THE ARCHITECTS' JOURNAL

Wednesday, April 11, 1928

THAT SOUTH BANK

THE suggestion that the south bank of the Thames should be brought into alignment with the north by the construction of an embankment extending from Westminster Bridge to Blackfriars Bridge is no new one. But Mr. Ralph Knott's letter, which appeared in the *Morning Post* last month, reviving it, is at once welcome and opportune; welcome because one cannot go on hammering on the nail of expediency too often, and opportune because now would seem the moment best adapted for crowning London's rebuilding by a splendid achievement. We have in the past so often advocated the development of London's neglected area, that we feel some diffidence in again raising our voice on the subject. But iteration, although irritating, has its uses, and Danton's famous phrase may usefully be remembered by those who realize a want and are anxious that others should do so, too.

Now, it is quite obvious that what London requires to make it a city wholly worthy of itself is two sides to its river. At present it possesses, for all practical purposes, but one; and it is the only capital in Europe through which a river runs which does so. The reasons for this are many. When, during the eighteenth century, bridges began to be thrown across the Thames at London, it might have been thought that a development would have taken place on the large areas which were then linked up with the City. But London was at that time a small capital compared with what it is today, and there was no need to impinge on this damp and derelict tract of ground for its enlargement. Later, towards the end of that century, however, a series of large and important thoroughfares were formed on the south bank, and it might have seemed as if a beginning was to be made towards its adequate development. The opportunity was lost, and rows of small shops and houses lined those roads which ran like funnels from a disregarded river-bank into hardly less regarded suburbs. Even when Bazalgette's great scheme was initiated (a scheme, by the way, which had been anticipated, at least on paper, by men like Gwynne and Smirke and others), that scheme was confined to the north side of the river; and ever since, in spite of protests, in spite of argument based not merely on artistic grounds, but on commercial expediency, nothing has been attempted but academic discussion of a scheme which has become apparently in the eyes of authority a purely Utopian one. It is significant that when the London County Council's great building was erected, it was placed so near the river as effectually to prevent the possibility of a roadway along the south bank from Westminster Bridge eastward !

Now that we are being faced with a traffic problem that seems well-nigh insoluble, those who give thought to such matters are again turning their attention to the south bank as a means of relieving the congestion, and so are at one with those who have long hoped for an embankment from an artistic as well as a utilitarian point of view. To take the traffic question first. Is it not obvious that a broad road linking up the west and east on the south bank would relieve congestion on the north? Let us take the case of vehicles leaving Waterloo Station and going eastward. Instead of coming over Waterloo or Westminster Bridges, and so swelling the blocks in the Strand, they would find a direct route on the south bank. Those coming from London Bridge Station westward would also have a commodious alternative route—a route, in consequence of the presence of the termini, which would obviously be used far more than is the present Embankment.

And arising from this aspect of the case is the crying need for both Charing Cross and Cannon Street Stations to be removed to the other side of the Thames. Were this done we should have our river unspoilt by the two hideous iron bridges which sprawl indecently across it, and spoil a prospect otherwise unrivalled for its beauty of curve and for the splendid and significant structures which further dignify it. And with a south embankment a further beauty would be possible arising from fine and splendid buildings which would be built along it, and which should rival some of the more recently erected ones on the north bank; and for a time at least we might be spared some of the interesting landmarks which are today falling like ninepins before the onslaughts of those who require larger and more monumental structures.

If we visualize the south bank lined with great buildings containing business premises and offices, such, for instance, as have in recent years been erected in other parts of London, we shall have little difficulty in realizing what an addition to the City's rateable value would ensue, as well as what an improvement to its general appearance would be effected. That the initial cost would be great cannot be denied. But it would be a productive outlay. The longer that outlay is put off the greater it will be; for that such a necessary improvement must sooner or later come cannot be doubted, and a scheme of betterment such as this would be cries aloud to be taken in hand without delay, so that our descendants may know that we have, to some extent, recognized the splendour of our heritage and have done our best to preserve and improve it.

A photograph of this detail is given on the preceding page.

NEWS AND TOPICS

THE JOURNAL's leading article of December 7, 1927, dealt with the R.I.B.A. Scale of Fees for Private Enterprise Building. In it it was pointed out that it was unknown to architects and speculative builders, that it was probably unremunerative to architects, and yet was too high for builders; it was, in fact, completely dead. It was further shown that, especially in the north-west of England, the total absence of co-operation between speculative builders and architects was disastrous, that miles of motor-bus routes were being ruined by the efforts of men blind to proportion, to texture, and the proper use of colour. To borrow a phrase of Mr. Goodhart-Rendel, these innumerable little houses are the visible signs of their progenitor's subconscious apprehension of the unsuitable. The facts are incontrovertible. Builders will not go to architects; architects acting in panels should approach builders and those who finance them. Business should be combined with philanthropy. The Royal Institute of British Architects sent copies of this article to the Allied Societies' Conference, with a covering letter asking if in their opinion the panel scheme was practicable, and pointing out that, if the reply was favourable, the working of the scheme would naturally fall on the allied societies. The Conference consulted the allied societies. The article, therefore, has had extensive publicity. It is unusual for a new policy to at once attain popularity. The allied societies generally have replied that the difficulties in working the scheme are very great and that they are unwilling to make the attempt.

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In the JOURNAL's article it was intimated that the need for a bridge between architects and builders was greatest in the north-west of England. It is not surprising, therefore, that the Manchester and Liverpool societies have had a joint conference. The conference decided to explore the matter rather more deeply. It was decided to attempt to define a speculative building and to draft working rules for panels. The educated laity are probably very much perturbed by the damage already done by the lack of co-operation between builders and architects, and are inclined to believe that the faults are not entirely on one side, and, secondly, if our suggestion for panels is turned down, the architectural profession must produce a new policy. *Laissez faire* is just as out of date in matters of art as in industry or politics.

* * *

Bloomsbury is still to be saved, though the president of the R.I.B.A, in his letter to the *Times* last month, seemed more inclined to bemoan a cause already lost than to speak the bold words for its salvation, that were expected from the leader of the architectural profession. If the "present methods" are destructive on the one side, then they can be apathetic and apologetic on the other, and the result will be an assured "walk over" for the champion of destruction. And yet I cannot see why, despite such discouragement, architects cannot speak decisively in favour of saving this magnificent piece of London. It is no matter of sentiment or of anything on which sensible men should be afraid to speak their mind. The district may be put to very practical uses that will at the same time preserve its delightful character, or, on the other hand, its spacious gardens and fine trees may be utterly obliterated in such a way as also to obliterate light and air, and everything else that makes the place worth having.

* * *

At a meeting held last month of the Leeds and West Yorkshire Architectural Society, a discussion took place in which Mr. Alban Jones contended that the post-war rash of houses and bungalows now disfiguring the countryside was a reflection on the architectural profession. He did not think that architects were pulling their weight in preventing the uglification of the countryside. They should not stand idly in the market place because their labour was not hired. Eminent surgeons did not hesitate to proclaim from the housetops the need for combating the scourge of cancer, or descanting upon the danger of eating too many eggs for breakfast. He would welcome anyone with their eloquence who would stir up public bodies to a realization of what was going on in the matter of architecture on the countryside. In defence, Mr. Wm. Whitehead said that houses under the Addison scheme were built principally from architects' designs, and he contended that they had acquitted themselves worthily at a time when everything had to give way to cost. There were many examples in their own city which might be cited as models of successful housing in regard to layout, planning, and general design. Never before had the public, through the means of the many periodicals devoted to the home, been afforded such opportunities of distinguishing between good and poor domestic architecture, and in this respect architects had done yeoman service. But after a lengthy discussion, the majority of the members present decided that the architect was to some extent to blame.

ASTRAGAL

ARRANGEMENTS

MONDAY, APRIL 16

Royal Society of Arts. 8.0 p.m. Lecture by A. G. Huntley on "Applied Architectural Acoustics."

WEDNESDAY, APRIL 18

Royal Society of Arts. 8.0 p.m. Paper by A. C. Bossom on "American Architecture."

MONDAY, APRIL 23

R.I.B.A. 8.0 p.m. "The Work of Temple Moore." Paper by H. S. Goodhart-Rendel.

Royal Society of Arts. A. G. Huntley on "Applied Architectural Acoustics." (Second Lecture).

MONDAY, APRIL 30

Architectural Association. 7.0 p.m. "Modern German Architecture." Paper by Werner Hegemann.

Royal Society of Arts. 8.0 p.m. A. G. Huntley on "Applied Architectural Acoustics." (Concluding Lecture.)

LONDON'S MONUMENTS

[BY TANCRED BORENIUS]

THE public monuments of London make up a series which has interested countless people and inspired not a few writers; but never before has there appeared a volume setting out to give a complete list of all the outdoor "statues, memorial buildings, tablets, and war memorials" of the Metropolis. The scheme of the book is therefore a happy and more or less novel one upon which both the author, Mr. C. S. Cooper, and the publishers, The Homeland Association, Ltd., are to be congratulated. The scope of the book is defined in the preface by the statement that "the memorials may all be identified without entering on private enclosures." This limitation seriously detracts from the interest of the book, and there has, moreover, not been an absolute consistency in observing the rule laid down by the author. Thus, Grinling Gibbons' statue of Charles II is included in the book, although it stands in the centre court of Chelsea Hospital, which is not always accessible; but there is no mention of Scheemaker's statue of Edward VI, which, if I may judge from my own experience, you are at liberty to go and see any day' entering the grounds of St. Thomas's Hospital from the street.

Both in the interest of completeness and from the æsthetic point of view it would surely have been much preferable to include *all* outdoor statues, even if set up in private or semi-private grounds. No book on London statues can really be regarded as complete which omits reference, say, to Rysbrack's "Sir Hans Sloane," so happily placed among the trees and flower-beds of Chelsea Physic Garden; or to the terra-cotta figure of Captain Maples, which stands in the ground of the Trinity Almshouses, Mile End Road. This statue, though nowadays probably known to the fewest, is really one of the most venerable among those which at the present time may be seen out of doors in London, for it was first set up (at Deptford) in the days of Charles II, in 1681. Who the sculptor is I have never been able to ascertain. It is a work of no little merit, in its picturesqueness and swagger breathing the true spirit of the days of the Merry Monarch.

The scheme of Mr. Cooper's book provides, under each heading, for a description of the item concerned, with historical notes, followed in the case of the statues and

The Outdoor Monuments of London. By C. S. Cooper. Illustrated from photographs taken by Will F. Taylor. The Homeland Association, Ltd. 25s.

The monument to Charles James Fox in Bloomsbury Square. By Sir Richard Westmacott. [*From* Monuments of London.]

commemorative tablets by a biography. The gathering of the information required for the latter feature must have entailed a good deal of labour, and the result is in many cases welcome and useful; on the other hand, the notes on the lives of well-known historical figures—sovereigns, statesmen, writers, and so on—tend to be unnecessarily diffuse. It is to the historical notes on the monuments themselves that the reader will turn with the most eager expectation; for the general historical background of not a few London public monuments is of real fascination, quite apart from the interest which they may possess for the history of art. A good deal of material has in the course of time accumulated towards a discussion of the subject from the point of view now indicated; and no one who sets about to write on London statues and memorials can afford to neglect Mr. T. W. Hill's series of articles in the *Home Counties Magazine* of 1910; a large number of contributions to the files of *Notes and Queries*; and Mrs. Arundell Esdaile's papers on English sculptors which appeared in *The Architect* in 1921-22. Mr. Cooper does not refer to the work of any of these previous workers in the same field, from which, of course, it is not to be necessarily concluded that he is not acquainted with the results of their labours; but his book would undoubtedly have benefited by a fuller use of the information thus made available. To take the case of the statue of James II in St. James's Park, the history of this work—a very interesting one—could have been very considerably expanded; and rather than burdening the book with an English translation of the inscription on the pedestal—surely no match for even the weakest classical scholar—one would have liked the author to give its Latin reading, with the curious slip "Dei Gratiæ" in the second line. Similarly, Wyatt's equestrian statue of George III in Cockspur Street represents an opportunity missed, for this statue had a most chequered and, indeed, dramatic history before being unveiled. The outcome of a much more elaborate scheme, it was originally intended to be set up in Waterloo Place, when sticklers for filial etiquette discovered that the Duke of York on his column could not be allowed to turn his back on his father, even *in effigie*. So the site in Cockspur Street was chosen; but even then things would not run smoothly, for a firm of bankers established near by was of opinion that the statue would interfere with the amenities of the neighbourhood, and actually succeeded in having a temporary injunction granted against the setting-up of the monument. Eventually, however, the rule was quashed and the statue was at last unveiled on August 3, 1836, a couple of months later than originally intended.

An interesting early eighteenth-century statue, noted by the author, is the "Henry VIII" at the West Gate of St. Bartholomew's Hospital. No sculptor's name is given; but I can remember seeing it stated somewhere that this is a work by Francis Bird, the sculptor of "Henry VI" in the outer quadrangle at Eton and of the "Conversion of St. Paul" in the pediment of St. Paul. The St. Bartholomew's statue would, in that case, doubtless be the figure of Henry VIII which Vertue, in a note transcribed by Mrs. Esdaile, mentions as one of the first works by which the young artist attracted attention.

Mr. Cooper's book is illustrated with upwards of thirty photographic reproductions from negatives by Mr. Will F. Taylor, which add considerably to its usefulness. One is particularly glad of the inclusion of a plate of Scheemaker's delightful and all too rarely illustrated statue of Dr. Guy in the forecourt of Guy's Hospital.

A NOTE ON THE NEW BELGRADE

[BY P. MORTON SHAND]

FROM the conquest of what is now known as Old Serbia by the Turks, down to its partial liberation from their barbarous yoke in 1860, Belgrade—a fortress which once played a memorable part in European history as a bulwark of Christendom—had gradually decayed into a sleepy little market town of narrow, tortuous, and squalid alleys reminiscent of the capital of some remoter Russian "government." These primitive streets, innocent of pavements and paving alike, were flanked by straggling, one-storied peasant hovels built of mud and wood, which the inmates shared with their herds of swine. The Turks, a nomadic and martial race, devoid of any instincts for town life or urban amenities, were content to leave the cities they annexed very much as they found them. Indeed, their limited knowledge of building has remained to this day in much the same rudimentary state as when, with the gradual eclipse of military prowess, their Pashas, Alis, and Beys began to settle down like rapacious farmers-general in the lands they had vanquished.

In 1860, Belgrade found itself promoted to diplomatic significance and larger print in the maps on becoming the capital of one of the smallest and weakest of European States. For sixty years it remained the humblest and shabbiest of Balkan capital cities, insignificant in size, wealth, and everything except geographic and strategic importance compared to Bukarest, Athens, or even Sofia. The complete liberation of the former kingdom of Serbia as a result of the Balkan Wars of 1912-13 did little to enhance its development, if only because national impoverishment was too complete, and the respite from war afforded altogether too brief, to allow of the sword being forged into a ploughshare. At this period the few modest Government buildings, barracks, and schools, which this dingy town of under 60,000 inhabitants could boast, were unpretentious exercises in the usual frigidly academic "Italian Renaissance" of the latter half of the nineteenth century. At the end of the World War, Belgrade, then in Austrian occupation and badly damaged by a sequence of bombardments, awoke from its torpor to realize that it had suddenly blossomed out into the capital of a considerable, relatively powerful, and no longer land-locked State, peopled by some fifteen millions of consanguinous Serbs, Croats, and Slovenes; a triune kingdom in which Old Serbia, though the dominant, was by far the most backward partner. As such, Belgrade inevitably experienced an immediate economic, administrative, political, and cultural expansion. The population has been increasing rapidly ever since.

The city, which dominates the confluence of the Save and the Danube, has the initial advantage of an imposing,

if rather broken and irregular site. Today its principal arteries are undergoing drastic widenings to two or three times their original breadths; while a scheme of orderly civic planning has been adopted in co-ordination with these improvements to which the layouts of the new quarters built and building have been made to conform.

Even before the last war there was a great shortage of ordinary middle-class dwellings. Since its close the Government and the municipality have embarked on an extensive programme for the erection of adequate administrative buildings, leaving the provision of housing, for which there is an ever-growing demand, to the private initiative of building societies.

The buildings erected in the decades immediately before and immediately after the last war display a violent clash of the conflicting styles adopted by the various schools in which their several architects were trained. There are examples of the Beaux-Arts tradition built by Serbs who have qualified in Paris, and others designed in the Viennese Secession, modern German, and so-called Pan-Slav manners by Croat pupils of the architectural faculties of Vienna, Charlottenburg, Karlsruhe, and Prague; to say nothing

Belgrade. Above, Rue Detchanska.
Below, Banque Adriatique-Danubien.

of those constructed by Slovene students who had taken their diplomas in Russia, and the Belgrade University licentiates working from Byzantine or Florentine models. To these must be added the Jugoslav followers of Le Corbusier, Dudoek, and Gropius (*vide* the block of flats illustrated below), still few in numbers, but militantly enthusiastic, as a forcible reminder that within a very short time no continental city is likely to remain immune to the uncompromising intellectual austerity of the evangelists of doctrinal puritanism in reinforced concrete.

As everywhere else, the banks have hastened to provide themselves with sumptuous and spacious premises. An illustration on page 505 shows the ambitious new stone building of the Danubian and Adriatic Bank, the curved façade of which, displaying a marked modern German influence, occupies a prominent position in the centre of the city.

The other illustration (page 505) shows a street representative of the progressive evolution of Belgrade from the principal town of an Ottoman villayet to the seat of Government of an impecunious Balkan principality, and its subsequent apotheosis into a populous modern city worthy to be the capital of a proud and victorious nation. The two low, ramshackle cottages, with their pantiled roofs, in the foreground, looking rather like early Victorian toll-houses, belong to the Turkish era; the more solidly-built two-storied house on the right is characteristic of the unambitious structural pretentions of the semi-provincial Belgrade of the nineties; the tall, rather nondescript block of flats, with the prominent cornice, behind, erected in 1925 and set back 30 ft. from the former building line in preparation for the wholesale widening of the street, is a recent type of construction which has been very generally adopted in the new residential and business areas.

