under 2 tons, 100 pieces upwards
Pipes jointed in 1:1 cement and sand per foot run	1/1	1/3	1/7	1/10	2/8½	3/4
	–/8½	*–/10½*	*1/1½*	*1/4½*	*2/–*	*2/5½*
Extra for bends .. each	1/4	1/7	2/–	2/4	3/6	4/–
	–/11½	*1/2½*	*1/5½*	*1/9½*	*2/7½*	*3/2½*
Ditto, single junction each	1/10	2/2	2/9	3/3	4/9	5/8
	1/5½	*1/9½*	*2/2½*	*2/8½*	*3/11½*	*4/8*
Trapped yard gulleys with galvanized iron gratings, and setting in concrete and jointing to drain each	10/–	11/5	12/4	14/–	19/–	22/–
	8/3	*9/8*	*9/11*	*11/7*	*15/11*	*18/11*
Ditto, with horizontal back inlet .. .. each	11/5	13/–	13/9	15/7	20/5	23/7
	9/8	*11/3*	*11/4*	*13/2*	*17/4*	*20/6*
Ditto, with vertical back inlet .. .. each	12/–	13/9	14/4	16/4	21/–	24/4
	10/3	*12/–*	*11/11*	*13/11*	*17/11*	*21/3*
Intercepting trap with Stanford stopper and setting in manhole and making good .. each	20/5	23/10	25/4	29/8	—	—
	16/11	*20/4*	*21/6*	*25/10*	—	—

Coated Cast Iron Socketed Drain Pipes

	4″	6″	9″
Pipes in 9′ 0″ lengths and laying in trench, including caulked lead joints per foot run	3/4½	5/1	8/11
	2/4½	*3/8*	*6/7*
Cutting and waste .. .. each	1/9	3/6	—
Extra for bends, including extra joints and cutting and waste on pipe each	10/8	20/7	56/6
	7/7	*17/4*	*51/1*
Ditto, junction ditto .. each	17/2	32/5	95/4
	11/7	*25/7*	*79/11*
Intercepting trap .. .. each	48/–	77/9	166/2
	41/4	*53/–*	*136/6*
H.M.O.W. large socket gulley trap with 9″ gulley top and heavy grating and one back inlet	38/9	81/10	—
	21/7	*51/10*	—
H.M.O.W. gulley trap with 9″ inlet with high invert outlet for use with raising pieces	33/5	48/–	—
	22/–	*29/9*	—

DRAINLAYER—(*continued*)

4″ inspection chamber with one 4″ branch each	64/5	*41/11*	
4″ ditto with two 4″ branches one side .. each	98/1	*64/5*	
6″ ditto with one 4″ branch .. .. each	93/–	*59/9*	
6″ ditto with two 6″ branches one side .. each	137/9	*89/1*	
9″ ditto with one 9″ branch .. .. each	209/1	*141/6*	
9″ ditto with two 9″ branches one side .. each	313/10	*210/11*	

	White glazed	Salt glazed
4″ half-round straight main channel 24″ long each	4/10	2/1
	4/1½	*1/4½*
Ditto, channel bends (ordinary) .. .. each	8/1	3/–
	7/5	*2/0½*
4″ Three-quarter round branch bends (short) each	8/6	6/9
	7/2	*5/6*

Fixing only, manhole covers and frames, including bedding in grease and setting in cement mortar .. .. each 4/–

ASPHALTER

Various qualities of asphalte are marketed by different firms. The term "Best" is intended to imply the best quality produced by a single representative firm, and not necessarily the best or most expensive asphalte obtainable.

