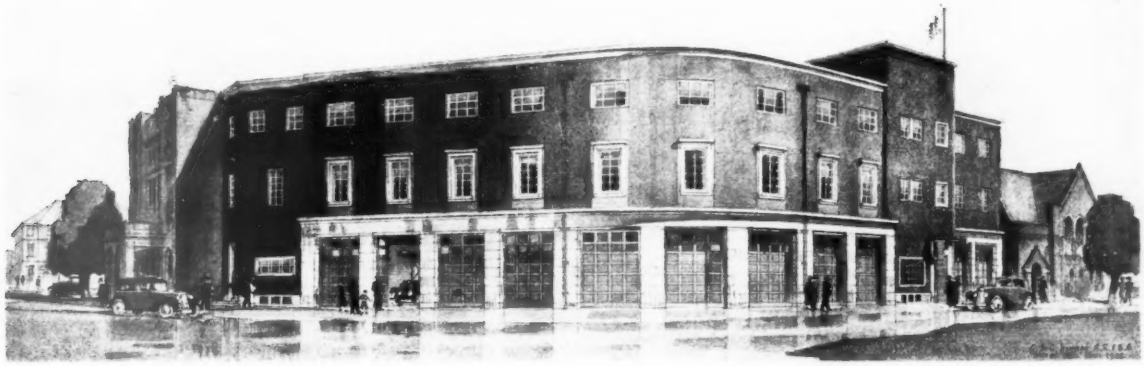
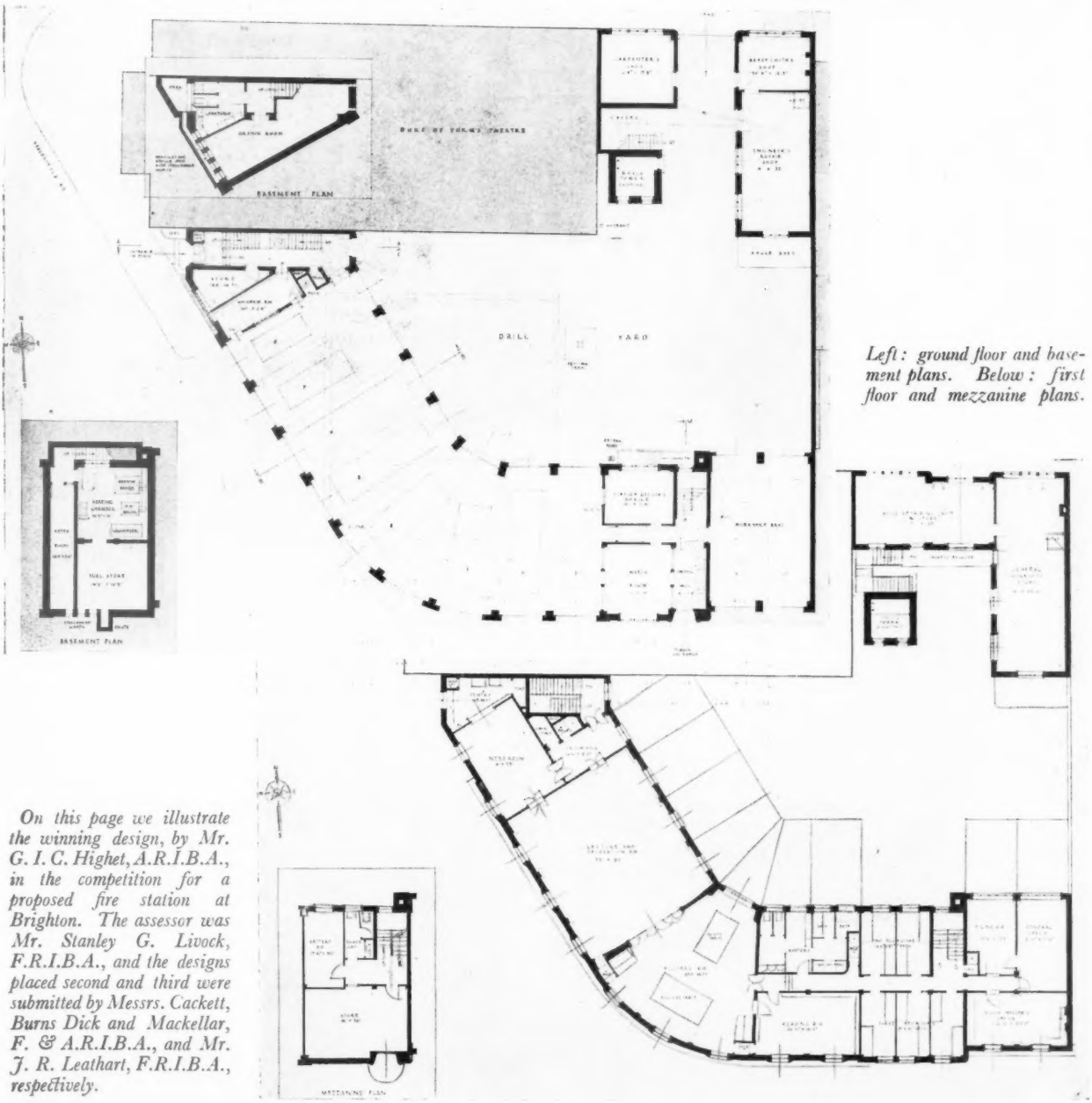
THE BRIGHTON COMPETITION

WINNING DESIGN: BY G. I. C. HIGHET



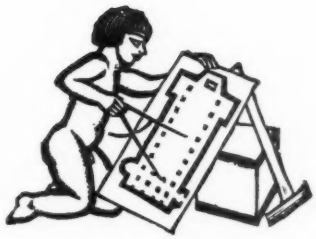


Left: ground floor and basement plans. Below: first floor and mezzanine plans.

On this page we illustrate the winning design, by Mr. G. I. C. Highet, A.R.I.B.A., in the competition for a proposed fire station at Brighton. The assessor was Mr. Stanley G. Livock, F.R.I.B.A., and the designs placed second and third were submitted by Messrs. Cackett, Burns Dick and Mackellar, F. & A.R.I.B.A., and Mr. J. R. Leathart, F.R.I.B.A., respectively.

NEW BIRMINGHAM MUSEUM

Blakesley Hall, Yardley, near Birmingham, which has recently been opened as a museum of the manorial history of the city. One of the best of Birmingham's fully timbered buildings, Blakesley Hall has been restored as nearly as possible to its original condition as a late Elizabethan manor house. The exhibits show the descent of the Manor of Birmingham from 1066, as well as the history of the other manors which form the modern city. The architect for the alterations was Mr. Ernest Bewlay, F.R.I.B.A.



TO THE ELECTORS OF BRITAIN*

LADIES and Gentlemen,—It is not for the first time that I ask for your support and your confidence during the next five years. The body of which I have the honour to form a part has unceasingly urged its claims to be regarded as a force, both constructive and reconstructive. But those claims have obtained a hearing and a recognition only partial, indeed so partial as to defeat the policy which I represent and for the fair examination of which I now plead.

As an architect I do not offer you any swift and dazzling journey into an effortless Elysium. The policy for which I ask your support must appeal to your intelligence before, in its execution, it can appeal to your emotions. It is, my friends, a policy not idealistic or Utopian, but a practical policy towards better surroundings of living for every member of the community.

Such is my claim ; many such have been made. And because so many have been made you have rightly, in the past, shown a hesitation in bestowing your confidence too freely.

You have rightly tended to judge opposing policies, firstly by the past records of those who sponsor them ; and thereafter to examine whether the policies themselves are sound and practicable.

Therefore, because I do not fear your verdict under either head of this dual test, I now invite your confidence.

But first allow me to dispel any misconception that may have been impressed upon you concerning the meaning of my party's title. What does the title "architect" mean to you, as practical men and women of this great country ?

Most commonly, he is regarded as one who is employed, as a rather expensive luxury, to make some buildings look pretty. This conception is by its limitation wholly misleading. I submit to you that the architect is the only member of society exactingly trained to plan all and every surrounding of contemporary living. He and the consistent policy he has ever put before you are an investment not of immediate and dazzling promise to the covetous, but steadily and lastingly remunerative to those who seek for themselves and their children the regular dividends of orderly good-looking arrangement of work and relaxation. For this policy I now seek your support.

What is the record of the Opposition? It is a record of those who never look one minute beyond next week. Millions of houses have been built ; thousands of factories have been built ; some good and some bad, but nearly all unrelated to each other and sited in hopeless obstruction to future living. Main roads, built for ease of communication, have been the next day choked by a thousand houses springing up about them. Around towns already too big, new factories and new dwellings have been allowed to ruin for a hundred years all hopes of cities worthy of Britain. What does your transport to and from work and play cost you now, my friends ?

It is in our policy of combating these things that I now ask for your support. That policy has been lasting and consistent. The body of which I have the honour to be one has ever deplored that anything so lasting as buildings and their location should be regarded as a matter for off-hand decision. Our contentions have been grimly proved true. The abuses of ribbon development have been recognized by at least a public gesture, and the dual obstruction to transport and decent living created by the unthinking dumping of working and dwelling accommodation has placed upon you all an appalling capital debt.

But we have not been consistent in negation alone. We have reorganized to meet changing needs, our headquarters has been replanned to increase our claim upon your confidence, and our advice has been freely offered to all who ask for it.

It is upon these grounds that we seek your support. But these are not all. What, it may be asked, is our policy for the next five years ?

Our policy is twofold ; it appeals to you individually and collectively. In the planning of individual units of work and living accommodation we offer you technical resources and equipment which have never been possible before. In the profitable use of space we can ensure a made-to-measure comfort and efficiency for both rich and poor. We can offer you more, but as practical men and women we offer you this first and foremost. On a small scale we have already fulfilled this portion of our policy, for its universal fulfilment I now ask you to cast your votes.

Lastly, ladies and gentleman, I plead for your support in the bringing about of bigger things. It has been for long held by the Opposition, and you are paying the cost, that industry was some form of gigantic self-repairing sausage machine, that the more you put in at one end the more you got out at the other —so long as you never looked up from your task.

We have now learnt differently. We have learnt that industry is a motor car which must be carefully tended, adjusted, repaired and now and then replaced if its service is to continue. It is for the doing of this that I now solicit your votes—for the proper planning of these renewals and adjustments, for our making of careful decisions as to where industry, with its surrounding dwellings and transport, is to be placed, organized and made a creditable part of a great nation.

On all these grounds of personnel and policy, of the past, present and future, I ask you to support my candidature for a responsible position amongst those who pledge themselves to forward by every means in their power the best interests of Britain.

I am, Ladies and Gentlemen, ———

* To-day is polling day.

The Architects' Journal
Westminster, S.W.1
Telephones: Whitehall
9212-7
Telegrams
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London

NOTES & TOPICS

R.A.F.—

THE report that it is intended that the great majority of the new building work required in connection with the expansion of the Royal Air Force is to be carried out by architectural assistants engaged by the Air Ministry on a temporary basis, raises again a matter of moment to all architects.

*

There can be little doubt that a permanent staff of architects experienced in this very specialized department of architecture is not only a necessity for the Ministry, but also the most efficient instrument for handling its normal building programme.

*

But when a by no means normal building programme is contemplated over a period of a very few years it would seem the duty of the Ministry, as of other Government and municipal departments, to consider the effects of its decision upon the architectural profession in general.

*

It seems obvious that unless the salaried architect has a reasonable security of tenure all the advantages of his specialized experience will be lost to his employers. No one can question the right of salaried architects' departments to take on or to dismiss assistants during normal building periods; but when a very great increase in the volume of work is contemplated such action becomes far more questionable.

*

The hardship that was caused amongst younger members of the profession during 1932 by the almost irresponsible dismissal of hundreds of young men from Government and municipal offices is not readily to be forgotten. It is much to be hoped that the Air Ministry will not be misled by the present building boom into forgetting it either.

—AND THE FUTURE

If a wholesale engagement of assistants for the next few years is going to result thereafter in these men being thrown back on the private architectural market there would seem to be a very strong case for the employment of private architects on the new R.A.F. establishments, acting under the present Air Ministry architects as consultants.

FOREIGN RELATIONS—

It is a most encouraging development in our national official attitude that the Treasury should recently have granted £6,000 towards propaganda for British culture abroad. The sum is not over-generous for this purpose, but somebody ought to receive our warmest thanks that it has been granted at all.

*

The administration is in the hands of the newly formed "Council for Relations with Other Countries." Music has received a first recognition under the scheme, and musical critics from some twenty European countries have arrived to see for themselves what London and Oxford are doing for music.

—AT THE R.I.B.A.

At the same time I learn that the R.I.B.A. is to set up a Foreign Relations Committee for, I hope, a mutual interchange of architectural aims and ideals. For as the real benefit resulting from the activities of such a committee we may expect, in addition to showing all that is best and proved in British architecture, to discover the essential value of new movements abroad.

*

No names are yet published for the committee membership, but when they do begin work, perhaps an early contact with the nationally-financed Council working under the wing of the Foreign Office would not be amiss.

AN AMERICAN HOUSING REPORT

Although we are well aware of our short-comings, and where housing is concerned they are in places very short indeed, it is nevertheless always gratifying when foreign opinion is complimentary.

*

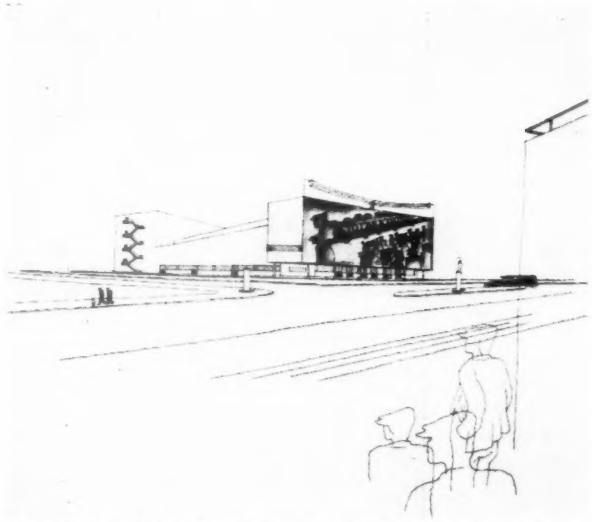
The report of Mr. Nathan Straus, the special commissioner appointed by the Mayor of New York to enquire into low cost housing in America and abroad, therefore makes pleasant reading.

*

Mr. Straus seems to have been very much impressed by what he saw in Europe, and especially in England, which he says makes American effort in this direction seem puny in comparison.

THE COLOUR OF ROADS

For the first time for many years I saw the Lord Mayor's Show on Saturday. It seemed to me that the Exhibits in the procession were better made and not so tawdry as they were the last time I saw the show. But what impressed me most, as at the wedding of the Duke of Kent, was the colour of the roadways. How much more attractive



The winning design, by I. Despotapulos, for the new municipal theatre and cinema at Drama, Greece.

the city streets looked covered with sand than they normally do. Yellow instead of black grime.

*

I do not think that enough attention is paid to the colour of road material, for not only are light-coloured roads more attractive in appearance than dark, but they greatly increase visibility. It is therefore encouraging to hear that one of the conditions of the Minister of Transport in making a road grant to a northern authority is that the road surface in question is to be as light in colour as possible.

INDUSTRIAL UNDERTAKINGS AS ARCHITECTS

I have come across an instance or two recently of buildings, quite large and on important sites, being designed by the structural departments of large industrial undertakings.

*

These undertakings act as architects and have no other connection with the buildings designed or with building works in general.

*

This appears to me to be a most undesirable arrangement, and, so far as I have seen, to be in no way justified by the results.

*

What with one incursion and another into his province, the architect in private practice has much to contend with.

MR. GUY DAWBER, R.A.

My congratulations to Mr. Guy Dawber on his election as a Royal Academician will be echoed by every English country architect and by every town architect who has set eyes upon one of Mr. Dawber's country houses or has wandered in one of his delightful gardens.

*

I once heard a country architect trying to help a student out of an architectural difficulty. An impasse was reached, for neither architect nor student could visualize a solution. It was at this point that the architect whispered his confession—that when he finds himself apparently beaten by a design problem he usually sits in his chair and smokes a cigar and asks himself, "Now, what would Guy Dawber do with this problem?"

*

I thought that a very pretty and sincere compliment.

ACCIDENTS

I have been told of several minor accidents on and in buildings of recent months, and I am wondering whether the fallen November leaf which paves our roadways at this time of the year has as evil an influence over building operations as it has over road operations.

*

I remember two curious accidents during the past year. In one case an extra large carpet was being hoisted over a building and down into a central well. When careering over the roof the hoist fastening gave way, and the carpet, falling some 60 ft., went clean through the bottom reinforced concrete roof slab and gave the basement engineers quite the wrong idea about luxury furnishings.

*

The other accident concerned a dropping boy rather than a dropped carpet. He fell 30 ft. through a skylight opening and landed plumb in the centre of a ½ in. scale model of a Belfast roof. The boy bounced at least three times (some will have it five times) on this excellent example of timber construction. When he ultimately came to rest, there was a rush of eager students to observe the strains involved . . . the laboratory stewards brought the first-aid box across.

STANDARDS

We hear a lot about standard units in building construction and quite a lot against an extension of this excellent ideal into the realms of standardized units of design. The nervous declare that such an extension would inevitably lead to monotonous and robot architecture.

*

We have had standard bricks for years, and have yet managed at one time or another to produce some pretty Baroque edifices out of those rectangular units. And one cannot ignore the fact that the Orders have been standardized units of design for centuries. True that today the standardized Orders look pathetically stupid when clipped or cramped on to our buildings, but that just shows how necessary it to keep our standardization up to date.

*

And with all the best standards in the world there will still be nothing to prevent their inappropriate use. The standard steel window is a unit which has a reasonable enough design, but it takes a trained, qualified, chartered and registered architect to relate that unit properly to the rest of a building.

ASTRAGAL

INFORMATION SHEETS

For the past two years the Information Sheets forming the "Architects' Journal Library of Planned Information" have been appearing at the rate of two each week. Owing to the large amount of information available and in order that the profession may have any useful data as soon as it is reasonably possible, it has been decided that, starting in this issue, the number of Sheets published weekly in the JOURNAL *will be increased to* THREE.

NEWS

POINTS FROM THIS ISSUE

"*He (the architect) and the consistent policy he has ever put before you, are an investment not of immediate and dazzling promise to the covetous, but steadily and lastingly remunerative to those who seek for themselves and their children the regular dividends of orderly good-looking arrangement of work and relaxation*" 723

"*.... not only are light-coloured roads more attractive in appearance than dark, but they greatly increase visibility .... one of the conditions of the Minister of Transport in making a road grant to a Northern Authority is that the road surface in question is to be as light in colour as possible*" 725

With this issue the number of Information Sheets has been increased to three per week 727

A NEW EUSTON

The London Midland and Scottish Railway Company is shortly to promote a Bill for the reconstruction of Euston Station, which cannot be rebuilt until a private Act of Parliament is obtained. The work will begin as soon as possible after the passing of the Act.

CHARTERED SURVEYORS' INSTITUTION

The annual dinner of the Quantity Surveyor Members of the Chartered Surveyors' Institution is to be held at the Savoy Hotel, W.C., on Wednesday, December 11, at 7.30 p.m.

WELSH SCHOOL OF ARCHITECTURE

The R.I.B.A. Exhibition of Architects' Working Drawings was held in the studios of the Welsh School of Architecture, Cardiff Technical College, on November 7. The collection of exhibits included certain of the working drawings prepared for the following buildings: Merchant Taylors' School (by Professor W. G. Newton, F.R.I.B.A.); Rickmansworth Girls' School (by John L. Denman, F.R.I.B.A.); Lawn Road Flats, Hampstead (by Wells Coates, PH.D.); Building for Messrs. Rylands and Sons, Manchester (by Harry S. Fairhurst and Son, F. and A.R.I.B.A.); and Hornsey Town Hall (by R. H. Uren, A.R.I.B.A.).

SEVEN NEW CINEMAS

Mr. Robert Cromie, F.R.I.B.A., has been appointed architect for cinemas at Scunthorpe, Cleethorpes, Ipswich, Portsmouth, Haslemere, Cowley and Gillingham.

BUILDING INDUSTRIES NATIONAL COUNCIL

Reports covering a further six months' successful working were made at the half-yearly meeting of the Building Industries National Council, held in the R.I.B.A. Building on October 31.

Draft regulations proposed to be made under the Restriction of Ribbon Development Act, 1935, submitted for comment by the Minister of Health, were discussed. It was considered that the proposed regulations, which prescribe a method of measuring the cubic contents of buildings for the purpose of deciding whether special means of access or egress should be required under the Act, would operate unequally. Moreover, they might give rise to misunderstandings as they were not entirely free from ambiguity, and possibly conflict with the requirements of sound construction. A small committee, representative of all sections of the building industry, was therefore set up to draft the recommendations to the Minister on behalf of the industry.

Representations were made to the Council that the operation of town planning legislation in London was conducive to confusion and had led to considerable delays in the passing of plans. It was represented that the average delay was at least two months, so that the cost to the industry of the regulations was one-sixth of the annual value of all building in London. In view of the importance of this matter and its repercussions on employment and building activity in London it was decided to set up a widely representative committee to formulate means of avoiding excessive delays in the passing of plans in co-operation with the administrative authorities concerned.

THE ARCHITECTS' DIARY

Thursday, November 14

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.C.1. Exhibition of water colours, etchings, and other drawings by members of the Association. Until November 17.*

HERTFORD COMPETITION. *At the Building Centre, 158 New Bond Street, W.1. Exhibition of the premiated designs and a selection of other drawings submitted in this competition. Until November 16, 10 a.m. to 6 p.m. Sat. November 16, 10 a.m. to 1 p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS, 10 *Upper Belgrave Street, S.W.1.* "*Bridge and Foundation Problems.*" *By Leslie Turner.* 6.30 *p.m.*

GEFFRYE MUSEUM. *Kingsland Road, Shoreditch, E.2.* "*English Furniture of the Walnut Period.*" *By Herbert Cescinsky.* 7.30 *p.m.*

INCORPORATED INSTITUTE OF BRITISH DECORATORS, *Little Painters' Hall, E.C.4.* "*Contemporary Decoration and Furnishing.*" *By H. G. Hayes Marshall.* 7.30 *p.m.*

SOCIETY OF ANTIQUARIES, *Burlington House, Piccadilly, W.1.* "*An Ionian terracotta and a Corinthian bronze in the Manchester Museum.*" *By Professor T. B. Webster.* 8.30 *p.m.*

Friday, November 15

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.C.1. Fourth of a series of five non-technical lectures on Building London.* "*Present-day Problems: 6 Roads and Transport.*" *By J. E. Courtenay.* 8 *p.m.*

LONDON SOCIETY. *At the Royal Society of Arts, John Street, Adelphi, W.C.2.* "*The Modern Renaissance of Antique Architectural Sculpture.*" *By Professor S. D. Adshead.* 5 *p.m.*

Saturday, November 16

ST. PAUL'S ECCLESIOLOGICAL SOCIETY. *Visit to All Hallows, Barking-by-the-Tower, E.C.2.* 2.30 *p.m.*

Monday, November 18

R.I.B.A., 66 *Portland Place, W.1.* "*Housing and the Redevelopment of the Central Areas.*" *By L. H. Keay, O.B.E., F.R.I.B.A.* 8 *p.m.*

ROYAL SOCIETY OF ARTS, *John Street, Adelphi, W.C.2.* "*Geological Aspects of Underground Water Supplies.*" *By Bernard Smith.* 8 *p.m.*

Tuesday, November 19

HOUSING CENTRE, 13 *Suffolk Street, Haymarket, S.W.1.* "*Slum Clearance and Reconditioning: the Practical Way.*" *By F. R. Jefford.* 8.15 *p.m.*

INSTITUTE OF WELDING. *North Eastern (Tyneside) Branch. At Neville Hall, Westgate Road, Newcastle-on-Tyne.* "*A general survey of Metallic Arc Welding with particulars of some Welded Products.*" *By T. A. Polson and D. G. Sinfield.* 7 *p.m.*

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS, 43 *Grosvenor Place, S.W.1.* "*Town Planning.*" *By Alfred Pike.* 7 *p.m.*

LONDON SOCIETY. *Visit to the new building of W. H. Smith and Son, Albert Embankment, S.E.* 2.30 *p.m.*

Wednesday, November 20

ROYAL SOCIETY OF ARTS, *John Street, Adelphi, W.C.2.* "*Art Training for Industry on the Continent.*" *By Francis A. Taylor.* 8 *p.m.*

ST. PAUL'S ECCLESIOLOGICAL SOCIETY. *At 66 Portland Place, W.1.* "*Roof Bosses.*" *By C. J. P. Cave.* 8 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *Scottish Branch. At 129 Bath Street, Glasgow.* "*Reinforced Concrete Structures for the Retention of Water and other Fluids.*" *By W. Hunter Rose.* 7.15 *p.m.*

RIBBON ACT WELCOMED

The new Restriction of Ribbon Development Act was welcomed by Sir David Milne-Watson in his presidential address to the British Tar Association in London last week. He said his only regret was that restriction was not enforced ten years ago, for beautiful roads were a business asset of priceless value to the community.

