THE ARCHITECTS' JOURNAL

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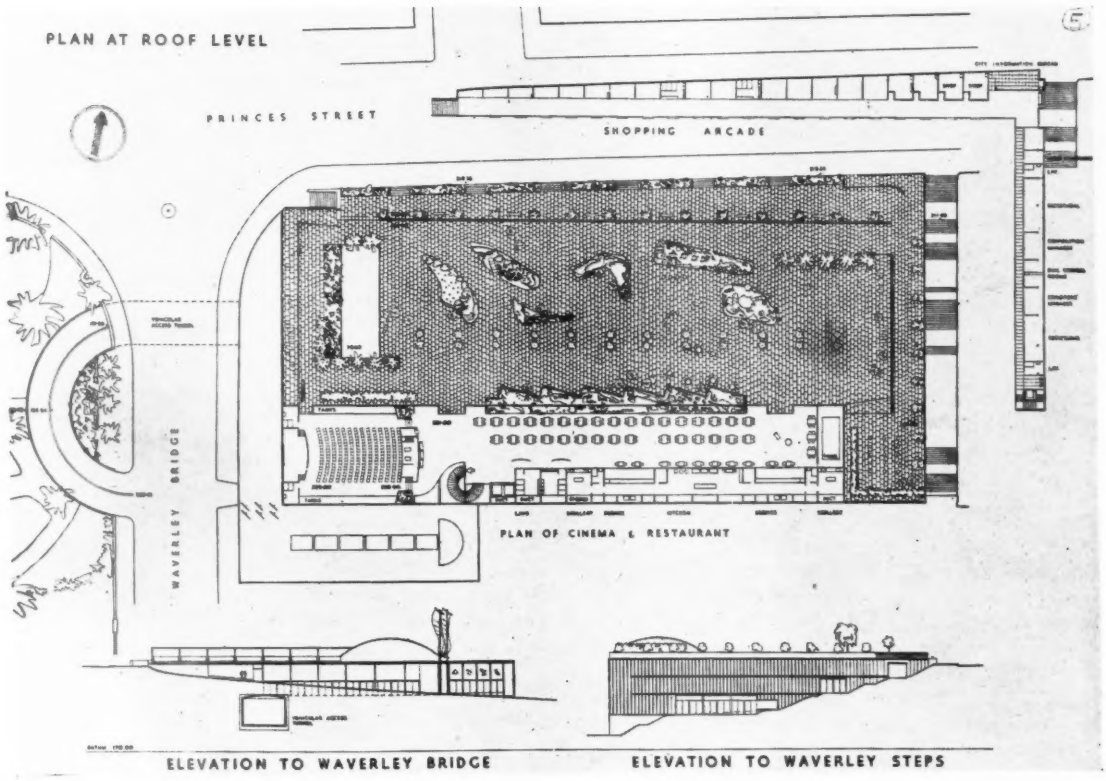
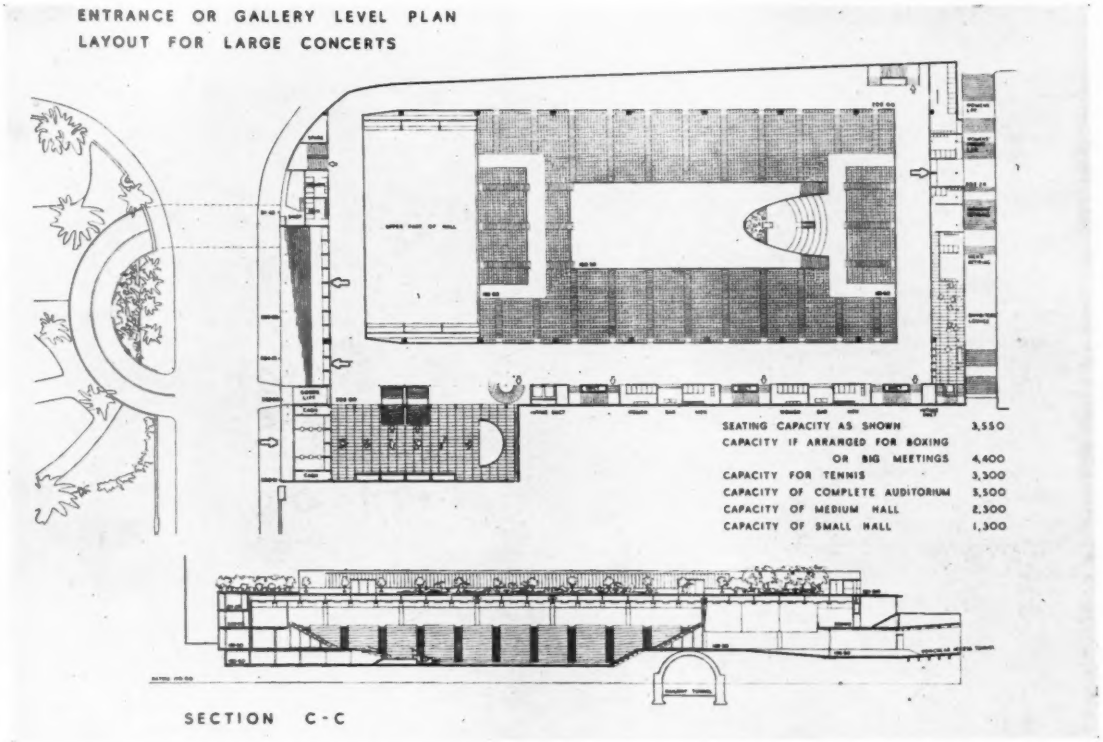
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, NOVEMBER 16, 1939. NUMBER 2339 : VOLUME 90

PRINCIPAL CONTENTS

THE EDINBURGH COMPETITION





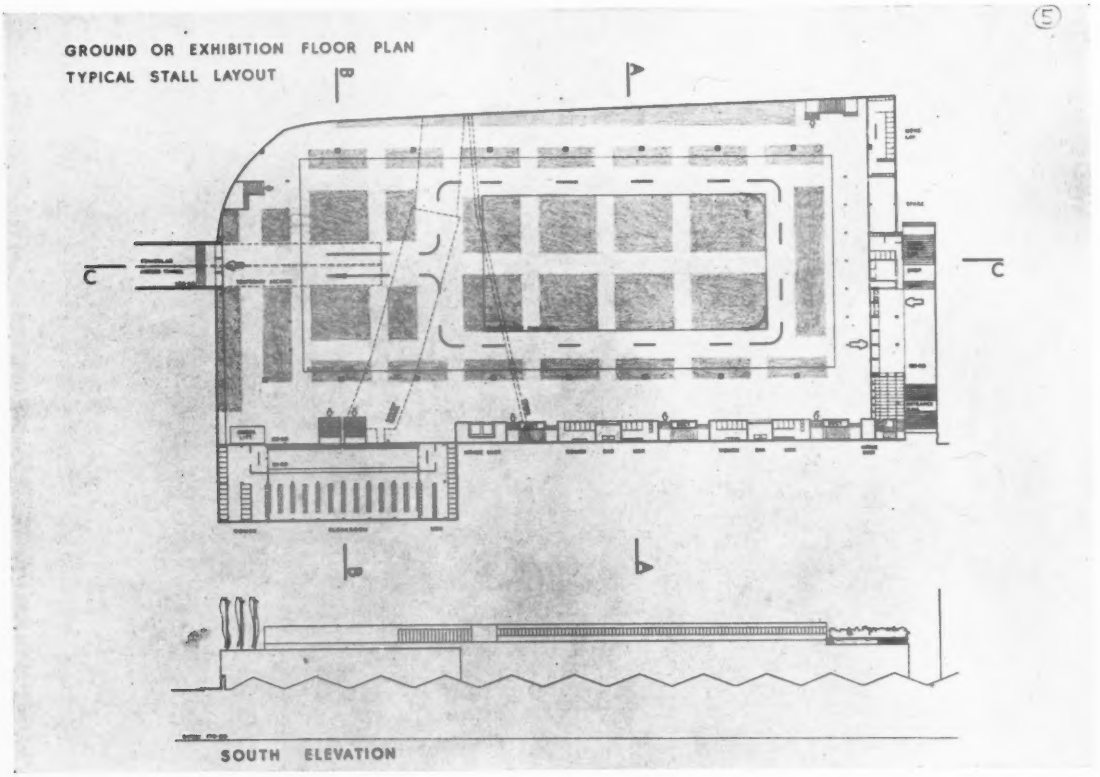
Mr. T. S. Tait, F.R.I.B.A., assessor of the competition for designs for the reconstruction of the Waverley Market, for Edinburgh Corporation, has made his award as follows :—

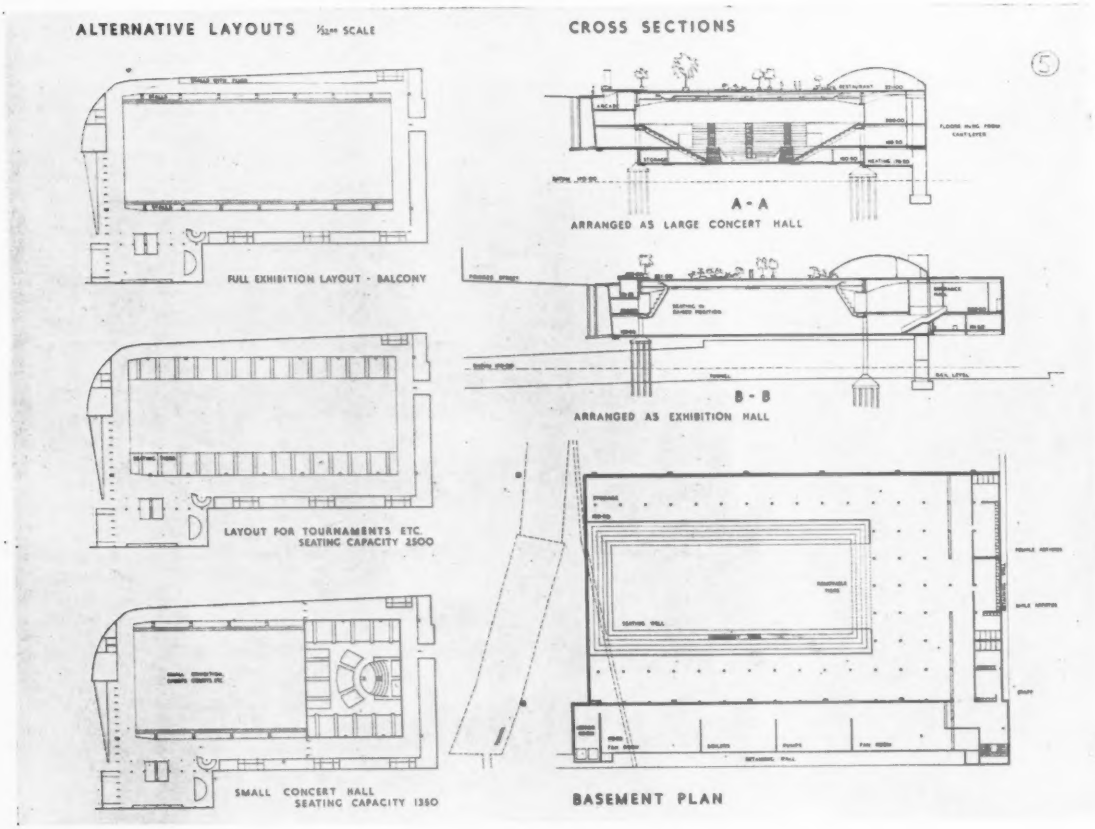
Design placed first (500 guineas) : Mr. Donald Dex Harrison, A.R.I.B.A., Dip.Arch.(Leeds), A.M.T.P.I., and Mr. Ernest Seel, A.R.I.B.A., in association with Mr. Thomas Marshall Cartledge, B.Sc.(Eng.), 10 Park Road, Watford, Herts.

Design placed second (300 guineas) : Messrs. Carr and Howard, AA.R.I.B.A., 30 Rutland Square, Edinburgh, in association with Mr. Sven Bylander, 26 Old Burlington Street, W.1.

Design placed third (200 guineas) : Mr. Stewart Lloyd Thomson, A.R.I.B.A., 42 Kensington Mansions, S.W.5, in association with Mr. Frederick S. Snow, M.Inst.C.E., 6 The Knoll, Beckenham.

The winning design is reproduced on this and the following page.





THE EDINBURGH COMPETITION: WINNING DESIGN

The full award in this competition for the reconstruction of the Waverley Market is given overleaf. The Deputy Town Clerk of the Edinburgh Corporation informs us that in view of the present emergency it is not likely that the Corporation will consider the question of proceeding with the building for some time to come.

WAR WORK

WHEN war broke out there were at least fifteen thousand, possibly twenty thousand, persons earning their living by architecture in this country. Today, when nearly at the end of the eleventh week of war, most of these people are in immediate prospect of losing the whole or the greater part of their income.

A more serious situation for architects and their dependants could hardly be imagined. Yet there has been little evidence of much attempt to stave off calamity.

For the first week or so this was to be expected : so many private and professional arrangements had to be made that there was no time for thought of events more than a day or two ahead. It may be that for a further short period architects felt it most dignified to do what useful work they could in their neighbourhood, and not to worry Authority with partizan claims. But there is a limit to justifiable self-effacement, particularly if it can be shown that more is in question than the welfare of a profession.

We believe that that limit has now been reached, and that a good deal more than the incomes of architects is in question.

Architecture and allied professions are a part of the building industry—through which is spent, in buildings alone, about £400,000,000 in an average year. Together with manufacturers of building materials, and the building societies and other businesses linked with it, it is the biggest industry ; and it is spread everywhere through the country in units capable of handling every type and size of work.

It is probable, to put it no higher, that serious air raids will take place before the end of the war. And for this reason, if for no other, the industry must be given sufficient work to maintain its present organization (since it is impossible to replace that organization throughout the country) in reasonable efficiency—and this means giving it work in the right way.

There are indications that the first contracts of the war have been allotted in a manner which may develop into very much the wrong way. A natural spirit of public-school competitiveness exists between Service departments ; and those which were fortunate enough to be first in the field have tended to monopolize, under exceptional powers, such materials as timber, and thus to bring to a stop the whole of the building industry (for which they are not responsible).

It requires little imagination to see the consequences of this policy if it is allowed to develop.

The remedy lies, in part, with architects. They have influence in the building industry and the country much greater than their numbers—and their everyday job is choosing and organizing the use of building materials. Together with the rest of the industry they could put a case to the Government which must command attention and would probably be accepted.

They could say—and prove—that it is necessary for the building industry to be kept at a minimum standard of efficiency throughout the country to meet calls which may come at any moment.

They could say that one obvious step towards achieving this is that all building for war purposes should be fairly distributed through the industry as it is now organized. And they could point out the danger of interfering with the methods and supplies of that organization in order to achieve an extra turn of speed in the first 50 contracts. They could say—and prove—that the unavoidable fall in volume of building in wartime would enable the industry to carry out all possible war building contracts and still have much labour and plant to spare.

They would only need to impose two conditions : (1) that the Government should prepare an approximate estimate of the amount and type of buildings it will require in the next year and their order of urgency, so that all suitable materials could be used in the proportions in which they are produced ; (2) that the industry should do its own controlling.

If architects join vigorously with the building industry in saying these things, there is every chance that the *right* way of handling war building work will be adopted and a substantial proportion of them will get as war work the work they do best.

But there is no time to lose.

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

WAR, QUICK BUILDING AND THE ARCHITECT

IT is probable that the whole question of how the building industry can best carry out the work required of it in war time will be reviewed very soon. There is evidence, indeed, that preliminary enquiries are now being made with vigour.

*

The larger aspects of *architects'* war service are, of course, inextricably entangled with the larger matter. But whatever organization is decided on as being the best for the industry, there is one problem that will certainly, or should certainly, fall to the architect's share. And there is nothing to stop architects thinking about it now.

