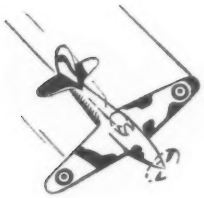

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*

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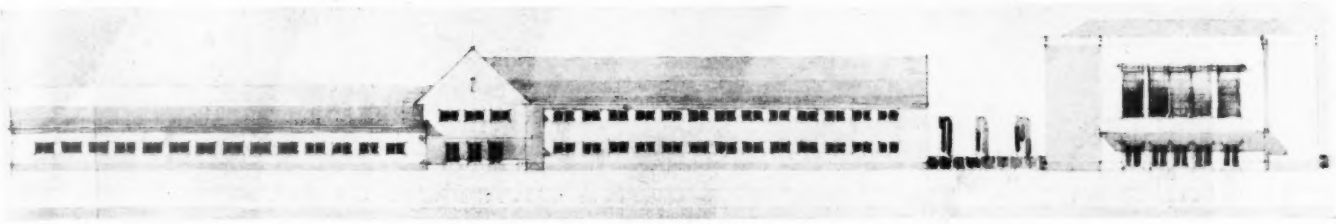
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, FEBRUARY 15, 1940. NUMBER 2352 : VOLUME 91

PRINCIPAL CONTENTS

THE WELSH SCHOOL OF ARCHITECTURE



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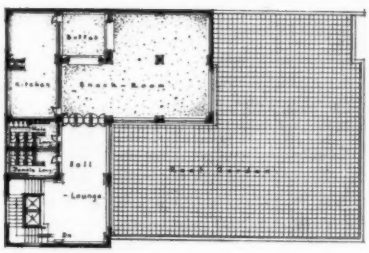
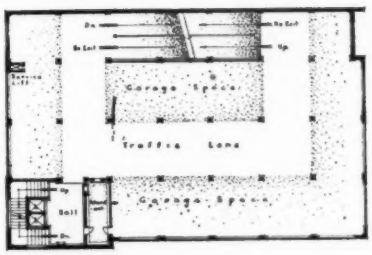
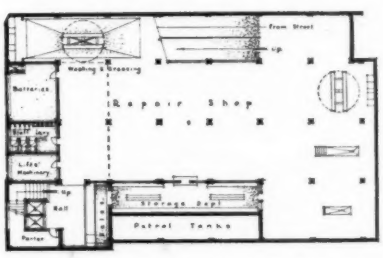


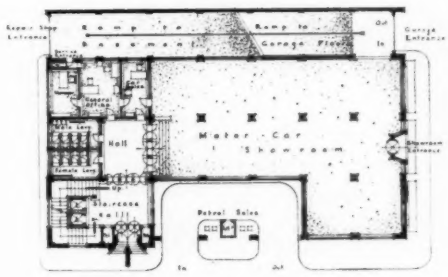
Fourth Floor Plan



Typical Garage Floor Plan



Basement Plan

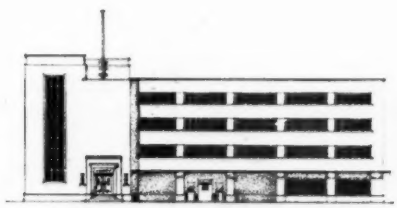


Ground Floor Plan

Results of South Wales Institute of Architects (Central Branch) Students' Competition are as follows :—

4th Year Design Prize : T. D. Gedrych ; 3rd Year Design Prize : D. C. Williams ; 2nd Year Design Prize : E. L. Phelps ; Measured Drawings : 1st Prize (divided equally) : D. P. Freeman and K. Wainwright ; 2nd Prize, Miss J. M. R. Bird.

Illustrations show : (1) A Village Hall. By E. L. Phelps ; (2) A multi-storey Garage. By D. C. Williams ; (3) A Block of Students' Flats. By T. D. Gedrych.



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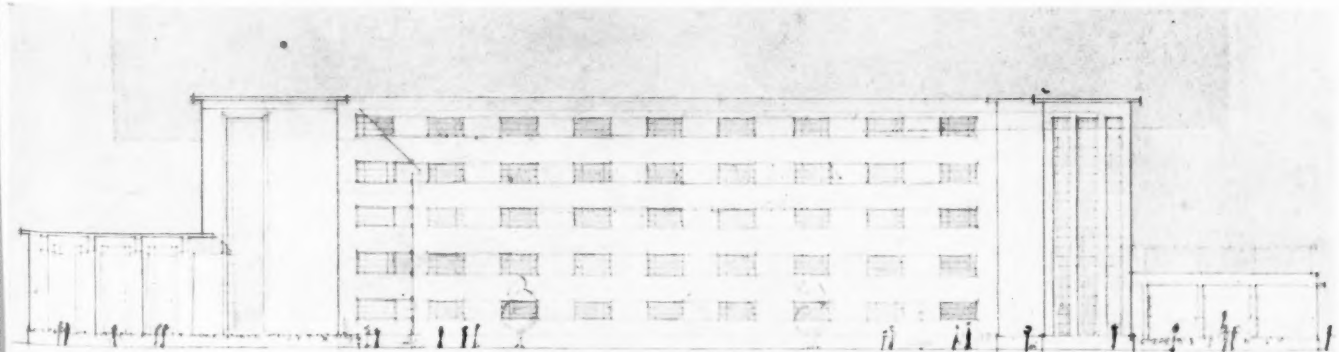

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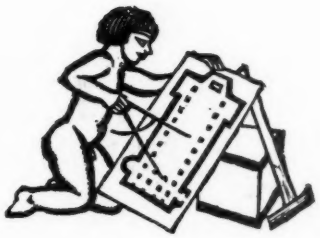
A detail of the south porch of the Erechtheum on the Acropolis at Athens.



THE LOCATION OF INDUSTRY

THE Report of the Royal Commission on the Distribution of the Industrial Population shows differences of opinion among the Commissioners over the implications to be drawn from the facts of past development and present trends, and over the nature and powers of the controlling authority which should be set up. The Majority Report is careful and guarded, and in many respects surprisingly complacent over the short-comings of our industrial organization. The analysis of the difficulties and defects of present planning legislation and practice is insufficiently outspoken; and it is not surprising that Professor Patrick Abercrombie, one of the three signatories of the Minority Report, writes also a special memorandum of dissent on this subject, stressing in particular " the wide divergence between the recommendations of Advisory Regional Reports, adopted and endorsed by groups of local authorities, and the Statutory Schemes which have eventually emerged."

The Majority Report shows a failure to visualize the problem of industrial location, and planning, as one. The common view is that the trouble is the big town. The majority of the Commission obviously hold this view, but the minority, and also the three members who sign the note of reservations, disagree. That the man in the street, or the man in the field, also believes the towns are the only trouble is shown by the Commission's list of counties in which the Town and Country Planning Act is inoperative. All are agricultural areas, or largely so. The Report suggests that " It is highly desirable that planning should be operative in such areas, because industry could at any time be located or other development damaging to amenities begin there without even the mildest form of control." But is this the right reason? Is it not a Town *and Country* Planning Act?

Another commonly accepted view of the problem is that the disadvantages are all social ones, that economically the conurbation is a good thing. The Report does not subscribe to this error, but the purely economic disadvantages are insufficiently stressed.

But despite shortcomings in the analysis of the problem which the Commission was set, and the inadequate executive powers proposed for the National Industrial Board by the largest group of its members, the Report does mark a step forward. It may not constitute a positive argument for rational planning, but it does provide a volume of material to confute those who argue that planning of any kind is unnecessary.

The Commission is unanimous on certain objectives of national action, on some form of authority being established to deal with industrial location on national lines and in the national interest, and that real powers should be given to it from the start in the area of London and the Home Counties. Such a measure of agreement provides a basis for State action; it is to be hoped that the differences between the members of the Commission will not end in no action of any kind being taken.

It is comforting to note from the Report that views favourable to *some* sort of control were expressed in evidence by many local authorities. Experience shows, however, that while general expressions of progressive opinion are often readily given by the representatives of local areas, when the issue gets to the stage of detailed proposals most of them are against anything which savours of further State " interference," and equally are against proposals for federation, or even joint action. What happened when a Royal Commission tried to remedy the chaos on Tyneside is fresh in everyone's memory.

The administrative areas of Britain do not fit our times. As a result our way of life is governed by an outlook too wide or too narrow. Social, economic and administrative problems are regarded as *either* national *or* local. But such an alternative is out of accord with the present stage of motor cars and telephones. In many spheres the nation is too large a unit, the town or county too small. Regionalism is the alternative to increased State intervention, and in many respects it is a preferable alternative.

But can we not go further? And can we not relate our " local government problem " to our " industrial location problem "? They are tied up with each other. Neither the banning of industry *from* certain areas nor the coaxing of industry *into* certain areas can provide an adequate solution of the latter problem. Indeed, to look at it in such terms shows a lack of understanding of those wider deficiencies of which the depression of Special Areas, the sprawl of London, and the physical spoliation and cultural retrogression of the countryside are symptoms.

The wide problems with which the Commission was concerned cannot be attended to in time of war. But interim action can go on. Machinery should be established now for continuous study of the facts, and of the issues which those facts throw up, with special reference to the problems which will arise during and after the war. When the war is won, the material required for reconsideration of these matters will then be ready and up to date.

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

NOTES & TOPICS

EDUCATION

IN a note last week I stated that the greatest *Bombs or No Bombs?* problem was that of children and their education. While that note was in the Press, the Government announced their decision that all children must return to school at the earliest possible moment, and that local authorities must take steps to make it so.

*

No one will envy the local authorities. 400,000 children are in rural reception areas and most of these are having some kind of schooling. 1¼ million are in towns and at least half of these are under no care at all, while probably seven in ten of their schools are occupied by A.R.P. services.

*

It is probable, and natural, that many of the 400,000 evacuees will be now brought back. And one cannot exclude the dread possibility that the *status quo ante* may just have been restored when the first serious bombing begins.

*

The Times said last week that the President of the Board of Education had wisely decided to take the risk of bombing . . . but that the need remained for vigorous publicity about the advantages of life in reception areas.

*

This is absurd. If the Government's right-hand re-opens schools in London, its left cannot continue to gesticulate in favour of evacuation.

*

A declaration that the re-opening of London schools is a makeshift, coupled with a rapid extension of the evacuation scheme with a view to gradual and compulsory re-evacuation, is probably the best idea. If this cannot be done, then publicly controlled evacuation may as well be dropped. But in deciding whether or not it should be dropped the President of the Board of Education should bear in mind the words with which he ended his announcement of the Government's new policy.

*

> Life for our people (in the future) is certain to be harder and more testing than those of this generation have ever known it. The equipment therefore—physical, technical, mental, and moral, of the coming generation—will need to be the best that we can give them if they are to repair the ravages and waste of war.

LAST SEPTEMBER

I received this letter last week :

February 7, 1940.

I have been spending all my odd moments for some time in reading the New Year issue of the A.J.—with equal profit and pleasure. But there is a point on page 56 which I should like to correct simply because it is a matter of historical accuracy. In future years people may be reading this record of the bad time and they may naturally assume that it is a true picture of the facts.

The A.J. record says : "When war came the R.I.B.A. retired into its shell, sealed its doors, and waited like everyone else for the bang. When the bang did not arrive, architects emerged one by one from their boltholes seething with the irritation of reaction, and returned like hornets to the attack. This time the R.I.B.A. was stung into activity. Contacts were re-established with Government departments, salaried jobs for members were found where possible, etc., etc."

This happens to be a completely inaccurate picture of what actually happened. I suppose most architects were, as you say, in boltholes and they naturally assumed that the R.I.B.A. was too. But it wasn't.

The fact was that, unlike a good many institutions, the R.I.B.A. had made all its preparations for the "bang" long before war was declared and all that had to be done was to press the button and the necessary arrangements made themselves without interfering for half an hour with the war work that had to be done. The R.I.B.A. never closed, never stopped for a moment.

The first meeting of the War Committee was held on August 28, actually six days before war began. It met again on September 7, 20 and 27, and did an immense amount of work at and between these meetings.

It didn't "seal its doors" till weeks after war had begun. Then it was done on the advice of two of the most experienced A.R.P. experts in the country, not as a form of funk but simply to make sure that the work of the office and the committees could go on with the least interruption by bombing. Contacts didn't have to be "re-established." They were never broken off. They went on all the time.

I am not arguing your other points because they are matters of opinion, but I want to get the historical facts on record.

IAN MACALISTER

*

I should be very unwilling to give posterity a false picture of what occurred in September ; but, in my view, the falseness or truth of my note depends on whether it is construed broadly or narrowly.

*

I have no doubt that A.R.P. preparations and the safeguarding of the Library at Portland Place were thought out beforehand, that the Executive Committee did go on meeting, and that there was always someone on duty at the R.I.B.A.

*

But I think it is true that nearly all R.I.B.A. activities and Committees were at once suspended on the outbreak of war, and that the Council, like everyone else, did expect intensive bombing during the opening weeks. I think it also became obvious very soon that the Register and pre-war negotiations with the Government were not working in the way that had been hoped ; and that appeals from Members gave impetus to a more vigorous,

and in some ways new, R.I.B.A. campaign for the use of architects' services—as well as drive to architects' collaboration in putting the case of the whole industry before the Government. In this wider sense I hold that my note gave an accurate picture of events.