"However utilitarian our outlook may be," he added, "there can be no question that money spent on preserving roadside amenities will earn dividends for the nation."

BARKING MUSEUM

On December 4 the Earl of Crawford and Balcarres will open a new museum and an exhibition of English arts and crafts at Eastbury Manor House, Barking.

TOWN PLANNING AND SHOPS

A matter of some importance and interest to town-planning authorities concernng shops established in residential areas during the period of preparation of a town-planning scheme was decided recently by the Minister of Health.

Thirty-five appeals were lodged against the Blackpool Town Council's decision that shops in an area town-planned as residential must be closed. A large number of shops had been established in the area during the preparation of the scheme without the permission of the Council. When the scheme came into operation two years ago the Town Council was legally entitled to have the businesses closed down without compensation on the ground that in its opinion they were misplaced and harmful to the residential character of the neighbourhood. The Council therefore served notices accordingly and a number of the shops were closed.

Owners of others asked to be allowed to continue, and the Council, although not legally bound to take notice of such requests, did consider them, but did not, in fact, change its mind.

Thirty-five appeals were made thereupon to the Minister. The peculiar difficulty of the cases lay in the fact that all the appellants were poor people who had bought their businesses or started them in good faith without realizing that they should have armed themselves with the permission of the Council. Real hardship would have followed the closing of their businesses.

Definite decisions have been made by the

Minister in nine cases. One appeal was dismissed on the ground that there was no need for the shop concerned—the owner had, in fact, anticipated the decision by closing the shop. Eight appeals were allowed on the ground that the shops were needed and were not harming the residential character of the neighbourhood.

In the other cases the Minister supported the Town Council while treating the appellants with consideration. He agreed that the object of the town-planning scheme would suffer if the businesses were to continue permanently on their present sites. In five cases where the owners of the businesses are elderly they are to be allowed to continue during their lives. In other cases periods of grace are allowed ranging from two to fourteen years according to the tenure of the various properties, the length of time they have been occupied, or the chance the owners have of moving to other centres without loss of goodwill.

ANNOUNCEMENTS

Mr. John T. Burt, F.S.I., Chartered Quantity Surveyor, has taken Mr. Percy Ballard, P.A.S.I. (his chief assistant for 16 years) into partnership. The style of the firm will be "Burt and Ballard," and the practice will continue to be conducted at 5 Grey Friars, Leicester.

Mr. Max Lock, A.R.I.B.A., has removed his offices to No. 11 Elm Court, Albert Road, Watford.

Mr. Hazen Size has opened an architectural office at 13 Suffolk Street, S.W.1. Telephone No.: Whitehall 2881.

R. I. B. A.

REGISTRATION

The first informal general meeting of the Session was held at the R.I.B.A. on November 13, when there was a discussion on "Registration." The following were among those who addressed the meeting: Sir Ian MacAlister, Miss Blanco White and Messrs. A. H. Moberly, M.A., F.R.I.B.A., Sydney Tatchell, F.R.I.B.A., V. L. Nash, A.R.I.B.A., R. T. F. Skinner, A.R.I.B.A., and Henry Braddock, A.R.I.B.A.,

Mr. L. W. Thornton White, A.R.I.B.A., Chairman of the Junior Members' Committee, presided.

COMMONWEALTH FUND FELLOWSHIPS

Copies of the memorandum and form of application for the Commonwealth Fund Fellowships may be obtained, free, on application to the Secretary to the Committee of Award, Commonwealth Fund Fellowships, 35, Portman Square, London, W.1.

The Commonwealth Fund of New York, founded in 1918 and supported by gifts from the late Mrs. Stephen V. Harkness, has established for British subjects a number of Fellowships tenable at certain American Universities. The Fellowships, which are available for architects, are confined to University graduates, but a graduate who is taking a course at a school of architecture which is not a university school would be eligible to apply for a Fellowship.

There is no fixed stipend, but the emoluments attaching to each Fellowship, which is estimated at the approximate annual value of $3,000, is calculated to cover the full expenses of residence, travel and study in the United States during the year.

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

OUTLINE FOR A FILING SYSTEM

By Oscar A. Bayne

"The Architects' Journal Library of Planned Information," founded originally upon the "Information Book" of Sir John Burnet, Tait and Lorne, has been growing steadily for the last two years; Information Sheets have been appearing at the rate of two a week, and it has now been decided that this number shall be increased to three. The Sheets are numbered consecutively in the order in which they are published, and a cumulative index is published every hundred Sheets; the main disadvantage of this system is that the Sheets are not grouped under subject headings. In the following article Mr. Bayne, who is responsible for the production of Sheets to the approval of Sir John Burnet, Tait and Lorne, puts forward a system of grouping which has proved satisfactory for his own particular filing methods. The scheme is not claimed to be perfect, and is offered here as a suggestion on which it is hoped subscribers will comment.

EVERY effort has been made, first, to make each Sheet in itself a valuable reference and, secondly, to make the series as a whole of the utmost value to the profession. The detail work in the Sheets need not be discussed here, they speak for themselves, and the critic can readily see their faults and their value as he takes them one by one.

The planning out of the series as a whole is, however, a large subject, the field presented by materials and products in the Building Industry being so broad that it can only be approached in some gradual way; a skeleton organized, and then each part built up into a solid and complete whole.

The skeleton of the scheme has now been fairly well outlined, in that the Sheets already included in the Library cover a large variety of materials and products. There are Sheets on structural materials, such as brick, concrete, steel; on non-structural, such as wall boards, plaster, etc.; general construction, carpentry and joinery; plumbing and sanitation: tiling, paving and flooring; roofing; electrical equipment; heating and ventilation; metal work and hardware; lifts and escalators; stairs, ramps and ladders; kitchens and kitchen equipment: furniture and fittings; fire and burglar protection; painting and protective finishes.

The filling in of this skeleton is now the work of future Sheets; and it is in this phase that criticisms and suggestions outlining the path which should be followed, particular Sheets which should be included, or particular subjects which should be concentrated on would be very useful.

I would welcome any assistance which members of the profession would give in this direction, and any suggestions they would put forward to make the Library the most thorough and most useful source of reference possible.

In considering the actual use of the Sheets in an office, there is another important phase besides that of the subject of each Sheet and its detail, and that is the arrangement in which the Sheets are kept, the filing or binding of them in the most useful form. The Sheets are being used by a variety of people in a variety of ways, and are as far as is possible arranged to be available in a form suitable to each.

When issued as supplements to the JOURNAL, the Sheets are consecutively numbered for the convenience of those who file them numerically as they are published, and for indexing purposes. The cumulative index published in the JOURNAL is arranged on the assumption that Sheets are filed in the order in which they are published. But they are also provided with a space headed "Filing Reference" which is intended for the use of those who have a complete and well-organized filing system of their own, into which they naturally wish to put these Sheets, as they do all other useful data. This "Filing Reference" also serves those who, when the Sheets first began to appear, started to file them in groups, so building a filing system in which all Sheets on like subjects are found together. There are innumerable variations of this sectionalized system. Each section may be a trade, or a material, or a subject. If the system is done by trades, then the section headings will be much the same as the parts of a specification, founder and smith, carpenter and joiner, etc., etc. Like most of the other systems, this is admirable up to a point, but it falls

down in dealing with, say, mathematical, engineering, or technical subjects.

A combination of subject headings and trade headings seems to be the best arrangement, and, even with this, there is the minor problem of deciding where to put a Sheet which could fall into either of two groups.

One group system, which has been tried, was set out with generalized headings which were intended to group Sheets of a like character, but at the same time to be fairly broad so that a very large number of subdivisions could be avoided.

In this case, loose-leaf books were used, thumb-indexed division pages were put between each group, and on this page the Sheets contained in the group were listed. Any one section was subdivided as occasion demanded, as can be seen from the list in the adjoining column.

This particular loose-leaf system has worked fairly well; it has the advantage of taking new Sheets readily as they are published; its greatest disadvantage is the lack of an alphabetical index, without which it is sometimes difficult to find a Sheet which might possibly have been filed in either of two groups.

The whole process of putting each Sheet into its proper section must take into account the very human habit of putting the Sheets aside "to be filed." To get full value from the Sheets they must be kept so that they can be readily, almost instantly, referred to; it may be that some user has found the ideal system, the system which combines ready-reference with the capacity to take all new Sheets as they are published with ease, and without much trouble to the architect; to be honest, it must be admitted that the architectural profession is not given to careful filing. Either because there is more important work on hand, or pleasanter occupations to be found, filing is put off usually till tomorrow. And when tomorrow comes there is the usual scratching round to find that Sheet which everyone knows came out a little while ago.

The perfect system would, of course, be one in which a complete set of Sheets, well arranged and well indexed, was produced fully fledged like Athene from the head of Zeus, but the problem of how to keep the set up to date would still be unsolved.

In a nutshell, a way must be found of providing in every architect's office a set of Sheets which is properly arranged and indexed and complete up to comparatively recent date. What form this will eventually take still remains to be decided. But since the whole of the "Library of Planned Information" is designed for the Architectural Profession, perhaps the profession will be willing both to criticize and to suggest the road that should be followed.

LIBRARY OF PLANNED INFORMATION

List of Sections with Subdivisions

1.—General Office Data.
- (*a*) Schedules.
- (*b*) Office Records.
- (*c*) Municipal Data.
- (*d*) Movements of the Sun.
- (*f*) Trig. and Geometry.
- (*g*) Engineering Calculations.
- (*h*) Lettering and Draughtsmanship.

2.—Planning.
- (*a*) Sports.
- (*b*) Restaurants.
- (*c*) Schools.
- (*d*) Theatres and Cinemas.
- (*e*) Garages and Vehicles.
- (*f*) Hospitals.
- (*g*) Hotels.
- (*h*) Housing.
- (*i*) Regulations.

3.—Structural Steelwork.
- (*a*) General.
- (*b*) Regulations.
- (*c*) Roofs.

4.—Structural Concrete Work.
- (*a*) Concrete Code.
- (*b*) Floors.
- (*c*) Waterproofing.
- (*d*) ,, (Swimming Pools).
- (*e*) ,,

5.—General Construction.
- (*a*) Foundations.
- (*b*) Insulation.

6.—Structural Building Materials.
- (*a*) Brick.
- (*b*) Cast Stone.
- (*c*) Miscellaneous.
- (*d*) Cement and Lime.

7.—Non-structural Building Materials.
- (*a*) Partition Blocks.
- (*b*) Wall Boards.
- (*c*) Plasters.
- (*d*) Miscellaneous Finishes.
- (*e*) Cork.
- (*f*) Glass.

8.—Carpenter and Joiner.
- (*a*) Soft Woods.
- (*b*) Plywoods Doors, Windows.
- (*c*) Timber Protection.

9.—Plumbing and Sanitation.
- (*a*) General Data.
- (*b*) Lavatories.
- (*c*) Fittings.
- (*d*) Pipes, etc.
- (*e*) Leadwork.
- (*f*) Water Supply.

10.—Tiling, Paving and Flooring.
- (*a*) Tiling.
- (*b*) Paving.
- (*c*) Cork Flooring.
- (*d*) Wood Floorings.
- (*e*) Rubber ,,
- (*f*) Carpeting.

11.—Roofing.
- (*a*) General.
- (*b*) Flat Roofs.
- (*c*) Tiling.
- (*d*) Roof Lights.

12.—Electrical Equipment.
- (*a*) Telephones.
- (*b*) Lighting Fittings.
- (*c*) Wiring.
- (*d*) Accessories.
- (*e*) Lamps.
- (*f*) Radio.

13.—Heating and Ventilation.
- (*a*) General.
- (*b*) Open Fires.
- (*c*) Gas Fires.
- (*d*) Radiators, H.W. and Steam.
- (*e*) Ventilation.

14.—Metalwork and Hardware.
- (*a*) Windows.
- (*b*) Hardware.
- (*c*) Metal Trim.
- (*d*) Metal Partitions and Doors.
- (*e*) Steel Tube.
- (*f*) Door Fittings.
- (*g*) Clips.

15.—Lifts, Hoists Conveyors, Escalators, etc.
- (*a*) General Sizes.
- (*b*) Door Gear.

16.—Stairs, Ramps, Ladders, etc.
- (*a*) General.
- (*b*) Steel Stairs.
- (*c*) Treads.

17.—Kitchens and Equipment.
- (*a*) General.
- (*b*) Sinks.
- (*c*) Electric Cookers.
- (*d*) Gas Cookers.
- (*e*) Refrigerators.

18.—Furniture and Fittings.
- (*a*) Office Furniture.
- (*b*) Wardrobes.
- (*c*) Cupboards and Racks.

19.—Protection—Fire and Burglary.
- (*a*) Fire Equipment.
- (*b*) Sprinklers.
- (*c*) Fire Shutters.
- (*d*) Strong Rooms and Equipment.

20.—Painting and Protective Finishes.
- (*a*) White Lead Paints.
- (*b*) Synthetic Paints.
- (*c*) Dampproofing.
- (*d*) Metal Finishes.
- (*e*) Cold Glazes.

SECTION 7 IN DETAIL

7: NON-STRUCTURAL BUILDING MATERIALS

Partition Blocks.

7.A1. Partition Blocks (See back of No. 4.B2.).

Wall Boards.

7.B1. to 7.B11. Tentest Insulating Board (*Tentest Co.*).

7.B12 to 7.B17. Insulation of Buildings (*Tentest*).

Plasters.

7.C1.—Plaster Board (*Blackwells*).

Miscellaneous Finishes.

7.D1.—Relative Costs of Finishings.

Cork.

7.E1.—Corkboard Insulation (*Corkboard Bureau*).

Glass.

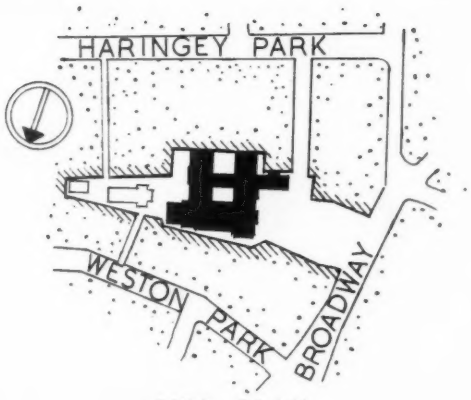
7.F1.—Strength of Glass (*Vitrea*).

7.F2.—Armour Plate Glass (*Pilkington*).

HORNSEY TOWN HALL

DESIGNED BY

REGINALD H. UREN



SITE PLAN

On this and the seven pages following is illustrated the new Hornsey Town Hall at Crouch End which was opened on November 4 by H.R.H. the Duke of Kent. The town hall was the subject of an open competition during 1933 in which Mr. Reginald H. Uren was the author of the first premiated design. Above is a view of the principal elevation, showing entrances to assembly hall and municipal offices.

HORNSEY TOWN HALL: DESIGNED

GROUND FLOOR PLAN

GENERAL PROBLEM.—*The purpose of the scheme was to provide municipal administrative offices for all departments of the Borough of Hornsey, legislative accommodation including council chamber, committee and members' rooms, and an assembly hall for public and social activities.*

SITE.—*The site, on the east side of the Broadway, was purchased with the town hall project in view, and is both confined and irregular in shape. By the purchase and demolition of buildings fronting on the Broadway, a frontage of about 125 feet was obtained to the main street. A secondary residential street ends on the south boundary about 150 feet back from the Broadway, and the site, about 300 feet deep, has a service access from the rear but is built in along the north and south boundaries, over which the adjoining owners have no rights of light.*

PLAN.—*Owing to the narrowness of the main street the building was set back as far as possible on the site. This enabled the secondary approach to be opened into the forecourt. This setting back, together with the requirement of a self-contained assembly hall, was the main factor in determining the block form of the building.*

With so much of the available site occupied by the assembly hall, the adequate lighting of the municipal offices was of considerable difficulty. For this reason the rear wall of the building was utilized for lighting as fully as possible, two internal courts were formed, and a wing projected into the forecourt to line through with the irregular south boundary.

The building was divided into the distinct blocks of assembly hall and offices. The hall entrance was given priority over that to the offices in order to deal with the large numbers of people entering or leaving simultaneously. This, together with the space on that side of the site being more suited to a single large unit, determined the placing of the hall.

The office entrance, marked by the tower, is in the re-entrant angle of the main front, thus providing an almost central stairway and circulation on each floor. Secondary access to the juvenile employment department and a secondary stairway to the offices are reached from the rear entrance to the site.

DETAIL PLANNING.—*The uses for which the assembly hall was required were so diverse that the final solution was a compromise between cinema, theatre and dance hall. The floor is flat and sprung for dancing, and removable tubular seating is installed for 868 persons. The stepped gallery with fixed seating accommodates 225. The green room may be used for stage extensions.*

The supper room is below the entrance foyer, connecting with it by means of the adjoining staircases. This was originally intended for refreshments only, but it has been finally equipped for use as a small hall for whist drives, etc.

The kitchen adjoining the supper room has electric lifts to the service room adjoining the hall for use during public dinners.

The council chamber has fixed seating in horseshoe form on a stepped floor for forty-eight councillors and aldermen. The gallery for press and public is arranged over the entrance lobbies and is reached by a separate staircase from the ground floor entrance.

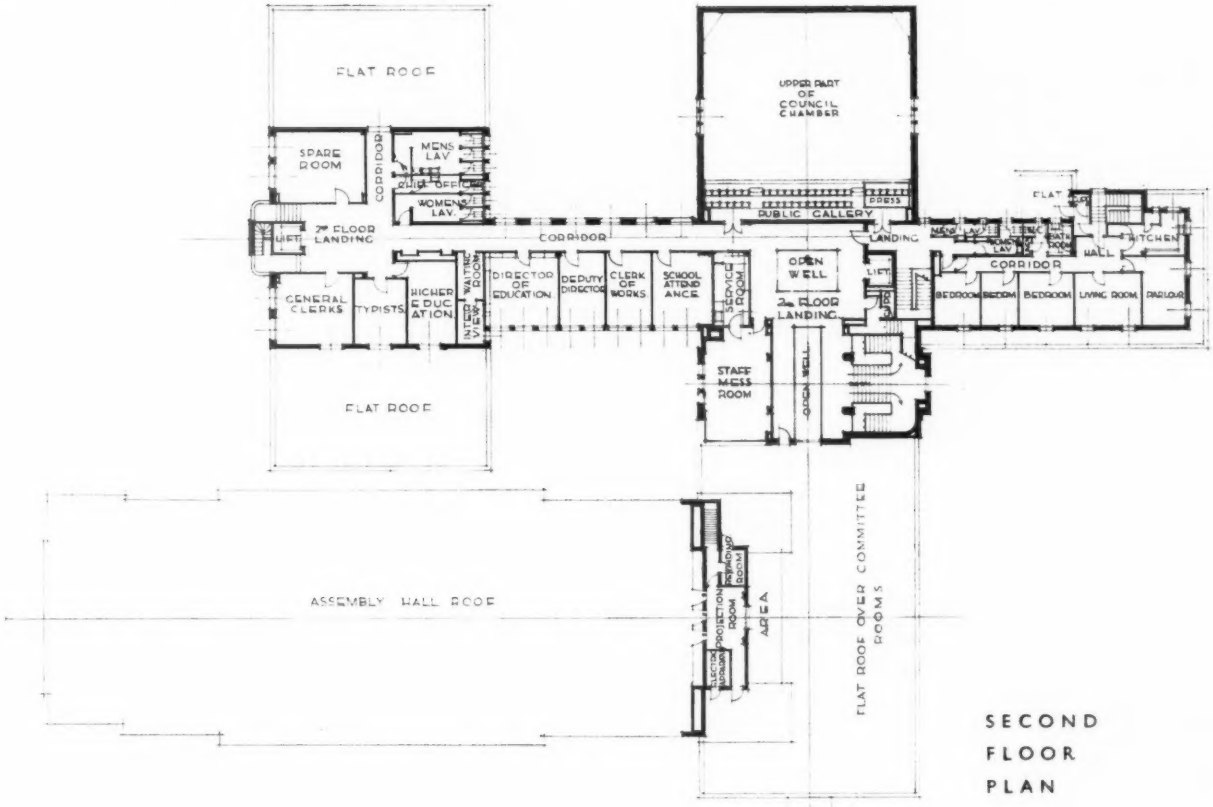
The rates office is so placed as to be accessible directly from the main entrance, being separated from the foyer by a glass and metal screen.

The borough engineer's department is placed on the ground floor to the rear of the building, and can be reached either from the main or subsidiary entrances.

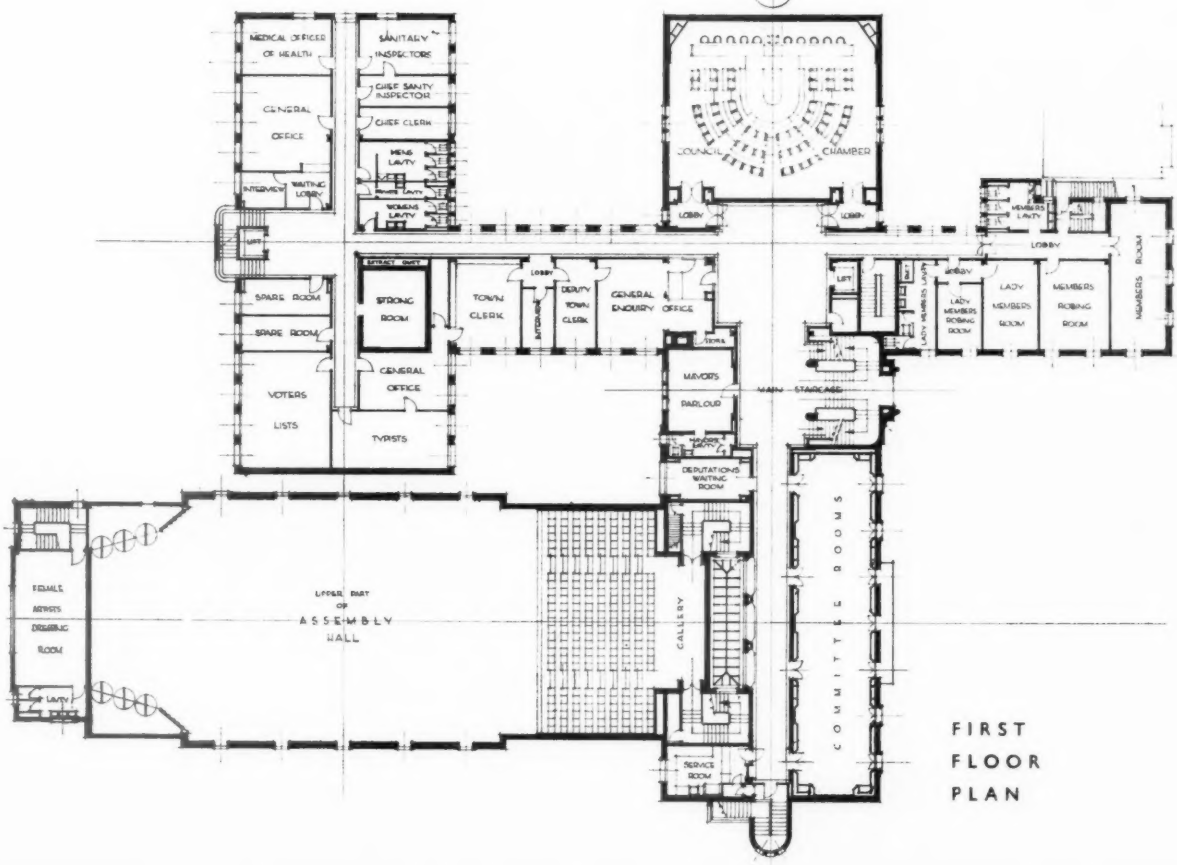
The juvenile employment department is on the lower ground floor with its own entrance from the rear, so that applicants may not interrupt the normal traffic in the building.

The staff mess room on the second floor has its own kitchen for the service of lunches and teas, and an additional service room is on the first floor to serve refreshments to the committee rooms.