*

It is the problem of materials and quick building. The scooping of all timber for the first contracts placed by war departments after war broke out may have been exaggerated. But it did take place to an extent sufficient to cause great shortage.

*

Now every Service department thinks *its* contracts are vital, that *it* wants its buildings next week : whereas some are obviously more important than others. And if an order of importance can be established, other materials which can give quick results (though not quite so quick as timber) could be used to everyone's benefit.

*

Standard designs for the quick building of the commonest emergency building types (huts, hangars, canteens, light factories, and so on) in (1) timber, (2) asbestos cement, (3) hollow blocks and concrete blocks, (4) light brick, and (5) combinations of these and other materials, are therefore a pressing necessity.

*

Once the best combinations were established and drawings prepared, the designs could be used by all contractors. *Which* design was used in a particular case (i.e. which material) would be decided by the urgency of the work.

*

This war service is knocking at every architect's front door.

WAR AND THE BUILDING INDUSTRY

The *Financial News* is read with attention by a big proportion of those who are called the backbone of the country. It is probably also read by the advisers of the Government ; and in this belief I quote a few extracts from an article in it called " Building Industry and Control " (November 6).

*

Lack of finance, however, is the chief trouble. The local authorities have shut down on building programmes. They are not allowed to spend. The building societies are uncertain of their position. The capital market is closed. In the meantime, there is a good demand for the more nomadic speculative builder in the western counties as a result of the drift of population to strategically placed arms industries. For want of capital and materials it is impossible for the builder to satisfy this demand.

What will happen to all the skilled workmen in the industry it is difficult to see. Presumably they will drift to other industries, to the ranks of the unemployed, or to the Services. For the moment, that may not appear to matter very much. These men are no worse off than thousands in other industries. But if after a considerable lapse of time aerial warfare becomes intensive, the building industry and the country will need them. Here is an obvious instance in which the Government should plan carefully. Clearly, the industry cannot be maintained at pre-war capacity—certainly it cannot when the various Government work falls off. But some freeing of the capital market for essential industries and some reasonable scheme of war risk insurance for property would enable the industry to maintain its efficiency.

*

This point of view should be impressed on the Government with relentless vigour by the whole industry.

WAR TIME AND WINDMILLS

The S.P.A.B. has suggested that windmills, which it has done so much to preserve, might be used more widely for grinding corn in war time.

*

The suggestion has many charms. It will save a little oil or coal, and simultaneously refurbish ancient and

decorative national possessions. And a moral sticks out a mile when 300-year-old veterans wake up to do something useful with the air which bright descendants have mastered so much more completely that they dig holes to escape the consequences.

*

Everyone likes a windmill—if only because getting something for nothing has universal appeal. Our profession is specially susceptible in that windmills provide a last example of fairly complex mechanism almost entirely made of wood.

*

I was particularly magnetized by the way in which the slats on the vanes are so arranged, by pulleys and weights, that a constant rate of turning is maintained even in gusts of wind : thus achieving in essentials, several centuries ago, the recent advance in aeronautics—the variable pitch propeller. There is only one real difference : theirs was an *automatic* variable pitch.

THE BARRIER BEAUTIFUL

Hitherto the exhibition stand has been the only form of temporary architecture worthy of the name, but there are now indications that the war is giving us another.

*

Shop windows were hurriedly protected against blast by hoardings and paper strips at the beginning of September, but shopkeepers are undoubtedly finding that having their premises too strongly resemble the backs of old disused film sets is something of a deterrent to customers, and many have taken the opportunity offered by the lull to remedy this state of affairs.

*

Some of these structures—such as the one that Ford's have just put up in Regent Street—have obviously been carefully thought out ; but a stroll round the West End reveals many missed opportunities among the majority. A certain amount of money must naturally be spent on these new stage settings if they are to be of any use, and it would certainly seem that the little extra necessary for the employment of an architect would be in the nature of an investment rather than an extravagance.

*

Retailers' Gazettes please copy.

MR. MAURICE WEBB

All architects will hear with great regret of the death of Mr. Maurice Webb—a man whose work for the profession, and particularly for the unlucky members of it, seemed to be too little known. Below is a memorial notice by Mr. F. R. Yerbury.

*

Maurice Webb, who died on November 9, was one of the most vigorous personalities in the architectural world. His contributions to the welfare of the profession in numerous directions will never be fully appreciated except by those who were closely associated with him. As an architect he carried out many large works both in conjunction with his father, the late Sir Aston Webb, and also on his own account. Amongst his best known works are the Royal Air Force Club, Kingston Town Hall, and Bentalls Stores at Kingston. A lengthy list of other jobs could easily be compiled, but although Maurice Webb was as interested in and as fond of his professional activities as most architects, it will probably be in connection with his work for the profession itself that he will be best remembered by his colleagues. In his early days, when associated with the Architectural Association before the last war, he was prominent in all sorts of activities connected with it. At the time of the outbreak in 1914 he had just been elected President, and almost immediately gave the lead to the younger architects by enlisting as a Sapper in the Royal Engineers with a group of A.A. men who nearly all distinguished themselves in the four years that followed. Webb himself came out of the war as a Major with a D.S.O. and a M.C. to his credit.

The late Mr. Maurice Webb

*

He was re-elected President of the A.A. and soon got to work with others in the creation of a new kind of organization which spread itself almost along one side of Bedford Square with premises and activities which had no architectural rival in any part of the world.

*

He had a lot to do with the moulding of the R.I.B.A. Board of Education and its gradual absorption of control of architectural education in the British Empire. He was a dominating figure on the Council of the Architects' Benevolent Fund. It was due to him that the Architects' Insurance Scheme was linked up with the Architects' Benevolent Fund, and the handsome income which the Fund now receives from the Insurance Scheme is a tangible tribute to Webb's foresight.

*

During the slump in building some few years back he took a leading part in the organization of a work for unemployed architects through the London Society being run by his friend, Percy Lovell. It was a great regret to him that the scheme then started for providing useful employment for otherwise unemployed architects was not kept going. He tried hard to persuade various people in authority to back a scheme which, with his usual vision, he saw would find its place in various periods of depression and particularly in such a time as now.

*

It is impossible to tabulate full details of his activities, which are mainly concerned with the good of others. He had numerous friends, and although in some cases his forceful personality and dislike of any kind of humbug led him into positions where he courted unpopularity, no one was ever given the opportunity of questioning his sincerity.

*

As is of course well known, he was one of those chiefly responsible for the formation of the Building Centre, and was until the time of his death Chairman of the Board. His work there and the confidence he created amongst manufacturers in their relation to the architectural profession was very greatly appreciated. It is only half truth to say that he will be greatly missed. He was a fine man, sincere, absolutely fearless and possessing that greatest of all virtues, kindness.

ASTRAGAL

A.R.P. is with us from now on. The technicians' work will not be finished when basement strutting is complete and trenches are dug. Permanent bomb-proof shelters will be built and every new building will have its shelter, its fire-fighting appliances and its escapes. There will be problems of planning, construction and equipment. Defence measures and emergency legislation have become a very direct concern of the architect, who learns his subject, in the main, from the new official literature, that must, in its abundance, be confusing. The INFORMATION CENTRE exists to clear the air for him, to function rather as an exchange, complementary to all existing organizations and superseding none, but as much a corollary to the new problems as question time to a technical lecture.

ARCHITECTS' JOURNAL

EMERGENCY

INFORMATION CENTRE

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 :—

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45 THE AVENUE,
CHEAM, SURREY.
VIGILANT 0087

or ring :

THE A.J. INFORMATION CENTRE
FLAXMAN 5322

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

These are typical of the questions we have already answered :

How are ventilated black-out window screens formed ?

How is sandbagging rotproofed ?

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

How is a light lock formed ?

How should screen walls be arranged ?

How is a basement shelter protected from bursting water mains ?

What is the definition of a light-proof material ?

What publications are there on farm buildings ?

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

What publications are there on camouflage ?

What protection is needed for light shafts ?

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

Is a 1938 contract binding ?

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

What is the cost per head of gas filtration ?

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

How is a leaking shelter waterproofed ?

How will the grant be paid ?

Are cinemas to be provided with shelters ?

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

Q85 CHANCERY.—*Can you give me any information where I can find articles on CAMOUFLAGE? Also are there any good books on the subject? I believe there is one by Solomon.*

A series of articles dealing with camouflage has recently been running in *The Builder*, published weekly by The Builder, Ltd., 4 Catherine Street, W.C.2 ; price 9d. A.R.P. Handbook No. 11, *Camouflage of Large Installations*, describes in general terms the measures which may be taken to render factories and other buildings less distinguishable from the air. This can be obtained from H.M. Stationery Office, York House, Kingsway, W.C.2 (price 3d.), and it is reproduced and discussed in *Civil Protection*, by Felix J. Samuely and Conrad W. Hamann, published by The Architectural Press, price 8s. 6d. *Strategic Camouflage*, by Solomon, published by John Murray, price 1 guinea, is out of print, and is not to be reprinted. Foyles have no second-hand copies ; they say the book has been very much in demand.

Q86 CHELTENHAM.—*I am concerned with the storage of VALUABLE DOCUMENTS IN THE CRYPT of a church. They have been placed in boxes and sandbagged with a continuous air current around the cases. Some amount of heating is available. I believe it might be an advantage if a chemical salt with very great affinity for moisture were placed on trays, and I believe that substances are available which contain this property and when reheated can be re-used, one of which I think is calcium chloride. Could you give me any information regarding this matter and the names of any suitable substances? It is important that no fumes or harmful chemicals are formed, either when the moisture is absorbed or when the substance is reheated.*

Various materials can be used to extract moisture from the atmosphere. Among them are calcium chloride, silica gel and bentonite, but while these materials will extract moisture from and thus lower the humidity of the air in a confined space, they will be of little value if placed in a ventilated vault, particularly if near sandbagging, as they would too quickly become saturated and require regeneration. The moisture they might extract from the air in the vaults would be immediately replaced from the moisture present in the walls, the sandbags and the incoming air. If, however, the documents were stored in airtight containers together with absorbent units, the latter would considerably lower the humidity inside the containers. Any of the materials mentioned above might be used in the units, as none of them will emit fumes or form harmful chemicals when the moisture is absorbed or when regenerated.

Special cabinets incorporating these units are supplied by the firm, Silica Gel, Ltd., Bush House, W.C.2.

Q87 ALUM ROCK.—*I have been called in to advise a client upon protecting his factory against INCENDIARY BOMBS. The roof is constructed with steel trusses at 10 ft. centres, and the covering is asbestos-cement sheeting and glass. If I put wire mesh across the tie beams, will the bombs have sufficient velocity to penetrate this after passing through the roof covering?*

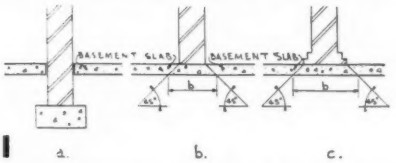
Probably not, but by the time the bomb reaches the wire mesh it will be a mass of molten metal and will burn through ordinary steel wire in a few seconds. You should do as you suggest, and then place on top of the mesh a fireproof material to protect the steel. You could use either Asbestos Wood, made by Turners Asbestos Cement Co., whose new address is "Broxbournebury," Broxbourne, Herts (Hoddesdon 2911); or Kimoloboard, made by Cellactite and British Uralite, Ltd., roofing manufacturers, whose new address is Sales Office, Higham, near Rochester, Kent.

Q88 BEDWORTH. — *What methods could be used to protect wood floors against MUSTARD GAS?*

Poisonous gases, as such, cannot contaminate material. The poison is, however, in certain instances, conveyed in liquid form, which sooner or later changes into gas, according to its nature. Such liquid poison contaminates materials, and naturally the liquid which takes the longest to vapourise, e.g. mustard gas or lewisite, is the most dangerous. But such contamination can take place only where splashes of the liquid can reach the material directly, and this will rarely happen inside a building. For this reason it is not considered dangerous to have floor or wall finishes which are liable to contamination. Nearly all the usual floor finishes can be contaminated by liquid gases. Rubber, glass, natural cork or steel sheet would resist contamination, but natural cork, owing to its porous nature, would allow liquid to pass into the material on which it was resting. Stone, and materials with polished surfaces, would be effective, but polished surfaces are difficult to maintain, and this treatment is not recommended. The prices of steel, rubber, glass, etc., are rather high, and a compromise might be found by providing such cover only in the neighbourhood of windows, or other openings through which the liquid might enter.

Q89 KENSINGTON. — *Are FOOTINGS necessary to brick walls sub-dividing basement shelters?*

Division walls should have proper footings, which must rest either on good ground (Fig. 1a), or, where an existing floor slab already rests on



1 a. b. c.

good ground, on that slab, which can be regarded as part of the footing (Figs. 1b, 1c). The size of the foundations must be determined by the actual loads.

Q90 HANTS.—*We are architects for a bungalow, the CONTRACT for which was signed on August 16, work commencing on August 21. The contract is the ordinary R.I.B.A. form where quantities do not form part of the contract, not the 1939 form. The building is now roofed in, the first coat of plaster has been applied, and services are connected. The builder now finds he has not enough flooring to complete the job; he also requires extra 4 in. by 2 in. for floor joists and the garage roof, plywood for cupboard fittings, and doors. He has applied to the Timber Controller for the required amount and, after furnishing full particulars of the job, has now received a reply stating "it is not possible to grant a permit for the supplies in question." He has written to us asking if our client would be prepared to pay the net extra cost over prices obtaining at the signing of the contract, as, in the event of the client agreeing, he thinks he might obtain the material from other contractors—"at a price." Our client, on the other hand, considers that the builder must complete the job providing materials can be obtained, irrespective of the source or price. He has suggested to us that he would be prepared to pay half the net extra cost, but the builder will not agree to this, as in his view the contract is void by reason of the fact that timber is officially unobtainable. The position is aggravated by reason of the fact that our client has leased a bungalow pending completion of the new building, the lease for which expires at the end of December and cannot be renewed. He therefore requires occupation of the new building by that date, as unfurnished premises are hard to obtain in this part of the world. It seems that we are going to be unpopular with one or both parties concerned before long. Your decision, or at least a second opinion, will therefore be of great assistance.*

In our opinion the contractor is bound by his contract, and since it is possible for him to obtain timber, even "at a price," if it is obtainable legally he must supply it, and is fortunate in that your client is prepared to pay half the extra cost.

REFERENCE BACK

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

Q56

The interpretation given to the Act in reply to this question conflicts with that given in the first paragraph on page 468 of the October 12 issue. The latter is correct.

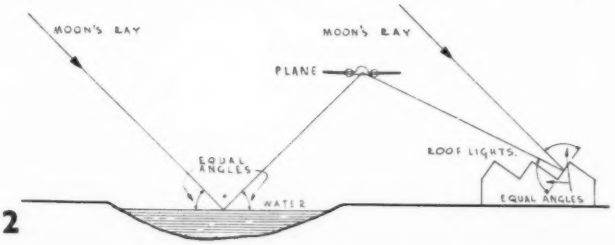
Q78

The Ministry of Supply has now issued a circular giving recommendations for rot-proofing sandbag revetments. This is reprinted in full on p. 603 of this issue.

Q79

PUTNEY.—*In your answer to Q. 79 it is not quite clear what you mean by the difference in angle of the REFLECTED LIGHT from a natural horizontal surface and from a skylight. Can you explain this more fully?*

Fig. 2 shows it is quite possible for



2

the reflected light from a skylight to come from the side of the 'plane away from the moon, whereas from a natural horizontal surface the reflection would be seen on the same side of the 'plane as the moon.

This is the second of a series of wartime articles which will deal with the problems that most closely concern architects at the time of publication.

RESEARCH

SHELTERS: 2

[BY FELIX J. SAMUELY]

THESE articles are intended to help architects and engineers in solving problems commonly encountered when designing and supervising the construction of shelters.

In the near future technical advice will chiefly be asked concerning shelter construction, together with the general protection of property. The next articles will therefore deal with these questions.

It may be that problems of shoring, temporary repair and demolition of damaged buildings will soon become topical. If so, these will be dealt with at once.

