



Wednesday, October 24, 1928

DRIFTING LONDON

NEARLY two years have elapsed since Mr. Neville Chamberlain spoke at a conference of all the county councils, town-planning authorities, and joint town-planning committees operating within the London Traffic Area, which extends twenty-five miles from Charing Cross, and has an area of about 2,000 square miles. A recommendation was unanimously passed at this conference in favour of the constitution of a Greater London Joint Town-planning Committee which was to deal comprehensively with the whole of the area. Mr. Neville Chamberlain has many times pointed out that this committee has an opportunity of conferring an inestimable benefit on Greater London, and that the problems are difficult enough when considered as a whole, but are gravely intensified, with inevitable waste, if authorities attempt to deal with them in isolation, or by reason of timidity and lethargy permit London to drift.

It must be a matter of profound regret to all Londoners that practically two years have slipped by without any tangible results of the committee's work being offered to the public. We do not suggest that either the busy chairman, Sir Banister Fletcher, or the experienced secretary, Mr. Montagu Harris, are in any way to blame. On the contrary, these two gentlemen, who have many other responsibilities to bear, have acted with considerable public spirit in undertaking additional burdens. But we believe that we are voicing the opinions of many who have given some study to the question of the planning of Greater London when we assert that the London County Council as a body hardly seems to be aware of the greatness of the opportunity now offered. It was, indeed, a loss when Mr. Harold Swann, the former chairman of the L.C.C. Town-planning Committee, and a man who had given careful study to the question, had to resign from the joint committee, and, *ipso facto*, ceased to be vice-chairman. He might have applied some "ginger" to the L.C.C., which suffers from the obvious faults of a bureaucracy, and has so far exhibited few signs of appreciation of the issue involved in planning the future growth of the capital of the Empire.

No doubt a certain amount of quiet work in the preparation of maps has been proceeding behind the scenes. Investigations, too, have been made of isolated problems. Distinguished architects and town planners, who serve upon the committee, have shown their willingness to assist in every possible way. But from the public point of view there is no indication that Sir Banister Fletcher and his colleagues are in a position to face, even in an elementary manner, the gigantic problem of London's development.

New York, in the last eight years, has spent \$800,000 in research on regional plans, and is already issuing a report in ten volumes. With vision and foresight they have adopted 1965 as the date to which they look forward. The reports show that the business men of America recognize that regional planning creates new land values and prevents wasteful development. They realize that millions of dollars will be saved in an industrial centre like New York if new routes are properly designed so as to obviate traffic congestion. By allocating certain areas for residential use and others for industry, both commercial prosperity and healthier conditions may be promoted.

What is the Greater London Committee doing on such matters? Almost the only document that has been issued to the public is a platitudinous report, bearing signs of undue haste in preparation, and complete lack of imagination, that was sent by the Federation of British Industries to the Greater London Regional Planning Committee. One critic who was asked to read this report remarked after perusal: "Heaven help our country if this is the spirit of our captains of industry!"

This inept report clearly shows that British industrialists, unlike business men in New York, have not yet grasped the elementary truth that a city may be compared to the floor space of a factory, and that a regional plan indicates how the space may be utilized to the best advantage. It is devoutly to be hoped that Lord Ebbisham, who, as Sir Rowland Blades, Lord Mayor of London, and M.P. for Epsom, had exceptional opportunities of knowing London's needs, will, in his new position as President of the Federation of British Industries, in 1929 to 1930, ask his officials to give a little serious thought to the question of a regional plan with a view to producing another report more worthy of British industry.

In the meantime, Sir Banister Fletcher and his colleagues need all possible support that can be given them. The New York Committee made use of a number of experts. Men of the calibre of Mr. R. Murray Haig, Professor of Business Administration, and Mr. R. C. M. Hepburn, Professor of Economics, both of Columbia University, were called in to prepare the first volume of the report, which deals with the chief economic factors in the growth of a great city. It would be a valuable contribution to London's problem if the Federation of British Industries decided to finance the employment of two experts from, say, the London School of Economics, to report to the Regional Committee on such a question as the decentralization of industry.

NEWS AND TOPICS

THE borough council elections in this country take place next week, and this is possibly an opportune time to pay a tribute to the high standards of layout and housing that have been adopted during the last eight years by the majority of the more farsighted local authorities. We owe a great debt to the manual published by the Local Government Board in the last few months before the Ministry was formed for the advice given which is, indeed, applicable to buildings today: "Good exterior design in harmony with the surroundings and adapted to the site should be secured; on sites of varying character each individual group of buildings will need to be carefully adapted to suit its position, and to take advantage of opportunities as to aspect, prospect, and level which that possession offers. By the choice of suitable local materials, and the adoption of simple lines and good proportion and grouping of buildings, with well-considered variation in design, and in the treatment of prominent parts, good appearance may be secured within the limits required by due economy."

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Accurate figures are now available with regard to the condition of houses erected by the London County Council at Becontree. These are of interest as showing how the post-war houses are enduring, not only the attacks of the weather from without, but the ill-usage of badly-trained tenants within. For it must be remembered that, although care was taken to select the tenants of the L.C.C. houses, as a general rule they were chosen from persons living under over-crowded conditions, who are not always too cleanly in their habits. Last year some 247 houses at Dagenham were reported to be "not in all respects fit," but of these only thirty-seven were in respect of L.C.C. houses. Of this figure, twenty-two were for damage caused through the bursting of water-pipes during a severe frost. A further eight were on account of dirty walls, three on account of blocked drains, two for over-crowding, and one each for broken windows and defective smoke flues. The figures, however, only represent the small minority of persons who approached the Sanitary Department rather than the local rent office in order to find a remedy for defects. There has been some misunderstanding with regard to five houses at Dagenham that were found to be unfit for human habitation. Of these, two belonged to the L.C.C., but they were old cottages demolished in order to allow for the development of the estate.

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Nothing so important has ever happened to modern British sculpture as the display of it at the Exhibition of Garden Design of the Royal Horticultural Society. It is not only well arranged, it is arranged in a hall which is ideal for the purpose. I have seen some of the things that are there looking strong and robust, looking puny and mean at the Royal Academy. The great "Pan and the Woman" of Charles Jagger was misunderstood at Burlington House; at the Horticultural Hall it is a triumph. The group, along with the great bronze "Frogs" of W. Reynolds-Stephens, so admirably set as to water and trees, is an object lesson to all garden designers and sculptors in the art of the fountain. "The Fountain of the Valkyrie," by Gilbert Bayes, and the "Fountain Group," by William McMillan,

are admirable and would give distinction to any garden. There are other fountains, and there are other sculptural adjuncts of the garden, none of quite the importance of the Jagger and Reynolds-Stephens work, but the stone wall-panels of Reid Dick are fine and suggestive of a direction which should be eagerly pursued. Garden walls are admirable stands for sculpture. No work in the exhibition surpasses in quality that of Richard Garbe, whose lead cisterns are very good, and the small carvings of Alan Durst. The lead fountain figures of Walter Gilbert and L. Weingartner are admirably adapted for fountain work. Altogether there are eighty pieces in a show that is a landmark in British plastic and glyptic, and it points the way to a revival of the true application of the art. Incidentally, thousands will realize sculpture for the first time; those who never go to the Academy.

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This view of Lambeth Palace is a particularly interesting one in that it was taken some sixty years ago when the historic structure stood nearer the Thames than it does today, or than it has done since 1870, when the Albert Embankment was formed along its river front. Here we have a view of the palace showing the whole of its west side, with Lambeth Church guarding it, as a kind of ecclesiastical sentinel on the south. Lambeth House, as it used to be called till the beginning of the nineteenth century, is one of London's most interesting and historic landmarks. Its oldest portion, the Chapel, dates from the thirteenth century; on the other hand, the great Hall, so marked a feature, in the centre of the pile of buildings, was constructed in 1663 by Archbishop Juxon. The Gate House on the right was built by Archbishop Morton in the sixteenth century. Among many successive benefactors to

ARRANGEMENTS

THURSDAY, OCTOBER 25

The Design and Industries Association, 6 Queen Square, W.C.1. 1928-29 Winter Session Meetings. No. 1: "Modern Dutch Architecture." Speakers: Mr. F. R. Yerbury, Mr. Hamilton T. Smith, Mr. W. J. Bassett Lowke. Accompanied by lantern slides and a film of the D.I.A. visit.

FRIDAY, OCTOBER 26

Royal Technical College Architectural Craftsmen's Society, Glasgow. Seton Karr on "Aspects of Cement and its Manufacture." 7.45 p.m.

SATURDAY, OCTOBER 27

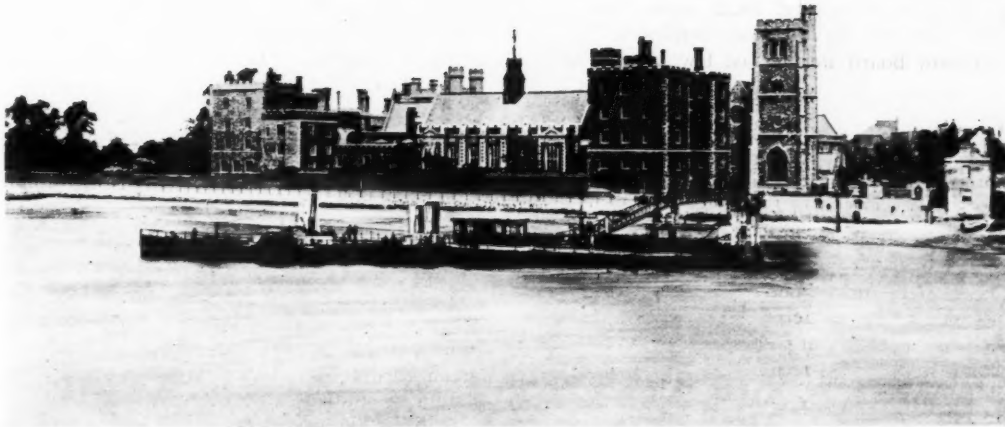
Royal Technical College Architectural Craftsmen's Society, Glasgow. Visit to John Cochrane's Works.

MONDAY, OCTOBER 29

The Architectural Association, 36 Bedford Square, W.C.1. W. H. Ansell, M.C., F.R.I.B.A. (President). "Signs of the Times."

MONDAY, NOVEMBER 5

R.I.B.A. Inaugural Meeting: Presidential address. Presentation to Sir Giles Gilbert Scott of London Architecture Medal. 8.30 p.m.



An old view of Lambeth Palace.

the palace was Archbishop Laud; and it is interesting to remember, in view of recent happenings, that in his diary for November 15, 1635, he records that on that afternoon occurred "the greatest tide that hath been seen." "It came," he adds, "within my gates, walks, cloisters, and stables at Lambeth." The church, an anti-climax after the palace, has been much restored, although its late fifteenth-century tower remains. In it is the famous window representing the Pedlar and his dog, who gave Pedlar's Acre, on part of which the County Hall now stands, on condition that he should be thus commemorated.

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It is unusual in the modern warship to find notable examples of art, but in one of the finest cruisers in the French Fleet, the "Duquesne," may be found two exquisite marine pictures. Captain Bramand du Boucheron happens to be very interested in art, and in the vestibule of his salon are two pictures painted by Charles Fouqueray, whose works can be seen in the galleries of the Luxembourg and of the Petit Palais. In olden times galleons were decorated with hand-carved poops, and captains' cabins with costly woodwork. It is a new development of modern times for warships to become floating picture galleries.

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There are potent signs that general interest in sculpture is on the increase. It would seem, indeed, that the Cinderella of the arts is rapidly coming into her own; overtaking her at one time more popular sister, Painting. At the moment there are two important exhibitions of sculpture, and in addition one piece of plastic portraiture, which are of great significance. The Maillol show I have referred to, and now there is the Leicester Galleries exposition of work by Dora Gordine, and an extraordinarily fine bust of C. R. W. Nevinson, by Barney Seale. This latter reveals the secret of architectonic in sculpture. It is on the large

scale; it is monumental; it announces its mission. It is, moreover, an accomplished piece of psychological analysis and, incidentally, a real likeness. Even taking this last factor into consideration, this piece of sculpture has a further and more significant feature. Consciously or unconsciously, it is the first introduction to London of the principle which, in Germany, Kasimir Malewitsch calls "suprematism," the architectonic application of the parts in building up the organic structure of the whole.

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Dora Gordine does not work in the fashion of the suprematists, but generalizes and does it efficiently. She is a young Russian who has, as is the way of such, worked in Paris and worked to a purpose. She has the true plastic touch and a mentality that is peculiarly fitted for dealing with types. There are seventeen bronzes—all typical. The best is the "Head of a Negress," and after that the "Chinese Head," not the best and less best because they are good portraits of a negress and a Chinaman, but because they are not. They are generalized Orientalism, as is also the "Javanese Dancer," a life-size nude, sturdy, immobile, but potential. That heavy mass of flesh may at any moment flash out into vivid action. By an interpretative faculty which is rare, Dora Gordine has set her hands upon the elucidation of the static condition which it is desirable that art should maintain between Europe and Asia, and, with the instinct of true craftsmanship, she has made her heads, torsos, and statues interesting in surface as well as structure. Sculpture to her in the first instance is pure form, and after that the quality and faculty of material. Her pieces are all differently patinated, and there is a queer mechanization of surface in some of them which, however, is not ineffective. Her show at the Leicester Galleries is more cheerful than is generally the case with a sculpture exhibition.

ASTRAGAL

THE "GARDEN DESIGN" EXHIBITION

THE International Exhibition of Garden Design, promoted by the Royal Horticultural Society, has aroused more interest than most art exhibitions, perhaps because it is the first time that an endeavour has been made to exhibit British sculpture in such a setting. Statues rise out of flower-beds and are seen against green backgrounds, and, contrary to prevailing ideas, the garden really seems the place for fine sculpture.

A formal garden, designed by Mr. Reynolds-Stephens, has been laid out in the new hall, which is 150 ft. by 70 ft. There is no overcrowding; the arrangement is spacious and restrained. Each piece of sculpture is cut off from the rest by the cleverly-arranged shrubs and flowers, and the prices of the pieces range from £2,000 to a few guineas.

The most impressive of the exhibits is the group by Mr. Charles S. Jagger, designed for Lord Melchett's country seat at Romsey. At the end of the hall, dominating everything, the figures in white marble against the screen of cypress make a sort of altar, and before the beauty of it visitors stood breathless. It is probably one of the finest things ever designed for a garden. Then there is "The

Elf," by Sir William Goscombe John—occupying the central position on a point of lay-out, perhaps, though very charming and interesting.

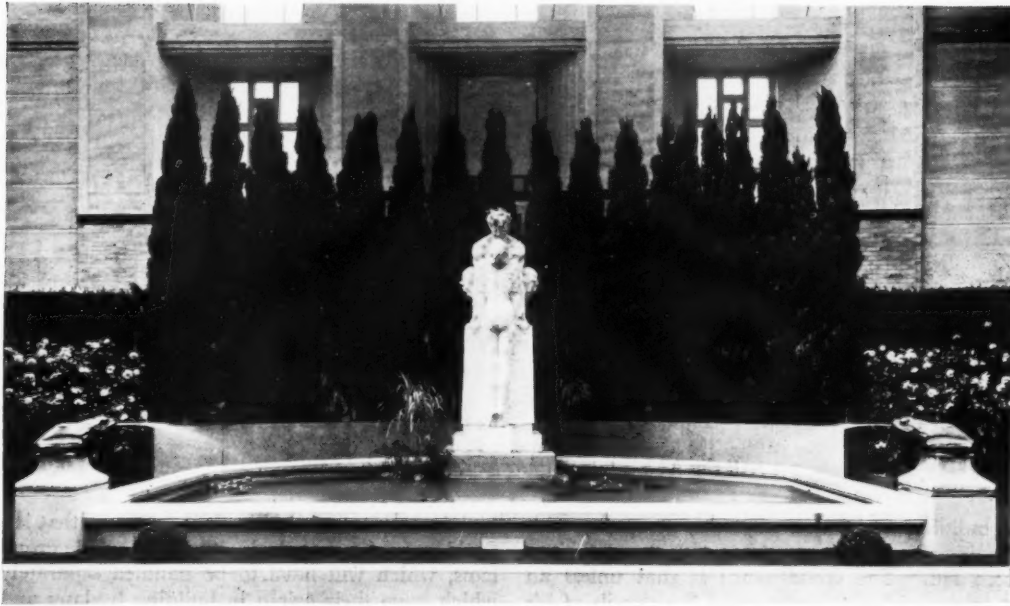
The two well-known pieces by Sir Hamo Thornycroft, "The Sower" and "The Mower" (lent by the Royal Academy and the Corporation of Liverpool), are there, and ought not to be separated again, and Mr. Reynolds-Stephens has himself made a delightful little bird-bath in stone, gilt, and bronze surmounted by a globe of green crystal, in which the flowers of the garden are reflected. Two smaller globes are placed on either side of the column.

The "international" character of the exhibition is derived from the photographs and drawings in the bays of the side aisles. England is represented by Sir Reginald Blomfield, Sir Edwin Lutyens, Sir Robert Lorimer, and others. From abroad, especially notable are the photographs of the home of Carl Milles. The historical section, arranged by Mr. Avray Tipping on the second floor, should be studied in detail.

One comes away regretful that so fine an idea should not have more permanence. It would be very sweet to have a gallery like this always open to us.



"The Elf." By Sir William Goscombe John.
[From the International Exhibition of Garden Design.]



A garden group. By C. S. Jagger. [From the International Exhibition of Garden Design.]

THE DISFIGUREMENT OF THE COUNTRYSIDE: iii

[BY ARTHUR J. PENTY]

As the old social and building traditions which made ordinary building in the past so beautiful are now broken up, the only way of ensuring that anything built shall have some architectural decency is to employ a good architect. But architects are rarely employed upon small work. There is a poverty line in building below which people don't think in the terms of architecture, but how to get accommodation for the least possible outlay. Such people don't employ architects, but go direct to a builder who uses anything that will reduce the cost.

If architects are employed at all upon work of this kind, it is because it is undertaken by some public authority or

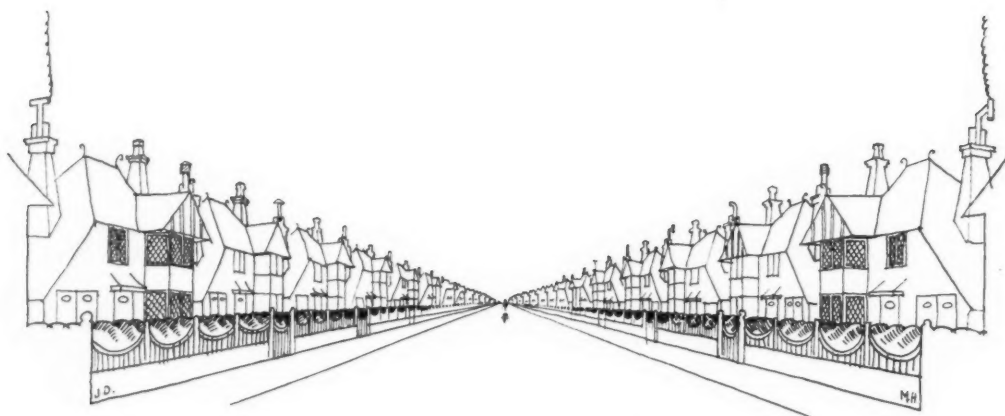
public utility society. But the building of cottages by such public or semi-public bodies has its disadvantages as well as advantages. The advantages are that architects are employed and are provided with opportunities of designing in groups which gets rid of the evil of endless detached and semi-detached houses. A disadvantage is that as no house is built for anyone in particular the personal note which comes from the architect seeking to satisfy individual requirements is apt to be missing, or, in other words, building under such conditions becomes a kind of mass production. A still more serious evil, especially in connection with public utility societies, is that sooner or later such societies come to organize building departments of their own, and when that happens the standard of design begins to fall because these departments unfortunately undermine the authority of the architect who, at the present time, is alone capable of setting and maintaining a standard. A public utility society with a building department of its own is both client and contractor, and for very obvious reasons an architect when designing for them cannot insist upon his details and instructions being carried out as he can when his designs are carried into execution by a builder. If the building trades were architecturally alive as they were until the end of the eighteenth century, this difficulty would not arise; for the building trades would be sufficiently interested to enter into the spirit of a design and be willing to take the trouble to see that all the details were properly executed. Indeed, they might dispense with the services of an architect altogether without detriment to the architecture.

But such conditions do not obtain today. There are few

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Many builders waste money by putting in costly, stupid details which are better left out.