BY REGINALD H. UREN



SECOND FLOOR PLAN



FIRST FLOOR PLAN

HORNSEY TOWN HALL: DESIGNED

ELEVATIONAL TREATMENT.—*The main elevation is divided into three constituents; the assembly hall entrance with committee rooms over, the west wing of offices, and the tower emphasizing the entrance to the municipal buildings. The rear elevation was utilized to secure the maximum lighting for a block in which the good lighting of offices was one of the most difficult problems.*

The hand-made variegated red facing bricks are 2¼ ins. thick and are laid with a ¾ in. horizontal joint. The copings and main entrance detail are in Portland stone. Windows are of bronze on the principal front and elsewhere of steel; balustrades are of cast bronze. Cornices and friezes on the rear elevation are of concrete with hammered face.

Above is a detail of the entrance to the adminstrative offices, showing the paved terrace before the south projecting wing. On the facing page is a photograph of the extract ventilation louvres in one of the committee rooms with, in the centre, a pair of folding doors masking the screen for subdividing the committee rooms.

BY REGINALD H. UREN

CONSTRUCTION.—*The building is steel-framed and, though not under the control of the L.C.C., was designed in conformance with its code. The steel framing was designed on a system of short spans and numerous points of support, resulting in very light steelwork at the low cost of 1.3d. per cu. ft. of total building volume, cantilever construction being found in most cases uneconomical when compared with normal beam and stanchion construction.*

The floors and flat roofs are of concrete and hollow tile, two-way reinforced.

The external walls consist of an outer skin of 4½ in. brick, a 2 in. cavity, and a 9 in. inner skin of cellular brick; internal partitions are 4½ in. cellular brick.

Flats roofs are finished with cement squares on bituminous sheeting, and the assembly hall and council chamber have pitched roofs and light steel trusses, finished with slates.

Horizontal pipe runs are provided under corridors by lowering floor slab 2 ft.

SERVICES.—*The buildings are heated by low-pressure accelerated hot water to metal faced heating panels, coils being placed behind marble panels in special cases. Boilers are coke-fired by automatic stokers.*

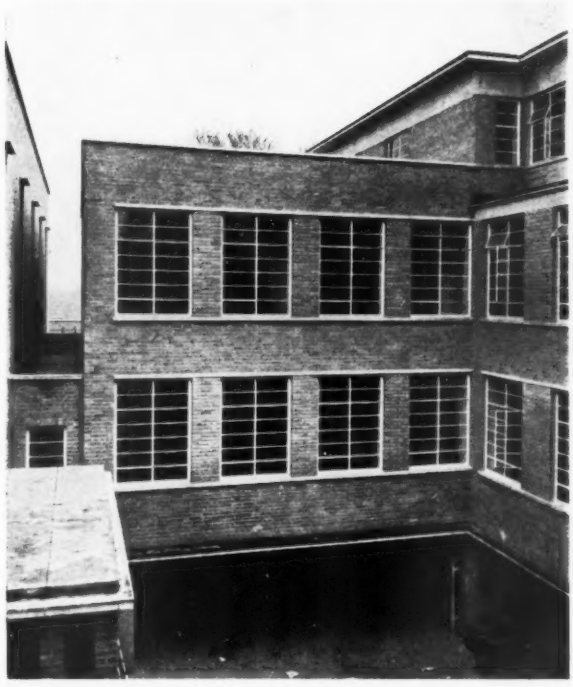
The assembly hall has an air-conditioning plant with a capacity of 1,500 cu. ft. per person per hour. The council chamber and committee rooms have a separate plant with a capacity of 4,000 ft. Both units have additional heating panels to counteract heat loss. Offices are provided with an extract system only.

Hot water is supplied from local electric heaters thermostatically controlled.

The building is equipped throughout for electric light and power, electric clocks, bells, and post office and full house telephone system.

COST.—*The building was let in one contract for £103,800, and was completed in 15 months, the rate per cu. ft. being 1s. 10d.*

The photographs show: top, the rear elevation showing the high proportion of the front used for lighting purposes; below, the internal court. The garage yard and covered approach from the rear is shown at the bottom of the photograph, and the assembly hall windows to the left, stressing the lighting difficulties of the site.

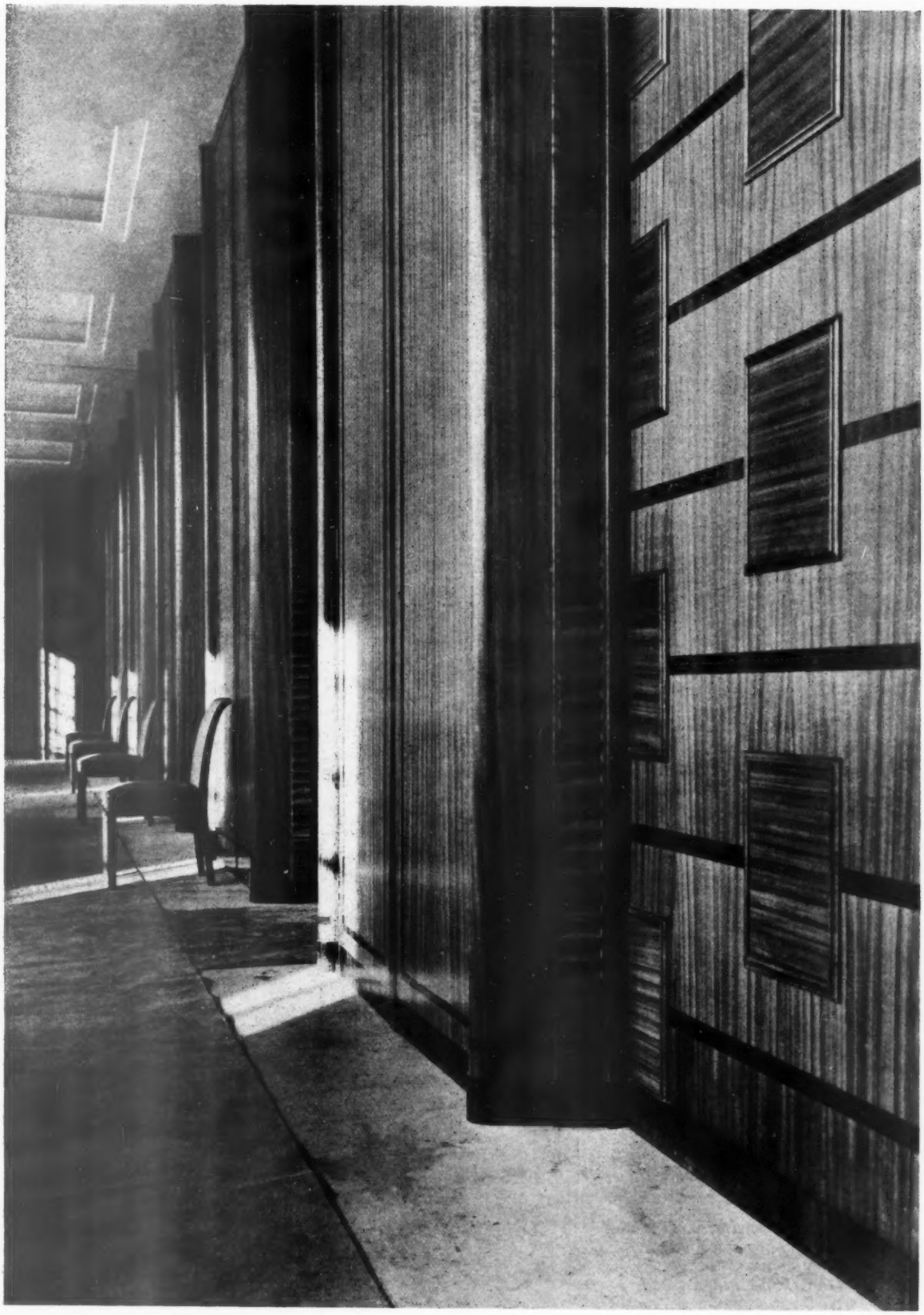


HORNSEY TOWN HALL: DESIGNED

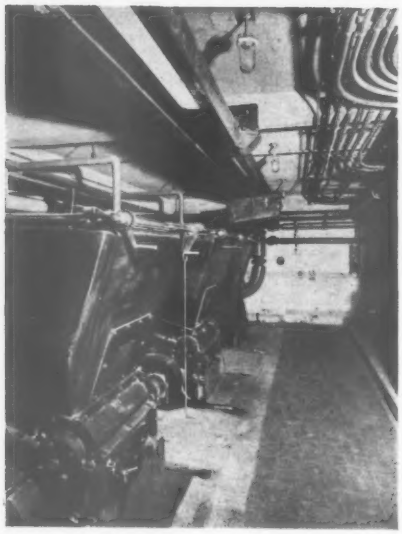
Top: the council chamber from the gallery. The panelling is in Australian walnut, Indian laurel and teak, and the seating is flush veneered in Australian walnut and red hide upholstered.

The other photographs show: above, a general view of the committee room which can be subdivided into three; left, a detail of the assembly hall. The panelling is of Australian walnut and Indian laurel, with grilles in teak, and an ebonized base. The window surrounds and proscenium are of Australian walnut. The seating is of tubular steel, removable in ranks of six, and upholstered in brown cloth.

BY REGINALD H. UREN



HORNSEY TOWN HALL



DESIGNED BY

REGINALD H. UREN

INTERNAL FINISH.—*Entrance hall, staircase, and foyer are finished in polished perrycot stone with Ashburton marble plinth and stair risers. Floors are of precast terrazzo tiles, and screens and balustrades are in bronze.*

The assembly hall is floored in teak strip, and panelled to a height of 10 ft. with acoustic plaster over, and fibrous plaster ceiling. Rear walls are finished with asbestos-cement slabbing.

The council chamber is floored with pine for close carpeting, with two walls panelled, and two walls with marble dado masking heating coils and fabric panels covering asbestos slabbing above.

The committee rooms are flush panelled full height with a marble floor surround over heating coils. Furniture is in oak and blue hide upholstery.

Offices generally have cork tile floors on plywood and distempered walls and ceilings. The senior officers' rooms have built-in shelving and cupboard space flush-veneered, equipment elsewhere being of steel.

ADMINISTRATION BUILDINGS.—*The corridors are floored in 5 ft. square plywood panels, finished in cork, and have cream painted walls and ceilings. Lavatory walls and floors are of terrazzo, laid in situ and sectionalized with metal strips. Partitions are of terrazzo. Flush wooden access panels to pipe runs are provided in duct walls.*

The photographs show: top, a detail of the supper room on the lower ground floor, showing some of the tubular steel tables as stacked when not in use; left, the director of education's room, and a view of the automatic stokers of the coke-fired boilers.

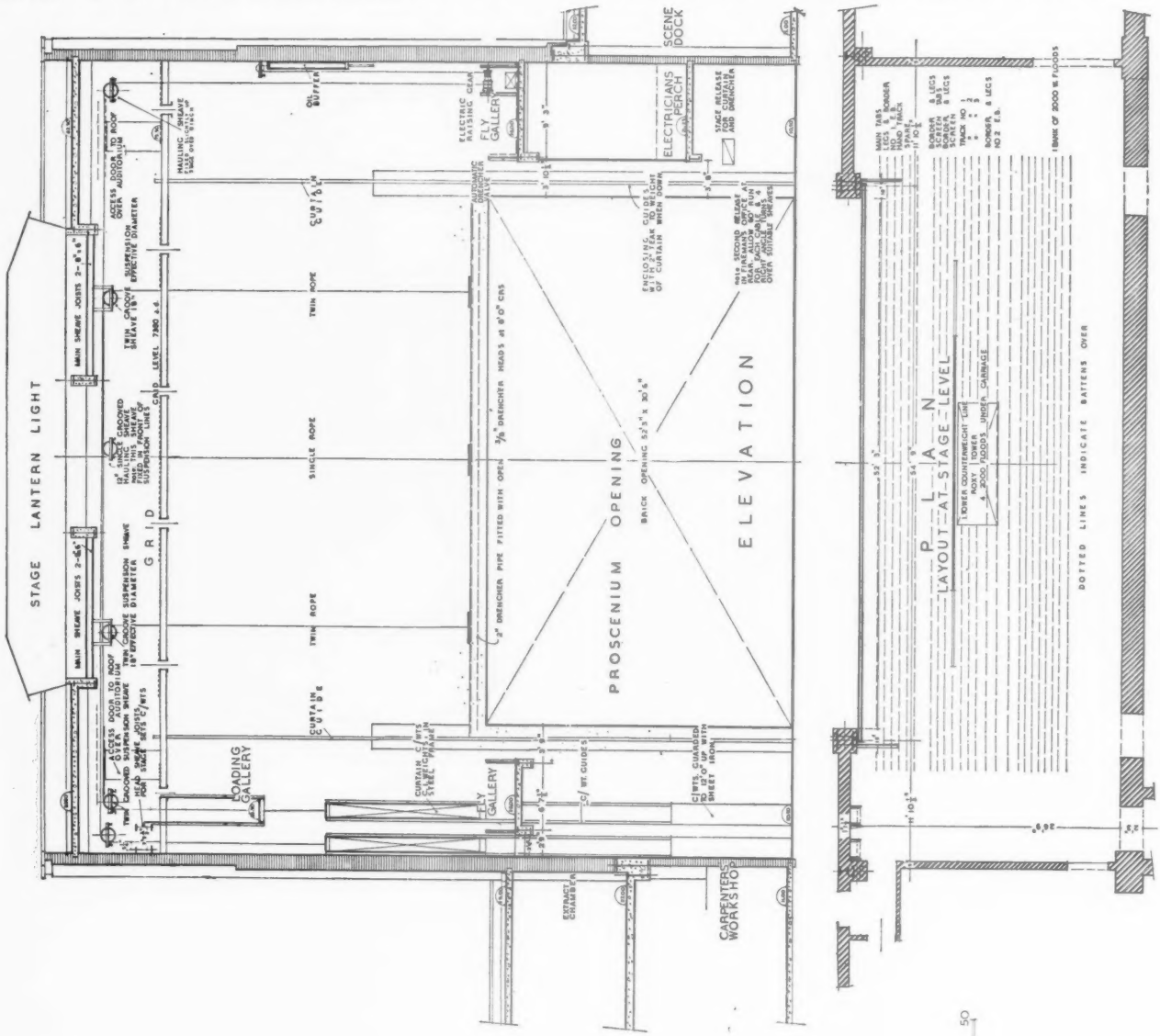
WORKING DETAILS : 355

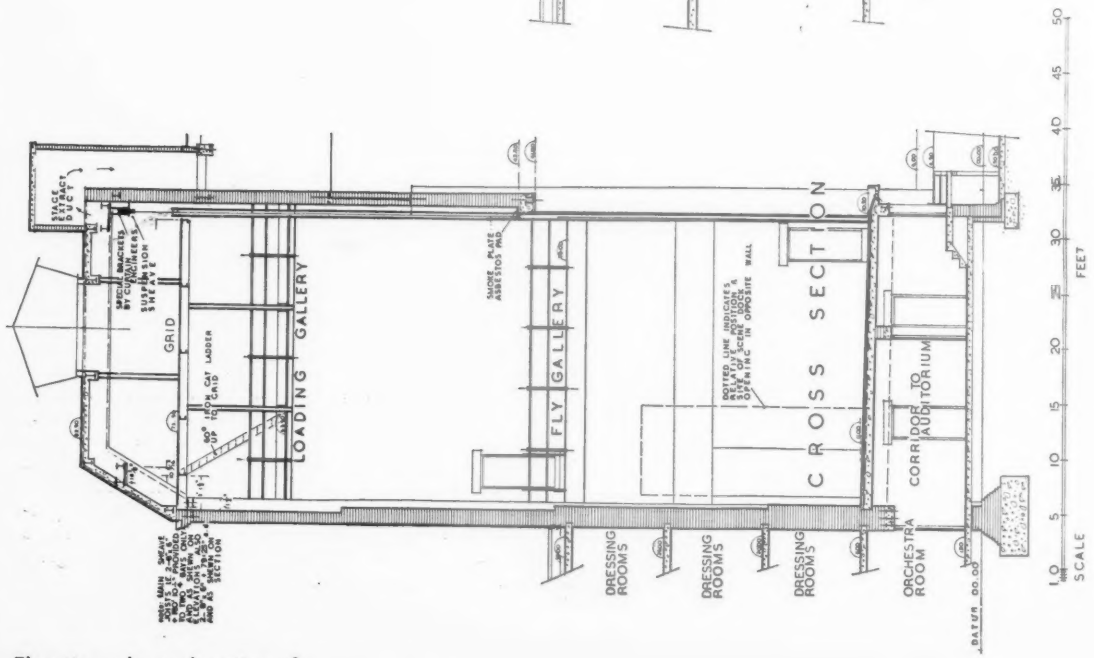
STAGE • GAUMONT CINEMA, CHELSEA • W. E. TRENT, ARCHITECT; E. F. TULLEY, ASSISTANT

A fully equipped stage is about 30 ft. deep, 65 ft. high, to allow for the flying of scenery, and has ample stage room on either side of the proscenium. Fly platforms on either side extend the full depth of the stage, but where the scenery is counterweighted these are not strictly essential. The grid, preferably constructed of steel, is approximately 60 ft. above stage level. The screen and the talkie horns are both counterweighted to enable them to be taken up out of the way during stage presentations. Above is a photograph taken from the stage looking up towards the fly platforms and the grid. Detail drawings are reproduced overleaf.

WORKING DETAILS : 356

STAGE • GAUMONT CINEMA, CHELSEA • W. E. TRENT, ARCHITECT; E. F. TULLEY, ASSISTANT

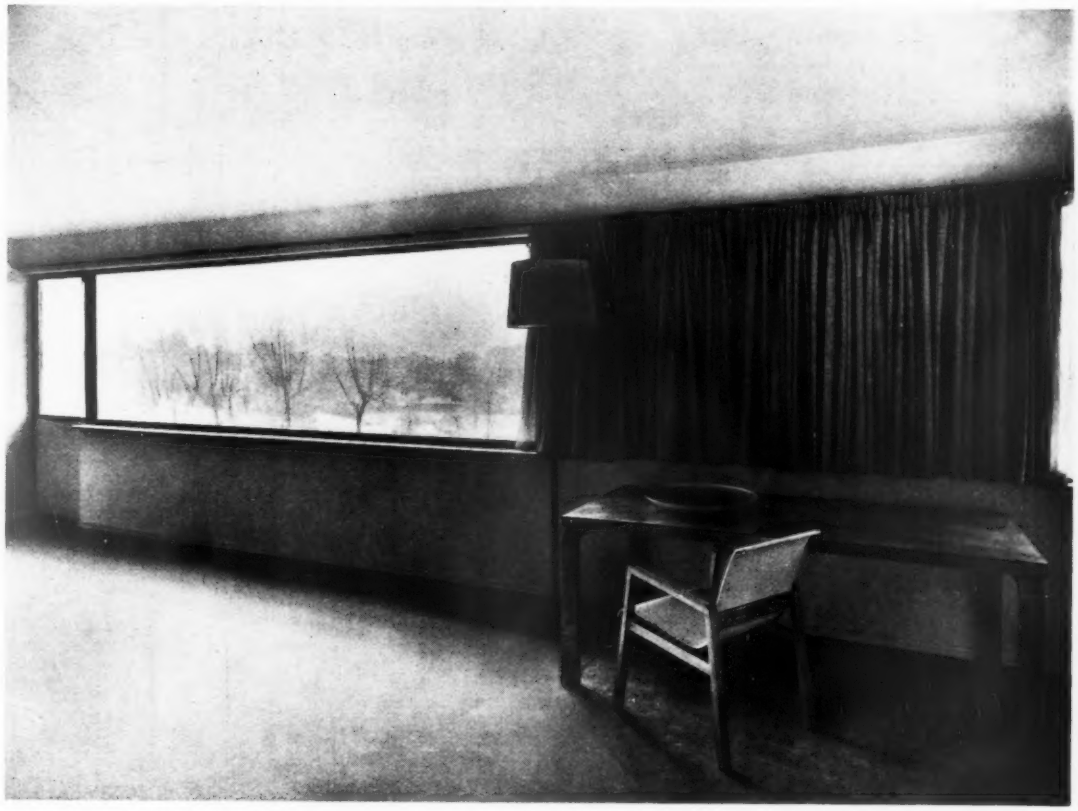




Elevation, plan and section of the stage illustrated overleaf.

WORKING DETAILS : 357

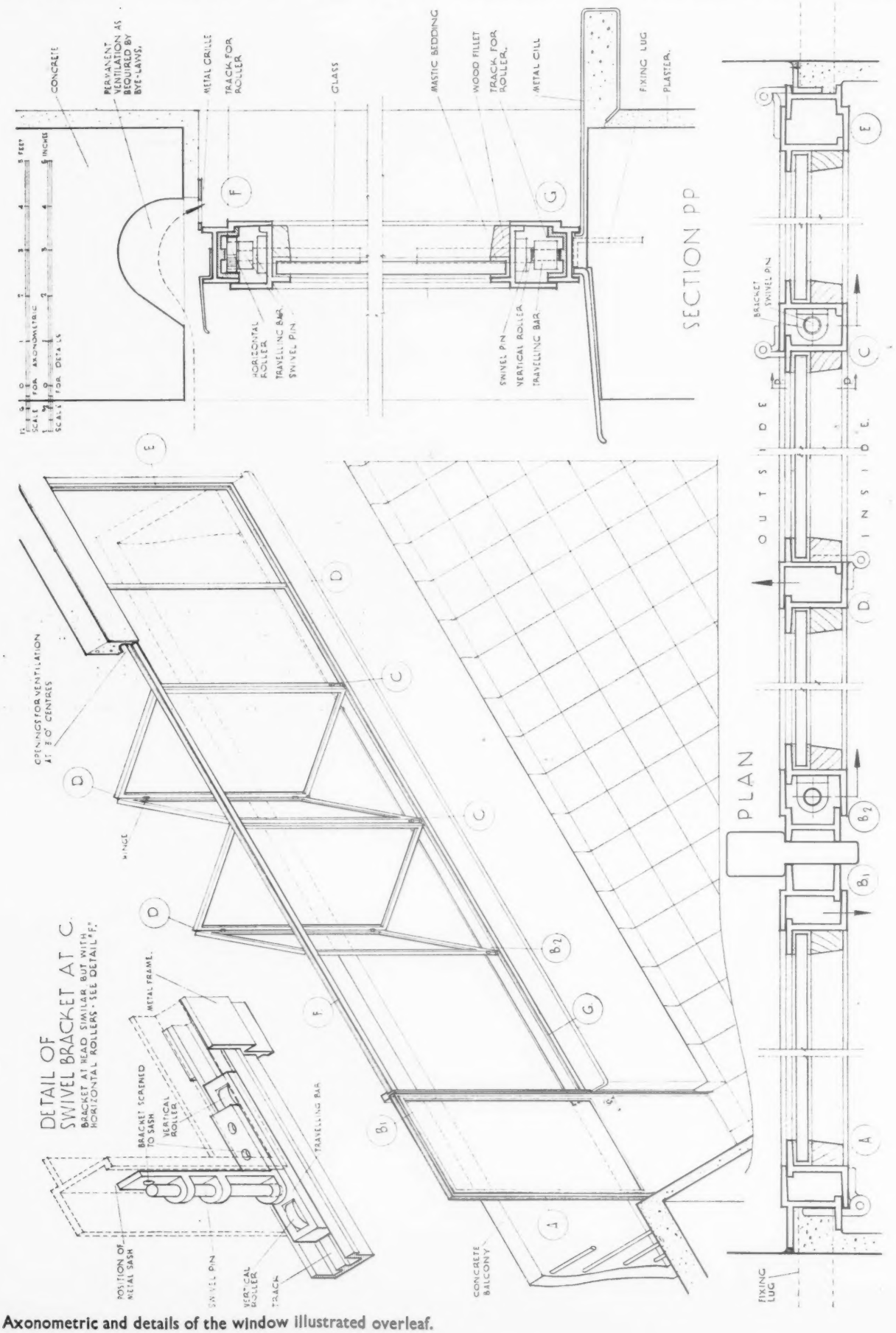
CONCERTINA WINDOW • HIGH POINT, HIGHGATE • LUBETKIN AND TECTON



The window illustrated above runs down one wall of a long living room in a block of flats, and is arranged to fold and slide away to one side, leaving a completely clear opening; permanent ventilation is arranged over the top of the window. An axonometric and details are shown overleaf.