PUBLIC SHELTERS

SERVICES FOR THE SHELTER ITSELF.

ORDINARY w.c.s are preferable to chemical closets, and should be used wherever possible. If a large number of lavatories is required (the Code requires one for every 25 persons), they may be installed even where the basement is below the level of the sewer, and in such cases the soil must be pumped up. Where w.c.s are not used, either to avoid cost or because the installation would cause difficulties, chemical closets must be provided. They should be in groups, not scattered, and a cut-off to divide them from the remainder of the shelter is an advantage.

As an argument for chemical closets in preference to w.c.s it is sometimes suggested that if a bomb hits a sewer there may be a reflow of soil. It seems out of the question that a distant explosion should increase the pressure through the soil pipes in such a way that the ordinary traps should not be able to withstand it. There is no danger of reflow, therefore, in a well-constructed w.c. system, but the possibility of a sewer ceasing to function must not be neglected, and some reserve chemical closets can, in any case, be provided.

Where chemical closets are inevitable, they must be kept dry, and urinals must be installed for women as well as for men. Urinals must, of course, be drained, and if the floor level is low, pumping may be avoided by an underground double tank, the inner chamber of which can be removed and emptied.

Water must be provided for decontamination and first aid, and, of course, for any w.c.s. Where running water is available, a few extra taps for washing purposes might be arranged near the w.c.s. It must be ensured, however, that water is not used unnecessarily unless it comes directly from the main, and the shelter is connected to the drains. Where this is not the case, waste water may be drawn into an underground tank or a soakaway. It would be very convenient if a tank could be provided in the neighbourhood of the first-aid station, possibly inside it, containing sufficient fresh water for a few hours, thus making the shelter independent of water mains.

For first aid and decontamination, hot water is essential, but as there should be neither gas nor open fires in a shelter, electricity is the only means of heating water.

The power for lighting, heating, ventilation, wireless, boiling water, storage tank, etc., is to be provided by the local electricity circuit, but secondary supply should be available in case of breakdown. All ventilation appliances should be provided with a direct manual or pedal drive, so that they can be taken over and worked by the occupants if the current fails. For emergency lighting and heating, storage batteries should be provided within the precincts of the shelters.

A hot-water storage tank would be of extreme advantage, as water from the mains cannot be relied upon. Such a tank should be separated by walls from every part of the shelter, so that if it burst it would not be dangerous. (*See also* Fig. 20 which shows diagram of services.)

ENTRANCES

It must be realized that in public shelters not too much reliance can be placed on sensible behaviour of the public. Such entrances should, therefore, be wide enough to allow for the minimum number of people to pass, as set out in Handbook No. 5 and the Code. This postulates 40 people per minute for every 22 in. of width, or, allowing a certain margin, 40 people for entrances 2 ft. 6 in. wide, 80 people for 4 ft. 6 in., and 120 people for 6 ft. 6 in. The actual doorways may be reduced 6 in. to 2 ft., 4 ft. and 6 ft., respectively.

Entrance, in this sense, should mean *any point which must be passed to reach the shelter proper*.

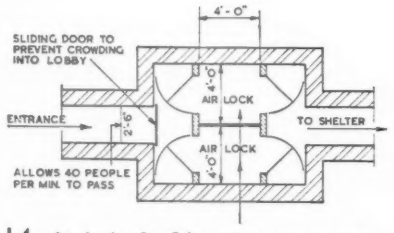
When such entrances are to be dimensioned, two considerations are important:

1. The length of time available for people to pass any particular point. This will generally be much shorter than the period of alarm.
2. The effect which an air lock may have on the entering speed of a stream of people.

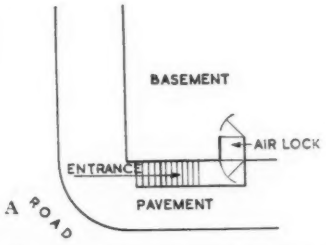
As far as gas attacks are concerned, it may happen that the alarm is given when the air is already contaminated. While the air is clean, the doors of the air lock can be kept open, but at the first sign of contamination doors must be closed and special care is to be taken to ensure that only one door is opened at one time.

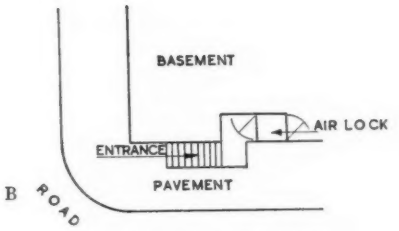
Speed of entrance will be regulated by the speed at which people can pass through the air lock, and the dimensions of the air lock should, therefore, be based on the size of the entrance. For instance, an air lock 4 ft. by 4 ft., as shown in Fig. 17, can hold eight people.

Assuming that the door of the air lock is large enough to allow two people to pass at once, eight people can enter and leave the air lock in 20 seconds, or, in



14 *Air locks for 24 persons per minute.*





15 *A: Entrance through former pavement lights, protected by overhead slab. B: Not protected by slab.*

other words, 24 people per minute can be accommodated. This makes it essential to have a number of air locks side by side, if a considerable number of people are to pass through.

The entrance should be widened immediately in front of the air lock so that congestion will not be caused by people pressing from behind. The air lock itself should be protected against blast by the front part of the entrance and by either special blast-proof doors or screen walls. The lock itself should not be formed by blast-proof doors, which could only be moved slowly and so would impede the entrance (*see also* Fig. 17). Gas curtains have been recommended for air locks, but they are never justified save in temporary shelters.

An air lock should never be formed by two curtains, and where one such curtain is used care must be taken to see that it does not move in any way when the opposite door is opened and closed. This will be difficult. With a curtain, the safety of everybody in the shelter is dependent on the care with which the curtain is manipulated, as there will always be the temptation to draw the curtain and leave it open.

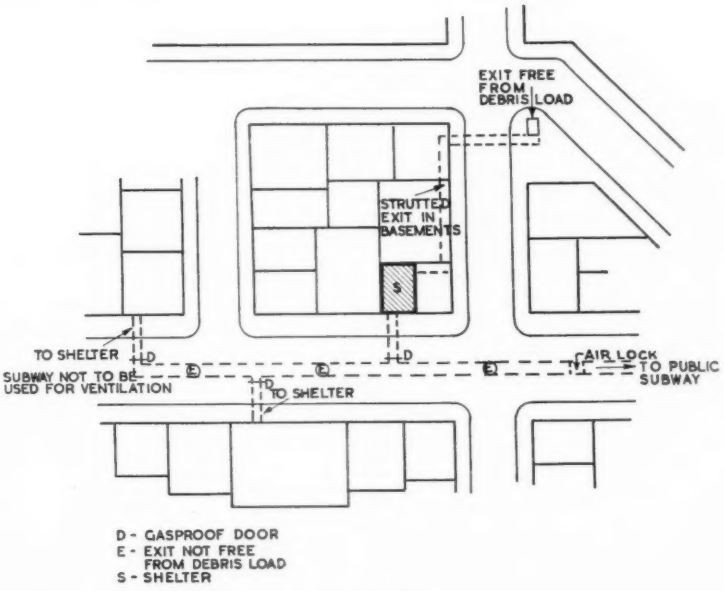
Where possible, a certain amount of filtrated air should be blown into the air lock and into the shelter immediately behind the air lock, so that the extra pressure thus exerted will prevent the entrance of gas when the door is opened. The air inlets should always be in the upper part of the air lock.

Entrance to a public shelter, situated in the basement of a building, may be effected in three different ways:

1. *By means of an ordinary entrance to the building* (Fig. 17).—In this case, it is imperative that the way down to the shelter should be clearly indicated so that people in a panic (if the alarm is delayed) are not confused. The best arrangement would be for such an entrance to be used for shelter access only. If an air lock is provided, the closer it is to the outer entrance the better, for after a gas attack the part of the building between the outer entrance and the air lock must be decontaminated. On the other hand, as explained before, the entrance to the air lock must be protected against blast and splinters, and this means that the shelter and its protection will begin with the air lock.

2. *By means of basement area steps* (Fig. 15).—This type of entrance is very convenient, but in many cases local conditions will make its use impossible. Existing pavement lights may be adapted and converted into such entrances. Where possible, the steps themselves may be protected against blast and splinters by a special wall and slab over (Fig. 15, a), and the air lock can then be arranged adjoining the steps.

In theory, entrances may also be used as emergency exits, but neither of these two groups forms a very satisfactory emergency exit, as such an exit should be protected against falling debris.



16 *System of entrances and exits from a subway.*

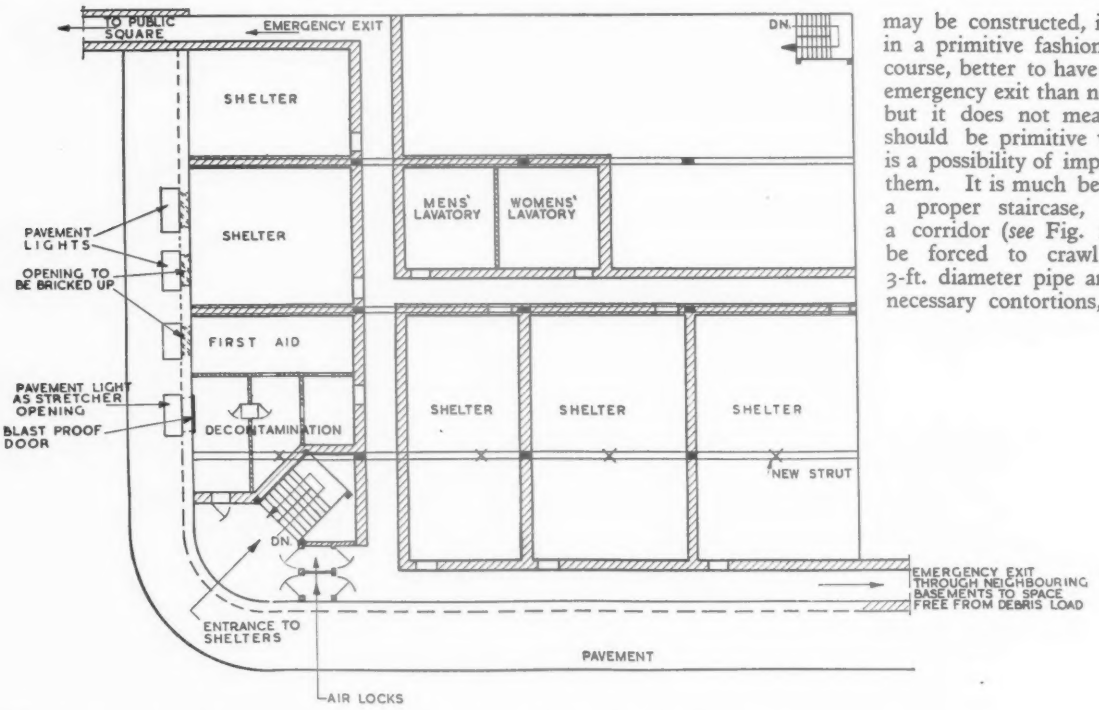
3. *By means of subways* (Fig. 16).—Whether this type of entrance can be arranged will depend on the position of the existing sewers and services, but emergency exits of the same type will often be required (*see* below), and, therefore, it might be more convenient to use them as entrances also. In many cases such entrances may have to be arranged at a lower level than the actual basement, in order to avoid service pipes.

Where several buildings in the same road are used as public shelters, a subway under the road connecting these shelters, and itself protected against blast and splinters, will be very convenient (Fig. 16). This would allow people to reach protection immediately from the road, and then, under cover, to find a compartment in which there is room. Otherwise people might find a shelter full, and if there is no direct connection to other shelters they will have to rush through the street to three or even more different shelters to find accommodation, while the raid is already in progress. If such subways are reasonably arranged, they could be used in peace time as traffic crossings. In some cases they might also be connected to underground stations.

EMERGENCY EXITS

An emergency exit fulfils its purpose only if it remains usable *in* an emergency. This sounds obvious, but is forgotten only too often.

A bomb which causes one building to



17 *Public shelter in basement. Entrance by staircase from corner entrance above.*

collapse might just as easily damage the adjoining buildings, and the mere fact that the basement of the adjoining building can be reached does not constitute an emergency exit. A true emergency exit must be constructed so that no part of it is endangered by debris and so that it allows its occupants to reach the open at a point which cannot be blocked. If two such "true" emergency exits exist, it can be assumed that they give complete safety to the occupants, as they would only be blocked by two direct hits, and this would be such a coincidence that the possibility of its happening can be neglected.

Entrances of the type described in group 3 can serve as emergency exits also, but an alternative exit should be arranged in the opposite direction to the entrance. Such subterranean emergency exits, if inter-communicating, allow the occupants of one shelter to find refuge in another, if their own becomes untenable, without crossing the road in the open.

It is recommended that the whole system of inter-communicating corridors be cut off from the outside air by gas-proof doors (*see* Fig. 16), but at the same time it must be possible to separate each shelter from the remaining ones in case it should be hit, and gas- and blast-proof doors should be arranged in the corridors.

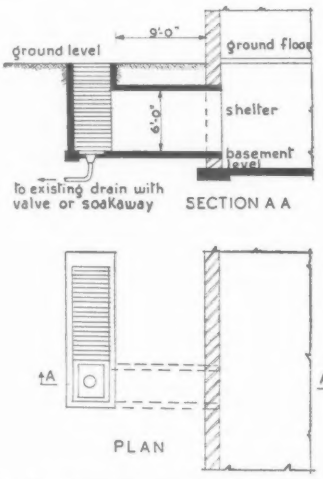
Where such underground exits are impossible, the only other alternative is to provide so many emergency exits of a lower standard that it would be improbable for them all to become blocked. The design of these alternative exits should be carried out with great care, and it should be borne in mind that all buildings within a radius of 150 ft. might collapse owing to one direct hit. While the occupants of a well-strutted shelter remain temporarily safe after the collapse, they are dependent on these exits, as they will not always be able to wait until rescue parties come and dig them out. A case which occurred in London during the last war is a warning against insufficient emergency exits. An emergency exit, consisting simply of a connection with a neighbouring building, will be of advantage only if:

(*a*) That neighbouring building has a strutted basement;

(*b*) The approach to this strutted basement is also strutted in such a way that it is safe against the fall of debris, and if possible, against blast and splinters.

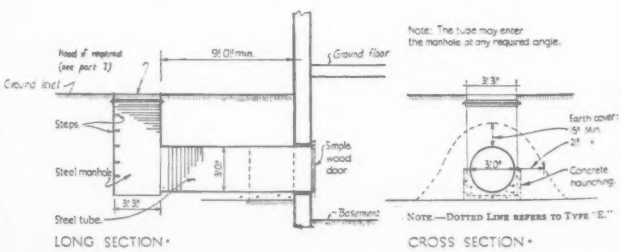
Emergency exits, if not used as entrances, need not have air locks and ordinary gas-proof doors are sufficient.