It can hardly be doubted that the capital of a country which has quadrupled its territory, population, wealth, and prestige (besides producing one of the greatest living sculptors), and which is only now at the outset of its national renaissance and economic development, possesses all those diverse elements that are requisite for the evolution of a truly native style in architecture—at present lacking—once sufficient time shall have elapsed for the proper assimilation of heterogeneous foreign influences as a necessary prelude to the sharper, and yet broader, definition of the national consciousness on a cultural plane.

The writer has to express his acknowledgments to the Jugoslav architect, M. Kositch, of Belgrade, for his kindness in supplying the information and photographs which have been used in this article. Unfortunately, the names of the architects of the two more important buildings illustrated seem to have been inadvertently overlooked.

A block of flats, Belgrade.

STOCKTONS, ALDERLEY EDGE, CHESHIRE

[BY PENLEE ASH]

IT has been said, nearly as frequently in this country as in others, that the English excel in their domestic architecture. If there is something platitudinous in the saying, it is only that a catch phrase wears badly in repetition, and not that the English house is in any disrepute. Probably our country houses were never so beautiful as they are today. Centuries have brought the trees, hedges and lawns to a miraculous maturity; summers and winters have mellowed the façades; practice and experiment have trained the gardens into their most desirable paths, and generations of architects have played variations on a traditional theme until it has become to some nearly a second nature to design buildings and gardens as one complete whole.

Why is it that the English, who have been responsible for the industrialization of the world, should be famed in these gentle arts? Is it that the industrialist knows his own medicine and builds a house and plants a garden to banish his dull cares until Monday? Or is it that the industrialist is ashamed of the mess he makes of the city, and hopes to live half incognito, a country gentleman? In either case, the doctor prescribes what the patient is inclined to take, and so these houses are built in an atmosphere of mutual understanding that is reflected in a general accordance and geniality.

There are certain types of houses, of which this by Mr. Percy Worthington is a very worthy example, that turn the edge of criticism by offering to the observer a façade that is at once so dignified and reticent, so benign and friendly, so much a host to whoever turns to it from the sloping lawn, and so much the overlord to whoever passes by the gates, that hard words are melted in the warm phrases of sympathetic appreciation, and the critic feels the honour of a guest at stake—and keeps his peace.

This type of house relies rather on a general harmony in the disposition of its parts than to any striking contrast or accentuation of feature. It stands sedate and quiet by smooth lawns among old trees. We may find its ancestors among such houses as the Bishop's Palace at Chichester, the house on St. Giles, Oxford, that is attributed to Wren, and countless other houses of comfortable dimensions and modest bearing that stand a little removed from the main streets of small country towns and villages. Who has not such a house treasured away? Mine is a certain rectory that is buried deep in the unexplored country of Suffolk. The village is so small as hardly to be deemed a group.

Stocktons, Alderley Edge, Cheshire. By Percy Scott Worthington. The garden side.

There is a very old Saxon church standing by a fine timber-framed water mill, a straggle of odd-sized cottages, and then the iron railings of the rectory, a glimpse of new-cut lawn through the bars, and behind, the pleasant sun-baked brick of the rectory itself. The door is open, and light from the flower garden beyond splashes along the polished oak floor and gleams up and down over the dark-toned faces of the panelled hall.

To right and left of the lawn the shadows are gathered deeply under the branches of great trees; yew and box carry them to the soil, where they are dissipated in a riot of herbaceous border and led back on to smooth grass. The brick front is hot in the sun, yet the broad eaves' shadow is an eloquent sundial to a lazy day moving towards evening as I lie, half sleeping, although it seems long hours before the distant tinkling of silver and china materialize into tea, so confused is the notion of time when no one waits on it.

This house in Cheshire could become, is to some few, just such another house to dream about. Its garden front is broad and expansive, set with large, well-designed windows that diaper the stucco surface with glass panes set nearly flush with it. The tile roof sweeps to a very deep eave, which must make a noble shadow on the soft plaster. The façade is more orderly and decent than regular, and breaks most charmingly into a little conical-roofed summer-house that masks the kitchen wing at one end of the terrace, while at the other end are two semicircular bays running through two floors and breaking the eaves' line.

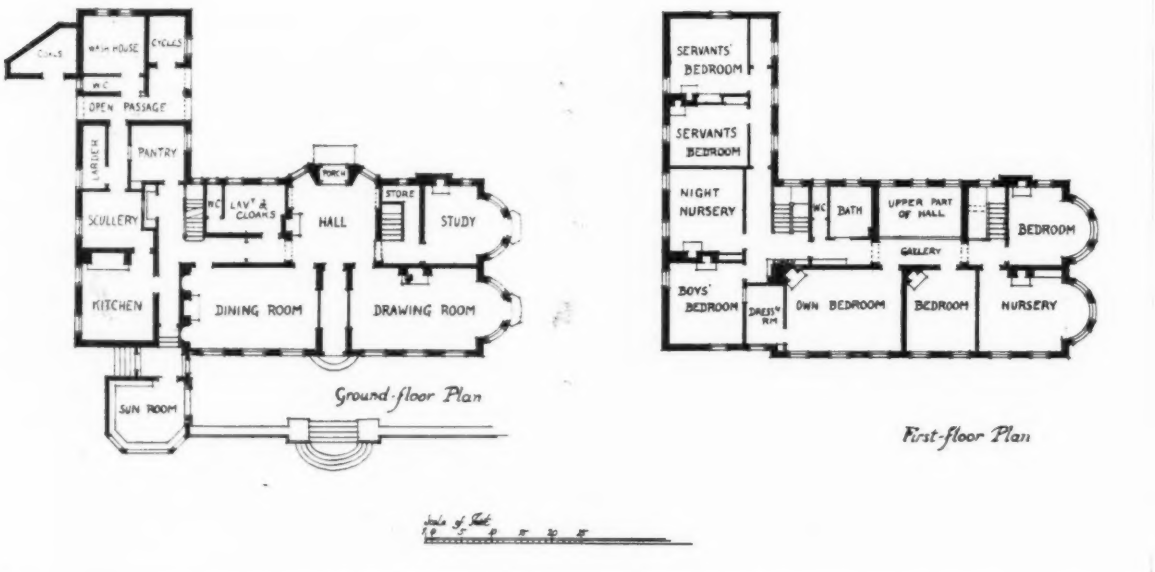
Running the length of the house is a broad terrace, with an herbaceous border below it, and a flight of stone steps leading on to a lawn that falls gently away. Trees surround the lawn and close in round the house, so that it looks as though it stood secluded in the midst of the country, although in one of the photographs reproduced there is a distinct feeling of neighbourliness in the chimneys that show through the trees.

On plan there is the same simplicity of treatment that distinguishes the elevations. The garden front is occupied entirely on the ground floor by two fine rooms, opening one into the other. The drawing-room on one side terminates in a semicircular bay looking out on to the dark greens of the shrubbery at this end of the house. It must be a very pleasant room, as also must the study, which takes another large bay to itself and a window in addition to look along the drive, which is as it should be in a study where business may be done.

The hall takes up two stories and is much bigger than necessity demands, because the stairs are tucked away to the side and make no sort of a showing at all. The hall is big, then, purely for the joy of the thing, and because the house requires that its guests should be received in all the dignity of a lofty and well-proportioned apartment.

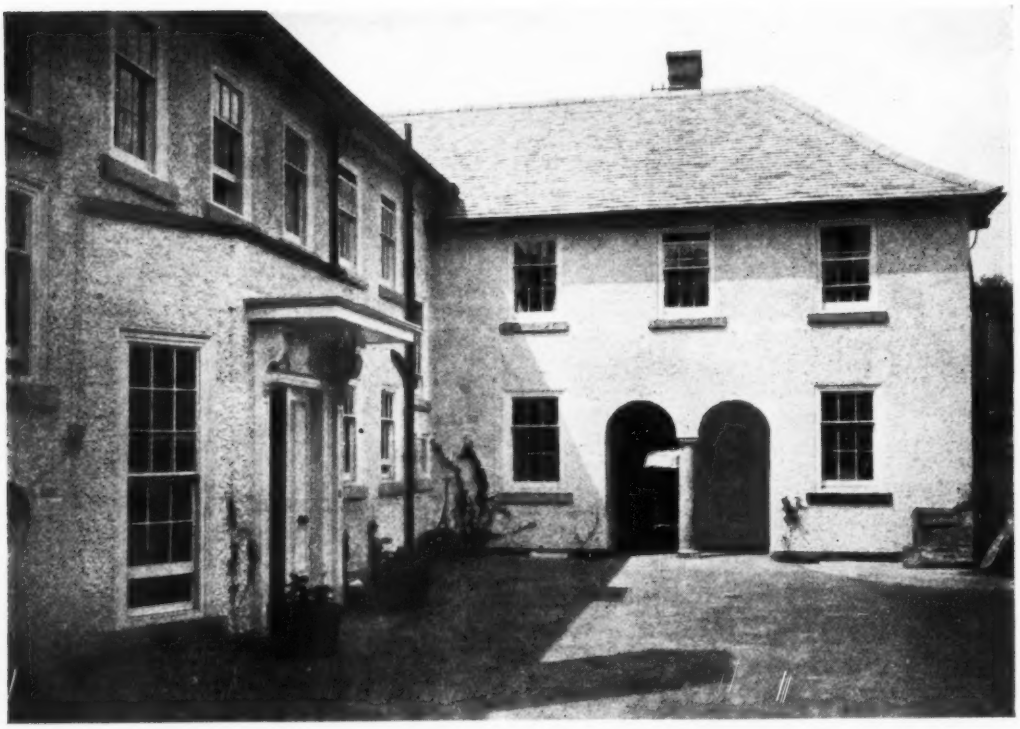
This, in short, is a house to live well in. Rather grandly if you had a mind, for while none of the rooms could overawe, the whole series make a setting that is as dignified as you could wish for. In this connection it is well to notice how completely this plan segregates the staff quarters from the rest of the house, without obtruding before public eyes the cluster of irregular windows that so often announce the " usual offices."

It is in all ways a fine and well-proportioned house, following in the paths of finest English tradition and doing it as well as ever it has been done in the past. And this much given to tradition is not the most delightful feature in the whole design, the double bays on the side elevation, just a little off the track beaten by precedent? Then Bacon said truly that there was no perfection that had not some touch of irregularity.



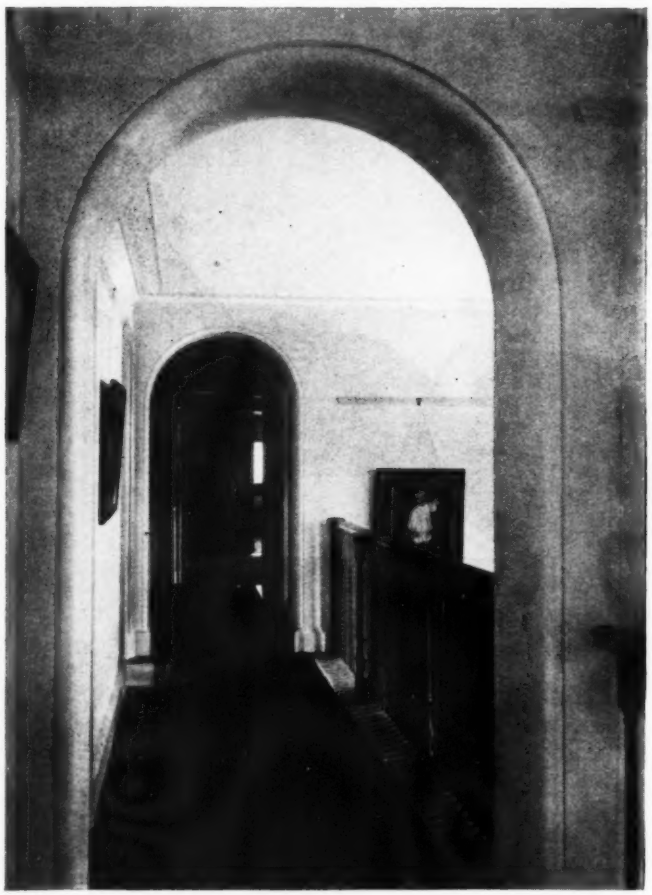
Stocktons, Alderley Edge, Cheshire. By Percy Scott Worthington. Plans of ground and first floors.

Stocktons, Alderley Edge, Cheshire. By Percy Scott Worthington. Above, the garden front. Below, detail of garden door.



Stocktons, Alderley Edge, Cheshire. By Percy Scott Worthington. Above, the forecourt and entrance. Below, detail of front door.

Stocktons, Alderley Edge, Cheshire. By Percy Scott Worthington. The sun room.



Stocktons, Alderley Edge, Cheshire. By Percy Scott Worthington. Above, the drawing-room and dining-room. Below, the hall gallery.

LAW REPORTS

ALTERATIONS NOT ERECTIONS

Burgess and Lewis v. *Carr and Rose and Son. King's Bench Division. Before Mr. Justice Roche*

This was an action by Mrs. Minnie Burgess, of Pepys Road, New Cross, and Mrs. Jenny Lewis, of Stamford Hill, against Miss Minnie Carr and John Rose and Son, claiming possession of 103 and 105 Lancaster Road, W., by reason of alleged breaches of covenant.

Defendants denied that they had been guilty of any breach of covenant, and in the alternative sought relief from forfeiture.

Plaintiffs are the freeholders of the premises, and Miss Carr was sued as lessee by assignment of the premises, and the other defendants, dairymen, were sub-lessees of 103 Lancaster Road. Plaintiffs alleged that in breach of the covenants the defendant firm had erected a substantial building without consent, and had turned what was originally a private residence into business premises, and further had permitted a coffee stall to be erected within the premises and a coffee stall business to be carried on. Certain dilapidation notices had been served, but those had been complied with. The coffee stall had also been removed, and the last of the buildings erected by the defendant firm had been demolished, except for the foundations. Plaintiffs contended that if his lordship granted the relief asked, the plaintiffs should have an assurance that similar breaches would not occur in the future.

For the defendant firm it was said that no new buildings had been erected, only alteration to existing structures. There was therefore no breach, as alterations were not erections. Miss Carr adopted the same defence.

Mr. R. J. Lovell, architect and surveyor, of Craven Street, Strand, gave evidence for the plaintiffs, and Mr. G. W. Osborn, surveyor and valuer, of Norwood Road, S.E., for the defendants.

His lordship said he was satisfied that the breaches in regard to the alleged dilapidations had been made good. With regard to the complaints about the erection of certain buildings, he was satisfied that plaintiffs had no right of complaint, having regard to the form that the covenant took, against the defendants. Some of the things done were contrary to the terms of the lease, but he adjudged that both defendants were entitled to relief from the forfeiture claim. He did it on the terms that nothing more was now required to be done by the defendants. He thought it would be wrong and inequitable to cause anything to be altered from the existing state of things. Miss Carr would recover most of her costs from the plaintiffs, and plaintiffs would get no costs from the defendant firm.

ALLEGED TRESPASS BY BUILDERS AND CONTRACTORS

Ham Urban District Council v. *W. H. Gaze and Sons, Ltd. King's Bench Division. Before Mr. Justice Rowlatt*

The Ham U.D.C. sued defendants, of Kingston-on-Thames, for damages for alleged trespass on Ham Common and for an injunction to restrain defendants from continuing to use a cart track or occupation road on the common by lorries and other vehicles carrying gravel, and to compel them to remove certain material deposited on the road. Defendants contended that they had a right to use the road to cart gravel from a gravel pit they had established on land near the common.

Sir Malcolm Macnaghten, K.C., for the plaintiffs, said the common was vested in plaintiffs absolutely by an Act of 1902, but rights then possessed by the Earl of Desart and occupiers of land on the Desart estates were reserved. The defendants recently acquired 10 acres of land, part of the Parkgate Farm, and had opened a gravel pit on it. Parkgate Farm was not part of the Desart estates. There was a cart track or occupation road from the gate giving access to defendants' land to a metalled public road passing across the common. Defendants had passed lorries over this track or occupation land laden with gravel and had taken a crane over the road to the gravel pit. The Council did not dispute that the defendants had a right to use this track or road to gain access to their land, but they said the right was limited to its use by carts for agricultural purposes only, and that getting gravel from the land was not an agricultural purpose, and that they were entitled to the relief they now sought.

Mr. Archer, K.C., for the defendants, said whilst his clients said they had the right to get gravel from the pit, they were willing to arrive at a sensible agreement, as to time of getting the gravel, and would make good any damage, and hand over the site to be included in the common. They had done what repairs they could, and had paid £2 into court to cover damage done.

His lordship said he came to the conclusion that the road was originally an occupation road to a farm, and there was no evidence that it had been used for the cartage of gravel. Defendants were seeking to do something different from what had hitherto been done. They were really turning it into a mineral property. He made a declaration restraining defendants from using the road for the carriage of gravel provided that they were not to be prevented from the carriage of gravel of a casual or occasional nature not in the course of the systematic exploitation of any gravel, the plaintiffs to have the costs of the action.

AMENITIES OF AN ESTATE: ALLEGED FAILURE TO OBSERVE COVENANT

Peake v. *Sherwood. King's Bench Division. Before Mr. Justice Humphreys*

Interesting points in a tenancy agreement as to the upkeep of the gardens, lawns, orchards, etc., at Lampton Hall, Hounslow, were raised in this action, which was brought by the landlord, Mr. H. R. Peake, of Lampton, Hounslow, against his former tenant, Mr. J. Sherwood. Plaintiff sued for damages for alleged breaches of covenant to cultivate and keep the gardens, lawns, orchards, etc., in a proper manner, and for failing to have them at the end of the lease in good order.

Defendant, by his defence, denied that he had caused any breaches of his lease, and he set up a counterclaim for expenses incurred by him, and he further alleged certain breaches against the plaintiff in encroachment on the land.

Mr. G. Wakefield appeared for the plaintiff, and Mr. L. Tooth for the defendant.