WORKING DETAILS : 358

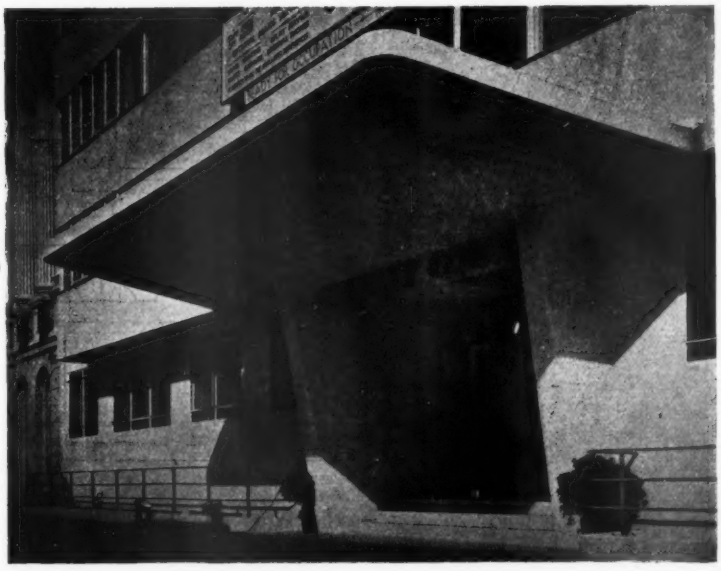
CONCERTINA WINDOW • HIGH POINT, HIGHGATE • LUBETKIN AND TECTON



Axonometric and details of the window illustrated overleaf.

EMBASSY COURT, BRIGHTON

DESIGNED BY WELLS COATES



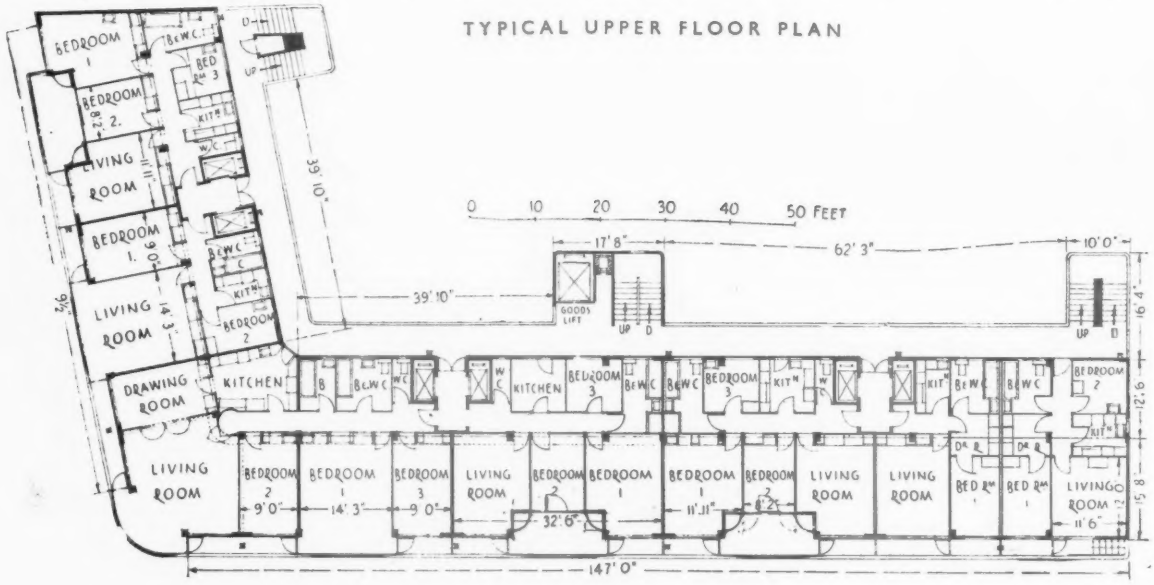
GENERAL PROBLEM AND SITE.—*The building is situated upon the Brighton sea front, with its shorter façade facing the sea. The site as purchased extended a further 50 feet towards the esplanade, this portion of the site and a strip adjoining Western Street being surrendered to the Corporation in return for permission to build high.*

The height and setbacks of the block, together with the number of flats desirable to bring an economic return, had been generally agreed beforehand, and the architect was desired to produce the best solution compatible with these existing factors. In addition, the architect prepared a sketch scheme of development for a considerable adjoining area whilst approaching the problem of this building. The flats were intended either as week-end accommodation for persons in the Home Counties, or as permanent dwellings.

The photographs show : a general view, and detail of the main entrance.

EMBASSY COURT, BRIGHTON:

TYPICAL UPPER FLOOR PLAN

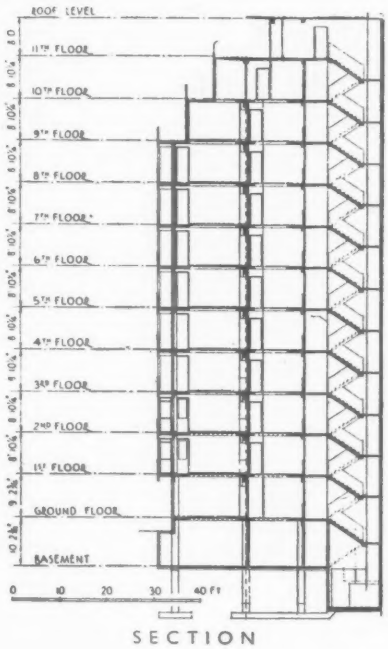


PLAN.—*The plan form was controlled by the desire to give all living rooms and principal bedrooms an outlook over the sea, either direct or somewhat obliquely down Western Street. Whilst this plan form pointed towards the gallery type of access, the latter's disadvantages rendered it unsuitable when used alone, and the final solution is a combination of internal and external circulation. The external galleries are used as tradesmen's access, goods access, and secondary or fire-escape circulation, whilst internal access is provided for tenants from two small lifts on each floor serving two flats.*

In considering access, it was held that a high proportion of the tenants and their guests would desire to use the lifts, and the staircases were thus placed purely for emergency use, and two small lifts, being little more costly than one large lift, were installed to each vertical unit of flats.

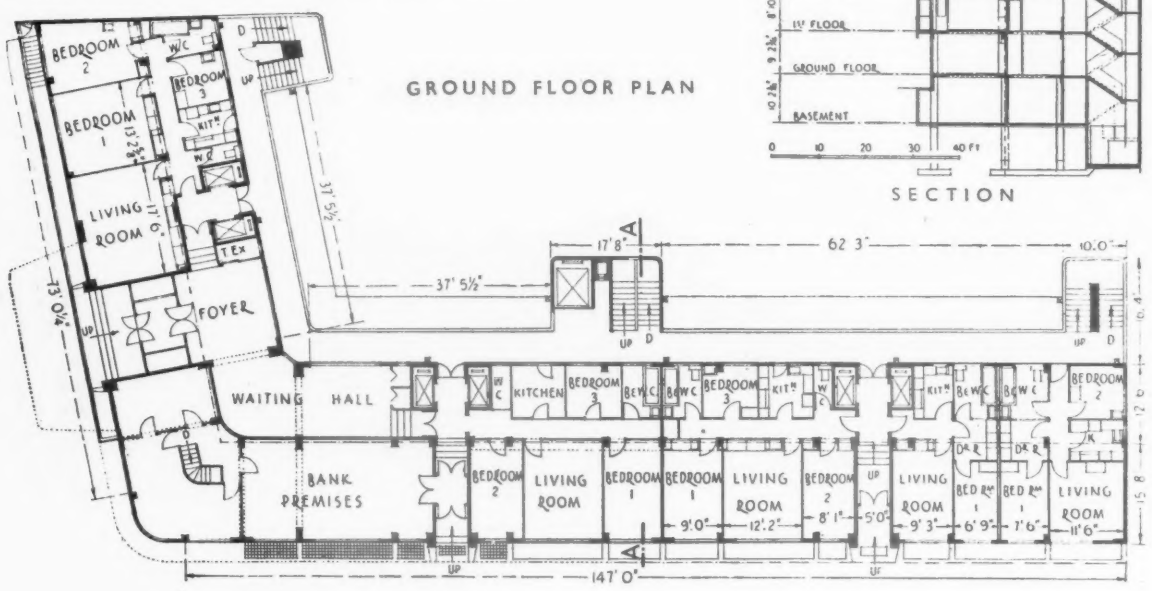
In addition to verandahs, each flat was planned with a sun room equipped with a large folding and sliding window.

The ground floor circulation was controlled by the provision of banking premises on the corner site, the principal entrance, foyer and hall connecting up two of the access lift halls, whilst the third has an independent entrance.



SECTION

GROUND FLOOR PLAN



DESIGNED BY WELLS COATES

A detail of the side elevation.

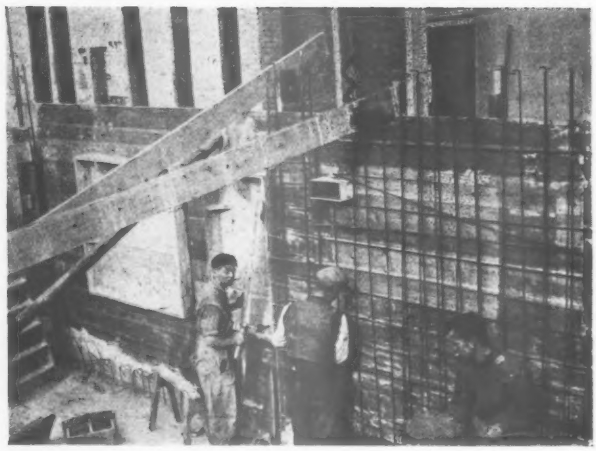
EMBASSY COURT, BRIGHTON:

ELEVATIONAL TREATMENT.—*The building is finished on the street fronts with cream cement rendering, and elsewhere with two coats of a special concrete paint.*

CONSTRUCTION.—*The building is executed as a monolithic R.C. structure. Rigidity and lateral bracing is secured by linking up the lift towers and adjoining flat party walls, as well as the staircase towers and end walls, to form a series of lattice stanchions between which the slabs span along central and wall beams, being intermediately supported on light columns. The external slabs are of 4½ in. partially weight-carrying R.C. lined with 1 in. cork composition. Floors are part slab concrete (in which heating coils are embedded) and part hollow tile. Windows are of steel throughout. Partitions are of metal lathing and plaster.*

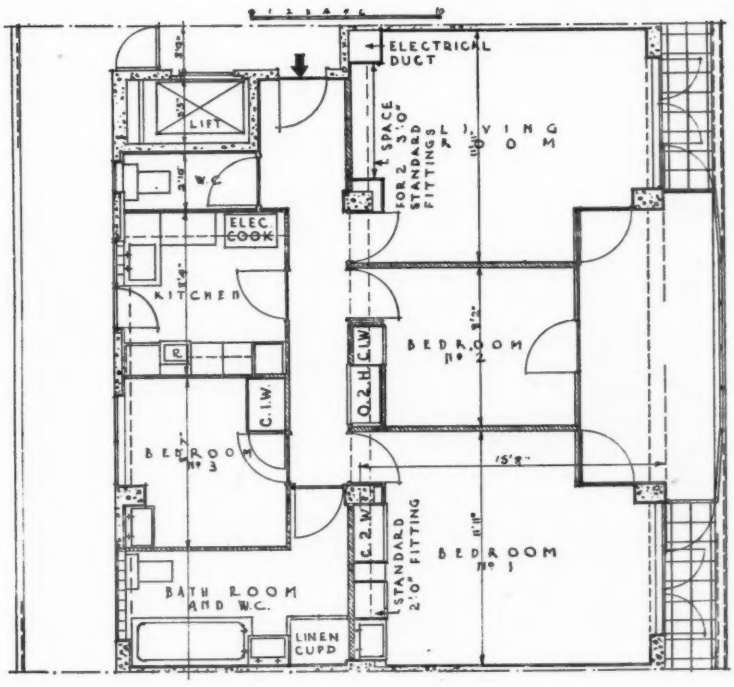
The single central beam, and the very flat "T" beams employed elsewhere obviated the disadvantage of room ceilings being broken by beams.

On the left is a detail view of the side elevation.



PROGRESS PHOTOGRAPHS.—*Left, welding the heating coils, prior to their being cased solid in the floor slab concrete. Right, wiring the reinforcement on one lift of the wall-slabbing. On the left of the photograph is a window opening.*

DESIGNED BY WELLS COATES

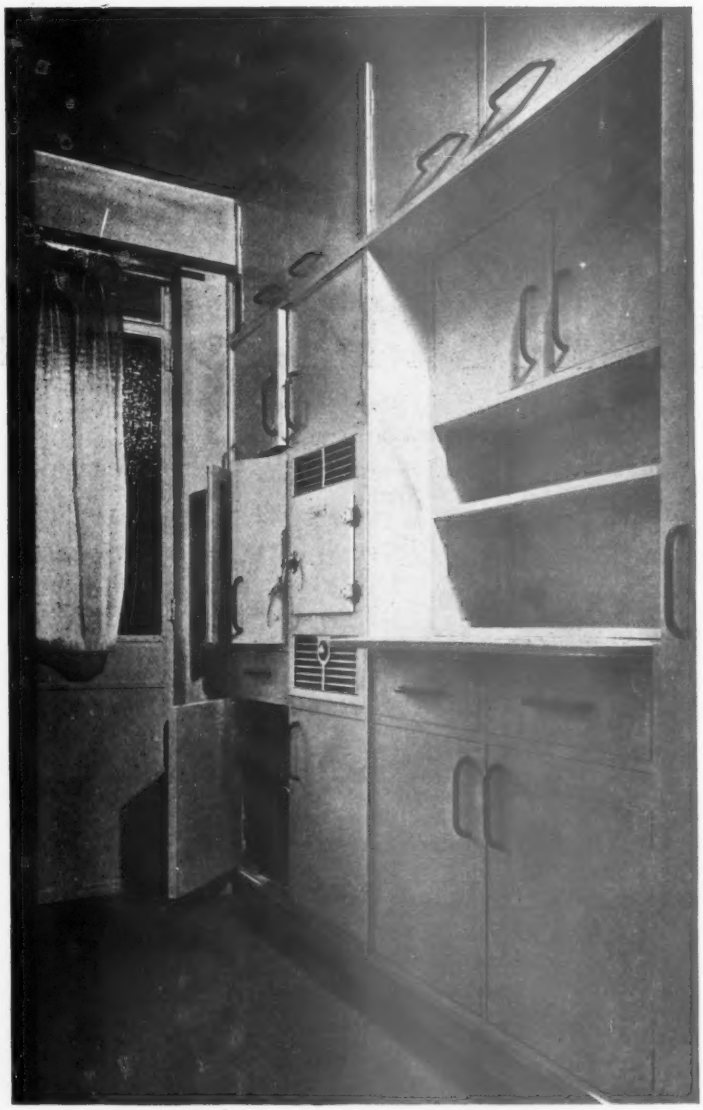


Above: the principal living room. The photograph shows the electric fireplace, bookshelves, settee, etc. (designed by the architect). On the right is a plan of a typical flat.

EMBASSY COURT, BRIGHTON

DESIGNED BY

WELLS COATES



INTERNAL FINISH.—*Floors of principal rooms and corridors are finished with cork composition on breeze concrete, and bathrooms and kitchens with magnesium composition. Window cills are tiled with pink beige tiles. Walls are finished in plaster and painted, and built-in fittings are in painted plywood.*

The service stairs and galleries are finished in grano, and main entrance, foyer floors and hall floors in terrazzo.

SERVICES.—*The flats are all-electrically equipped, and heating is by embedded ceiling coils, supplied from a low-pressure accelerated system. Water heating for all purposes is on the electric thermo-storage system, and is supplied from two electrode heaters in the basement. Risers are cased solid in the R.C. columns.*

Flats are wired for power, and the living-room has a built-in electric stove in all flats.

The photographs show: top, a principal bedroom; bottom, a kitchen. The furniture in the show flats was designed by the architect.

TECHNICAL SECTION: 37

HEATING, AIR CONDITIONING AND MECHANICAL EQUIPMENT

BY OSCAR FABER

O.B.E., D.C.L., D.Sc., M.Inst.C.E., Hon.A.R.I.B.A., A.M.I.E.E., F.C.G.I., M.I.H.V.E., M.Am.S.H.V.E.

AND J. R. KELL, M.I.H.V.E.

AIR CONDITIONING
(continued)

THE problems enumerated previously (page 605) may be discussed briefly as follows :—

1. AIR DISTRIBUTION WITHOUT DRAUGHTS

There are three general methods of air distribution :—

(*a*) Upward.
(*b*) Downward.
(*c*) Mixed upward and downward.

An upward system is one in which air is introduced at low level and exhausted through the roof or at high level, as in Fig. 209. This is satisfactory when the inlet air is as warm, or warmer, than that in the room, as is the case in winter, but when being cooled in summer it is unsatisfactory owing to cold draughts around the feet. Further, this method is only applicable in a theatre or hall with fixed seating—the inlets taking the form of adjustable mushroom ventilators under the stalls and gallery riser gratings.

Where an open floor exists, as in a restaurant, the inlets must be placed above head level on the side walls, and it is then difficult to get the air to distribute right across a wide room without draughts.

The type of system shown in Fig. 210 is, in effect, upward, and is often used in theatres without cooling plant, i.e., for ventilation only.

Downward ventilation is the exact reverse of the above, air being introduced at high level and exhausted at the floor, as in Fig. 211.

At first sight this method appears to oppose the laws of nature, since the rising currents of warm air from the occupants and other heat-producing sources would be expected to rise and not fall. This is actually what happens to start with, but after rising a short distance this warmer air mixes with the descending cooler air from the inlet vents and drops to the extracts, where it is evacuated. Thus a complicated set of very slight secondary currents is set up in the vicinity of the occupants, which tends to keep a degree of freshness in the atmosphere not present with the upward system. It must be remembered that the air volumes with full air conditioning are much higher than might serve with plain ventilation owing to the necessity for a limited temperature rise from inlet to outlet of 13 deg. or so. With such large volumes a positive downward displacement of the whole of the air is possible. With a more limited supply it is not so successful.

Owing to the fact that the air has picked up most of its heat by the time it reaches the occupants the latter are subjected to air at the outgoing temperature rather than at the inlet temperature.

Thus if cooling is being designed on the basis of 85 deg. F. outside dry-bulb and 75 deg. inside, the inlet air must be at a temperature below the latter by the amount of rise calculated for. If this is 13 deg. the inlet will be at 75−13=62 deg. F.

A drop of much more than 10 deg. F. between the outside air and that in the building in summer is generally considered too great for comfort. The blood is much thinner in summer and exposure to air at the temperature of inlet, such as 62 deg., would cause an excessive feeling of chilliness, though in winter it would be quite satisfactory.

The problem with downward venti-

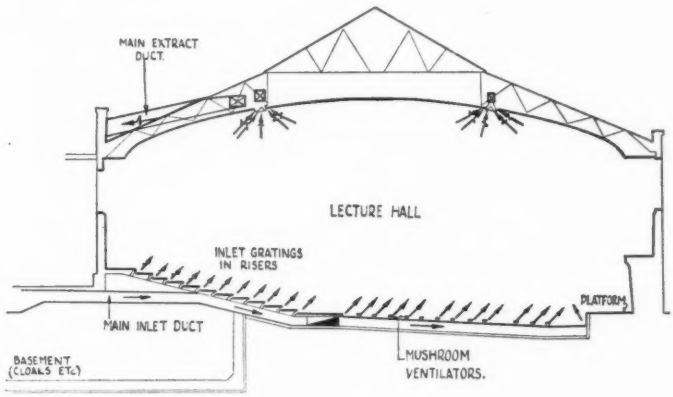


Figure 209. *Example of upward ventilation.*

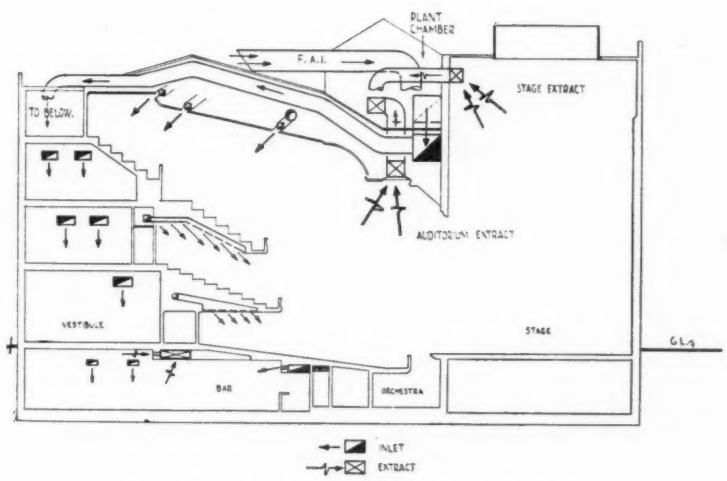


Figure 210. *Example of upward system in the theatre.*

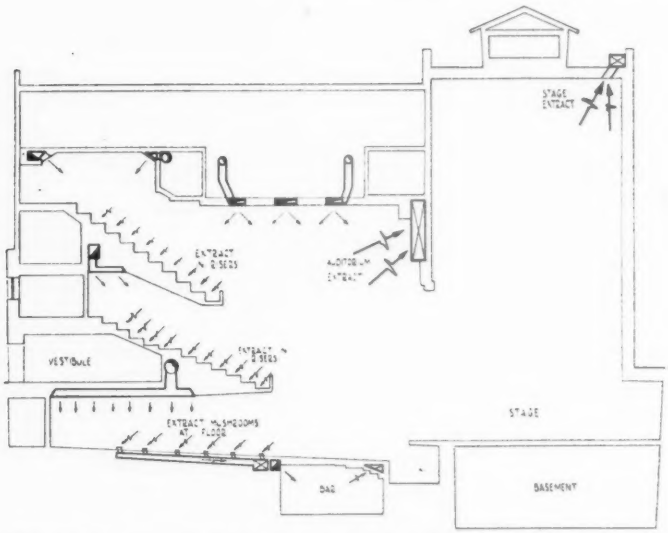


Figure 211. *Example of a downward system in a theatre. The high level exhaust labelled "Auditorium Extract" only comes into use when the fire curtain is lowered, the normal extracts then being shut off.*

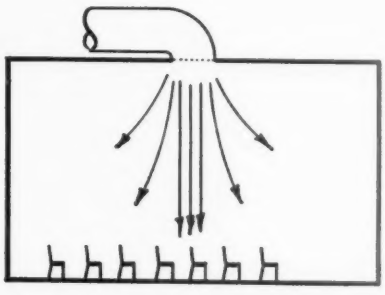


Figure 212. *Down-draughts produced with vertical inlet.*

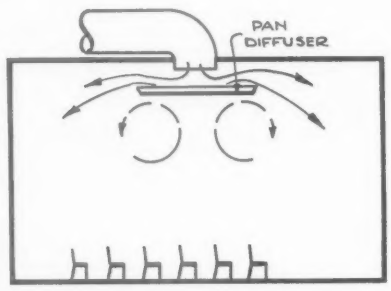


Figure 213. *Horizontal diffusing with downward system.*

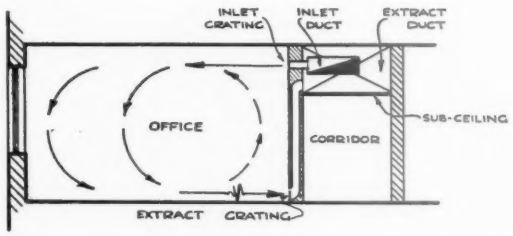


Figure 214. *Downward system applied to an office building.*

lation, then, is to introduce the air at high level in such a manner as will allow it to fall evenly and at low velocity over the whole area. This is effected by horizontal rather than vertical distribution. If the openings in the ceiling are as in Fig. 212 the air will fall at a rapidly increasing rate to the floor in isolated spots like a waterfall, and will cause excessive draughts. If introduced in a ceiling diffuser, as in Fig. 213, the air spreads evenly without such a result.

Extraction may be effected through mushroom floor vents and riser grilles in the case of a theatre or through gratings in the side walls near the floor. Velocities through the outlets must be low owing to the proximity of the feet.

In smaller rooms such as offices a similar effect is obtained by gratings for inlets and extracts, both on the same side of the room, in the wall, as in Fig. 214.

Inlets of these types, above head level, may be based on a velocity of 500 ft. per minute or more through the free area of the grating, depending on the type of room and its height. It appears to be a mistake to work with those low imperceptible velocities which have in the past been advocated as the ideal, since all turbulence is then lost and there is a great danger of inadequate distribution. The "blow" should be sufficient to carry across to the far wall, or in the case of a large hall or open space to a point half-way to the next inlet.