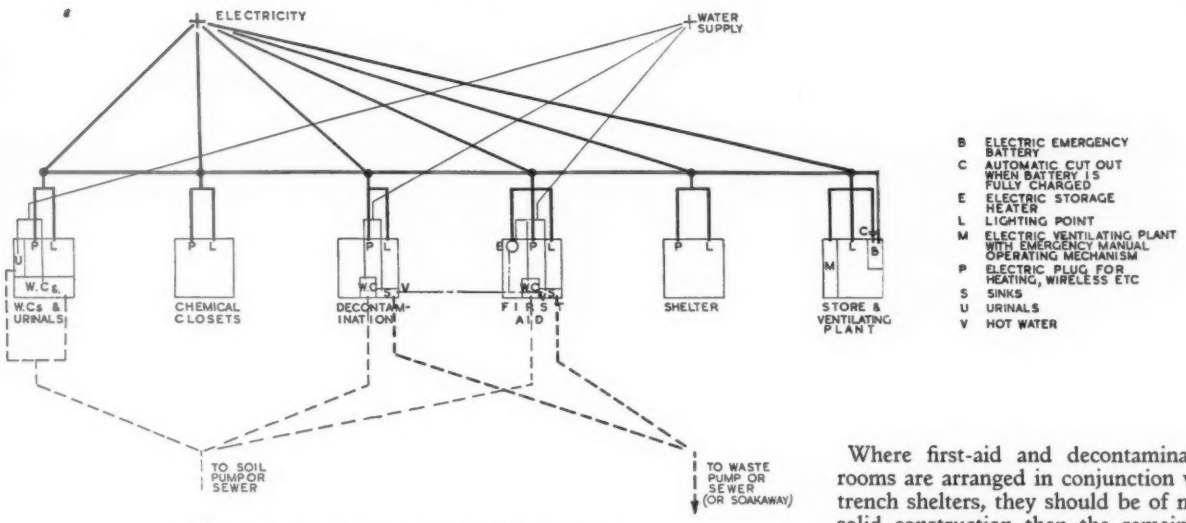
It has been suggested in a number of official publications that emergency exits may be constructed, if necessary, in a primitive fashion. It is, of course, better to have a primitive emergency exit than no exit at all, but it does not mean that they should be primitive where there is a possibility of improving upon them. It is much better to have a proper staircase, reached by a corridor (*see* Fig. 19) than to be forced to crawl through a 3-ft. diameter pipe and, after the necessary contortions, climb up a ladder and lift the manhole cover with the head (Fig. 18, taken from Memorandum 10).



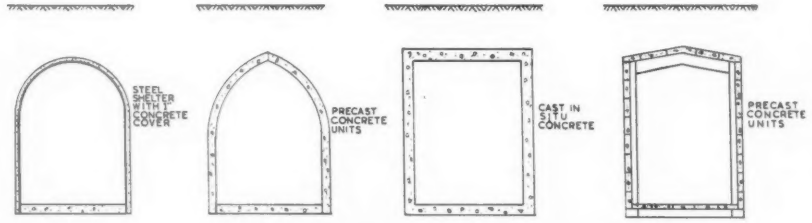
19 *Exit from basement by passage and stair.*

18 *Type "F." Corrugated steel tube and manhole exit. Reproduced from Memorandum 10. Only if exit shown in Fig. 19 is unobtainable should this type be used.*



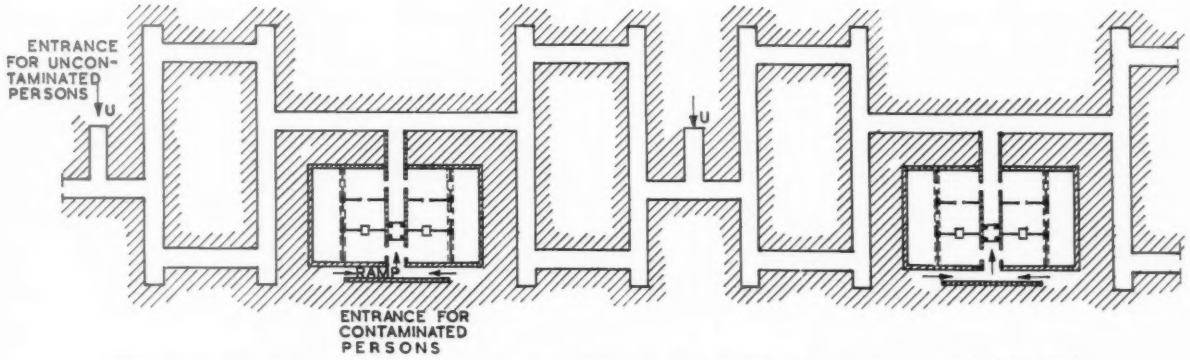


20 *Diagram of services to public shelter.*

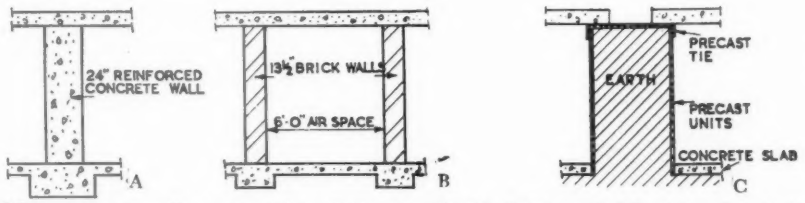


21 *Sections of trench shelters.*

Where first-aid and decontamination rooms are arranged in conjunction with trench shelters, they should be of more solid construction than the remainder, and the arrangement of a reinforced concrete combined first-aid and decontamination centre is shown in Fig. 22, which gives a trench system similar to that recommended in the Code. The walls of such decontamination room would be 12-in. reinforced concrete and beams and columns are arranged to carry the ceiling. It is important to make arrangements which leave first-aid rooms free of columns so that the movement of stretchers is not impeded.



22 *Decontamination centre and airlock in conjunction with trench shelters, recommended by Code.*



23 *Division walls : A.—24 in. R.C. B.—Double brick wall (air space not to be used as shelter). C.—4 ft. earth—held in position by precast units.*

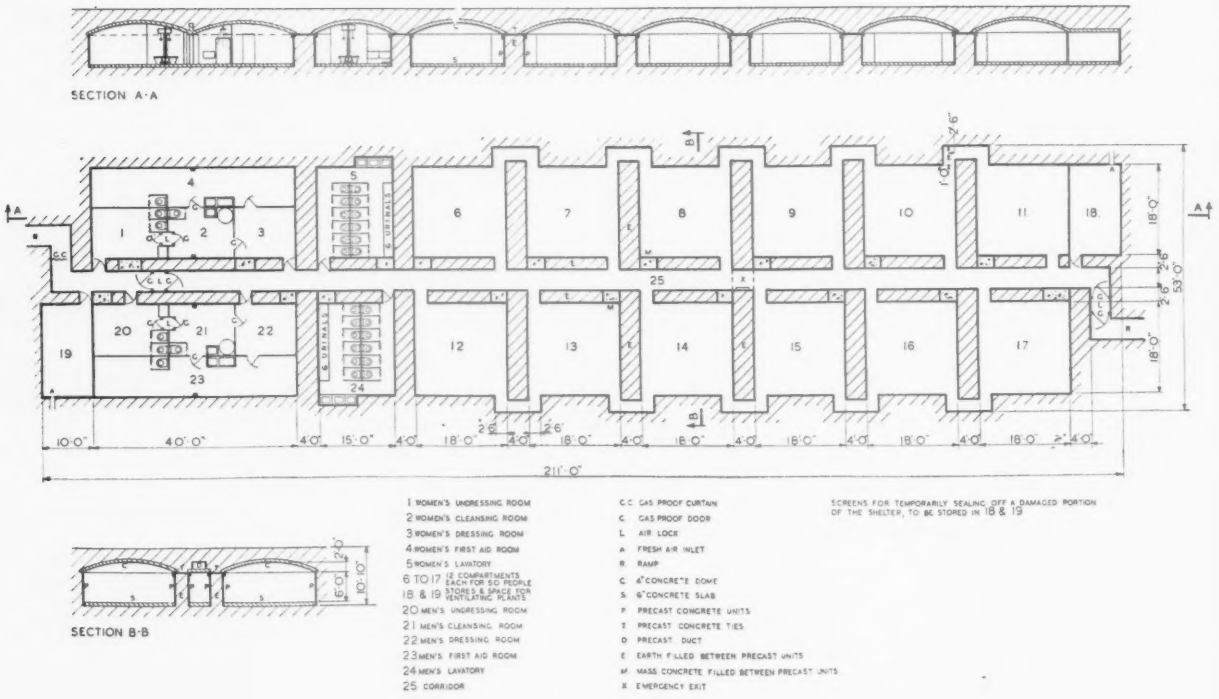
PUBLIC SHELTERS OUTSIDE BUILDINGS

Shelters outside buildings can be of two different types. They may be trenches or compact shelters. The construction of trench shelters will be described in greater detail under the heading of Shelters for Employees, and private shelters will not be substantially different from these. Typical sections are shown in Fig. 21.

Fig. 23 shows the different types of walls to be used as division walls in such shelters, *see also* page 523 (Nov. 9). Fig. 24 shows a public shelter of the compact type for 500 people.

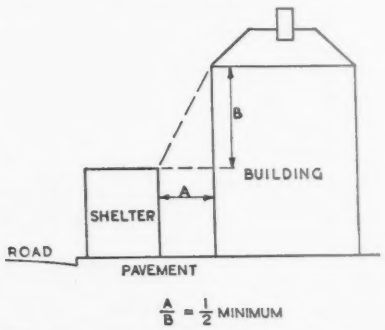
Surface shelters are inferior to basement and trench shelters as far as protection is concerned, but very often they are the only type possible. This will be the case if the ground water prevents underground work or if provision for shelters is to be made in streets where no basements exist and sewers, electrical services, etc., forbid underground work.

Such surface shelters must comply with certain requirements. They should never be placed in the neighbourhood of



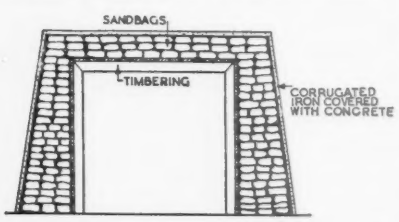
24 *Public shelter for 600 persons.*

tall buildings, which, by their collapse, might destroy the shelter. As shown in Fig. 25 the distance from the shelter to the building should never be less than half the difference between the height of the building and that of the shelter.

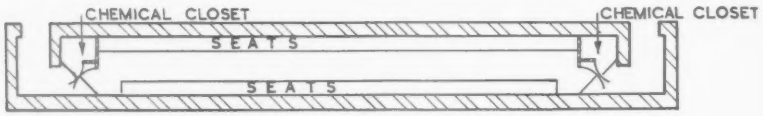


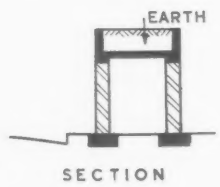
25 *Minimum distance of surface shelter from building.*

It has become a habit with local authorities to use sandbags for surface shelters, and in order to create a reasonable appearance, to lay concrete (sometimes on steel sheets) over the sandbags. The inside is mostly timber construction. Such an arrangement is shown in Fig. 26. The warning against such a construction cannot be too strong, as when the sandbags begin to rot the effects will be worse than they would have been if the sandbags remain uncovered. This construction cannot be considered as permanent.



26 *Surface shelter improperly constructed.*





27 *Surface shelter properly constructed.*

The usual materials for surface shelters will be brick for the walls, and reinforced concrete for the slabs (Fig. 27). To offset the effects of suction pulse of blast it is recommended to have 1 ft. of earth on top of the 5 in. concrete roof slab. Chemical lavatories and urinals should never be forgotten in such surface shelters.

Screen walls to protect the entrances are essential, but as shown in Fig. 27 they can be provided by a short brick construction separating the entrance from the interior.

Architectural Front

ARCHITECTURAL ASSOCIATION

Annual General Meeting, Tuesday, November 28. "A.A. Excursion to Switzerland, 1939," 8.30 p.m. Annual Exhibition of Members' Holiday Sketches to be opened same day until December 22. It will be impossible to stage the Pantomime in Bedford Square this year. Negotiations are proceeding for the use of a stage elsewhere. Probable dates, December 12 to 15.

INSTITUTE OF LANDSCAPE ARCHITECTS

Presidential Address by G. A. Jellicoe. He said:

Institute was endeavouring to tackle problems of war

949. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

THE USE OF STEEL SECTIONS AS COLUMS AND STRUTS.

Columns & struts can be carried out in a great variety of sections. Examples of the groupings are shown on Sheet 11 of this series.

GROUP (2) : columns consisting of composed sections for any load.

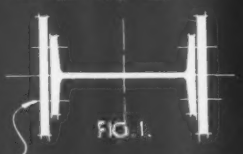
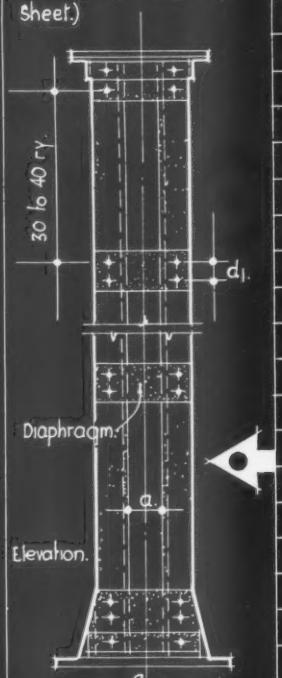


FIG. 1.

Joist section with plate(s). (see note (1) on back of Sheet.)



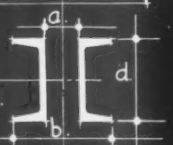


FIG. 2.

Two equal channels back to back. (See note 2 on back of Sheet). This Information Sheet refers to columns of this section only.

For efficiency factors of columns composed of two equal joist sections, see Sheet 13 of this series.

TABLE GIVING EFFICIENCY FACTORS (e) FOR TWO EQUAL B.S.S. CHANNEL SECTIONS SPACED BACK TO BACK, AS CENTRALLY LOADED COLUMNS (STRUTS).