"Our suburban streets where houses are detached. . . ."

men in the building trades who have any sympathy with or understanding of architecture. Most of them regard it as an architect's fad. The consequence is that unless an architect is in a position to insist upon the details of his designs being carried into execution, the chances are they will not be strictly adhered to. Many builders are indifferent. They will use bricks which ruin the design because they can get them a shilling a thousand cheaper. They will substitute other mouldings because they can buy them ready made. They will use cement where they ought to use lime; and they will make endless mistakes in detail because they will not take the trouble to look at the drawings, while they will waste money by putting in costly stupid things which are better left out. When a contractor is employed, the architect can insist upon all such details being right, and because the contractor knows this, he will be much more careful. But face to face with a building department, the architect is powerless. His instructions are ignored whenever it means taking a little trouble, for the architect under such conditions has no power to insist upon them being carried out.

Some years ago I was employed to design a block of houses for one of these public utility societies which had a building department of its own. My design was completely ruined in execution by such carelessness. At the conclusion I said to the works manager: "You have made a mess of these houses; tell me, have you saved a sovereign on each?" "No," he replied, "I don't suppose we have."

There you have the whole situation in a nutshell. It is for such reasons that building departments are a mistake. They undermine the authority of architects and generally place power in the hands of men absolutely indifferent to anything that means a little more trouble. It is bad enough when the architect employed is an independent practitioner. But when such societies come to organize architectural departments in addition to their building departments there is no authority left. The architects they employ become tame and soon abandon all efforts to secure architectural decency, much less to give rein to their imagination.

Now that we have made our acquaintance with the circle of difficulties that surrounds the production of architecture in the suburbs and countryside it is evident that the granting to local authorities to control the designs of buildings in their respective areas does not meet the case, for as I have shown, the obstacles are such as to defeat the efforts of the

highest architectural skill. It is apparent that it is not one problem we have to deal with, but a whole group of problems, which will have to be handled separately. Those which have their origin in building by-laws and building law are tangible and reform might be effected if the R.I.B.A. took the matter in hand. It might also be possible to do something to get rid of needless restrictions upon sites by approaching the Surveyors' Institution, but the major problems—those which arise from the desire of landowners to dispose of their land for as much as possible and the desire of everybody to build their houses detached—could only be dealt with by means of propaganda to educate the public in that aspect of architecture and to appeal to their public spirit. But if anything is ever to be done it will have to be initiated by the R.I.B.A. or some other body interested in architecture, for there is no reason to suppose that it will ever be undertaken by architects in their private capacity for a very obvious reason—that if most clients heard an architect writing or speaking against houses being detached they would not, if they preferred to build a detached house, give their work to him, assuming that such an architect would refuse to build a house that was detached. For this reason the propaganda must be official propaganda, by which I mean that it would be necessary to employ paid lecturers to go up and down the country to educate the public and to write articles for the Press. Further, such propagandists should be laymen who are good speakers and writers, and not unemployed architects, for a layman who was properly primed would secure the confidence of the public much easier than an architect, for he would talk their language, whereas an architect does not.

To be effective such lectures would need to be illustrated by lantern slides contrasting the depressing monotony of our suburban streets where houses are detached, with old towns and villages where they are not; for with most people the only alternative to detached houses are the monotonous rows of houses of Victorian times, all alike. Two points might be insisted upon—that all the advantages which people associate with a detached house could be secured if the same frontage were allotted to houses that were not detached that it is customary to allot to those which are, for in that case houses could be placed longways instead of endways to the road, and with wider frontages there would be no need for back additions. The other point is that the objection which people have to houses which are not detached because it is possible to hear the piano next door,



... old towns and villages where they are not."

could be overcome by building the party walls hollow and soundproofing.

For the rest, nothing more than a complete change in our economic system can remove the more fundamental evils which arise from the fact that building estates are developed to make as much money as possible out of the land, and because so many houses have to be put up at a price less than it is possible to build them properly. This problem is entirely outside the control of architects as such, though they may, as citizens, contribute towards finding a solution. But though existing economic circumstances stand in the way of a complete solution of the problem there is no reason why the artificial obstacles to architecture in the suburbs and countryside that have their origin in ignorance, stupidity, and prejudice should not be removed by education and tact. But the really fundamental difficulty is economic, and will not yield to such treatments. Insufficient money is spent upon the average house to build it properly, while the architect's commission in connection with such work is too small to repay him for the time and trouble he should take to make the best of what little money he is permitted to spend. Further, the general tendency is for the cost of building to rise, which progressively aggravates the situation. Twenty-five years ago housing reformers looked for a solution of the housing problem to the arrival of the £100 cottage. We have travelled a long way since then. Nowadays £400 is somewhere near the minimum. At the same rate of progress a cottage in fifty years' time will cost £6,400 to build, if in the meantime the deadlock has not become final and cottage building come to an end.

Here we have the problem in a nutshell. In spite of the fact that machinery has increased our capacity for production a hundredfold, every day building becomes more expensive. Instead of having more money to spend on building, as it might have been assumed would be the consequence, we have less and less. Why is this? The answer to that question is a long story into which considerations of space will not allow me to go. But this much may be said, that the rising cost of building is finally due to the ever-increasing load of debt that modern societies are required to support as a consequence of the fall of the value of money which is the inevitable accompaniment of compound interest. Compound interest results in the concentration of wealth in certain areas and its draining off from others. Viewed in this light, all the gimcrack buildings are seen to be devices for beating compound interest. But the race is too unequal and it can safely be predicted that in the long run compound interest must win, for there is a limit to the possibilities of invention but none to interest accumulation.

How it will all work out remains to be seen. Meanwhile the efforts of architects should be directed towards preserving our traditions of architecture intact in the hostile economic environment in which we are condemned to practice. And to this end we ought to seek the establishment of schools of domestic architecture, for a wider dissemination of the principles of domestic design is one condition of the solution of the problem. Such schools should cater for members of the building trades as well as for aspirants to the profession.

[Concluded]

THE ROYAL HORTICULTURAL HALL

[BY VERNER O. REES]

IN spite of a very considerable building activity it can hardly be maintained that the decade since the war has brought us many buildings of outstanding interest. Apart from any achievements in domestic work, it is clear that the confidence and self-sufficient insularity of pre-war days have died away, and that we have passed into a period of doubt, timidity, and of uncertain restless experiments. Old mannerisms have been found insufficient and there has been nothing much to hand with which to replace them. When it has been necessary to attempt some formal order for a building of any size, either the result has been a mixture of classical motifs more or less intelligently combined, though certainly not fitting the times, or else we have presented to us a series of overgrown Georgian mansions familiar in aspect but utterly inappropriate for their purposes.

These have been accompanied by a number of transitional buildings showing a vague groping towards a more sincere relationship between structure and idea, and a greater sensitiveness to the many and confused currents of thought that mark our times. Yet during this period it is possible to recognize that there are a number of influences at work which, though not yet perhaps very patently in the public eye, are of profound importance for the future. One of these, the increasingly confident use of reinforced concrete, is already beginning to be recognized. Another influence, more subtle in its results and more difficult to assess, is the eager study of the contemporary movement. This is common in all countries except our own and the United States.

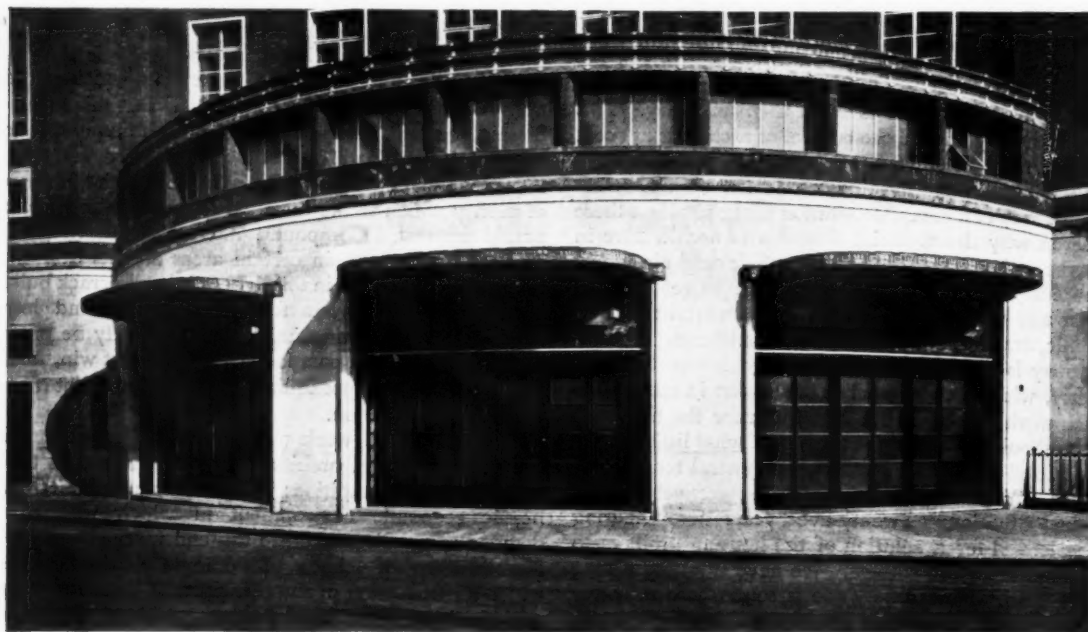
Many of our (so-called) younger architects are becoming

familiar with its aims and character. The more they realize that it is a powerful world force, as yet but in its infancy, the more they will be armed against the state of despair and the feeling of isolation induced by contemplation of the callous repetitions of dead forms. Our streets are too full of buildings that never live—that are dead before they are built.

However, a decade is a very short period in architectural history. And if nothing much has yet been sorted out and made available for general use, from time to time we are able to note, almost with a feeling of joy, some work obviously well founded on a true understanding of past values and proportions, yet fitting its new requirements with frankness and naturalness. Only quite recently, for example, Mr. Maxwell Ayrton's series of concrete bridges came as a surprise and a delight to many. The new material seems to cut out many of the old stumbling blocks, and bring with it unexpected and wonderful opportunities. Those who have seen the interior of the new Horticultural Hall will have noticed this, and they will delight in the freshness and simplicity of its idea and in its appropriateness for its purpose. What a relief! There are no architectural motifs absurdly attempting impossible tasks!

In Easton and Robertson's hands this big hall of concrete and glass clerestories has become exactly what is right for the occasion. One has a sense that if this has happened, then other equally fitting and exciting forms are possible for other occasions.

Before attempting to give any general description of this hall it is necessary to notice the conditions imposed by the



The Royal Horticultural Hall, Westminster. By Easton and Robertson. Segmental bay of entrance hall.

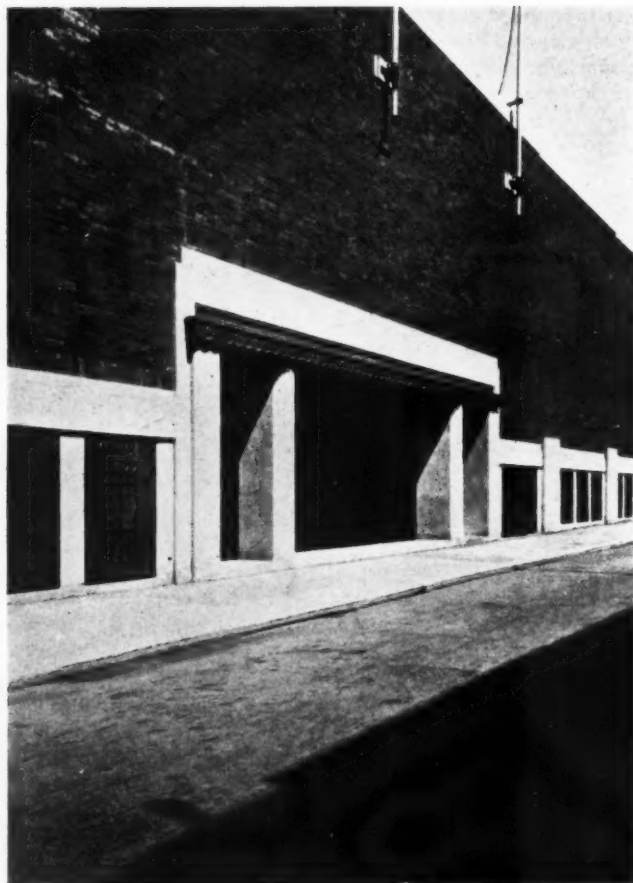


surroundings. The architects have not been too fortunate in the matter of their site. It is bounded on two sides by narrowish streets at raking angles to Vincent Square, behind the old Horticultural Hall building. The flat segmental curve that marks the exterior is explained by the

need to palliate this obliqueness as much as possible. One can imagine how the architects would have enjoyed the staging of their clerestories to make them into a coherent whole to be seen from a distance had the site been parallel with the Square and properly visible from it. As it is, the



*The Royal Horticultural Hall, Westminster. By Easton and Robertson.
Above, view from Vincent Square Approach. Below, the east end of the hall.*



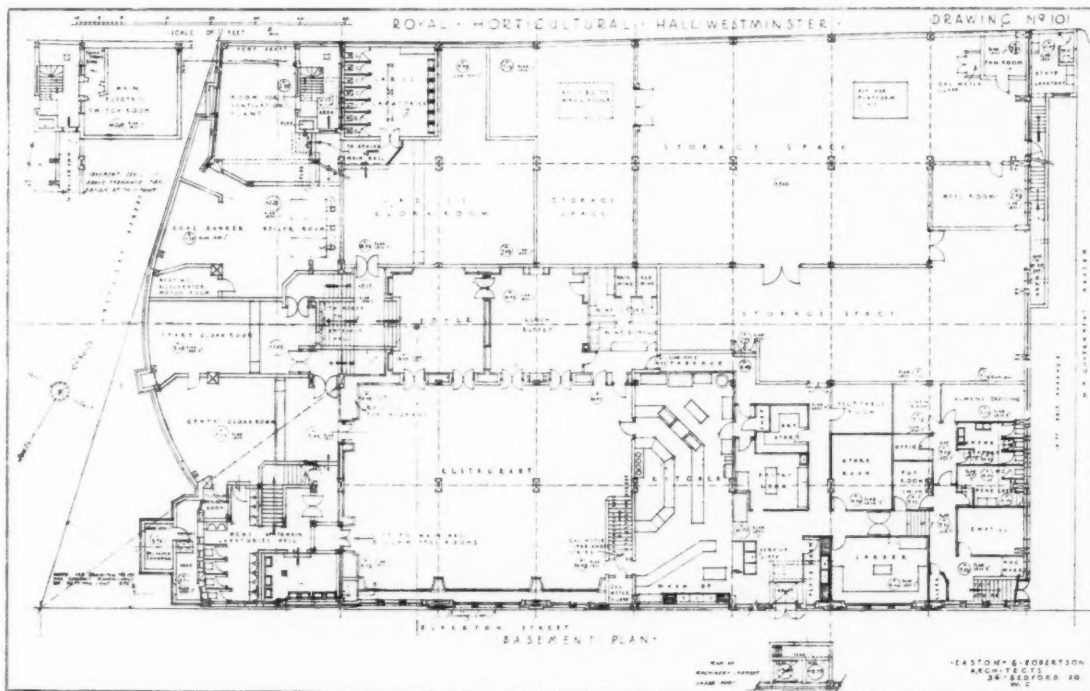
*The Royal Horticultural Hall,
Westminster. By Easton
and Robertson. Above,
entrance to lecture and
committee rooms. Below, the
exit doors to Elverton Street.*



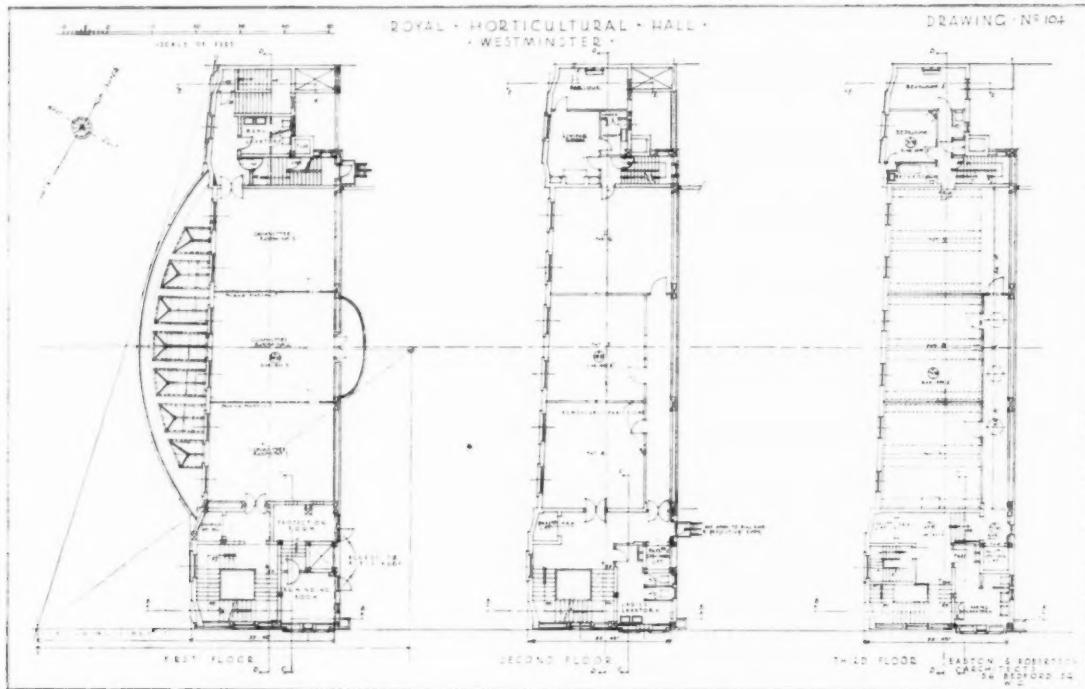
entrance end of the hall is rather blanketed out by the tall office portion of the building, and the best view of its external grouping is to be obtained from the rear, where, fortunately, there is a certain amount of open space.

The height of this office portion is due to the rather cramped extent of the site. It is impossible to see how all the office accommodation could have been provided except

in a vertical direction. With only a little more room this could have been spread out at a lower level to the enhancement of the apparent height of the hall. The requirements were a hall of the maximum size possible with very abundant light, with entrance hall and annexe; administration offices, board-room, a suite of committee and lecture-rooms; sampling-rooms with saw-tooth lighting; cloakrooms and



The Royal Horticultural Hall, Westminster. By Easton and Robertson. Above, the restaurant. Below, the basement floor plan.

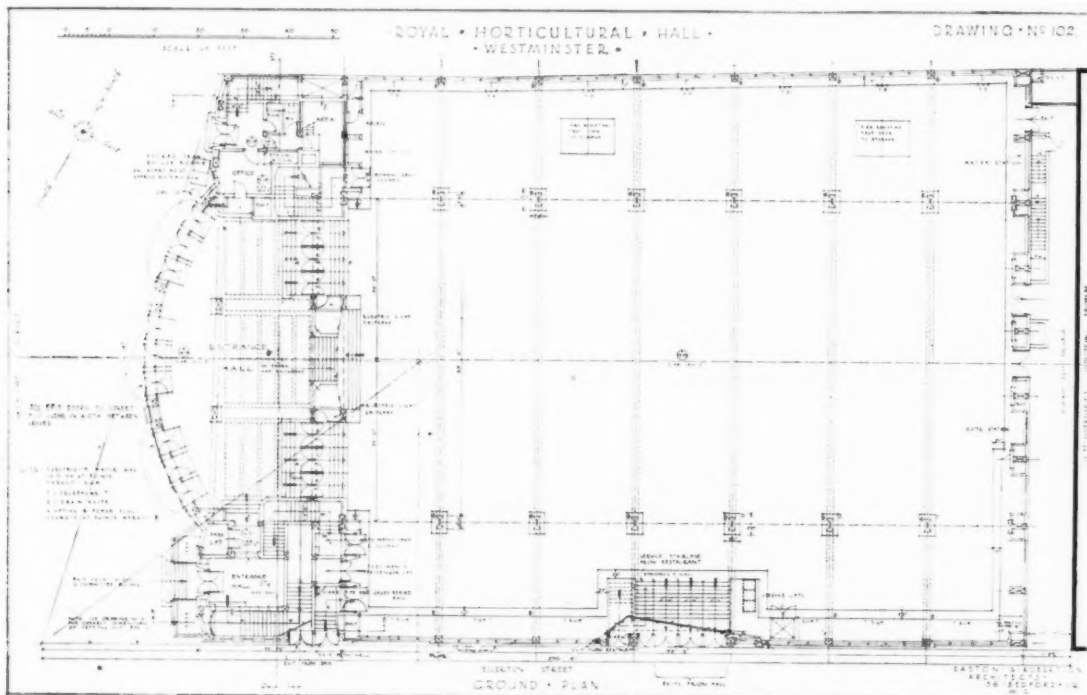


lavatories; restaurant, buffet, kitchen, and services; all on a site of approximately 212 ft. by 127 ft.