The facts of the case were as follows : The defendant held the Hall under a lease of July 1921 for five years from August 1921, at £150 a year, and under that lease the defendant agreed (plaintiff alleged) to cultivate, manage, plant and manure the kitchen and fruit gardens and orchard and the arable field, and to cut back and prune the fruit and ornamental trees, keep the lawns, hedges, and fences in order, and at the termination of the tenancy leave all the land, gardens, and lawns in good order, heart, and condition. Some of the breaches alleged occurred during the tenancy, and others on its termination in November 1926. The gardens and grounds and field were roughly 6 acres in extent. Defendant, it was alleged, had allowed thistles, nettles, and other weeds to grow, had permitted the grass in the orchard to become rough and rank, and had not cultivated the land in a proper and husbandlike manner. He had neglected to prune about 300 trees and had not planted fruit trees in substitution of those which had decayed. Defendant denied these allegations and counterclaimed on the ground that he did not have possession of the property till slightly after the time that he was entitled to have it. He also counterclaimed for expenses in connection with gas, electricity, and rates for looking after a house of plaintiff, and for alleged breach of covenant occasioned by plaintiff in building a bungalow which encroached on the border of the property the defendant had occupied.

Plaintiff gave evidence that it had cost him about £70 to put the place in order when the defendant went out. As to the alleged encroachment, plaintiff said it was with the defendant's consent.

Defendant, in evidence, said he always employed a gardener, and from 1924 till the end of the tenancy the head gardener had

an assistant, with additional help at busy times. Weeding and pruning were regularly done, and the grass was regularly cut.

Mr. H. R. W. Harding, agricultural valuer, of Windsor and Slough, said at the end of defendant's tenancy he inspected the place and found all the flower-beds in the front of the house well planted and cared for, the fruit trees in the orchard well pruned, and the orchard and gardens generally in good heart and cultivation. There were no nettles or weeds in the garden or orchard, and there was no evidence of weeds, nettles, or rubbish in the field.

His lordship, in giving judgment, said he was satisfied that there was no breach of covenant by the defendant in regard to the pruning of trees or the condition of the orchard or field. Plaintiff was entitled to £1 15s. for two peach trees which died and were not replaced. As to the counterclaim for encroachment, he found defendant consented to it. He awarded defendant £8 19s. on the other part of his counterclaim. The result was that plaintiff would have judgment for £1 15s., without costs, and the defendant would have judgment for £8 19s., with costs.

THE MORTALITY RATE OF ARCHITECTS

Statistics bearing upon the mortality rate of architects are contained in the decennial supplement, just published, of the Registrar-General. The profession's comparative mortality figure—i.e. its death-rate in relation to 1,000 deaths among all classes of people—is put at 929. Its standard of health is thus rather above the average of the entire population. The Registrar-General's return, which covers the periods 1921-23, enumerates 178 different trades and professions, and in this list of comparative healthiness architects as a body are given the fifty-fourth place. It is of interest to note that civil engineers and surveyors rank eighteenth, solicitors forty-sixth, dentists forty-eighth, doctors ninetieth, auctioneers and valuers ninety-fifth, and barristers one hundred and twenty-first. Still, on the basis of 178 occupations, the following interesting figures show the liability or otherwise, relative to men in other callings, of architects to death from certain specified causes (the lower the figure the greater is the immunity implied, and *vice versa*):

Influenza	18	Diseases of the respiratory system	53
Tuberculosis (all forms)	44	Bronchitis	23
Respiratory tuberculosis	32	Pneumonia	98
Syphilis, etc.	34	Diseases of the digestive system	167
Cancer (all sites)	110	Peptic ulcer	141
Cancer of the stomach	18	Appendicitis	172
Diabetes	116	Cirrhosis of liver	136
Cerebral hæmorrhage, etc.	103	Chronic nephritis	52
Diseases of the circulatory system	75	Suicide	72
Disease of the heart	71	Accident	22
Valvular disease of the heart	50		
Other heart disease	110		

A feature of this table is the revelation that, while architects have a favourable record in regard to fatal influenza and in a lesser degree also for phthisis, they have an unfavourable one in regard to appendicitis and diseases of the digestive system. Notwithstanding their exposure to risk on buildings, the report points out, architects sustained a rate of only 347 fatal accidents per 1,000 fatal accidents amongst the entire male population.

Cancer, on the other hand, claimed more than the average number of victims, there being a ratio of 1,095 deaths from this cause amongst architects compared with 1,000 similar deaths amongst the general community. Excluding barristers, actors, and musicians, they had as a body one of the worst records amongst men of professional status. The record of auctioneers and valuers in this matter is also unfavourable, whereas that of civil engineers and surveyors is remarkably good.

During the years under review, 563 architects died, and of these, eighty-four, or roughly a seventh, succumbed to cancer. The second most numerous deaths were those from heart affections. Two-fifths of the architects who died had reached the age of seventy or upwards. Apart from this, the age group with the heaviest mortality was that between fifty-five and sixty-five.

SOCIETIES AND INSTITUTIONS

Housing and Town-Planning Conferences

The National Housing and Town-Planning Council has arranged to hold, as in previous years, a series of regional conferences of local authorities in different parts of England and Wales. The centres to be visited this year are London, Manchester, Leeds, Newcastle-on-Tyne, Birmingham, Bath, Brighton, Exeter, Peterborough, Conway, and Cardiff. The agenda for the conferences embraces many important subjects, including the administration of the Housing Acts, the problem of the slum, the rural housing problem, and town and regional planning problems, including the preservation of rural England. Full particulars may be obtained on application to the Council's offices at 41 Russell Square, London, W.C.1.

Essex Society of Architects: West Essex Chapter

The Friends House in Euston Road and the Euston Station headquarters buildings were the object of a most interesting inspection, organized by the West Essex Chapter of the Essex Society of Architects. All the chapters of the County Society, and the builders of Essex, were represented, and a contingent of students from the newly-formed architectural society of the Bishop's Stortford College was particularly welcomed. The party was conducted over the building by the architect, Mr. Hubert Lidbetter, A.R.I.B.A., and his chief assistant, Mr. Cockrill. After tea, which was provided in the Friends House, Mr. Wynn Owen, A.R.I.B.A., staff architect in the chief engineer's office at Euston Station, took command, and conducted the party over the Euston Station buildings.

Leeds and West Yorkshire A.S.

At the last general meeting of the above society, Col. Albert E. Kirk, O.B.E., A.R.I.B.A., occupied the chair, and the members took part in a discussion: "That Architecture is an Art; not a Business." Mr. F. W. H. Allison, A.R.I.B.A., opened on the affirmative side and defined art as an operation arising out of something previously conceived by the imagination and realized—in the present case—in building materials. He maintained that a building must not only fulfil the requirements it is intended to serve, but must fulfil them with a lofty consideration for the elements of beauty and harmony. Architecture demanded the possession of imaginative vision besides considerable technical skill in the actual building operations. In that sense it was more than an art, it was a fine art; the outcome of an impulse, the embodiment of which should give pleasure both to its creator and those who beheld his finished work, a result which should be the endeavour of all architects. Business methods were all very well, but they would only carry an architect half-way on the road to success. It was gratifying to think that the commercial community was starting to realize that it was "good business" to have a little art flavouring buildings which were devoted to commercial purposes; and to awaken to the fact that their customers appreciated artistic surroundings. If the business side of the architect's brain were too highly developed, his art would certainly suffer. Mr. Victor Bain, A.R.I.B.A., took a different view. He contended that the present-day architect's work was primarily concerned with engineering problems dealing with structural steelwork, reinforced concrete, heating, ventilation, and drainage. He had also to be partly a lawyer; ready to deal with matters concerning rights of light and air, and encroachments by adjoining owners. He was expected to be a financial expert, as very frequently his work had to show a good return upon the amount expended. He was also supposed to be an actuary, valuer, arbitrator, and welfare expert—in short, a travelling encyclopædia. All this left little time for art, that was if important problems of structural and other branches of engineering work had not to be relegated to the mercies of outside experts. A lively and interesting discussion followed, in which, among others, Messrs. W. Alban Jones, J. H. Addison, G. L. Broadbent, D. Brooke, W. Whitehead, and F. Chippendale took part, with a result that architecture was declared to be an art and not a business.

Bush House by night. *From an etching by* W. M. LARKIN.

THE BUILDING EXHIBITION

SUPPLEMENT THE FIRST

Simplification

Two meetings were convened last month by the Board of Trade, under the chairmanship of Mr. Herbert Williams, M.P. The object was to consider further directions in which standardization and simplification might benefit British industry. Delegates attended from almost every important trade group, the building and allied trades being represented by a delegate from the Federation of British Industries. Now, in this most important and embracing subject of standardization and simplification the architect has an outstanding part to play. We have spoken before of architect as catalyst. Here is his opportunity. Let him take the lead. Let him prepare his mind now for invitation to form a sub-committee. Let him co-ordinate at the many subsequent meetings of that committee and at the meetings of its inevitable sub-committees the interests of tradesman, of manufacturer, of material merchant, and of the great public he serves.

No explanation is necessary that in thinking of simplification we must think nationally. The architect must realize that through further standardization and simplification we reach higher levels of building economy and more creditable levels of æsthetic fitness. The primary objects of several standardization committees—not in England alone—have been lost sight of by men whose minds were too involute, men who dallied with millimetres and forgot the *überblick*, which is a viewpoint of the German rationalist in industry.

This brings us to a point where some will ask: "Does not reduction of variety imply monotony?" If the dimensional variations of our primary building materials were reduced to half, if the variations in outward and inward form of the anatomy architectural, both ornamental and organic, were similarly reduced, there would still remain an overwhelming choice. In the selection and arrangement of that choice the artist-architect is still able to make such combinations and permutations as extinguish possibility of montony at once from the imagination.

For needless multiplication of pattern, for unthinking and infinitesimal dimensional differences in building trade products, the architect must be blamed. If we outline the history of this blunder it is because we feel that some stripping back to the truth may avoid its repetition. Habits of thought which bring forth such flowers as "not my pigeon" and "toeing the line," provide mankind with blinkers. The advantage may be a line of thought pursued without deviation, without the distraction of knowing where anyone else—also with blinkers—is going; it may yield individual products which considered individually are beautiful and very fit. But the creative architect is not concerned with individual quality. He is concerned in having available units and materials which combine personal qualification for their purpose with ability for tuneful and economical assembly among other units. Architects years ago should have called the tradesmen around them.

What has been the result of his failure to respond to the demands of catalyst? Instead of taking his proper place at the nave of all the industries contributory to building and the equipment of buildings, he has unrightly and unreasonably expected hundreds of tradesmen, with personal outlooks, to anticipate his requirements, to offer him goods, to submit him samples. We know there have been occasions when architects have so far forgotten traditional etiquette as to express an opinion at conventions of plumbers and brassfounders. Unfortunately, these have been exceptions. It is impossible to be a rationalist acquainted with the work of the Washington Bureau of Standards and the Deutsche Normen Ausschuss and survey the manufacturers' catalogues, which occupy so much space in an architect's office without calling for a broad discussion of standardization and simplification. The present lack of coherence, needless multiplicity of form and dimension, has negligible æsthetic recommendation when balanced against its uneconomic and anti-rational effects.

This is not the place to enumerate directions in which activity is needed. We want cleared from the mind of the architect this detail diverseness, these digressions and dissipations of energy from his main thought so that he and we may think wide about building the cities and homes of tomorrow.

Exhibition Arrangements

The Building Trades Exhibition will be opened at Olympia on April 13 by Mr. Walter Tapper, A.R.A., F.S.A., President of the R.I.B.A. Lord Saye and Sele will preside at the opening ceremony, and among those present will be Messrs. Herbert G. Williams, M.P. (Parliamentary Secretary to the Board of Trade); Fredk. Thorne, J.P. (President of the National Federation of Building Trades Employers); and Thomas Barron (President, National Federation of Building Trades Operatives).

Following is a list of the principal conferences and visits in connection with the exhibition:

Saturday, April 14: Association of Architects, Surveyors, and Technical Assistants.

Monday, April 16: Society of Estate Clerks of Works; visit of Lord Mayor, Lady Mayoress, and Sheriffs.

Tuesday, April 17: Worshipful Company of Tylers and Bricklayers' dinner.

Wednesday, April 18: National Federation of Clay Industries.

Thursday, April 19: Institution of Sanitary Engineers; Architecture Club dinner.

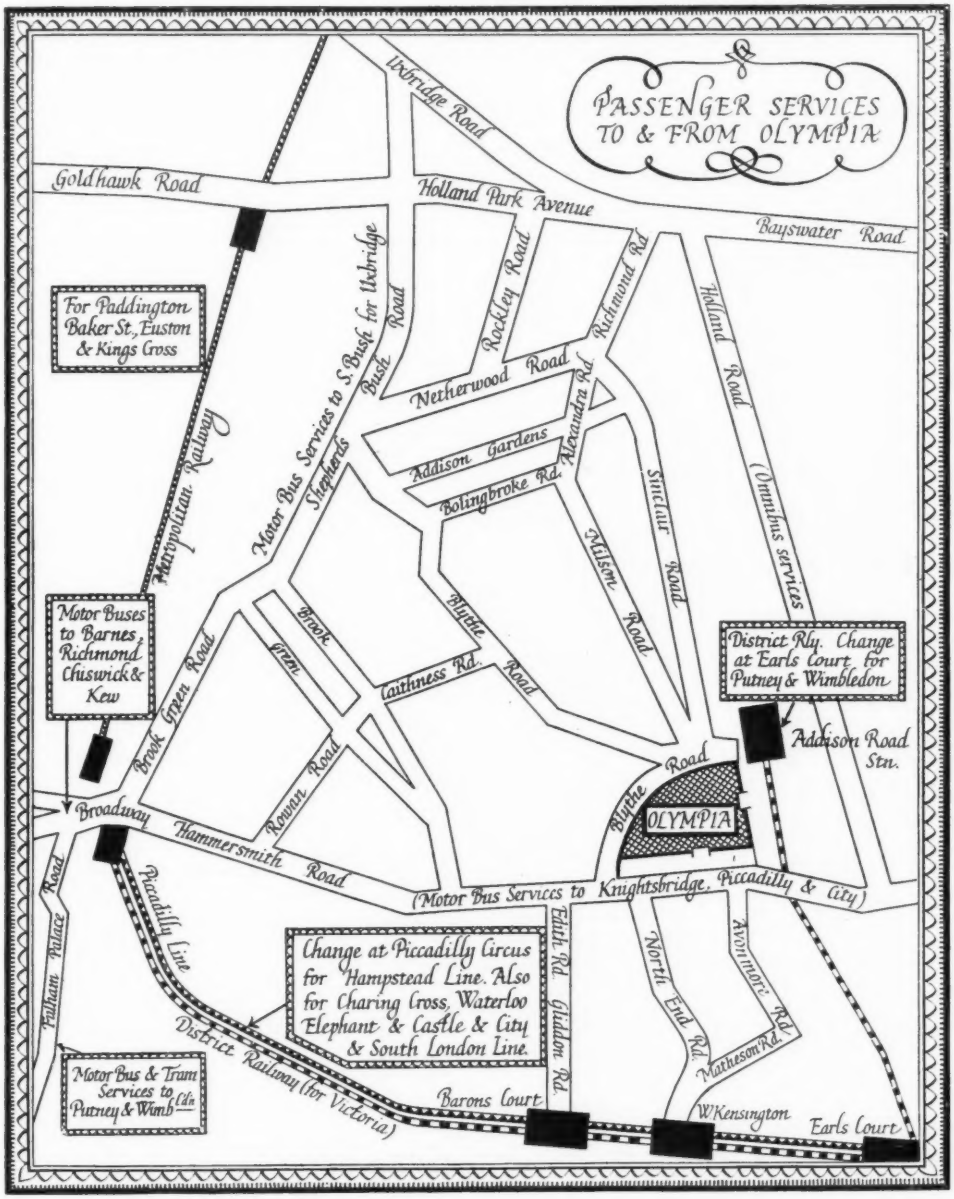
Friday, April 20: London Master Builders' Association.

Saturday, April 21: Incorporated British Institute of Certified Carpenters.

Monday, April 23: Institution of Structural Engineers.

Tuesday, April 24: Southern Counties Federation of Building Trades Employers.

The present year reaches the high-water mark of Building Exhibitions, synchronizing with the coming of age of their *locale* at Olympia. Not only will every available inch of space in the main hall and new hall be packed with exhibits, but the galleries of the main hall have had to be opened to receive the overflow. Here has been allotted a convenient space for an architect's loan exhibit of *objets d'art*.



How to Get to Olympia

When I Walk Round

[BY A PROPERTY OWNER]

HEATING: ELECTRIC AND OTHER

ALMOST anyone who tours the Building Exhibition in a philosophical frame of mind will ask himself three questions. More particularly if he be one of that misunderstood and often maligned class—the property owner—must he answer those three questions. On visiting the exhibition I shall be inquiring continually: Has it the highest degree of purpose-fitness? How long will they last? What is the whole cost?

At first I shall apply my attention to warming and ventilation; I shall look at open coal grates, then at slow-combustion stoves, then at gas fires, then at electric radiators, then at air, steam and hot water systems of central heating. Thinking of the low-rental middle-class flats my company had recently been erecting in the West of London, and applying my questions earnestly, I was glad we had installed central heating, constant hot water and electric radiators. We had provided adequate ventilation by duct to compensate for absence of flues, and had furnished no fireplaces. In spite of the class of tenant and his standard of education, it was surprising how few availed themselves of our offer to provide, at a slightly increased rental, dummy fireplaces to enshrine the electric radiators. On the whole I predict that the central heating engineers will have some of the most intelligent sales personnel at the exhibition, and their industry will prove to be one of the most progressive.

While on the subject of electric heating, and having in the foreground

of one's thoughts the daily co-ordination of electricity supply which is being brought about through the planning and activities of the Central Electricity Board, it is hoped that an impressive exhibit will be staged to demonstrate the domestic and industrial applications of electricity. When we decided to install electric cooking in two of our largest hotels, we had the greatest difficulty in learning the whole economic facts and securing chefs who, while practising a continental cuisine good enough for the "French Restaurants" of our hotels, were not for ever in dread of this genie of the kitchen.