Approx. overall size of col. d x b ins.	Size of each channel. ins.	Minimum distance apart "a" ins.	Weight of col. lb/ft.	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 4½.	3 x 1½.	1·18.	9·2.	0·56	0·54	0·51	0·49	0·45	0·43	0·40	0·35	0·31	0·27	0·24	0·21	0·17	0·13	•
3 x 4½.	3 x 1½.	1·14.	10·22.	0·55	0·53	0·50	0·48	0·44	0·42	0·40	0·35	0·31	0·27	0·24	0·21	0·17	0·13	•
4 x 6.	4 x 2.	1·64.	14·18.	0·62	0·61	0·60	0·58	0·57	0·56	0·52	0·49	0·45	0·41	0·37	0·33	0·27	0·22	0·19
4 x 6.	4 x 2.	1·56.	15·82.	0·61	0·60	0·59	0·57	0·56	0·55	0·52	0·49	0·45	0·41	0·37	0·33	0·27	0·22	0·19
5 x 7½.	5 x 2½.	2·16.	20·44.	0·65	0·64	0·63	0·62	0·62	0·61	0·59	0·57	0·54	0·52	0·48	0·45	0·38	0·34	0·28
5 x 7½.	5 x 2½.	2·08.	22·48.	0·65	0·64	0·63	0·62	0·62	0·62	0·59	0·57	0·54	0·52	0·48	0·45	0·38	0·34	0·28
6 x 9.	6 x 3.	2·72.	24·82.	0·66	0·66	0·65	0·64	0·64	0·63	0·63	0·62	0·59	0·57	0·55	0·53	0·48	0·42	0·37
6 x 9.	6 x 3.	2·64.	27·28.	0·66	0·66	0·65	0·64	0·64	0·63	0·63	0·62	0·59	0·57	0·54	0·52	0·48	0·42	0·37
6 x 8½.	6 x 3.	2·46.	33·02.	0·66	0·66	0·65	0·64	0·64	0·63	0·62	0·61	0·59	0·56	0·53	0·51	0·46	0·41	0·36
6 x 8½.	6 x 3.	2·44.	35·06.	0·66	0·66	0·65	0·64	0·63	0·63	0·62	0·61	0·58	0·56	0·53	0·50	0·46	0·40	0·35
6 x 9½.	6 x 3½.	2·12.	32·96.	0·66	0·66	0·65	0·64	0·64	0·63	0·63	0·62	0·59	0·57	0·55	0·52	0·48	0·42	0·37
6 x 9½.	6 x 3½.	2·22.	37·04.	0·66	0·66	0·65	0·64	0·64	0·63	0·63	0·62	0·59	0·57	0·54	0·52	0·48	0·41	0·36
7 x 10.	7 x 3.	3·58.	28·44.	0·97	0·96	0·96	0·95	0·94	0·93	0·92	0·90	0·89	0·87	0·84	0·82	0·76	0·70	0·63
7 x 10.	7 x 3.	3·68.	34·14.	0·97	0·96	0·96	0·95	0·94	0·93	0·92	0·90	0·88	0·86	0·83	0·81	0·74	0·68	0·61
7 x 10½.	7 x 3½.	3·08.	36·56.	0·97	0·96	0·96	0·95	0·94	0·93	0·92	0·90	0·89	0·87	0·84	0·82	0·76	0·70	0·63
7 x 10.	7 x 3½.	2·96.	40·36.	0·97	0·96	0·95	0·95	0·94	0·93	0·92	0·90	0·89	0·86	0·83	0·81	0·75	0·69	0·62
8 x 10½.	8 x 3.	4·42.	31·92.	0·69	0·69	0·68	0·67	0·67	0·66	0·66	0·65	0·64	0·63	0·62	0·60	0·57	0·54	0·50
8 x 10½.	8 x 3.	4·20.	37·36.	0·69	0·69	0·68	0·67	0·67	0·66	0·66	0·64	0·64	0·62	0·60	0·59	0·56	0·52	0·48
8 x 11.	8 x 3½.	3·94.	40·42.	0·69	0·69	0·68	0·67	0·67	0·66	0·66	0·65	0·64	0·63	0·62	0·60	0·57	0·54	0·48
8 x 11.	8 x 3½.	3·80.	46·40.	0·69	0·69	0·68	0·67	0·67	0·66	0·66	0·64	0·64	0·62	0·61	0·60	0·57	0·53	0·48
9 x 11½.	9 x 3.	5·20.	34·92.	0·70	0·69	0·69	0·68	0·68	0·67	0·67	0·66	0·64	0·64	0·63	0·62	0·59	0·56	0·53
9 x 11½.	9 x 3.	5·04.	39·82.	0·70	0·69	0·69	0·68	0·68	0·67	0·67	0·66	0·64	0·64	0·63	0·62	0·59	0·55	0·52
9 x 12.	9 x 3½.	4·78.	44·54.	0·70	0·69	0·69	0·68	0·68	0·67	0·67	0·66	0·64	0·64	0·63	0·62	0·59	0·56	0·53
9 x 12.	9 x 3½.	4·74.	46·98	0·70	0·69	0·69	0·68	0·68	0·67	0·67	0·66	0·64	0·64	0·63	0·62	0·58	0·56	0·53
9 x 12.	9 x 3½.	4·62.	51·26	0·70	0·69	0·69	0·68	0·68	0·67	0·67	0·66	0·64	0·64	0·63	0·62	0·59	0·55	0·53
10 x 12.	10 x 3.	5·98.	38·56	0·70	0·70	0·69	0·69	0·69	0·68	0·67	0·66	0·66	0·65	0·64	0·63	0·61	0·58	0·56
10 x 12.	10 x 3.	5·84.	42·66	0·70	0·70	0·69	0·69	0·69	0·68	0·67	0·66	0·66	0·65	0·64	0·63	0·61	0·58	0·56
10 x 13.	10 x 3½.	5·58.	48·92	0·70	0·70	0·69	0·69	0·69	0·68	0·67	0·66	0·66	0·65	0·64	0·63	0·61	0·58	0·56
10 x 13½.	10 x 3½.	6·18.	57·08	0·70	0·70	0·69	0·69	0·69	0·68	0·67	0·66	0·66	0·65	0·64	0·63	0·61	0·58	0·56
11 x 13½.	11 x 3½.	6·38.	53·56	0·70	0·70	0·70	0·69	0·69	0·69	0·68	0·67	0·66	0·66	0·65	0·64	0·62	0·61	0·59
11 x 13½.	11 x 3½.	6·20.	61·40	0·70	0·70	0·70	0·69	0·69	0·69	0·68	0·67	0·66	0·66	0·65	0·64	0·62	0·61	0·59
12 x 14½.	12 x 3½.	7·22.	52·74	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·68	0·67	0·66	0·66	0·64	0·63	0·62	0·59
12 x 14.	12 x 3½.	7·00.	60·90	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·68	0·67	0·66	0·66	0·64	0·63	0·62	0·59
12 x 15.	12 x 4.	6·92.	62·66	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·68	0·67	0·66	0·66	0·65	0·64	0·62	0·60
12 x 15.	12 x 4.	6·74	73·26	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·68	0·67	0·66	0·66	0·64	0·63	0·62	0·59
13 x 16.	13 x 4.	7·72.	66·36	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·69	0·68	0·67	0·66	0·64	0·64
13 x 15½.	13 x 4.	7·44.	77·84	0·70	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·68	0·67	0·66	0·66	0·64	0·63	0·61
15 x 17½.	15 x 4.	9·36.	72·74	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·69	0·68	0·66	0·65	0·64
15 x 17.	15 x 4.	8·98	84·98	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·68	0·67	0·66	0·64	0·64
17 x 19.	17 x 4.	10·62.	88·68	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·69	0·68	0·66	0·65
17 x 18½.	17 x 4.	10·28.	102·56	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·70	0·69	0·69	0·68	0·67	0·66	0·64

* 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 line. The criterion is a slenderness ratio of 150.

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Compiled by C.H. Hamann, Consulting Engineer.

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INFORMATION SHEET

• 769 •

STRUCTURAL STEELWORK

Subject : Economical Column Sections, 2

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 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 twelfth Sheet of the series, and sets out in tabular form the comparative economic efficiencies of columns or struts composed of two equal channels back to back at a given spacing "a," connected at intervals in the length by diaphragms as shown to the left of the Sheet.

Column Groupings :

Where centrally loaded columns consisting of one section only are not desirable (see group 1, and table on Sheet 11 of this series) composite sections (see group 2, Sheet No. 11) may be used. This may be because of one of the following three reasons :—

(*a*) That the load is too great for even the largest joist section.

(*b*) That the efficiency factors of possible joist sections are very low compared with those of composite sections.

(c) That for architectural reasons, the space allowed is smaller than that required by a joist section.

For columns of this type, sections may be composed in two different ways :—

(1) They may consist of a number of parts grouped together and connected by rivets in such a way that lack of stiffness of the individual components, considered separately, is of little consequence (Figure 1).

(2) They may consist of a number of parts, each with a certain stiffness of its own, and which are connected by diaphragms at certain intervals (Figure 2).

Where space is to be minimised the joist group is preferable and plates can be used as well as other rolled sections, whereas they cannot be employed unless riveted continuously to another section.

Efficiency Coefficient :

For general clauses, see back of Sheet No. 11 of this series. As before, the efficiency factors can never be greater than 0.70, but those given on this Sheet may be as low as 0.12. Struts with an efficiency factor of less than 0.20 are not permitted for columns or for chords of trusses, and of less than 0.12 are not permitted at all.

The efficiency factors of the second group of composed columns mentioned above is very often greater for the same conditions of load and buckling length.

When calculating the efficiency factor, an allowance has been made for the material used for batten plates where required, and for additional labour compared with ordinary joist or channel sections.

Columns consisting of three or more channels have the same efficiency coefficient as columns of only two channels, and the distance between these channels can be chosen solely from constructional aspects.

Diaphragms :

Columns of this type should be connected by diaphragms so that the clear distance between the rivet holes of batten plates should be between 30 and 40ry, where ry is the smaller radius of gyration of the single section. The width "d_1" of the batten plates is usually taken equal to the depth of channels, i.e., "d."

Loading :

See formula quoted on the back of Sheet No. 11 of this series.

Buckling :

See clauses on the back of Sheet No. 11 of this series.

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.
No. 765 : Economical Column Sections, 1.

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Address : Horseferry House, Horseferry Road, London, S.W.1

Telephone : Victoria 8571

in a practical way. Ministry of Agriculture had authorized Institute to prepare a Panel of Landscape Architects of sufficient standing and knowledge to give official advice as to the proper use of gardens for food supply. This panel was already in being and meeting with success.

INSTITUTION OF STRUCTURAL ENGINEERS

Communications should be addressed to 11 Upper Belgrave Street, S.W.1, and not to Emergency Address at Speen.

CHARTERED SURVEYORS' INSTITUTION.

The Institution has decided to hold examinations next year and arrangements are being made for Preliminary and Special Test Examinations to be held in April, 1940, and Professional Examinations in June and July, 1940. Candidates desirous of entering should send their application forms and fees to the Acting Secretary, The Chartered Surveyors' Institution, 12, Great George Street, London, S.W.1, as soon as possible. Applications will not be accepted after Saturday, December 9, 1939.

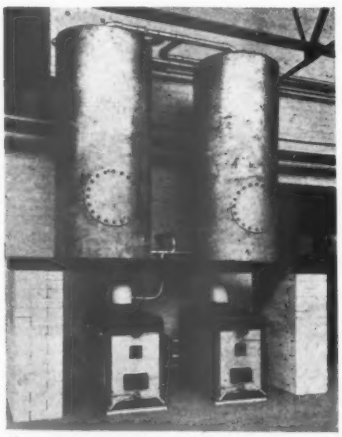
*Change of Address**

N. FIELKER.
Papworth, Everard, Cambs, where he would be pleased to receive trade catalogues.

Building Front

Statement was issued last week by Ministry of Supply dealing with treatment for rot-proofing SANDBAG REVETMENTS.†

BRITISH COMMERCIAL GAS ASSOCIATION. — Gas-fired equipment is being used for various purposes in connection with schemes for air raid



Gas-fired water heating apparatus for use in first-aid and decontamination stations.

precautions, including: boilers for decontamination of clothing; hot-water apparatus for shower baths needed for cleansing persons contaminated by blister gas; water heaters and sterilizers for first aid and hospital work; heating of drying and airing racks for clothing; central heating of decontamination stations, auxiliary fire service posts and first aid posts.

Firms specializing in this equipment include: Davis Gas Stove Co.; Maxol Heaters Ltd.; Parkinson Gas Stove Co.; Thomas Potterton (Heating Engineers) Ltd.; Radiation Ltd.

CEMENT MARKETING CO. — Snowcem pure white cement paint, because of its adhesive properties to cement, brick and stone, is suitable for kerb delineation, direction arrows and A.R.P. generally. Also for maximum light reflection in interiors of factories and shelters. Supplied in metal drums, 112 lb., 56s. Smaller containers available.

BRITISH REINFORCED CONCRETE ENGINEERING CO., LTD. —Specializing in blast- and splinter-proof shelters at an average cost of £2 15s. where 10 shelters accommodate 500 persons.

A. JOHNSON & CO. (LONDON), LTD.—Washing troughs in Savestane stainless steel for factories, schools and camps.

J. H. SANKEY. — Sisalkraft waterproof building paper for sandbag protection. Being practically untearable, can safely be wrapped round sandbags. Can be used as dampcourse to prevent damp from sandbags reaching face of building, or to prevent filtration of sand through gratings. Supplied in lengths up to 100 yds. with widths from 3 to 7 ft. Two grades available—Standard and Tested. Sisalkraft also economical solution for black-out purposes. Readily nailed in position, or can be rolled up during the day.

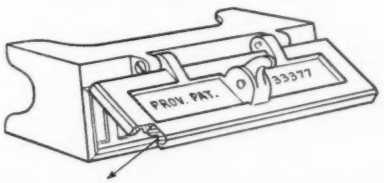
WALKER, CROSWELLER & CO. —Leonard-Thermostatic mixing valve being supplied for showers in decontamination stations and camps. Thermostat (controlled by individual bather or locked in desired position by authorities) regulates exact temperature of water. Capacity of installation increased as temperature of hot water can safely be raised, as scalding is impossible. Early delivery available.

PHILIP SCHOLBERG on Equipment

Air Bricks and Gas Attack

Official recommendations for the sealing of floorboard cracks and joints with newspaper pulp may or may not work adequately in practice. The same treatment for all types of air brick has definite disadvantages, for it is unlikely that an air brick, once sealed, will ever

OPEN POSITION



be opened again. Air bricks on upper floors are usually sealed up as soon as the local sanitary inspector has passed the house as fit for human habitation. The air bricks for ventilating below floors, however, are in a somewhat different category, for these spaces are liable to become far too damp for the floor to survive, and an

* A full list of changes of address was published in THE ARCHITECTS' JOURNAL for October 19, 1939.

† TREATMENT FOR ROT-PROOFING SANDBAG REVETMENTS

On the basis of present information two types of preservative are considered to be suitable for application to sandbag revetments. They are respectively a creosote or tar distillate, used as a water emulsion, or a solution of an organic copper salt in creosote made up into an emulsion. The former is more widely available than the latter and is suitable for treatment of revetments in position which have already deteriorated by being exposed to the weather for some time. The latter is more potent but is also more expensive, and its use will not generally be justified unless the bags are in good condition and unless it is desirable to take down the whole revetment, treat all the bags and then re-pile them.

The application of the preservatives should conform with the following specification:—

(1) A creosote or tar distillate of medium creosote type applied as a water emulsion in such a quantity as to give on the exposed portion of the bag a coating of creosote not less than one-fifth of the normal dry weight of the fabric exposed. This is given approximately by a 25 per cent. creosote emulsion when sprayed on the bags to give a thorough coating, completely satisfying the absorption of the fibres. The creosote should comply with British Standard Specification No. 144/1936 "Creosote for preservation of timber." Any normal emulsifying agent may be used and the following is given as an example of the process of emulsification.

The following ingredients are used:—

65 parts creosote
35 parts water
1.2 parts oleic acid
0.8 parts casein
0.36 parts sodium hydroxide } The emulsifying agent.

The agent is dissolved in water and the two fluids are mixed in a jet similar to that of a cream-making machine. An emulsion prepared in this way should be stable and can be transported in drums or kegs. Before use it should be diluted with water to a suitable consistency for spraying so that the creosote content does not fall below 25 per cent.

(2) An organic copper salt is dissolved in creosote or tar distillate of the type indicated in (1) above, the solution then being made up into an emulsion with water, by the use of a special type of emulsifying agent. The copper salt should be one of an organic fatty acid of high molecular weight (such as, for example, copper oleate). The organic copper salt should be added in the proportion of 16 per cent. of the weight of the creosote and the whole should be emulsified with water. When sprayed on the bags it should be applied as 20 per cent. emulsion. This will leave 0.5 to 1.0 per cent. of metallic copper, estimated on the normal weight of the fabric when conditioned under ordinary atmospheric conditions.

In applying the emulsions attention should be given to the manufacturer's instructions for dilution with water immediately before use to obtain a proper spraying consistency. The diluted solutions do not keep and it is essential that they should not be diluted further than is necessary to obtain the quantity of creosote on the bags indicated in (1) above. Either of the emulsions should preferably be applied by means of a spray, though a brush application is permissible. Care should be taken to coat thoroughly any seams visible on the face of the pile and to work the emulsion well into the seams. The spraying should be done with a paint spray or horticultural spray, and the stirrup-pump recommended for A.R.P. fire protection may be used if no other spray is available. Care is needed to avoid fire risk during application as when handling creosote in the ordinary way. Naked lights should not be allowed in the vicinity of the work and workers should not smoke whilst spraying. The freshly creosoted revetments will have the strong odour characteristic of creosote, but this will decrease to an unobjectionable amount in a few days. As creosote may cause permanent stains, suitable measures should be taken to protect the surface of buildings against which the bags are placed, whilst spraying is in progress.

In order to obtain the best possible penetration into the revetment the preservatives should not be applied immediately after a heavy rain. They will be far more effective if the pile is given a reasonable time for drying after rain.