*

But let me add with the utmost emphasis that I never intended to imply that the R.I.B.A. Executive or officials devoted too much attention to A.R.P. at Portland Place. As an example to the country the R.I.B.A. should have taken first-rate precautions ; and I think all Members will hope that it did so.

WAR PORTRAITS

Mr. Harold Nicolson, in a recent article, confessed that he was persuading his more intellectual friends now serving in the ranks of the army to have their portraits taken by their local photographer, for inclusion in his rather macabre gallery.

*

The results are apparently astonishing, for army uniform is no respecter of persons, even if they are friends of Mr. Nicolson. Beneath the doltish forage cap the refined and sensitive features of an Oxford don harden unrecognizably into a coarse vacancy which the unsophisticated technique of the local Beaton cannot attempt to soften. Protruding from a khaki cuff the slender fingers of an eminent violinist seem to assume at once a chapped and knobbly thickness as they rest stiffly upon the three-legged bamboo table. How much in fact, as Mr. Nicolson must sadly reflect as he gazes at the wooden faces and oafish attitudes of his friends, do we depend upon our " build-up."

*

This photographic experiment is worth extending. Architects who have spent the post-war years eliminating the inessential ornament from their buildings can thus apply the same treatment to themselves. Stripped of their familiar uniform of studied carelessness—the soft hat aslant upon the hair brushed thick over the ears, the coloured shirt, the gay and coarsely woven tie, the hairy suit and soft suede shoes—stripped of these, what will there be left ?

*

It would be interesting to see how our most eminent architects would survive the Trial-by-Local-Photographer Test. An exhibition of such portraits would, I am sure, pack the aisles at the R.I.B.A.

FLUORESCENCE

The greatest attraction at the A.R.P. Lighting and Equipment Exhibition at the Building Centre is the Fluorescent Room. It consists of a flight of steps, flanked by murals, leading up to various notices—the whole glowing brilliantly in white, blue, green and tangerine, under the influence of half a dozen ultra-violet lamps.

*

The materials used are fluorescent paints and cellulose film impregnated with fluorescent dyes.

*

The use of the new technique in A.R.P. has, however, some difficulties—its more impressive effects being far too brilliant. Its best, and limited, A.R.P. application is the painting of dials, switches, etc., in power-stations, where, if the current for the ultra-violet and other lamps fails, the paint will retain an adequate illumination for some hours.

*

Another, peace-time, use is for the marking of linen in laundries, in which sorting costs are very high. Clear " invisible " marks can be used, which become plain in ultra-violet light. The only hitch is that Miss Jones, on entering a war-time cinema foyer, may be horrified to see—plainly written on her mother's waistband—" Mrs. Jones, The Nook, Edgeworth."

WAR WORK

Living in a fire station during frost has, I am informed, one compensation—there is always plenty of hose available on the premises. This can be connected up to the burst pipes as required, and the water conducted out of harm's way. At the station where my correspondent is posted hoses have apparently been looped across the landings for the past two weeks, and dangling from the windows have gushed musically into the yard.

*

Firemen get accustomed to rigging up some makeshift structures, for they know that help and repairs will be a long time coming. In the fire brigade life proceeds at the pace of a British comedy film and with all the protocol of a diplomatic reception.

*

An officer may be in charge of a station where for days sixty men have been without hot water or water-closets but he cannot ring up a coalyard or a plumber. Application must be made through the correct channels, logs entered in triplicate, forms filled in, departments informed and authorities consulted. Some weeks later the pipe will be mended, the broken electric light bulb replaced, or the bag of coke delivered.

*

War conditions have not accelerated the majestic tread of the L.C.C., with whose speed most architects are already familiar. However, I am comfortably assured that the fire engines still get to a fire quite quickly.

ON THE OTHER SIDE

The January *Architectural Forum* has collected the opinions of economists, statistical organizations, bankers, contractors, city officials, estate agents, engineers and architects from 21 cities, on the U.S. building industry's prospects for 1940. Collective verdict : this will be the best year for a decade.

*

Industrial construction, they say, will rise 27 per cent., public utility building by 16 per cent., and housing will be up by 11 per cent. 500,000 houses and flats will be built, and in addition, there will be $500,000,000 building of houses under a national housing authority programme.

ASTRAGAL

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

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

In future, News and Letters will follow Astragal's Notes, and be succeeded by current buildings. But the Information Centre (pages 190–198), though it has changed its position, will remain ready to answer any question and its "Current Problem" articles to deal with all important war-time developments.

NEWS

●

General

IN PARLIAMENT

In the House of Commons last week, Mr. Hannah asked the Minister of Health whether it was the intention of the Government to discourage for the duration of the war all building not of direct service in carrying on hostilities.

Mr. Elliot said that his hon. Friend would, he was sure, appreciate that the class of building by private enterprise, which formed the bulk of building activity before the war, could not, owing to other calls on materials and to the impossibility of providing the necessary capital in war time, continue on any considerable scale during the war. He would, however, continue to give sympathetic consideration in the light of the demand on materials and of the financial position, to proposals, whether from private enterprise or from local authorities, for the completion of houses and the building of a certain number of new houses required for the accommodation of workers in the factory and on the land.

DONATION TO A.B.S.

The South-Eastern Society of Architects has sent a special donation of £100 to the Architects' Benevolent Society.

CIVIL DEFENCE ACT

A number of additions to the Specified Areas under Section 12 of the Civil Defence Act has been made by an Order of the Minister of Home Security. (Civil Defence (Specified Areas) Order 1940).

"Specified Areas" are those in which the scheme of free provision of domestic shelter operates, and in which occupiers of factory premises and owners of mines and commercial buildings within the meaning of the Civil Defence Act are placed under obligation to provide air-raid shelter of the approved standard for their employees.

The new Specified Areas are as follows: Rural District of Sunderland, Co. Durham; Parish of Birtley, Co. Durham; Parish of Immingham, in the County of Lincolnshire; Ward of Cambois, in the Urban District of Bedlingtonshire (Northumberland); Borough of Eastleigh (Southampton); Parish of Hamble (Southampton); Parish of Skinningrove, in the Urban District of Loftus (North Riding of Yorkshire); Borough of Goole (West Riding of Yorkshire). And, in Scotland: The Eastern No. 1 District in the County of Stirlingshire.

In regard to factory premises, mines and commercial buildings, the Act requires that within three months of the appropriate date (in the above cases, this date is that of the new Order, January 29, 1940), the occupier of factory premises must report to the factory inspector, the owner of the commercial building to the local authority, and the owner of a mine to the mines inspector, the steps he has taken, or is taking, to provide air raid shelter for persons working in the premises. In order to be of the "approved standard," the shelter must be in accordance with the "Code of Air Raid Shelters for Persons Working in Factories and Commercial Buildings," obtainable from the Stationery Office, price 6d.

A grant equal to the standard rate of income tax in 1939–40, i.e. 7s. in the £, will be payable in respect of reasonable capital expenditure on shelter completed by April 29, 1940. For this purpose the time for the construction of shelter will not be extended beyond this date unless substantial completion was then achieved and adequate reasons can be furnished for not completing the work within the time allowed.

BUILDING SOCIETIES

Building Societies Bill which came before the Northern Ireland House of Commons for second reading on February 13 is intended to bring the law relating to building societies in Northern Ireland in line with the law in Great Britain. It deals with such matters as the security taken for advances by building societies, the payment of commissions in connection with the business of those societies, and the liability of persons concerned in building society administration.

A schedule to the Bill sets out seven classes of additional security which may be taken into account in determining the amount of advances to members. The Bill contains provisions substantially similar to those contained in the Act of 1939 passed by the Imperial Parliament.

If the Bill is passed, it will come into operation on July 1, 1940, and the law governing building societies, and also the powers of such societies, will then be substantially uniform over the United Kingdom.

ROYAL SANITARY INSTITUTE

Arrangements have been made for examinations to be held in certain provincial centres this year, as well as in London, as follows:

1940: Birmingham (April 4–6); Newcastle (April 11–13); London (April 18–20); Manchester (April 25–27); London (May 17–18); Leeds (May 31–June 1); Liverpool (June 13–15); London (July 18–20); Cardiff (July 25–27).
1941: London (January 9–11); London (January 17–18).

ANNUAL DINNER

Institution of Structural Engineers. At the Dorchester Hotel, W.1, on Friday, March 1. 7 for 7.30 p.m.

RETIREMENT

Mr. A. F. Underhill, Housing Director of Coventry, is to retire on superannuation on March 31.

MEETINGS

A.A. 36 Bedford Square, W.C.1. February 27 at 8.30 p.m. "The Problem of Providing Accommodation for the Army on the Outbreak of War." By Major-General G. B. O. Taylor, C.B.E., Director of Fortifications and Works, the War Office.

I.A.A.S. 75 Eaton Place, S.W.1. February 21 at 7 p.m. "Building Industry in War and Peace." By Sir Alfred Hurst. Admission by ticket only, obtainable from Secretary.

EXHIBITIONS

Drawings by Nicholas Pocock. 4 King Street, St. James's, S.W.1. Until March 2.

National Society. Eleventh Annual Exhibition. Royal Institute Galleries. Until March 4.

LATE COLONEL A. V. ROWE

The death has occurred of Colonel A. V. Rowe, County Architect to the Worcestershire County Council.

Colonel Rowe came of a long line of architects—the practice has been carried on by four generations. He was trained in his father's office, and succeeded him on his death about 30 years ago. In addition to being County Architect, he was Architect to the Dean and Chapter of Worcester Cathedral, and held a number of other public appointments besides carrying on a large private practice.

He served for three years in the South African War, and later as a Territorial.

INDEX

The Index to the contents of THE ARCHITECTS' JOURNAL for the half-year, Volume No. 90, July to December, 1939, is now ready. Subscribers may obtain a copy upon application to:—

The Circulation Manager,
"The Architects' Journal,"
45 The Avenue, Cheam, Surrey.

Please forward copy of Index, Volume 90, to:—

Name.....

Address.....

.....

Cut round dotted line

He held a commission in the 8th Worcesters during the whole of the War of 1914-18, and afterwards commanded the battalion for the regulation period, retiring in 1930.

A man of great personality and ability, he carried out a large practice with distinction. He was particularly interested in domestic work. A.G.P.

ARCHITECTS' WILLS

Mr John Frederick Dodd, Architect and Surveyor, of Long Eaton, Derbyshire, left £4,361 (net personalty £2,452).

Mr. Maurice W. Webb, D.S.O., M.C., F.R.I.B.A., of Queen Anne's Gate, S.W.1, left £27,608 (net personalty £21,583).

Building

B.I.N.C. AND ARCHITECTS

All architects who have not yet made returns regarding the amount of building work stopped as a result of the war should send particulars to the offices of the Building Industries National Council, 85 Gloucester Place, W.1. The headings under which this information is desired are as follows :—

1. Nature of Scheme.
2. Type of Work.
3. Location of Work.
4. Whether for Public Authority or Private.
5. Approximate Cost of Scheme.
6. Stage Reached.
7. Reasons Given for Stoppage.
8. General Remarks.

A large number of returns have already been received, but it is clear that there are many architects in all parts of the country who have not yet sent in returns. It is important that as large a number of returns as possible should be received by the National Council within the course of the next seven days.

B.S.I.

British Standards Institution has recently published as one of the series of BS/ARP Specifications being prepared at the request of the Air Raid Precautions Department of the Ministry of Home Security, a Specification (BS/ARP 18) for Fluorescent and Phosphorescent Paint for A.R.P. purposes.

This Specification was prepared by a Joint Committee of the Illuminating Engineering Society and the A.R.P. Department of the Ministry of Home Security, and was submitted to the B.S.I. for publication. The Specification covers fluorescent and phosphorescent paints having a maximum brightness of 0·01 equivalent foot candle.

A method of testing brightness is included. It is realized, however, that measurement of brightnesses of the order of 0·0001 equivalent foot candle by the method indicated may be difficult for laboratories not specially equipped for this work, and the Committee is therefore endeavouring to provide a simple form of brightness test which, when completed, will be issued as an addendum to the Specification. A preliminary draft of this simple form of test is available for comment on application by anyone interested, although it must be understood that it cannot be regarded as a standard test until published as such.

Copies of the Specification can be obtained from the British Standards Institution, Publications Department, 28 Victoria Street, London, S.W.1, price 6d. each (post free 8d.).

Other specifications just issued include :—

B.S. FOR HEAVY AGGREGATES FOR SHELTERS CONSTRUCTED *IN SITU* (B.S./A.R.P.1)

The scope of the standard has been extended, and it now includes three sections—for Natural Aggregates, Blast-Furnace Slag, and Crushed Brick and Tile, respectively.

The general requirements for all the three sections are specified by direct reference to B.S. 882, "Natural Aggregates up to 1½ in. Nominal Maximum Size for Concrete for Structural Purposes, including Roads," which has also just been published.

Special requirements are included for both the blast-furnace slag and also for crushed brick and tile.

Copies of this revised Specification can be had from the Institution, price 2d. (3d. post free).