	Natural Rock Asphalte Best Quality	Natural Rock Asphalte Second Quality
Basement (Tanking).		
1½″ horizontal d.p.c. in three layers on concrete per yard super	8/5	6/10
½″ vertical ditto in three coats on brickwork or concrete .. .. .. per yard super	11/6½	10/–
Double angle fillet .. .. .. per foot run	–/6½	–/5½
Hard Graded Paving.		
1″ thick .. .. per yard super	7/4	6/3½
¾″ thick .. .. per yard super	6/3½	5/3½
½″ dampcourse finish, with smooth surface to receive lino or other floor covering	5/3	4/8½
Roofing (Flat).		
¾″ thick in 2 layers .. .. per yard super	6/3½	5/3
1″ ditto .. .. per yard super	7/4	6/3½
Extras.		
Felt supplied and fixed .. per yard super	–/6½	—
Expanded metal reinforcement ditto per yard super	1/0½	—
6″ skirting and fillet on brickwork .. per foot run	1/0½	–/11½
6″ ditto on wood (reinforced).. .. per foot run	1/2½	1/1½
Nosing at eaves on lead apron (measured separately) .. .. per foot run	–/3½	–/3½
Parapet outlets .. .. each	4/2½	3/8

PAVIOR

	1″	1½″	2″
Granolithic paving .. per yard super	2/7½	3/6	4/7
	1/5½	*2/2*	*2/10½*
Add for dusting with carborundum powder per yard super			–/9
Cement and sand paving (1 : 3) per yard super	1/10	2/4½	—
	–/9	*1/1½*	—

• ½″ Jointless flooring, red, buff or brown, finished to a smooth trowelled surface, on concrete sub floors per yard super	6/3½
• ½″ Ditto, in two coats on spade faced concrete or wood sub floors	7/7½
• ½″ thick ditto, reinforced with laths and galvanized wire netting .. .. .. per yard super	7/1
Add for polishing .. .. per yard super	–/6½
Terrazzo paving, white chips set in white cement, panelled into squares with 1½″ × ½″ deep ebonite strips, on and including cement and sand screed. Total thickness 1½″ per yard super	19/5
Ditto, but white chips set in grey Portland cement per yard super	17/4
Terrazzo tiles, white chips set in white cement :—	
Size 9″ × 9″ × ¾″ .. .. .. per yard super	20/6
Size 12″ × 12″ × 1″ .. .. per yard super	18/8
Ditto, but white chips set in grey Portland cement :—	
Size 9″ × 9″ × ¾″ .. .. .. per yard super	18/11
Size 12″ × 12″ × 1″ .. .. per yard super	17/1

		1/16″	¼″
• Sheet rubber .. .. per yard super	13/8	16/9½	20/–
• Rubber tiles .. .. per yard super	16/9½	20/–	23/1
	3/16″	⅜″	½″
• Cork tiles, polished .. per yard super	14/4	12/7	11/6½

Hard red paving bricks laid flat (9″×4½″×2½″) per yard super	9/–	*6/3*
Ditto, laid on edge .. .. per yard super	11/9	*9/–*

• Items marked thus have risen since September 14.

CURRENT PRICES

BY DAVIS AND BELFIELD

MASON, SLATER, TILER AND ROOFER, AND CARPENTER

PAVIOR—(*continued*)

		⅝″ thick	¾″ thick
6″ × 6″ best quality red quarry tiles	per yard super	9/8	11/2
		5/8	*6/10*
6″ × 6″ best quality buff quarry tiles	per yard super	10/5	11/9
		6/3	*7/5*
2″ Yorkshire stone paving, square joints and bedding	per yard super	22 –	*17/4½*
2″ Finished path of coarse gravel finished with good binding gravel to slight camber	per yard super	1/7½	*–/9¾*
3½″ Do. path of clean hard clinker and 1½″ gravel finished to slight camber	per yard super	2/3	*1/3*
7½″ Do. carriage drive of 3″ clinker, 3″ coarse gravel and 1½″ binding gravel finished to slight camber	per yard super	3/9	*2/2*
2½″ Do. tar paving in two layers, tar sprayed and blinded with sand	per yard super	4/9	*3/3*

MASON

			Bath	Portland
Stone and all labours of usual character, covering 7″ on bed, roughly squared at back, fixed and cleaned down complete ..	per foot cube	11/–	*8/9½*	16/3 *14/–*

Yorkstone

Templates tooled on exposed faces, sawn beds and joints, and set in cement mortar :