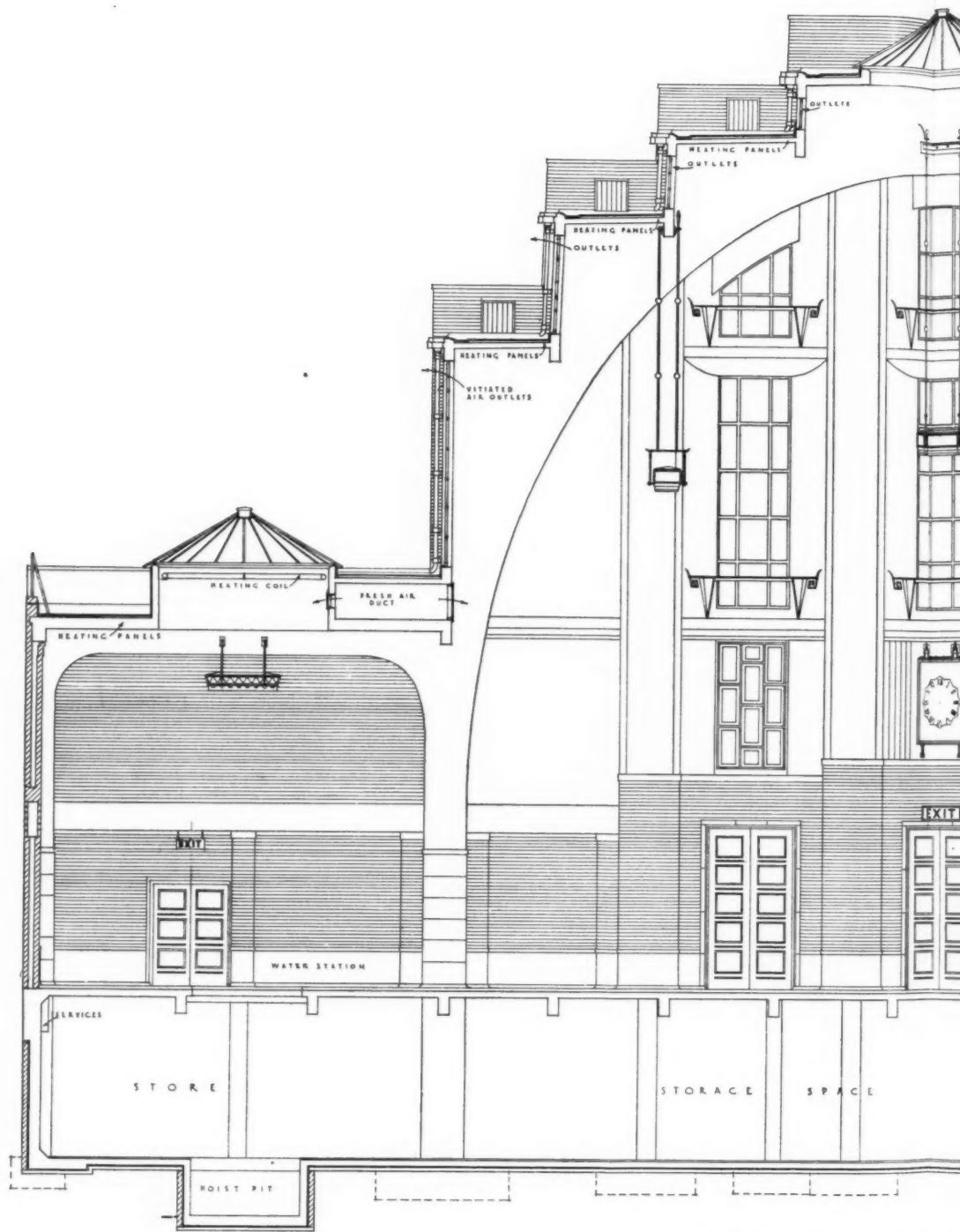
The hall is 150 ft. long by 124 ft. wide, and actually the architects have been able to utilize the whole of their ground-floor space, with the exception of the portions cut off for staircases, by placing the annexe as a mezzanine over the

entrance vestibule. The annexe thus becomes a rather extensive platform at the entrance end, and will be extremely useful for band performances or public meetings. To provide adequate exits it has been necessary to cut off 10 ft. along the whole length of the rear of the site.

As will be seen from the plan, a symmetrical arrange-



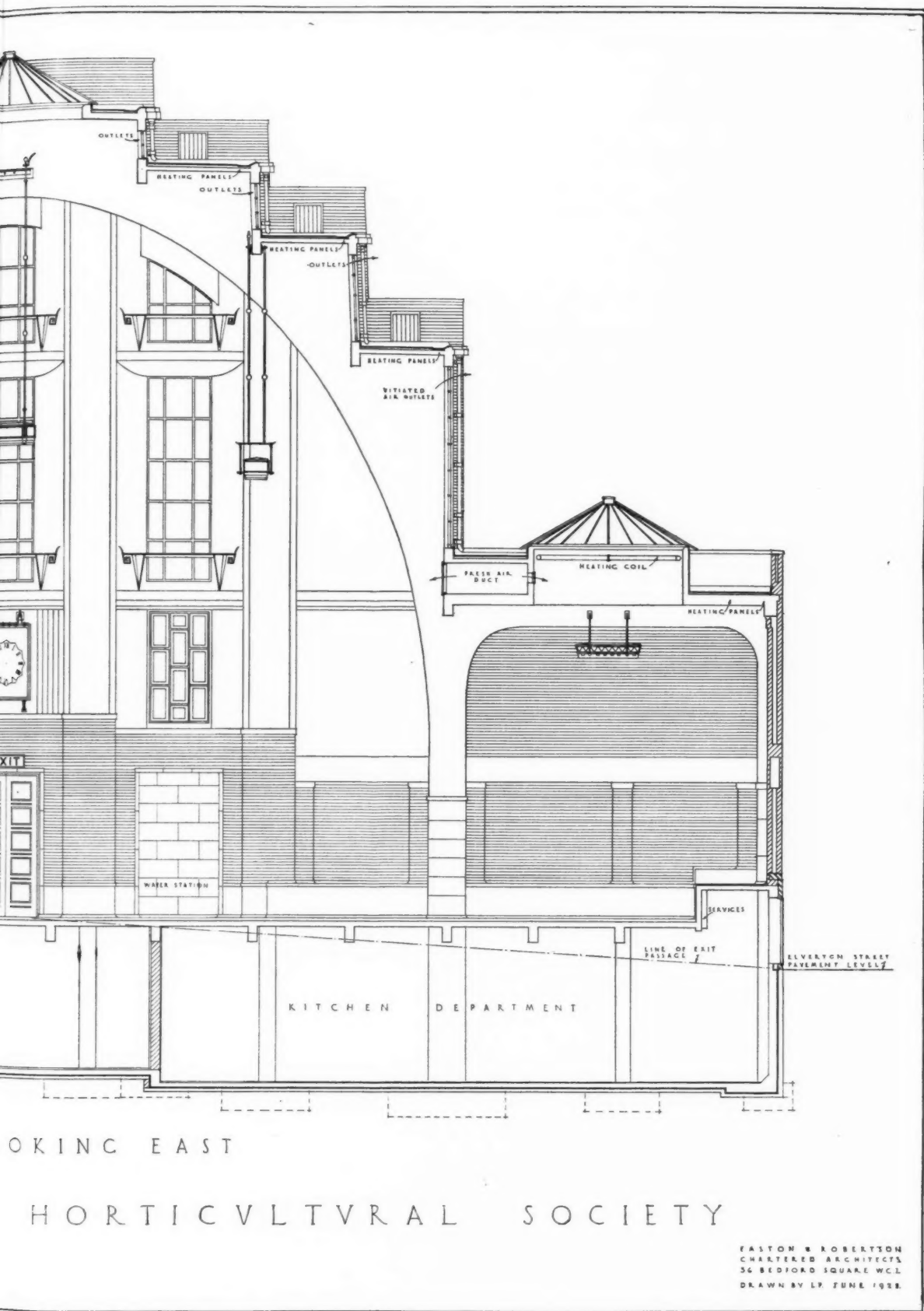
The Royal Horticultural Hall, Westminster. By Easton and Robertson. Ground-floor and upper-floor plans.



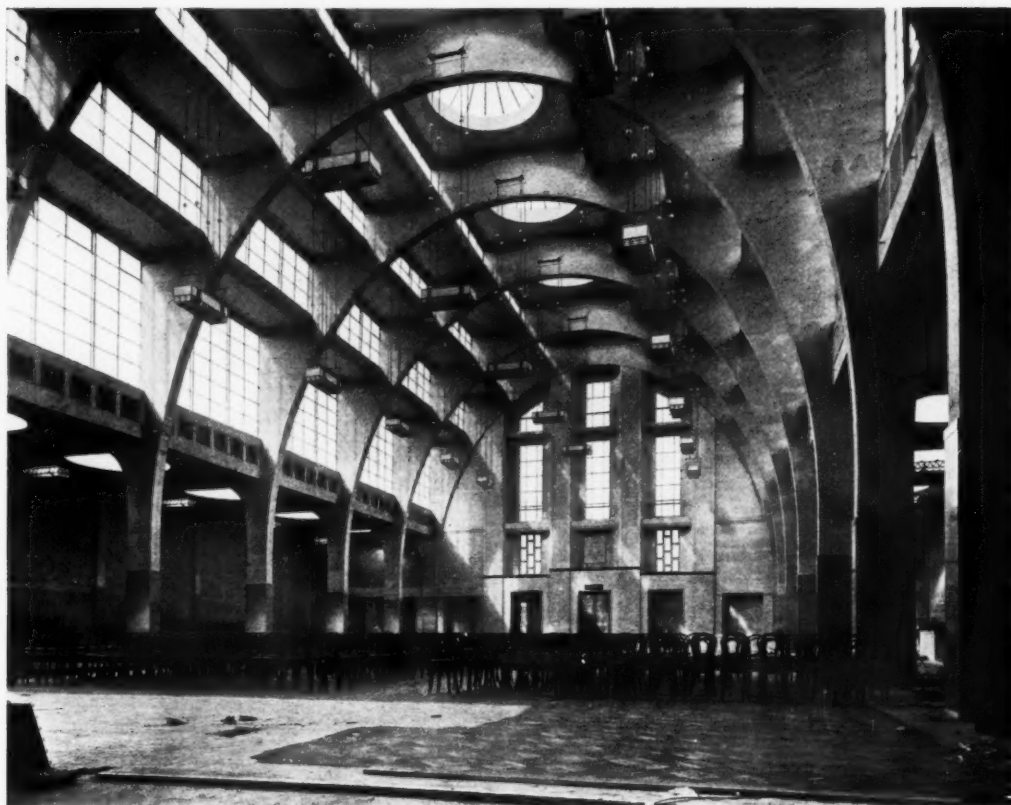
SECTION LOOK

NEW HALL FOR THE ROYAL

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SCALE OF FEET



THE ROYAL HORTICULTURAL HALL, WESTMINSTER. BY EASTON AND ROBERTSON. SECTION THROUGH HALL LOOKING EAST. [SEE ARTICLE WHICH BEGINS ON PAGE 566]



*The Royal Horticultural Hall,
Westminster. By Easton and
Robertson. The hall. Above,
looking towards the east
end. Below, looking
towards the west end.*



The Royal Horticultural Hall, Westminster. By Easton and Robertson. The balcony doorway of the lecture room.

ment of the requirements proved quite feasible. On either side of the entrance vestibule are the lobbies and stairs leading to the offices above and to the cloakrooms below. On the main axis of the entrance vestibule is a broad staircase leading straight to the restaurant rooms in a semi-basement. By placing the main hall somewhat above the level of the adjoining ground, the basement benefits in light and air. A bulkhead over the windows to these basement rooms, which still further improves their lighting, is ingeniously utilized as a broad bench along the whole length of the side of the hall to Elverton Street.

The lighting of big open spaces is always a matter of great fascination. It has been the main source of inspiration of some of the most interesting buildings in the past. Here it is the crux of the whole architectural problem. The circumstances are special ones. Not only is it desired to light a rather broad rectangular hall as fully as possible, but the density of light should approximate to daylight. The general sense should be that of the open air, as the hall is primarily for the holding of exhibitions of flowers. At the same time the circulation of air and the warming of the hall have to be considered. Also some quite definite sense of shelter against the climate is necessary in England.

A roof entirely in glass, which would be quite possible, loses its warmth too quickly, so that uneconomically large heating surfaces would be necessary. Messrs. Easton and Robertson have adopted the idea for the central part of the hall of a series of receding clerestories, one above the other; the upper one in each case being within the other below, so providing a narrow width of flat roof of great value for heating surfaces and for access to the glass. The clerestories are carried by great concrete arches of para-

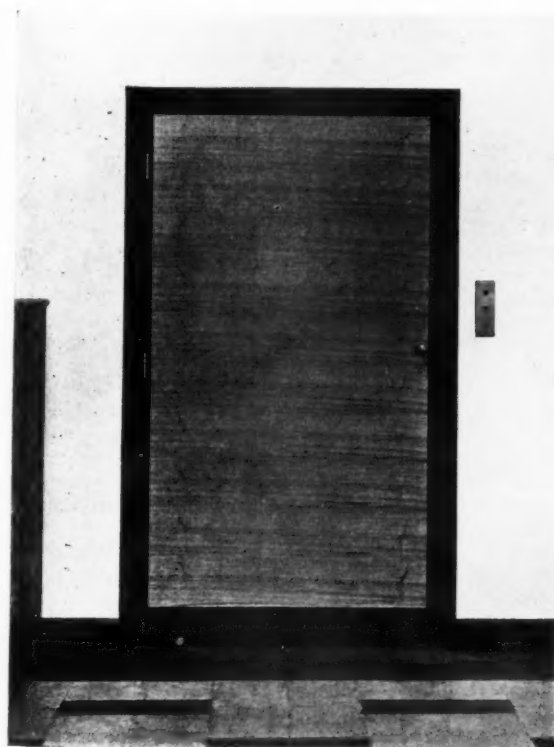
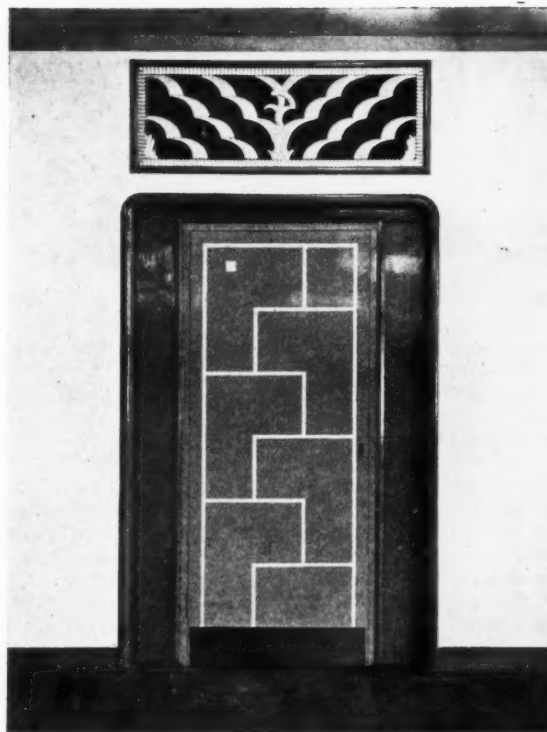
bolic shape. On either side are side aisles, 17 ft. wide and 26 ft. high. The central hall or nave is 150 ft. by 72 ft. wide by 58 ft. high. This idea, it is true, has some Continental precedents. They have had, however, to work out this idea entirely afresh for their own purposes, to decide the appropriate scale and proportions for its parts, and to face difficulties of construction unusual in architectural practice. The way they have done this, and have met all conditions, has a convincing air of ease. Reinforced concrete can be a somewhat clumsy material, but here the general feeling is of lightness.

A constructional difficulty of unusual character presented itself in the early stages of the design. It was discovered that there was a powerful oblique thrust at the level of the flat roofs over the aisles. To overcome this it was necessary to contrive a continuous horizontal beam right round the whole structure. This beam was managed by regarding the flat roofs over the aisles as forming a beam laid on its side, and accordingly these roofs were very heavily reinforced. At the junction of each arch-rib and the roof there is a horizontal thrust of 45 tons, and the roofs have thus to carry a load of 270 tons from the six arches along each side for a span of 150 ft. Some idea of the reinforcement employed may be obtained from the following figures. There are thirty-three $1\frac{1}{4}$ in. rods in tension and fifteen $1\frac{1}{4}$ in. rods in compression, as well as transverse and shear reinforcement along each side. The ends of these large flat beams are continued round the ends of the building and held together by two tie-beams; that at the front end has also to resist wind pressure on the end wall. It is 3 ft. 6 in. wide and 1 ft. 6 in. deep, and is reinforced by thirty-eight $1\frac{1}{4}$ in. rods. The whole of the concrete surfaces to the

interior have been bush-hammered in order to expose the aggregate, and the general tone resulting from this treatment is very pleasant. The greater part of the concrete is, of course, some distance from the eye.

Whilst the main interest of the building is the interior of the hall, there is much about the exterior that requires consideration. First of all, there is a subtle and unfamiliar atmosphere about it. The façades are designed with great skill and finesse, and are evidently the outcome of considerable preliminary study. The windows are agreeably proportioned, and are set back from the wall face about 6 in., with thin slips of white stone or marble set in the reveals—a reflection, intentional I think, of the plaster reveals so often met in the characteristic London style of 1800-1830. The big segmental shaped projection of the main entrance doors is handled with great originality. Nevertheless, one feels a little that it does not quite fit itself on to the rest of the building. Possibly the stone base may be rather too high, though it certainly tends to cut down the apparent height of the front block, which otherwise might appear unduly tall in comparison with the hall behind. On the other hand, one has the feeling that had it been entirely brick it would have blended into the rest more naturally.

The flank is frankly a screen wall without incident except for a range of basement windows, and in the centre a group of large exit doors, the position of which is emphasized by a neat arrangement of flag-posts on the blank walling over. As has been mentioned before, it is the rear elevation which offers the best view of the hall. Very little of the interior parabolic curve is visible; such as shows acts as a segmental arch over the three tall end windows. The important



The Royal Horticultural Hall, Westminster. By Easton and Robertson. Above, service door and ventilation grille in restaurant. Below, a walnut-veneered door in the committee room.

thing from a point of view of exterior expression is the range of clerestories, and not the parabolic arches of the interior. Clearly realized, this has resulted in the straightforward comfortable air that this elevation wears, in spite of unfamiliar silhouette and proportions.

The interior detailing throughout shows quite unusual imaginativeness. The spirit of invention, of creativeness, lingers about such items as electric light fittings, lift doors, patterns on walls and floors, door furniture, and very many things throughout the building in a way that must bring delight to all. These details are all rather simple and very right for their purpose; they seem, in addition, to have been thought of in a very fresh, easy kind of way. I was greatly impressed by what one may call the "technical" skill of the architects. They do not make mistakes. And though their work is very original, one feels that it is founded on a complete understanding of what has gone before.

The real significance of this building seems to me to be in the fact that it is the firstfruits in England of the great movement that now includes all the countries of Europe. We have become aware of the artistic activity, which amounts to a renaissance, of Sweden, Holland, Austria, Germany, France, etc. In some instances the results are tinged with a strong national or traditional touch, in others less so; but the impulse is clearly common to all.

Whether consciously or not, Messrs. Easton and Robertson, with great honesty and sensitiveness, have imbued their work with a great deal of this fine, free feeling. Here seem to be the first steps in a new orientation. There may be faults, which possibly a more orthodox critic than myself may allege against it; it has, however, quite unmistakably the impress of fresh inspiration. It is broad, truthful, refined, and must have been a work of joy for its creators.

Mr. Hope Bagenal advised from an acoustical point of view, and Dr. O. Faber was the consulting engineer.

ARCHITECTURAL EDUCATION

WE have received the prospectuses for the ensuing session of the Bartlett School of Architecture, University College, London, and of the Westminster Technical Institute.