EXTENSION OF THE SPECIFICATION FOR WAR-TIME STREET LIGHTING (B.S./A.R.P.37)

Although the installation of the new form of street lighting is in many parts of the country only just beginning, a revised edition of this Specification has been issued. This revision, however, does not modify the provisions of the original edition (dated December, 1939,), but extends them in a very useful direction. There are two main additions these being:

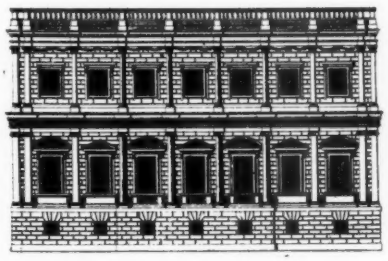
(*a*) The inclusion of standard curves of light distribution for fittings intended for mounting heights between 9 ft. and 14 ft. (nominal mounting height 10 ft.) and for use where the spacing is less than 100 ft. but is not less than 50 ft. These fittings are designated "10 ft. SS" to distinguish them from the 10 ft. nominal mounting light fittings intended for spacings over 100 ft.

(*b*) An appendix has been added, giving notes on the design and testing of fittings purporting to comply with the specification. These notes are given primarily for the guidance of those concerned with the designing and production of fittings for which certification is desired, but they will doubtless prove of interest to a much wider circle of readers of the specification as the notes deal generally with photometric measurements at very low candle-powers.

Copies of this revised Specification may be had from the Institution, price 6d. (8d. post free).

MANUFACTURERS.

PILKINGTON BROS.—A book with reproductions of 23 types of cathedral and figured rolled glass and an ingenious multi-coloured glass interleaf to enable each type to be seen in the various colours available, is the latest Pilkington publication. The book, *Cathedral and Figured Rolled Glass*, is intended as a detailed catalogue of these types of glass and a guide to their correct naming in specifications. It is produced at the present time chiefly with a view to stimulating the all-important export trade and with coloured glass interleaf is available only for export.



ON BEING LOCKED IN

[*By DUDLEY HARBRON*]

I READ in my morning paper that three little boys have been locked in school for the night. It appears that one of them had left his report in the class room, and, as it was a good report, he returned in the dusk with two of his friends to recover it. But while they were searching for the precious document, the caretaker turned the key in the lock, and the three students found themselves interned. As they discovered on investigation that they could not get out, nor yet by shouting attract attention, the three of them lay down to sleep on the floor of the sewing room.

These three little boys did the sensible thing. For wise men like Chateaubriant and Franklin, when they found themselves in similar case in Westminster Abbey, each rolled himself up in a carpet and went to sleep with his head on a dusty hassock. Our young friends, lost like the babes in the wood, chose to cover themselves with the bits and pieces in the sewing room and await the morning.

As I read, I wondered if any of the competitors in the school competitions of pre-war days made provision for such an emergency—either by providing some form of egress or some more comfortable bed than the floor. Because this is a contingency which should be guarded against, not only in schools, but in other buildings in which one is liable to be locked in. For certain types of building—and they are of the kind in which this incarceration is most likely to befall the inquisitive sightseer, museums, churches, art galleries and the like—are not made to get into or get out of uninvited. The windows of such places, even when there are any, seldom open. Pugin was wont to suffocate his congregations.

Though I have never been so entirely preoccupied as to find myself locked in, I can boast that I have assisted at the release of more than one so prisoned. Still my assistance was not to much effect.

It was at Stockton-on-Tees that one of these adventures happened. I was there during race week, yet it was not for the purpose of attending the races. It was quite by accident that I chose this particular week when *the Green Man*, is alive as he used to be a century or more ago.

It was evening and I walked along the emptier side of the long High Street. The other side was alive with humanity. The centre of the wide space between was the gathering ground of many sorts of preachers and teachers—Christians and Communists, who, cheek by jowl were raucously claiming the ear of the public. I lent mine indiscriminately to each as I sauntered along examining the architecture by the light from the lamp standards and paraffin flares. Suddenly, at a window on the second floor of a bank building, I noticed a gesticulating figure ; I paused, and tried to translate the faint sounds of her voice amid the clamour. Though I tried hard, I could not distinguish what the young woman was saying, and she, evidently realizing the situation, threw down to me a scrap of paper which I picked up, unfolded, and read, "I am locked in."

How to proceed was a puzzle, as the door at the side was formidable and closed, so indeed were the neighbouring shops, the attendants in which might have known the whereabouts of the caretaker or manager. Banks do not leave little cards in the window saying where the manager may be found. They only announce the hours 10 a.m. to 3 p.m. on their copper plates.

My first idea was to secure a ladder, and to rear it up against the window. But ladders are not left lying about in Stockton-on-Tees, High Street, at nine o'clock at night, nor did there on investigation appear to be a decorator in the street who might have had such a tool. My second thought was to find a

telephone kiosk from which to ask the exchange for the number of the manager of the branch, or that failing, to inform the fire brigade. They, I felt sure, would have an escape.

As I hurried along in my search for a ladder or a telephone, I met a policeman. No harm could be done by consulting him. My policeman was in no hurry. Indeed, he motioned me toward the nearest lamp post, drew from his pocket a notebook, and carefully licking his pencil, proceeded to enter my name and address ; as this was some hundred miles or more from Stockton, he eyed me with suspicion, convinced, I am sure, that I was one of those clever gentlemen who had come to the simple North to see what I could gather during the race week. When he had got down my story by question and answer, and had taken possession of my precious documentary evidence—" I am locked in "—he turned leisurely on his heels and commenced to walk as if time were no object toward the bank. When at length we drew nearer the place he quickened his pace, for a dense crowd ahead and a ladder against the building showed plainly that someone had with greater alacrity attempted the rescue. If he did not hurry the bird would have flown, and possibly the law be flouted after all. Happily, the young lady was surrounded by the interested crowd. My policeman, notebook in hand, edged his way to her side, and proceeded methodically to set down in black on white her experience. As he was thus engaged I was glad to steal away. Everything must have been in order, for I have never heard any more of the incident.

But being locked in has its punishments. Some time ago I encountered a case. After attending his son's wedding at the Leeds Parish Church, father went into the porch for a smoke. Some time later he discovered he had been locked in the church, and in knocking on a window to attract attention, he broke it. A policeman appeared on the scene. At the trial, the constable said he heard the man shouting and then saw a face at the broken window; this face was not in the part of the window where the faces were. In extenuation, the unfortunate student of ecclesiastical art stated he merely rapped upon the window with his stick because he did not want to be locked in for the night. By the court it was estimated " That the cost of repair would be about £5, as luckily the only damaged portion is some geometric decoration at the foot, which will not be expensive to repair." The case was adjourned for three months, to give the defendant an opportunity to pay for the damage by instalments. It is cheaper to go to sleep—though there are occasions when expense is unavoidable—as when the cashier was shut in the strong room with the keys. But that is another story.

Still, the classic example of behaviour when in such a plight is that of Mrs. Pugin—the mother of Welby. The tale is told at length by Benjamin Ferrey. Suffice it here to say that Catherine Pugin found herself locked in Lincoln Cathedral.

" It was a fine moonlight night ; thus, she was not left in darkness, and concluding that her absence from home would soon cause a search to be made and save her from a cold night's lodging in the cathedral, she easily composed herself, and, seated upon a bench, was contemplating the beautiful effects of the light and shade upon the pillars of the nave, when suddenly there appeared through the silvery light, the figure of a man looking down upon her from one of the openings of the triforium, which as suddenly disappeared. For the moment she was willing to believe that the apparition was only a phantom created by her imagination, and having a large amount of courage and self-possession, thought nothing more of it. A few minutes afterwards, however, she again saw the appearance of a man looking over the gallery front, nodding his head and beckoning to her with his hand, who then again vanished. Her alarm was now really excited, for it was difficult to suppose that this nocturnal visitor could be in the cathedral for any good purpose. Impelled by fear, she moved from the position and entered the choir, seating herself in one of the stalls. Every minute now seemed hours to her, and, taking a prayer-book, she sought by the aid of the moonlight to read ; but fancying she heard the unlocking of the outer door, looked up, when to her horror she saw, staring in the opposite front just above the bookboard, a grizzly head, with the face directed towards her, nodding and grinning most fearfully. Her courage now forsook her, but happily at this moment the cathedral door was really heard to open, and rushing away, she was met by her friend and a servant. . . .

" The cause of her alarm was soon explained. A poor idiotic youth who had escaped from the care of his friends, was like persons thus afflicted, fond of prowling about and prying into odd places. The cathedral was his favourite haunt, and finding the door unlocked, he entered to amuse himself by running from place to place ; it was his erratic movements and awful grimaces which had wellnigh bereft Mrs. Pugin of her senses."

It will be observed that all these incidents have a happy ending—the release of the prisoner. That was the Victorian convention. Only in the story of Catherine Pugin, is there any touch of the macabre—the grizzly head. In earlier years the story would have terminated in the manner favoured by Mrs. Radcliffe or Monk Lewis, in the discovery undetermined years afterward of the mummified body of the victim amid the rafters, or of his skeleton in some hiding hole into which he had crept.

But this fashion proved only temporary —Edgar Allen Poe used both endings. In " The Masque of the Red Death," he makes Prince Prospero and his friends withdraw into a castellated abbey—and " The courtiers, having entered, brought furnaces and many hammers and welded the bolts," and in the sequel, " Darkness and Decay and the Red Death held illimitable dominion over all." Whereas, in " The Pit and the Pendulum," after holding us in agonized suspense, as the pendulum slowly descends into the pit, Poe relieves the tension—by rescuing his prisoner. It would appear that the wicked are buried alive, but Daniel, as you remember, came forth in the morning.

LETTERS

Livelihood Census

SIR,—As Mr. K. J. Campbell quoted me in his letter in your issue for February 1, I should be obliged if you would permit me to make some personal observations on the matters in question.

I adhere to my statement—my own computation—that the proportion of practising architects to assistants is about 1 to 4, but, from the census figures, of the assistants, only 1 in 8 is a member of the R.I.B.A. Few assistants, outside public bodies, are over 30 years of age, and more than half are probably under 25 years old. I wonder whether Mr. Campbell would let you have the following data :—

The number of members of the A.A.S.T.A. ; the number of architect members, and how many of these are members of the R.I.B.A. Have the members of the A.A.S.T.A., other than architects, special and automatic representation in their respective institutions ?

Mr. Campbell will no doubt agree that an organization's primary duty is to the members who support it and finance it. In a professional body such as the R.I.B.A., of some national and imperial importance, there are wider issues beyond membership, but this can hardly mean that a junior assistant in an office should be able to influence its affairs regardless of whether he is a member or not.

It is not an argument to suggest that facts of themselves are tendentions. Facts, of course, are sometimes irritating when they do not agree with theory, but they are valuable nevertheless. I was in a small minority when I supported a proposal for a census, but was surprised to find a year later that the original proposer was the sole opposer. Mr. Campbell himself makes some assertions which are not facts : true, the census is not complete, and the analysis still less so, but the return is over 80 per cent. and is still coming in, supplemented by other data ; the figures given, therefore, are fully representative and accurate.

Representation of the various sections and interests of members of the R.I.B.A. on the Council is proportionate and very fair. Every section has its place automatically and of right, not forgetting the A.A.S.T.A., an organization, many members of which are not architects or connected with the R.I.B.A. Assistants and junior members have also special committees of their own. This Royal Chartered Institute has permanent and Empire wide functions to perform, and surely ought to be protected by its constitution against the sway of temporary or clique interests.

Criticism is a vital function of democracy, but it is of three kinds—idealistic but impractical ; carping and destructive ; constructive and practical. The R.I.B.A. has been subjected to a great deal of the former categories of criticism, but has received little of the latter type. Many of the suggestions recently made would entail the R.I.B.A.'s usurping the functions of the State.

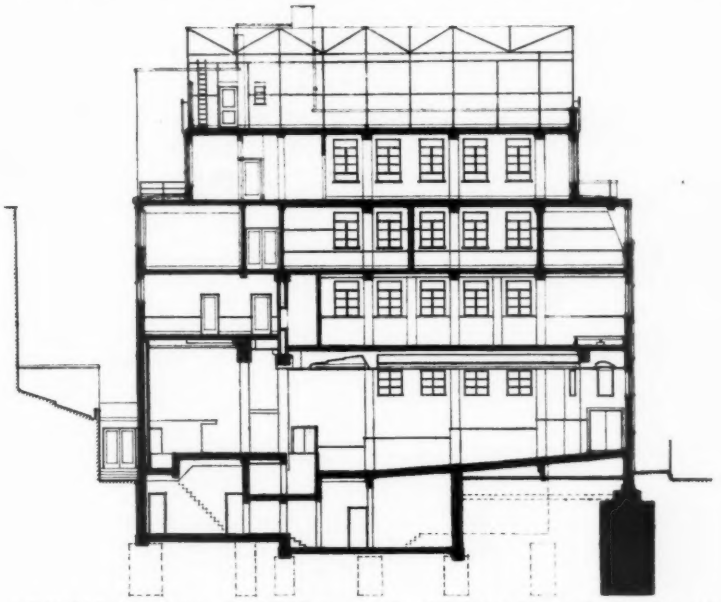
A few more facts will disclose the limitations which restrict the activities of the Institute. It is the most important, but not the sole architectural body in the country ; its resources are not great ; numerically it is a small element in the industry, controlling about 18 per cent. of the total expenditure on all types of building constructions. In spite of these facts, the general activity of the R.I.B.A. seems to me to bear very favourable comparison in its scope with that of any other professional body of a similar nature.