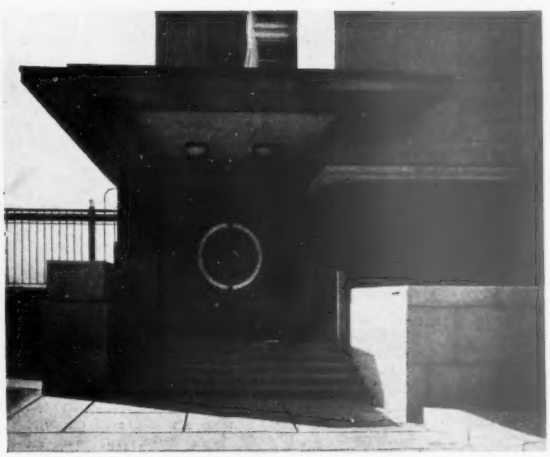
It will be desirable to repeat the treatment and this should be done at intervals not exceeding three months.

air brick with a top hung flap, made by Richardson, Tuer & Co., seems a sensible fitting, though it may not be quite the epoch-making discovery which its manufacturers seem to think it. Cost should be reasonable, and plenty of sizes are available. The flap is held open by a modified peg-type stay which drops behind a cast-iron rib inside the casing, and the inner face of the flap is recessed and filled with a sealing compound to provide a gas-tight joint. Operation is therefore quite simple, for there is nothing to go wrong and all parts seem stiff enough for their job.—(*Richardson, Tuer & Co., Ltd., Hope Foundry, Farnworth, near Bolton.*)

Shop Signs

Any shopkeeper who has taken the black-out seriously and has built the appropriate light locks suffers from the disadvantage that his shop looks as though it were closed. There is something to be said, therefore, for a sign which has recently been introduced by Brown Brothers in which the word OPEN appears in 5½-in. blue letters on a black ground. The sign is shielded so that no light is visible from above, and with a low-wattage lamp it still complies with the regulations. In some shops it might be possible to use a sheet of blue glass with black lettering placed in the shop wall of the light lock, so that the light from inside the shop would illuminate the sign from behind, but this has the disadvantage that the sign is not visible unless the shopper comes right up to the door of the shop, so that it is presumably better to have some sort of sign which can be hung where it is visible to passers-by.—(*Brown Brothers, Ltd., Browns Buildings, Great Eastern Street, London, E.C.2.*)

NEW GOVERNMENT BUILDINGS, EDINBURGH

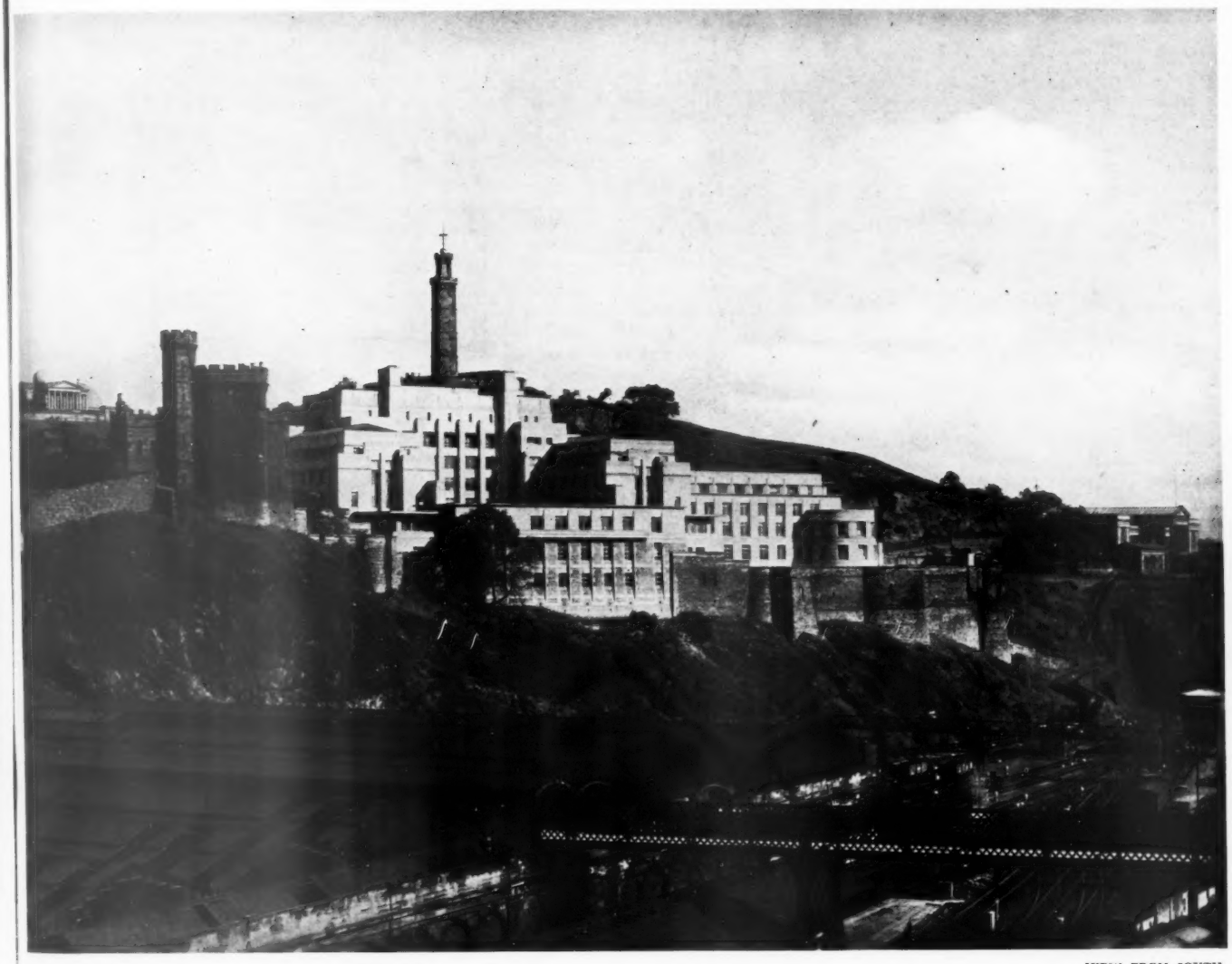


GENERAL AND SITE—*St. Andrew's House, on Calton Hill, stands on the site of the Old Jail Buildings. The site is a unique one with the existing stone walls to the south rising out of the cliff side, and the Calton Mound forming a background for the new building.*

The north front to Regent Road is approximately 530 ft. long and the main entrance to the building is placed centrally, well set back from the roadway with a forecourt flanked by two stone pylons, on which are placed ornamental flagpoles 50 ft. high, the remainder of the grounds in front being laid out with grass and shrubs. Provision has also been made at the base of the building for flowers. The gateway at the west end leads into the car park, which is situated at approximately road level behind the west wing and has space for 45 to 50 cars.

BELOW: MAIN (NORTH) FRONT; LEFT: ONE OF THE TWO SECONDARY ENTRANCES, MAIN FRONT.

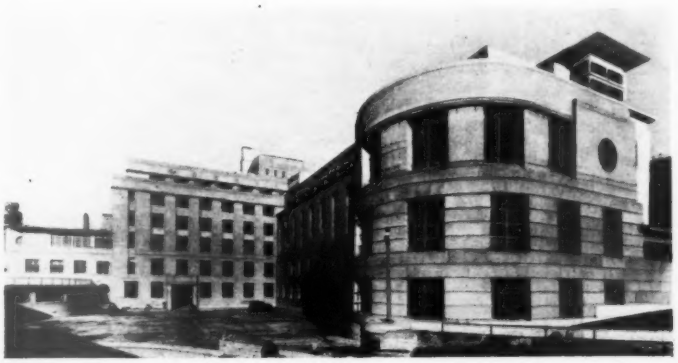
DESIGNED BY THOMAS S. TAIT



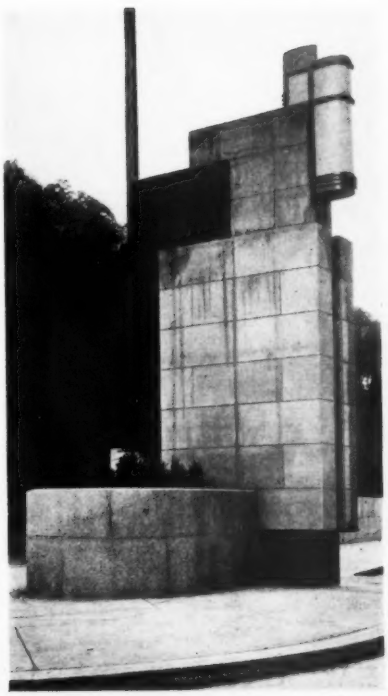
VIEW FROM SOUTH

(SIR JOHN BURNET, TAIT AND LORNE)

CONSTRUCTION—*Foundations : the whole of the site is of rock formation, which provides a good foundation for the new building. The structure is built on mass concrete piers, which are taken down to the solid rock. Steel frame : structure above the foundations is carried on a steel frame-work with retaining walls at low level of reinforced concrete. Walls: walling generally is of panel wall construction and faced with Darney stone. Floors : reinforced concrete and hollow tile construction. Roofs : flat roofs are constructed of reinforced concrete and are insulated with cork and foamagg. Partitions : generally of brick, hollow tile and glazed screens as required. Windows : metal casement type throughout with solid metal window breasts, those at the fourth floor level of the central block being decorated with the Scottish crown and gilded. Internally, the sills to the windows are in metal.*

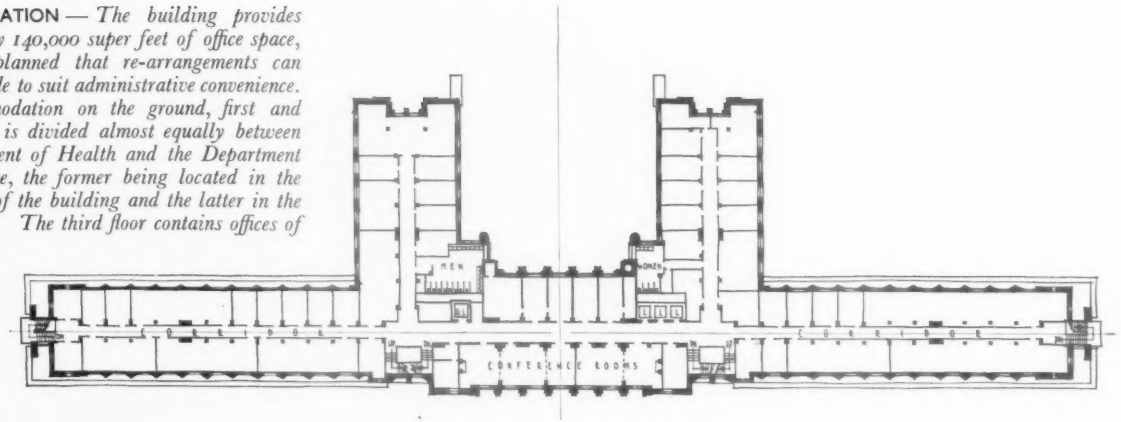


RIGHT, SOUTH-EAST CORNER AND ONE OF THE TWO PYLONS.

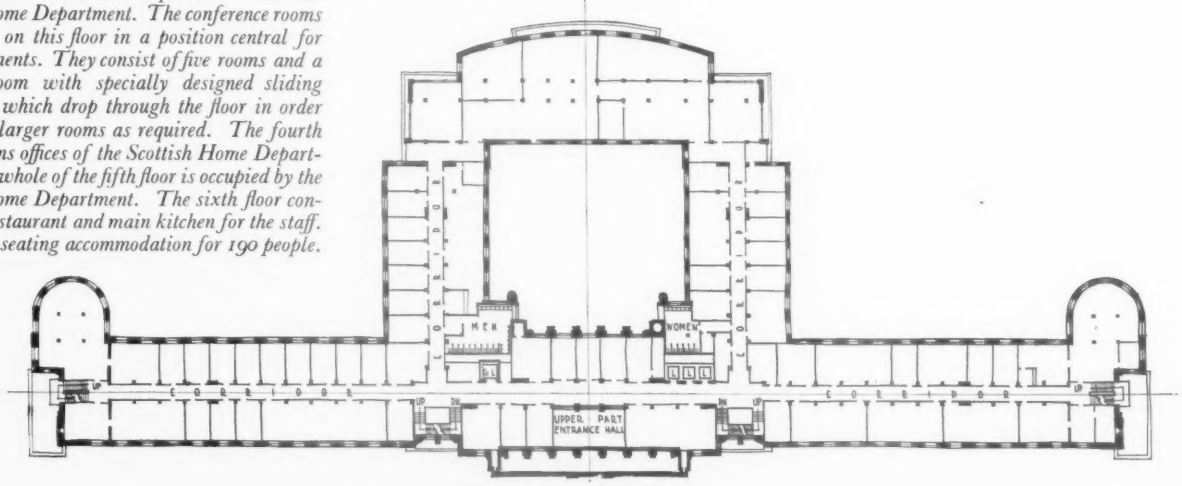


D

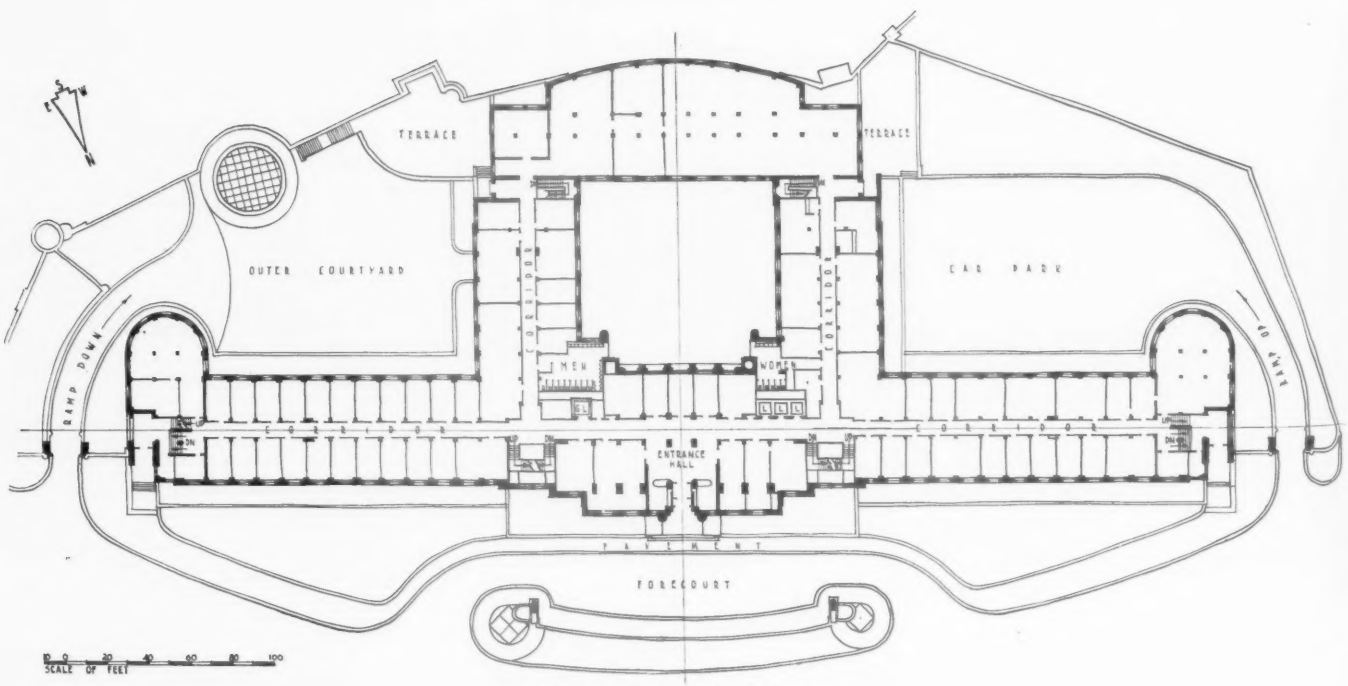
ACCOMMODATION — *The building provides approximately 140,000 super feet of office space, and is so planned that re-arrangements can easily be made to suit administrative convenience. The accommodation on the ground, first and second floors is divided almost equally between the Department of Health and the Department of Agriculture, the former being located in the eastern half of the building and the latter in the western half. The third floor contains offices of the Scottish Education Department and the Scottish Home Department. The conference rooms are placed on this floor in a position central for all departments. They consist of five rooms and a waiting room with specially designed sliding partitions, which drop through the floor in order to provide larger rooms as required. The fourth floor contains offices of the Scottish Home Department. The whole of the fifth floor is occupied by the Scottish Home Department. The sixth floor contains the restaurant and main kitchen for the staff. It provides seating accommodation for 190 people.*