		Thickness 3″		4″		6″	
Size 9″ × 9″ ..	each	1/8	*1/4¾*	2/3	*1/10½*	3/4½	*2/9¾*
,, 14″ × 9″ ..	each	2/7½	*2/2¼*	3/6	*2/11*	5/3	*4/4½*
,, 18″ × 14″ ..	each	5/3	*4/4¾*	7/–	*5/10*	10/6	*8/9*
,, 22½″ × 14″ ..	each	6/6	*5/5½*	8/8	*7/3½*	13/–	*10/11*
,, 27″ × 14″ ..	each	7/10½	*6/6¾*	10/6	*8/9*	15/9	*13/1½*

Artificial Stone

In steps, copings, band courses, etc., per foot cube	from	8/5 *7/5*

Reconstructed Stone

In steps, dressings, band courses, etc., per foot cube		13/– *12/–*

Slate

		1″	1¼″	1½″
Slate slabs, sawn to size, not exceeding 10 ft. sup. and planed, with rubbed face and fixing as shelving, etc.	per foot super	4/6	5/–	6/–
		3/4¾	*3/8*	*4/3¾*
Ditto, not exceeding 20 ft. sup.	per foot super	5/4	5/10	7/–
		4/1½	*4/6*	*5/3¾*
Rubbed edges ..	per foot run	–/4½	–/4½	–/4½

SLATER, TILER AND ROOFER

Bangor and Portmadoc Slates

		20″ × 10″	16″ × 8″	24″ × 12″
Slates laid to a 3″ lap and fixed with zinc nails ..	per square	79/–	77/–	80/5

Old Delabole Slates

		20″ × 12″	16″ × 10″
Grey medium gradings ..	per square	86/–	84/6
Unselected greens (V.M.S.) (weathering greens and grey greens mixed) ..	per square	96/6	94/6

Randoms		No. 1 Gradings 24″/22″ to 12″/10″
Ordinary grey greens	per square	91/3
Weathering grey greens (V.M.S.) ..	per square	101/9
		No. 2 Gradings 24″/22″ to 12″/10″
Weathering greens (V.M.S.)	per square	107/–

Westmorland Green Slates

Randoms		Bests 24″ to 12″ long proportionate widths
No. 1 Buttermere, fine light green ..	per square	122/9
No. 2 Buttermere, light green (coarse grained)	per square	120/9
No. 5 Buttermere, olive green (coarse grained)	per square	117/6
Broughton Moor light sea green, olive green, silver grey green and mixed shades ..	per square	128/–

Tiles

Hand made sand faced 10½″ × 6½″ laid to 4″ gauge, fourth course nailed with galvanized nails	per square	65/–
Machine made ditto	per square	56/7

SLATER, TILER AND ROOFER—(*continued*)

Pantiles

Berkshire hand made surface red laid dry,	per square	65/–
Bridgewater hand made red laid dry	per square	65/–
Bridgewater double Roman laid dry	per square	48/3

Sundries

Stripping, slating down to and including, 18″ × 9″	per square	4/6
Ditto smaller sizes	per square	6/–
Add for carrying down and stacking	per square	1/8
Ditto stripping battens down to and including 18″ × 9″	per square	1/4½
Ditto, ditto, smaller sizes	per square	2/3

Cedarwood Tiles

Canadian Cedarwood shingles laid to 5″ gauge	per square	47/4 *36/–*

Asbestos

Russet brown asbestos cement roofing tiles 15¾″ × 15¾″ laid diagonally with 2¾″ lap,	per square	38/– *33/–*

CARPENTER

Centering

Turning piece to flat soffites 4½″ wide (For Formwork see "Concreter.") ..	per foot run	–/4

Fir Sawn and Fixed

Plates, dragon ties, sleeper joists and lintols, ground floor (4″ × 2″ and 4″ × 3″)	per foot cube	4/2	*3/4*
Floor joists (7″ × 2″)	per foot cube	4/7½	*3/5½*
Partitions (stud) (4″ × 2″ and 4″ × 3″)	per foot cube	5/5½	*3/4*
Rafters and ceiling joists (4″ × 2″ and 4″ × 3″)	per foot cube	5/2½	*3/4*
Purlins (6″ × 4″)	per foot cube	5/2½	*3/4*
Hand labour wrot face ..	per foot super	–/2	
Machine ditto	per foot super	–/1	
Rebates, grooves, beads, chamfers and splays	per foot run	–/1	
1½″ × 9″ ridge	per foot run	–/6½	*–/4*
1½″ × 11″ hips or valleys, including cutting ends of rafters against same ..	per foot run	–/7½	*–/4½*
Extra labour trimming 6″ × 2″ floor joists around fireplace, including notching ends of joists at 14″ centres to trimmer joist 7′ 0″ long and two tusk tenons	each	6/–	
Boring small hole per inch of depth	per doz.	–/6	
Ditto large	per doz.	1/–	