Such a body is not likely to improve either its position or that of its members, by embarking gratuitously upon schemes it cannot carry through or assuming functions to which it is unsuited and which are outside its scope.

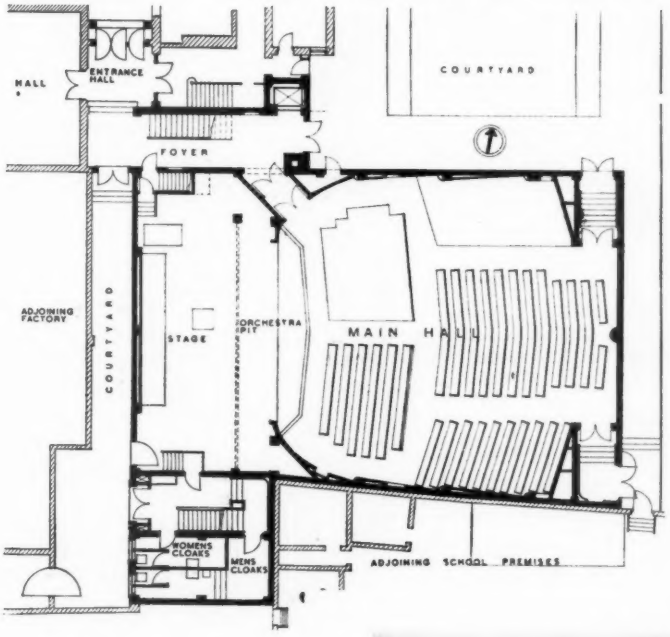
Mr. Campbell will, I feel sure, agree that the private practising architect, as well as his assistants, has suffered as a result of the war and that what is needed is unity not strife. It will be a sorry day for this country if institutions, which include trade unions, are subjected to infiltrations of inherently antagonistic elements by the process of forming cells or groups, after Fascist or Communist models. This must inevitably end in disruption, which only those who seek chaos can desire.

R. A. DUNCAN.

TOYNBEE HALL, COMMERCIAL STREET, E.



LONGITUDINAL SECTION AND GROUND FLOOR PLAN



DESIGNED BY ALISTER G. MACDONALD

GENERAL—A building for teaching, public assembly and recreation. Very restricted site made it imperative that all rooms should be designed for two or more purposes.

Right, north elevation.

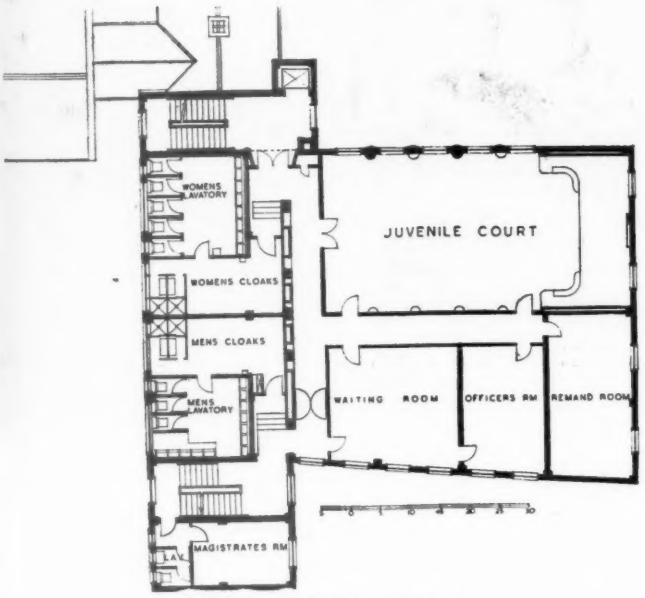
Detail of wall in the Juvenile Court.

SITE—Site and rights of light controlled the construction of the building. An auditorium was required which, by its size, demanded the whole area of the ground plan. Ordinary framed stanchion construction was therefore impossible as there could be no columns in the auditorium. Auditorium ceiling and music room floor over are slung from a 50 ft. lattice girder. Short stanchions stand on this girder to frame up and support the third floor and the flat roof used for recreational purposes.

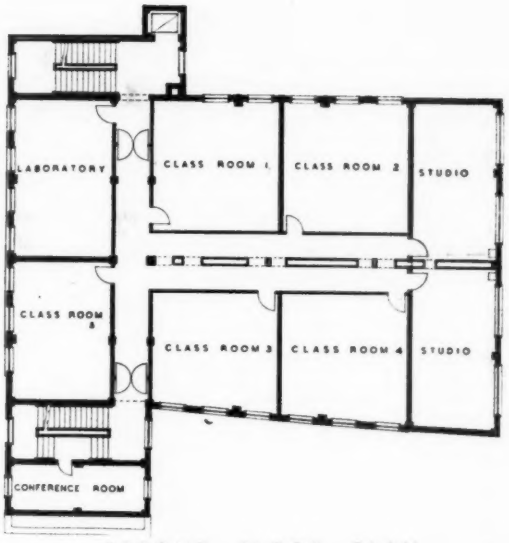
PLAN—The plan is rectangular, approximately

TOYNBEE HALL, COMMERCIAL STREET, E.

Juvenile Court.



FIRST FLOOR PLAN



SECOND FLOOR PLAN

60 ft. by 60 ft. In peace time it could be used by approximately 2,000 people every week for educational purposes—the main hall included. The juvenile court is also used as the music room.

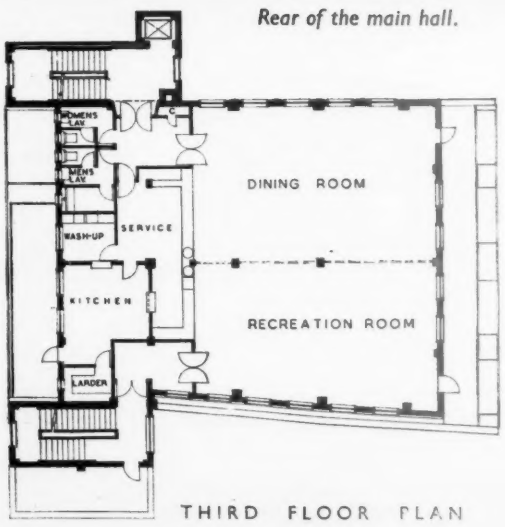
CONSTRUCTION—Steel framed, with reinforced concrete floors; solid brick external walls. Insulation slab and pumice block partitions. Flat concrete roof, asphalted on insulation slabs.

EXTERNAL FINISHES—Owing to proximity to adjoining buildings two façades are in glazed bricks, a mixture of white and very light brown. Other elevations are in white bricks with purple brown sand-faced dressings and light brown glazed brick base. Windows are metal and the cills are of blue slate.

E. • DESIGNED BY ALISTER G. MacDONALD

Rear of the main hall.

TOYNBEE HALL, COMMERCIAL STR



THIRD FLOOR PLAN

INTERNAL FINISHES—Dados are of coloured linoleum surmounted by hard-wearing cloth material stretched over plywood. The cloth can be used for fixing notices, drawings, charts, etc., or be left plain. The upper parts of the walls are lined with plyboard veneered in different coloured woods to suit the various colour schemes. The ceilings are distempered. Doors and architraves are simple flush type design painted light colours. Materials used in each room have been studied also in order to produce good acoustic effects, particularly in the design of the juvenile court walling and the wall treatment of the main hall.

SERVICES—Low pressure heating by hot water radiators and independent

A L STREET, E. • BY ALISTER G. MACDONALD

hot water to all lavatories, etc. Canteen is equipped with gas and electricity. Automatic press button control passenger lift serves all floors. The main hall has a warm air plenum system and radiator heating independent of the rest of the building. The juvenile court is also artificially heated.

COST—£39,000 (approximately).

General contractors were Griggs and Son, Ltd. ; for list of sub-contractors see page xxvi.

Above, the main hall. The auditorium ceiling, and juvenile court floor over, are slung from a 50 ft. lattice girder which forms a feature of the second floor corridor (here shown) layout—one can walk through the girder to get from one part to another.

ARCHITECTURAL ASSOCIATION

"Organization of the Building Industry" was the subject of a discussion at a meeting of the Association last week. Speakers were Mr. George Hicks, M.P., and Mr. Richard Coppock. Mr. Hicks said:

The building industry was in a bad way, and it was necessary for all interested to bring as much brain power to the problem as they possibly could. Apart from Government war work, i.e. work on army huts, camps, etc., and work on civil defence, the industry was practically ceasing to function, and normal building work was at a standstill. Building of houses, blocks of flats, industrial buildings, cinemas, banks, town halls and other civic buildings had stopped. An estimate had been made with what data were available, and according to that estimate something like £200,000,000 worth of building work had been suspended or abandoned since the outbreak of the war. The Government was resolved to win the war: to this end it had concentrated all the resources of the nation—material and human. Needs of the war had subordinated all others.

In considering the organization of the industry we must forget what it was before the war because a fresh condition had been evolved. We must have new ideas, and all things must be on the basis of the present. Here was the industry in a state of stagnation: it was vitally important to the nation to conserve it. It would be criminal folly to leave all this plant and machinery to rust, criminal folly if all this knowledge and experience were thrown to waste. So also with the technical abilities of architects, surveyors, managers, foremen and others. The services rendered to the community by the industry were as necessary now as at any other time.

At present building requirements were essential for the prosecution of the war. There was, for instance, evacuation. Of the mothers and children moved to reception areas on the eve of the war 59 per cent. had returned home. But the danger was not removed: no one knew what would happen in the development of the war. The evacuees might have to be sent back to the reception areas. The authorities ought to have realized that it was against nature to keep mothers and children tied down for months under conditions temporarily devised in the beginning of the war. If a long war was expected a vast building programme should have been undertaken for the evacuees.

More detailed and satisfactory A.R.P. work should have been undertaken and long-range aspects of the war should have been reviewed.

The problem of the organization of the building industry was (1) to remember that building was a great social service of fundamental importance now and in the future. All branches should have a contribution to make, whether it was on the technical and professional side, the business and managerial side or the operative side. The Government must be told of the plight of the industry, and the brains of those who lived by it must be employed to formulate a plan which would compel a change in the Government's attitude towards the industry. At present civil building was progressively closing down and, so far as replies could be got from responsible people, the Government's attitude of closing down civil building would go still further. At what point should those in the industry call a halt and ask for a reversal of the Government's policy? When they did this their approach to the Government should be to point out that building was a great social service of fundamental importance now and in the future.

A second point was that there should not be less Government control but a wiser and more understanding one. Much civil building could be proceeded with if the Government would release the timber it did not require. Here there was a difference between actual demand and conjectural demand: people in high office said they must have a reserve, but there was a big margin that could be released in order to assist civil building. Readily available substitutes might be made for timber. In this connection the architectural profession had offered its whole-hearted services: it had asked to know the Government's difficulties so that brains and abilities could be applied to overcome those difficulties. But this helping hand did not appear to be welcome.

A third point was that the essential factors of the industry—operatives, architects, employers, building manufacturers and others, now united in the B.I.N.C.—should become more articulate and press forward in the organization of the industry.

Fourthly, in relating the activities of the industry to what war conditions required, the industry should prepare for the future town planning, housing, school building, etc. A vast amount of work was certain to accrue directly the war was over, and the more the future had been planned out the better would the industry be able to play its part.

Mr. Richard Coppock said it had rested with the operatives three years ago to approach the Minister and discuss with him the policy to be pursued so far as the building trade was concerned in the re-armament programme. Neither master builders, architects, surveyors, nor anybody except the operatives had foreseen what was likely to happen as a consequence of re-armament. But the operatives had discussed with Ministers and Departmental Heads before these had set about the programme now being operated. At that moment the industry was doing well, and for that reason everybody thought it unnecessary to keep the industry's institutions going. Now everybody was feeling the draught. Obviously, when a change was made from peace to war, and when a situation arose where we could not borrow money from other nations—the greatest capital-consuming industry was bound to be affected in the effort to win the war.

There was no Building Adviser to the Government. Other industries which were more centralized had great mass organizations, and the representatives of these organizations were in responsible positions in the various Departments controlling the destinies of the nation.

Not long since, he and Mr. Hicks had been told that the re-armament plan could not be carried out without an increase of 50,000 or 60,000 employees in the building industry. They had replied that this was not necessary, and events had proved it was not necessary; because during the early stages of the re-armament programme not one job was stayed because of lack of building personnel.

There was too great a division between the different sections of the industry. They would only make their voices heard when they were a co-ordinated whole, and as such could go to the Government and express their point of view.

HOUSE IN AB

SITE—A fairly level rectangular plot some 180 ft. long with a depth of about 115 ft.