The Bartlett School of Architecture

At the Bartlett School of Architecture at University College, the following courses are provided: i: The B.A. (architecture) degree course of the University; ii: the certificate course in architecture; iii: the diploma course in architecture; iv: advanced design class; v: evening courses in design and construction of modern buildings; vi: the atelier; vii: certificate course in town planning; viii: diploma course in town planning and civic architecture; ix: diploma course in town planning and civic engineering; x: certificate in decoration.

It is stated in the prospectus that a curriculum has been arranged not only to ensure training on a systematic basis, but also to obviate, as far as possible, the inevitable hiatus that occurs between ordinary school education and academic study. It is recognized that building is as much an art as it is a science, and that architects are artists who need to grasp not only the realities of the factors governing their work, but also the technique associated with each particular branch of it. An architect more than any other artist should be instructed to associate his work with the conditions of modern life; he must be familiar with the underlying principles of the sister arts of painting and sculpture. His knowledge of building should be based upon a close appreciation of history, tradition, and research; moreover, regarding the scientific aspect of his profession, he must be guided to regard construction as being organic and functional and not a separate and independent theory. The freshman entering the school is first instructed in means of expression: he attends lectures on draughtsmanship and presentation. These studies are followed by lectures on architectural history and theory illustrated by lantern slides, blackboard demonstrations, and diagrams, as well as by visits to the British Museum. At a convenient stage, a definite course of reading is arranged in connection with the Departmental Library and the Yates Library, having as its aim a knowledge of architectural literature bearing upon the subject. Directly a student becomes familiar with the rudiments of draughtsmanship, sketching, geometry, sciography, and perspective, and has attended the opening lectures on building construction, he is encouraged to prepare designs of an elementary character, and is brought to realize the principles characteristic of building throughout the ages. The whole of the first term is devoted to encouraging appreciative interest towards building on the part of the student, and to showing by the close correlation of lectures and studio work how one branch is interdependent on another.

Work in the second and third terms follows closely on the lines of that previously undertaken, with the exception that the studies gradually become more advanced and more closely related. At all stages the lessons of tradition are pointed out and stimulus given for imaginative renderings. The summer vacation affords the student an opportunity to increase his knowledge of old work from the study of the list of buildings arranged for his guidance. During the vacations, students have specific work allotted to them, which includes studying and sketching historical examples of art generally in London and the country.

By the time the student reaches the second year, he is ready to undertake simple essays in historical design combined with subjects in which prominence is given to construction. These studies widen the student's previous acquaintance with the architecture of ancient civilizations and extend to the Renaissance and modern times. Special lectures on these subjects, by Professor Gardner and others, have been arranged: also on the theory of composition and the history of the Renaissance in Italy, France, and England.

During the third year students taking the certificate course qualifying for exemption from the intermediate examination of

the R.I.B.A. concentrate mainly on design and constructional subjects, and prepare a specified number of designs combining construction with requirements likely to be encountered in modern practice.

Work during the fourth and fifth years is confined to courses specially arranged for students taking the degree and diploma courses as well as for those students who elect to enter for the prizes offered by the R.I.B.A. and other bodies. In addition to advanced lectures on construction, structural engineering, acoustics, and professional practice, students have to prepare designs at intervals to meet stated programmes. Architectural drawing is fully dealt with in the architectural studio, but, in addition, students sufficiently advanced may draw from the life in the Slade School. The teaching of modelling is carried on in new studios adjoining both the School of Architecture and the Slade School.

The courses of study as arranged in the department of town planning will meet the need of candidates entering the qualifying examination for membership of the Town Planning Institute. In the degree course in estate management, town planning has been made an optional subject and courses in the department are arranged to meet the needs of students entering the estate management degree course. Architectural and engineering students who have already had their general training in architecture or engineering, as the case may be, are advised to proceed to a course in town planning.

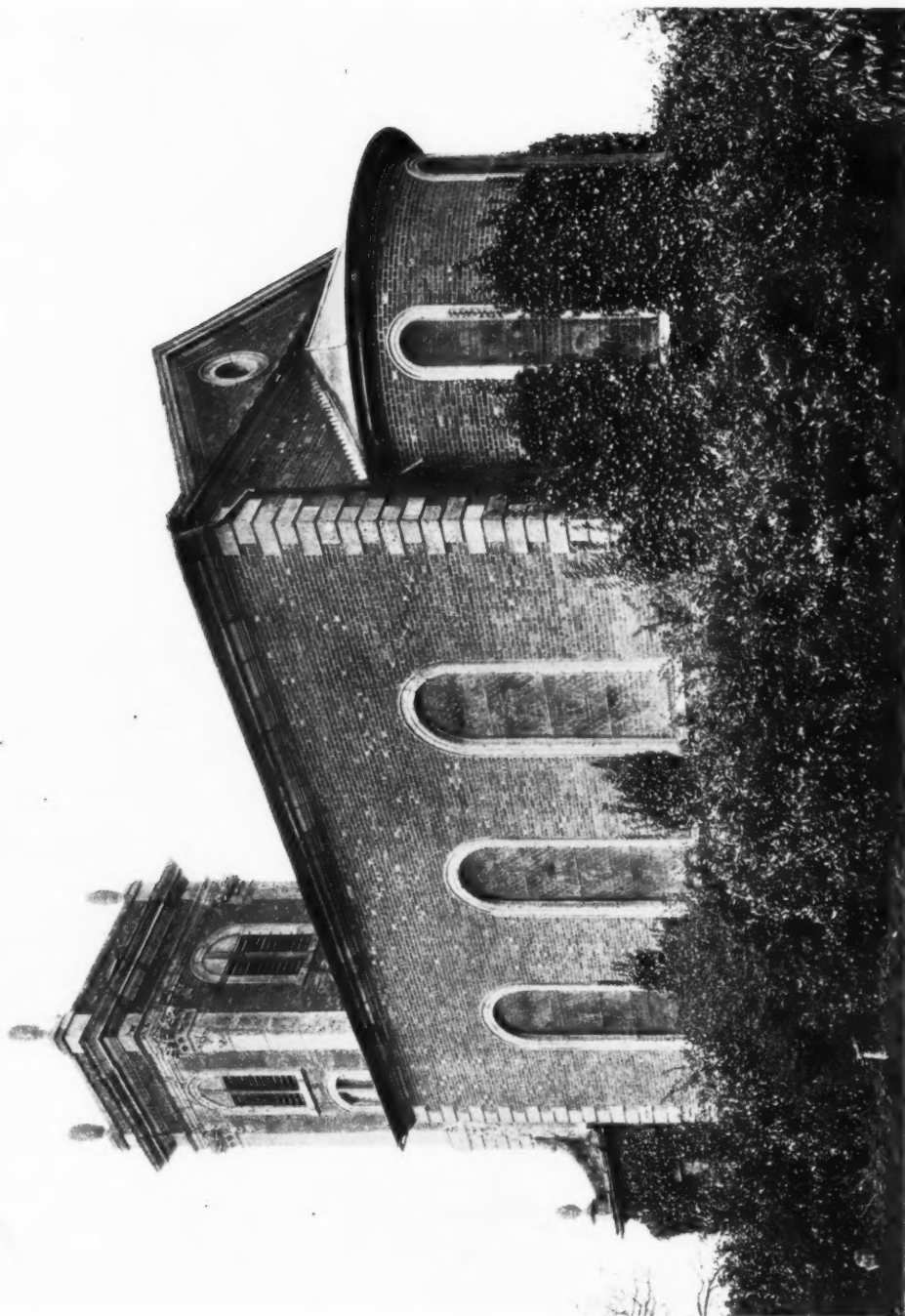
The following courses are provided: i: Certificate course in town planning; ii: diploma course in town planning and civic architecture; iii: diploma course in town planning and civic engineering.

The division of decoration has been instituted with the co-operation of the Incorporated Institute of British Decorators. It aims at stimulating and promoting a knowledge of decoration generally and provides a three years' course of training, leading to the certificate in decoration.

The staff includes the following: Architecture: Professor A. E. Richardson, F.S.A., F.R.I.B.A.; Messrs. Arthur Stratton, F.S.A., F.R.I.B.A., reader in architecture and tutor; H. O. Corfiato, S.A.D.G., senior lecturer; W. R. Jaggard, F.R.I.B.A., lecturer in building construction; H. Warren Wilson, A.R.C.A., lecturer in decoration; S. Hyde, A.R.I.B.A., senior assistant; J. R. Alabaster, A.R.I.B.A., assistant; and L. Stuart Stanley, M.A., assistant. Town planning: Professor S. D. Adshead, M.A., M.Arch., F.R.I.B.A.

Westminster Technical Institute

Proximity to the professional offices in and around Victoria Street, London, rendered it inevitable that to the Westminster Technical Institute should be assigned the duty of providing technical and professional training in civil engineering, structural engineering, and architecture. According to the prospectus for the ensuing session considerable care has been devoted, in this department of the Institute's activities, to the development of evening courses of instruction adjusted to the requirements of the professional worker, and it is now possible for both senior and junior students to undertake, with the guidance of qualified and experienced teachers, systematic and progressive courses of study extending over a period of years. The comprehensive nature of the provision made will be understood by reference to the fact that the courses extend from the essential instruction required by the lower grades to the highly specialized standard necessary to the post-graduate student. The guiding principle is to enable students to supplement in the classroom the practical experience gained in their daily work, and, if they so desire, to prepare for the various professional examinations. The growth of the department of gas engineering has been influenced and assisted by the relations subsisting between the Institute and the Gas Light and Coke Company, whose offices and works are in the vicinity, and the day and evening classes for employees in the gas industry are a typical instance of the benefit derivable from co-operation between education and industry. The principal of the Institute is Mr. J. Stuart Ker, B.Sc., A.M.I.N.S.T.C.E., and the architectural staff includes Major F. C. Webster, O.B.E., A.R.I.B.A., F.S.I., and W. J. Wilsdon, L.R.I.B.A.



36 St. Mary Magdalen, Willen, Bucks, 1680. Chancel and apse, 1802. Dr. Busby of Westminster School built this church, and it has long been assumed that Wren gave a sketch for it. I fancy that Professor Richardson has found decisive evidence that Wren did, but I cannot remember this for certain. The inside is good. The outside can be seen in the photograph. In reality it has great charm, and suggests a very good type of modern church for a rather proud village.—[H. S. GOODHART-RENDEL.]

ENGLISH PRECEDENT

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COAL RESIDUES IN CONCRETE

THEIR EFFECT ON STEELWORK

THE joint committee of societies connected with the building industry which has been inquiring into the use of coal residues in concrete in contact with steel has issued a report embodying the unanimous conclusion that "the following coal residues—namely, ashes, cinders, coke breeze, pan breeze, breeze containing ashes or cinders, and clinker passing a $\frac{1}{4}$ in. mesh—are unsuitable materials for use as aggregates for concrete in contact with steel."

The joint committee was composed of representatives of the following bodies: Royal Institute of British Architects, Institution of Civil Engineers, Institution of Structural Engineers, Institute of Municipal and County Engineers, Surveyors' Institution, Department of Scientific and Industrial Research, District Surveyors' Association, Iron and Steel Institution, Fire Offices Committee, Institute of Builders, and Association of Floor Constructors.

The report states that the inquiry was made because of "the detrimental results which are frequently observed from the use of coal residues in concrete in contact with steel." There are, it is stated, three primary causes of defects. In the first place, concretes made from coal residues are liable to expansion on setting, or, if the setting expansion is suppressed by a rapid drying out of the mass, expansion may occur should the concrete at a later date become wet from atmospheric or other conditions. The second cause of defects lies in the high permeability of concretes made from coal residues, which permits access of air and moisture to the steel,

with consequent risk of corrosion. In the third place, the presence of sulphur compounds in the aggregate may, under conditions favourable to chemical action, lead to corrosion.

With regard to clinker when thoroughly vitrified, free from coal, and screened, to be retained on a $\frac{1}{4}$ in. mesh, the committee has not yet sufficient information to determine whether such clinker used in place of coarse aggregate and in conjunction with a good clean sand is in itself detrimental, and is asking the Building Research Station, Watford, to carry out the necessary further investigation on this subject.

The committee proposes at once to place its decision before the responsible building authorities, and to endeavour to obtain a revision of the building by-laws. At the same time the committee feels that the building industry generally and the public should be informed of the conclusions reached.

Following are the existing by-laws and regulations which apply only to concrete in reinforced concrete construction. (Reg. No. 151 of the London County Council by-laws.) Prohibited materials. The following materials shall not be used with sand or coarse material in the composition of the concrete under these regulations—*a*: Coal residues, including clinkers, ashes, cinders, coke breeze, pan breeze, slag and other similar material; *b*: blast furnace slag, copper slag, forge breeze, dross, and other similar material; *c*: sulphates, including plaster of paris, and other similar materials; *d*: limestones, magnesian limestones, marbles and other calcium carbonates. There is no regulation whatever as to material used in other concrete in contact with steel.

When the committee was appointed a considerable quantity of data was at this time in the possession of the hon. secretary, and the committee thought it advisable as a preliminary step to publish this as a brochure. This has been done. In addition, the committee heard a number of reports of cases within the personal knowledge of the members of the committee where failure had occurred from one or other of the causes enumerated above. The brochure gives the existing laws in Great Britain, the results of an exhaustive examination as to corrosion, and as to expansion. It also contains personal commentaries arising on the two foregoing, together with practical experience of various authorities and individuals on the subject.

Fr. Graucob, Doctor of Engineering, Hanover, who made exhaustive experiments in Germany as to corrosion effects due to sulphur and chemical action, formulates the result of his experiments as follows:

1: The addition of quartzose sand renders the concrete perfectly dense, and consequently ensures that no rust will form on the steel insertions.

2: Pumice stone sand can be substituted for the quartzose sand. Consequently, pumice stone gravel as an ingredient also affords a perfect protection against rust. Whether the considerably reduced tenacity of the pumice stone concrete, without any addition of sand, would prove economical in constructional work executed in reinforced concrete is another story.

3: The experiment of substituting a cheaper boiler slag sand for the pumice stone sand, which is comparatively expensive in the northern parts of Germany, may be regarded as having proved abortive. The substitution of breeze in place of a limited quantity of coarse-grained pumice stone gravel is in itself the cause of a rather thick formation of rust, which is considerably intensified the moment that finer component parts are added. We must, therefore, come to the conclusion that the formation of rust on steel insertions in the slag concrete is attributable in a lesser degree to the porosity than to the sulphur content of the added substance.

In view of the foregoing statements, a solemn warning, he says, must be given against the use of breeze in covering slabs, if these are to prove satisfactory. Even if the steel be given a

Beispiele durch Rost geschwächter Querschnitte.

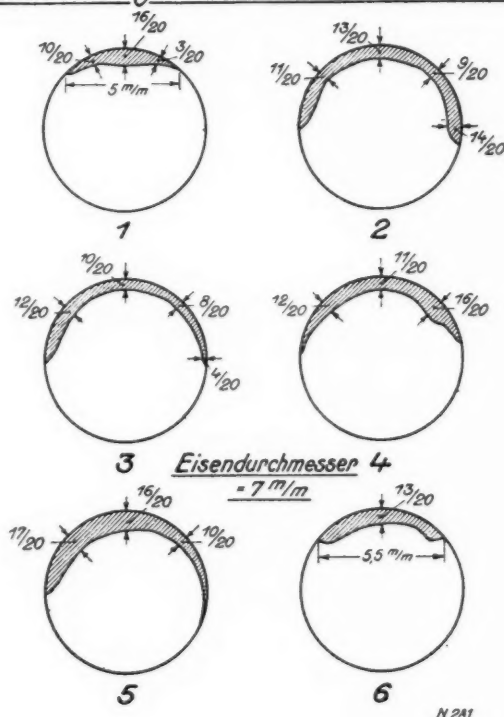


Bild 6.

Steel rods weakened by rust. The diameter of steel equals 7 m/m.

thorough coating of cement mortar, the formation of rust would not be diminished, since experience shows that the necessary precautionary measures are never so carefully observed on the site as in the laboratory.

In the report of his experiments Fr. Graucob says: the formation of rust is intensified when the quantity of sulphides is increased. Since, and as above mentioned, the sulphur content of the finely screened boiler slag is only 1.02 per cent., and since this value was in no instance obtained where the boiler slag was composed of coarse grains, a proof is afforded of the fact that the given permissible value of 1.5 per cent. is far too high. Nor should the importance of the comparatively small decrease in weight be under-estimated. It was found, after the rust had been removed, that the cross-section of the steel was considerably weakened. The rust scars were plainly visible on the rods.

It becomes obvious, therefore, that rust considerably endangers the durability of a structure. If we realize at the same time that the rods were weakened to this extent within a period of eight months, certainly under unfavourable conditions—under normal conditions this period could be put at, say, eight to ten years—we must inevitably come to the conclusion that even the smallest quantity of sulphuric anhydride should be eliminated.

The experiments of Mr. D. B. Butler, Assoc.M.Inst.C.E., F.C.S., dealing with defects due to expansion, seem to point to the fact that, as regards subsequent expansion, there is not much danger to be apprehended from good clean coke or clinkers, or even anthracite coal, but that some kinds of ashes and furnace refuse are highly dangerous, while any considerable quantity of bituminous coal is absolutely fatal. One noticeable feature of the experiments, however, was that most of the coke breeze mortars had a tendency more or less seriously to attack the iron moulds in which the Bauschinger bars were made, causing them to rust during the short space of twenty-four hours, between the moulding of the

specimens and their removal from the moulds. The author is unaware if such results have been found to any appreciable extent in actual practice, but samples of breeze concrete sent him for examination showed distinct marks of considerable rusting having taken place where the concrete had been in contact with the rolled joists. If such prove to be the case, it might in the end prove a very serious matter as affecting the life and strength of the steelwork.

When Messrs. F. Bradford reconstructed the floors at Coventry Street Corner House it was found that the original floor was breeze, which had eaten away the joists, leaving practically nothing but rust. A sample of this is deposited now with the L.C.C. A similar case occurred at Wimbledon, where the floor was reconstructed by the same firm, and in this case a considerable number of lintels burst, which, when taken down, showed that the steel was entirely rusted away. In conclusion, a photograph is reproduced of a typical joist taken from a breeze floor at Whitechapel. The floor was cracked all over and the joists practically eaten away.

Copies of the brochure may be obtained from the hon. secretary of the Joint Committee and The Association of Floor Constructors, 53 Victoria Street, S.W.1. Price 1/6 net.

LAW REPORTS

LIABILITY FOR COST OF LAND DRAIN

Bridgman v. Court of Sewers. King's Bench Division. Before the Lord Chief Justice and Justices Atton and Branson

This was an appeal against a decision ordering Mr. W. R. Bridgman, of West Hill, Portishead, Somerset, to pay a large sum for repairs to a land drain.

Mr. Bridgman appealed from a decision of the Somerset Quarter Sessions affirming an order of the Somerset Commissioners of Sewers, who sat at Yatton, that he should pay £1,187 as the cost of repairs carried out to a land drain that travelled through his property and, after running some distance, fell into the river Avon at a place called Morgan's Pill.

Mr. E. H. C. Wethered, who appeared for Mr. Bridgman, said it had been found by the Court of Sewers that his client, who owned considerable land and property near the river Avon, was liable to repair the land drain and a culvert. The reason for the finding was that Mr. Bridgman was liable *ratione tenuræ* by virtue of occupation and ownership of the land to keep the drain in repair, a finding which, counsel contended, was wrong in law. Counsel pointed out that the Commissioners had relied on the evidence of dyke reeves and other people that such repairs had always been carried out by the owners of the land and that the neglect to do repairs when required had led to the expensive work that eventually had to be done. It meant really that new work—or at least substituted work—had to be carried out. However, he argued that the principle of *ratione tenuræ* could not apply because that only attached to repairs of the old drain and not to new or substituted work done in connection with the drain.