Extract velocities may be 300 to 400 ft. per minute through the free area of side wall gratings, but not more than 150 ft. per minute through mushroom vents or gallery risers. Draughts from extracts are not generally so troublesome as from inlets since the air approaches the grating from all directions, as in Fig. 215.

Other types of inlet are the "Stylovent," as Fig. 216, and the "Anemostat," as Fig. 217. With these air at velocities up to 1,000 ft. per minute may be allowed in the vertical entering duct, but due to the baffling effect of the plates a horizontal distribution at lower speed is produced.

A further type of inlet known as the "Punkah" louvre is shown in Fig. 218. This has been much used in steamships where a positive blast of air is necessary for relief in the tropics. The outlet is directional and may be swivelled or shut off as desired. Vigorous secondary circulations are set up with this fitting so that a high degree of turbulence is effected in the room. It is also useful in certain cases in buildings, but is not always applicable.

A still further type of inlet register is shown in Fig. 219. With this air is introduced in thin streams at velocities of 2,000 ft. per minute or over, but if the mouths are correctly shaped no noise need result. At these speeds secondary currents are induced, which mix with the incoming air so that the volume of air moved is vastly greater than that introduced. Thus for cooling, much lower temperature air may be used for the inlet, with resulting economy in plant and ducts. With air entering 30 deg. F. below room temperature it is stated that at a distance of 3 ft. from the face of the grating it may be no more than 5 deg. below.

A further advantage of this type is that a pressure of air of about $\frac{1}{4}$ in. water gauge has to be maintained behind the grating, and this assists materially in the even distribution of air throughout the duct system.

Naturally the method of air introduction largely depends on architectural treatment, and a great variety of arrangements is possible, such as fretted cornices and beam casings, openings around lay-lights and so on.

Whilst the downward system is primarily intended for cooling it is found to be just as suitable as others for winter use when the air is introduced at, or slightly above, room temperature.

The mixed system is as shown in Fig. 220, partly upward and partly downward. This is suitable to special cases and has been used in some restaurants with success. The air is introduced horizontally from the side, half or rather more going upward to the ceiling extract, carrying away the bulk of the heated air and smoke, the remainder diffusing at low level and being removed at the floors.

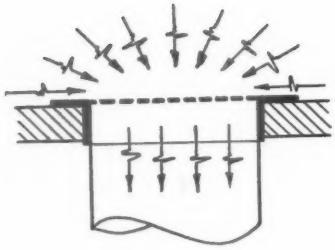


Fig. 215.

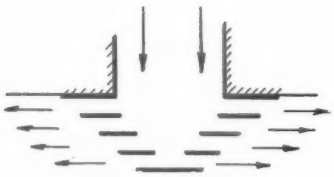


Fig. 216.

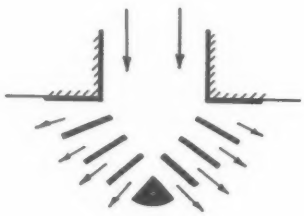
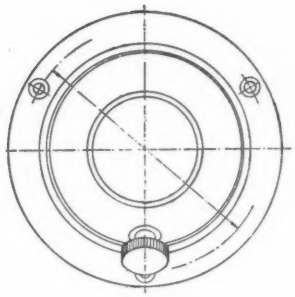


Fig. 217.



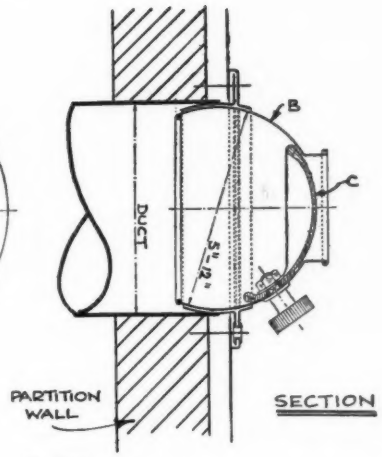


Fig. 218.

Figure 215. *Air currents near extract grating.*

Figure 216. *Diagram of "Stylovent" system.*

Figure 217. *Design of "Anemostat" diffuser.*

Figure 218. *Punkah type of high-velocity directional inlet opening. The shield C controls the volume delivered, and the direction of the jet is varied by moving the ball B in its spherical seating.*

Figure 219. *High-velocity type grating.*

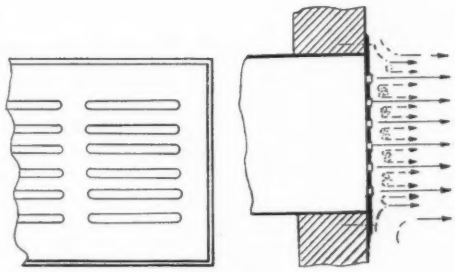


Fig. 219.

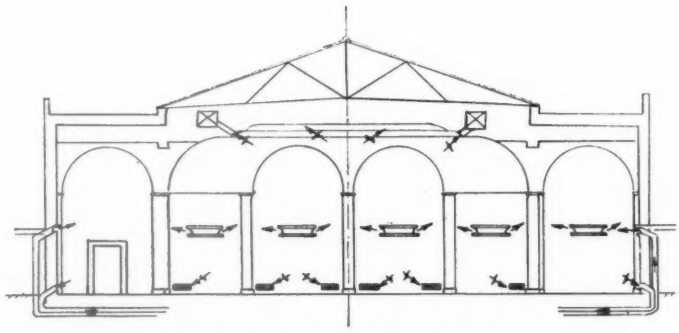


Figure 220. *Mixed system of distribution applied to a restaurant.*

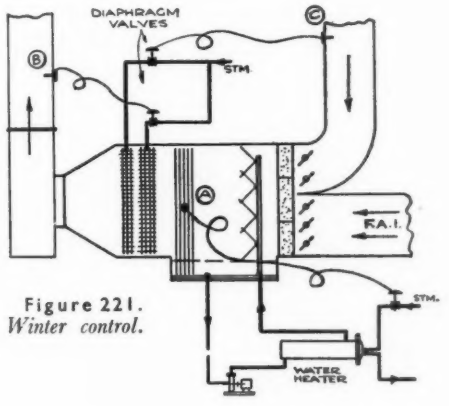


Figure 221. *Winter control.*

2. CONTROL TO SUIT VARYING CONDITIONS

With a single hall or room operated by one air conditioning unit, control is effected on the plant itself. Winter and summer conditions must be catered for separately.

In winter a thermostat at A (after the washer) (see Fig. 221) controls the admission of steam or hot water to the spray heater (or to the air preheater) so as to give a constant washer exit temperature, i.e., fixed dew point, as already mentioned. A further thermostat B controls the admission of heat to the main heater, so that the air delivered is at, say, 60 deg. dry bulb. This with a dew point of 52 deg. gives a relative humidity of 50 per cent., which is satisfactory, in which case, if the washer humidifies to 90 per cent. saturation, the washer outlet would be 54 deg.

The fixed dew point control is satisfactory in this case so long as the entering air is below such a temperature that, after passing the washer, it is at not more than 54 deg. If such is not the case the relative humidity is not under control except by shutting off the washer by hand or dehumidifying by means of a cooled spray. This is not usually necessary in air conditioning for comfort in winter, though it might be for certain industrial applications.

As the hall or room fills, or otherwise becomes warmed, the inlet temperature may be lowered with advantage by a thermostat C in the room or in the return duct operating as a master control over B or on a separate section of the heater independently. A limit is set to the reduction effected so as to prevent unduly cool air being delivered.

In summer a separate thermostat at E (Fig. 222) controls the proportion of cooled water and recirculated water to the mixing valve F on the washer pump suction. This gives a fixed dew point outlet from the washer. A ther-

mostat G in the fan discharge regulates the amount of reheat either in the heating coils or by adjustment of the volume of by-pass air admitted through the louvres H. Again, a thermostat in the return duct may be provided to readjust these settings to suit the greater cooling load in the room. The cool water temperature is kept constant by control of the refrigerating plant.

The above applies, as stated, to a single room. Where a multiplicity of rooms such as an office building are served from one air conditioning plant the matter of controls becomes more involved if exact regulation of temperature and humidity in each one individually is to be provided, because the rooms may vary relatively to one another in occupancy and sun effect from hour to hour.

If, however, a few degrees variation is permissible, the simplest plan is obviously to serve such a building from one plant delivering air at constant temperature and humidity with a constant volume of air supply to each room. The heat reserve of the building seems to balance out local irregularities, giving much steadier conditions than might appear possible without local control.

A closer approach to the ideal is obtainable if the building is divided into zones of roughly equal exposure. Thus all rooms on the east might be served from one plant, those on the south another, and so on. As the sun moves round during the day and the occupancy varies the temperature or volume of air supplied from each plant may be adjusted automatically to suit the changing conditions. At the new Hong Kong and Shanghai Bank, for example, the system is divided into six zones.

The most complete system of control involves a thermostat in each room controlling the amount of air admitted by means of a damper in the individual supply duct. The apparatus is arranged as in Fig. 223. One plant supplies the whole building, and each floor or section of a floor has a separate recirculation unit. These consist of a small fan and heater and inlet and extract ducts to the rooms. They operate independently of the main system and handle a relatively large volume giving good air movement to the occupied spaces.

The suction of each recirculation fan is supplied both from its own extract duct and from the central plant. When cooling in summer the amount of cooling air drawn from the latter is varied in response to a thermostat in one of the rooms near by. In winter the heater is similarly controlled. Having thus adjusted the temperature of the air supply for the section, it is likely that it will be nearly suitable for each room. The final regulation of the volume delivered through each outlet by the room thermostat completes the control.

As the fresh air supplied from the main plant to each recirculation unit forms only a part of the total air moved, the main system, including fan, washer, ducts, etc., may be much smaller than would otherwise be the case. For the same reason the air supply from the central apparatus in summer is at a lower temperature, probably at the dew point. This is regulated, as previously described, by thermostatic control of the mixing valve on the washer suction.

Control over the total volume of air delivered by the central plant is necessary, since the various recirculating units call for different amounts of air from time to time. If this were not done the closing of one section would only result in an increased supply to all the others. For this purpose a patented system known as " static pressure control " has been devised, which maintains a constant static pressure in the system by adjustment of dampers in the main fan discharge.

Controls for air conditioning systems are most usually operated by compressed air. The thermostats then simply open or close relay valves for applying or releasing air pressure on diaphragm valves or damper motors. Gradual operation of a mixing valve or set of louvres is possible with suitable types of gear, a mid position often being necessary. There are also water and electric systems of control.

3. CALCULATION OF AIR QUANTITIES AND COOLING LOAD

The volume of air to be supplied for cooling purposes depends directly on the heat gain in the room and on the temperature rise permissible. The latter is limited by the difficulty of introducing air at very much lower temperature (and density) into a warmer atmosphere without draughts, and 10 deg. to 13 deg. difference is about the maximum.

The heat gains are made up of :—

(*a*) Conduction through walls, roof, partitions, windows and doors. This

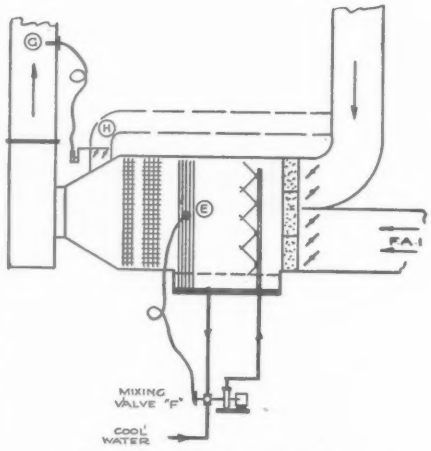


Figure 222. *Summer controls.*

may be estimated just as for ordinary heat losses for a heating system, taking outside 85 deg., inside 75 deg., i.e., 10 deg. difference (or some other reasonable basis).

(*b*) Sun effect, i.e., solar radiation through windows and skylights. The latter are often exposed to the sun all day, and in our latitudes as much as 220 B.T.U.'s per sq. ft. may be transmitted through a horizontal surface.

Windows are only exposed to the sun for a period of a few hours according to the direction which they face. Thus the cooling load shifts round during the day. East and west windows transmit more sun heat than those facing south, since the angle of the sun is higher with the latter. The maximum east sun is at 8—9 a.m., giving about 180 B.T.U.'s per sq. ft. of glass (vertical face). The maximum south sun is at noon, giving about 100 B.T.U.'s per sq. ft., and the maximum west sun is at 4—5 p.m., giving the same as the east, about 180 B.T.U.'s per sq. ft. These are for unshaded glass.

White or light curtains inside may reduce the transmission by about 50 per cent., due to reflection. Dark

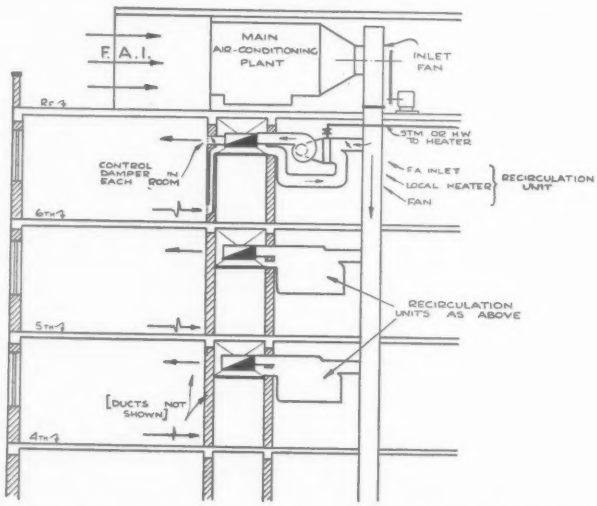


Figure 223. *Air-conditioning an office building, using recirculation units.*

material will absorb considerably more.

Outside sun blinds are much more effective and will exclude about 85 per cent. of the solar radiation. Windows giving on to pavements may gain something by upward reflection through the sunblind, which might then be assumed to exclude about 75 per cent.

The sun effect on normal brick walls is not generally allowed for, as the heat capacity is great compared with the time of exposure. For roofs it cannot be ignored and may be very great if uninsulated. It is, in fact, practically hopeless to try to cool a top floor with a black asphalted concrete roof slab over. A 6 in. concrete slab may transmit as much as 25 B.T.U.'s per sq. ft. by sun effect. If light sun-reflecting tiles are used on top this may be reduced to about 9 B.T.U.'s per sq. ft. If 2 in. cork were used over the slab, with asphalt finish, about 7 B.T.U.'s would be transmitted, and if both cork and light tiles, about 3 B.T.U.'s.

A simple method of reducing heat from a roof is to spray water over it. The surface temperature is immediately lowered to that of the wet bulb, and the radiation effect is removed by the evaporation of the water. Quite apart from air conditioning, the temperature of a top floor which is often well above outside air temperature in hot summer may be reduced by as much as 15 deg. to 20 deg. by this means.

Where the top floor has an attic space which mounts to 100 deg. or over in hot weather some reduction can be effected by ventilating the space by means of a fan or by blowing the discharge of the extract fan through it.

(*c*) Infiltration of warmed outside air. This takes place even though a supposed pressure inside the building is created. Generally one-third or one-half air change per hour is allowed in the calculations. Much can be done with double doors, etc., to check this loss. Windows must, of course, be kept shut for air conditioning to be possible. It should also be remembered that the infiltration air brings in moisture which also adds to the cooling load.

(*d*) Heat from occupants. The sensible heat is variously given at between 220 and 400 B.T.U.'s per person per hour according to the activity. 300 would appear an average figure.

In addition to this there is the latent heat of the moisture evaporated. An average figure for this is 0·11 lb. water per hour, which at 1,000 B.T.U.'s per lb. = 110 B.T.U.'s. This item generally only affects the humidity side of the question and not the quantity of air.

(*e*) Heat from lights, motors, etc. The estimated maximum units per hour × 3415 will give the heat from this source in B.T.U.'s.

Having established the total heat gain, the volume to be delivered to the room is found, as has already been shown, by dividing this figure by the specific heat × temperature rise. The result may be in lb. of air or in cubic feet. The former is more convenient as the volume varies at every stage through the plant.

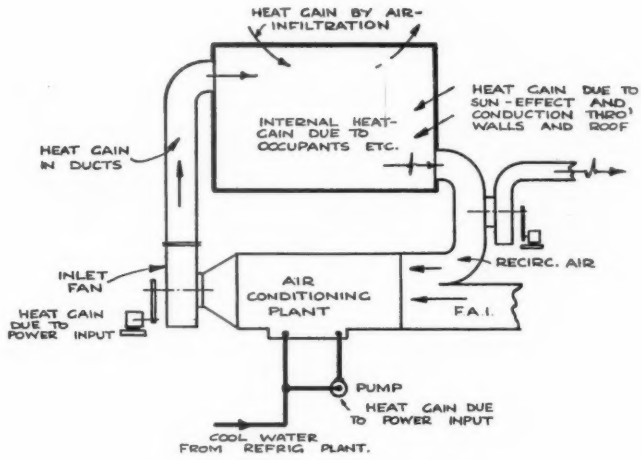


Figure 224. *Diagram showing heat gains.*

COOLING LOAD

Considering Fig. 224, the cooling to be done by the dehumidifier is :—

(*a*) Cooling and dehumidifying the proportion of extract air recirculated.

(*b*) Cooling and dehumidifying the fresh air introduced.

These two items form a subject on their own, and it is not possible to do more than refer the reader to the many textbooks which cover the ground.

(*c*) Allowing for a temperature rise in the ducts the air must be carried to a lower temperature than is necessary for the room conditions.

(*d*) The horse power input to the fan increases the air supply temperature still further.

Both (*c*) and (*d*) have therefore to be added to the cooling load. The amount of cooled water to be circulated to the plant is determined directly from the above by allowing a 5 deg. or 6 deg. rise in the washer. The heat equivalent of the horse power input to the pump must be allowed for in determining this rise.

To the total so determined various heat gains of pipework, etc., should be added to give the cooling load in B.T.U.'s per hour. This is sometimes converted into " tons of refrigeration," which is a term used in that industry. The American ton (2,000 lb.) of refrigeration is equal to the heat required to melt one ton of solid ice per 24 hours

$$= \frac{2{,}000 \times 144}{24}$$

= 12,000 B.T.U.'s per hour.

Thus a plant to extract 2,400,000 B.T.U's per hour is called a 200 ton plant. There is no corresponding British ton of refrigeration.

The heating load in winter is obtained by multiplying the weight of fresh or mixed air intake, by the temperature rise and the specific heat. Added to this is the heat of evaporation of the moisture added by the washer, generally equal to a drop of about 8 deg. in the temperature of the air.

4. NECESSITY FOR BUILDING INSULATION AND MEANS FOR SUN EXCLUSION

The importance of these measures will be apparent from what has already been said. Heat leaks in and dissipates the effect of cooling in many ways, each small in itself, but cumulative in result, and the greatest care is necessary to exclude all possible sources.

Cooling costs much more than heating, hence insulation is more remunerative. To give, say, 1,000,000 B.T.U.'s of cooling a refrigerating machine motor of about 150 h.p. would be called for, with a running cost at 1d. a unit of about 12s. 6d. per hour. The same amount of heating produced by coal at 30s. a ton in a boiler would cost 2s. 1d., or one-sixth of the cost of cooling.

The various methods of insulation already discussed for heating apply for cooling.

Methods of sun exclusion have already been mentioned. Although it is contrary to the modern tendency, the less glass the better so far as air conditioning is concerned.

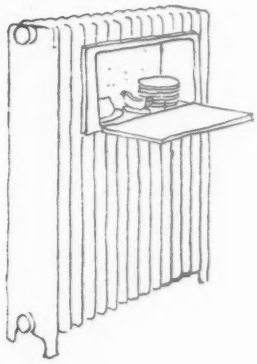
●

Announcement

Mr. J. E. Seabright, A.R.I.B.A., A.I.A.A., of 1 Corbett Avenue, Droitwich Spa, has opened a branch office at No. 5 Foregate Street, Worcester, and he will be pleased to receive trade catalogues.

National Housing and Town Planning Council

Special attention will be directed by the National Housing and Town Planning Council at its forthcoming national conference at Scarborough to the urgent need for dealing with the problem of ribbon development. Mr. A. T. V. Robinson, C.B.E., Deputy Secretary to the Ministry of Transport, will submit a memorandum and open a discussion on this subject at the town planning session of the Conference on November 29.



TRADE NOTES

[*EDITED BY PHILIP SCHOLBERG*]

A New Facing Material

FLEXIBLE wood some years ago, and now flexible glass which can be applied very much like wallpaper; not, of course, in a single sheet, but in small units laid on a backing of stockinette. The British Vitrolite Company are marketing it under the name of Vitroflex.

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The units are small, 1 in. by 1 in., 2 in. by 1 in., or 2 in. by ½ in., and the standard panel sizes are 2 ft. square for the ordinary silvered mirror, and 2 ft. by 18 in. for the pink, blue and dull grey mirror. Fixing is simple, since the panels can be cut with an ordinary wheel cutter and pasted in position.

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The fact that the panel sizes are relatively small is not a disadvantage, since butt joints are easily made, and the material, being fairly heavy and extremely flexible, would be awkward to handle if the sizes were much bigger.

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The photograph on this page gives some idea of the material; incidentally, the fact that the "curves" are of necessity made up in the short straight lines of the separate units does not seem to matter. Even the table leg shown in the photograph, which is about 8 in. diameter, looks perfectly cylindrical.

•

The price is 5s. a square foot for the white mirrored glass, 6s. for the pink, blue and grey, the small 2 in. by ½ in. units costing 6d. a square foot more. Fixing costs necessarily vary, and the company will estimate for any job. Coloured opaque glasses can also be supplied in the same units, but prices have not yet been fixed.

•

For bars, counter fronts, mirrors, fireplace surrounds, and in a host of other places this material seems to have great possibilities. The manufacturers also suggest it for table tops, but this, to my mind, is definitely a mistake unless it is quite certain that the table will never be used for food of any kind. The ordinary restaurant table gives quite enough information about previous meals and the inevitable small gaps between each Vitroflex unit would only provide a resting place of macabre geological interest.

Plate-warming Cupboards

In a recent issue of *Bauwelt*, in the middle of an article on the heat emission of radiators, I came across a fairly ingenious idea which is illustrated in the headpiece to these notes. It is a plate-warming cupboard built into an ordinary radiator, and the combination might well be useful in a small flat or kitchen.

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Radiator manufacturers have, I know, to stock quite enough different sections without bothering about any more. As far as I can see this device would need three separate sections, a right and left-hand end wall and a plain section for the middle. The whole cupboard could then be built up to any reasonable length, the only difficulty being to make the cupboard deep enough without either an excessive projection or restricted water flow in the cupboard sections.

A Cheaper Aga Cooker

Aga Heat, Ltd., have just introduced a new standard cooker at a price of £47 10s., as against the £62 of the previous cheapest model.

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The cooker is essentially the same in lay-out, but the small hot water supply tank has been omitted and the space thus saved has resulted in a slightly smaller overall size and an increase of 1½ in. in the height of the top oven.

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Finish is the same, except for hotplate lids in cream enamel instead of chromium, and this seems to have advantages in that it is easily cleaned and yet does not show finger marks.

THE BUILDINGS ILLUSTRATED

HORNSEY TOWN HALL (pages 729 to 736). The general contractors were Messrs. Gee, Walker and Slater, Ltd. The principal sub-contractors and suppliers included :—

Structure.—Dorman Long & Co., Ltd., steel; Caxton Floors, Ltd., hollow tile floors and stairs; Henry Parker & Co., brickwork (supply); Frazzi, Ltd., flat roofing; Roberts Adlard & Co., Ltd., roofing (slating); Luxfer, Ltd., metal windows; Bath and Portland Stone Firms, Ltd., stone; Walter W. Jenkins & Co., Ltd., marble; Diespeker & Co., Ltd., terrazzo; Joseph F. Ebner, Ltd., flooring.

Finishes.—J. Starkie Gardner, Ltd., internal bronze; H. H. Martyn & Co., Ltd., external metalwork and fibrous plaster; H. and F. Badcock, fibrous plaster; John P. White & Co., Ltd., Fredk. Tibbenham, Ltd., and H. H. Martyn & Co., woodwork finishings; London Sand Blast

Vitroflex plain mirror used above and below the built-in electric fire and on the bulkhead to the left. The leg of the table is covered in white opaque Vitroflex. See note on this page.