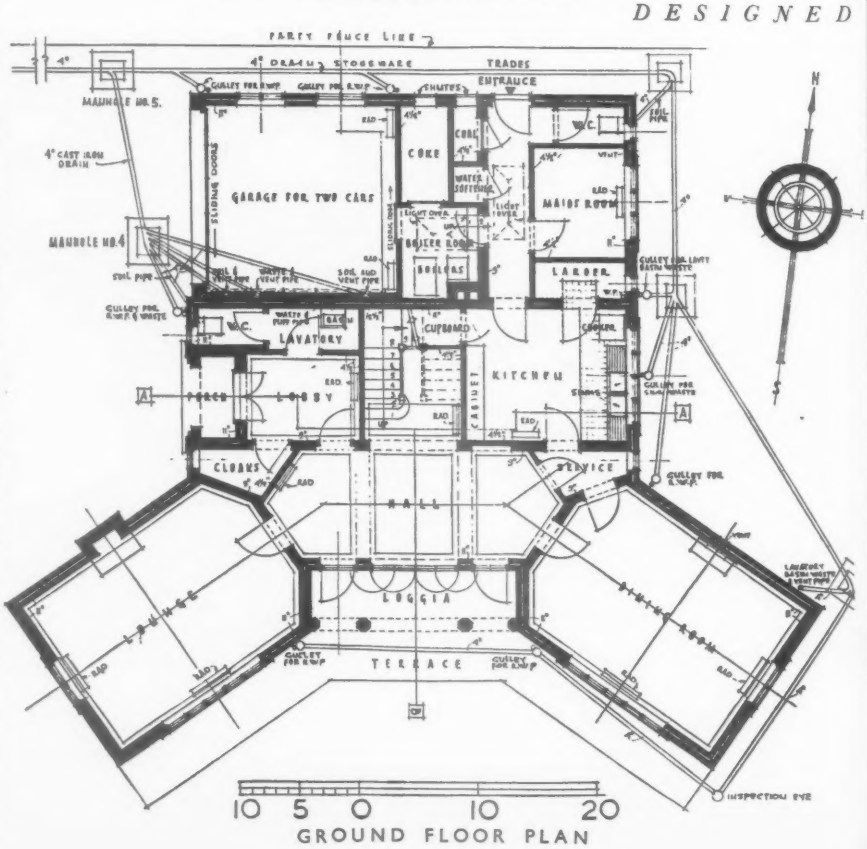
CONSTRUCTION—Brick cavity walls and roof in small Roman tiles. Elevations are faced with pale toned bricks of a light brownish-grey colour, pointed with a cream flush joint. South loggia, west entrance and surround to the double garage are rendered in the same colour. Windows are metal casements in wood frames.

INTERNAL FINISHES—Hardwood flush doors have been employed, and the staircase is in oak. The remainder of the joinery is painted and for the present walls and ceilings are distempered. The walls of the kitchen and offices are tiled. Ground floors are in hardwood blocks; first floor, either oak boards or parquetry.

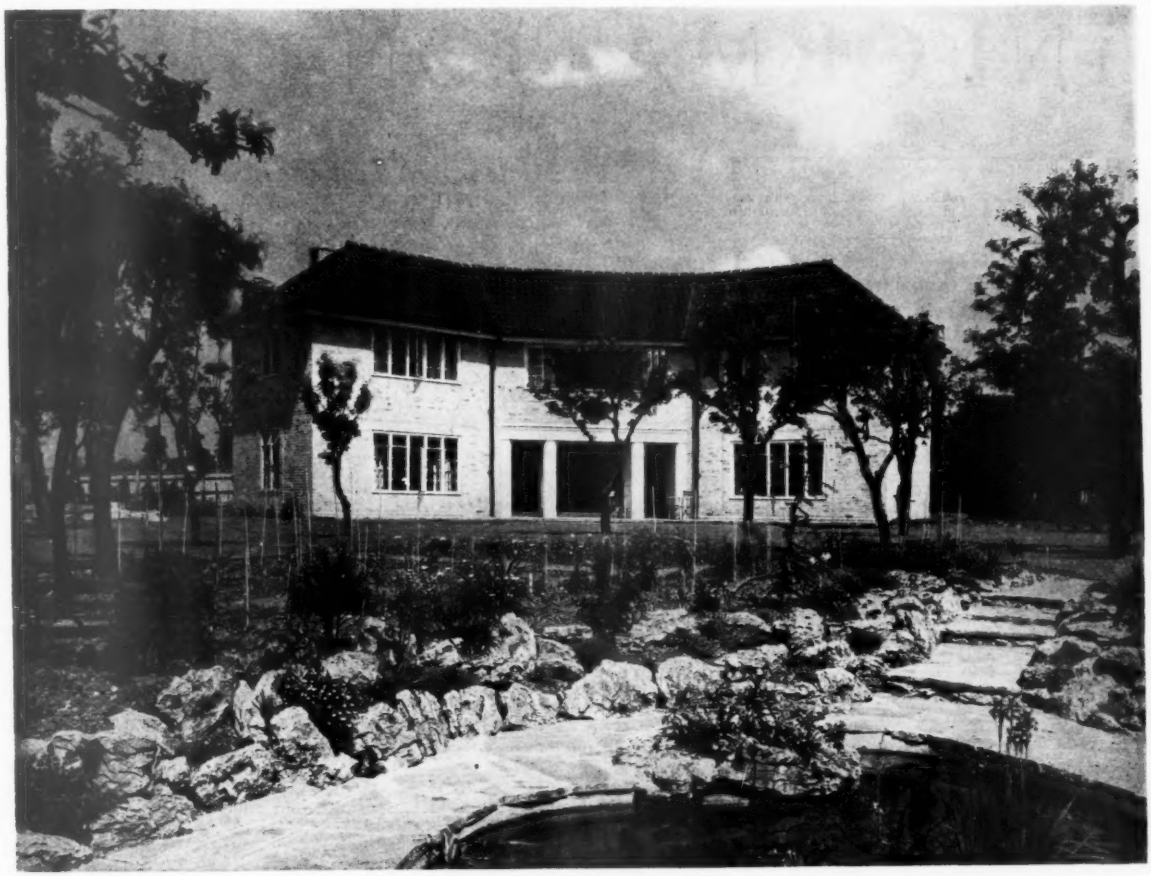
General contractors were Henry Knight and Sons; for list of sub-contractors see page xxviii.

South loggia with sun room over.

DESIGNED BY

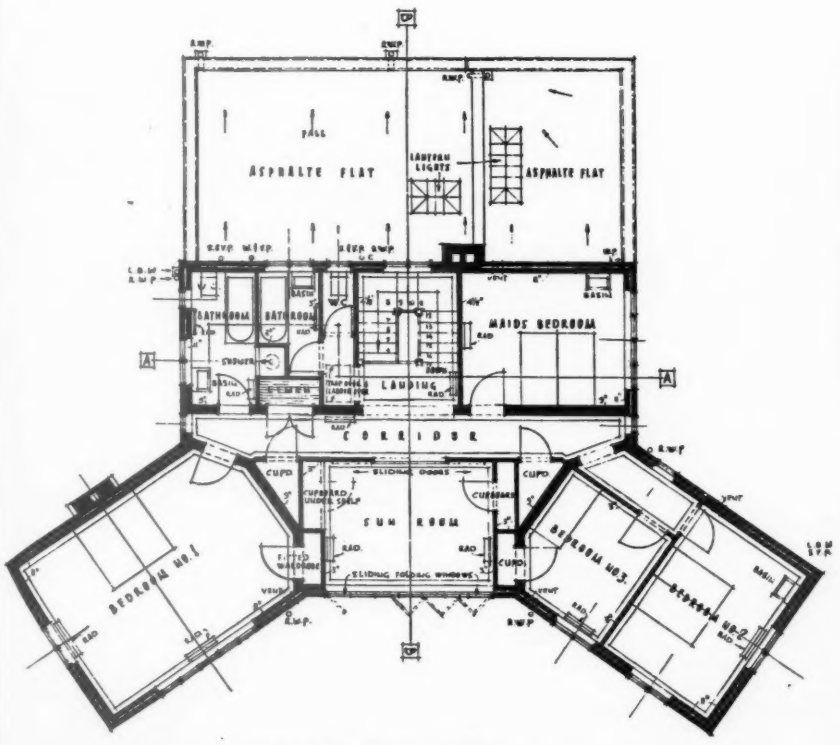


ABBOTSWOOD ROAD, STREATHAM

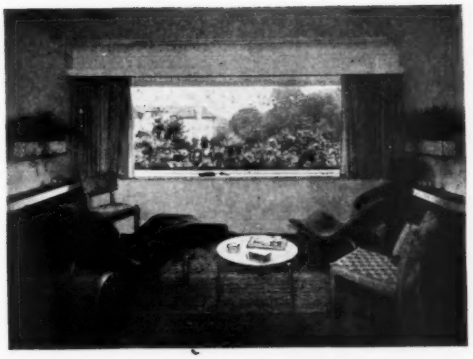


View from the south.

BY TATCHELL AND WILSON



FIRST FLOOR PLAN



Top, the sun room; bottom, the dining room.

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

Telephone Enquiries.

Please note that the Information Centre's number has now changed to:

REGENT 6888

If you want an answer to any question about building or architecture, send it to:

The Information Centre,
The Architects' Journal,
45 The Avenue,
Cheam, SURREY.

Telephone - - - - VIGILANT 0087

or ring the Architects' Journal Information Centre at

REGENT 6888

Some Questions answered this week:

THE Information Centre was begun soon after war broke out to help architects to deal with the difficulties of A.R.P. and other immediate problems. After five months the JOURNAL *believes the need for the Centre has grown, rather than diminished.*

Building is being carried out by new organizations and methods under many controllers of materials. Architects are either busy in new jobs on new problems, or are looking for such new jobs; and as more vacancies occur, information about the nature and scope of the work involved will be needed at short notice.

Similar changes in the industry will continue throughout the war; and so, the JOURNAL *believes, will the need for an Information Centre for all questions about building and architectural practice.*

The use already made of the Information Centre has indeed proved how much it is needed and the extent to which it is being used to help in the problems which are raised in wartime by every post.

It should be noted that the Centre, though started in an emergency, will answer building or architectural problems of all kinds, and not only those connected with wartime building and A.R.P. Q 170

Q 167 LANCS.—*Architects responsible for recently erected buildings with underfloor ducting carrying heating pipes found the ducts had become INVADED BY CRICKETS and desired information on the steps which could be taken to ensure the eradication of these insects.*

On all matters pertaining to the destroying of insect life the authorities to whom reference can be made are: The Natural History Section, Science Museum, South Kensington, London, S.W.7. From previous reference on a somewhat similar problem the following notes may be found useful. These are extracts from a letter from the authorities mentioned. Crickets indoors are to be found in places that are warm. While indoors they live upon crumbs, and in general act as scavengers. In this respect they are beneficial and they do no damage whatsoever. To destroy these insects, the best method is to employ some form of poison bait and the following formulæ are possible, the latter being more poisonous than the first.

Poison 1: 6 parts by bulk sodium fluoride; 2 parts by bulk fresh pyrethrum powder; 2 parts by bulk corn starch.

This should be laid down where the insects are seen, care being taken that children and domestic animals have no access to the mixture.

Poison 2: Arsenite of soda (80%), 1 oz.; crude sugar or treacle, 12 oz.; water, 5 pints.

These are proportions only—probably a much smaller quantity would be necessary. Since sodium arsenite is not readily soluble in cold water, it should be dissolved in a little boiling water and added to the sweet solution. In handling, storage or using the mixture, its highly poisonous nature in regard to human beings and animals must be borne in mind. Boiled rice or soaked bread should be treated with the above solution (poison 2) and placed near cracks or crevices where the crickets occur. It cannot be over-emphasized that this latter solution is extremely poisonous.

Q 168 TOTTENHAM. — *Can you tell me the cost of A.R.P. TUBULAR STRETCHERS?*

In quantities of six or under, 30s. each; over six to fifty, 27s. 6d. each; over fifty to one hundred, 26s. each. These are Home Office pattern, nesting type.*

Q 169 WANDSWORTH.—*I have been consulted by the owner of a building which has been classed as a "COMMERCIAL BUILDING." There is no space available to be used as an air raid*

* *Obtainable from Messrs. Pel, Ltd., 15 Henrietta Place, W.1, and Messrs. Kingfisher, Ltd., 23 St. Andrew Street, E.C.4.*

shelter, but 90 people are employed in the building. On the other hand, there are factory premises adjoining with ample open space where trenches could be arranged for the above 90 people as well as for the 50 people employed in the factory. The occupier of the factory is quite agreeable, but I do not know to whom I should apply for approval and about the Government grants, the Factory Inspector or the Local Authority. Can you enlighten me?

As the trenches are to be arranged on the factory premises the approval for the shelters has to be given by the Factory Inspector, but at the same time the Local Authority must give permission for your shelters to be erected on the factory premises instead of in the commercial building. If the Local Authority have approved the arrangement and the Factory Inspector the construction, you are entitled to apply for a Government grant as far as your share is concerned.