SWEAT, MUSCLE, AND NOISE

Directions in which I consider the farthest advances have been made during the past two years are toward flooring improvement, in the greater use of mechanical aids in building, in the work of the Building Research Station, and in the increased use of glazed terra-cotta. Also, I am impressed that in the greater use of plywoods, plate-glass and asbestos composition sheeting architects and builders are giving property owners values in materials and services which within the postulated triangle of the questions have never before been exceeded.

In flooring construction, whereby sound- and fireproofness have been contrived within a minimum depth never anticipated years ago, the rent-yielding or useful cubic content of buildings has been increased. By the use of rubber flooring the utility, comfort and silence of public buildings have been enhanced. With further use of mechanical aids by builders and contractors, costs of erection should be reduced. Companies like those with which I am associated undertake much repainting work by direct contract. The use of paint-spraying machines is an example of elimination of the sweat and muscle of human effort, with attendant reduction in annual repainting charges.

STANDARDIZATION

The work of the Building Research Station is of more immediate interest to architects and builders than to hotel and estate management companies; but I cannot help feeling that the time is over-ripe for a large degree of standardization in the building and allied industries. An easy direction in which to commence would be with builders' hardware and ironmongery. The large stocks of these goods and accessories which the house engineers and resident architects of buildings are obliged to keep on hand to meet emergencies are due to needless multiplicity of design and dimensions. Now that the Board of Trade has recently convened a conference to further the question of industrial standardization it is hoped that the exhibition will find time for conferences or papers to be read on this and other important subjects.

The increased use of glazed terra-cotta, as revealed by buildings one sees being erected everywhere in British towns and cities, and by the great interest displayed by visitors in this material, is a step in the right direction. For the construction of several hotels and restaurants my company has found this product eminently satisfactory. Terra-cotta answers the question "How long will it last?" in the words "Long enough." It will not outlast the usefulness of the building of which it is a part. We need more colour in the buildings of our cities; these materials can provide it. Our city atmosphere demands a building material from which surface grime is readily removed at low cost. An eight-story London hotel with terra-cotta front can be washed down cheaply.

The Parcedoor tradesmen's delivery hatch.

BEAUTY AND THE DUSTER

The ceramic enamel application to bronze represents a further forward gesture in the beautification of buildings which I suggest will rely in the next twenty years less on those traditional ornaments which harbour grime and birds' nests, and more and more on simple outlines and harmony of shape and colour. The many exhibits of plywoods and the beautiful timbers will bring again into mind the endless decoration which their intelligent use can create. In the application of these materials to door manufacture, with the attendant elimination of dust-supporting rails and mouldings, a very definite benefit is conferred upon the class of property owner who, for example, has to consider the prodigious figure of three thousand doors in one hotel, all the mouldings of which need dusting every day.

It has always seemed an anachronous action, having learned how to roll perfect plate into the enormous sheets required for modern shop fronts, then to cut it up into little squares for glazing windows. The absence of any design to take advantage of the large sheets in which the material can be rolled, and to invent some way of beautifying it less unoriginal than cutting it up seems to me an omission from the plans of the window manufacturers.

THE COST OF LIFTS

Then there is the question of electric lifts. No owner of large buildings can afford not to be interested in lifts. Their first cost is often a very serious matter, but their operating costs, including attendant's wages, electrical energy, maintenance and breakdown charges, are usually the more serious. The latter are the costs to which one listens most eagerly when taking the advice of a consulting engineer. Therefore the lift exhibits will interest me, and I shall also look forward to seeing the new types of paternoster lift which are being installed in some of the very newest and most important office buildings in Germany.

In modern furniture, and built-in furniture designed by architects, it is disheartening to find the modern so completely overshadowed by the stylistic. If an hotel company or any other company is to lead, and continue to lead, it must innovate. During a European tour made last year we examined the interior fittings and furniture of over fifty hotels on the Continent: this experience left us with a desire for a first experiment in hotel bedrooms with entirely modern furniture—most of it built-in. I mention this in the hope that it may stimulate action among designers and furniture builders to offer us a courageous alternative to adaptations and "period" reproductions.

At a future Building Exhibition, the paint manufacturers who showed their intelligence several years ago by forming a Co-operative Research Association might take the lead by building a "Street of Colour." The publishers of journals and textbooks might well erect "Publishers' Avenue." Let it contain a "Garden of Reflection," with hard by a central bureau of information occupied by the promoters' intelligence staff.

The Other Side

i: AN EQUIPMENT ENGINEER SPEAKS UP

THE MACHINE MOVES IN

In the sense in which this article is written an equipment engineer is the supplier of machinery or plant not included in the original structure of a building—such, for example, as pumping plant, electric power plant, printing presses, or refrigerating machinery. Thus, except in very rare cases, his proportion of the contract for a new building or factory is subsidiary to the original design, and is often not considered until the original plans have been accepted and even commenced. Even then he does not yet come into working relations with the architect, as, more often than not, he obtains his contract for the supply of machinery direct from the architect's principal, and on a basis of competitive bids. He does not, therefore, consider himself in the position of a sub-contractor, but as a distinct and separate contractor responsible to the principal alone, and it is often this point of view that brings him into more or less hostile contact with the architect.

Theoretically, of course, each contractor can pursue his way without reference to the other, but in practice this is impossible. For one thing, the erection of machinery frequently involves structural alterations to the building in which it is being placed, and, furthermore, two contracting parties cannot work together in one building without a certain amount of friction being generated. The engineer demands that certain conditions must be granted before he can carry out his work efficiently; the architect, on the other hand, states that minor alterations are outside his contract, and as, in this supposed case, both parties have received their contracts direct from the principal, there is the making of a very pretty dispute, unless the principal himself can step in with the impartiality of a Solon, the wisdom of a Solomon and, not infrequently, the wealth of a Crœsus.

COLLISIONS

Of course, this indictment cannot cover the case of those engineers whose work is necessary to the structure of the building. Of their relations with the architect the writer has no knowledge, but they must obviously be good, as it is to the architect alone that they can look for their orders. But this is not the case with the makers of subsidiary plant or plant for manufacturing purposes. They have no great interest in the structure or the exterior of the building. That they recognize as the architect's work and they leave it to him. It is only on questions of internal arrangement that the two contractors come into collision.

This is, clearly, not a universal state of affairs; every architect and every equipment engineer can quote many cases of perfect co-operation, but in the majority of cases this co-operation has been gained when the specification for plant and building has been accepted as a single whole, and when one or other of the contracting parties has been solely responsible to the principal. But the writer can call to mind a sufficient number of cases in the last few years in which misunderstandings have arisen between the architect and the equipment engineer, making the question a very real one.

THE CONTROLLING HAND

It is not difficult to see the point of view of both parties in the dispute. The architect, of course, sees his work as a whole, and has little or no knowledge of the engineering problems involved; this is not the case, of course, when a consulting engineer is a member of the firm of architects. Nevertheless, he wishes to keep the entire control of his own contract in his own hands, considers that every contract placed for plant or equipment up to the moment of handing over the completed building is his concern, and is apt to be intolerant of alterations or objections to his preconceived plan. The specialist, on the other hand, particularly when he has received his contract direct from the principal, feels that he has been called in to do certain work which he alone can do, and which he considers is outside the sphere of the architect. Further, he considers that, as a specialist, he must have the right to alter or rearrange the plans presented to him, in some degree at least, in order to fit his special requirements.

The Stand of Messrs. Drytone, Limited.

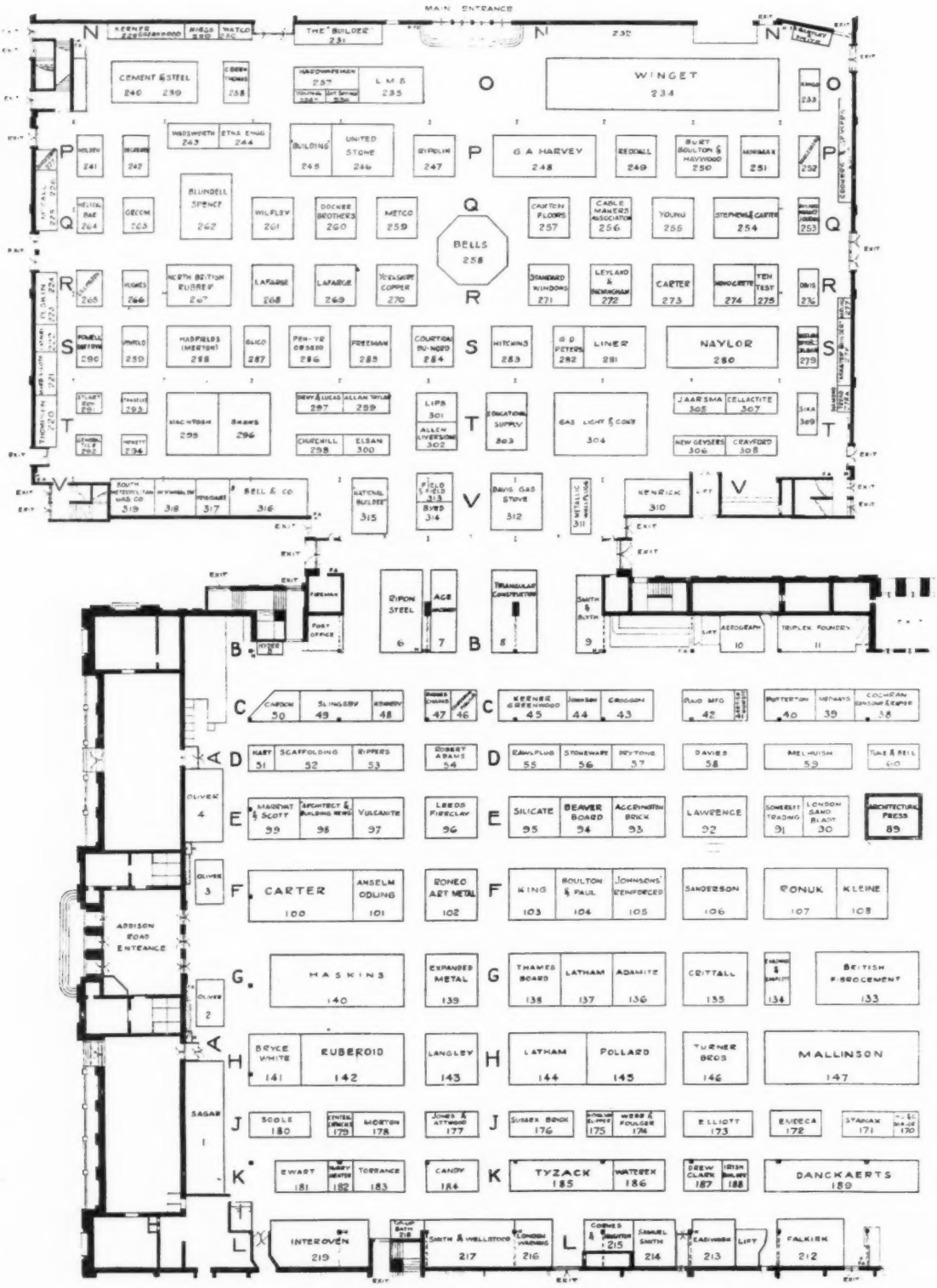
In certain purely industrial cases, of course, the engineer has it all his own way, and the architect, if any, is reduced to the position of a builder.

In other cases the architect has uncontrolled sway, and the engineer is forced to work upon plans unsuitable for him.

THE ARCHITECT AS "BOSS"

Now it is not to the interest either of architect or engineer to carry on at loggerheads with the other, and it should not be difficult to evolve some means of evading these misunderstandings. The clearest and most obvious is, of course, the scheme adopted by the Americans, where all contracts necessary to the final completion of the building pass through the hands of the architect. Thus the engineer has only one authority to deal with, and has no direct dealings with the principal; and, on the other hand, the architect, having the placing of the subsidiary contracts, can incorporate the engineers' additions and alterations to his plans before submitting them to his principal. However, this presupposes that the principal is willing to delegate his authority, a thing principals are, as a rule, unwilling to do, and also that the architect is competent to judge on the performance of the plant, a thing architects are, regrettably, often unable to do.

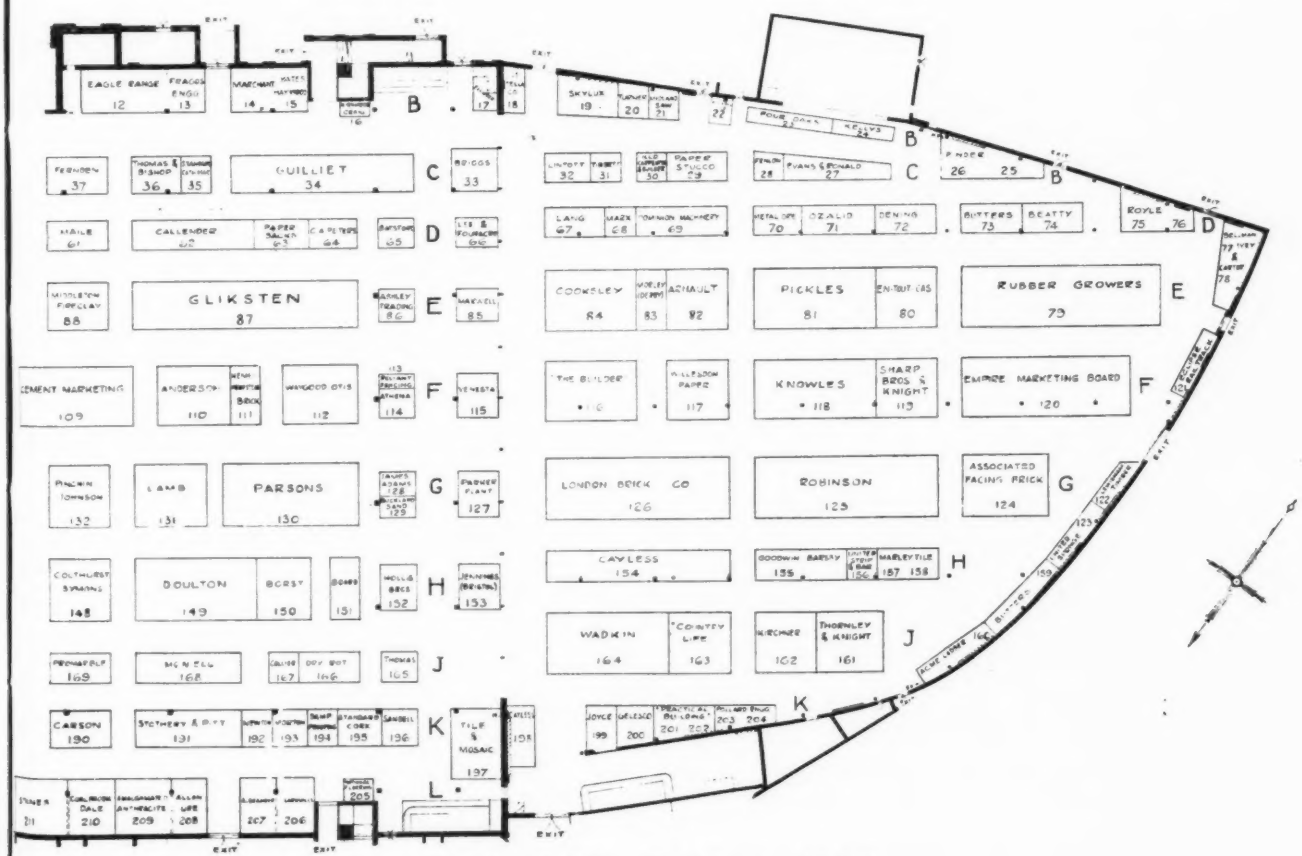
Some "pre-contractual" agreement between principals, architects, and subsidiary engineers is, therefore, very desirable, and some form of round-table conference should be devised whereby minor grievances, which grow into mountains after a month or two's friction, could be settled and faced once for all. Such a conference could also settle the vexed question of architects' commissions on subsidiary plant. Certainly the architect should receive his commission for work carried out under his supervision, but there is, nevertheless, another side to the question. One example will suffice. A firm supplying subsidiary plant, having for some time past been quoting for the supply of machinery to a large manufacturing company, finally received the contract, at cut prices owing to considerable competition, for a new factory. Having received the contract, signed, sealed, and delivered, so to speak, the next mail brought a communication from the company's architects, of whose existence the supplying company had till that moment been blissfully unaware, asking what commission had been reserved for them! This, admittedly an exceptional case, shows, more clearly than any amount of reasoned argument, the conflicting points of view of architect and equipment engineer on their relations to each other.