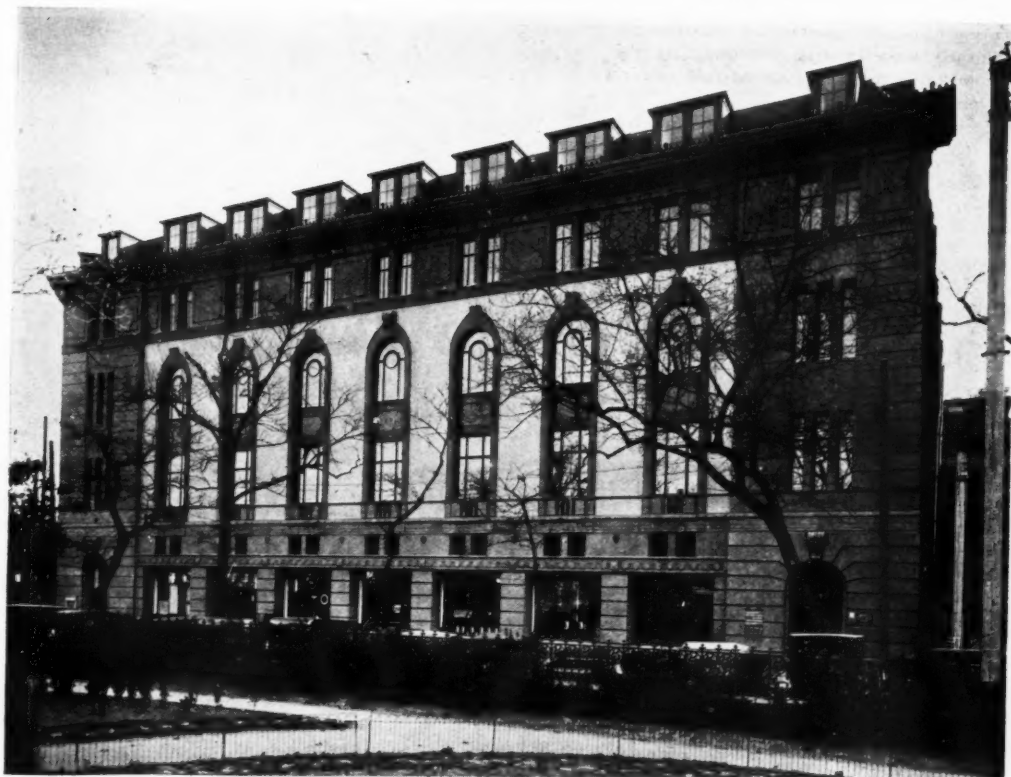
After legal argument, the Court dismissed the appeal, with costs.

The Lord Chief Justice, in giving judgment, said the question was whether quarter sessions, believing itself to have jurisdiction, had misdirected itself in law in dismissing the appeal. The appellant had argued that he was not bound in law by reason of *ratione tenuræ* to pay the cost of repairing the drain and also that the work was new work and therefore outside his liability to repair, and no doubt there were cases in which, where there was an alteration of the work a person *ratione tenuræ* was obliged to carry out, the old obligation did not extend to new work, but here it was proved that the work done was an accumulation of repairs over a long period, and the Court was entitled to hold that this was a substitution of work, at the instance of the appellant himself, and not a new work. In his opinion there was clear evidence that the appellant should bear the cost of this work.

Justices Atton and Branson concurred.



Joist taken from a breeze floor at Whitechapel.



*The Eastern Offices
of the British-
American Tobacco
Co., Ltd., Shanghai.
By John W. Wilson
(Algar & Co., Ltd.).*



*Offices of the British American Tobacco Company, Ltd., Shanghai.
By John W. Wilson. (Algar & Co., Ltd.) The entrance hall.*

LITERATURE

HOUSES OF THE WREN AND EARLY GEORGIAN PERIODS

THERE has been added to the valuable list of books and portfolios on English domestic architecture, published by the Architectural Press, a collection of photographs and measured drawings by Tunstall Small and Christopher Woodbridge illustrating the houses of the Wren and early Georgian periods.

Much has been written and many are the large volumes that have been published in praise of Wren's mightier works; yet have we been fated to see more of his reflection as an architect of domestic work through the houses of later men who followed closely in his footsteps, than in the substance of his actual designing; which is the greater pity in that so many examples of the period lie scattered in and about London.

They have been collected here, into the compass of a not unwieldy book, from Stepney and Great Ormond Street, from Clapton, Croydon, Mitcham—old centres of suburban colonization—from Rainham in Essex, Reigate in Surrey, and from that rich belt of country that runs from Richmond to Kingston wherein is conserved, in a setting of trees and lawns and old brick walls, so much of the atmosphere of the eighteenth century.

They are, for the most part, houses of moderate size, built, one would say, for the wealthier members of a class of merchants and lawyers that was arising in the early years of the eighteenth century out of the riches of our growing commerce with India and the East. For whatever type of client they were built, and conjecture really helps us little, they seem to express, as Mr. Newton says in his quite hauntingly graceful introduction to this book,

"a national feeling which is the quintessence of domesticity." So closely do they approximate to the needs of today that it is hard to realize that two centuries of growth and change, and ten styles and revivals of styles, have rolled past and left some mark since these houses were built. They have nothing in common with the domestic architecture of the preceding age, since it was for a new section of society that they were built, and the marvel of it is that they should crystallize into a type so much of the essential national characteristics as to make them thereafter the model upon which we have based our truest art of house-building.

The book deals separately with each example, showing first a beautiful elevational drawing of the façade, coupled with a photograph to something like the same scale. It concentrates then, in turn, upon the ironwork of the gates, the brickwork of panel or cornice, the richness of entrance doorway, and finally on the details of the interior—staircase, panelling, and chimney-piece. No drawing is without its explanatory photograph.

Gather the best from among these details, and you will see that into the making of houses that are the embodiment of reserve and sobriety there went a wealth and a richness of craftsmanship for which there are counterparts only among the acknowledged masterpieces of the artists in wood and iron.

Nothing can exceed the luxury of the exuberant modelling that fills the tympanum of the fine doorway to St. Anselm's School, Croydon, though it is set within an orderly arrangement of sash windows and fine, straightforward brickwork; while the entrance gates of Ormerley Lodge are English ironwork at its best—vigorous and spirited craftsmanship.

On the other hand, it is the reality of the richness which we

will have to avoid, working as we do at a time when money goes a short way and buys little. Turn, then, to the illustrations of a modest house in Reigate, called the Barrons, and find in this an example of reticent design that relies on nothing more elaborate than a carved capital, and a little infilling of scroll-work in the length of plain wrought-iron railings, to give charm and softness to a façade of panelled brick, which even the economies of these latter days might not call extravagant.

"We should have found it uncongenial to live in a house lit by candles, with no ease of washing, with smallpox at our elbow, and a barber surgeon to attend without anaesthetics to our injuries . . . but a little attention in the matter of drains and light and baths, and there is no one who would not envy its happy possessor. . . . For the needs of the time such houses are admirably and simply planned, generous in line and workmanship, without extravagance or ostentation; essentially as a house should be, habitable and adorning life. For there is something more in their attraction than

our vague dreams about the life that was lived in them. Deeper than their charm of pattern, orderliness, and workmanship, informing it all, is our sense of the kinship with the ordinary run of our ancestors, richly individual, yet amenable to the framework of a common type: an Isaac Walton, a Pepys, a Wren, a Captain Cook."

We must be thankful that there are those who will undertake the labour of measuring, recording, and photographing what examples remain with us from an age of fine house-building, and doubly thankful that the volume that contains them is not one of those ponderous tomes for which guineas are paid, but something slimmer and more companionable, a book to keep in the office rather than the library.

E. M. F.

Houses of the Wren and Early Georgian Periods. By Tunstall Small and Christopher Woodbridge. With an introduction by William G. Newton, M.A., F.R.I.B.A. The Architectural Press. Price £1 5s. net.



A detail of the balustrade at 44 Great Ormond Street, W. [From Houses of the Wren and Early Georgian Periods.]

THE STORY OF THE TEMPLE

Miss Marjorie Bowen, whose name is so well known by a long series of historical romances, has here turned her attention to pure topography and has given us a pleasant little account of the Temple—a brief introduction, as she herself calls it, to the vast stores of information available on this fascinating subject. For those who know little or nothing about the Temple and its annals the book should prove a sufficient guide. So far as we have been able to judge, Miss Bowen is correct in what facts she gives; but it cannot but be remarked that the book has apparently been written in some haste, of which there are palpable signs, not only in the actual composition, but also apparently in the reading of the proofs. There is no doubt a market for these “potted

histories,” but they inevitably suffer, when dealing with large and complex subjects, from becoming more or less catalogues of great names and notes on famous events. But such books seem to sell, and should a new edition of the present one be called for the talented authoress will no doubt correct one or two errors which have crept into her printed text. There are some pretty illustrations and reproductions of two or three interesting portraits; while the well-known picture of the Middle Temple Hall and the Fountain, after J. Nicholls, is always an acceptable sight. A charming sketch of Fountain Court and Middle Temple Hall, by H. P. Cart de Lafontaine, forms the frontispiece. E. B. C.

The Story of the Temple. By Marjorie Bowen. The Griffin Press. 3s. 6d.



The Niche in the dining-room, Ormely Lodge, Ham. [From Houses of the Wren and Early Georgian Periods.] See page 580.

CORRESPONDENCE

THE DISFIGUREMENT OF THE COUNTRYSIDE

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—Mr. A. J. Penty's valuable article on this subject contains one assumption that should be challenged. It is to the effect that "cottages today are generally over-windowed." Modern medical theories concerned with the health value of light, and especially sunlight, coincide to an altogether unusual extent with our natural and instinctive craving for sun and light. In support of his postulate Mr. Penty illustrates a charming and picturesque old cottage with diminutive windows and contrasts it favourably with a villa—or rather, pair of villas—lighted by eight large windows, every one of the eight being of the same shape and size. The villa admittedly fails architecturally; this, however, is not because it is over-windowed, but because the windows are unsympathetically treated—no reasonable internal plan could fit such an elevation—and also the villa has been provided with ugly chimneys, a vastly repellent chimney-pot, and some unenterprising wire fencing, none of which misfortunes arise from over-lighting.

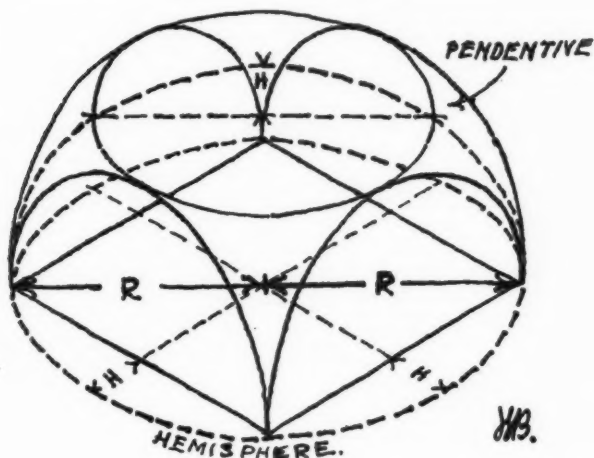
One cannot believe that the claims of architecture are, in this or any instance, diametrically opposed to those of comfort and health, and I suggest that our veneration for tiny windows is due to their association in our minds with the good proportions of earlier work rather than to any intrinsic merit of their own. Large windows, even prodigious windows, might be, and in many modern instances are, quite as satisfactory architecturally. It would, from the social standpoint, be a retrograde step to deprive our population of the fullest enjoyment of sun, light, and air; if this is wrong socially we must challenge the assumption that it can be right architecturally.

MANNING ROBERTSON

AREA OF PENDENTIVE

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—With regard to my reply to your querist in your issue for September 19, I have been considering the question of a formula for obtaining the area of a pendentive. Although not aware of any formula directly applicable, one may be deduced from the formula for area of sphere (see accompanying sketch).



Where R is radius of hemisphere and H is height of segment cut off by vertical planes and by horizontal plane at upper edge of pendentive.

$$\text{Area of sphere} = 4\pi R^2$$

$$\text{Area of hemisphere} = 2\pi R^2$$

$$\text{Area of segment of sphere} = 2\pi R^2 (\text{height of segment}).$$

Find area of hemisphere and deduct the four half segments height H, and the upper segment shown dotted in sketch. The remainder will be the area of the four pendentives.

$$\text{Area of pendentive} = \frac{2\pi R^2 - 6\pi R^2 H}{4}$$

$$\text{Simplified} = \frac{\pi R^2 - 3\pi R^2 H}{2}$$

J. S. BOYD

THE R.I.B.A. AERODROME COMPETITION

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—In the results of the R.I.B.A. Aerodrome Competition, published in your issue for October 10, it is stated that N. B. Hillier is a student of the Architectural Association. He is a student of Liverpool University School of Architecture. He was a student of the A.A. for the first three years of his course, but he is now a fifth-year student here, having passed the fourth examination in June last.

C. H. REILLY

COMPETITION CALENDAR

The conditions of the following competitions have been received by the R.I.B.A.:

October 29. Public baths and washhouse to be erected at Carr Crofts, Armley, Leeds. Architects competing must be of British nationality. Assessor: Mr. Henry Price, A.R.I.B.A. Premiums: £300, £200, and £100. Total cost, £60,000. Particulars from Town Clerk, 26 Great George Street, Leeds. Deposit £1 1s.

December 10. The Portland Cement Selling and Distributing Co., Ltd., announce a competition for architects, with prize awards totalling £500. Designs for a house costing £1,500 are called for, and the winning design will be erected at Olympia for the Daily Mail Ideal Home Exhibition, which opens on February 26, 1929. Assessors: Messrs. Ernest B. Glanfield, F.R.I.B.A.; Oswald P. Milne, F.R.I.B.A.; and Douglas G. Tanner. First prize, £250; second prize, £150; third prize, £100. Particulars from the Secretary, House Competition, Ship House, 20 Buckingham Gate, London, S.W.1.

December 31. Elementary School, West Bromwich. Competition open to architects resident in the United Kingdom. Assessor: Mr. Herbert T. Buckland, F.R.I.B.A. Premiums: £150, £100, and £50. Particulars from Director of Education, Education Offices, West Bromwich. Deposit £1 1s.

January 15. Municipal Buildings and Market Hall proposed to be erected on a site in Whitby Road, Ellesmere Port. Assessor: Mr. T. R. Milburn, F.R.I.B.A. Premiums: £100, £75, and £50. Particulars from the Clerk to the Council, Council Offices, Ellesmere Port. Deposit £1 1s.

February 13. Art Gallery to be erected in Christchurch, New Zealand, under the R. E. McDougall gift. Amount to be expended, £25,000. Competition in two stages. 1st stage: Pencil sketches from which will be selected by the assessor three designs, each of the authors to receive £100 honorarium. 2nd stage: The authors of the three selected designs to compete and the one adjudged the winner by the Jury of Award will be employed as architect. Open to all architects on the Register of the R.I.B.A. and all affiliated Institutions. Assessor: Mr. S. Hurst Seager, C.B.E., F.R.I.B.A. Jury of Award: the Donor; the Rev. J. K. Archer (who is at present the Mayor of Christchurch); Mr. R. Wallwork, Director of the Canterbury College School of Art, Christchurch (and at present the President of the Canterbury Society of Arts); and the Assessor. Particulars from the Office of the High Commissioner for New Zealand, The Strand, London, or from Mr. J. S. Neville, Town Clerk, Christchurch, New Zealand.

ANNOUNCEMENTS

Mr. William A. Williams, F.A.S.I., M.L.S.T.R.U.C.T.E., architect and surveyor, has moved to 25 Queen Square, Bath.

The Right Hon. Earl Fitzwilliam, K.C.V.O., C.B.E., D.S.O., has consented to act as President of the Fortieth Congress and Health Exhibition of the Royal Sanitary Institute to be held at Sheffield from July 13 to 20, 1929.

TWO EXHIBITIONS AT CARDIFF

An exhibition of the testimonies of study for the R.I.B.A. examinations was held in the studios of the Welsh School of Architecture at the Technical College, Cardiff, and at the same time an interesting collection of architectural photographs by Mr. Cyril Ellis of London was exhibited. The exhibition, which was arranged jointly by the South Wales Institute of Architects (Cardiff Branch) and the Welsh School of Architecture, was excellently attended by members of the architectural profession and other persons, both the drawings and the photographs arousing considerable interest.

TRADE NOTES

Interesting Lighting Fixtures in the new Royal Horticultural Hall is the title of an interesting illustrated booklet just issued by Messrs. Best and Lloyd. This firm supplied the special lighting equipment for the main portion of the exhibition hall and for the main entrance; and the booklet contains interesting details of this important contract. Among the illustrations is a view of the main exhibition hall from the vestibule, showing the series of elliptical concrete arches from which are suspended, as well as from the second wall stages, the specially-constructed electroliers.

Each pendant contains three 500-watt gas-filled lamps, one of which is of the blue "daylight" type. Each fitting comprises three holophane reflectors, surrounded by skirting to avoid glare. Above are glass panels which allow some of the light to pass through



Plymax metal-faced plywood doors and windows in the power station at Russell workshop, Broadway, Worcestershire. By Venesta, Ltd.

The Autumn List issued by The Architectural Press of their new and forthcoming books is now ready, and will be sent on receipt of a post card addressed to the Publishers at 9 Queen Anne's Gate, Westminster, S.W.1.

and, by lighting the roof, avoid the apparently dead black background generally associated with direct lighting of this sort. The side panels are decorated with a geometrical pattern which is dimly illuminated from within. Below are sliding panels of slightly etched glass.

A new novelty folder has just been issued by Messrs. Young, Osmond and Young, Ltd., to draw attention to the Unity tubular electric heating system, by the use of which fireplaces, chimneys, boiler and fuel storage room can be eliminated. The system is recommended by the firm for the electric heating of churches, hospitals, hotels, cinemas, and other large buildings. The separate heating units can be easily installed completely hidden in the decoration of the skirtings, in recesses on staircases, landings, corridors, halls and passages. The element is totally enclosed in a 2-in. diameter metal tube, and it is claimed that as the surface temperature never exceeds 180 deg. F., risks from fire are eliminated. Among the advantages claimed for the system are ease of control, cleanliness, low running costs, no fire risks, and low cost of upkeep.

The reinforcement used in connection with the Newport-Cardiff road, now under construction for the Monmouthshire C.C., under the direction of Mr. S. A. Bennett, A.M.I.N.S.T.C.E., F.S.I., county surveyor, is B.R.C. Fabric, which is being supplied in a square mesh in flat sheets.

During recent years many all-concrete roads have been laid in Cardiff, several of which are reinforced with B.R.C. Fabric. Among the most important ones are: Swansea Street, Moorland Road, Dispenser Street, Fitzhamon Embankment, Newport Road, and Greyfriars Road. This work has been carried out by direct labour, the city engineer being Mr. G. H. Whitaker, A.M.I.N.S.T.C.E. B.R.C. Fabric is made by the British Reinforced Concrete Engineering Co., Ltd., Stafford, and can be supplied in either rolls or sheets.

The motor travelling caravan of the National Radiator Co., Ltd., which contains a working Ideal Cookanheat installation, will, until October 27, give demonstrations at the Wood Green entrance to Alexandra Palace.

Further demonstrations are as follows:

October 29, Summerland Gardens, Muswell Hill;

October 30, corner of Devonshire Road, Palmers Green;

October 31, The Ridgeway, Ballards Lane, opposite Police Station, Church End, Finchley.

Sir George Sutton, Bart., the chairman of W. T. Henley's Telegraph Works Co., Ltd., presented about 250 employees at the company's works at North Woolwich with certificates in recognition of their having served the company for periods of from twenty to fifty years. Similar presentations are to be made to employees at the Gravesend works of the company, and at its head office and branches.

Messrs. Huntley and Sparks, the suppliers of Cabot's sound-deadening and insulating quilt, "Rigifix" fittings, and other products, have become a limited company. They inform us there will be no change in their personnel, and that all inquiries and orders will continue to receive the same prompt and careful attention as heretofore.

The associate architects for Messrs. Marshall Roberts' premises in Camden Town, a floor from which was illustrated on page 518 of our issue for October 10, are Messrs. Kitching and Archibald, Middlesbrough, and Mr. M. K. Matthews, London. In the issue referred to the building was attributed solely to Mr. Matthews.

On page 551 of our last issue it was stated that the Ratner Safe Co., Ltd., were responsible for the fireproof construction at the West Bromwich Building Society's offices. This is incorrect. The company built the strong rooms.

A new device has just been introduced on the market for paint and other spraying operations. It is called "Sprayit Electrically," is light and portable, and can be used anywhere, the only necessity being electricity. Many uses for the spray will readily occur to the mind, and it is claimed to be specially useful as a standard equipment in factories for whitewash and distemper



work in view of the Factory Act, which requires all workshops to be whitewashed annually. This work, it is said, can be efficiently done by a boy merely for the cost of the material. The spray should be useful to all manufacturers, large or small, who use paint, varnish, or such materials, and should be of good service for spraying behind radiators and such places which cannot be satisfactorily painted with a brush. The manufacturers, L. G. Hawkins & Co., Ltd., 30-35 Drury Lane, W.C.2, claim that the spray can be operated for about ten hours for one unit of electricity.