Q170 W.C.2. — *The enquirers, a firm of architects, have been approached by past clients in whose office building an oil-fed central heating plant had been installed: they now require information on the added RISK OF FIRE under war conditions, particularly in relation to the fuel oil storage tank of some 500 gallons capacity. Failing satisfactory means of protection, the point was raised as to the advantages offered by conversion to coke fuel.*

Since there is an automatic cut-off valve controlling the oil feed to the boiler and operated at a predetermined temperature, the danger from local fire or explosion in the boiler house is guarded against. As for the oil storage tank, it is not said whether catchpits are provided in case of damage to the tank. These catchpits are an essential part of the installation under normal L.C.C. requirements. Under war-time conditions they would have additional value, and their proper position would prevent spreading of the oil in the event of damage to the tank. If it is not possible to construct the catchpit in a position where damage by spreading of the oil is avoided—e.g. the construction of the pit on the basement floor as against under the level of the floor, then to erect a larger pit and have this filled with coarse sand would be advantageous. Damage to the storage tank itself can be guarded against and depending on its position in the building and likely demolition load in the event of an explosion, sandbagging or temporary concreting in of the tank might be considered. The flash point of fuel oil is always regarded as being more than 150° F., and is probably in the region of 180–200° F. The equivalent in coke, the lowest ignition temperature, is between 500 and 550° C., depending on the hardness, and to support combustion this temperature has to be maintained. It would no doubt be admitted by authorities that with an explosion there is much greater danger of fire from oil than from coke, where the conditions of exposure are the same. But oil is always better safeguarded by the provision of tanks, automatic cut-off valves and catchpits, whereas coke or other solid fuel is often wholly exposed. It is doubtful, however, whether even an authority would hazard an opinion as to the danger of fire in a specific instance without examination of the storage accommodation, present or intended. The building under discussion is of steel frame and concrete floor and roof construction four storeys in height and with a basement. Penetration by an incendiary bomb is largely guarded against. It might be worth while mentioning, however, that an incendiary bomb of the thermite type develops a temperature of about 3,000° C. and of the electron type around 1,300° C., and in addition to being able to start combustion of either fuel, both are capable of burning through the steel sheet walls of a fuel tank—if allowed to come into contact. The problem raised is one of interest to many people, and it is worth mentioning that the Fuel Oil Services Department, Petroleum Board, Shell Mex House, London, W.C.2, are willing to send their A.R.P. engineers to visit installations and advise on any measure necessary for the protection of fuel oil storage.

Q171 WATERLOO.—*Can you tell me the standard sizes of ANDERSON AIR RAID SHELTERS?*

The Standard Shelter for six persons is 6 ft. 6 in. long, 4 ft. 6 in. wide and 6 ft. high. For each additional two persons the shelter is increased in length by approximately 2 ft. 3 in.

Q172 MANCHESTER.—*In a house where the lounge and dining room adjoin the fireplace flues are taken up in the same stack. Back SMOKE OCCURS IN THE LOUNGE through the smoke issuing from the dining room chimney-pot being drawn down that of the lounge. So far, the only cure found is by opening one of the lounge windows. The enquirer suggested that a cure might be found in a down-draught preventing chimney-pot, fitted to the lounge chimney, and asked for particulars of any pot, the use of which would be guaranteed to overcome the trouble, or, alternatively, any other method of effecting a cure.*

Most firms of jobbing builders will agree that there is no one form of down-draught preventing chimney-pot which will effect a cure in all instances. The practice with the type of builder who normally carries out such work is to keep in stock one of each of the types of pot available, then by trial and error with the flue concerned, to find the pot which will effect a cure. Again, firms marketing these patent forms of down-draught preventing chimney-pot* sell and sometimes fix their wares under guarantee—usually, however, the guarantee is that they—the firm—will take back the pot if not effecting a cure and refund the cost of the pot. With these reservations a down-draught preventing chimney-pot would help in this instance, and below are the names of well-known makes*. In the building of a fireplace and chimney there are certain precautions which can be taken and which will minimize the likelihood of down-draught, but to adopt these now is likely to entail rebuilding of the fireplace opening. Recommendations for chimney flue construction are issued by the Building Research Station, Garston, and were published in this JOURNAL on August 18, 1938.

Q173 CHELTENHAM.—*An architect engaged upon factory work embodying NORTH LIGHT GLAZING enquired the requirements of the Government Department concerned as to roof light obscuration.*

From enquiries made it would seem that the Admiralty and War Office follow largely the requirements laid down by the Ministry of Supply, whereas the Air Ministry have a specification differing only in one feature. The principal consideration of the Ministry of Supply requirements is that of weathertight obscuring so that in the event of glass breakage work may continue in the factory without loss of time. Outside or inside obscuration is permitted so long as provision is made for

* *COLT.—Messrs. W. H. Colt (London), Ltd., Bush House, Aldwych, London, W.C.2.*
O.H.—Messrs. O. H., Ltd., Hatton Yard, Hatton Wall, London, E.C.1.
KONKERWIND.—Messrs. Konkerwind, Ltd., Ashby Road, London, S.E.4.
AEROLETE.—Messrs. Aerolete Ventilating Co., 41–43 Alexandra Road, London, S.W.18.
VENTAMATT.—Messrs. Avis Engineering Co., 245 Ley Street, Ilford, Essex.

rainwater runways—obviously made easier by the adoption of some form of outside obscuration. Outside obscuration also will prevent reflection by the glass. It is stated that the Ministry of Supply will approve of schemes which permit of 20 per cent. of the daylight area being unobscured, but with the means of obscuration readily available by sliding shutter or otherwise. With the various mechanically-operated and sliding shutter forms of obscuration now available, it is believed that by the use of such systems the Ministry will approve much larger area of daylight or normally unobscured areas. The Air Ministry state definitely that no system of inside obscuration will be considered.

CURRENT PROBLEMS: *13th Article*

TEMPORARY & SEMI-PERMANENT BUILDINGS

BY EUGENIO FALUDI AND GODFREY SAMUEL

6: STEEL AND CONCRETE COMPONENTS AND WET CONSTRUCTION. PART II.

C. WALLS

Sheet materials discussed in Article 3 are, of course, available for use with steel and concrete frames as well as with timber. There are also pre-fabricated steel and concrete panels of different types. They have an advantage over block construction in not requiring mortar joints.

(*a*) *Single panel units.*—These may have advantages in large scale work, but are heavy for transport and handling. They may be:

(i) *Steel:* An example is shown in Figs. 16 and 16A (Steelox). This is a light and practical system.

(ii) *Concrete:* An example in combination with concrete columns is shown in Figs. 17 and 17A (Connecticut). Its weight is against it.

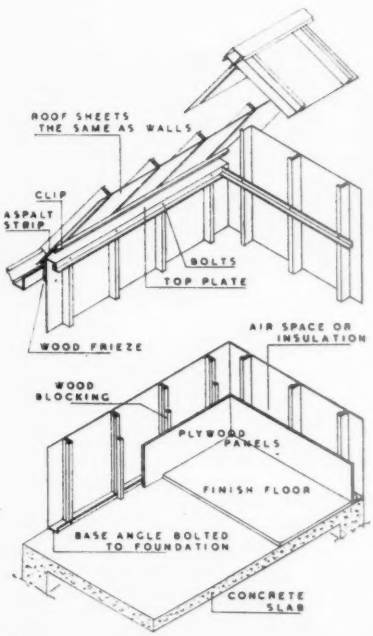
(*b*) *Full height* (*filler*) *units.*—These are lighter to handle and have great advantages, especially in concrete in the present situation.

(i) *Steel:* Examples are shown in Figs. 18 and 18A and 19 and 19A. The first (frameless steel) is expensive, and has the disadvantage of heat reflection. The second (cellular steel) is stronger, but still more expensive.

(ii) *Concrete:* Examples are shown in Figs. 20–22.

1. (Olmsted, Fig. 20). Provides units easily handled up to 9 ft. in height. Similar systems are Mopin and Plycrete, published in this JOURNAL on January 11.

2. (Earley, Figs. 21 and 21A). The disadvantage lies in the weight, and in the limited application.

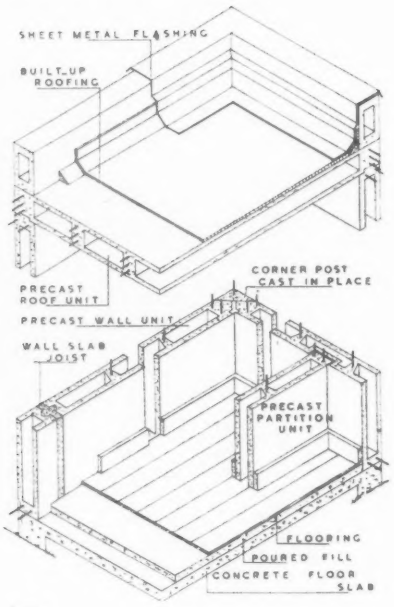


16

16A

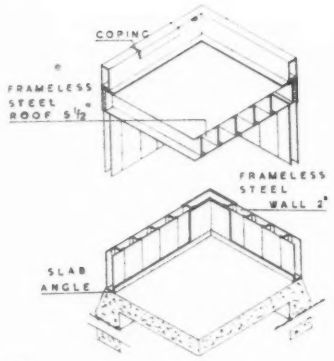
Panels 16 in. wide flanged channels, interlocking to form structural studs, fastened with hook bolts. The same units are used for the roof. (Steelox, U.S.A.)

17

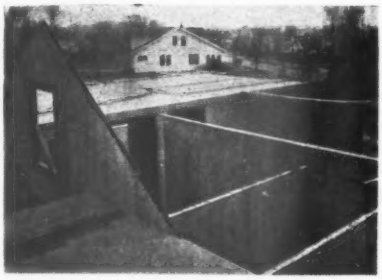


17A

Prefabricated tongued and grooved slabs held top and bottom by welding to projecting R.C. floor and roof units, with concrete filling poured between. Units 16 in. wide by 6 in.-8 in. thick by up to 18 ft. long. (Connecticut, U.S.A.)

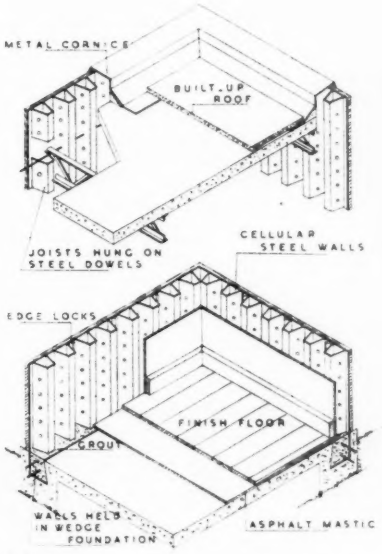


18



18A

Walls and floor of 20 gauge steel stamped into channels facing alternate ways, with insulating infilling. (Frameless Steel, U.S.A.)



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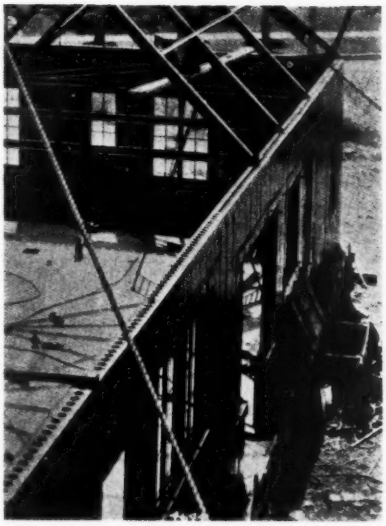
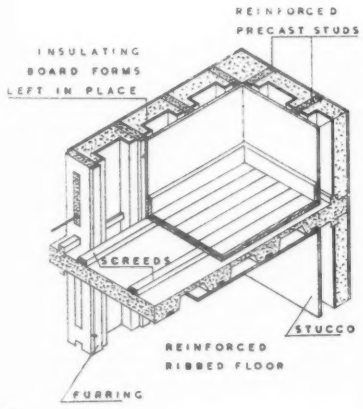


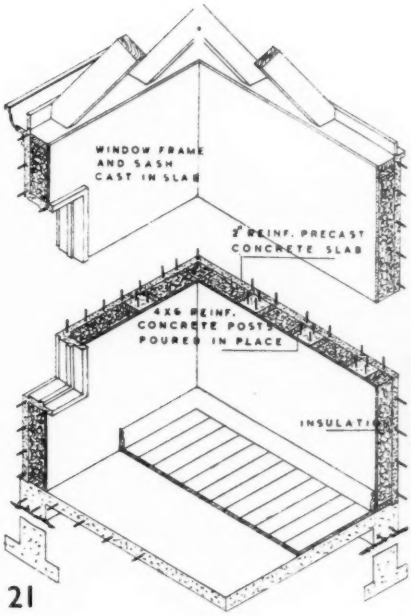
19A

Walls, load bearing, of cold rolled cellular steel, 1 ft. wide by 4 in. thick, locking together and to a dovetail groove in the concrete foundation, cast in situ. (Cellular Steel, U.S.A.)



20

Monolithic wall of concrete studs at 16 in. centres, with wood furring strips cast in them. (Olmsted, U.S.A.)



21

21A

Precast R.C. slabs 1 ft.—10 ft. wide by 2 in. thick by 8—10 ft. high on a R.C. frame. (Earley, U.S.A.)

3. (Rockwood, Figs. 22, 22A and 22B). Exterior facing and insulation are needed, but the system is light and easy to handle.

(*c*) *Blocks.*—These may be used with or without frames, according to the strength of the material, and may have mortar or interlocking joints. They may be built up :

(i) As a single solid wall. This has the disadvantage of poor weather resistance and insulation, but is cheapest.

(ii) As a single hollow block wall. This is easy to erect, but is liable to be expensive.