THIRD FLOOR PLAN



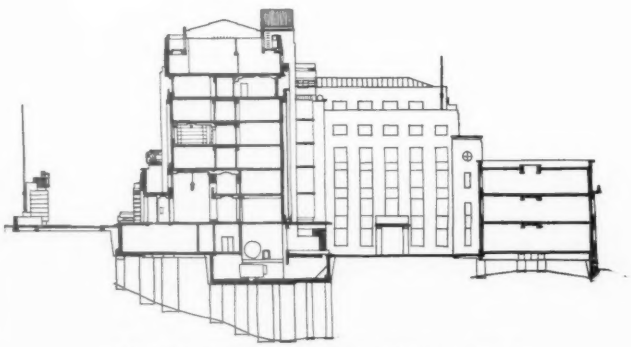
FIRST FLOOR PLAN



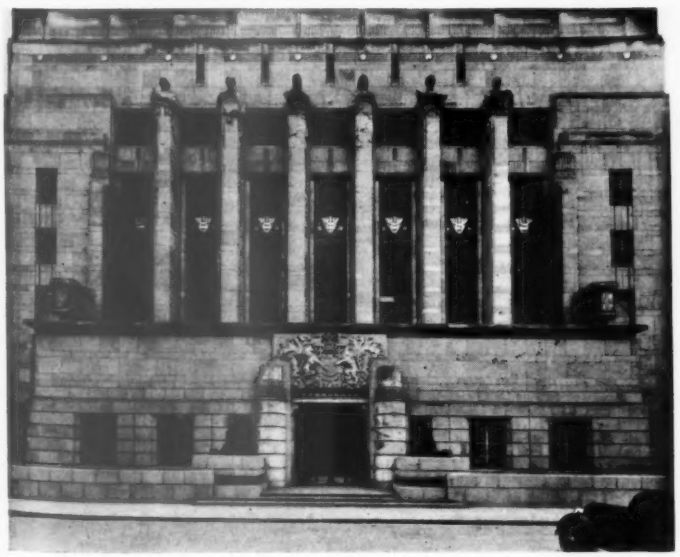
GROUND FLOOR PLAN

NEW GOVERNMENT BUILDINGS, EDINBURGH • DESIGNED

EXTERNAL FINISHES—*The base including the low walls along the Regent Road front and the mullions to the windows of the main staircases are of Creetown granite from Dumfriesshire. Black Bon-Accord granite is introduced at the secondary entrances and also on the flanking windows of the central block and on the two pylons in front. The façades are faced with selected Darney stone from Northumberland specially polished to resist as far as possible the adherence of soot. The main entrance bronze doors, 9 ft. wide by 12 ft. high, were executed by Mr. Walter Gilbert and designed to symbolize St. Andrew's Cross. The main theme in the design is "The Divine Call to St. Andrew, Patron Saint of Scotland: 'Follow me and ye shall be fishers of men.'" Incorporated on the doors are: St. Ninian, St. Kentigern, St. Columba, St. Magnus. Above the bronze doors is the Royal Coat of Arms of Scotland (Scottish Quartering) designed and carved in stone by Mr. Alexander Carrick,* R.S.A. *The thistle, the rose and the shamrock are the motifs used for the carved caps of the two columns at the sides of the main entrance. The two heraldic panels and shields at the first floor level, flanking the main entrance, were executed by Miss Phyllis Bone,* A.R.S.A. *The six symbolic figures at high level on the centre of the Regent Road front, each approximately 12 ft. high, representing Architecture, Statecraft, Health, Agriculture, Fisheries and Education, were carried out by Sir William Reid Dick,* K.C.V.O., P.R.A.



CROSS SECTION ON MAIN AXIS



CENTRAL FEATURE, MAIN FRONT.

TWO VIEWS OF THE MAIN ENTRANCE DOORS.

BY THOMAS S. TAIT (SIR JOHN BURNET, TAIT AND LORNE)

INTERNAL FINISHES—*Entrance hall is paved with travertine and the walls lined with Perrycot marble, a polished Portland stone, the base being Hoptonwood stone. On the floor is a design in glass mosaic of St. Andrew's Cross. Columns at the entrance are of Ashburton marble from Devonshire, and the metalwork of the doors is in silver bronze. Staircases have been carried out with treads and risers of terrazzo with non-slip insets. Except on the ground floor adjoining the main entrance the floors of the corridors are in rubber flooring. Floors of the offices generally are covered in linoleum, and the ceilings are panelled with an acoustic wallboard. Doors generally are flush type or glazed with obscured glass where required for lighting ; internal corridors have, in addition, continuous borrowed lights. The conference rooms on the third floor are panelled from floor to ceiling in Indian silver greywood, with Indian laurel bands ; fireplaces are of Hoptonwood stone. Secretary of State's room on the fifth floor is panelled in Scottish walnut.*

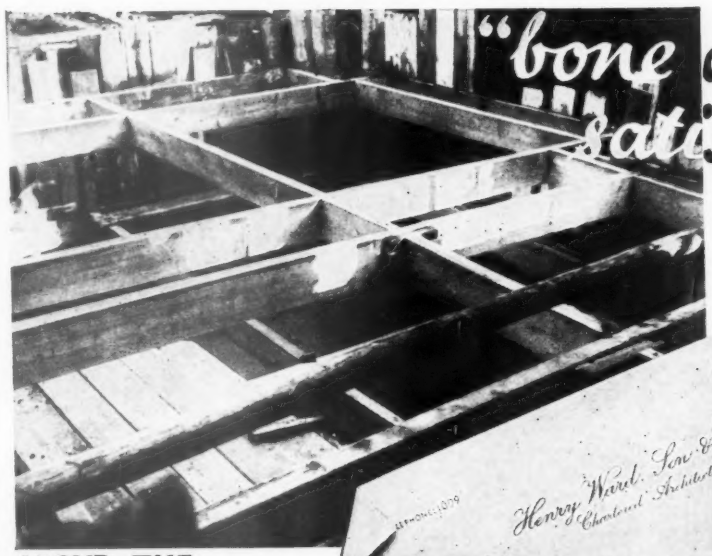
SERVICES—*Low-pressure hot water with flush radiators. Thermal storage is provided and the system is designed to give a rise in temperature of 35 degrees when the outside temperature is 30 degrees. There are no open fires in the building. Artificial ventilation is used for the lavatories, the kitchen and the conference rooms. Otherwise the building is naturally ventilated. All services, plumbing, etc., are contained in ducts and all piping concealed as far as is practicable. Three passenger lifts and one goods lift are provided. The general contractors were Thaw and Campbell ; for list of sub-contractors see page 610.*

ABOVE, ENTRANCE HALL ; LEFT, MAIN STAIRCASE ; BELOW, RESTAURANT.

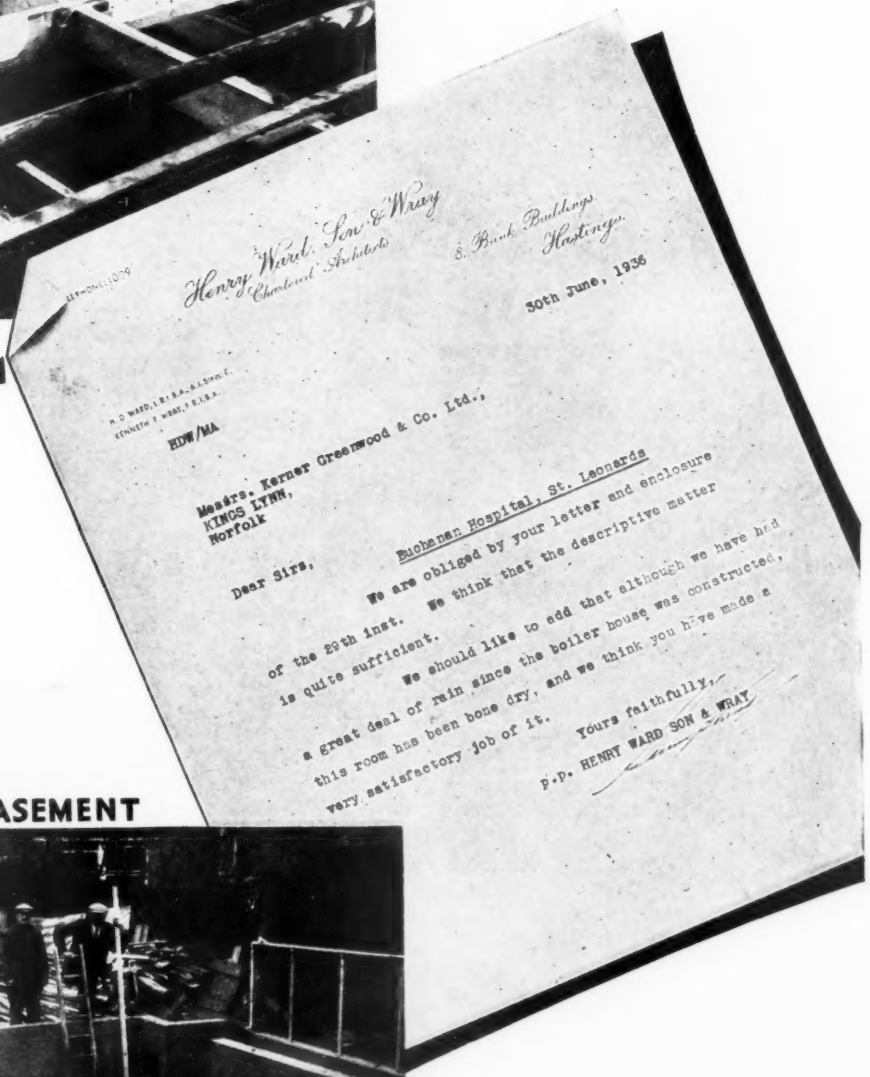
NEW GOVERNMENT BUILDINGS, EDINBURGH

DESIGNED BY THOMAS S. TAIT (SIR JOHN BURNET, TAIT AND LORNE)

"bone dry-a very satisfactory job"



ABOVE: THE FLOODED EXCAVATION



Henry Ward, Son & Wray
Chartered Architects
8, Bank Buildings, Hastings.

30th June, 1936

H. D. WARD, A.R.I.B.A., A.I.Struct.E.
KENNETH F. WRAY, F.R.I.B.A.

HDW/MA

Messrs. Kerner Greenwood & Co. Ltd.,
KINGS LYNN,
Norfolk

Dear Sirs, Buchanan Hospital, St. Leonards

We are obliged by your letter and enclosure of the 29th inst. We think that the descriptive matter is quite sufficient.

We should like to add that although we have had a great deal of rain since the boiler house was constructed, this room has been bone dry, and we think you have made a very satisfactory job of it.

Yours faithfully,
p.p. HENRY WARD SON & WRAY

BELOW: THE BONE-DRY BASEMENT

'PUDLO'

BRAND
CEMENT WATERPROOFER

Ask for the Handbook of Cement Waterproofing, post free on request.

KERNER-GREENWOOD & COMPANY, LIMITED
ANN'S PLACE, KING'S LYNN

Sole Proprietors & Manufacturers

Od.P E.

Milk Marketing Board — New Headquarters

Architect: K. S. Layton, M.INST.R.A., F.F.A.S.

GAZES

BUILDING CONTRACTORS

W. H. GAZE & SONS LTD., KINGSTON-ON-THAMES & WASHINGTON HOUSE, 40/41 CONDUIT STREET W.1

ABOVE, THE CONFERENCE ROOM ; RIGHT, THE SECRETARY OF STATE'S ROOM.

NEW GOVERNMENT BUILDINGS, EDINBURGH

DESIGNED BY THOMAS S. TAIT

TRADE NOTES

[*By* PHILIP SCHOLBERG]

Fire-resisting Cables

ALL the members of the Cable Makers' Association seem to be marketing the new type of fire-resisting cable. The material used for the covering is not mentioned; at least the only comment on it is that, although it is an organic compound which will burn if a flame is applied to it, it will not support combustion, and that it therefore goes out as soon as the flame is removed. Bearing in mind that the ordinary cable covering will burn quite merrily, these new cables seem to be indicated wherever there is any special fire danger. Switch rooms and electricity sub-stations are obvious places, and the same might be said of buildings in which the contents may be specially valuable. In these days there is also the extra danger of incendiary bombs, but these cables are fire-resisting enough to be a perfectly sound investment even in peace time. Overall sizes are exactly the same as for ordinary vulcanized india-rubber, and installation methods are also the same.

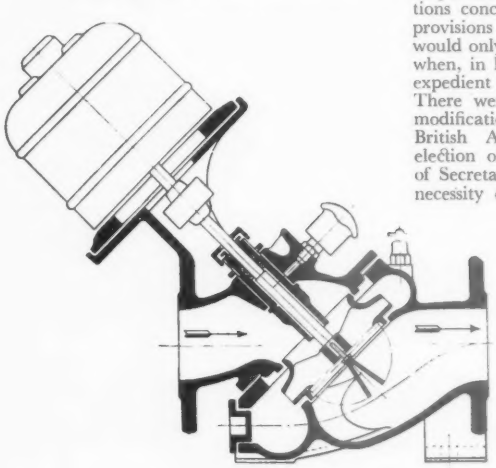
Clearing Stopped Sinks

At the beginning of September I suggested in these notes that it might be a good idea to keep a chain permanently rove through the waste pipe of a sink, so that the chain could be pulled back and forth and possibly clear the pipe if it became stopped up. And now a correspondent writes from Chester to say that he had this idea some years ago. He, too, makes the chain fast

to the underside of the grating of the sink drain, but he adds that it is also as well to clip the chain to some convenient point where it comes out of the pipe over the gully, or to tie it round a stick too large to be pulled up the pipe. An obvious point which is worth emphasizing. He also maintains that a stainless chain is not worth while : he uses ordinary brass link lavatory pull-chain, and finds that it lasts several years and the cost of renewal is only a few pence.

Hot Water Accelerators

I have just been sent details of a small accelerator which should be useful in the medium-sized hot-water heating installation. In particular, it seems suitable for smallish factories or hothouses where there may be



quite considerable horizontal runs and not much head to give adequate circulation. This accelerator is known as the Link, and it is made by the manufacturers of the Super Selfix pump, which has already been described in these notes. The Link accelerator, which is made with capacities varying from 10 to 140 gallons a minute, is small and light and can be very easily fitted. The section on this page shows the general lay-out, from which it can be seen that the whole unit is intended to be bolted straight into the heating main by the end flanges. Small feet for fixing are also provided if it should be desirable to mount the set separately, and there is an angle joint in the centre of the body which allows right-angle branches where it is convenient to fit the accelerator at a bend in the heating pipe. The accelerator can also be fitted at any angle according to the run of the pipe.

One of the most important features of the design is that it allows for normal flow by gravity when the unit is not running. In many large accelerators there is an independent bye-pass pipe to reduce frictional resistance, but the Link impeller is fitted with a pair of non-return valves which open automatically when the set is not running, giving a total straight through flow almost equal to the full bore of the pipe. This seems an improvement on the more usual practice where, if a bye-pass is not fitted, the water has to pass through the impeller, so that either excessively wide passages are needed or frictional losses are high.

From the point of view of noise suppression it is perhaps worth adding that the motors are mounted on a moulded rubber ring.—*(Holden and Brooke, Ltd., Sirius Works, West Gorton, Manchester 12.)*

IN PARLIAMENT

In the House of Lords, the Lord Chancellor moved the second reading of the Chartered and Other Bodies (Temporary Provisions) Bill. He explained that the general purpose of the Bill was to enable modifications to be made in the constitution and the electoral procedure of various chartered and statutory bodies to meet war conditions. Three types of bodies were dealt with. Clause 1 dealt with chartered corporations and gave powers to the corporations concerned to make modifications in the provisions of the charter. The Lord President would only have power to make such directions when, in his opinion, they were necessary and expedient to secure economy and efficiency. There were three illustrations of the type of modification desired : the Royal Institute of British Architects desired to suspend the election of its officers, the Chartered Institute of Secretaries desired to be released from the necessity of publishing a year book, and the West India Committee desired to appoint a temporary additional deputy chairman.