Decorative Glass Works, Ltd., decorative glazing; Luxfer, Ltd., pressed steel skirtings and architraves; May Acoustics, Ltd., acoustic plaster; Allen and Greaves, Ltd., wrot ironwork.

Equipment.—Marryat and Scott, Ltd., lifts; J. Jeffreys & Co., Ltd., heating and ventilating; B. French, Ltd., electrical installation; Synchronome Co., Ltd., clocks; New System Telephones, Ltd., telephones; John Bolding & Co., Ltd., sanitary fittings; Haskins, roller shutters; Cox & Co., seating.

EMBASSY COURT, BRIGHTON (pages 741 to 746). The general contractors were E. D. Winn & Co., Ltd., The principal sub-contractors and suppliers included :—

Structure.—Bierrum and Partners, reinforced concrete; D. Anderson & Co., Ltd., special roofing—Thermotile, roofing felt—Macasfelt; Adamite Co., Ltd., partitions—Bricanion.

Finishes.—Mollo and Egan, craftsmen; Carter & Co., Ltd., tiles; G. Stephenson & Co., Ltd., cork parquet flooring; Durolife Products, Ltd., waterproofing materials—Durolife; Imperial Chemical Industries, Ltd., Pioneer plaster; Tube Products, Ltd., Oldbury, Birmingham, metalwork; Pel, Ltd., Oldbury, Birmingham, metal work and furniture; F. Bradford & Co., Ltd., "Cullamix" external rendering.

Equipment.—Ace Laminated Products, Ltd., flush doors and laminated board for built-in fitments; Richard Crittall & Co., Ltd., central and electric heating—Thermovents; Smith and Hammond, Ltd., electric wiring; Troughton and Young, Ltd., electric light fixtures; George Jennings & Co., Ltd., sanitary fittings; James Gibbons, Ltd., door furniture; Henry Hope and Sons, Ltd., casements and window furniture; Automatic Internal Telephones, Ltd., telephones; Mather and Platt, Ltd., rolling shutters; Haywards, Ltd., fireproof doors; D. Burkle and Son, Ltd., furniture; Marryat and Scott, Ltd., lifts; Eric Munday, Ltd., clocks, signs and lettering.

CORRIGENDA

In the description of Shoreham Airport, designed by Stavers H. Tiltman, L.R.I.B.A., which was illustrated in the issue of October 31st, it was stated that the floors and roofs of the administration building were of precast reinforced concrete and filler joist construction.

The floors and roofs throughout this building were executed by the Caxton Floor Co., and are of their usual reinforced concrete hollow tile construction.

We regret that the name of Messrs. Aldridge Brick, Tile and Coal Co., Ltd., who supplied over 80,000 bricks for the Odeon Cinema, Kingstanding, illustrated in our last issue, was inadvertently omitted from the list of contractors for that building.

In the description accompanying the illustrations of a house at Wolverhampton, designed by S. W. D. Timmins, L.R.I.B.A., which was published in our issue for October 17, the means of access to the large first floor bedroom was omitted. In order to have space on the ground floor this bedroom is reached by a patent sliding stairway which, when not in use, folds up flush with the ceiling. The bedroom also has access to the adjoining garage flat through a steel french casement.

There is only one sliding door in the house, that between the kitchen and the dining-room. The hot water supply of the house is from a fireback boiler in the kitchen, the gas-fired copper in the rear portion of the garage being for laundry purposes only. The metal work throughout is protected against corrosion by a patent zinc-firing process. The general contractors were T. and S. Ham, and the sub-contractors included Aldridge Brick, Tile and Coal Co., roof tiles; Henry Hope & Sons, Ltd., windows; Bootes, Ltd., black tiles (bathroom); W. Hayward & Sons, railings; A. Crosbie and Co., paint; Midland Electric Installation Co., electrical contractors; Vitreflex, Ltd., rainwater goods; Shaws Glazed Brick Co. and Stourbridge Glazed Brick and Tile, fireplaces; Parker, Winder & Achurch, door furniture; McNeills Ltd., flats; Zinc Alloy Rust-Proofing Co., Ltd., sherardising.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILES RADIUS)

BUCKHURST HILL. *School.* Sketch plans have been approved by the Essex E.C. for the proposed County High School for Boys, estimated to cost £45,236.

CROYDON. *Houses.* Plans passed by the Corporation: Four houses, St. Leonard's Road, for Mr. D. J. Martin; three houses, Devonshire Way, for Messrs. Burcote, Ltd.; four houses, Links View Road, for Messrs. Marwick & Co.; two houses, Waddon Park Avenue, for Mr. H. S. Griffiths; two houses, Green Lane, for Mr. C. M. Gorringe; three houses, Devonshire Way, for Mr. A. L. Parmiter; 26 houses, Ash Tree Way, for Messrs. W. West and Sons, Ltd.; two houses, Shirley Way, for Messrs. Bennett and Worksett, Ltd.; rebuilding, Goathouse P.H., Penge Road, for Mr. S. C. Clark; nine flats, South Norwood Hill, for Mr. H. R. Fenn; eight houses, Purley Way, for Mr. J. H. Potter; offices, shops and flats, George Street and Wellesley Road, for Woolwich Building Society, Ltd; alterations, 11-3 Thornton High Street, for Mr. H. E. Harford; store, Purley Way, for Southern Foundries, Ltd.; factory, Kingsway, Waddon, for Mr. G. Crump.

CROYDON. *Houses.* Messrs. Bennett and Worksett, Ltd., are to erect 81 houses in Temple Avenue, Croydon.

CROYDON. *Houses.* The First National Housing Trust, Ltd., are to erect 92 houses in Lodge Lane, Croydon.

FELTHAM. *Factories.* The U.D.C. has agreed to re-zone a site at Twickenham Road, Hanworth, for industrial purposes, on which it is proposed to erect four factories, plans for which have been submitted by Mr. R. O. Blott.

HACKNEY. *Development.* The L.C.C. is to acquire four acres in the High Hill Ferry areas of Hackney for housing purposes.

SOUTHGATE. *Flats.* Sir J. Edmondson and Mr. T. Woolnough are to erect 36 flats at High Street, Southgate.

WEST CENTRAL. *School of Art.* The L.C.C. is to erect new premises in Charing Cross Road, W.C., for the St. Martin's School of Art, at a cost of £100,000.

SOUTHERN COUNTIES

BEXHILL. *Houses.* Plans passed by the Corporation: Seven houses, Uplands Park, for Mr. R. W. Moore; seven houses, Bidwell Avenue, for Mr. J. E. Maynard; two houses, Ringwood Road, for Mr. J. W. Cripps; development, Woodsgate Park estate, for Mr. F. J. Harris.

BRIGHTON. *Houses, etc.* Plans passed by the Corporation: Two houses, Saltdean Drive, for Mr. R. C. Durell; four houses, Ladies Mile Road, for Mr. W. J. Head; alterations, 144 London Road, for Barclays Bank, Ltd.; three bungalows, Ladies Mile estate, for Ladies Mile Estate, Ltd.; 14 houses, Greenfield Crescent, for Mr. Arthur J. Kensett; alterations, 2 Montague Street, for Mr. Maurice Freeman.

EASTBOURNE. *Museum.* The Corporation has asked the borough engineer to prepare plans for the erection of a museum adjoining the Towner art gallery.

GUILDFORD. *Public Hall.* The Corporation recommends the preparation of a scheme for the erection of a public hall to accommodate 1,700 people on the Allen House site.

GUILDFORD. *Houses.* Guildale Estate, Ltd., is to erect 50 houses on the Guildage estate, Guildford.

SOUTH-WESTERN COUNTIES

PLYMOUTH. *Houses, etc.* Plans passed by the Corporation: 16 houses, Langhill Road, for Messrs. Hill and Lang; four houses, Crowndale estate, for Mr. F. C. Maxted; reconstruction, showrooms, Summerland Terrace, for Mr. S. Owens; development, Westom Mill estate, for 518 houses for Davis Estates, Ltd.; three houses, Compton Park Road, for Mr. H. M. Gill; 16 houses, South Vine estate, Swilly, for Mr. J. Cohen; six houses, South Vine estate, for Mr. R. D. Tolkein; eight houses, South Vine estate, for Messrs. Williams and Gray; seven houses, Dunstone Road, for Messrs. Coad Bros.; extensions, Octagon Brewery, Martin Street, for Octagan Brewery Co.; stores, Water Lane, for Plymouth Co-op Society, Ltd.; bakery and house, Sefton Avenue, for Mr. L. Edwards; showrooms and stores, Fore Street, for British Home Stores, Ltd.

PLYMOUTH. *Schools.* The Plymouth Education Committee is to obtain sites at St. Budeaux for the erection of two senior schools.

MIDLAND COUNTIES

CORBY. *Houses.* The First National Housing Trust has prepared a scheme for the erection of houses at Corby, Northants, at a cost of £118,460.

COVENTRY. *School.* The Coventry Education Committee has selected a site on the Cheylesmore estate for the erection of an elementary school.

TOWCESTER. *Court House.* The Northants C.C. is to erect a court house and police station at Towcester at a cost of £15,000.

NORTHERN COUNTIES

CARLISLE. *Houses, etc.* Plans passed by the Corporation: Nine houses, Dalston Road, and estate development, St. James's Road, for Messrs. H. E. Hodgkinson & Co.; four houses, Waverley Road, for Messrs. Benwell & Slack; four houses, Upperby Road, for Mr. J. Millar; two houses, Burgh Road, for Mr. G. Cowen; 22 houses, Croft Road, for Mr. S. W. B. Jack; store and offices, Botchergate, for Messrs. Graham and Roberts, Ltd.; three shops, Warwick Road, for Mr. Stephen Mann; estate developments at Upperby and Stanwix, for Mr. H. Irving Graham.

DURHAM. *School of Agriculture.* The Durham County Council has appointed Mr. W. Carter as architect for the school of agriculture to be erected at Houghall.

LEEDS. *Reconstruction.* The Leeds Watch Committee has approved plans submitted by Goldstones Cinemas, Ltd., for the reconstruction of the Victoria cinema and the erection of five shops in York Road.

LEEDS. *Flats.* Leeds Housing Trust, Ltd., are to erect 41 flats in the vicinity of East Street, Leeds.

MANCHESTER. *Clearance Areas.* The Corporation is to lay out further clearance areas at a cost of £125,000.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 1½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5½	1 1½
A_2	Abingdon ..	S. Counties	1 4½	1 0½
A	Accrington ..	N.W. Counties	1 6	1 1½
A_2	Addlestone ..	S. Counties	1 4½	1 0½
A	Adlington ..	N.W. Counties	1 6	1 1½
A	Airdrie	Scotland	*1 6	1 1½
C	Aldeburgh ..	E. Counties	1 2	10½
A	Altrincham ..	N.W. Counties	1 6	1 1½
B_2	Appleby ..	N.W. Counties	1 2½	11
A	Ashton-under-Lyne	N.W. Counties	1 6	1 1½
B_1	Aylesbury ..	S. Counties	1 3½	11½
B_1	BANBURY ..	S. Counties	1 3½	11½
B_1	Bangor ..	N.W. Counties	1 3½	11½
A_2	Barnard Castle	N.E. Coast	1 4½	1 0½
A	Barnsley ..	Yorkshire	1 6	1 1½
B	Barnstaple ..	S.W. Counties	1 4	1 0
A	Barrow	N.W. Counties	1 6	1 1½
A	Barry	S. Wales & M.	1 6	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3½	11½
A_2	Bath	S.W. Counties	1 5	1 0½
A	Batley ..	Yorkshire	1 6	1 1½
A_2	Bedford ..	E. Counties	1 5	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 5	1 0½
A_2	Bewdley ..	Mid. Counties	1 5	1 0½
B_2	Bicester ..	S. Counties	1 2½	11
	Birkenhead ..	N.W. Counties	*1 7½	1 2½
A	Birmingham ..	Mid Counties	1 6	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5½	1 1½
A	Blackburn ..	N.W. Counties	1 6	1 1½
A	Blackpool ..	N.W. Counties	1 6	1 1½
A	Blyth	N.E. Coast	1 6	1 1½
B_1	Bognor ..	S. Counties	1 3½	11½
A	Bolton	N.W. Counties	1 6	1 1½
A_2	Boston	Mid. Counties	1 4½	1 0½
A_2	Bournemouth ..	S. Counties	1 5	1 0½
B_2	Bovey Tracey	S.W. Counties	1 3	11½
A	Bradford ..	Yorkshire	1 6	1 1½
A_1	Brentwood ..	E. Counties	1 5½	1 1½
A	Bridgend ..	S. Wales & M.	1 6	1 1½
B	Bridgwater ..	S.W. Counties	1 4	1 0
A_1	Bridlington ..	Yorkshire	1 5½	1 1½
A	Brighouse ..	Yorkshire	1 6	1 1½
A_2	Brighton ..	S. Counties	1 5	1 0½
A	Bristol	S.W. Counties	1 6	1 1½
B	Brixham ..	S.W. Counties	1 3	11½
A	Bromsgrove ..	Mid. Counties	1 5	1 0½
B	Bromyard ..	Mid. Counties	1 2½	11
A	Burnley ..	N.W. Counties	1 6	1 1½
A	Bursiem ..	Mid. Counties	1 6	1 1½
A	Burton-on-Trent	Mid. Counties	1 6	1 1½
A	Bury	N.W. Counties	1 6	1 1½
A	Buxton ..	N.W. Counties	1 5½	1 1½
A_1	CAMBRIDGE ..	E. Counties	1 5½	1 1½
B_1	Canterbury ..	S. Counties	1 3½	11½
A	Cardiff	S. Wales & M.	1 6	1 1½
A	Carlisle ..	N.W. Counties	1 6	1 1½
B	Carmarthen ..	S. Wales & M.	1 4	1 0
B	Carnarvon ..	N.W. Counties	1 4	1 0
A	Carnforth ..	N.W. Counties	1 6	1 1½
A	Castleford ..	Yorkshire	1 6	1 1½
A_2	Chatham ..	S. Counties	1 4½	1 0½
A	Chelmsford ..	E. Counties	1 4½	1 0½
A	Cheltenham ..	S.W. Counties	1 4½	1 0½
A	Chester	N.W. Counties	1 6	1 1½
A	Chesterfield ..	Mid. Counties	1 6	1 1½
B_1	Chichester ..	S. Counties	1 3½	11½
A	Chorley ..	N.W. Counties	1 6	1 1½
B_1	Cirencester ..	S. Counties	1 3½	11½
A	Clitheroe ..	N.W. Counties	1 6	1 1½
A	Clydebank ..	Scotland	1 6	1 1½
A	Coalville ..	Mid. Counties	1 6	1 1½
A_2	Colchester ..	E. Counties	1 5	1 0½
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 5	1 0½
A_1	Consett ..	N.E. Coast	1 5½	1 1½
A_2	Conway ..	N.W. Counties	1 5	1 0½
A	Coventry ..	Mid. Counties	1 6	1 1½
A_2	Crewe	N.W. Counties	1 5	1 0½
A	Cumberland ..	N.W. Counties	1 4½	1 0½
A	DARLINGTON	N.E. Coast	1 6	1 1½
A	Darwen ..	N.W. Counties	1 6	1 1½
B_1	Deal	S. Counties	1 3½	11½
A_2	Denbigh ..	N.W. Counties	1 4½	1 0½
A	Derby	Mid. Counties	1 6	1 1½
A	Dewsbury ..	Yorkshire	1 6	1 1½
B	Didcot	S. Counties	1 4	1 0
A	Doncaster ..	Yorkshire	1 6	1 1½
B_1	Dorchester ..	S.W. Counties	1 3½	11½
A	Driffield ..	Yorkshire	1 4½	1 0½
A_2	Droitwich ..	Mid. Counties	1 5	1 0½
A	Dudley	Mid. Counties	1 6	1 1½
A_2	Dumfries ..	Scotland	1 5½	1 1½
A	Dundee	Scotland	1 6	1 1½
A	Durham	N.E. Coast	1 6	1 1½
A_2	EASTBOURNE ..	S. Counties	1 5	1 0½
A_1	Ebbw Vale ..	S. Wales & M.	1 5½	1 1½
A	Edinburgh ..	Scotland	1 6	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5½	1 1½
A_2	Exeter	S.W. Counties	*1 5	1 0½
B	Exmouth ..	S.W. Counties	1 4	1 0
A_2	FELIXSTOWE ..	E. Counties	1 4½	1 0½
A	Filey	Yorkshire	1 4½	1 0½
A	Fleetwood ..	N.W. Counties	1 6	1 1½
B_1	Folkestone ..	S. Counties	1 3½	11½
A	Frodsham ..	N.W. Counties	1 6	1 1½
B_2	Frome	S.W. Counties	1 3	11½
A	GATESHEAD ..	N.E. Coast	1 6	1 1½
B	Gillingham ..	S. Counties	1 4	1 0
A	Glasgow	Scotland	1 6½	1 2
A_2	Gloucester ..	S.W.Counties	1 5	1 0½
A_2	Goole	Yorkshire	1 5	1 0½
A_2	Gosport ..	S. Counties	1 5	1 0½
A_2	Grantham ..	Mid. Counties	1 4½	1 0½
A_1	Gravesend ..	S. Counties	1 5½	1 1½
A	Greenock ..	Scotland	*1 6	1 1½
A	Grimsby ..	Yorkshire	1 6	1 1½
B	Guildford ..	S. Counties	1 4	1 0
A	HALIFAX ..	Yorkshire	1 6	1 1½
A	Hanley	Mid. Counties	1 6	1 1½
A	Harrogate ..	Yorkshire	1 6	1 1½
A	Hartlepools ..	N.E. Coast	1 6	1 1½
B	Harwich ..	E. Counties	1 4	1 0
B_1	Hastings ..	S. Counties	1 3½	11½
A_2	Hatfield ..	S. Counties	1 5	1 0½
B	Hereford ..	S.W. Counties	1 4	1 0
A_2	Hertford ..	E. Counties	1 5	1 0½
A	Heysham ..	N.W. Counties	1 6	1 1½
A	Howden ..	N.E. Coast	1 6	1 1½
A	Huddersfield ..	Yorkshire	1 6	1 1½
A	Hull	Yorkshire	1 6	1 1½
A	ILKLEY ..	Yorkshire	1 6	1 1½
A	Immingham ..	Mid. Counties	1 6	1 1½
A_2	Ipswich ..	E. Counties	1 5	1 0½
B_2	Isle of Wight ..	S. Counties	1 3	11½
A	JARROW ..	N.E. Coast	1 6	1 1½
A	KEIGHLEY ..	Yorkshire	1 6	1 1½
A_2	Kendal ..	N.W. Counties	1 4½	1 0½
A_2	Keswick ..	N.W. Counties	1 4½	1 0½
A_1	Kettering ..	Mid. Counties	1 5½	1 1½
A_2	Kidderminster	Mid. Counties	1 5	1 0½
B_1	King's Lynn ..	E. Counties	1 3½	11½
A	LANCASTER ..	N.W. Counties	1 6	1 1½
A_1	Leamington ..	Mid. Counties	1 5½	1 1½
A	Leeds	Yorkshire	1 6	1 1½
A	Leek	Mid. Counties	1 6	1 1½
A	Leicester ..	Mid. Counties	1 6	1 1½
A	Leigh	N.W. Counties	1 6	1 1½
B	Lewes	S. Counties	1 2½	11
A_2	Lichfield ..	Mid. Counties	1 5	1 0½
A	Lincoln	Mid. Counties	1 6	1 1½
	Liverpool ..	N.W. Counties	*1 7½	1 2½
A_2	Llandudno ..	N.W. Counties	1 5	1 0½
A	Llanelly ..	S. Wales & M.	1 6	1 1½
	London (12-miles radius)		1 7½	1 2½
	Do. (12-15 miles radius)		1 7	1 2½
A	Long Eaton ..	Mid. Counties	1 6	1 1½
A	Loughborough ..	Mid. Counties	1 6	1 1½
A_1	Luton	E. Counties	1 5½	1 1½
A	Lytham ..	N.W. Counties	1 6	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5½	1 1½
A_2	Maidstone ..	S. Counties	1 4½	1 0½
A_2	Malvern ..	Mid. Counties	1 4½	1 0½
A	Manchester ..	N.W. Counties	1 6	1 1½
A	Mansfield ..	Mid. Counties	1 6	1 1½
B_1	Margate	S. Counties	1 3½	11½
A	Matlock ..	Mid. Counties	1 4½	1 0½
A_1	Merthyr ..	S. Wales & M.	1 5½	1 1½
A	Middlesbrough	N. E. Coast	1 6	1 1½
A_2	Middlewich ..	N. W. Counties	1 5	1 0½
B_2	Minehead ..	S.W. Counties	1 3	11½
B_2	Monmouth ..	S. Wales & M.	1 3	11½
	& S. and E. Glamorganshire			
A	Morecambe ..	N.W. Counties	1 6	1 1½
A_2	NANTWICH ..	N.W. Counties	1 5	1 0½
A	Neath	S. Wales & M.	1 6	1 1½
A	Nelson	N.W. Counties	1 6	1 1½
A	Newcastle ..	N.E. Coast	1 6	1 1½
A	Newport	S. Wales & M.	1 6	1 1½
A	Normanton ..	Yorkshire	1 6	1 1½
A	Northampton ..	Mid. Counties	1 6	1 1½
A	North Staffs ..	Mid. Counties	1 6	1 1½
A	North Shields ..	N.E. Coast	1 6	1 1½
A_1	Norwich	E. Counties	1 5½	1 1½
A	Nottingham ..	Mid. Counties	1 6	1 1½
A	Nuneaton ..	Mid. Counties	1 6	1 1½
A	OAKHAM ..	Mid. Counties	1 4½	1 0½
A	Oldham	N.W. Counties	1 6	1 1½
A_2	Oswestry ..	N.W. Counties	1 4½	1 0½
A_1	Oxford	S. Counties	1 5½	1 1½
A	PAISLEY ..	Scotland	*1	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2½	11
A	Perth	Scotland	*1 6	1 1½
A_1	Peterborough ..	E. Counties	1 5½	1 1½
A	Plymouth ..	S.W. Counties	*1 6	1 1½
A	Pontefract ..	Yorkshire	1 6	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5½	1 1½
A_2	Portsmouth ..	S. Counties	1 5	1 0½
A	Preston ..	N.W. Counties	1 6	1 1½
A	QUEENSFERRY	N.W. Counties	1 6	1 1½
A_2	READING ..	S. Counties	1 5	1 0½
B	Reigate ..	S. Counties	1 4	1 0
A	Retford ..	Mid. Counties	1 4½	1 0½
A_1	Rhondda Valley	S. Wales & M.	1 5½	1 1½
A	Ripon	Yorkshire	1 4½	1 0½
A	Rochdale ..	N.W. Counties	1 6	1 1½
B	Rochester ..	S. Counties	1 4	1 0
A_1	Ruabon ..	N.W. Counties	1 5½	1 1½
A	Rugby	Mid. Counties	1 6	1 1½
A_2	Rugeley ..	Mid. Counties	1 5	1 0½
A	Runcorn ..	N.W. Counties	1 6	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5½	1 1½
A	St. Helens ..	N.W. Counties	1 6	1 1½
B_2	Salisbury ..	S.W. Counties	1 3	11½
A_1	Scarborough ..	Yorkshire	1 5½	1 1½
A	Scunthorpe ..	Mid. Counties	1 6	1 1½
A	Sheffield ..	Yorkshire	1 6	1 1½
A	Shipley	Yorkshire	1 6	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 5	1 0½
A_2	Skipton ..	Yorkshire	1 5	1 0½
A_2	Slough	S. Counties	1 5	1 0½
A_1	Solihull ..	Mid. Counties	1 5½	1 1½
A_2	Southampton ..	S. Counties	1 5	1 0½
A_1	Southend-on-Sea	E. Counties	1 5½	1 1½
A	Southport ..	N.W. Counties	1 6	1 1½
A	S. Shields ..	N.E. Coast	1 6	1 1½
A_1	Stafford ..	Mid. Counties	1 5½	1 1½
A	Stirling ..	Scotland	1 6½	1 2
A	Stockport ..	N.W. Counties	1 6	1 1½
A	Stockton-on-Tees	N.E. Coast	1 6	1 1½
A	Stoke-on-Trent	Mid. Counties	1 6	1 1½
B	Stroud	S.W. Counties	1 4	1 0
A	Sunderland ..	N.E. Coast	1 6	1 1½
A	Swansea ..	S. Wales & M.	1 6	1 1½
A	Swindon ..	S.W. Counties	1 4½	1 0½
A_1	TAMWORTH ..	N.W. Counties	1 5½	1 1½
B	Taunton ..	S.W. Counties	1 4	1 0
A	Teesside Dist. ..	N.E. Counties	1 6	1 1½
A_2	Teignmouth ..	S.W. Coast	1 5	1 0½
A	Todmorden ..	Yorkshire	1 6	1 1½
A_1	Torquay	S.W. Counties	1 5½	1 1½
B_2	Truro	S.W. Counties	1 3	11½
A_2	Tunbridge Wells	S. Counties	1 4½	1 0½
A	Tunstall ..	Mid. Counties	1 6	1 1½
A	Tyne District ..	N.E. Coast	1 6	1 1½
A	WAKEFIELD ..	Yorkshire	1 6	1 1½
A	Walsall	Mid. Counties	1 6	1 1½
A	Warrington ..	N.W. Counties	1 6	1 1½
A_1	Warwick	Mid. Counties	1 5½	1 1½
A_1	Wellingborough	Mid. Counties	1 5½	1 1½
A	West Bromwich	Mid. Counties	1 6	1 1½
A_2	Weston-s.-Mare	W. Counties	1 5	1 0½
A_2	Whitby	Yorkshire	1 5	1 0½
A	Widnes	N.W. Counties	1 6	1 1½
A	Wigan	N.W. Counties	1 6	1 1½
B	Winchester ..	S. Counties	1 4	1 0
A_2	Windsor	S. Counties	1 5	1 0½
A	Wolverhampton	Mid. Counties	1 6	1 1½
A_2	Worcester ..	Mid. Counties	1 5	1 0½
A_2	Worksop ..	Yorkshire	1 4½	1 0½
A_1	Wrexham ..	N.W. Counties	1 5½	1 1½
A	Wycombe ..	S. Counties	1 4½	1 0½
B	YARMOUTH ..	E. Counties	1 4	1 0
B	Yeovil	S.W. Counties	1 4	1 0
A	York	Yorkshire	1 6	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

		s.	d.
Bricklayer	per hour	1	7½
Carpenter	"	1	7½
Joiner	"	1	7½
Machinist	"	1	8½
Mason (Banker)	"	1	7½
" (Fixer)	"	1	8½
Plumber	"	1	7½
Painter	"	1	6½
Paperhanger	"	1	6½
Glazier	"	1	7½
Slater	"	1	7½
Scaffolder	"	1	3½
Timberman	"	1	3½
Navvy	"	1	2½
General Labourer	"	1	2½
Lorryman	"	1	3½
Crane Driver	"	1	6½
Watchman	per week	2	10	0