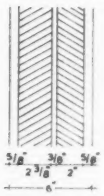
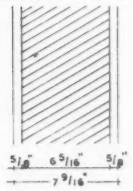
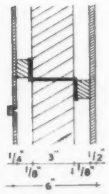
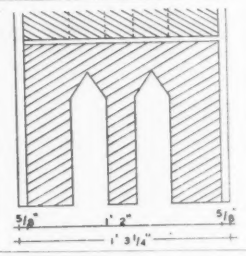
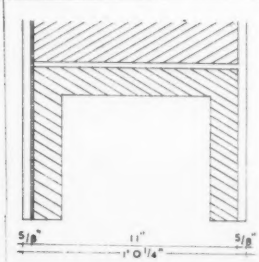
(iii) As a double cavity wall. This is usually the cheapest efficient system, and is easy to handle, but ties are required.

Blocks may be manufactured :

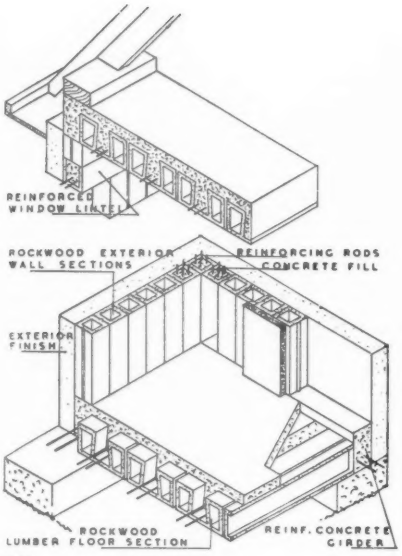
(*a*) *With a cement basis* : The different types of light weight aggregates and cellular concrete are again available. A comparison is made in Table II. Examples are shown in Figs. 23–27.

1. (Concrete House, U.S.A., Fig. 23). This has the advantage of available materials, but time is needed for drying out and more skilled labour is required.

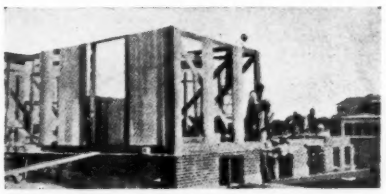
TABLE II.

	Section	Materials and Dimensions	Wall Thickness overall	Weight in lbs. per cu. ft.	λ = Average Conductivity in kcal. in h°C. Insulation Properties. K = penetration in kcal. in h°C.	Average Humidity Content in Volume %	Defects
1		*External* 2⅜" aerated concrete. *Internal* 2" Breeze block, ⅜" airspace. Inside and out ⅝" mortar.	6"	Aerated concrete with cement. 12-31 Breeze 50-75	λ=26 K=131 corresponding to 1′ 6" brick wall.	Aerated concrete 4.4 Breeze 3.7	Plaster cracks inside and out. Penetration of damp particularly along skirting.
2	Ditto	*External* 2⅜" Pumice slab *Internal* 2" Breeze. Airspace and mortar same.	6"	Pumice 40-58 Breeze 50-75	λ=0.48 K=2.04 Same as 9" brick wall.	Pumice 10.1 Breeze 9.8	Plaster cracks inside and out.
3	Ditto	*External* 2⅜" Aerated slab *Internal* 2" Breeze. Airspace and mortar same.	6"	Aerated concrete 12-31 Breeze 50-75		Aerated concrete 6.9	Cracks at partition junctions with main walls and around doors and windows. Damp penetration through cracks in mortar and along skirting, especially in wet weather.
4		5" Pumice heavy slab. Mortar same.	6¼"	Pumice 52.0	λ=0.50 K=2.06 Same as 9" brick wall.	15.5	Cracks from window cill down to floor. Damp penetration as in No. 3.
5		Aerated concrete	7 9/16"	12-31	λ=0.30 K=1.27 Same as 1′ 6" brick wall.	6.9	Vertical and horizontal cracks inside and out, and especially where the filling meets the frame.
6		*External* ¼" Asbestos, 3" cork slab. *Internal* ½" Celotex. 1⅛" air space on each side of cork.	6"		K=38 Same as 5′ brick wall.		
7		Hollow pumice block.	1′ 3¼"	Pumice 40-58	λ=0.35 K=1.27 Same as 1′ 6" brick wall.	5.32	Cracks diagonally.
8		Breeze block	1′ 0½"	50-78	λ=0.53 K=1.24 Same as 1′ 6" brick wall.	4.0	Cracks in rendering and at joints. Damp penetrates at joints.

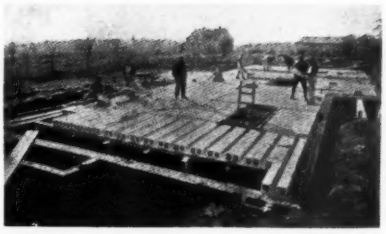
The constant for thermal conductivity is in metric units.



22

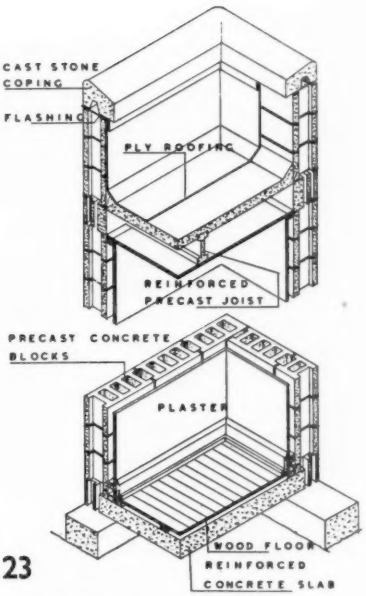


22A



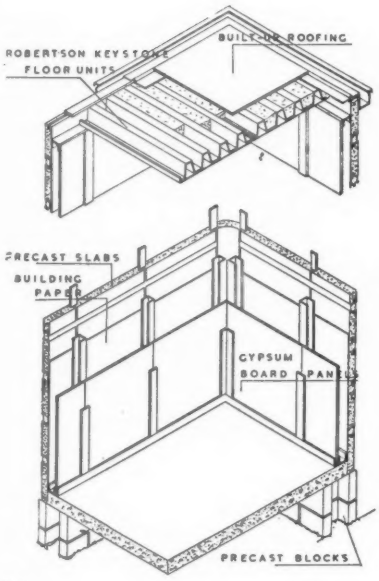
22B

Full height precast hollow gypsum units with stud reinforcing rods. (Rockwood, U.S.A.)



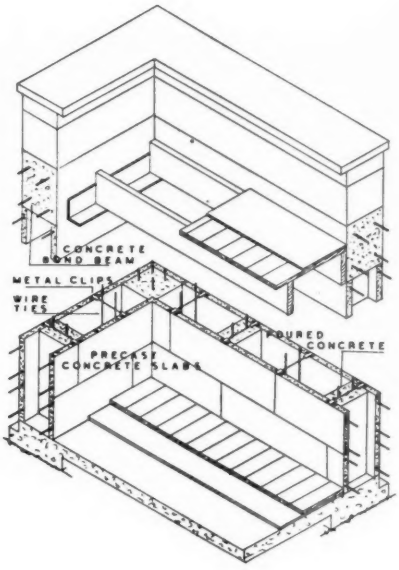
23

8 in. hollow concrete blocks, precast.



24

Steel frame of channels with slabs 2 ft. wide applied. (E. Frame, U.S.A.)



25-26

Precast slabs 36 in. wide by 1½ in. thick by 12 in. high erected single or double and attached to reinforced studs. (Lockwood, U.S.A.)

2. (E. Frame, Fig. 24). The unit can be used for floors and roof as well as for walls.

3. (Lockwood, Fig. 25-26). This requires wet construction and more labour, but the cost should not be high.

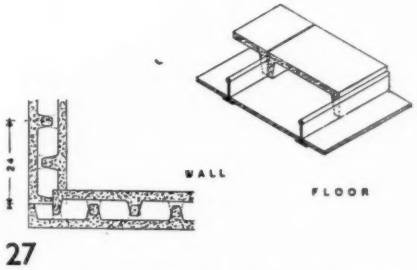
4. (Chanello, Fig. 27). The advantage lies in the use of a single unit, but condensation is not entirely eliminated, and the units are somewhat heavy and expensive.

(b) With a clay or earth basis.

(i) *Brick :* If used with a frame, this may be either :

1. 4½-in. wall with battens and wallboard internally. If a damp-resisting fabric is used behind the battens, external rendering can be dispensed with.

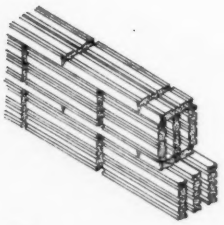
2. 8½-in. wall with a 4½-in. outer skin and 3-in. brick-on-edge inner skin, with ties.



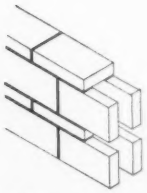
27

Precast slabs of channel form staggered in pairs, the flanges forming columns. The same units used for floors. (Chanello, England.)

INFORMATION CENTRE



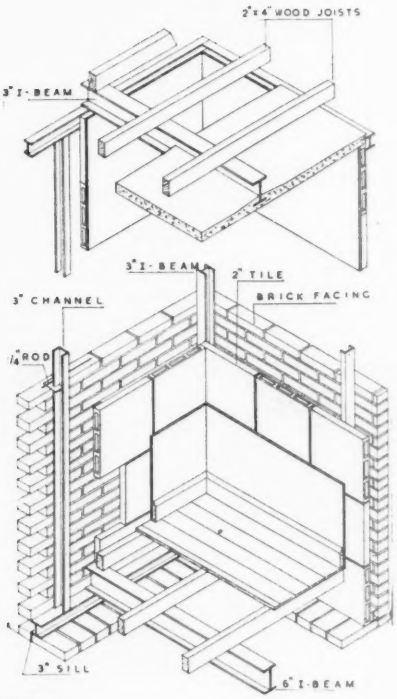
28A



28B

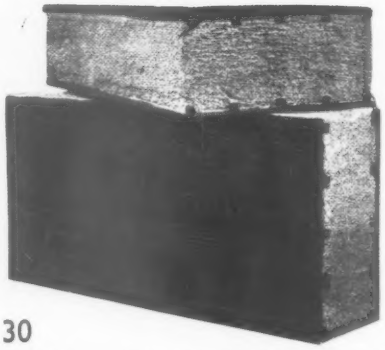
Hollow wall with grooved Moler blocks.
Hollow wall with plain Moler blocks.

28 *Moler block (Denis Poulton, England).*



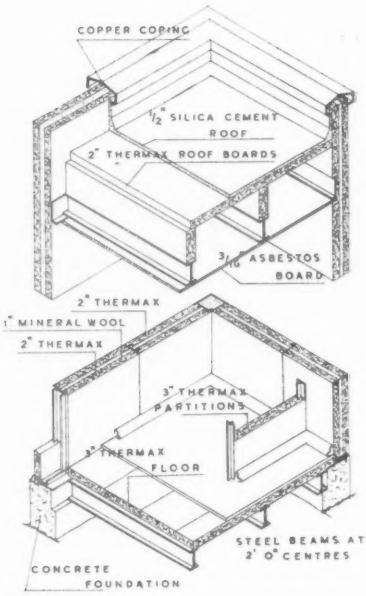
29

Steel frame with studs at 4-ft. centres, 4½-in. brick external facing and 2-in. tile internally. (McKay, U.S.A.)



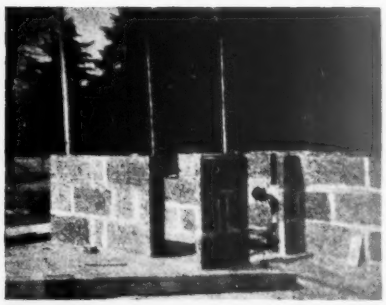
30

Cellular concrete in combination with terra-cotta. (Spugnocemento, Italy.)



31

Double wall of 2-in. wood wool blocks with 1½-in. cavity filled with wood or mineral wool, reduced externally and finished with plastic paint. Studs of 16 gauge steel at 24-in. centres. (Steel Housing, U.S.A.)



32

Wood wool bearing wall. (Magnasilite, Italy.)

3. 6¾-in. wall with two 3-in. brick-on-edge skins with ties. External rendering is required.

4. 4½-in. wall with metal lathing or plaster-board fixed to the frame and plastered internally.

5. 4½-in. wall hung with tiles or slates.

Blocks of the more substantial type can be used instead of brick for the inner skin or behind hung slates or tiles, but the strength is then, of course, reduced.

(ii) *Terra-cotta.*

(iii) *Clay and Moler:* A comparison of the various materials is shown in Table III.

Examples are shown in Figs. 28–30.

1. (Denis Poulton, Fig. 28).
2. Figs. 28 (*a*) and (*b*).
3. (McKay, Fig. 29). This is a normal type of wet construction, well insulated.
4. (Spugnocemento, Fig. 30). This is

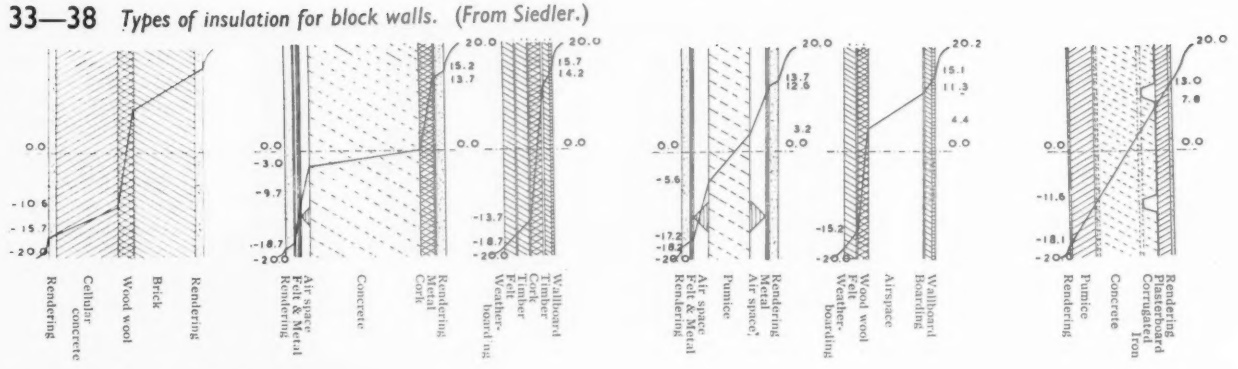
TABLE III.