Deal Battening for Slates and Tiles

2″ × 1″ spaced for Countess (20″ × 10″) slates to 3″ lap	per square	9/7½	*6/10½*
2″ × 1″ ditto for Ladies (16″ × 8″) ..	per square	12/4	*9/0½*
2″ × 1″ ditto for Duchess (24″ × 12″) ditto	per square	7/9½	*5/7*
2″ × 1″ ditto for randoms 24″/22″ to 12″/10″	per square	10/9	*6/4*
1½″ × ¾″ ditto for plain tiles (10½″ × 6½″) to a 4″ gauge	per square	13/3½	*8/4½*
1½″ × 1″ ditto for pantiles to approximately 11½″ gauge	per square	7/6	*4/1*

Roof Boarding

		¾″	1″
Deal roof boarding in batten widths close jointed	per square	30/3	38/1
		22/–	*29/4*
Ditto, prepared for patent flat roofing and including firrings to falls	per square	40/3	48/1
		27/–	*34/4*
Small tilting fillet	per foot run	–/2	*–/¾*
Large ditto	per foot run	–/4	*–/1½*

Felt

Sarking or slaters felt, fixed with 2″ side laps and 6″ end laps	per yard super	1/1½	*–/8¾*
Roofing felt ditto	per yard super	1/3¼	*–/10¾*
Bituminous hair felt ditto ..	per yard super	2/3½	*1/10¾*

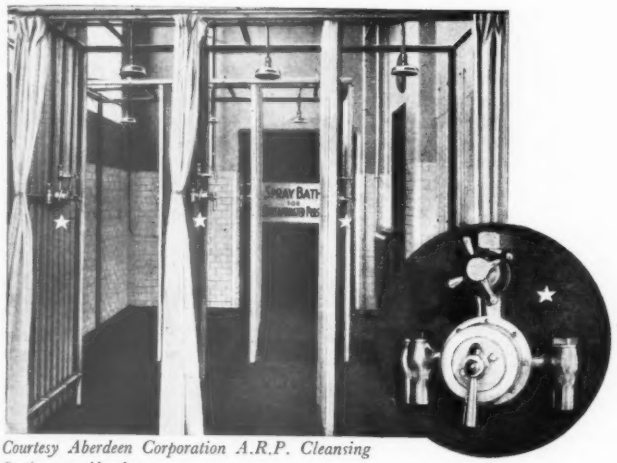
Weather Boarding

Rough deal feather edge boarding in batten widths ½″ average with 1½″ laps	per square	30/8 *20/6*

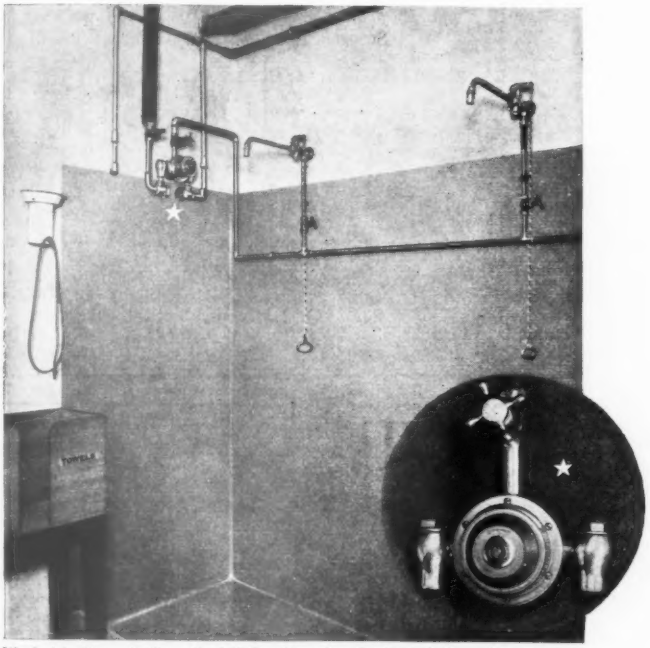
Fascia and Soffite Boards

1″ × 6″ wrot deal splayed fascia fixed to rafter feet	per foot run	–/4½	*–/1½*
1″ × 9″ wrot deal soffite tongued both edges, including grooves	per foot run	–/8½	*–/2¼*