MATERIALS

EXCAVATOR AND CONCRETOR

		£	s.	d.
Grey Stone Lime	per ton	2	2	0
Blue Lias Lime	"	1	16	6
Hydrated Lime	"	3	0	9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags)	"	2	0	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags)	"	2	6	0
White Portland Cement, in 1-ton lots	"	8	15	0
Thames Ballast	per Y.C.		6	3
¾" Crushed Ballast	"		6	9
Building Sand	"		7	3
Washed Sand	"		8	3
2" Broken Brick	"		8	0
¾" " "	"		10	3
Pan Breeze	"		6	6
Coke Breeze	"		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s.	d.	6" s.	d.
Straight Pipes	per F.R.	0	9	1	1
Bends	each	1	9	2	6
Taper Bends	"	3	6	5	3
Rest Bends	"	4	3	6	3
Single Junctions	"	3	6	5	3
Double "	"	4	9	6	6
Straight channels	per F.R.	1	6	2	6
¾" Channel bends	each	2	9	4	0
Channel junctions	"	4	6	6	6
Channel tapers	"	2	9	4	0
Yard gullies	"	6	9	8	9
Interceptors	"	15	0	19	6
IRON DRAINS:					
Iron drain pipe	per F.R.	1	6	2	6
Bends	each	5	0	10	6
Inspection bends	"	9	0	15	0
Single junctions	"	8	9	18	0
Double junctions	"	13	6	30	0
Lead Wool	lb.		6		—
Gaskin	"		5		—

BRICKLAYER

		£	s.	d.
Flettons	per M.	2	15	0
Grooved do.	"	2	17	0
Phorpres bricks	"	2	15	0
" Cellular bricks	"	2	15	0
Stocks, 1st quality	"	4	11	0
" 2nd "	"	4	2	6
Blue Bricks, Pressed	"	8	17	6
" Wirecuts	"	7	17	6
" Brindles	"	7	0	0
" Bullnose	"	9	0	0
Red Sand-faced Facings	"	6	18	6
Red Rubbers for Arches	"	12	0	0
Multicoloured Facings	"	7	10	0
Luton Facings	"	7	10	0
Phorpres White Facings	"	3	17	3
" Rustic Facings	"	3	12	3
Midhurst White Facings	"	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:				
Stretchers	"	21	0	0
Headers	"	20	10	0
Bullnose	"	27	10	0
Double Stretchers	"	29	10	0
Double Headers	"	26	10	0
Glazed Second Quality, *Less*	"	1	0	0
" Buffs and Creams, *Add*	"	2	0	0
" Other Colours	"	5	10	0
2" Breeze Partition Blocks	per Y.S.		1	7
3" " " "	"		1	10
3" " " "	"		2	1
4" " " "	"		2	6

MASON

The following d/d F.O.R. at Nine Elms:		s.	d.
Portland stone, Whitbed	F.C.	4	4½
" Basebed	"	4	7½
Bath stone	"	2	10
York stone	"	6	6
" " Sawn templates	"	7	6
" " Paving, 2"	F.S.	1	8
" " " 3"	"	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

		£	s.	d.
24" × 12" Duchesses	per M.	28	17	6
22" × 12" Marchionesses	"	24	10	0
20" × 10" Countesses	"	19	5	0
18" × 10" Viscountesses	"	15	10	0
18" × 9" Ladies	"	13	17	6
Westmorland green (random sizes)	per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:				
20" × 10" medium grey	per 1,000 (actual)	21	11	6
" " green	"	24	7	4
Best machine roofing tiles	"	4	10	0
Best hand-made do.	"	5	0	0
Hips and valleys	each			9½
" hand-made	"			10
Nails, compo	lb.		1	4
" copper	"		1	6

CARPENTER AND JOINER

		s.	d.
Good carcassing timber	F.C.	2	2
Birch	as 1" F.S.		9
Deal, Joiner's	" "		5
" 2nds	" "		4
Mahogany, Honduras	" "	1	3
" African	" "	1	1
" Cuban	" "	2	6
Oak, plain American	" "	1	0
" Figured "	" "	1	3
" plain Japanese	" "	1	2
" Figured "	" "	1	5
" Austrian wainscot	" "	1	6
" English	" "	1	11
Pine, Yellow	" "	1	0
" Oregon	" "		4
" British Columbian	" "		4
Teak, Moulmein	" "	1	3
" Burma	" "	1	2
Walnut, American	" "	2	3
" French	" "	2	3
Whitewood, American	" "	1	1

Deal floorings,		Sq.	£	s.	d.
	¾"	"	1	1	6
	1"	"	1	2	0
	1¼"	"	1	5	0
	1½"	"	1	10	0
Deal matchings	¾"	"		14	0
	1"	"		15	6
	1¼"	"	1	4	0
Rough boarding	¾"	"		16	0
	1"	"		18	0
	1¼"	"	1	6	0

Plywood, per ft. sup. Thickness	¼"	⅜"	½"	¾"	1"
Qualities	A B BB	A B BB	A B BB	A B BB	A B BB
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch 60 × 48	4 2½ 2	5 3 2½	7 5 4	8 6 5	
Cheap Alder	– 2 1½	– 3½ 2	– – –	– – –	
Oregon Pine	– 2½ –	3 2½ –	4 3½ –	5 4½ –	
Gaboon Mahogany	4 3½ –	5 4½ –	7 6½ –	8 7 –	
Figured Oak	6½ 5 –	7½ 5½ –	10 8 0	1/– 9 –	

	d.
Scotch glue	lb. 8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23" long each	10	1/1	1/11	2/8	4/9
" 3"-11½" long "	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long "	11	1/3	2/2	2/10	5/3
" " 3"M-4½" long "	8	10	1/5	1/11	3/6
Bends "	8	11	1/7½	2/7½	5/2
Springs not socketed "	5	7	1/1½	1/11½	3/11
Socket unions "	2/–	3/–	5/6	6/9	10/–
Elbows, square "	10	1/1	1/6	2/2	4/3
Tees "	1/–	1/3	1/10	2/6	5/1
Crosses "	2/2	2/9	4/1	5/6	10/6
Plain sockets and nipples "	3	4	6	8	1/3
Diminished sockets "	4	6	9	1/–	2/–
Flanges "	9	1/–	1/4	1/9	2/9
Caps "	3½	5	8	1/–	2/–
Backnuts "	2	3	5	6	1/1
Iron main cocks "	1/6	2/3	4/2	5/4	11/6
" with brass plugs "	—	4/–	7/6	10/–	21/–

Discounts: TUBES.	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	" water	47½
Steam	57½	" steam	42½

FITTINGS.			
Gas	57½	Galvanized gas	47½
Water	52½	" water	42½
Steam	47½	" steam	37½

SMITH AND FOUNDER—*continued.*

		s.	d.
Rolled steel joists cut to length	cwt.	12	9
Mild steel reinforcing rods, ¾"	"	10	6
" " ⅝"	"	10	3
" " ½"	"	10	0
" " ⅜"	"	9	6
" " ¼"	"	9	6
" " 1"	"	9	6
" " 1¼"	"	9	6
" " 1½"	"	9	6
" " ⅛"	"	9	6

Cast-iron rain-water pipes of ordinary thickness metal	F.R.	4" s.	d.	6" s.	d.
			8		10
Shoes	each	2	0	3	0
Anti-splash shoes	"	4	6	8	0
Boots	"	3	0	4	0
Bends	"	2	7	3	9
" with access door	"		—	6	3
Heads	"	4	0	5	0
Swan-necks up to 9" offsets	"	3	9	6	0
Plinth bends, 4½" to 6"	"	3	9	5	3
Half-round rain-water gutters of ordinary thickness metal	F.R.		5		6
Stop ends	each		6		6
Angles	"	1	7	1	11
Obtuse angles	"	2	0	2	6
Outlets	"	1	9	2	3

PLUMBER

		s.	d.
Lead, milled sheets	cwt.	26	3
" drawn pipes	"	26	3
" soil pipe	"	26	3
" scrap	"	18	0
Solder, plumbers'	lb.		9½
" fine do.	"	1	0
Copper, sheet	"		8½
" tubes	"		11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast F.R.	1 0	1 2	2 6
Coated "	1 1	1 3	2 8
Galvanized "	2 0	2 6	4 6
Holderbats each	3 10	4 0	4 9
Bends "	3 9	5 3	10 3
Shoes "	2 10	4 4	9 6
Heads "	4 8	8 5	12 9

PLASTERER

		£	s.	d.
Lime, chalk	per ton	2	5	0
Plaster, coarse	"	2	10	0
" fine	"	4	15	0
Hydrated lime	"	3	0	9
Sirapite	"	3	6	0
Keene's cement	"	5	0	0
Gothite Plaster	"	3	6	0
Pioneer Plaster	"	3	6	0
Thistle plaster	"	3	6	0
Sand, washed	Y.C.		11	6
Hair	lb.			6
Laths, sawn	bundle		2	4
" rent	"		3	9
Lath nails	lb.			3

GLAZIER

	s.	d.	s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.			s. F.S.	2½
" " 26 oz.	"	"	"	3
Flemish, Arctic, Figures (white)*	"		"	7
Blazoned glasses	"		"	2 6
Reeded; Cross Reeded	"		"	11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite	"			6
Crown sheet glass (n/e 12 in. x 10 in.)	"			2 0
Flashed opals (white and coloured)	"	1 0	and	2 0
¼" rough cast; rolled plate	"			5½
¼" wired cast; wired rolled	"			9½
¼" Georgian wired cast	"			11
¼" Polished plate, n/e 1 ft.	"	†10 to	‡1	1
" " 2	"	†1 2	‡1	4
" " 4	"	†2 3	‡2	6
" " 8	"	†2 9	‡3	2
" " 20	"	†3 7	‡4	2
" " 45	"	†3 11	‡4	7
" " 100	"	†5 0	‡5	7
Vita glass, sheet, n/e 1 ft.	"			1 0
" " " 2 ft.	"			1 3
" " " over 2 ft.	"			1 9
" " plate, n/e 1 ft.	"			1 6
" " " 2 ft.	"			3 0
" " " 5 ft.	"			4 0
" " " 7 ft.	"			5 0
" " " 15 ft.	"			6 0
" " " over 15 ft.	"			7 6
"Calorex" sheet 21 oz., and 32 oz.	"	2 6	and	3 6
" rough cast ¼" and ½"	"	8½	"	1 0
Putty, linseed oil	lb.			3

* *Colours, 1d. F.S. extra.*
† *Ordinary glazing quality.* ‡ *Selected glazing quality.*

PAINTER

		£	s.	d.
White lead in 1 cwt. casks	cwt.	2	8	6
Linseed oil	gall.		2	3
Boiled oil	"		2	9
Turpentine	"		4	1½
Patent knotting			14	0
Distemper, washable	cwt	2	6	0
" ordinary	"	2	0	0
Whitening	"		4	0
Size, double	firkin		3	0
Copal varnish	gall.		13	0
Flat varnish	"		14	0
Outside varnish	"		16	0
White enamel	"	1	15	0
Ready mixed paint	"		13	6
Brunswick black	"		7	6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

	£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S. 2 9
to reduce levels n/e 5' 0" deep and cart away	Y.C. 8 6
" to form basement n/e 5' 0" and cart away	" 9 0
" " 10' 0" deep and cart away	" 9 6
" " 15' 0" deep and cart away	" 10 0
If in stiff clay	add " 6
If in underpinning	" " 4 0
Planking and strutting to sides of excavation	F.S. 1 0
" " to pier holes	" 5
" " to trenches	" 5
" " extra, only if left in	" 3
Hardcore, filled in and rammed	Y.C. 10 0
Portland cement concrete in foundations (6-1)	" 1 6 0
" " (4-2-1)	" 1 12 6
" " underpinning	" 1 16 0
Finishing surface of concrete, space face	Y.S. 7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings		16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 26 10 0
" " in cement	" 27 12 6
" Stocks in cement	" 34 0 0
" Blues in cement	" 50 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0½
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8
" " " red brick facings and pointing	" 11
" " " blue brick facings and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7½
Weather pointing in cement	" 3
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER

	s. d.
½" Horizontal dampcourse	Y.S. 4 6
½" Vertical dampcourse	" 6 9
½" paving or flat	" 4 0
1" paving or flat	" 5 6
1" × 6" skirting	F.R. 1 0
Angle fillet	" 2
Rounded angle	" 2
Cesspools	Each 5 0

MASON

	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	" 13 6
Artificial stone and do	" 13 0
York stone templates, fixed complete	" 10 6
" thresholds	" 13 6
" sills	" 1 0 6

SLATER AND TILER

	£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr. 3 10 0
Do., 18" × 9"	" 3 7 0
Do., 24" × 12"	" 3 17 0
Westmorland slating, laid with diminished courses	" 6 0 0
Tiling, best hand-made sand-faced, laid to a gauge, nailed every fourth course	" 3 0 0
Do., all as last, but of machine-made tiles	" 2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	" 2 16 0
" " " " " (green)	" 4 15 0

CARPENTER AND JOINER

	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 2 6
Shuttering to sides and soffits of beams	F.S. 7
" to stanchions	" 7
" to staircases	" 1 6
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	" 4 6
" " roofs	" 6 6
" " trusses	" 7 6
" " partitions	" 8 6
½" deal sawn boarding and fixing to joists	Sqr. 1 14 6
1" " " " "	" 1 17 6
1½" " " " "	" 2 3 0
1½" × 2" fir battening for Countess slating	" 9 0
Do. for 4" gauge tiling	" 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
" " " 2 "	" 2 9
" " " 3 "	" 3 3
Stout herringbone strutting to 9" joists	F.R. 10½
1" deal gutter boards and bearers	F.S. 1 2
1½" " " "	" 1 6
2" deal wrought rounded roll	F.R. 8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1½" do.	" 2 10 0
1½" do.	" 2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S. 1 6
1½" do	" 1 9

CARPENTER AND JOINER—*continued*

	s. d.
1½" deal moulded sashes of average size	F.S. 1 9½
2" " " " "	" 1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1½" pulley stiles, 1½" heads, 1" inside and outside linings, ½" parting beads, and with brass faced axle pulleys, etc., fixed complete	3 7
2" " " "	" 3 10
Extra only for moulded horns	Each 6
1½" deal four-panel square, both sides, door	F.S. 2 0
2" " " "	" 2 8
1½" " but moulded both sides	" 2 4
2" " " "	" 3 0
4" × 3" deal, rebated and moulded frames	F.R. 1 0
4½" × 3½" " " "	" 1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S. 1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	" 2 6
1½" deal moulded wall strings	" 2 1
1½" " outer strings	" 2 4
Ends of treads and risers housed to string	Each 1 9
3" × 2" deal moulded handrail	F.R. 1 3
1" × 1" deal balusters and housing each end	Each 2 0
1½" × 1½" " " "	" 2 9
3" × 3" deal wrought framed newels	F.R. 1 3
Extra only for newel caps	Each 6 0
Do., pendants	" 6 0

SMITH AND FOUNDER

	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 16 6
Riveted plate or compound girders, and hoisting and fixing in position	" 1 0 6
Do., stanchions with riveted caps and bases and do.	" 19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	" 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER

	£ s. d.
Milled lead and labour in flats	cwt. 2 0 3
Do. in flashings	" 2 3 9
Do. in covering to turrets	" 2 9 3
Do. in soakers	" 1 15 9
Labour to welted edge	F.R. 3½
Open copper nailing	" 3
Close " "	" 4

Lead service pipe and fixing with pipe hooks	F.R.	½" s. d. 10	¾" s. d. 1 0	1" s. d. 1 3	1½" s. d. 2 0	2" s. d. 2 10	4" s. d. —
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		£ s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

	s. d.
Expanded metal lathing, small mesh	Y.S. 2 0
Do. in n/w to beams, stanchions, etc.	" 2 9
Lathing with sawn laths to ceilings	" 1 3
½" screeding in Portland cement and sand or tiling, wood block floor, etc.	" 1 5
Do. vertical	" 1 7
Rough render on walls	" 1 2½
Render, float and set in lime and hair	" 1 9
Render and set in Sirapite	" 1 11
Render, backing in cement and sand, and set in Keene's cement	" 2 9
Extra, only if on lathing	" 4
Keene's cement, angle and arris	F.R. 6
Arris	" 3
Rounded angle, small	" 1½
Plain cornices in plaster, including dubbing out, per 1" girth	" Y.S. 3 6
1" granolithic pavings	" 4 6
1½" "	" 17 6
6" × 6" white glazed wall tiling and fixing on prepared screed	" 1 2 6
9" × 3" " " " "	" 8
Extra, only for small quadrant angle	F.R. 4

GLAZIER

	s. d.
21 oz. sheet glass and glazing with putty	F.S. 6½
26 oz. do. and do.	" 7½
Flemish, Arctic Figured (white) and glazing with putty	" 1 1
Cathedral glass and do.	" 1 2
Glazing only, British polished plate	" 7
Extra, only if in beads	" 2
Washleather	F.R. 4

PAINTER

	s. d.
Clearcolle and whiten ceilings	Y.S. 6
Do. and distemper walls	" 9
Do. with washable distemper	" 1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	" 3 3
Do. on woodwork	" 3 6
Do. on steelwork	" 3 0
Do. and brush grain and twice varnish	" 5 6
Stain and twice varnish woodwork	" 1 11
Stain and wax-polish woodwork	" 4 6
French polishing	F.S. 1 2
Stripping off old paper	Piece 2 0
Hanging ordinary paper	from " 2 9

4.12.34.

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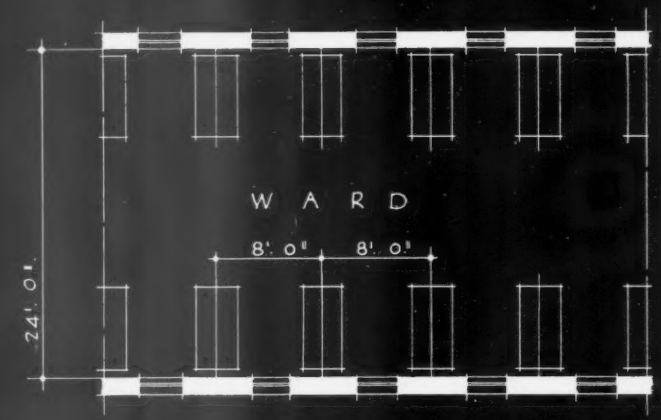
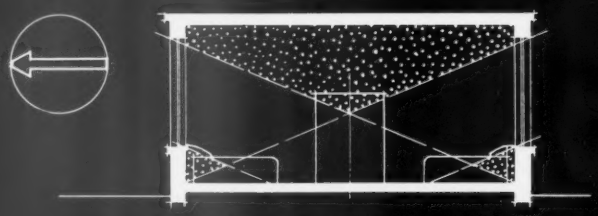
TYPE Nº 1.



PART PLAN OF WARD.

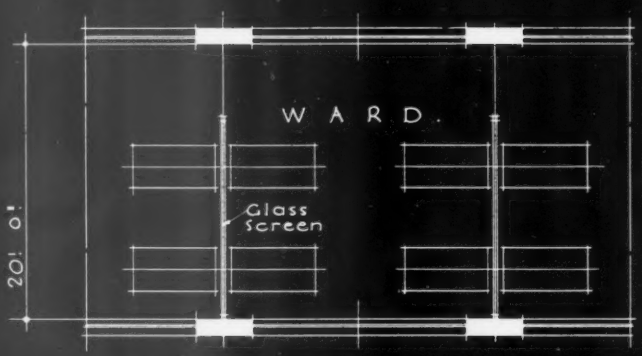


CROSS SECTION

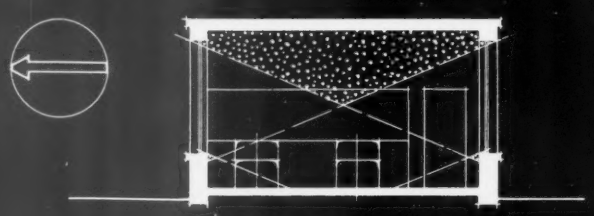
USUAL WARD LAYOUT:
In this type, the long axis of the ward runs North & South. Narrow windows, and large amount of wall surface. Beds are placed at right angles to the external walls, leaving a central corridor. The percentage of light in this wall is only about 30%, so a Sun room or verandah is necessary in addition.

Patients so placed, receive a minimum of sunshine on their bodies, and a scanty maximum on their feet. Only one bed receives partial insolation at A.M., or P.M.

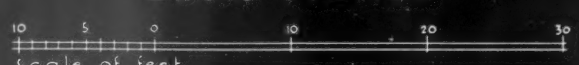
TYPE Nº 2.



PART PLAN OF WARD.



CROSS SECTION



"VERANDAH" WARD LAYOUT:
In this type, beds are placed parallel to the side walls in groups of four, separated by glass screens. long sliding windows, folding together, giving 66% of wall surface, and admitting full ingress of Sunshine and fresh air. Balconies, and sun rooms are climinated by this arrangement. Spans of beams & slabs reduced.

Patients having a better outlook, receive complete insolation at A.M., or P.M. Supervision is not interfered with. Slightly higher cost of maintaining the necessary minimum temperature

INFORMATION SHEET: ORIENTATION OF WARDS.1.

4.12.34 SIR JOHN BURNET TAIT AND LORNE ARCHITECTS, ONE MONTAGUE PLACE BEDFORD SQUARE LONDON. W.C.1

Supplement to THE ARCHITECTS' JOURNAL for November 14, 1935

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 275 •

HOSPITAL WARDS

HOSPITAL wards with the beds placed parallel to the long axis of the wards were first developed in Copenhagen, and have several advantages over the old-fashioned type with the beds placed at right angles to the walls.

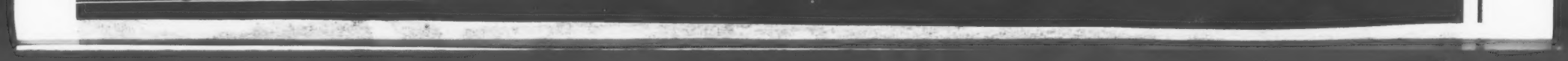
Comparing the two plans and sections shown on the front of this Sheet it will be seen that the area of solid wall is 34 per cent. for the "verandah" type ward as against 70 per cent. for the usual type.