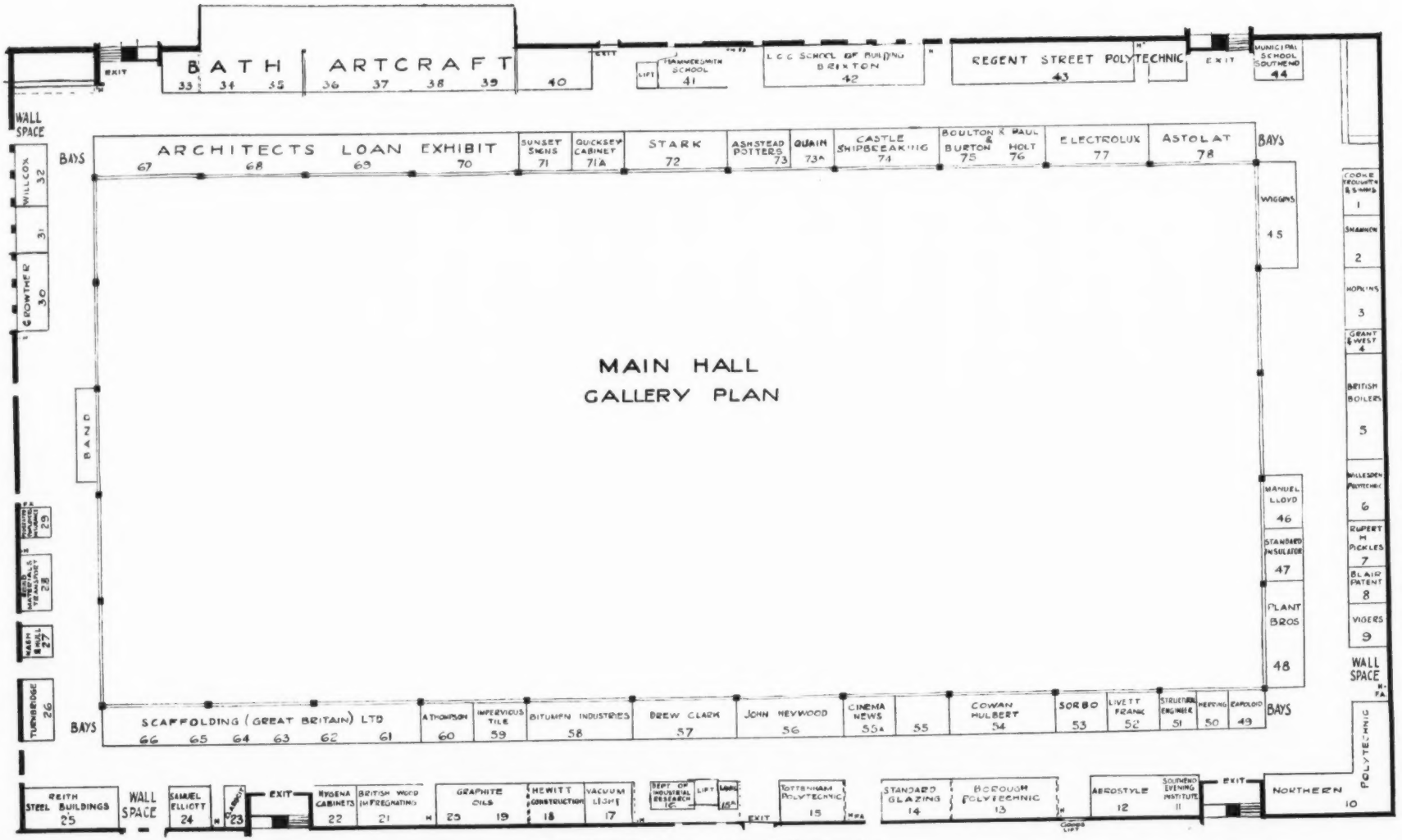
The Building Exhibition. Ground-floor plan, left half.

The Exhibitors

	Row	No.
ACCRINGTON BRICK AND TILE CO.	E	93
A.C.E. Machinery	B	7
Acme Ladder Co.	J	160
Adamite Co.	G	136
Adams and Son, J.	G	128
Adams, R.	D	54
Adamsez, Ltd.	Gal.	31
Aerograph Co.	B	10
Aerostyle, Ltd.	G	12
Alexander & Co.	L	207
Allan, Taylor & Co.	T	299
Allen-Liversidge	T	302
Amal. Anthracite Collieries ..	L	209
Anderson and Son, Ltd. ..	F	110
"Architect and Building News"	E	98
Architects' Loan Exhibits ..	G	67-70
Architectural Press	E	89
"Architecture"	F	116
Arnault, Ltd.	E	82
Ashley Trading Co.	E	86
Ashtead Potters	G	73
Associated Facing Brick Works..	G	124
Astolat Co.	G	78
Athena Compo. Flooring Co. ..	F	114
BATH ARTCRAFT	G	33-40
Batsford, Ltd.	D	65
Beatty Bros.	D	74
Beaver Board Co.	E	94
Bell & Co., Ltd.	V	316
Bell's Poilite and Everite Co. ..	Q	258
Bellman, Ivy and Carter ..	D	77-78
Bitumen Industries	G	58
Blair Patents Co.	G	8
Blundell, Spence & Co... ..	Q	262
Board & Co.	H	151
Boro' Polytechnic	G	13
Borst, Ltd.	H	150
Boulton and Paul, Ltd.	F	104
Boulton and Paul, and Burton and Holt	G	75-76
Brace and Pilsbury	B	22
Briggs and Son, Ltd.	C	33
British Boiler Co.	G	5
British Fibrocement Works ..	G	133
British Magnesite Flooring Co...	C	41
British Wood Impregnating Co.	G	21
Brixton School of Building ..	G	42
Broughton Copper Co.	P	249
Bryce, White & Co.	H	141
Buckland Sand Co.	G	129
"Builder, The"	F	116
" "	N	231
"Builders' Merchants' Journal"	Q	253
"Building"	P	245
"Building Research"	G	16
Burt, Boulton and Hayward ..	P	250
Butters Bros.	D	73
Byrd & Co.	V	314
CABLE MAKERS' ASSOC.	Q	256
Callender & Co.	D	62
Candy & Co.	K	184
Cardon & Co.	C	50
Carson and Sons	K	190
Carter & Co., Ltd.	F	100
" " "	R	273
Carter & Co. (London), Ltd. ..	R	273
Castles Shipbreaking Co., Ltd...	G	74
Caxton Floors, Ltd.	Q	257
Cayless Bros. (Battersea) ..	K	198
Cellactite Works, Ltd.	T	307
Cement Marketing Co.	F	109
Cement and Steel, Ltd. ..	O	239-240
Central Chemicals, Ltd. ..	J	179
Chadwick and Shapcott ..	G	134
Churchill & Co., Ltd.	T	298
"Cinema News"	G	55a
Clarkhills, Ltd.	L	206
Clarocit Co.	G	23
Coalbrookdale Co., Ltd. ..	L	210
Cochran & Co. (Annan), Ltd...	C	38
Collier, Arthur	J	167
Colthurst, Symons & Co. ..	H	148
Compendium Press	V	315
Compendium Publishing Co. ..	C	46
Cookers and Geysers, Ltd. ..	P	252a
Cooke, Troughton and Simms ..	G	1
Cooksley, A.	E	84
Cornes and Haighton	L	215
"Country Life"	J	163
Courtrai-du-Nord Tile Co. ..	S	284
Cowan, Hulbert	G	54



The Building Exhibition. Ground-floor plan, right half.



The Building Exhibition. Main Hall gallery plan.

	Row	No.
Shaw's Glazed Brick Co.	T	296
Sika Ltd.	T	309
Silicate Paint Co.	E	95
Skylux, Ltd.	B	19
Slingsby, H. C.	C	49
Smith and Blyth, S.	B	9
Smith and Wellstood, Ltd.	L	217
Smith, S., and Sons	L	214
Somerset Trading Co.	E	91
Soole and Son, Ltd.	J	180
Sorbo Rubber Sponge Products	Gal.	53
Southend Evening Inst.	G	11
Southend School of Arts	G	44
Stainax Co.	J	171
Staines Kitchen Equipment Co.	L	211
Standard Catalogue Co.	C	35
Standard Cork Co.	K	195
Standard Glazing Co.	G	14
Standard Insulator Co.	G	47
Standard Metal Window Co.	R	271
Stansell's Acetylene Co.	T	293
Stark Furniture	G	72
Stevens, Carter	Q	254
Stoneware, Ltd.	D	56
Stothert and Pitt, Ltd.	K	191
Structural Engineers	G	51
Stuart Roy & Co.	T	291
Sunset Signs	G	71
Sussex Brick Co.	J	176
TELLA CO., LTD.	B	18
Ten-Test Fibre Board Co.	R	275
Thames Board Mills	G	138
Thomas and Bishop, Ltd.	C	36
Thomas, Noel	J	165
Thompson, E. Horace	M	220
Thompson (Marble)	G	60
Thornley and Knight	J	161
Tibbett, W. J.	C	31
Tile and Mosaic Decorations	K	197
Torrance and Sons	K	183
Tottenham Polytechnic	G	15
Trade Papers Pub. Co.	P	242
Triangular Construction Co.	B	8
Triplex Foundry	B	11
Tuke and Bell, Ltd.	D	60
Turnbridge Manfg. Co.	G	26
Turner Bros. Asbestos Co.	H	146
Turner & Co.	B	20
Tyzack, S., and Son	K	185
UNITED SPONGE CO.	G	123
United Stone Firms	P	246
United Strip and Bar Mills	H	156
Ure, Allan, & Co.	L	208
VIGERS, SON & CO.	G	9
Venesta, Ltd.	F	115
Vulcanite, Ltd.	E	97
WADKIN AND CO.	J	164
Wadsworth and Sons	P	243
Waterex Co.	K	186
Waygood-Otis, Ltd.	F	112
Webb and Foulger	J	174
Wiggins & Co. (Hammersmith)	G	45
Wilfley & Co., Ltd.	Q	261
Willcox, W. H.	G	32
Willesden Polytechnic	G	6
Willesden Paper and Canvas Works	F	117
Winget (1924), Ltd.	N	232
" "	O	234
Wood, G., & Co.	E	98
Woodford, Fawcett & Co.	N	230
Wynmalen, H., & Co.	V	318
YATES, HAYWOOD AND CO.	B	15
Yorkshire Copper Works	R	270
Young and Son, Ltd.	Q	255
Young, Osmond and Young	O	236a

Notable Exhibits: i

THE "ATLAS WHITE" Portland cement exhibit on the centre gangway, not far from the Addison Road entrance to the main hall, will be largely devoted to striking examples of colour in concrete. All departments of white concrete production will be represented: True Portland cement stucco in varying shades and textural finishes; white cast concrete stone in its best form; an attractive collection of marble terrazzo slabs, pre-cast, pressed, and of the laid *in situ* type; brass and other varieties of terrazzo dividers; modern examples of shuttered surfacing: *a*: To obtain attractive appearance and *b*: to obtain a perfect bonding surface; illustrations of pointing and setting marble and delicately-coloured natural stone in white, cream, and red-brown true Portland cement mortar; the beautiful colouring obtainable by exposing crushed Venetian glass aggregate in a score of shades; aggregates of sand, stone, spar, mosaic, and glass from almost every quarter of the British Empire—all will be found on the "Atlas White" stand (Row G, Stand 136). The dominating feature of the "Atlas White" exhibit will be an exact replica of the huge base of one of the columns which will form part of the general design of the front elevation of the great Carreras factory in Mornington Crescent, Camden Town. The Egyptian design and beautiful colouring of this column will arrest no little attention at the exhibition. A portion of a design for the Rail in front of a Buddhist Temple (Mr. Ernest Bates, F.R.I.B.A., architect), reproduced in "Atlas White" sand-cast concrete stone, an exposed aggregate of snow-white crushed granite supplying the colour content of the tooled surface, will occupy a prominent position on the "Atlas White" stand. In addition to these examples of white concrete, several uses of "Colemanoid," the well-known concrete water-proofer, oil-proofer, and floor-hardener, will be shown on Stand No. 136.

*

A complete range of the many colours and thicknesses in which rubber floors may be laid will be on view at the stand of THE LEYLAND AND BIRMINGHAM RUBBER CO., LTD. (Row R, Stand 272). The exhibits are intended to demonstrate the quietness, cleanliness, and sanitary qualities of the floors. The various ways and styles in which it is possible to lay rubber floors to contrast with or to harmonize with the furniture and decorations of a room will also be shown. With the fine range of colours and the multiplicity of patterns the material is claimed to be able to meet every contingency and to fulfil every function of a good, clean, long-wearing covering for floors, staircases, etc. Leyland rubber for floors is manufactured in seventeen different shades and colours; or, if required, can be produced to match any given shade. With such a variety of colours from which to choose, the possibilities of laying a pleasing floor are innumerable. Different patterns in the various colours will as required harmonize with the style of furnishing: Tudor, Adams, Jacobean, and Georgian rooms all may have a floor distinctive of their own period.

*

MESSRS. F. MCNEILL & CO., LTD. (Row J, Stand 168), will have a comprehensive display of "Lion" brand roofing for underlining, sound-deadening, and building purposes. "Lion" roofing will be shown on large-sized models which give all the details of the proper construction of roofs of various kinds, the formation of outlets, flashings, etc. "Lion" roofing is claimed to give most efficient service under any climatic conditions. Models will show the gradual formation of "Combinite" bitumen roofing as applied to flat or sloping roofs, whether of new construction or of faulty asphalt or concrete. "Combinite" roofing three-ply consists of three layers, each successive layer cemented to the other by pure bitumen, the laps or joints being "broken" so that they do not come directly upon one another. The surface of the roofing is finished with bitumen varnish, into which carefully chosen grit is embedded. The firm will also show their special process

An interior with Leyland rubber floor.

Detail of some of the "Atlas White" concrete in colour on the Carreras factory.

The evolution of colour in concrete has been a slow process. Standard grey Portland cement killed colour. White cements and plasters—not being true Portland cements—failed lamentably when attempts were made to use them for exterior work. The wind and the sun, rain and sleet and snow had to be reckoned with and their combined or several attacks withstood. Then came, many years ago, a true white Portland cement. The manufacture of "Atlas White" Portland cement marked the beginning of better things for the concrete world. "Atlas White"—the standard by which all other makes are measured—became to colour in concrete what white pigment was to the painter. The basis of the brilliant colouring of the wonderful concrete decoration on the new Carreras building in Camden Town (some of which is illustrated overleaf) was "Atlas White"—an indispensable ingredient of the colour. That building is a rare demonstration of what the future holds for work in one form and another of white Portland cement concrete—the most lasting material human ingenuity has yet produced so far as historical records give us data of man's handiwork. Write to me for information as to the whys and the wherefores. Study "Stucco," an "Atlas White" publication—sent to all architects on application. Study colour in concrete. A visit to my "museum" at Regent House will entertain and instruct. Some remarkable examples of colour work in concrete will be shown on the "Atlas White" stand at Olympia—on the centre aisle in the Main Hall—during the Building Exhibition.

Regent House,
Regent Street,
London, W.1.

Frederic Toleman

Contractors: Messrs. Sir Robert McAlpine & Sons.
Concrete in colour: Messrs. Art Pavements & Decorations Limited.
"Atlas White" Stucco work: Messrs. Grano Metallic Paving & Plastering Company, Limited.

of felting old or new corrugated roofs. This process is claimed to render corrugated roofs staunch and watertight for a long period of years, even though the ironwork may be corroded and pin-holed. This process, besides possessing numerous other advantages, is claimed to equalize greatly the temperature in any corrugated iron building, and preserve the metalwork for a much greater period than the ordinary life of galvanized iron.

*

THE NAUTILUS FIRE CO., LTD. (Row V, Stand 312), will exhibit the "Nautilus" welded mild steel independent domestic boiler; the "Nautilus" cast-concrete economy flue-block construction for use with gas fires; a combined cooking and water-heating installation; a geyser display; wood mantels and tiling; and "Nautilus" grates; and bush fires. The "Nautilus" economy flue, the firm claim, has the following advantages: "Floor space is saved and cubic contents are increased in the absence of chimney-breasts. There are fewer corners and dust-traps; thus the daily housework is reduced, while less material is needed for skirtings, cornices, picture rails, and the like. A wider range of design is opened up to the architect, for the fireplace can be installed at the most convenient point in each room, irrespective of those in the rooms above and below. 'Nautilus' flues can be used in buildings constructed of any material. Indeed, in houses in which the chimney would be the only part built of brick their particular utility is evident. They can be built against, or into, a partition wall, and have often furnished the most satisfactory solution of the problem of heating rooms created by partitioning-off, as in the conversion of a large house into a block of flats." The "Nautilus" coke-heated domestic boiler gives a regular and abundant supply of hot water at every "hot" tap in the house, warms the kitchen when needed, burns up rubbish, toasts bread, and heats a flat-iron. In fact, with a gas cooker, the "Nautilus" does everything a coal range does. It may be connected to existing pipes.

*

THE LAFARGE ALUMINOUS CEMENT CO., LTD. (Row R, Stands 268 and 269), will show Ciment Fondu and Lafarge extra white cement, and the fullest technical information will be available for those interested in obtaining the latest data regarding the qualities of these products. Details of the work which has been carried out during the past five years with Ciment Fondu in this country will be illustrated by photographs and descriptive data. Sample panels of various finishes and renderings made with Lafarge extra white cement will also be shown. A speciality will be made of communicating to concrete users the many ways in which these two products can not only save them money, but enable them to produce concrete, mortars, etc., of super quality. Independent tests by engineers throughout the world will be available. Ciment Fondu is claimed to be an aluminous cement which ensures that all concrete made with it is rock-hard twenty-four hours after placing, with a continuous increase of strength with age. Lafarge extra white cement is a product

A "Nautilus" welded-steel coke boiler.

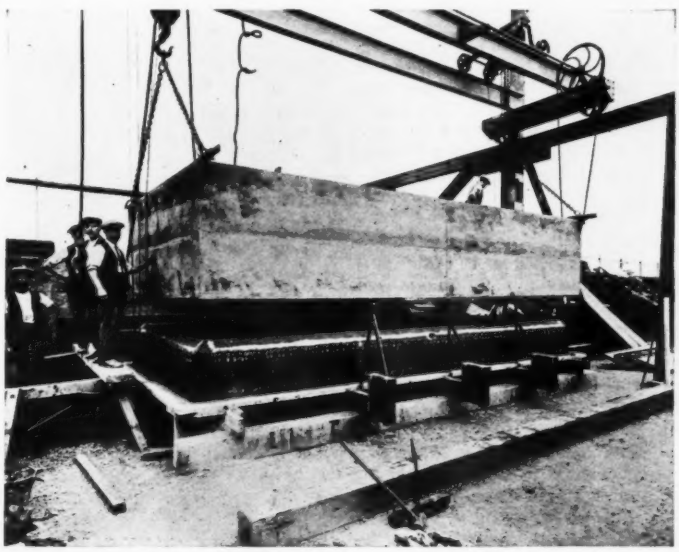
of the Lafarge quarries. Ciment Fondu is British-made at the firm's works at West Thurrock, Essex.