The Bill was read a second time.

Obituary

We regret to record the deaths of Lieut.-Col. Jenkins, Director of Plastilume Products, Ltd., who had been associated with the company since its inception ; and Mr. William Hall, Managing Director of Hall Boilers, Ltd.

THE BUILDINGS ILLUSTRATED

NEW GOVERNMENT BUILDING, CALTON HILL, EDINBURGH (pages 604–609). Architect : T. S. Tait (Sir John Burnet, Tait and Lorne). General contractors were : Thaw and Campbell, Ltd., who were also responsible for demolition, excavations and concrete foundations. Sub-contractors and suppliers included Redpath, Brown & Co., Ltd., steelwork ; Jackson Brown & Co., stonework and superstructure ; Fenning & Co., granite creetown ; Stewart & Co., granite creetown (sub-contractors) ; A. and F. Manuelle, Ltd., granite Bon Accord black ; Chas. McDonald & Co., granite Bon Accord black (sub-contractors) ; J. Cochrane & Co., Ltd., joiner work and registry racking and bookcasing ; Geo. Rome & Co., Ltd., plaster work ; Hugh Twaddle and Son, copper roofing ; plumbing, heating, domestic engineering and ventilation ; Geo. Sellars & Co., painting work ; William Purdon and Son, glazier work ; Troughton and Young, Ltd., Best and Lloyd, Ltd., and Hailwood and Ackroyd, Ltd., electric lighting fittings ; Woodward, Sons & Co., Ltd., light, power, bell, clock, electric installation ; Highways Construction, Ltd., roof asphalt work ; J. Whitehead and Sons, Ltd., marble work ; Toffolo Jackson & Co., terrazzo work ; Allan and Sons, Ltd., and Southhook Potteries, Ltd., tile work ; Diespeker & Co., Ltd., constructional floors ; Rowe Bros. & Co., Ltd., steel casements and doors ; Thos. Haddon and H. H. Martyn & Co., Ltd., wrot iron and bronze work ; Ruberoid Co., Ltd., Rudapia patent flat roofing, Mellowes & Co., Ltd., patent glazing ; Veneercraft, Ltd., wood panelling ; A. M. McDougal and Son, wood flooring ; Glasgow Engineers, Ltd., moving walls and electric lifts ; Stewarts and Lloyds, Ltd., steel flag poles ; N. F. Ramsay & Co., ironmongery and door furniture ; G. P. Dennis, Ltd., switchboards ; William Barton and Sons, fire mains and hydrants ; W. G. Rennie & Co., ash hoist ; Wilson Boilermakers, Ltd., boilers ; Barry Ostlere and Shepherd, linoleum ; H. Simister and Sons, linoleum laying ; Barry Ostlere and Shepherd and M. Nairn & Co., Ltd., Ruboleum ; Inlaid Ruboleum Tile Co., Ltd., Ruboleum laying ; Waring and Gillow, window blinds, sun and A.R.P. ; Templeton, carpets (special) ; Gents, clocks (electric) ; Donald Bros., curtain material ; MacIntosh & Co., conference room tables ; Bridge of Weir Leather Co., Ltd., hide for tables and chairs ; R. Brackett and Sons, Ltd., storeroom racking ; David Sharp & Co., Ltd., hire and erection of stands.

Shopfront protection designed by A. B. Read, for Troughton and Young, Knightsbridge, S.W. The colour scheme is black, buff and emerald green.

PRICES

On the following pages appears Prices for Measured Work—Part I, with prices last published on October 19, 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		1½%
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) ..		
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	8/–	*6/–*
• Hardcore, broken brick, deposited, spread and levelled, and rammed to a true surface 6″ thick	per yard super	1/7	*1/–*

CONCRETOR

Foundations and Mass Concrete

• Portland cement concrete 1 : 6 with unscreened ballast, in foundations and masses exceeding 12″ thick	per yard cube	21/5	*17/11*
• Ditto, 1 : 3 : 6, with one part of cement and three parts of sand and six parts of clean gravel	per yard cube	21/10	*18/4*
• Ditto, 1 : 2 : 4 with one part of cement, two parts of sand and four parts of ¾″ crushed graded shingle	per yard cube	26/9	*23/3*

• **Items marked thus have risen since October 19.**

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	3/11	*3/0*
• Add or deduct for each inch over or under 6″ in thickness	per yard super	–/6	
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	5/5	*3/10½*
• Add or deduct for each inch over or under 6″ in thickness	per yard super	–/7¾	
Casings			
• Portland cement concrete 1 : 2 : 4 as before, in encasing to steel joists	per foot cube	1/3½	*–/10½*
• Ditto, packed around rods (measured separately) in lintols, sectional area not exceeding 36 inches	per foot cube	1/5½	*–/10½*
• Ditto, ditto, over 36 inches and not exceeding 72 inches sectional area	per foot cube	1/4½	*–/10¼*
• Ditto, ditto, over 72 inches and not exceeding 144 inches sectional area	per foot cube	1/3½	*–/10¼*
• Ditto, ditto, over 144 inches sectional area	per foot cube	1/2½	*–/10¼*
Walls in Situ			
• Portland cement concrete 1 : 6 with unscreened ballast in 9″ walls packed around rods (m/s)	per yard super	6/10	*4/6*
• Ditto, in 12″ walls ditto	per yard super	8/4	*6/–*
Reinforcement			
½″ 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 ½″ 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	*–/2½*

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	23 2 0	32 10 8	
		14 1 10	*23 10 8*	
• Ditto, ⅜″ joints ..	per rod	22 15 8	31 9 5	
		14 1 9	*22 19 1*	
• Reduced brickwork in cement mortar 1 : 3 with ¼″ joints	per rod	24 15 4	34 3 8	51 15 8
		14 17 10	*24 6 4*	*38 7 0*
• Ditto with ⅜″ joints	per rod	24 14 0	33 6 10	50 6 4
		15 3 8	*24 0 4*	*37 7 11*
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	• 7/2	
		3/–	*5/2*	
Ditto in cement mortar 1 : 3	per yard super	5/5½	• 7/6½	• 11/5
		3/2	*5/3*	*8/6*
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. 95/3	per yard super	5/1	5/5½	4/3
		3/4	*3/8*	*2/6*
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. 185/–	per yard super	11/11½	13/4	9/4½
		8/10½	*10/0½*	*6/9½*
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	–/6¾

		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	• 9/11	12/–
		4/4½	*5/7¾*	*7/1½*
Ditto and pointed both sides	per yd. super	10/6	• 11/9½	13/10
		4/5	*5/8¼*	*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	• 17/11½	22/1
		8/9½	*11/4*	*14/3*
Ditto and pointed both sides	per yd. super	17/3	• 19/9½	23/10
		8/10	*11/4½*	*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*

• Items marked thus have risen since October 19.

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, 100 Over 2-ton lots	4″ pipes Under 2 tons, 100 pieces upwards	6″ pipes Under 2 tons, 100 Over 2-ton lots	6″ pipes Under 2 tons, 100 pieces upwards	9″ pipes Under 2 tons, 100 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
	–/8¾	*–/10¾*	*1/1½*	*1/4½*	*2/–*	*2/5½*
Extra for bends .. each	1/4	1/7	2/–	2/4	3/6	4/–
	–/11¾	*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	6/8½
¾″ thick .. .. per yard super	6/3½	5/8½
½″ dampcourse finish, with smooth surface to receive lino or other floor covering	5/3	4/8½
Roofing (Flat).		
½″ thick in 2 layers .. .. per yard super	6/3½	5/3
1″ ditto .. .. per yard super	7/4	6/8½
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

	⅛″	¼″	½″
Sheet rubber .. .. per yard super	13/8	16/9½	20/–
Rubber tiles .. .. per yard super	16/9½	20/–	23/1
	⅛″	¼″	½″
Cork tiles, polished .. per yard super	14/4	12/7	11/6½

Hard red paving bricks laid flat (9″ × 4½″ × 2⅝″) per yard super	9/–	*6/3*
Ditto, laid on edge .. .. per yard super	11/9	*9/–*

CURRENT PRICES

BY DAVIS AND BELFIELD

MASON, SLATER, TILER AND ROOFER, AND CARPENTER

PAVIOR—(*continued*)

	⅝″ thick	7″ 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	1/9	*1/6*	2/5	*2/–*	3/7	*3/–*
● ,, 14″×9″ .. each	2/11	*2/6*	3/10	*3/3*	5/10	*4/11*
● ,, 18″×14″ .. each	5/7	*4/9*	7/5	*6/3*	11/2	*9/5*
● ,, 22½″×14″ .. each	6/11	*5/11*	9/3	*7/10*	13/10	*11/9*
● ,, 27″×14″ .. each	8/5	*7/1*	11/2	*9/5*	16/9	*14/2*

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	13/7	*12/7*

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

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

SLATER, TILER AND ROOFER—(*continued*)

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

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

Centering

Turning piece to flat soffites 4½″ wide .. per foot run (For Formwork see "Concretor.")	–/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″×⅜″ ditto for plain tiles (10½″×6½″) to a 4″ gauge .. .. per square	13/3½	*8/4½*
1½″×1″ ditto for pantiles to approximately 11¼″ 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	1/3½	*–/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)

● Items marked thus have risen since October 19.

Rolled Zinc Sheets and Plates

At the present time, ample supplies of rolled Zinc are available for normal use in this country.

Purchasers will appreciate that all sales and purchases of unwrought Zinc are subject to the regulations and conditions laid down by the Ministry of Supply. In particular, a licence to purchase is required. A licence is not required, however, for the purchase of Rolled Zinc, and intending purchasers should communicate with their usual suppliers.

It is understood that at present licences are being issued to permit the purchase of metal for the production of ROLLED ZINC SHEETS AND/OR PLATES for the following purposes, in the following order of preference :—

(1) *Government Defence Departments.*

(2) *Other Government Departments, including shipbuilders, ship-repairers, and Marine Engineers acting by order of or under licence of the Board of Trade.*

(3) *Local Authorities for civil defence purposes. Persons requiring supplies under the Civil Defence Act,* 1939, *or otherwise for A.R.P.*

(4) *Local Authority and Public Utility undertakings, including railways (for essential purposes) locomotive and wagon builders.*

(5) *Agricultural machinery, equipment, implements and requisites.*

(6) *Mines and quarries.*

EXPORT

With regard to Export, it is understood to be the Government's intention to encourage the export of zinc products as far as is consistent with conserving supplies of Zinc to meet essential domestic requirements.

REPAIRS AND RENEWALS

No difficulty is anticipated in obtaining unwrought zinc for manufacturing into zinc sheets for carrying out urgent repairs and renewals, especially if the quantities involved do not substantially exceed one ton.

In all cases, full particulars should be given to your usual suppliers.

The manufacturers will then make application to the Controller for a licence to obtain the necessary Zinc (Spelter) to meet these requirements.

THE ZINC DEVELOPMENT ASSOCIATION will be pleased to give any further advice and information on this subject. The address of the Association is: LINCOLN BUILDINGS 15 TURL STREET OXFORD. 'PHONE OXFORD 47988.

GENERAL NEWS

UNITED ARTISTS' EXHIBITION, JANUARY-MARCH, 1940

The Royal Academy, in collaboration with other principal art societies, is organizing an exhibition, to be held at the Royal Academy in January-March, 1940, at which the members of the societies and other artists will be invited to exhibit paintings, drawings, engravings, lithographs, and sculpture for sale in aid of the Lord Mayor's Red Cross and St. John Fund and the Artists' General Benevolent Institution. Their Majesties The King and Queen have been pleased to give their patronage to the exhibition. An executive committee, with Sir E. L. Lutyens, P.R.A., as chairman, has been appointed by a conference of representatives of several societies, and the invitations to artists will be issued shortly.

I.A.A.S.

At the annual general meeting of the London and Home Counties Branch of the Incorporated Association of Architects and Surveyors the following were elected to office for the ensuing year: Messrs. B. G. Abrahams, C. A. Assiter, E. G. B. Brockwell, E. W. Brown, R. Browne, L. M. Chignall, C. E. R. Clarke, W. E. Cross, J. L. Mackie, A. E. Mander, K. Preston, F. Puzey, B. Shore, and H. H. B. Stewart. Mr. G. W. Leach was re-elected Hon. Treasurer and Messrs. W. J. L. Horsman and W. P. Reynolds were re-elected Hon. Auditors to the Branch.

MINERS' WELFARE FUND—PITHEAD BATHS

The Miners' Welfare Committee announces that during the month of October, new pithead bath installations were completed or commenced at the following collieries:

Building completed:

Silverhill and Teversal (Notts) for 1,472 men.

Buildings commenced:

	£
Baddesley Extension (Warwickshire) by Messrs. W. R. Lane and Sons, Ltd., Fisher Road, Coventry	2,400
Kemberton (Shropshire) by Messrs. Thos. Beighton, Ltd., Brimington, Chesterfield	13,903
Total	£16,303

ANNOUNCEMENT

The Drawing Office of the R.E. Unit at Shorncliffe, Folkestone, would be pleased to receive manufacturers' catalogues.

GREENWICH TOWN HALL

In the list of sub-contractors for Greenwich Town Hall, printed in our issue for November 2, we inadvertently omitted the name of Compton Bros. (Glass Works), Ltd., who were responsible for the glasswork.

CONTRACTS OPEN

November 18.—Following works: Renewal of classroom floors—Mexborough, Dolcliffe Road, Modern School; Conisborough Morley Place Council School; Conisborough Balby Street Council School; Dearne Thurnscoe Council School. Renewing wood block floor of hall—Dearne Goldthorpe Council Infants' School. Pointing of boundary and retaining walls—Conisborough Station Road Council School, for West Riding C.C. Details from Mr. E. B. Stockdale, Divisional Clerk, Education Office, Mexborough, Yorks.

November 20.—Building of a decontamination station at Bordesley Green, adjoining the Police and Fire Stations. Details from Mr. Herbert J. Manzoni, City Engineer and Surveyor, Council House, Birmingham, 1, Warwicks.

November 20.—Alterations at the Royal Exchange Inn, Lewdown, for the Plymouth Breweries, Ltd. Details from Messrs. C. W. Parkes Lees and Son, F.I.A.A. & S., F.F.A.S., M.S.R.A./A.F.A.S., Architects and Surveyors, Fowey, Cornwall.

November 22.—Following school works: Pointing and repairing various walls in Falls, Glenbank and Ormeau Parks, and repairs to hay shed in Musgrave Park, for Belfast B.C. Details from City Surveyor (Architectural Section, Room 91), City Hall, Belfast, Northern Ireland.

TENDERS ACCEPTED

Police and fire station, Manchester, for the Lancs C.C.: Musker Bros., Ltd., of Bingham Street, Swinton, Manchester. (Architect, G. Noel Hill.)

Extension scheme at the Lincoln County Hospital, for the Board of Management: W. Wright and Son (Lincoln), Ltd., of Park Street, Lincoln. (Architects, Watkins and Coombes.)

Following contractors have been awarded contracts for construction of air raid shelters at the Hilltop, Golds Hill, George Salter, Fisher Street, and All Saints' Schools, West Bromwich, Staffs, for the West Bromwich B.C.: J. and F. Wootton, Pinfold, Bloxwich; T. Holloway (Tipton), Ltd., Ocker Hill, Tipton; Perkins & Co., Selborne Street, Walsall; T. Johnson (Contractors), Ltd., Great Brook Street, Birmingham, 7. (J. G. Jefferson, Borough Engineer.)

Conversion into a police station of public assistance offices at Hart Road, West Hartlepool, Co. Durham, for the Durham C.C.: Bell and Ridley, of Surprise Cottage, Sherburn Road, Durham. (Architect, W. J. Merrett.)