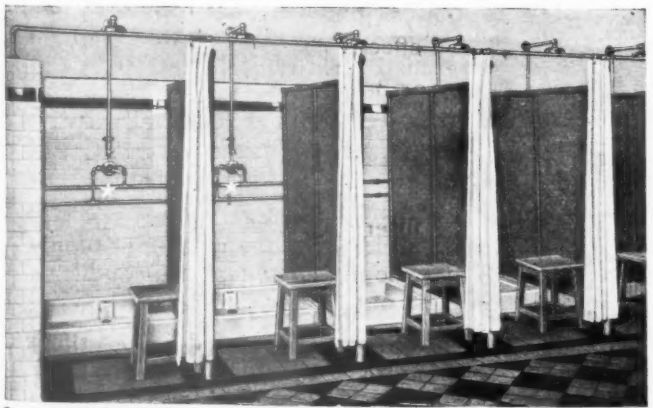
(To be continued in next issue)



Courtesy Aberdeen Corporation A.R.P. Cleansing Station at Aberdeen.



Woolwich Borough Council A.R.P. Cleansing Station, Archery Road Depot.



Courtesy of County Borough of Stockport. Portwood Gas Works, Stockport. Washroom Showers.

Leonard-Thermostatic IN EMERGENCY EQUIPMENT

Leonard-Thermostatic Water Mixing Valves, already standard equipment in civil architecture, are now standard in emergency work.

They have been specified for Militia Camps, Evacuation Camps, Holiday Camps, Defence Camps, A.R.P. Stations and other emergency jobs.

They are used for showers, washing troughs, handbasins, island fountains and all group-washing equipment. They hold the temperature steady, no matter what fluctuations occur in the supply. They save risk of scalding. If the cold supply fails, the thermostat cuts off the hot. They avoid waste. Users do not make their own blend of hot or cold. The temperature is set by the authority who pays the coal bill and kept there by the Leonard thermostat. In A.R.P. stations the use of the Leonard thermostat obviates the need of cold water storage altogether.

Under suitable conditions the temperature of the main hot water supply, usually kept down to 120°F for fear of scalding, can be raised. That increases the capacity of the hot water installation and saves any amount of pipes and expensive equipment.

Leonard-Thermostatic Valves have been specified by more than a hundred leading architects. They have been adopted as standard equipment by thirty County Councils and two hundred Municipalities.

Specify

Leonard-Thermostatic

WATER MIXING VALVES for WASHING APPLIANCES

Illustrated pamphlet with full particulars from the sole licensees and manufacturers:—

WALKER, CROSWELLER & CO. LTD.

WHADDON WORKS, CHELTENHAM, GLOS.

Telephone: Cheltenham 5172 (3 lines).

LONDON OFFICE: 6 GORDON SQUARE, W.C.1. TELEPHONE: MUSEUM 3107.

THE BUILDING CENTRE USE THE CENTRE 158 NEW BOND STREET W.1

61-41

Continued from page 508

of the School of Architecture, Edinburgh College of Art.

Mr. T. E. Fennell, of the School of Architecture, King's College, Newcastle-on-Tyne, and Mr. J. R. M. Poole, of the Regent Street Polytechnic School of Architecture, London, who were awarded Scholarships of £50 each for the academical year 1938–39, have been granted renewals of their Scholarships for the year 1939–40.

Scholarships are intended to foster the advanced study of construction and the improvement generally of constructional methods and materials and their influence on design.

BUILDING NEWS

BARKING. *Extensions.* Essex Education Committee has purchased additional land for the Abbey School, Barking.