*

An exhibit of interest to everyone interested in building in a rural area or unsewered parts, will be that of the ELSAN MANUFACTURING COMPANY (Row T, Stand 300). This company are the originators and sole experts in Europe of the chemical treatment of sewage, and claim that their system has been tested, approved, and recommended by the medical officers of health and sanitary authorities throughout the world. The Elsan chemical indoor closet is claimed to be odourless, hygienic, and germproof, yet it requires no sewers or water-flush. The system is installed by the London County Council, the Corporations of Manchester, Wolverhampton, Plymouth, etc., and by over 200 health authorities in various rural and district councils in Great Britain. Three different models of the Elsan chemical closet will be shown. The Elsan portable model de luxe is said to enjoy a wide demand in country homes, whilst in cottages and property where a lower-priced article is necessary, the Elsan "Junior" is said to fill the bill. For institutes, schools, factories, clubhouses, and similar buildings, where the needs of a large number have to be provided for, the Elsan permanent model is widely used.

*

The stand of the BRITISH FIBROCEMENT WORKS, LTD. (Row G, Stand 133), has been specially designed as a pavilion to illustrate the many "Fibrent" asbestos-cement manufactures. On the slopes of roof will be found illustrated "Fibrent" slating in diagonal, honeycomb, and straight styles, and in the many colours obtainable, viz. grey, blue-black, purple, red, and antique brown. On the larger slopes will be shown "Fibrent" standard corrugated. and "Fibro Super" corrugated sheeting—materials which are largely adopted for all classes of factory buildings. "Fibro Super" corrugated sheets have 6 in. corrugations. They are of exceptional strength, and both types can be supplied curved to any radius, and in colours. The external treatment of the walls will show the use alternatively of "Fibrent" corrugated and flat sheets. Scalloped slates and tile hanging and weather sheeting will also be shown. These are suitable for vertical work, and are claimed to be effective for overcoming damp walls in exposed positions. The interior will show the use of flat sheeting for ceilings and walls and the many decorative and panelled finishings which may be satisfactorily employed. "Fibrent"



A Ciment Fondu raft, weighing 8 tons, being raised when only twenty-two hours old. A large number of these rafts were constructed for the Birmingham Tame and Rea District Drainage Board.

rabbeted panel sheeting with timber grain and special sheets for bathroom walls, etc., will also be illustrated.

*

The stand of MESSRS. BLUNDELL, SPENCE & CO., LTD. (Row Q, Stand 262), will be painted with the firm's various popular decorators' specialities. There will also be an interesting collection of gums and raw materials used in the paint industry. These have always been found, in previous exhibitions, to prove attractive, and the firm are arranging for an expert to be in attendance for the convenience of callers requiring advice or information regarding their products. Among the many decorative materials given special prominence will be the following: "Pammel" (petrifying liquid enamel), a bright-drying finish for wall surfaces, wood, and metalwork, with a hard surface resembling glazed tiles; transparent petrifying liquid, for the prevention of damp walls, treatment of new plaster, and preservation of stone, brick, etc., from decay; St. Paul's liquid paint, specially recommended for outside use; and glossy "Japonette," a super-enamel for high-class decorative work.

*

THE RUBEROID CO., LTD. (Row H, Stand 142), will show their roofing, roofing felt, dampcourses, and other specialities. Ruberoid roofing has been employed for over thirty years on buildings of all types. It is claimed to be equally efficient on flat, pitched, or curved roofs, and can be laid on wood or concrete. It is made in three permanent colours—grey, red, and green. Starex roofing is a bituminous roofing which is clean and easy to lay. It is made in one colour—grey—and in three thicknesses, similar to the firm's standard Ruberoid. Pluvex roofing felt is a self-finished bituminous roofing designed specially for the covering of small buildings, such as poultry houses, cycle sheds, etc. It does not require any tarring, painting, or coating. Ruberoid dampcourse, for foundations, is claimed to fill all the requirements of a permanent dampcourse. It is purely bituminous, yet is said to be unaffected by pressure or temperature. Ruberoid strip slates, are a new and attractive form of Ruberoid. They supply the same broken surface and pleasing appearance as an ordinary slate or tile, but have the advantage of being unbreakable.

*

Among the specialities shown by MESSRS. J. A. KING & CO., LTD. (Row F, Stand 103), will be "King" concrete building, wall, and partition blocks for the erection of external and partition walls and internal partitions, in thicknesses from 1½ in. to 9 in. thick. These blocks have a rough surface for plastering on or rough casting when used for external work. The blocks are also made with a cement face for external work and internal partitions—the latter are being used considerably at the present time to avoid internal plastering. Another of the firm's many specialities is the "King" self-centering floor tube system. This has been, and is being, used very extensively on many important buildings both in London and in the Provinces. The system dispenses with the use of centering, and enables floors to be completed rapidly. It can be carried out by the general contractor with unskilled labour. The tubes are made in lengths up to 2 ft. 11 in., and are so notched that they rest on and practically cover the lower flange of the R.S. fillers, which are spaced at 3 ft. centres maximum. The tubes are laid in dry, and a very small amount of concrete topping makes a floor which is claimed to be light, strong, and economical.

*

MESSRS. JAMES LATHAM, LTD., will have on Row G, Stand 137, an office built entirely of "Mahtal plywood" in such woods as mahogany, oak, walnut, birch, alder, and Douglas fir. The treatment of the interior will be plain and simple, and have a series of schemes on the side walls and ceiling. The office furniture is made entirely of plywood, and includes a boardroom writing-table, constructed of "Mahtal lamin boards," veneered with figured "Ancona walnut." The entrance door is of "Mahtal lamin board" in mahogany. It is treated on one side with walnut, and on the other side with Cuba mahogany—a panel effect being obtained without the use of mouldings. The firm's stand in Row H (144) will be framed in with giant specimens of British trees. A series of logs sawn to planks and boards will illustrate the quality of timber which this firm has handled in the City of London for over 100 years.

*

MESSRS. ROBERT ADAMS, who will exhibit on Row D, Stand 54, are contractors to H.M. Office of Works for the supply of spring hinges for post offices. The firm have been awarded sixty-four first-class medals and diplomas for excellence in design and workmanship. The exhibit will include a comprehensive display of the "Victor" specialities, including new patent improved types of the "Victor" door spring hinges.

Among the most prominent exhibits will be the following: "Victor" spring hinges for shallow floors and ship work; the "Sceptre Victor" double-action, and the "Gem Victor" single-action, with fluid check, with sealed cylinder check-action; the patent "Crown Victor" double-action, and the "London Victor" single-action spring hinges, oil-check patterns. The exceptional opening capacity of both these types should be noted, the "Crown Victor" opening and closing from 135 deg.—45 deg. beyond right angles. The single-action pattern, the "London Victor," has an opening and closing capacity from 180 deg., the half-circle, when required. All the above types are suited for public buildings, hospitals, and the great stores, business premises, and offices. They can be made to stand open at right angles when required. The above patterns are shown with improved watertight boxes. The "Victor" door springs are designed to allow the door to be opened easily and to hold the door firmly at the closed position. The closing speed of the door can be regulated as desired. The new "Capital Victor" spring hinge, shallow box pattern without check-action, and the new "Victor" door spring for dwarf doors and very light doors are also shown, among many other of the firm's specialities.

*

THE WATEREX CO., LTD. (Row K, Stand 186), will demonstrate the use of Waterex waterproofing under the various conditions of damp encountered in buildings. Half-treated walls will demonstrate the effect of a sprayed application of Waterex against the penetration of rain, and show that it is colourless in treatment. Examples will be given of waterproofing basements and dampcourses by means of a cement and sand rendering against pressure. A specially constructed machine will show the resisting powers of Waterex rendering against heavy pressure of water. Owners

The "Capital Victor" door spring. By Robert Adams.

of gardens will be interested in a small concrete pond rendered waterproof by means of an application of a Waterex slurry.

*

THE GAS LIGHT AND COKE COMPANY'S Stand (304, Row T), has been designed by Mr. Walter Tapper, A.R.A., P.R.I.B.A. The central lounge hall will be used to demonstrate some examples of modern heating by gas, displaying special settings for the latest type of gas-fire. The settings are designed by Mr. Walter Tapper. A display of modern gas-cooking equipment is being arranged, comprising one suite suitable for houses costing up to £1,000, and the other suite for houses costing anything above this figure. On the remaining portion of the stand will be an exhibition of the suggested methods for constructing the economy gas flue. Large size drawings will set out alternative methods for obtaining satisfactory ventilation of gas-fires combined with saving in building costs. Examples of different types of flues constructed in the party-wall will be exhibited, and the actual flue blocks and terminals displayed for inspection.

*

MESSRS. W. T. LAMB AND SONS (Row G, Stand 131) will this year follow their usual method of displaying a selection of their many different types of bricks and tiles, etc., by actually building them into a useful structure. The stand this year takes the form of a "woodland shelter." The novel type of roofing takes the eye immediately the stand comes into view; not only have tile "shingles" been employed to form the conical roof, but tiles, too, have been fixed to the soffit from eaves to brickwork; thus the roof makes a very bold feature. The roof is supported on piers, forming four bays of different types of bricks and four columns of spiral brickwork. Inside the "shelter" is a brick fireplace of striking design. The platform is built of the firms' repressed Flettons, edged with two different types of paving bricks, and covered in with their Cornish crazy paving and Sussex sand-rough quarry tiles. The posts holding the chain are of Sussex quarry tiles, built in spiral form, and capped with small brick balls. The stand was designed by Sir Aston Webb and Sons, architects, and built by Messrs. Higgs and Hill, the roofing tiles being fixed by Messrs. Lambs' roofing staff.

*

At the stand of MESSRS. SMITH AND WELLSTOOD, LTD. (Row L, Stand 217), "Esse" stoves will be in prominence, including the open fire "Esse-Vista" stove. The old-armour finish, named "Armesse," is worth inspecting. "Columbian" independent cookers will be shown in large variety. The "Kudos," which is one of the largest single-oven portable ranges now on the market, is new, and has many attractive features. "Wellstood" ranges, with their fuel-saving and labour-saving devices, are said to be more popular than ever. "Esse" and other independent boilers will be again in prominence, and the No. 1 "Hydresse" boiler, which is specially constructed to burn house refuse scientifically, has many attractive features. For small property, the "New Leader" range is worth inspecting from the property-owner's point of view, as it has many virtues. The "Cow" brand portable copper has been improved and is now fitted with a self-cleaning device. The mere turning round of the pan clears the soot from the inner flues and deposits it in the fire chamber. Now that all municipalities have power to make a charge for the collection of shop refuse, it is becoming more and more necessary to burn that refuse, especially in grocers' shops, and the "Wellstood" improved refuse destructor has been designed specially for this purpose. The shop assistant, when putting rubbish into the stove, has no flames bursting out upon him, nor are pieces of paper carried up the chimney to annoy the neighbours. For hotels, boarding-houses, institutions, etc., there will be several ranges, ovens, grills, etc., worth inspecting.

A Wellstood refuse destructor.

The exhibit in Row H, Stand 146, constitutes a practical demonstration of the application of the products manufactured by MESSRS. TURNER BROTHERS ASBESTOS CO., LTD., for roofing, walling, and interior decorations, including "Turners' Trafford Tiles," "Permanite" asbestos-cement slates and sheets, and "Endurol" tiles. The range of roofing materials manufactured by the firm is most comprehensive. The "Serval" multiple tile is a boldly designed, readily fixed unit having the effect of pantiles of substantial thickness. These tiles are designed specially for the roofing of domestic dwellings. One of these tiles has the cover area and appearance of sixteen ordinary sized tiles. For interior decoration there are "Permanite" asbestos tiled-sheets. "Permanite" tiled-sheets are easily erected, and it is claimed will last for years. They are supplied in sheets 48 in. by 48 in., and can be obtained in ivory, green, heather, light blue, lavender, grey, etc., in both plain tiled and dado tiled effects. Their highly-glazed surfaces are claimed not to crack, fade, or discolour, and to withstand successfully the temperatures and conditions of any domestic dwelling.

*

On Stand 156, Row H, MESSRS. UNITED STRIP AND BAR MILLS, LTD., will show steel bars, plain and shaped; actual tested bars, with certificates showing mechanical test results, and framed photographs of various jobs where the firm's bars have been used. Among the work in the construction of which the firm's bars have been used are: Free Bridge, King's Lynn; Bow Bridge, Rotherham; Lea Valley Viaduct; Hillsborough Baths; Sheffield Abattoir; Goole Water Tower; and Courtaulds Factory, Wolverhampton. An old Roman vase is also to be shown, together with photographs of other Roman relics excavated on the site of the firm's mills.

*

Medway's latest pattern worm-geared electric lift equipment will be a principal exhibit by MESSRS. MEDWAY'S SAFETY LIFT CO., LTD. (Row C, Stand 39). This equipment is fitted with "V" sheave drive, and electrically operated control panel and rheostat. The gear and controller are connected up to the operating switch as used on car-switch lifts. Medway's electric service lift, also to be shown, is suitable for private residences. It has extremely compact worm-gear, controller, and safety devices. Medway's standard hand-operated service lift is also to be shown, fitted with self-sustaining gear. A special feature will be made of an automatically operated opening and closing device for lift doors. Full-size doors will be exhibited showing this unique device in operation.

*

MESSRS. JOHNSON'S REINFORCED CONCRETE ENGINEERING CO., LTD. (Row F, Stand 105), will again show the lattice and "Keedon" system for reinforced concrete structures. The samples and models to be displayed will remind prospective users of the advantages of the "Keedon" stirrups, and of woven fabric to reduce the labour of steel-assembling on the site and risk of displacement during concreting to a minimum. The activities of this company, over a long period of years, will be demonstrated by photographs of typical works designed and carried out by the firm. The company makes a feature of service after delivery of their reinforcements by visiting the works to assist the foremen and others in the application of the material. "Bricktor" reinforcement for brickwork will be demonstrated to show the enormous strength given to brickwork by its application, making it possible it is claimed to have a thinner wall of the same strength and also preventing cracks due to uneven settlement.

*

On the stand of MESSRS. EWART AND SON, LTD. (Row K, Stand 181), will be placed one of the largest geysers or instantaneous water heaters ever made. It is capable of heating a flowing stream of water at the rate of 10 gallons per minute. A further advantage of this type of apparatus—the "Califont"—is the delivery of hot water at any number of taps and complete automatic control. The strictest economy in

gas is obtained from the fact that the gas is only fully alight while the water is actually running through the apparatus. This powerful heater is intended principally for supplying hot water to hotels, restaurants, and for industrial purposes. The No. 1 "Royal" geyser, which is being supplied in large numbers for housing schemes, will also be shown. This is capable of supplying hot water at the rate of 2½ gallons per minute, or sufficient hot water for a bath in about fifteen minutes. A small geyser, the "Brilliant," is capable of heating water for a lavatory basin or a kitchen sink. It is shown in action fitted over a lavatory basin. To meet the requirements in café's and restaurants, where there is always a demand for boiling water for tea and coffee making and for washing-up, the "Ever-Ready" boiler has been introduced. It is capable of supplying in a continuous stream actual boiling water in any quantity. A new departure in gas coppers is the Ewart No. 66 "Boilo." The siphonic action of this copper permits the easy removal of the hot water from it to a bath or other receptacle.

*

The exhibit of MESSRS. MARRYAT AND SCOTT, LTD. (Row E, Stand 99), will include over 500 photographs of typical lift installations. A Marryat-Scott goods lift built to a reduced scale and driven by the firm's "Leveltric" vernier gear will also be shown. This machine, which is operated by push-button control, is claimed to register floor-level with scientific precision, irrespective of load, speed or careless handling. A full display of the component parts of the Marryat-Scott lift, which are claimed to afford complete safety to the passengers and to conform to the Home Office, Board of Trade, Institution of Electrical Engineers, and fire insurance requirements, will also be shown, together with a full range of the firm's hand-power lifts and equipment for restaurant and domestic service. The Universal utility lift will be exhibited for the first time. It is an electric push-button lift designed to raise a load of 40 lb. at a speed of 80 f.p.m. It is fitted with full safety features, and can be connected to any alternating or direct current supply. It is supplied complete in every respect, including self-contained shaft-wiring and all necessary apparatus for erection in a self-supporting tower by unskilled labour. This lift is claimed to be new in conception, design, and construction.

*

The stand of THE COURTRAI-DU NORD TILE CO., LTD. (Row S, Stand 284), has been designed by Mr. Herbert Welch, F.R.I.B.A. It shows to great advantage the simplicity and utility of the "Courtrai-du Nord" roofing tiles, now so very well known to nearly everyone. Sections of a roof, accessories, and a useful glass tile will all be seen on the display counters. Illustrated booklets and photographs of innumerable jobs tend to make a display of absorbing interest.

*

The stand of MESSRS. LANGLEY LONDON, LTD. (Row H, Stand 143), has been designed by Messrs. Halliday and Agate, AA.R.I.B.A. It consists of a pavilion, with a four-hipped roof covered with blue glazed interlocking improved pantiles, enclosed by display counters. Sections of roofs will be shown covered with "Marseilles," "Beauvais," and "Gilardoni" roofing tiles. For those who are interested in a paving flag that will withstand excessive wear and tear there will be the "Stelcon" steel-clad flag. Photographs, models, and signs and the general excellence of the stand should make a very interesting and useful display.

*

The stand of MESSRS. CROGGON & CO., LTD. (Row C, Stand 43), will contain a practical example of constructional steelwork supplemented by photographs of contracts carried out by the firm, consisting of garages, factories, cinema studios, etc. On the stand will be a range of builders' goods. These goods carry the following mark, which is the firm's guarantee of quality:

The tanks, cisterns, and cylinders shown will be from standard sizes, but special sizes can be made up to customers' requirements in a few days. The "Ceeco" perfection and "Vulcan" rubber roofing felts are claimed to answer the builders' demands for a reliable felt at a cheap price. Ventilators, steel barrows, builders' buckets, corrugated sheets help to show that this old-established firm can be of real service to the builder.