THE ROYAL HORTICULTURAL HALL

Following are the names of the contractors and some of the sub-contractors for the new hall for the Royal Horticultural Society, Greycoat Street, Westminster, S.W., illustrated on pages 566 to 573: General contractor, Messrs. Foster and Dicksee; clerk of works, Mr. A. Howell; general foreman, Mr. W. J. Smith. Sub-contractors: Thomas Faldo & Co., Ltd., dampcourses and asphalt; Pilkington Bros., glass; Henry Hope and Sons, patent glazing; Birmingham Guild, cast lead; Hollis Brothers, wood-block flooring; Fram Construction Co., cork flooring; Richard Crittall & Co., central heating and ventilation; Gas Light and Coke Co., gasfitting; Electrical Installations, Ltd., electric wiring; Best and Lloyd, Ltd., General Electric Co., Jade, Kingsmill Art Metal Co., electric light fixtures; Dent and Hellyer, plumbing; Leeds Fireclay Co., Dent and Hellyer, and Shanks and Co., Ltd., sanitary fittings; N. F. Ramsay & Co., door furniture and cloakroom fittings; Crittall Manufacturing Co., casements and window furniture; Electrical Installations, Ltd., using Western Electric Co.'s apparatus, bells; Pollard & Co., Ltd., rolling shutters; Avery & Co., sunblinds; Kingsmill Art Metal Co., Comyn Ching, J. M. Pirie & Co., Bagues, metalwork; Geo. Parnall & Co., veneered doors; H. T. Jenkins and Son, marble; Carter & Co., Ltd., and Martin Van Straaten, tiling; Tidmarsh & Co., curtains; George Caffall, Cohen & Co., furniture.

AN EDINBURGH HOUSING EXHIBITION

A housing and building exhibition will be held at the Waverley Market, Edinburgh, from February 13 to February 23, 1929. The exhibition will be the fourth organized by Mr. T. Percy Bentley in the city of Edinburgh, and is under the patronage of the Right Hon. the Lord Provost, Magistrates, and Council of the city; the Edinburgh Chamber of Commerce and Manufacturers; the Edinburgh Architectural Association; the Scottish Federation of Plumbers' and Domestic Engineers' (Employers) Associations; the Edinburgh, Leith and District Building Trades' Association; Sanitary Inspectors' Association of Scotland; the Edinburgh Women Citizens' Association. Special rail vouchers are again being granted, covering a radius of sixty miles, to facilitate those attending the exhibition. A series of lectures on housing questions will be given during the course of the exhibition. Further particulars can be obtained from Mr. T. Percy Bentley, the organizer, 7 Waverley Market, Edinburgh.

NEW INVENTIONS

[The following particulars of new inventions are specially compiled for THE ARCHITECTS' JOURNAL, by permission of the Controller of H.M. Stationery Office, by our own patent expert. All inquiries concerning inventions, patents, and specifications should be addressed to the Editor, 9 Queen Anne's Gate, Westminster, S.W.1. For copies of the full specifications here enumerated readers should apply to the Patent Office, 25 Southampton Buildings, London, W.C.2. The price is 1s. each.]

LATEST PATENT APPLICATIONS

- 26687. Baker, T. G. Building construction. September 18.
- 26609. Callebaut, L. E. Floors, &c., for buildings, &c. September 17.
- 26920. Fortune, J. M. Erecting staging, &c. September 19.
- 27228. Shaw, H. S. Hele. Chimneys. September 22.
- 26659. Wheeler, H. R. Shuttering for moulding concrete, &c. September 17.
- 27957. Coombes, O. N., and Walmsley, P. B. Line-reel for bricklayers, &c. September 29.
- 27300. General Electro-Plating Co., Ltd., and Marshall, W. Fireplace fixtures. September 24.
- 27837. McMillan, W. Mantelpieces. September 28.
- 27699. Planet Foundry Co., Ltd. Domestic firegrates. September 27.
- 27986. Worwood, H. E. Portland cement compositions. September 29.

SPECIFICATIONS PUBLISHED

- 297043. Austen, F. H. Heating or cooling buildings or the like.
- 280916. Bemis Industries, Inc. Wall construction.
- 297293. Carrier Engineering Co., Ltd. (Carrier, W. H.). Ventilation of enclosures or the like.
- 297296. Arthur, S. C., and Arthur, H. H. Domestic hot-water apparatus.
- 297402. Ogden, F. S. Reversible interbonding-blocks for the construction of flues or ducts.
- 297548. Rigid Roll, Ltd., and Ritchie, A. M. Surfacing of ceilings, walls, and the like.
- 297567. Howells, D. Bricklayers' and masons' pointing-tools.
- 297655. Rockwood, Sprinkler Co. Concrete hanger-block.
- 297561. Mulhern, G. Chimney-pots and ventilating-shaft tops.

ABSTRACTS PUBLISHED

- 295094. Musgrave, J. L., and Crittall, R. G., 43 Bloomsbury Square, London. Heating and cooling buildings.
- 295492. Bennett, W. J., Essex House, Stratford, London. Wood-block flooring and paving.

THE WEEK'S BUILDING NEWS

Plans passed by the FINCHLEY U.D.C.: Thirty-one houses, Brent Way and Fursby Avenue, for Mr. P. D. Walker; office, for Finchley Laundry, Lewis Gardens, for Messrs. M. and H. W. Carter; twelve flats, High Road, for Messrs. R. A. Harrington; shop and store, High Road, for Manor Farm Dairy Co.; fifteen houses, North Circular Road, for West Streatham Building Co., Ltd.; house, Litchfield Way, for Mr. J. Sydenham; two houses, Litchfield Way, for Mr. H. Lawrance; twenty-two houses, Creighton Avenue, for Mr. E. Cansick; seventeen houses, Maurice Walk, for Mr. G. C. Swanson; circular chimney, Nazareth House, East End Road, for Superior-General.

The BRADFORD Education Committee has obtained sanction to borrow £62,250 for the erection of the new secondary school on the Bolling Hall estate.

Plans passed by the BARNSELY Corporation: Extensions, club, Warren Quarry Lane, for Mr. Arthur Wood, on behalf of Prospect Club Committee; reconstruction, Musical Tavern, Shambles Street, for Messrs. Joshua Tetley and Son, Ltd.; alterations, premises, Queen Street South, for Barclays Bank, Ltd.; printing works, Eastgate, for Barnsley Chronicle, Ltd.

The borough engineer of BARNSELY is to erect by direct labour forty-eight houses of three-bedroom type on the Burton Grange estate at an estimated cost of £15,000.

The Walton Heath Land Company is to erect twenty houses at the SELSDON Garden Village, Surrey.

The PLYMOUTH Corporation Parks Committee has asked the borough engineer to prepare a report as to the practicability and cost of providing indoor baths, slipper baths, and Turkish baths, concert hall, dance hall, and café at West Hoe.

The PLYMOUTH Education Committee is to further negotiate for a site in Bladderley Lane, Devonport, for the erection of a girls' secondary school.

The COULSDON U.D.C. has prepared a scheme for the erection of twenty houses at Farleigh Road, Sanderstead, at an estimated cost of £11,320.

Plans passed by the COULSDON U.D.C.: Twelve houses, St. James Road, for Mr. F. T. Brown; four houses, St. Andrews Road, for Mr. H. Salter; two houses off Marlpit Lane, for Mr. E. M. West; four houses, The Vale, for Messrs. W. and R. Barrs; four houses, Marlpit Lane, for Mr. C. H. H. Kenworthy; seven houses, Hilltop Road, for Messrs. E. O'Sullivan, Ltd.

Plans passed by the OTLEY U.D.C.: Bungalow, Harecroft Road, for Mr. S. Summercales; office and workshop, Ellar Ghyll, for Mr. G. W. Butler; sixteen houses, Brasford Road, for Mr. A. T. Smith; four houses, Pool Road, for Mr. F. Rawsley.

The CHELMSFORD Corporation is considering the acquisition of 46 acres at Prentice Farm, Springfield, for housing purposes.

Plans passed by the NEWPORT (I.W.) Corporation: Bank premises, for Barclays Bank, Ltd., at St. James Square, for Mr. Ernest L. Smith, architect; two houses, College Road, for Messrs. F. and G. Chiverton.

The HULL Corporation has obtained sanction for a loan of £250,000 for extensions at the power-station.

The HULL Education Committee has instructed the city architect to prepare contract drawings and specifications for the new elementary school to be erected in Eastfield Road.

On the suggestion of the Ministry of Health the HACKNEY B.C. has prepared a cheaper scheme for the erection of ninety-two maisonnettes at Dudlington Road at an estimated cost of £47,757, and tenders are now to be invited.

The LEEDS Corporation is to obtain tenders for the erection of eighty of the 158 houses to be erected on the Middleton estate.

The BRADFORD Corporation Tramways Committee is seeking sanction to borrow £29,500 for the erection of a central bus garage in Ludham Street, and instructed the city architect to obtain tenders for the work.

The PLYMOUTH Corporation is seeking sanction for a loan of £100,000 for further housing advances.

The STOKE-ON-TRENT Corporation has interviewed the Air Ministry regarding a suggestion for the establishment of a municipal aerodrome.

The STOKE-ON-TRENT Corporation has asked the sanatorium subcommittee to report with reference to the purchase of land for the extension of the Stanfield Sanatorium.

Plans passed by the BERMONDSEY B.C.: Stores building and nurses' home, for Board of Guardians, Lower Road, for Mr. R. Mansell, 17 Grant Road, Croydon; warehouse, Stoney Lane, for Messrs. Stock, Page and Stock, 18 St. Thomas's Street.

The FULHAM Borough Council has passed plans submitted by Messrs. Yates, Cook and Darbyshire, 43 Great Marlborough Street, W., for the erection of a cinema and shops at the corner of Fulham Road and Fulham Palace Road.

Plans passed by BEDFORD Corporation: Offices, 15-16 High Street, for Messrs. Usher and Anthony, on behalf of Phoenix Assurance Co., Ltd.; twelve houses, Elstow Road and Miller Road, for Mr. J. B. Saunderson; garage, St. George's Road, for Mr. E. H. C. Inskip; alterations, Quantocks Boarding-house, Linden Road, for Mr. G. P. Allen.

The WARRINGTON Corporation is considering a preliminary scheme prepared by the borough engineer for rehousing tenants of the James Street unhealthy area.

The WARRINGTON Corporation has asked the borough engineer to prepare a report as to the possibility of developing for housing purposes a 2½ acres site at Reynolds Street.

Plans passed by the NORTHFLEET U.D.C.: Amended block plan of new cinema and shops, High Street, for Mr. E. W. Filkins; four houses, Pier Road, for Mr. J. Clements, Jr.

Plans passed by the CAMBERWELL B.C.: Additions, 64-70 Queens Road, for Mr. A. W. Collins; building site of 32-34 Verney Road, for Mr. J. A. Eames; garages, Surrey Road, for Mr. W. R. Stacey; rebuilding, 150 Rye Lane, for Messrs. W. and E. Hunt; buildings, site of 238-330 Camberwell New Road, for London General Omnibus Co., Ltd.; rebuilding, 593-613 Old Kent Road, for Mr. E. A. Stone; additions and garages, 64-70 Queens Road, for Mr. A. W. Collins.

Plans passed by the TORQUAY Corporation: Eleven houses, Babbacombe Road, for Mr. G. W. Hands; additions, laundry, Newton Road, for Devon Steam Laundry Co.; four houses, Leys Road, for Chelston Building Co.; two houses, Oak Park estate, for Mr. A. Chippendale; eight houses, Edginswell, for Mr. H. C. Powell; shop, Terrace Chambers, for Mr. F. C. R. Johnson; shop, 132 Union Street, for Messrs. H. T. Jenkins and Sons; alterations, 13-15 Meadfoot Lane, for Mr. E. J. Brown; house, Barton Road, for Mr. F. C. Burman; classrooms, etc., Wesley Church, Babbacombe Road, for trustees; offices, St. Mary-church tram depot, for Devon General Bus Co., Ltd.; eight houses, Daison Heights, for Messrs. Lloyd and Son; two houses, Warberry Vale estate, for Mr. P. Perkins; eight houses, Warberry Vale estate, for Torquay Building Co.; two houses, Warbro Road, for Mr. J. F. Ford.

Plans passed by the ST. PANCRAS B.C.: Additions, 7 Maitland Park Villas; flats, Little Drummond Street; buildings, site corner of Park Street and Gloucester Crescent.

Plans passed by the SWANSEA Corporation: Alterations, Cameron Hotel, High Street, for Messrs. F. W. Woolworth & Co., Ltd.; house and two shops, Foxhole Road, for Mr. D. Bowen; two houses, off Boarspit Lane, for Mr. W. S. Davie; rebuilding, 9 Sea View, Mumbles, for Mr. D. Lloyd; three houses, Caswell Avenue, for Mr. G. Symons; two houses, Townhill Road, for Messrs. W. H. Harding & Co., Ltd.; twenty-six shops and houses, Gower Road and Dillwyn Road, for Mr. J. Oliver Watkins; two shops and houses, Penygraig Road, for Messrs. Rogers and Davies; two houses, Lon Gwynfryn, for Messrs. F. Strawbridge and Son; two houses, The Mayals, for Mr. E. W. Saunders; additions, Blind Institution, Mary Twill Lane, for Homes for the Blind Committee; two houses, Bethel Road, Llansamlet, for Messrs. Brewer and Llewellyn; workshops, 2 Nelson Street, for Mr. J. Legge; two houses, Pentrehethin Road, for Mr. H. E. Thomas; visitors' shelter, Hospital grounds, for Swansea General Hospital Committee; two houses, New Road, Treboeth, for Mr. Evan Davies; six houses, Manor Road, for Mr. T. J. Aubrey.

The LEEDS Corporation has obtained sanction to borrow £17,700 for the erection of fifty houses on the Henconner Lane housing estate.

The CARLISLE Corporation has sold two shopping sites on the Raffles housing estate to the Carlisle South-end Co-operative Society, Ltd.

The West Riding Land Co., Ltd., is to develop an estate at Cleckheaton Road, BRADFORD.

The BRADFORD Corporation is considering the erection of a central motor garage on a site at Canal Road.

Plans passed by the WEYMOUTH Corporation: Re-drainage, Adelaide Hotel, Abbotsbury Road, for Messrs. Crickmay and Sons; shop and two houses, Highland Road, for Messrs. J. A. Parsons and Sons; house, Coronation Road, for Mr. W. Knell; conversion of Abbots Court, Ullswater Crescent, into flats for Messrs. S. Jackson and Sons; three houses and shops, Dorchester Road, for Mr. F. Greenaway; boiler-house, etc., Wesleyan Church, Maiden Street, for trustees.

The BIRMINGHAM Education Committee is to enlarge the George Dixon secondary school at a cost of £26,850.

The BIRMINGHAM Education Committee has now acquired a site at Washwood Heath for the erection of a secondary school.

The BIRMINGHAM Corporation Libraries Committee recommends obtaining sites for branch libraries at Acocks Green and Perry Common.

The BIRMINGHAM Corporation is to proceed with the erection of a fire station at Pershore Road, King's Norton, at a cost of £19,000.

The Birmingham Education Committee has obtained a site at Bleakhills, UPPER WITTON, for the erection of an elementary school.

The BIRMINGHAM Education Committee has decided to acquire a site in Slade Road, Erdington, for the erection of a secondary school for boys.

To prevent flooding, the BIRMINGHAM Public Works Committee has prepared a comprehensive scheme for improvement works on the rivers Tame and Rea, and the reconstruction of the Rea Valley main sewer at a total cost of £1,900,000.

The CHESTERFIELD Corporation has sold a site at the corner of St. Mary's Gate and Spa Lane to H.M. Office of Works for the erection of a labour exchange.

Plans passed by the LEEDS Corporation: Two houses, Ring Road, Farnley, for Mr. F. Crawshaw; four houses, Stainburn Crescent, Moortown, for Mr. R. Umpleby; four houses, Stainburn Crescent, for Mr. Joseph Carlton; twenty-two houses, Talbot Gardens, Roundhay, for Mr. William Clifford Rogers; six houses, Wensley Road, Chapel Allerton, for Mr. George Monkman; four houses, Skelton Terrace, for Mr. Albert Cryer; fourteen houses, Stainburn Drive, for Messrs. Carr and Lister; five houses, Devonshire Crescent, for Mr. A. Dickinson; ten houses, Stainburn Drive, for Messrs. H. and D. Leslie; two houses, Mavis Lane, for Mr. G. A. Smith; two houses, Harrison Crescent, for Mr. Mark Haley; six houses, Gipton Wood Road, for Mr. James Ambler; twelve houses, Gipton Wood Crescent, for Messrs. Bailey Bros.; two houses, Henconner Lane, for Mr. John Hook; ten houses, Lidgett Row, for Mr. A. T. Lazenby; ten houses, Upland Crescent, for Mr. William Corker; eight houses, Dawlish Road, for Mr. Albert Cryer; three houses, Shadwell Lane, for Mr. Herbert Brown; twenty-two houses, Easterley Avenue, for Messrs. C. H. and F. Lax; twenty houses, Easterly Avenue, for Mr. F. B. Lax; two houses, Easterley Grove, for Messrs. Lax Bros.; eight houses, Green Hill Lane, for Mr. Thomas Handley; four houses, Gipton Wood Avenue, for Mr. Joseph Craven; fifty-nine houses, Weasley Road and Drive, Chapel Allerton, for Mr. Mark Bristow; fourteen houses, Sherbrooke Avenue, for Messrs. Dunhill Bros.; four houses, Stainburn Mount, for Mr. Ernest Lolley.

Plans passed by the CARLISLE Corporation: Alterations, factory, Byron Street, for Mr. H. Fixall, architect; shop, Shady Grove Road, for Mr. S. W. B. Jack, architect; five houses, Dalston Road, for Mr. G. Armstrong, architect.

The LEEDS Corporation is considering an application for sanction to borrow £74,000 for housing subsidies.

Plans passed by the HACKNEY B.C.: Building, Loddiges Road, for Mr. H. W. Currey; factory, Loddiges Road, for Messrs. E. B. Holmes & Co., Ltd.; fifteen garages, Southwold Road, for Messrs. R. Maskall and Sons; factory, Wilton Road, for Messrs. E. B. Holmes & Co., Ltd.; ten garages, Morpeth Road, for Mr. A. Collier.

The Ministry of Health has sanctioned the proposal of the HULL Corporation for extensions at the East District destructor works at a cost of £26,000.

The HULL Education Committee has obtained sanction for a loan for the purchase of a site in Maybury Road for the erection of an elementary school.

The borough engineer of DOUGLAS (I.O.M.) is to prepare a layout of the New Street improvement area.

The DOUGLAS (I.O.M.) Corporation has now arranged details of the scheme for the widening of the Loch promenade at an estimated cost of £75,000, the Government having promised to arrange for financing the undertaking.

The borough engineer of DOUGLAS (I.O.M.) is to proceed with the layout of a new section of the Pulrose estate where another 100 houses are to be erected.

The CHESTERFIELD Corporation has decided to grant another 100 housing subsidies.

The HAMPTON U.D.C. has now decided upon the erection on the Hill Field estate of twenty-nine parlour three-bedroomed houses, thirty-two non-parlour three-bedroomed houses, and thirty non-parlour two-bedroomed houses. Tenders are now to be invited.

Plans passed by the OXFORD Corporation: Extensions, motor works, Woodstock Road, and bridge over the canal, for Messrs. Morris Motors, Ltd.; house, Southfield Road, for Mr. A. Simmons; house, Chapel Close, for Mr. H. Capel; showrooms, etc., Iffley Road, for South Midland Touring Co., Ltd.; two houses, Summerhill Road, for Mr. F. Watts; additions, St. Gabriels, Hill Top Road, for Management Committee, The Warbeford; alterations and additions, Church of England Schools, South Hinksey, for managers.