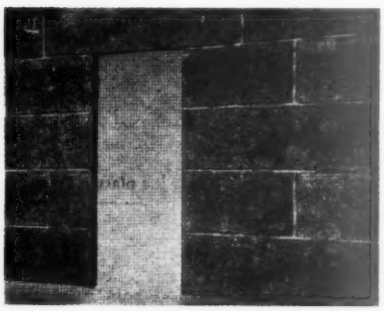
	Material and Form	Size	Weight	Compressive Strength	Thermal Conductivity B.T.U. per sq. ft. per inch per degree Fahr. per hour	Special Characteristics
AEROCRETE	Portland cement and Welsh sand: solid. Hollow in several shapes.	Solid from 12″×4½″×1½″ to 12″×12″×1½″ and 24″×12″×2″ to 24″×12″×5″ Hollow from 12″×9″×4″ to 12″×9″×8″ and 24″×12″×3″ to 24″×12″×6″	60 lb. per cu. ft. solid 28 lb. per cu. ft. hollow	600 lb. per sq. in.		Satisfactory Building Research Station report on manufacture, construction, colour, saving, shrinkage and general utility. High insulation value.
BIMOL	Moler diatomaceous earth, quarried, formed into blocks in brick machine, dried in open, and kiln burnt.	From 12″×9″×2″ to 12″×9″×6″	46 lb. per cu. ft. solid 34 lb. per cu. ft. hollow	905 lb. per sq. in.	1·16	Saving in dead weight. Easily cut. Thermal and acoustic insulation.
GRANHAM	Hollow partition, block extruded from terra-cotta, with or without keyed faces.	From 12″×9″×1½″ to 12″×9″×6″	From 86 lb. per sq. yd. to 198 lb. per sq. yd.	1,120 lb. per sq. in.		Great mechanical strength. Porous types good for insulation and will take nails or screws.
EONIT	Solid blocks from pure pumice and cement.	From 18″×9″×2″ to 18″×9″×4″	22 lb. per cu. ft.	400 lb. per sq. in.	1·72	Saving in dead weight. Easily got. Takes nails or screws. Good surface for plaster.
INSULCRETE	Cellular pumice concrete slab.	Solid from 18″×9″×2″ to 18″×9″×4″ Hollow 18″×6″×4½″	48 to 72 lb. per cu. ft.	1,000 lb. per sq. in.	2·40	Does not craze plaster finishes. Easily chased.
KING CLINKER	Clinker concrete composition.	Solid from 18″×9″×2″ to 36″×12″×2½″ Hollow from 16″×8″×6″ to 24″×12″×4″	70 lb. per cu. ft.	300 lb. per sq. in.	4·10	Incombustible. Reliable ground for plaster.
PIONEER	Aerated form of anhydrite with cellular structure.	From 24″×12″×2″ to 24″×12″×4″	57 lb. per cu. ft.	300 lb. per sq. in.	1·8 to 2·1	Good plastering surface.
SALAMANDER	Boulder clay	From 12″×9″×2″ to 12″×9″×6″	96 lb. per sq. yd. to 216 lb. per sq. yd.			Good plastering surface.
SOLITE	Block from British foamed slag, aggregate and Portland cement.	From 18″×9″×2″ to 24″×12″×3″	Average from 65 to 70 lb. per cu. ft.		1·7	Elimination of shrinkage. High degree of fire resistance.
PHORPRES HOLLOW PARTITION BLOCK	Gault clay	From 12″×9″×1½″ to 12″×9″×4″	63–133 lb. per sq. yd.		0·87	Lightness in weight. Mechanically strong. Good fire resistance. Adaptability of fixing.
THERMAL BUILDING SLAB	Hollow construction asbestos cement.	From 6′×2′ 6″×2″ to 8′×2′ 6″×2″	75 lb. per sq. yd.			Light. Easily cut. Good insulation.

a combination of terracotta and cellular concrete.

(c) *Wood wool.* This is a light material in block form for hollow walls, easily handled and with good insulation, but at present the supply is very limited. Wet construction is required, and external rendering, liable to crack. Examples are shown in Figs. 31 and 32, the first with columns, the second without. Walls of brick can also be used, of course, with brick piers, and it is possible to combine brick piers with block panel walls, but unless suitable

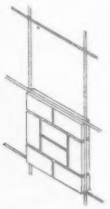
33—38 *Types of insulation for block walls. (From Siedler.)*





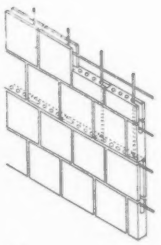
39

Block partition without reinforcement.



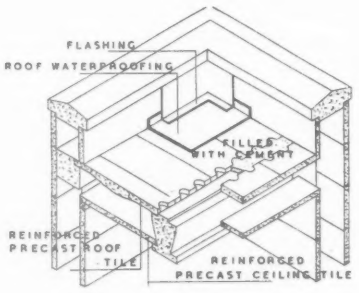
40

Brick partition with reinforcement.



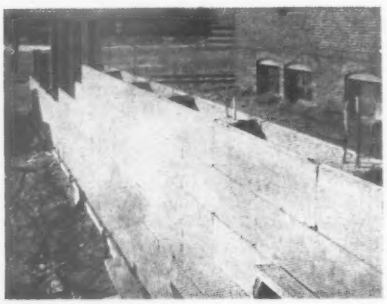
41

Block partition with reinforcement.

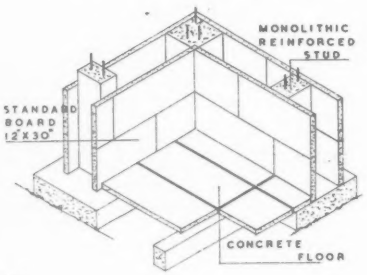


42

Reinforced lengths of hollow tile.



43A



43

Precast concrete floor units, also used as wall units. (Hahn, U.S.A.)

44

Wood wool hollow floor units 1 ft. 8 in. wide by 6 in.—1 ft. 2 in. thick by 3 ft. 4 in. long, used in the same way as hollow tile. (Populit, Italy.)

materials for frames cease to be available, there is little advantage in this method for temporary or semi-permanent building, on account of the excessive amount of site work.

In certain cases special insulating material may be required with brick or block walls. Various types designed to give the same insulating value are shown at the top of this page, Figs. 33–38.

(*d*) PARTITIONS.

Brick or block partitions can be formed of similar materials to external walls, but the thickness can be considerably reduced, especially if they are reinforced. An example without reinforcement is shown in Fig. 39.

Examples with reinforcement are shown in Fig. 40, brick, and in Fig. 41, block.

(*e*) FLOORS.

Timber floors are generally preferable for temporary structures, unless surface concrete is required; but with the present scarcity of timber, alternative types of block materials, usually associated with non-permanent buildings, may have to be considered.

Hollow blocks can also be made up in lengths and reinforced (Fig. 42). This is a light, strong and well insulated form of construction.

An example with precast concrete units is shown in Fig. 43-43A. This system is simple and very cheap, but it is difficult to make a tight joint, and timber, linoleum or screeded covering is necessary.

Wood wool blocks in combination with reinforced concrete can also be used for floors (Fig. 44). Wet construction is called for, but the system is light in weight, and has good insulating properties. The material is open to the same objection at present as in the case of walls.

(*f*) FOUNDATIONS.

Block walls with or without floors of similar materials require, of course, continuous foundations, and in this respect also require more site work than in the case of those materials that can be used with foundation piers. Points of importance in connection with continuous foundations have been discussed in Article 4.

TRADE NOTES

[BY PHILIP SCHOLBERG]

Natural Light in Air Raid Shelters

Some weeks ago reference was made in this JOURNAL to a series of tests which had been carried out at Shoeburyness on glass bricks and lenses. Glass was not at that time allowed in an air raid shelter without supplementary shutters made either of 2 in. of timber or $\frac{3}{16}$ in. mild steel, though screen walls were allowed as an alternative protection.

As a result of the tests at Shoeburyness, the Home Office A.R.P. Department will now allow the use of glass lenses and masonry in shelters provided that the openings are at least six feet above ground level. Certain other conditions are also attached to this permission, and these may be briefly summarized as follows :

For glass masonry the bricks must weigh at least $3\frac{1}{2}$ lb., they must not be more than 8 in. by 8 in. on the face, and the total thickness must be at least $3\frac{3}{4}$ in. The area of any panel must not exceed 14 sq. ft., nor must any dimension exceed 4 ft. The top and sides of each panel must be recessed at least 1 in. into the walls to allow $\frac{1}{2}$ in. cover over the face of the glass and $\frac{1}{2}$ in. for free movement to avoid risks from settlement, and the pointing must be of a non-hardening composition. Before the bricks are laid the cill must first be coated with an asphalt emulsion to allow slight movement, and the bottom course should then be bedded in a fairly dry and fatty mortar, 4 parts sand, 1 part Portland and 1 part slaked lime putty being suggested as suitable. Reinforcement strips should be built in every third course, and the ends of this should pass through the clearance joints and be secured to the main structure.

Toughened glass lenses must be not less than 2 in. thick, and must be built into precast reinforced concrete slabs not less than 5 in. thick, with not more than one lens in each square foot of panel. The window opening must be rebated to fit the panel, which must be well secured by metal anchors or other means. Solid glass lenses must not be more than 8 in. by 8 in., with a minimum thickness of $1\frac{1}{2}$ in., the method of fixing being the same as for toughened glass lenses.—(*Pilkington Brothers, Ltd., St. Helens, Lancs.*)

THE BUILDINGS ILLUSTRATED

TOYNBEE HALL, COMMERCIAL STREET, E.1 (pages 183–187). Architect : Alister G. MacDonald, F.R.I.B.A. General contractors were Griggs and Son, Ltd. Sub-contractors and suppliers included : St. Mary's Wharf Cartage Co., Ltd., demolition ; Redpath Brown & Co., Ltd., steelwork ; Light Steelwork Co., light steelwork ; Briggs and Sons, Ltd., damp-proofing ; Kleine Flooring Co., Ltd., fireproof floor ; Brookes, Ltd., artificial stonework ; Slate Slab Products, Ltd., slate cills ; Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt ; Crittall Manufacturing Co., Ltd., steel windows ; James Clark and Son, Ltd., glass ; Lenscrete, Ltd., glass bricks ; Matthew Hall & Co., Ltd., sanitary engineering ; John Bolding and Sons, Ltd., and Southhook Potteries, Ltd., sanitary fittings ; Young, Austen and Young, Ltd., heating and ventilation ; Berkeley Electrical Engineering Co., Ltd., electrical installation ; J. and E. Hall, Ltd., passenger lift ; Strand Electric and Engineering Co., Ltd., and Hall and Dixon, Ltd., stage equipment ; General Electric Co., Ltd., and Holroyd, Ltd., electric fittings ; Acme Flooring Co., Ltd., wood flooring ; A. E. Lindsay and Son, Ltd., joinery ; D. Burkle and Son, Ltd., panelling ; Comyn Ching & Co., Ltd., ironmongery ; F. de Jong & Co., Ltd., fibrous plaster ; Thermacoust Products, Ltd., sound-proofing ; Walpamur Paint Co., Ltd., paint ; Benefaire Wall Finishes, Ltd., wall finishings ; Cellulin, Ltd., floor finishings ; Riley & Co., fire appliance ; G. A. Sawyer, Ltd., carpets ; G. B. Furnishers, Ltd., theatre seating ; Magneta Time Co., Ltd., electric clocks ; Knightways, Ltd., paving.

"WINGS," ABBOTSWOOD ROAD, STREATHAM, S.W.16 (pages 188-189). Architects : Tatchell and Wilson. General contractors were Henry Knight and Sons. The lead panel over South Loggia was executed by Mr. George Alexander, F.R.B.S. Sub-contractors and suppliers included : Robert Y. Ames, bricks and tiles ; John Bolding and Sons, Ltd., sanitary fittings ; Carter & Co., wall tiles ; Centro-Vac, Ltd., vacuum engineers ; Durbin and Sons, central heating, hot water supply and plumbing, etc. ; Duncan Miller, Ltd., furniture and fabrics ; J. W. Gray and Sons, lightning conductor ; Horsley Smith & Co. (London), Ltd., hardwood floors ; Jacob, White & Co., Ltd., electrical work ; London Sand Blast Decorative Glass Works, Ltd., decorative glass ; Walter Smith (Brasted), Ltd., drive ; C. E. Welstead, Ltd., metal windows.