*

The stand of MESSRS. THAMES BOARD MILLS, LTD. (Row G, Stand 138), is constructed with the firm's "Essex" board. "Essex" board is an interior lining material. Like all materials possessing the basic characteristics of wood it is fixed in panels, a form of decorative treatment that is full of artistic possibilities. To the charm of panelling "Essex" board adds the beauty of colour, for it can be treated with any ordinary paint or distemper, and its matt surface imparts a fine finished effect. The fixing is very simple. There are certain basic principles, however, which must be followed if satisfaction is to be obtained. An instruction sheet is sent out with every bundle of board. In homes, in offices, in factories, in hospitals, and buildings of all kinds, the necessity for altering, dividing up, screening off some portion, constantly occurs. "Essex" board has just the properties needed for this sort of work. It is light, is easily cut, sawn, and fixed. It is also claimed to be a good insulator, inexpensive, and yet artistic. For shop-fitting "Essex" board should be found a useful, adaptable, and artistic material. Window display experts use it for backgrounds, cut-outs, and other adjuncts to display, while many of the most striking stands at recent exhibitions have been constructed with "Essex" board.

*

The many models to be shown on the stand of MESSRS. KERNER-GREENWOOD & CO., LTD. (Row C, Stand 45), will show the application of "Pudlo" and will include a lily pool lined with waterproofed cement bordered on one side by grass-turfed banks. These grass banks are not merely decorative, but, being kept wet, provide a test of the vertical dampcourses of waterproofed cement applied to the porous walls against which they are placed. A wall stuccoed on one side with sand and cement waterproofed with "Pudlo" brand powder will have a stream of water running continuously down the waterproofed cement surface. There will be a model of a horizontal damp-proof course of waterproofed cement with its base standing in a tank of water. The tank is formed by cementing together five porous coke-breeze concrete slabs, waterproofed on their inside surfaces with a ¼ in. facing of sand and cement treated with "Pudlo" brand waterproofer. This waterproof finish is applied during the manufacture of the blocks, which ordinarily are used for external wall facings. Another interesting model will represent a corner of a cellar, and the various stages of waterproofing with "Pudlo" brand powder and cement will be shown. To interest those who have a partiality for laboratory tests, there will be a machine by which hydraulic pressure up to 300 lb. per square inch is imposed upon samples of cement waterproofed with "Pudlo" brand powder. A test less severe, but more interesting to the average visitor will be provided by apparatus having an elevated tank giving a "head," resulting in a pressure of 5 lb. per square inch. This reproduces the conditions that exist when a cellar or other underground structure is surrounded by water to a depth of 11 ft. Discs of waterproofed cement mortar ⅝ in. thick are clamped to the ends of glass cylinders and subjected to this pressure of water, which demonstrates that renderings of similar thickness and composition are proof against even such severe conditions.

*

THE CEMENT MARKETING COMPANY, LTD. (Row F, Stand 109), display the following products which are marketed by the organization: "Blue Circle," for ordinary concrete work; "Ferrocrete," the rapid-hardening Portland cement; "Lightning" brand aluminous cement; "Hydraline," a modern form of hydrated lime for plastering and mortar; and also lump limes and whiting. In order to show the variety of purposes for which concrete is used in the building trade today, exhibits of concrete bricks, tiles, a window-frame and fireplace, etc., will also be on view.

*

A working passenger lift—travelling from ground floor to gallery—will be exhibited by MESSRS. WAYGOOD-OTIS, LTD. It is operated by a patent micro-drive self-levelling machine, which automatically ensures level stopping at the floors in either

direction, irrespective of load in the car. This type of lift has been installed in a great number of business houses, hospitals, and garages throughout the world, and it is particularly helpful in the handling of goods which are moved into lifts on trolleys. The exhibition lift is arranged so that it can be operated by car switch or on the full automatic push-button system. Other exhibits will include models of automatic electric passenger lift; hand-power dinner lift; double-worm tandem machine for operating escalators supplied to the Underground Electric Railway (over eighty of these have already been supplied and fitted in thirty-one stations in London and thirteen are in hand); and a specially-designed internal-geared machine suitable for goods lifts, being capable of raising heavy loads at slow speed with a minimum of current consumption. Several pieces of electrical controlling gear will also be exhibited.

*

MESSRS. JOSEPH FREEMAN, SONS AND CO., LTD., are the inventors and sole manufacturers of the "Cementone" specialities for colouring, hardening, and waterproofing cement, concrete, plaster, brick, stone, asbestos-cement, etc., both by incorporation and surface application. The firm will have an attractive stand (Row S, Stand 285), which will take the form of a small house decorated entirely, both inside and out, with "Cementone" products. There will be panels in artistic coloured concrete, designed by Mr. J. Woollard. A novel feature will be the imitation rustic work which surrounds the house. This is made with Portland cement and sand and coloured with "Cementone." It has been made entirely by hand and not from moulds. The upper part of the outside of the house and the whole of the interior will be finished in "Cementone" No. 6 flat finish and No. 9 W. P. stone effects composition, illustrating the decorative results which may be obtained. The floor will be of jointless composition, coloured with various "Cementone" No. 1 colours; and the whole of the roofing tiles will be "Cementoned." The house will illustrate in a practical manner the use of "Cementone" products from foundation to roof.

*

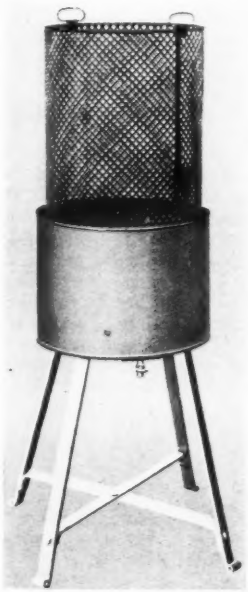
The DRYTONE pavilion (Row D, Stand 57) is designed to illustrate the decorative effects that are possible by the use of Drytone woodwork for every kind of building. Internally the pavilion will be cruciform, with walls in plywood of Gaboon and British Columbia pine, drytoned and wax polished, surmounted by a dome in pale grey Canadian birch. On the outside façades will be four recesses, each illustrating a different colour-scheme. Drytone standard doors: a full range of these well-known doors will be shown in British Columbia pine, western hemlock, red cedar, and other woods. The designs range from simple one-panel types to more elaborate examples inlaid with crossbend margins. The Drytone Uniframe is a new development in the form of a stout framed-up architrave which carries the door itself. It is supplied with the door ready hung and fitted with lock and furniture, so that the whole unit may be fixed in position on the face of previously prepared reveals. This provides a great saving of time and trouble. Any door can be supplied complete with its uniframe. Among other specialities of Messrs. Drytone, Ltd., is the Drytone kitchen cabinet. This is a strongly-built combination in British Columbia pine, with steel-bronzed fittings. It includes broom cupboard, store cupboard, and large porcelain enamelled steel table-top, all totally enclosed but instantly accessible. A few examples of Drytone furniture, in simple yet distinctive designs, will also be shown.

*

A brilliant sunset scene, built up entirely with coloured rubber tiles, will be the most striking feature of the "all-rubber" stand of CHARLES MACINTOSH, LTD. (Row T, Stand 295). The flooring will be covered with rubber tiling in the latest and various designs, and a new feature will be rubber-covered pillars and facia-boards. Another innovation is a rubber bathroom in which there is a cove base, bath curtain, mats, and a large non-slip bath mat all made of rubber—as is, of course, the floor. There will be exhibits of the various rubber sundries used in the building trade, such as hose, shoes, rings, rubber sheeting, door-stops, stair treads, and so forth.

*

MESSRS. LIPS, LTD., will show (Row T, Stand 301) first-quality locks and door and window fittings of all descriptions, safes, strong-room doors, etc. Perhaps the most interesting of the exhibits will be Lips' drying apparatus, which is used mostly to dry strong-rooms and keep them dry, although it is put to many other uses. Another interesting exhibit will be the firm's mortice lavatory indicator bolt.



The "Lips" drying apparatus.

MESSRS. SAMUEL ELLIOTT AND SONS (READING), LTD. (Row J, Stand 173) will occupy their well-known position in the exhibition, a position in which they have been for many years. The exterior of the stand shows a half-timber structure in English oak adjoining another pavilion having a rather modern treatment. The outside of this part of the stand (which is in British Columbia pine with African mahogany columns with black inlays) forms a great contrast to the adjoining half-timber work. The interior of the stand consists of a panelled room with ingle seats and a stone fireplace, and an oak staircase with twisted balusters and handrail and newel treatment to suit. The ceiling beams are of great age, and the floor is of elm boards. The adjoining room is panelled in yellow pine, finished an old mellow tone of an early Georgian character, the floor being of straight jointed oak. The photographs of the firm's work will be exhibited on a revolving stand in this room. Ascending to the top of the stand, visitors will find exhibits of all kinds of panelling, parquetry, mouldings, turnery, veneered work, doors, including the following of the firm's specialities: patent interlocking rail panelling, hospital door, water-bar for casements opening inwards, anti-cyclone revolving doors.

*

The exhibits on the stand of the EDUCATIONAL SUPPLY ASSOCIATION, LTD. (Row T, Stand 303) will comprise the following "Esavian" articles: Overhead garage doors, sliding and folding doors, loggia doors, and a circular French window. The "Esavian" overhead garage doors are composed of leaves arranged horizontally with special rollers fitted with ball-bearings, which travel in a steel track at the sides of the doorway, the track curving backwards under the roof or ceiling. An ingenious method of employing coil springs counterbalances the weight of the door so that when open the door nests under the roof or ceiling. The door leaves the walls, floor, and opening clear of obstructions, tracks or projections, and yet can be glazed. The "Esavian" folding and sliding doors are especially suited for yard gates and for very large openings, such as public garages, etc. These doors have been adopted by the London General Omnibus Company, and have been fitted to many similar garages in different parts of the country. The sliding upright to which the folding leaves are hinged is fitted at the bottom with a large-size roller, and at the top with guides, both having ball-bearings, with the result that the doors can be opened and closed with the greatest ease. The firm claims that there is no purpose for which a folding and sliding door or window is required that cannot be met by some adaptation of the "Esavian" principle.

*

MESSRS. PARCEDOORS, LTD. (Row P, Stand 252), will show the "Parcedoor" tradesmen's delivery hatch. This provides a reliable means whereby tradesmen's deliveries of goods may be effected without disturbing the inmates of house or flat. It is, of course, to the flat-dweller that the "Parcedoor" will prove the greater boon, although it will provide a practical convenience of almost equal value to the small household, where only one, if any, domestic servant is employed. Briefly, the "Parcedoor" enables the house or flat to be left

untenanted without fear of the tradesmen's roundsman being unable to deliver his goods. That, although perhaps its chief, is only one of the many advantages the "Parcedoor" provides: It enables the roundsman to call and make his delivery without interrupting the housewife or her maid in the task on which she at the moment is engaged; it enables the roundsman to place perishable goods at once in a place of safety actually within the premises without disturbing the inmates; it can take three successive deliveries of goods without readjustment, and, when the final delivery has been made, automatically becomes inaccessible from without. The "Parcedoor" is illustrated on page 518.

*

THE HEMEL HEMPSTEAD PATENT BRICK CO., LTD. (Row F, Stand 111), are manufacturers of "Hempstead" terra-cotta partition blocks, hollow floor tiles, and building blocks. These are claimed to be fireproof, sound-proof, and vermin-proof, and to be unequalled for strength and lightness. They have a guaranteed fire resistance to melting point of steel, 2,786 Fahr., and a crushing strain of 3,540 lb. per square inch. The advantages of using partition blocks, into which you can either drive nails or screws and which can be sawn or tooled as required, will be apparent alike to the architect and builder. The firm's specialities have been approved by the Ministry of Health for use on housing schemes.

*

Burmantofts terra-cottas will be displayed by THE LEEDS FIRECLAY CO., LTD. (Row E, Stand 96), as features in Tuscan columns made in several new types and finishes, clearly showing how this material lends itself both constructionally and decoratively to buildings of every class. The Strand Corner House, Park Lane Hotel, Piccadilly, Messrs. Lyons' New Oxford Corner House, Oxford Street, and the large extensions to the Strand Palace Hotel are examples of the use of Burmantofts "Marmo Faience" in London. Glazed bricks in the many varieties now available will display still further the extent of this company's manufactures and the possibility of the application of permanent colour to architectural treatment. A special display will be made of the Burmantofts "Lefco" terra-cotta fireplaces. The sanitary exhibit will comprise some examples of "Imperial" porcelain white-glazed fireclay ware.

*

The patchy and monotonous appearance of some concrete surfaces is often due to the presence of a skin of grey Portland cement. Most processes of casting concrete bring some neat cement to the surface. Removing this skin exposes the aggregate, which may possess considerable beauty. A skin containing a high percentage of neat cement sets very hard. To remove it is difficult. The neat cement skin, it is claimed by MESSRS. REDALON, LTD., can be simply removed from the surface of concrete by "Redalon Liquid" at a small cost. The liquid is supplied in two grades. Grade A exposes the aggregate, thus improving the appearance of the concrete. Grade B obviates hacking the concrete to provide a surface to which a cement-concrete or other plaster rendering can be properly bonded. It is claimed that "Redalon" can be used on either timber or steel centering. Being waterproof it can be applied to centering either before or after erection. As soon as the "Redalon Liquid" is dry (about a quarter of an hour after application) the concrete can be poured. After striking the centering, brushing the concrete with a wire brush removes the outer cement skin, exposing the aggregate to a depth of approximately one-eighth of an inch. Brushing the centering with a bristle brush leaves it clean and ready for use. The liquid does not damage the concrete. It merely retards the outer cement skin from setting until the centering is removed. The process of brushing removes all the retarded cement. Brushing should be done as soon as possible after the removal of the centering to prevent the cement skin hardening after exposure to damp and air.

*

One of the chief attractions of the stand of MESSRS. SOOLE AND SON, LTD. (Row J, Stand 180), will be the "Medigo" flush door. This consists of a skeleton-framed deal core, finished on each side with plywood glued solid, and fitted on all edges with a solid dovetailed margin piece, which also gives special protection to the plywood at the bottom of the door. This door is guaranteed to stand the many trying conditions of central heating. Standard windows are another speciality. These windows are quoted complete, with metal opening lights, and steel-cored lead lights, and can be supplied in either deal, English oak, or teak frames. Distinctive designs of front doors, and interior doors, together with oak panelling, will also be shown, while a short flight of stairs showing a wreathed handrail and string will demonstrate the finest craftsmanship.

*

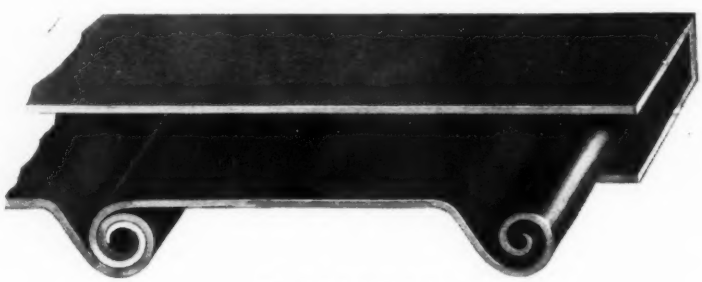
Universal use is being made of the standard "Phorpres" brick of MESSRS. LONDON BRICK COMPANY AND FORDERS, LTD.—who will exhibit in Row G, Stand 126—in a large percentage of the large London buildings of the last few years, including factories, railway bridges and tunnels, coal-mine shafts, and hundreds of thousands of dwelling-houses. A new product is to be introduced at the exhibition, namely, a cavity fletton, which is claimed not only to save 20 per cent. in weight, but to give the sealed multicellular construction which is now being commented upon so favourably by technical authorities. This cavity brick has been the subject of experiment and research, and has now arrived at the commercial production stage.

*

The "Coburn" system of sliding, folding, and "slide inside" door fittings will be shown on Stand 238, Row O, by MESSRS. O'BRIEN THOMAS AND CO. These fittings are for garages, warehouses, and for every purpose where hinged doors are not suitable or occupy too much floor space. The standard track is made exclusively from steel supplied by a leading Sheffield manufacturer, and is of a special composition to produce great strength and lasting qualities. The fittings suspend a series of hinged leaves on the track, and enable the door to slide round the corner and rest flat against the inside wall of a garage. Practically no floor space is wasted, and when properly erected the doors can be operated with the greatest ease. For garages the firm recommend the use of a hinged service door which is attached to the other doors and opens under the corner radial bracket. Any number of hinged leaves can be used, but the firm do not advise the width of any one leaf to exceed 33 in. (30 in. is the most suitable width).

*

One of the principal exhibits of MESSRS. E. POLLARD AND CO., LTD. (Row H, Stand 145), will be the "Rolador" steel shutter. This has a ball-bearing action, and is claimed to possess simple and efficient action, perfect balance, and easy operation. The laths are 14 B.W.G., specially designed to give strength, and shutter coils in minimum dimensions are upon spring boxes of unique construction. The fire-resisting pattern for party wall openings embodies an important new device for controlling the speed of descent. A full-size "Rolador" shutter will be erected on the stand for demonstration purposes. Stainless steel shop doors and framing, which are claimed to be impervious to all weathers, will also be shown. This is an entirely new departure in shop construction. A fine specimen of bronze work, showing drawn and extruded sections, will also be shown. This bronze is specially treated and suitably toned before fixing, to ensure a lasting effect. The fire-resisting "Rolador" lath has passed satisfactorily the test of the L.C.C. Fire Department. The use of fire-stops at the end of each lath is obviated, as one side of the lath lies tight against the face of the channel and is claimed effectively to prevent any penetration of smoke or flame.



The "Rolador" lath.

READERS' QUERIES

SIZE OF ROLLED STEEL JOIST

V. R. writes: "How can I calculate the size of the rolled steel joist required to carry the various loads shown on the accompanying drawing?"