BOLTON. *School.* The Board of Education has approved plans for the erection by the Bolton R.C. authorities of a school for St. Anne's at a cost of £22,235 and a school for St. Peter's at £29,253.

BOLTON. *A.R.P.* The Corporation is to provide air raid protective works at the schools at a cost of £34,374 and to provide domestic surface shelter accommodation at a cost of £136,800.

BRENTWOOD. *Treatment Centre.* Essex C.C. has purchased a site for a combined treatment centre at Brentwood.

CHELMSFORD. *Technical College.* Essex Education Committee has purchased land in Market Road, Chelmsford, for the erection of a technical college and school of art.

BLACKPOOL. *Development.* Mr. T. Walsh proposes the development of land at the junction of St. Anne's Road and Endsleigh Gardens, Blackpool.

COLCHESTER. *Technical College.* Essex Education Committee has purchased a site at Colchester for the erection of a technical college.

GT. MAPLESFORD, ETC. *Police Houses.* Essex C.C. has purchased sites for police houses at Great Maplesford, Grays, Leaden Roding, Ongar and Canvey.

GUILDFORD. *Extensions.* The Corporation is to obtain quotations for extensions at the fire station.

MANUFACTURERS' ITEM

Redfern's Rubber Works, Ltd., rubber manufacturers, of Hyde, have invited Mr. Richard Breerton, of Hyde, and Mr. John Douglas, of Woodley, to join the board of directors. Mr. Breerton has been with the company for 33 years and for the past 15 years has been sales manager of the ebonite and mechanical rubbers department. Mr. Breerton is mayor-elect of Hyde.

CONTRACTS

LEATHERHEAD : A.R.P. DEPOT

October 21.—Erection of a decontamination and cleansing depot, workshops, garages, stores, etc., including road and drainage works, at the Barnett Wood Lane Depot, Leatherhead, for Leatherhead U.D.C. Apply to Mr. J. L. Davies, F.S.I., Engineer and Surveyor to the Council, Council Offices, Leatherhead, Surrey. Deposit £2.

EPSOM AND EWELL : VARIOUS BUILDINGS

October 23.—Following contracts : Erection of garages and stores at Electricity Station, Depot Road, Epsom, and erection of decontamination centre, Epsom Depot, Depot Road, Epsom, together with appurtenant works, for Epsom and Ewell B.C. Apply to Mr. Norman Auty, A.M.INST.C.E., Borough Engineer and Surveyor, Town Hall, Epsom. Deposit £1 1s. each tender.

LEWISHAM : EXTENSION

October 25.—Erection of Town Hall extension at Catford Road, S.E.6, up to the ground level, to include a reinforced concrete control centre and public air raid shelter, for Lewisham B.C. Apply to Mr. John T. Duff, Town Clerk, Town Hall, Catford, S.E.6. Deposit £2 2s.

TENDERS ACCEPTED

Pithead Baths, Granville, S. Derbyshire, for the Miners' Welfare Committee : G. Hodges and Son, Ltd., Horninglow Street, Burton-on-Trent (Architects' Department, Miners' Welfare Committee).

Garage, Allport Lane, Bromborough, Bebington, Cheshire, for the Bebington B.C. : Totley and Capper, Ltd., West Kirby, Cheshire (L. Birch, Borough Engineer and Surveyor).

Warehouse, Albion Street, Stockton-on-Tees, Durham, for E. D. Walker and Wilson : J. C. Watson, Prudential Buildings, High Street, Stockton-on-Tees, Durham. (Architects, Kitching & Co.)

Cleansing Stations, Peterborough, Northants, for the Peterborough C.C. : W. Ferrar and Sons, 11 Thistlemoor Road, Scarborough. (F. J. Smith, City Engineer and Surveyor.)

Fire Station, Biggin Hill, Orpington, Kent, for the Orpington U.D.C. : V. R. Stotesbury, 59 Evelyn Street, Dartford, Kent. (Architects, L. A. Culliford and Partners.)

Sub-fire-station and firemen's houses at Fulwell, Sunderland, co. Durham, for the Sunderland B.C. : Bell Bros. (Sunderland), Ltd., West House, Newcastle Road, Sunderland. (J. E. Lewis, Borough Engineer and Surveyor.)