RATES OF WAGES

		I	II			I	II			I	II			
		s. d.	s. d.			s. d.	s. d.			s. d.	s. d.			
A	ABERDARE	S. Wales & M.	1 7	1 2	A ₁	E. Glamor-	S. Wales & M.	1 7	1 2	A ₃	NANTWICH	N.W. Counties	1 6	1 1
A ₁	Aberavenny	S. Wales & M.	1 7	1 2	A ₂	Glamorganshire & Monmouthshire	S. Wales & M.	1 7	1 2	A	Neath	S. Wales & M.	1 7	1 2
A	Accrington	N.W. Counties	1 7	1 2	B	Exeter	S.W. Counties	1 5	1 1	A	Nelson	N.W. Counties	1 7	1 2
A ₃	Addlestone	S. Counties	1 6	1 1	B ₂	Exmouth	S.W. Counties	1 4	1 0	A	Newcastle	N.E. Coast	1 7	1 2
A	Adlington	N.W. Counties	1 7	1 2	B ₃	FELIXSTOWE	E. Counties	1 5	1 1	A	Newport	S. Wales & M.	1 7	1 2
A	Aldrie	Scotland	1 7	1 2	A	Filey	Yorks	1 6	1 1	A ₁	Normanton	Yorkshire	1 7	1 2
C ₁	Aldeburgh	E. Counties	1 3	1 1	A ₃	Fleetwood	N.W. Counties	1 7	1 2	A ₁	Northampton	Mid. Counties	1 7	1 2
A	Altrincham	N.W. Counties	1 7	1 2	B ₂	Folkestone	S. Counties	1 4	1 0	A	North Staffs.	Mid. Counties	1 7	1 2
B ₃	Appley	N.W. Counties	1 4	1 0	A	Frodsham	N.W. Counties	1 7	1 2	A ₃	North Shields	N.E. Coast	1 7	1 2
A	Ashton-under-Lyne	N.W. Counties	1 7	1 2	B ₃	Frome	S.W. Counties	1 4	1 0	A	Norwich	E. Counties	1 6	1 1
A ₃	Atherstone	Mid. Counties	1 6	1 1	A	GATESHEAD	N.E. Coast	1 7	1 2	A	Nottingham	Mid. Counties	1 7	1 2
B ₃	Aylesbury	S. Counties	1 4	1 0	B ₁	Gillingham	S. Counties	1 5	1 0	A	Nuneaton	Mid. Counties	1 7	1 2
B ₃	BANBURY	S. Counties	1 4	1 0	A ₃	Gloucester	S.W. Counties	1 6	1 1	B	OAKHAM	Mid. Counties	1 5	1 1
B ₂	Bangor	N.W. Counties	1 4	1 0	A ₂	Goole	Yorkshire	1 6	1 2	A	Oldham	N.W. Counties	1 7	1 2
A	Barnard Castle	N.E. Coast	1 7	1 2	B	Gosport	S. Counties	1 5	1 1	A	Oswestry	Mid. Counties	1 6	1 1
A	Barnsley	Yorkshire	1 7	1 2	A ₃	Grantham	Mid. Counties	1 7	1 2	B	Oxford	S. Counties	1 6	1 1
B ₁	Barnstaple	S.W. Counties	1 5	1 0	A ₁	Graysend	S. Counties	1 7	1 2	A	PAISLEY	Scotland	1 7	1 2
A	Barrow	N.W. Counties	1 7	1 2	A	Greenock	Scotland	1 7	1 2	C	Pembroke	S. Wales & M.	1 3	1 1
A	Barry	S. Wales & M.	1 7	1 2	A ₃	Grimsby	Yorkshire	1 7	1 2	A	Perth	Scotland	1 7	1 2
B ₃	Basingstoke	S.W. Counties	1 4	1 0	B ₁	Guildford	S. Counties	1 5	1 0	A ₃	Peterborough	Mid. Counties	1 6	1 1
B	Bath	S.W. Counties	1 5	1 1	A	HALFAX	Yorkshire	1 7	1 2	A	Plymouth	S.W. Counties	1 7	1 2
A	Batley	Yorkshire	1 7	1 2	A	Hanley	Mid. Counties	1 7	1 2	A ₂	Pontefract	Yorkshire	1 7	1 2
B	Bedford	E. Counties	1 5	1 1	A	Harrogate	Yorkshire	1 7	1 2	B	Portsmouth	S. Wales & M.	1 5	1 1
A ₂	Berwick-on-Tweed	N.E. Coast	1 6	1 2	A	Hartlepool	N.E. Coast	1 7	1 2	A	Preston	N.W. Counties	1 7	1 2
A ₂	Bewdley	Mid. Counties	1 6	1 1	B ₁	Harwich	E. Counties	1 5	1 0	A	QUEENS-FERRY	N.W. Counties	1 7	1 2
B ₃	Bicester	Mid. Counties	1 4	1 0	B ₂	Hastings	S. Counties	1 4	1 0	A ₃	READING	S. Counties	1 6	1 1
A	Birkenhead	N.W. Counties	1 7	1 2	A ₃	Hatfield	S. Counties	1 5	1 1	B	Reigate	S. Counties	1 5	1 1
A	Birmingham	Mid. Counties	1 7	1 2	B	Hereford	S. W. Counties	1 5	1 1	A ₃	Retford	Mid. Counties	1 6	1 1
A	Bishop Auckland	N.W. Counties	1 7	1 2	B	Hertford	E. Counties	1 5	1 1	A ₁	Rhondda Valley	S. Wales & M.	1 7	1 2
A	Blackburn	N.W. Counties	1 7	1 2	A ₁	Heysham	N.W. Counties	1 7	1 2	A ₃	Ripon	Yorkshire	1 6	1 1
A	Blackpool	N.W. Counties	1 7	1 2	A	Howden	N.E. Coast	1 7	1 2	A ₂	Rochdale	N.W. Counties	1 7	1 2
A	Blyth	N.E. Coast	1 7	1 2	A	Huddersfield	Yorkshire	1 7	1 2	B	Rochester	S. Counties	1 5	1 1
B ₃	Bognor	S. Counties	1 7	1 2	A	Hull	Yorkshire	1 7	1 2	A ₁	Rugby	N.W. Counties	1 7	1 2
A	Bolton	N.W. Counties	1 7	1 2	A	Ilkley	Yorkshire	1 7	1 2	A ₂	Ruabon	Mid. Counties	1 6	1 1
A ₂	Boston	Mid. Counties	1 6	1 1	B ₁	Immingham	Mid. Counties	1 7	1 2	A ₃	Rugley	Mid. Counties	1 6	1 1
B ₁	Bournemouth	S. Counties	1 5	1 0	C ₁	Ipswich	E. Counties	1 5	1 1	A	Runcorn	N.W. Counties	1 7	1 2
B ₂	Bovey Tracey	S.W. Counties	1 4	1 0	A	JARROW	N.E. Coast	1 7	1 2	A ₃	ST. ALBANS	E. Counties	1 6	1 1
A	Bradford	Yorkshire	1 7	1 2	A	KEIGHLEY	Yorkshire	1 7	1 2	B ₃	St. Helens	N.W. Counties	1 7	1 2
A ₂	Brentwood	E. Counties	1 6	1 1	B ₁	Kendal	N.W. Counties	1 5	1 0	A	Salisbury	S.W. Counties	1 4	1 0
A	Bridgend	S. Wales & M.	1 7	1 2	B ₂	Keswick	N.W. Counties	1 5	1 0	A ₁	Scarborough	Yorkshire	1 7	1 2
A ₂	Bridgewater	S.W. Counties	1 4	1 0	A ₃	Kettering	Mid. Counties	1 6	1 1	A	Scunthorpe	Mid. Counties	1 7	1 2
A ₁	Bridlington	Yorkshire	1 7	1 2	A ₂	Kidderminster	Mid. Counties	1 6	1 2	A	Sheffield	Yorkshire	1 7	1 2
A	Brighouse	Yorkshire	1 7	1 2	B ₂	King's Lynn	E. Counties	1 4	1 0	A	Shipley	Yorkshire	1 7	1 2
B ₁	Brighton	S. Counties	1 5	1 0	A	LANCASTER	N.W. Counties	1 7	1 2	A ₃	Shrewsbury	Mid. Counties	1 6	1 1
A	Bristol	S.W. Counties	1 7	1 2	A ₂	Leamington	Mid. Counties	1 6	1 1	A	Skipton	Yorkshire	1 6	1 1
A ₂	Brixham	S.W. Counties	1 4	1 0	A	Leeds	Yorkshire	1 7	1 2	A ₃	Slough	S. Counties	1 6	1 1
A ₃	Bromsgrove	Mid. Counties	1 6	1 1	A ₃	Leek	Mid. Counties	1 7	1 2	A ₂	Solihull	Mid. Counties	1 6	1 1
C	Bromyard	N.W. Counties	1 7	1 2	A	Leicester	N.W. Counties	1 7	1 2	A ₃	South'pton	S. Counties	1 6	1 1
A	Burnley	N.W. Counties	1 7	1 2	A ₃	Leigh	N.W. Counties	1 7	1 2	A ₂	Southend-on-Sea	E. Counties	1 6	1 1
A	Burslem	Mid. Counties	1 7	1 2	B ₁	Lewes	S. Counties	1 4	1 0	A	Southport	N.W. Counties	1 7	1 2
A ₂	Burton-on-Trent	Mid. Counties	1 6	1 1	A ₃	Lichfield	Mid. Counties	1 6	1 1	A ₂	St. Shields	N.E. Coast	1 7	1 2
A	Bury	N.W. Counties	1 7	1 2	A	Lincoln	Mid. Counties	1 7	1 2	A ₃	Stafford	Mid. Counties	1 6	1 1
A ₁	Buxton	N.W. Counties	1 7	1 2	A	Liverpool	N.W. Counties	1 10	1 4	A	Stockport	N.W. Counties	1 7	1 2
B	CAMBRIDGE	E. Counties	1 5	1 1	A ₃	Llandudno	N.W. Counties	1 6	1 1	A	Stockton-on-Tees	N.E. Coast	1 7	1 2
B ₁	Canterbury	S. Counties	1 4	1 0	A	Llanelli	S. Wales & M.	1 7	1 2	A	Stoke-on-Trent	Mid. Counties	1 7	1 2
A	Cardiff	S. Wales & M.	1 7	1 2	A	London (12 miles radius)	S. Wales & M.	1 9	1 4	B	Strand	S.W. Counties	1 5	1 1
A	Cardle	N.W. Counties	1 7	1 2	A	Long Eaton	Mid. Counties	1 7	1 2	A	Sunderland	N.E. Coast	1 7	1 2
B	Carmarthen	S. Wales & M.	1 5	1 1	A	Loughborough	Mid. Counties	1 7	1 2	A	Swadlincote	Mid. Counties	1 7	1 2
B ₂	Carnarvon	N.W. Counties	1 7	1 2	A ₃	Luton	E. Counties	1 6	1 1	A	Swansea	S. Wales & M.	1 7	1 2
A	Carnforth	N.W. Counties	1 7	1 2	A ₃	Lytham	N.W. Counties	1 7	1 2	B	Swindon	S.W. Counties	1 5	1 1
A ₁	Carnfhorpe	N.W. Counties	1 7	1 2	A ₁	MACCLESFIELD	N.W. Counties	1 7	1 2	A ₁	TAMWORTH	N.W. Counties	1 7	1 2
A	Castleford	Yorkshire	1 7	1 2	B	Maidstone	S. Counties	1 5	1 1	B ₁	Taunton	S.W. Counties	1 5	1 0
B ₁	Chatham	S. Counties	1 5	1 0	A ₃	Malvern	Mid. Counties	1 6	1 1	A	Teesside Dist.	N.E. Coast	1 7	1 2
B ₁	Chelmsford	E. Counties	1 5	1 0	A	Manchester	N.W. Counties	1 7	1 2	B	Teignmouth	S.W. Coast	1 5	1 1
A ₃	Cheltenham	S.W. Counties	1 6	1 1	A ₃	Mansfield	Mid. Counties	1 7	1 2	A	Todmorden	Yorkshire	1 7	1 2
A	Chester	N.W. Counties	1 7	1 2	B ₂	Margate	S. Counties	1 4	1 0	A	Torquay	S.W. Counties	1 7	1 2
A	Chesterfield	Mid. Counties	1 7	1 2	A ₁	Matlock	Mid. Counties	1 6	1 1	C	Truro	S.W. Counties	1 3	1 1
B ₃	Chichester	S. Counties	1 4	1 0	A ₃	Merthyr	S. Wales & M.	1 7	1 2	B ₁	Trunbridge	S. Counties	1 5	1 0
A	Chorley	N.W. Counties	1 7	1 2	A ₃	Middlesbrough	N.W. Counties	1 7	1 2	A	Tunstall	Mid. Counties	1 7	1 2
B ₂	Cirencester	S. Counties	1 4	1 0	B ₂	Minchhead	S.W. Counties	1 4	1 0	A	Tyne District	N.E. Coast	1 7	1 2
A	Clitheroe	N.W. Counties	1 7	1 2	A ₁	Monmouth	S. Wales & M.	1 7	1 2	A	WAKEFIELD	Yorkshire	1 7	1 2
A	Clydebank	Scotland	1 7	1 2	A ₃	Morecambe	N.W. Counties	1 7	1 2	A ₁	Walsall	Mid. Counties	1 7	1 2
A	Coalville	Mid. Counties	1 7	1 2	A ₃	Middlewich	N.W. Counties	1 6	1 1	A ₂	Warrington	N.W. Counties	1 7	1 2
B	Colchester	E. Counties	1 5	1 1	A ₃	Middlewich	N.W. Counties	1 6	1 1	A	Warwick	Mid. Counties	1 6	1 1
A	Colne	N.W. Counties	1 7	1 2	A ₃	Middlewich	N.W. Counties	1 6	1 1	A	Wellingborough	Mid. Counties	1 6	1 1
A ₃	Colwyn Bay	N.W. Counties	1 6	1 1	A ₃	Middlewich	N.W. Counties	1 6	1 1	A	West Bromwich	Mid. Counties	1 7	1 2
A	Consett	N.E. Coast	1 7	1 2	A ₃	Middlewich	N.W. Counties	1 6	1 1	B	Weston-s-Mare	S.W. Counties	1 5	1 1
A	Conway	N.W. Counties	1 6	1 1	A ₃	Middlewich	N.W. Counties	1 6	1 1	A ₂	Whitby	Yorkshire	1 6	1 1
A	Coventry	Mid. Counties	1 7	1 2	A ₃	Middlewich	N.W. Counties	1 6	1 1	A	Widnes	N.W. Counties	1 7	1 2
A ₃	Crewe	N.W. Counties	1 6	1 1	A ₃	Middlewich	N.W. Counties	1 6	1 1	A	Wigan	N.W. Counties	1 7	1 2
A ₃	Cumberland	1 6	1 1	A ₃	Middlewich	N.W. Counties	1 6	1 1	B ₂	Winchester	S. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 7	1 2	A ₃	Middlewich	N.W. Counties	1 6	1 1	A ₃	Windsor	S. Counties	1 6	1 1
A	Darwen	N.W. Counties	1 7	1 2	A ₃	Middlewich	N.W. Counties	1 6	1 1	A	Wolverhampton	Mid. Counties	1 7	1 2
A ₂	Deal	S. Counties	1 4	1 0	A ₃	Middlewich	N.W. Counties	1 6	1 1	A ₃	Worcester	Mid. Counties	1 6	1 1
A ₃	Denbigh	N.W. Counties	1 6	1 1	A ₃	Middlewich	N.W. Counties	1 6	1 1	A ₃	Workshop	Yorkshire	1 6	

* In these areas the rates of wages for certain trades (usually Painters and Plasterers) vary slightly from those given. The rates for each trade in any given area will be sent on request.

PRICES CURRENT

EXCAVATOR AND CONCRETOR

EXCAVATOR, 1s. 4d. per hour; LABOURER, 1s. 4d. per hour; NAVY, 1s. 4d. per hour; TIMBERMAN, 1s. 5d. per hour; SCAFFOLDER, 1s. 5d. per hour; WATCHMAN, 7s. 6d. per shift.

Broken brick or stone, 2 in., per yd.	£0 11 6
Thames ballast, per yd.	0 11 6
Pit gravel, per yd.	0 18 0
Pit sand, per yd.	0 14 6
Washed sand	0 15 0
Screened ballast or gravel, add 10 per cent. per yd.	
Clinker, breeze, etc., prices according to locality.	
Portland cement, per ton	£2 15 0
Lias lime, per ton	2 10 0
Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.	
Transport hire per day:	
Cart and horse	£1 3 0
Trailer	£0 15 0
3-ton motor lorry	3 15 0
Steam roller	4 5 0
Steam lorry, 5-ton	4 0 0
Water cart	1 5 0

EXCAVATING and throwing out in ordinary earth not exceeding 6 ft. deep, basis price, per yd. cube.

Exceeding 6 ft., but under 12 ft., add 30 per cent.
In stiff clay, add 30 per cent.
In underpinning, add 100 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.
RETURN, fill, and ram, ordinary earth, per yd.

SPREAD and level, including wheeling, per yd.

FILLING into carts and carting away to a shoot or deposit, per yd. cube

TRIMMING earth to slopes, per yd. sup.

HACKING up old grano, or similar paving, per sq. ft.

PLANKING to excavations, per ft. sup.

DO. over 10 ft. deep, add for each 5 ft. in depth, 30 per cent.

If left in, add to above prices, per ft. cube

HARDWARE, 2 in. ring, filled and rammed, 4 in. thick, per yd. sup.

DO. 6 in. thick, per yd. sup.

PUDDLING, per yd. cube

CEMENT CONCRETE, 4-2-1, per yd. cube

DO. 6-2-1, per yd. cube

DO. in upper floors, add 15 per cent.

DO. in reinforced-concrete work, add 20 per cent.

DO. in underpinning, add 60 per cent.

Lias-Lime CONCRETE, per yd. cube

BREEZE CONCRETE, per yd. cube

DO. in lintels, etc., per ft. cube

CEMENT concrete 4-2-1 in lintels packed around reinforcement, per ft. cube

FINE concrete benching to bottom of manholes, per ft. cube

FINISHING surface of concrete spade face, per yd. sup.

DRAINER

LABOURER, 1s. 4d. per hour; TIMBERMAN, 1s. 5d. per hour; BRICKLAYER, 1s. 9d. per hour; PLUMBER, 1s. 9d. per hour; WATCHMAN, 7s. 6d. per shift.

Stoneware pipes, tested quality, 4 in., per ft.

DO. 6 in., per ft.

DO. 9 in., per ft.

Cast-iron pipes, coated, 9 ft. lengths, 4 in., per yd.

DO. 6 in., per yd.

Portland cement and sand, see "Excavator" above.

Leadwool per cub.

Gaskin, per lb.

STONEWARE DRAINS, jointed in cement, tested pipes, 4 in., per ft.

DO. 6 in., per ft.

DO. 9 in., per ft.

CAST-IRON DRAINS, jointed in lead, 4 in., per ft.

DO. 6 in., per ft.

Note.—These prices include digging concrete bed and filling for normal depths, and are average prices.

Fittings in Stoneware and Iron according to type. See Trade Lists.

BRICKLAYER

BRICKLAYER, 1s. 9d. per hour; LABOURER, 1s. 4d. per hour; SCAFFOLDER, 1s. 5d. per hour.

London stocks, per M.

Flettons, per M.

Midhurst white facing bricks, per M.

Second, best, multi-coloured facings, per M.

DO. red best facings, per M.

DO. rubbers 9 in., per M.

Staffordshire blue, per M.

Firebricks, 2 1/2 in., per M.

Glazed sili, white, and ivory stretchers, per M.

DO. headers, per M.

Colours, extra, per M.

Seconds, less, per M.

Cement and sand, see "Excavator" above.

Lime, grey stone, per ton

Mixed lime mortar, per yd.

Damp course, in rolls of 4 1/2 in., per roll

DO. 9 in., per roll

DO. 14 in., per roll

DO. 18 in., per roll

BRICKWORK in stone lime mortar,

Flettons or equal, per rod

DO. in cement do., per rod

DO. in stocks, add 25 per cent. per rod.

DO. in blues, add 100 per cent. per rod.

DO. circular on plan, add 12 1/2 per cent. per rod.

DO. in backing to masonry, add 12 1/2 per cent. per rod.

DO. in raising on old walls, etc., add 12 1/2 per cent. per rod.

DO. in underpinning, add 20 per cent. per rod.

HALF-BRICK walls in stocks in cement mortar (1-3), per ft. sup.

BEDDING plates in cement mortar, per ft. run

BEDDING window or door frames, per ft. run

LEAVING chases 2 1/2 in. deep for edges of concrete floors not exceeding 6 in. thick, per ft. run

CUTTING do. in old walls in cement, per ft. run

CUTTING, toothing and bonding new work to old (labour and materials), per ft. sup.

TERRA-COTTA flue pipes 9 in. diameter, jointed in fireclay, including all cuttings, per ft. run

DO. 14 ft. by 9 in. do., per ft. run

FLAUNCHING chimney pots, each

CUTTING and planing ends of timbers, etc., in cement

FACING fair, per ft. sup. extra

DO. picked stocks, per ft. sup. extra

DO. red rubbers gauged and set in putty, per ft. sup. extra

DO. in salt white or ivory glazed, per ft. sup. extra

TUCK pointing, per ft. sup. extra

WEATHER pointing, do. do.