The long sliding windows may be swung back, giving a complete open air effect without the need for balconies, which would shade the windows of the lower floors. The width of the ward is reduced, and this decrease in span for floors and roofs will set off the 3 per cent. increase in the total cube necessitated by the extra length.

Supervision of the wards is no more difficult than before since the upper panels of the partitions are glazed; the patient has the advantage of being in a small cubicle with only three other people, instead of in an open ward exposed to the gaze of nineteen others.

The second Sheet in this series will compare the number of hours of sunshine obtainable in the two types of ward.

For further information see *The Orientation of Buildings*, 1933 R.I.B.A. Joint Committee Report. Price 5s.



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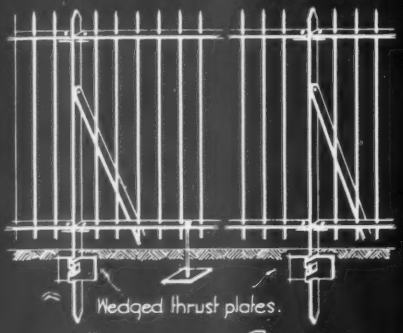
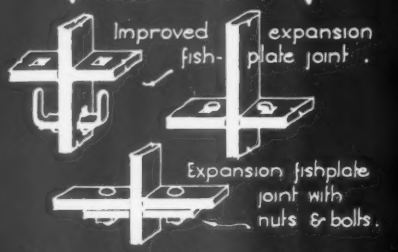


NIBAL SELF-ADJUSTING & UNCLIMBABLE RAILING No. H 910 N.

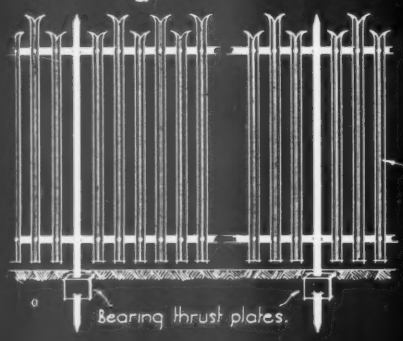
Specification.	Height from Ground.	Standards & Horizontals.	Vertical bars in each Section.	Number.	9' 0" length. Centres.	Price per Yard.	Fixing per Yard.
E.	4' 6"	1 1/2" x 3/8"	5/8" dia.	22.	4 5/8"	6s. 10d.	1s. 0d.
F.	5' 0"	1 1/2" x 3/8"	5/8" "	22.	4 5/8"	7s. 4d.	1s. 0d.
H.	5' 6"	1 3/4" x 3/8"	3/4" "	21.	4 7/8"	9s. 8d.	1s. 2d.
J.	6' 0"	1 3/4" x 3/8"	3/4" "	21.	4 7/8"	10s. 2d.	1s. 2d.



NIBAL SELF-ADJUSTING & UNCLIMBABLE RAILING No. H 915 N.

Specification.	Height from Ground.	Standards & Horizontals.	Vertical bars in each Section.	Number.	9' 0" length. Centres.	Price per Yard.	Fixing per Yard.
A.	4' 6"	1 3/4" x 3/8"	5/8" sq.	21.	4 7/8"	7s. 9d.	1s. 1d.
B.	5' 0"	1 3/4" x 3/8"	5/8" "	21.	4 7/8"	8s. 3d.	1s. 1d.
E.	5' 6"	2" x 7/16"	3/4" "	19.	5 3/8"	11s. 0d.	1s. 3d.
F.	6' 0"	2" x 7/16"	3/4" "	19.	5 3/8"	11s. 5d.	1s. 3d.

NOTE • Prices given are approximate and are intended for preliminary estimating purposes.



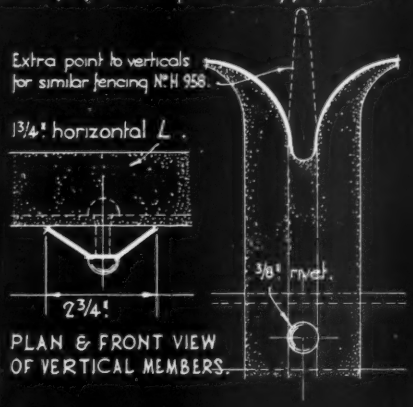
DETAILS OF UNCLIMBABLE STEEL PALE FENCING No. H 957.

LENGTH • Standards 2" x 2" T-Section at 9' 0" c. to c. with stay.

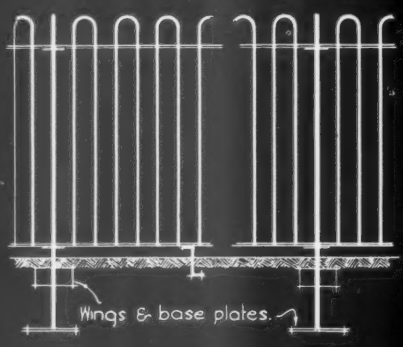
FINISH • Best jet black varnish.

Shaped steel verticals at 6" centres, riveted to 2 / 1 3/4" x 1 3/4" horizontal angles.

Height from ground.	Price per yard.	Fixing per yard.
6' 0"	11s. 6d.	1s. 3d.
7' 0"	13s. 5d.	1s. 6d.
8' 0"	15s. 4d.	1s. 10d.



PLAN & FRONT VIEW OF VERTICAL MEMBERS.



DETAILS OF BOW TOPPED UNSTAYED RAILING No. H 966 R.

LENGTH • Strong H-Section standards at 9' 0" centres.

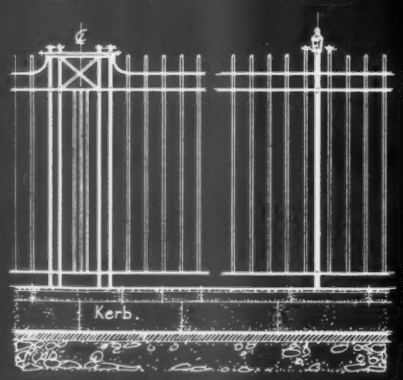
FINISH • Best jet black varnish.

Verticals 5/8" to 7/8" dia. at 4 7/8" to 6" c's. Horizontals 1 1/2" x 3/8" to 2" x 1/2" flats.

Height from ground.	Price per yard.	Fixing per yard.
4' 0"	6s. 9d.	1s. 2d.
5' 0"	9s. 5d.	1s. 4d.
6' 0"	14s. 0d.	1s. 6d.

PLAN OF H-SECTION STANDARD.

DETAIL OF FOOT OF STANDARD.



DETAILS OF ORNAMENTAL RAILING No. H 1149.

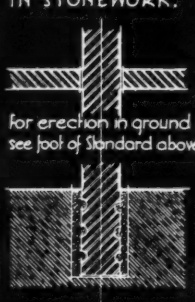
LENGTH • Standards 1" square at 10' 0" c's. with back stay.

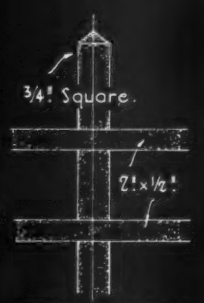
FINISH • Best oil paint.

Verticals 3/4" sq. at 5 1/4" c's, & three at ℄, 1/2" x 3/4". Horizontals, 2" x 1/2".

Height from ground.	Price per yard.	Fixing per yard.
4' 6"	£1. 5s. 6d.	3s. 6d.
5' 0"	£1. 7s. 6d.	3s. 9d.
5' 6"	£1. 9s. 6d.	4s. 0d.

DETAIL OF FIXING IN STONEWORK.





DETAIL OF HEAD TO 3/4" VERTICALS.

Information from Bayliss, Jones & Bayliss Ltd.

INFORMATION SHEET • METAL FENCINGS AND RAILINGS •

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Oscar A. Bayne

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 276 •

METAL FENCING AND RAILINGS

Types Illustrated : 1. "Nibal" Self-adjusting railing
2. Bow-topped railing
3. Steel Pale Fencing
4. Ornamental Railing

General :

The four types of fencings or railings shown on this Sheet are each built up of standardised units, especially designed for simplicity of erection and for rigidity when complete.

NIBAL ROUND AND SQUARE BAR RAILING :

No. H910N and No. H915N consist of standards with thrust plates and stays, top and bottom horizontal and vertical bars. They are made with either round or square vertical bars, and each type is made in four standard heights, as shown in the tables on the front of this Sheet.

The jointing of members and method of erection are the same in both types. The railing is despatched from the factory in panels ready for erection ; each panel is formed by the top and bottom horizontals and vertical bars, the standards and stays being despatched separately.

Erection :

Erection therefore consists only of driving the standards into the ground at appropriate intervals (9 ft. centre to centre), bedding the stay and thrust plate solidly and then putting the panel in position by means of the fishplate expansion joint shown.

These fishplates are both designed so that when connected up to the railings they are locked in position in the standard, the slotted bolt holes and the clearance provided at the ends of the railings allowing the railings to contract and expand.

Adjustment to Gradients :

Although every bar is locked to both horizontals, each panel will automatically adapt itself to rising or falling ground up to gradients of 1 in 6.

Tops of Bars :

Vertical bars are obtainable with either pointed tops (as shown) or blunt tops. Pointed tops are always supplied unless otherwise ordered.

STEEL PALE FENCING NO. H957 :

This fencing consists of H-section standards, stays with thrust plates, and panels built up of two horizontals with shaped pales riveted on.

Adjustment to Gradients :

Panels can be adjusted during erection to gradients up to 1 in 6.

Extension for Barbed Wire :

Standards for this fence may be obtained extended and bent so that the upper part leans inwards at an angle of approximately 45°. On this extension may be run three rows of barbed wire for extra protection. The fence is, however, of itself practically unclimbable.

Design :

Fence No. H957 is fitted with pales and standards finishing at the top in two points. Tops finishing in three points may also be obtained, the reference number being H958.

BOW-TOPPED RAILING NO. H966R.

This railing has been designed for circumstances in which spikes or other projections may be dangerous, and where stays are undesirable. As shown in the drawings the top of each pair of bars is bowed, and the standards are of a heavy type with special sole plates and anchorage which render stays unnecessary.

Standards :

The standard shown is an H section, an ornamental cast iron standard is also available if required.

Bars :

Bars may be circular or square in section.

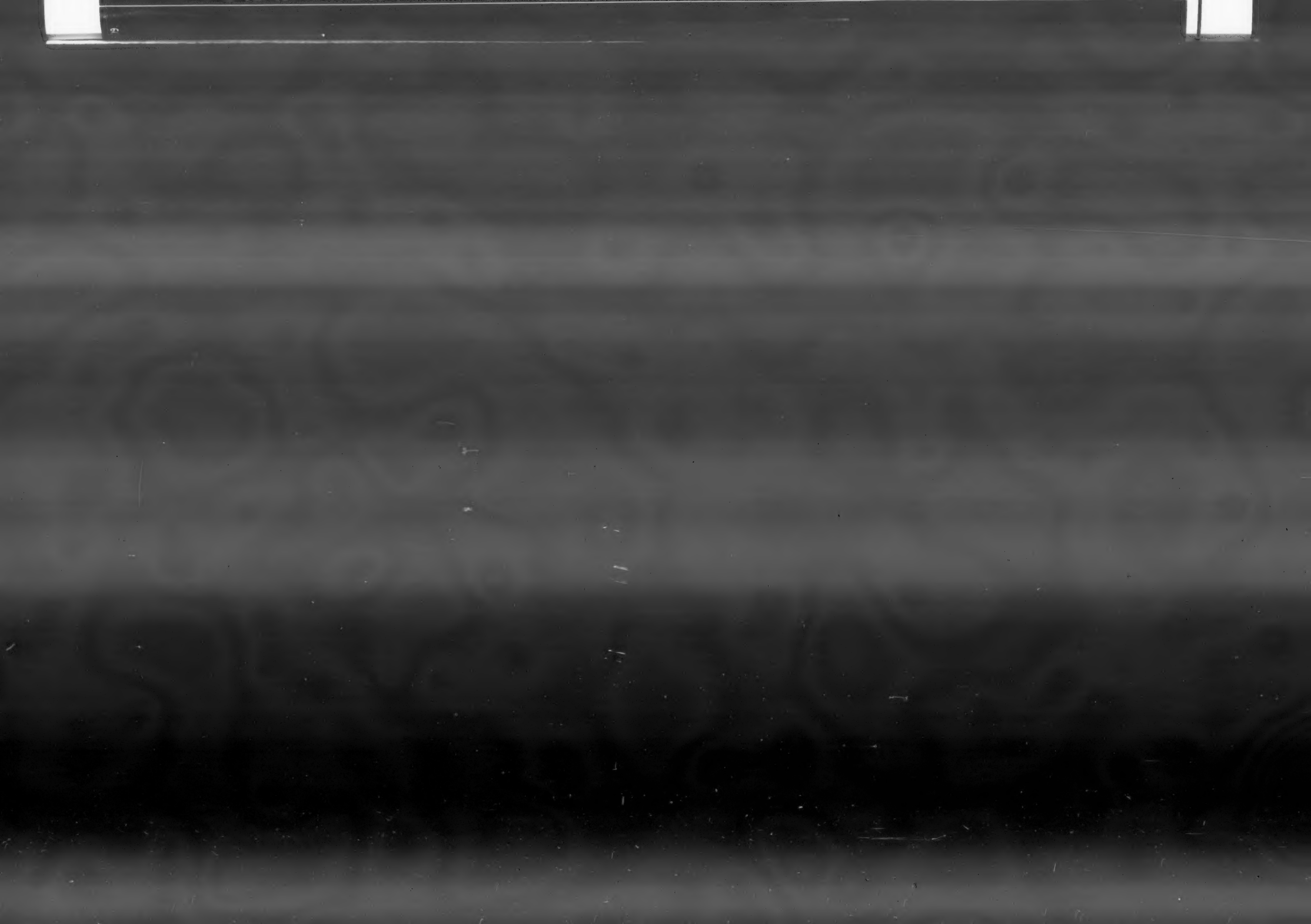
ORNAMENTAL RAILING NO. H1149.

This railing is of a simple type in which the jointing and fixing of members is carefully arranged to give a neat and clean appearance. The railing is supplied in units 10 ft. long with standards, stays, etc., as shown.

Short Bays :

Short Bays in all types are purpose-made to suit the conditions.

Manufacturers : Bayliss, Jones and Bayliss, Ltd.
Address : Victoria Works, Wolverhampton
Telephone : Wolverhampton 20441
London Office : 139 and 141 Cannon Street, E.C.4
Telephone : Mansion House 8524



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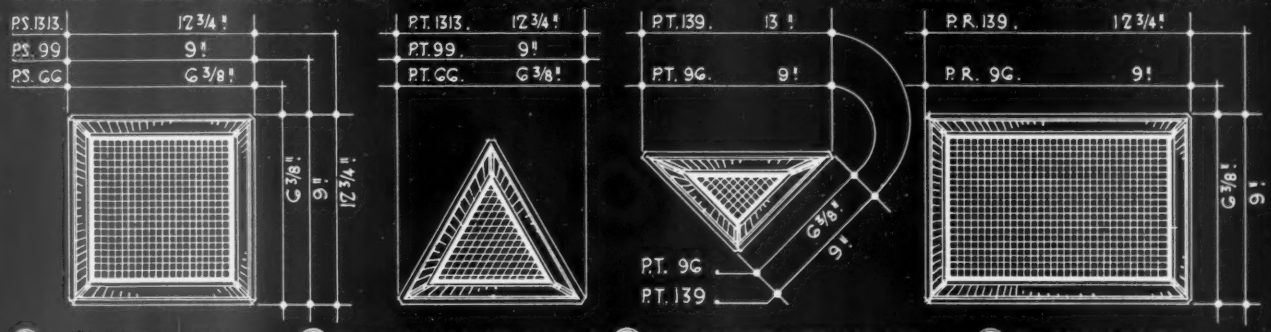
SIZES AND SHAPES OF HOLOPHANE BUILT-IN PRISMATIC PANEL UNITS



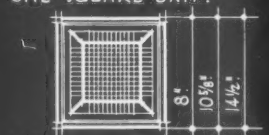
(A) SQUARE UNITS. (B) EQUILATERAL TRIANGLES. (C) RIGHT-ANGLED TRIANGLES. (D) RECTANGLES.

NOTE • The prismatic panels set out above are used (a), Singly in a frame with or without a metal box for lamp, etc., (b), In two, four, six or more units in a single metal frame with or without metal box for lamps, etc., or (c), as desired in purpose-made laylights of any size or shape (to be illustrated in future Information Sheet, Prismatic Panel Units No. 2.

STANDARD HEDRALITE PANEL FLUSH CEILING FITTINGS.
(with or without sheet metal box enclosing lamps, reflectors, etc)

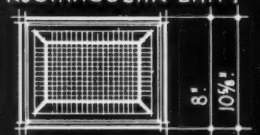
Diagrammatic reflected plans of fittings :

ONE SQUARE-UNIT.



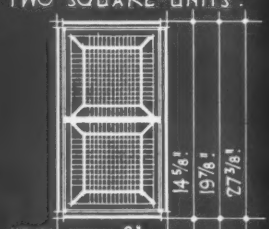
HC.410 8"
HC.412 10 5/8"
HC.414 14 1/2"

ONE RECTANGULAR-UNIT.



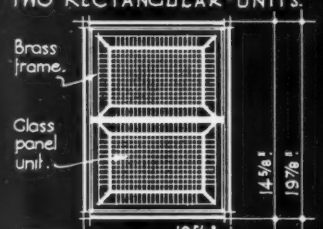
HC. 411. 10 5/8"
HC. 413. 14 1/2"

TWO SQUARE-UNITS.



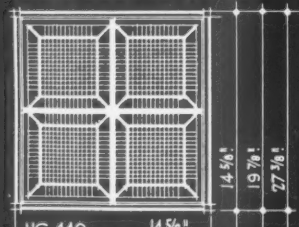
HC.420 8"
HC.422 10 5/8"
HC.424 14 1/2"

TWO RECTANGULAR-UNITS.



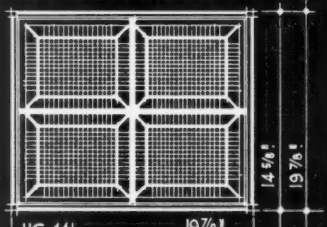
HC.421. 10 5/8"
HC.423. 14 1/2"

FOUR SQUARE-UNITS.



HC.440. 14 5/8"
HC.442. 19 7/8"
HC.444. 27 3/8"

FOUR RECTANGULAR-UNITS.



HC. 441. 19 7/8"
HC. 443. 27 3/8"

NOTE • The various combinations of units shown on this sheet illustrate the use of square and rectangular shapes only. Other fittings are made in a similar way with the triangular units, or with the triangular, square and rectangular together.

DIAGRAMS SHOWING DEPTHS OF SHEET METAL BOXES.
DIMENSION A :

Using 60 watt lamp, A = 8"
" 75 " " , A = 8"
" 100 " " , A = 9"

Using 60 watt lamp, A = 5"
" 75 " " , A = 5"
" 100 " " , A = 6"

Lamp fixed vertically. Lamp fixed horizontally.

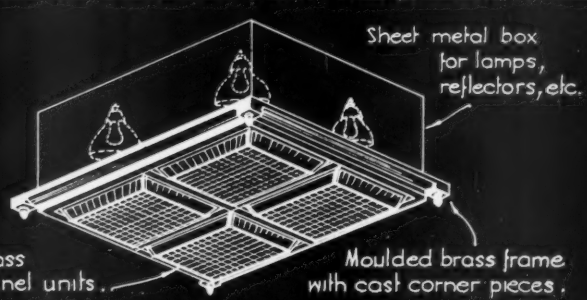
Depth of box remains constant for all combinations of units provided similar reflectors & lamps of equal wattage are used throughout.

TYPICAL DETAIL OF FIXING IN SUSPENDED CEILING :

Brass or chromium frame bolted to iron back frame.

Glass prismatic panel unit resting free in metal frame.

ISOMETRIC SKETCH OF 4-UNIT WALL OR CEILING FITTING



LIGHTING • All the fittings illustrated on this sheet are shown with individual lighting. The lighting of a number of units from a single source is dealt with in the Information Sheet dealing with Laylighting - see Prismatic Panel Lighting No. 2.

Information from Holophane Ltd.

INFORMATION SHEET • ELECTRIC LIGHTING FITTINGS • PRISMATIC PANEL UNITS (1)

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Oliver A. Bayne.

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INFORMATION SHEET

• 277 •

ELECTRIC LIGHTING

Product : Holophane Built-in Panel Units

This is the first of two Sheets devoted to Holophane Hedralite prismatic panel units.

These units have been designed with definite relationships to one another in both size and shape, so that great flexibility of design is obtained in building up the units in patterns to form the required size of lighting panel.

The units are made in squares, rectangles and triangles, and they may be used singly, combined in small panels, or built up into laylights of unlimited size.

This Sheet sets out the standard units, and a number of standard combinations for small panels ; a great variety of combinations is possible with these units, details of which cannot be set out on this Sheet.

The arrangement and construction of large laylights and other built-in panels are dealt with in the second Information Sheet of this series.

Metal Frames :

The metal frames in which these small standard panels are built up are of bronzed moulding with corners reinforced and ornamental headed screws. These parts are in themselves standardised and designed for building up combinations of various kinds.

Lighting of Panels :

The panels on this Sheet have been shown with a prismatic reflector to each prismatic panel, as this is the most commonly used arrangement. Where, however, sufficient depth is available, one larger lamp may be arranged to serve two or four panels by setting the lamp and reflector further back at the correct distance to cover the panels.

Price Schedule of Prismatic Panels only.

List No.	Shape	Length of Sides (Overall)	Price Each
P.S.66	Squares	6⅜ × 6⅜	3/–
P.S.99		9 × 9	5/3
P.S.1313		12¾ × 12¾	10/6
P.R.96	Rectangles	9 × 6⅜	4/–
P.R.139		12¾ × 9	7/6
P.T.66	Equilateral Triangles	6⅜	2/–
P.T.99		9	3/–
P.T.1313		12¾	6/–
P.T.96	Right-Angle Triangles	9 × 6⅜ × 6⅜	2/6
P.T.139		13 × 9 × 9	3/9

Price Schedule of Prismatic Panels, "built-up" combinations in frames. The following price schedule does not include lampholders, galleries or reflectors.

List Nos. Without Box	With Hedralite Panel No.	Overall Dimensions of Frame ins.	Prices* N.B.	Prices* Chromium	List Nos. With Box	Prices* N.B.	Prices* Chromium
HC.410	1–PS.66	8 × 8	18/–	20/–	HC.410B	27/3	29/3
HC.411	1–PR.96	10⅝ × 8	19/6	22/–	HC.411B	29/3	31/3
HC.412	1–PS.99	10⅝ × 10⅝	21/–	24/–	HC.412B	33/3	36/3
HC.413	1–PR.139	14½ × 10⅝	24/6	27/6	HC.413B	39/6	42/6
HC.414	1–PS.1313	14½ × 14½	28/6	32/–	HC.414B	45/–	48/6
HC.420	2–PS.66	14⅝ × 8	25/6	29/–	HC.420B	39/3	42/9
HC.421	2–PR.96	14⅝ × 10⅝	28/6	32/6	HC.421B	44/3	48/3
HC.422	2–PS.99	19¼ × 10⅝	32/–	36/6	HC.422B	48/6	53/–
HC.423	2–PR.139	19¼ × 14½	38/6	44/–	HC.423B	60/–	65/6
HC.424	2–PS.1313	27⅜ × 14½	49/6	55/6	HC.424B	74/–	80/–
HC.440	4–PS.66	14⅝ × 14⅝	34/6	39/–	HC.440B	54/–	58/6
HC.441	4–PR.96	19¼ × 14⅝	43/6	49/6	HC.441B	65/–	71/–
HC.442	4–PS.99	19⅞ × 19⅞	51/6	60/–	HC.442B	74/6	83/–
HC.443	4–PR.139	27⅜ × 19¼	102/–	117/–	HC.443B	129/6	144/–
HC.444	4–PS.1313	27⅜ × 27⅜	122/6	140/–	HC.444B	157/–	174/6

The prices for fittings Nos. 410B to 424B allow for box depths up to 9 ins., and for fittings Nos. 440B to 444B up to 12 ins.

* These prices include the Hedralite prismatic glass panels. The finish refers only to the visible brass frame.

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