TILE creasing with cement fillet each side per ft. run

GRANULITHIC PAVING, 1 in., per yd. sup.

DO. 1 1/2 in., per yd. sup.

DO. 2 in., per yd. sup.

If coloured with red oxide, per yd. sup.

If finished with carborundum, per yd. sup.

If in small quantities in finishing to steps, etc., per ft. sup.

Jointing new grano, paving to old, per ft. run

Extra for dishing grano, or cement paving around gullies, each

BITUMINOUS DAMP COURSE, ex rolls, per ft. sup.

ASPHALT (MASTIC) DAMP COURSE, 1 in., per yd. sup.

DO. vertical, per yd. sup.

SLATE DAMP COURSE, per ft. sup.

ASPHALT ROOFING (MASTIC) in two thicknesses, 1 in., per yd.

DO. SKIRTING, 6 in.

BREEZE PARTITION BLOCKS, set in cement, 1 1/2 in. per yd. sup.

DO. DO. 3 in.

BREEZE fixing bricks, extra for each

THE wages are the Union rates current in London at the time of publication.

The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary, but will vary according to quality and quantity. The measured prices are based upon the foregoing, and include usual builders' profits. 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.

MASON

MASON, 1s. 9d. per hour; DO. flxer, 1s. 10d. per hour; LABOURER, 1s. 4d. per hour; SCAFFOLDER, 1s. 5d. per hour.

Portland Stone:

Whitbed, per ft. cube

Bashed, per ft. cube

Bath stone, per ft. cube

Usual trade extras for large blocks.

York paving, av. 2 1/2 in., per yd. super

York templates sawn, per ft. cube

Slate shingles, rubbed, 1 in., per ft. sup.

Cement and sand, see "Excavator," etc., above.

HOISTING and setting stone, per ft. cube

DO. for every 10 ft. above 30 ft. add 15 per cent.

PLAIN face Portland basis, per ft. sup.

DO. circular, per ft. sup.

SUNK FACE, per ft. sup.

DO. circular, per ft. sup.

JOINTS, arch, per ft. sup.

DO. sunk, per ft. sup.

DO. DO. circular, per ft. sup.

CIRCULAR-CIRCULAR work, per ft. sup.

PLAIN MOULDING, straight, per inch of girth, per ft. run

DO. circular, do. per ft. run

HALF SAWING, per ft. sup.

Add to the foregoing prices, if in York stone, 35 per cent.

DO. Mansfield, 12 1/2 per cent.

Deduct for Bath, 33 1/2 per cent.

DO. for Chilmark, 5 per cent.

SETTING 1 in. slate shelving in cement, per ft. sup.

RUBBED round nosing to do., per ft. lin.

YORK STEPS, rubbed T. & R., ft. cub. fixed

YORK SILLS, W. & T., ft. cub. fixed

ARTIFICIAL stone paving, 2 in. thick, per ft. sup.

DO. 2 1/2 in. thick, per ft. sup.

SLATER AND TILER

SLATER, 1s. 9d. per hour; TILER, 1s. 9d. per hour; SCAFFOLDER, 1s. 5d. per hour; LABOURER, 1s. 4d. per hour.

N.B.—Tiling is often executed as piecework.

Slates, 1st quality, per 1,200:

Portmadoc Ladies

Countess

Duchess

Old Delabole

24 in. x 12 in.

20 in. x 10 in.

16 in. x 10 in.

14 in. x 8 in.

Green Randoms, per ton

Grey-green do., per ton

Green peggies, 12 in. to 8 in. long, per ton

In 4-ton truck loads, delivered Nine Elms station.

Clips, lead, per lb.

Clips, copper, per lb.

Nails, copper, per lb.

Cement and sand, see "Excavator," etc., above.

Hand-made tiles, per M.

Machine-made tiles, per M.

Westmorland slates, large, per ton

DO. Peggies, per ton

SLATING, 3 in. lap, compo nails, Portmadoc or equal:

Ladies, per square

Countess, per square

Duchess, per square

WESTMORLAND, in diminishing courses, per square

CORNISH DO., per square

Add, if vertical, per square approx.

Add, if with copper nails, per square approx.

Double course at eaves, per ft. approx.

SLATING with Old Delabole slates to a 3 in. lap with copper nails, at per square.

24 in. x 12 in.

20 in. x 10 in.

16 in. x 10 in.

14 in. x 8 in.

Green randoms

Grey-green do.

Green peggies, 12 in. to 8 in. long

TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square

DO. machine-made do., per square

Vertical Tiling, including pointing, add 18s. 0d. per square.

FIXING lead soakers, per dozen

STRIPPING old slates and stacking for re-use, and clearing away surplus and rubbish, per square

LABOUR only in laying slates, but including nails, per square

See "Sundries for Asbestos Tiling."

CARPENTER AND JOINER

CARPENTER, 1s. 9d. per hour; JOINER, 1s. 9d. per hour; LABOURER, 1s. 4d. per hour.

Timber, average prices at Docks, London Standard

Scandinavian, etc. (equal to 2nds):

1 x 3, per std.

1 x 4, per std.

Memel or Equal. Slightly less than foregoing.

Flooring, P.E., 1 in., per sq.

DO. T. and G., 1 in., per sq.

Planed boards, 1 in. x 11 in., per std.

Wainscot oak, per ft. sup. of 1 in.

Mahogany, Honduras, per ft. sup. of 1 in.

DO. Cuba, per ft. sup. of 1 in.

DO. African, per ft. sup.

Teak, per ft. sup. of 1 in.

DO., ft. cube

Fir fixed in wall plates, lintels, sleepers, etc., per ft. cube

DO. framed in floors, roofs, etc., per ft. cube

DO. framed in trusses, etc., including ironwork, per ft. cube

PITCH PINE, add 33 1/2 per cent.

FIXING only boarding in floors, roofs, etc., per sq.

SARKING FELT laid, 1-ply, per yd.

DO. 3-ply per yd.

CENTERING for concrete, etc., including horsing and striking, per sq.

TURNING pieces to flat or segmental soffits, 4 in. wide, per ft. run

DO. 9 in. wide and over per ft. sup.

continued overleaf

CARPENTER AND JOINER: continued.

SHUTTERING to face of concrete, per square	£1 10 0
DO. in narrow widths to beams, etc., per ft. sup.	0 0 6
Use and waste of timbers, allow 25 per cent. of above prices.	
SLATE BATTENING, per sq.	£0 12 6
DEAL boarding to flats, 1 in. thick and firrings to falls, per square	2 10 0
STOUT feather-edged tilting fillet to eaves, per ft. run	0 0 6
FEATHER-edged springer to trimmer arches, per ft. run	0 0 4
STOUT herringbone strutting (joists measured in), per ft. run	0 0 6
SOUND boarding, 1 in. thick and fillets nailed to sides of joists (joists measured over), per square	2 0 0
ROBEROID or similar quality roofing, one ply, per yd. sup.	0 2 3
DO., two-ply, per yd. sup.	0 2 6
DO., three-ply, per yd. sup.	0 3 0
TONGUED and grooved flooring, 1 1/2 in. thick, laid complete with splayed headings, per square	2 5 0
DEAL skirting torus, moulded 1 1/2 in. thick, including grounds and backings, per ft. sup.	0 1 0
TONGUED and mitred angles to do.	0 0 6
WOOD block flooring standard blocks laid herringbone in mastie:	
Deal 1 in. thick, per yd. sup.	0 10 0
DO. 1 1/2 in. thick, per yd. sup.	0 12 0
Maple 1 1/2 in. thick, per yd. sup.	0 15 0
DEAL moulded sashes, 1 1/2 in. with moulded bars in small squares, per ft. sup.	0 2 6
DO. 2 in. do., per ft. sup.	0 2 9
DEAL cased frames, oak sills and 2 in. moulded sashes, brass-faced pulleys and iron weights, per ft. sup.	0 4 6
MOULDED horns, extra each	0 0 3
DOORS, 4-panel square both sides, 1 1/2 in. thick, per ft. sup.	0 2 6
DO. moulded both sides per ft. sup.	0 2 9
DO. 2 in. thick, square both sides, per ft. sup.	0 2 9
DO. moulded both sides, per ft. sup.	0 3 0
DO. in 3 panels, moulded both sides, upper panel with diminished stiles with moulded bars for glass, per ft. sup.	0 3 6
If in oak, mahogany or teak, multiply 3 times.	
ADD for extra labour, per ft. run	£0 15 0
STAIRCASE work:	0 0 1
DEAL treads 1 1/2 in. and risers 1 in., tongued and grooved including fir carriages, per ft. sup.	0 2 6
DEAL wall strings, 1 1/2 in. thick, moulded, per ft. run	0 2 6
If ramped, per ft. run	0 5 0
SHORT ramps, extra each	0 7 6
ENDS of treads and risers housed to strings, each	0 1 0
2 in. deal mopstick handrail fixed to brackets, per ft. run	0 1 6
4 1/2 in. x 3 in. oak fully moulded handrail, per ft. run	0 5 6
1 1/2 in. square deal bar balusters, framed in, per ft. run	0 0 6
FITTINGS:	
SHELVES and bearers, 1 in., cross-tongued, per ft. sup.	0 1 6
1 1/2 in. beaded cupboard fronts, moulded and square, per ft. sup.	0 2 9
TEAK grooved draining boards, 1 1/2 in. thick and bedding, per ft. sup.	0 4 6
IRONMONGERY:	
Fixing only (including providing screws):	
To DEAL—	
Hinges to sashes, per pair	0 1 2
DO. to doors, per pair	0 1 7
Barrel bolts, 9 in., iron, each	0 1 0
Sash fasteners, each	0 1 0
Rim locks, each	0 1 9
Mortice locks, each	0 4 0

SMITH

SMITH, weekly rate equals 1s. 9d. per hour;
MATE, do. 1s. 4d. per hour; ERECTOR, 1s. 9d.
per hour; FITTER, 1s. 9d. per hour; LABOURER,
1s. 4d. per hour.

Mild Steel in British standard sections, per ton	£12 10 0
Sheet Steel:	
Flat sheets, black, per ton	17 0 0
DO., galv., per ton	19 0 0
Corrugated sheets, galv., per ton	18 0 0
Driving screws, galv., per grs.	0 1 10
Washers, galv., per grs.	0 1 1
Bolts and nuts per cut. and up	1 18 0
MILD STEEL in trusses, etc., erected, per ton	25 10 0
DO., in small sections as reinforcement, per ton	16 10 0
DO., in compounds, per ton	17 0 0
DO., in bar or rod reinforcement, per ton	20 0 0
WROUGHT-IRON in chimney bars, etc., including building in, per cwt.	2 0 0
DO., in light railings and balusters, per cwt.	2 5 0
Fixing only corrugated sheeting, including washers and driving screws, per yd.	0 2 0

PLUMBER

PLUMBER, 1s. 9d. per hour; MATE OR LABOURER,
1s. 4d. per hour.

Lead, milled sheet, per cut.	£1 9 0
DO. drawn pipes, per cut.	1 10 0
DO. soil pipe, per cut.	1 12 0
DO. scrap, per cut.	1 0 0
Copper, sheet, per lb.	0 1 3
Solder, plumber's, per lb.	0 1 9
Cast-iron pipes, etc.:	
L.C.C. soil, 3 in., per yd.	0 4 0
DO. 4 in., per yd.	0 4 9
R.W.P., 2 1/2 in., per yd.	0 2 2
DO. 3 in., per yd.	0 2 7
DO. 4 in., per yd.	0 3 6
Gutter, 4 in. H.R., per yd.	0 1 6
DO. 4 in. O.G., per yd.	0 1 10
MILLED LEAD and labour in gutters, flashings, etc. per cwt.	3 0 0
LEAD PIPE, fixed, including running joints, bends, and tacks, 1/2 in., per ft.	0 2 0
DO. 1/2 in., per ft.	0 2 3
DO. 1 in., per ft.	0 3 0
DO. 1 1/2 in., per ft.	0 4 0
LEAD WASTE or soil, fixed as above, complete, 2 1/2 in. per ft.	0 6 0
DO. 3 in., per ft.	0 7 0
DO. 4 in., per ft.	0 9 0
WIPED soldered joint, 1/2 in., each	0 2 6
DO. 1 in., each	0 3 2
DO. 1 1/2 in., each	0 3 8
BRASS screw-down stopcock and two soldered joints, 1/2 in., each	0 11 0
DO. 1 in., each	0 13 6
CAST-IRON rainwater pipe, jointed in red lead, 2 1/2 in., per ft. run	0 1 7
DO. 3 in., per ft. run	0 2 0
DO. 4 in., per ft. run	0 2 10
CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft.	0 2 0
DO. O.G., 4 in., per ft.	0 2 3
CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft.	0 4 6
DO. 3 in., per ft.	0 3 6
Fixing only:	
W.C. PANS and all joints, p. or s., and including joints to water waste preventers, each	2 5 0
BATHS, with all joints	1 3 6
LAVATORY BASINS only, with all joints, on brackets, each	1 10 0

PLASTERER

PLASTERER, 1s. 9d. per hour (plus allowances in London only); LABOURER, 1s. 4d. per hour.

Chalk lime, per ton	£2 17 0
Hair, per cut.	2 0 0
Sand and cement see "Excavator," etc., above.	
Lime putty, per cut.	£0 2 9
Hair mortar, per yd.	1 7 0
Fine stuff, per yd.	1 14 0
Sawn laths, per bd.	0 2 5
Keene's cement, per ton	5 15 0
Sirapite, per ton	3 10 0
DO. fine, per ton	3 18 0
Plaster, per ton	3 0 0
DO. per ton	3 12 6
DO. fine, per ton	5 12 0
Thistle plaster, per ton	3 9 0
Lath nails, per lb.	0 0 4
LATHING with sawn laths, per yd.	0 1 7
METAL LATHING, per yd.	0 2 3
FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock. 1 in., per yd.	0 2 4
DO. vertical, per yd.	0 2 7
RENDER, on brickwork, 1 to 3, per yd.	0 2 7
RENDER in Portland and set in fine stuff, per yd.	0 3 3
RENDER, float, and set, trowelled, per yd.	0 2 9
RENDER and set in Sirapite, per yd.	0 2 5
DO. in Thistle plaster, per yd.	0 2 5
EXTRA, if on but not including lathing, any of foregoing, per yd.	0 0 5
EXTRA, if on ceilings, per yd.	0 0 5
ANGLES, rounded Keene's on Portland, per ft. lin.	0 0 6
PLAIN CORNICES, in plaster, per inch girth, including dubbing out, etc., per ft. lin.	0 0 3
WHITE glazed tiling set in Portland and jointed in Parian, per yd., from	1 11 6
FIBROUS PLASTER SLABS, per yd.	0 1 10

GLAZIER

GLAZIER, 1s. 8d. per hour.

Glass: 4ths in crates:	
Clear, 21 oz.	£0 0 4 1/2
DO. 26 oz.	0 0 5
Cathedral white, per ft.	0 0 7 1/2
Polished plate, British 1/2 in., up to 2 ft. sup.	0 1 2
DO. 4 ft. sup.	0 2 3
DO. 6 ft. sup.	0 2 6
DO. 20 ft. sup.	0 3 1
DO. 45 ft. sup.	0 3 3
DO. 65 ft. sup.	0 3 5
DO. 100 ft. sup.	0 3 10
Rough plate, 1/2 in., per ft.	0 0 6 1/2
DO. 1 in. per ft.	0 0 6 1/2
Linseed oil putty, per cut.	0 15 0
GLAZING in putty, clear sheet, 21 oz.	0 0 11
DO. 26 oz.	0 1 0

GLAZING in beads, 21 oz., per ft.	£0 1 1
DO. 26 oz., per ft.	0 1 4
Small sizes slightly less (under 3 ft. sup.).	
Patent glazing in rough plate, normal span, 1s. 6d. to 2s. per ft.	
LEAD LIGHTS, plain, med. sqs. 21 oz., usual domestic sizes, fixed, per ft. sup. and up	£0 3 0
Glazing only, polished plate 6d. to 8d. per ft. according to size.	

PAINTER AND PAPERHANGER

PAINTER, 1s. 8d. per hour; LABOURER, 1s. 4d. per hour; FRENCH POLISHER, 1s. 9d. per hour; PAPERHANGER, 1s. 8d. per hour.

Genuine white lead, per cut.	£2 7 6
Linseed oil, raw, per gall.	0 3 6
DO., boiled, per gall.	0 3 8
Turpentine, per gall.	0 4 0
Liquid driers, per gall.	0 5 6
Knottin, per gall.	0 18 0
Distemper, washable, in ordinary colours, per cut., and up	2 5 0
Double size, per firkin	0 3 6
Pumice stone, per lb.	0 0 4 1/2
Single gold leaf (transferable), per book	0 2 0
Varnish, copal, per gall. and up	0 12 6
DO., flat, per gall.	1 2 0
DO., paper, per gall.	0 16 0
French polish, per gall.	0 17 6
Ready mixed paints, per gall. and up	0 15 0
LIME WHITING, per yd. sup.	0 0 3
WASH, stop, and whiten, per yd. sup.	0 0 6
DO., and 2 coats distemper with proprietary distemper, per yd. sup.	0 0 9
KNOT, stop, and prime, per yd. sup.	0 0 7
PLAIN PAINTING, including mouldings, and on plaster or joinery, 1st coat, per yd. sup.	0 0 10
DO., subsequent coats, per yd. sup.	0 0 9
DO., enamel coat, per yd. sup.	0 1 2 1/2
BRUSH-GRAIN, and 2 coats varnish, per yd. sup.	0 3 8
FIGURED DO., DO., per yd. sup.	0 5 6
FRENCH POLISHING, per ft. sup.	0 1 2
WAX POLISHING, per ft. sup.	0 0 6
STRIPPING old paper and preparing, per piece	0 1 7
HANGING PAPER, ordinary, per piece	0 1 10
DO., fine, per piece, and upwards	0 2 4
VARNISHING PAPER, 1 coat, per piece	0 9 0
CANVAS, strained and fixed, per yd. sup.	0 3 0
VARNISHING, hard oak, 1st coat, yd. sup.	0 1 2
DO., each subsequent coat, per yd. sup.	0 0 11

SUNDRIES

Fibre or wood pulp boardings, according to quality and quantity.
The measured work price is on the same basis . . . per ft. sup. £0 0 2 1/2

FIBRE BOARDINGS, including cutting and waste, fixed on, but not including studs or grounds per ft. sup.	0 0 6
Plaster board, per yd. sup.	0 1 7
PLASTER BOARD, fixed as last, per yd. sup.	0 2 8
Asbestos sheeting, 1/2 in., grey flat, per yd. sup.	0 2 3
DO., corrugated, per yd. sup.	0 3 3
ASBESTOS SHEETING, fixed as last, flat, per yd. sup.	0 4 0
DO., corrugated, per yd. sup.	0 5 0
ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey	2 15 0
DO., red	3 0 0
Asbestos cement slates or tiles, 1/2 in. punched per M. grey	16 0 0
DO., red	18 0 0
ASBESTOS COMPOSITION FLOORING: Laid in two coats, average 1/2 in. thick, in plain colour, per yd. sup.	0 7 0
DO., 1 in. thick, suitable for domestic work, unpolished, per yd.	0 6 6
Metal casements for wood frames, domestic sizes, per ft. sup.	0 1 6
DO., in metal frames, per ft. sup.	0 1 9
HANGING only metal casement in, but not including wood frames, each	0 2 10
BUILDING in metal casement frames, per ft. sup.	0 0 7
Waterproofing compounds for cement. Add about 75 per cent. to 100 per cent. to the cost of cement used.	

PLYWOOD, per ft. sup.	
Thickness	1/2 in. 3/4 in. 1 in. 1 1/4 in. 1 1/2 in.
Qualities	A.A. A. B.A.A. A. B.A.A. A. B.A.A. A. B.
Birch	4 3 2 5 4 3 7 6 4 5 7 6
Alder	3 3 2 5 4 3 7 6 4 5 7 6
Gaboon	4 3 3 6 5 4 9 7 6 1 10 10
Manogany	4 3 3 6 5 4 9 7 6 1 10 10
Figured Oak	8 7 10 8 11 11 16 16 16 16
Plain Oak	8 7 10 8 11 11 16 16 16 16
Oregon Pine	8 7 10 8 11 11 16 16 16 16

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