The system of loads, figure one, is rather complicated for the showing of stress diagrams, but figure two shows the bending moments, and figure four the shear stresses. In figure two the close shading shows the amount to be added to the full measurements from top to bottom of the shaded portion. The maximum bending moment is 40·8 ton-ft. = 489·6 ton-in. Now, the bending moment equals the section modulus multiplied by the intensity of shear in tension or compression. Let the latter be 7 tons sq. in., then the section modulus $= \frac{490}{7} = 70$ in. units. The nearest standard section to give this is 14 in. by 6 in. by 57 lb. R.S.J. The maximum shear is 10·3 tons, and the web of this R.S.J. is 10·82 by ·5 = 54·1 sq. in. Then $\frac{54{\cdot}1}{10{\cdot}3} = 5{\cdot}25$ tons sq. in. shear stress. In the shear diagram, figure four, it will be observed that ABCD is the outline for the 8-ton load, AEFD for the 6-ton load, and EGHF for the 5-ton load, the latter being first drawn as figure three, and then added on the top of the other two.

HENRY ADAMS

WORKING MEN'S CLUB

R. E. writes: "I have been commissioned to design a working men's club in London, which is to be built in an economical manner without much decoration. The building is to include a 75 ft. × 35 ft. lounge, with kitchen below; a 60 ft. × 20 ft. swimming bath, with filtration plant, heating, and changing-room, with six baths, sprays, wash-basins, w.c.'s, and lockers; a gymnasium about 40 ft. × 30 ft., with suitable equipment; six or seven small rooms for resident staff, secretary, and doctor's consulting-room. Small cloakrooms near the entrance. The small rooms will be placed on the first, second, and third floors above the entrance hall. A lift from the basement to the third floor is desirable. My preliminary designs for this building cube at 300,000 cu. ft. I should like to have your opinion as to the comparative costs of constructing the building in: i: brick; ii: concrete, poured in timber forms; iii: concrete blocks. In order to obtain a rough estimate of the probable cost of the whole job, including gym., bath, and sanitary fittings, such as lighting, cooking, and heating, at what figure would you advise me to calculate per foot cube? I do not know what public baths cube at, but I should imagine that it would be about the same price as this building."

In the absence of drawings and details of the site it is difficult to give, with any degree of accuracy, costs for any building.

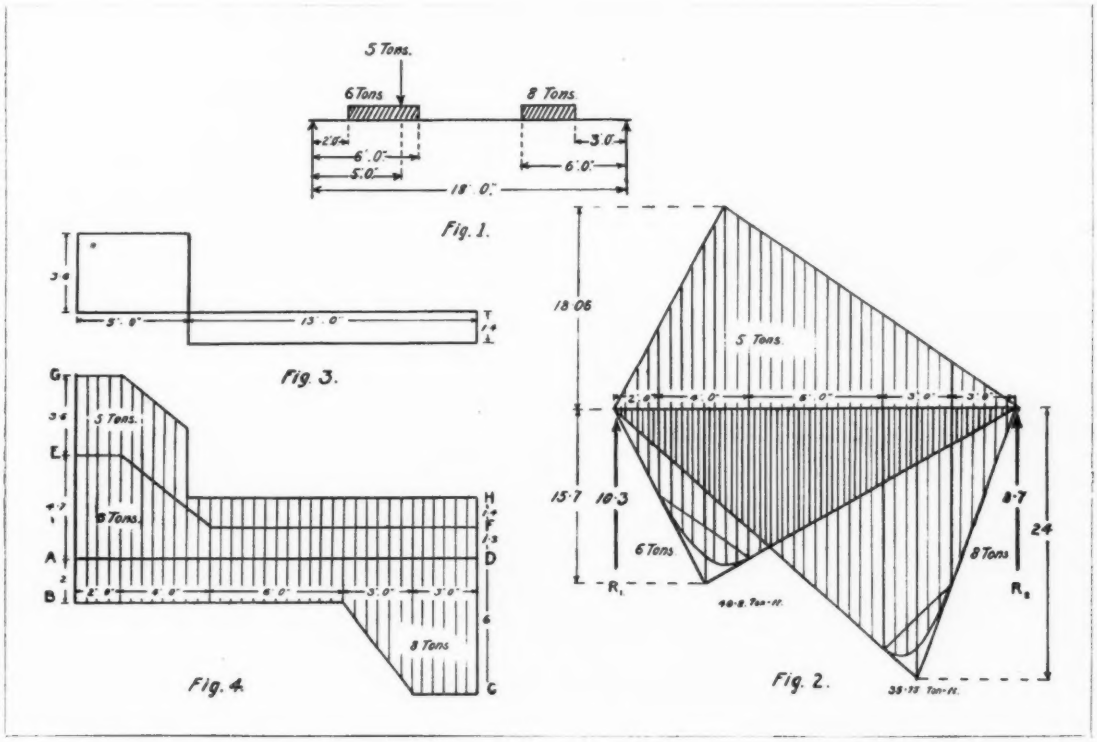
From the details in the query, however, the cost of the building based on similar work recently executed would probably work out at 1s. 6d. per foot cube, inclusive.

With regard to the comparative costs it is found these vary with every tender received as between brickwork and concrete. As a general rule, however, a building, whether executed as 1 or 3, costs approximately the same. If of comparatively simple design the cost of 2 may work out 15 per cent. less than 1 or 3.

ROAD RAISING

A. B. writes: "I am living in a house which has been built some two years, the plans of which were lodged and approved by the local authority. The house is set back some 75 ft. from the road, with entrance gates 9 ft. wide, and carriage-way. The level of carriage-way at entrance gates was taken off the existing road level. The local authorities are now engaged on relaying and improving the road, and purpose raising the level of the road at my gate some 14 in., with the result that the carriage-way will have to be relaid and graded with a fall of 14 in. in its length. In addition, the general level of ground will now be 14 in. under the footpath level. At the time the plans were lodged no notice was given of any intention to raise the road level. What redress should I seek in this matter? The raising of the road level, I contend, will depreciate my property."

There is no remedy for such a grievance. The local sanitary authority has ample powers to warrant its action in raising the level of the roadway, provided that by so doing it does not render ingress or egress from the complainant's property impossible. I advise an agreement with



Size of rolled steel joist [see answer to V. R.].

it if possible. The passing of the plans (even so recently) has no bearing on the matter in question.

F. S. I.

STAINING PLYWOOD BLUE

Stain writes: "I have some Oregon plywood work which I wish to stain blue. Can you suggest any reliable and cheap method of obtaining this result?"

If a bright blue is required it can be applied in the form of a water-stain to be fixed when thoroughly dry by means of a coat of wax polish or shellac polish. An even more lasting fixing coat may be produced with a reliable waterproof boat varnish. Water-stain has the property of darkening and colouring the soft grain of the wood and leaving the hard grain more or less conspicuously yellow. If this effect is considered objectionable, a chemical process may be adopted if the tint required falls within the range of the material. Tints between silver-grey and purple-black are obtainable with the hard grain dark and soft grain in approximately the natural proportion. An account of this method is given in *Specification*. The sample tints produced by the makers of well-known stains, may include a colour blue enough for the purpose. It may also be placed in chromic acid 10 per cent. (till golden-brown colour), then take out and place in dil sulphuric acid, 1 to 2, and leave till it turns sea-green colour.

ROOFING COTTAGES

V. writes: "1: Should any special points be kept in view in supervising the roofing of a block of cottages in S. Devon with reed thatch? The work will be done by a competent local man. 2: I wish to collect as much rain-water as possible from the roof and am providing iron gutters. Can you give me a detail of the eaves? 3: Can you suggest a fireproofing process, and should this be applied before or after the reeds are fixed?"

To begin with the third part of the question. No fireproofing process has yet been devised which does not become less effective in the course of a few years and need renewal. To be as effective as possible when first applied, the fireproofing solution must be in intimate contact with the thatching material, which must be steeped in it before fixing. These considerations make it difficult and costly to maintain thatch in a fireproof condition.

2: If it is intended to collect all the rain-water that falls upon the roof, a less pervious material than thatch would be suitable. Rain falling upon thatch soaks into its upper layers and does not begin to run down towards the eaves in perceptible quantities, except in particularly heavy storms, or after the rain has continued for a fairly long period. The rain-soaked thatch gets rid of its moisture content by evaporation on the next fine, warm day, so very little water would find its way into the gutters. The little that could be collected might be unfitted for many purposes by being contaminated with traces of the fire-proofing solution, or by dirt washed out of the interstices of the reeds.

A great part of the beauty of the thatched roof resides in the appearance of the solid edge exposed at the eaves, and to obscure this solid edge with a gutter would introduce a discordant utilitarian element foreign to the tradition of the material. If gutters must be used, wide ones will be necessary to catch the diffused dripping from the upper layers of the thatch. The soffit of the eaves might be trimmed to slope downwards towards the outside, and the gutters may be supported on large gallows brackets to give the necessary projection. If some adjustment can be allowed for in the positions of the gutters efficiency will be promoted, as thatch shrinks in process of time, and the water will be delivered at a different distance from the wall face as the thatch grows older.

1: In the main it becomes necessary to trust the expert. The best safeguard is to inspect some former example of his work and insist that its standard is maintained in every particular. Where any new feature is introduced, a loophole is given for the excuse that the roof has not proved a success because the architect has interfered with the "proper" way of doing things. Bearing in mind that thatch shrinks, keep the original thickness at a foot or more in every part, and provide a good pitch of not less than 45 deg., or any steeper pitch that has been used in old cottages near the site, to harmonize new with old. The closeness of the packing is of very great importance, and as both labour and material are saved by attention to this part of the work, it is necessary to supervise carefully after making the experiment of handling a well-thatched roof until its solidarity becomes familiar to sight and touch. Other details of local method must also be learned by inspection and experience of existing work.

REMOVAL OF SOOT

T. writes: "I would be glad to hear of a means whereby the excessive amount of soot that accumulates in a vent from a fire consisting principally of logs could be removed, otherwise than by constant sweeping. I think I have read somewhere of a chemical substance being used for this purpose."

The "Imp" chimney cleaner can be procured at most oilshops, and may be used between the times when the chimney is swept in the ordinary way. It is absolutely essential that the directions on the packet should be followed implicitly. Merely burning an "Imp" on a dull, open fire will deposit a chemical film on top of the soot in the chimney, which will effectually seal it to the sides of the flue. The "Imp" must only be added to a fire that is already glowing and clear, and which can be kept in this state by means of an iron blower which fits over the whole of the space between the firebox and the top and sides of the fireplace opening. A roaring fire must be kept up all the while the "Imp" is being consumed, by removing the blower for a moment at a time to insert fuel and then replacing it. Another way of cleaning a chimney is to stuff it with newspapers and set it on fire! Many country folk take this risky course habitually, though it is hardly to be recommended, even where houses are widely distant from one another; it leads to the police court if practised in towns. The "Imp" is not supposed to act by setting the chimney on fire, but the glow from the fierce fire which is necessary for its adequate action sometimes shows up on a dark night and causes alarm in the neighbourhood. These methods of cleaning chimneys should only be resorted to when every part of the flue is sound and accessible. Wet sacks placed over the top of a chimney will generally put out a fire if the brickwork should have grown dangerously hot, and they should be at hand before the burning-out operations are commenced.

W. H.

CONCRETE DRAIN PIPES

F. J. writes: "Have reinforced concrete drain pipes been used for carrying sewage exclusively, as separate from storm water? Has the action of soapy water, etc., and, perhaps, a small quantity of acids, been noted to have any deleterious effects on the concrete surfaces? The particular case in question is a large factory where it may safely be assumed that the destroying agents would be greatly diluted. The calculated peak loads are 672 gals. per minute waste from wash-basins, plus 200 gals. per minute waste from w.c.'s and urinals. The lower lengths of the drain may ultimately be called upon to receive three times that load."

Reinforced concrete pipes have been used as sewers, and have been found to wear reasonably well in practice. The erosion is very variable in different examples composed of different materials and brought up to a smooth interior surface in different ways. On the average it has been stated that erosion in a reinforced concrete sewer takes place at the rate of six units worn away in comparison to four units worn away from a hard stoneware invert. In both cases a certain amount of leakage has to be expected, but the leakage is highly irregular, and does not necessarily increase in proportion to increased pressure and velocity of the liquids in the sewer. Concrete sewers are supposed to be able to withstand ordinary dilute sewage at velocities up to 15 to 20 ft. per second. In some cases a compromise has been made, and fireclay or paving brick inverts have been cast in position in the interiors of concrete sewers. It is essential that the reinforcement should be well protected both externally and internally, and it is no economy to install anything but the best class of hard concrete pipe. In view of the tendency to more rapid erosion, large pipes and moderate gradients should be schemed for, and a personal inspection of some existing concrete sewer is distinctly advisable.

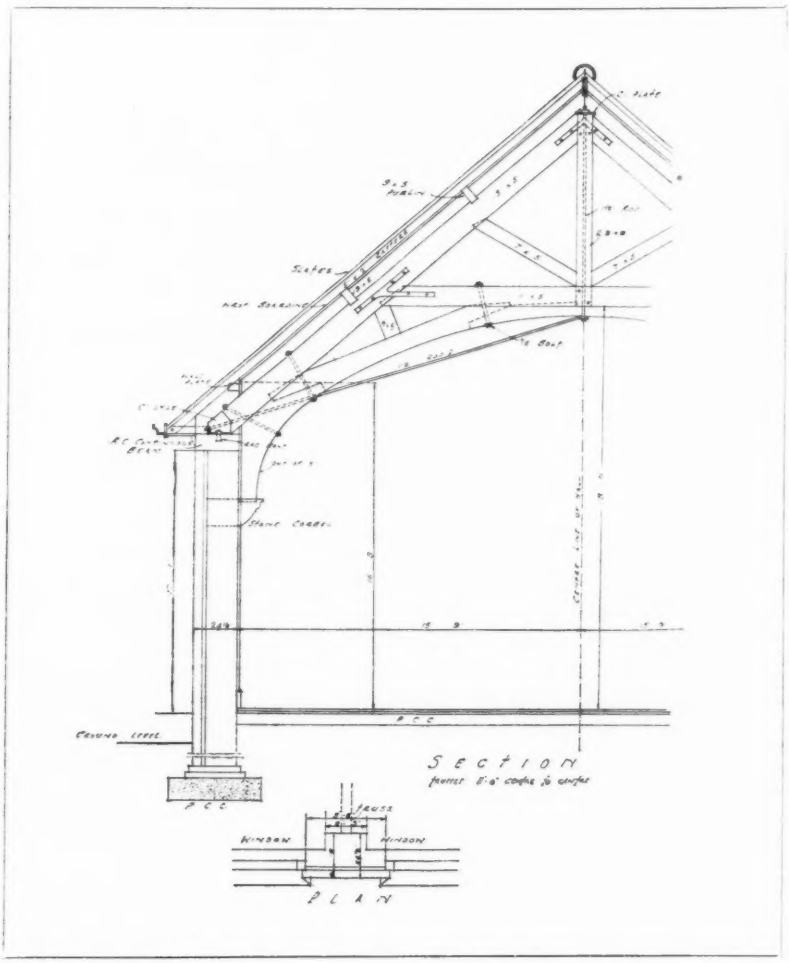
A SCISSORS TRUSS

V. writes: "*The accompanying drawing is of a proposed roof truss to be built of pine. The span is 31 ft. 6 in., and the height to the ridge from the floor approximately 29 ft. 6 in. Will the truss be strong enough, and will the walls be thick enough to withstand the thrust from such a truss?*"

The roof, as drawn, would be liable to alter perceptibly in shape, first under the application of its load of rafters, roof covering, wind, and snow; and afterwards under the action of these forces as and when the continued shrinkage of the timber permits of further distortion. The first movement can be provided against by fixing only one foot of each truss on the windward side of the roof and allowing the other foot to spread out on rollers, or by artificially spreading the feet apart by means of screws or jacks to a calculated deflection. The second long-continued distortion due to adjustment and shrinkage cannot be provided against so easily, and in process of time the supporting walls will be pushed out of the vertical unless they are buttressed in a substantial manner. Alternatively, the wall tops might be converted into reinforced concrete beams from gable to gable, as indicated by the note on the drawing. For these beams to be effective they must be designed to have sufficient strength and stiffness to receive and transmit the concentrated loads applied by the thrusts of the trusses to anchor holds or tension members in the gables, and the length of the wall and the number of trusses affect the calculation.

A far simpler way to make a strong roof would be to run the steel tie-bars horizontally straight across the span and avoid the spreading, straddling action that is inseparable from trusses of scissor type. In making a decision on this point it is well to remember that the initial deflection of a scissors truss is not its final deflection, which depends upon such incalculable elements as shrinkage and casting of the timber. The superior strength and rigidity imparted by the addition of horizontal tie-bars at the springing is most readily recognized by making a model of the scissors truss and seeing how springy it is, and then adding a straight tie-bar.

W. H.



A scissors truss [*see answer to V.*].

LIMEWHITE ON FLETTON BRICKS

J. writes: "*Please give me a good recipe for limewhite upon brickwork executed with Fletton bricks.*"

Fletton bricks are rather bad subjects for limewhiting, as their smooth surface affords little grip to the solid coat of pigment when it is dry. The brickwork should have been built at least a year before the attempt is made to limewhite it, in order that any soluble salts in the bricks and mortar may be given a chance to effloresce and be washed away. If any such salts still remain in the work they will push the pigment off as they come to the surface after rain. Experiments with different limewashes and washable distempers show that a good washable distemper applied in accordance with the manufacturer's instructions generally outlasts several coats of limewhite, though both need periodical renewal.

The secret of successful limewhiting is to use the wash very thin and to brush it in with vigour, not merely to splash it lightly over the surface. It is essential that the lime should be fresh and fiery well-burnt lump lime. For light stone colour Wakeley lime has been recommended; fat chalk limes give a colder, whiter tone. A lump of dry lime of about 2 lb. weight is placed in a three-gallon iron pail with a ¼ lb. of crushed common salt. Three quarts of boiling water are then added, and, if the lime is good, the mixture will boil furiously and will thoroughly stir itself and break down lumps of lime.

If the boiling action does not take place, the lime is unfit for use and should be thrown away. If the boiling action is satisfactory, the pail should be filled with boiling water to make the wash up to twelve quarts, or till the limewash is thin as skimmed milk. It should not be opaque or creamy. The surface to be whitened should be thoroughly brushed clean, and should be dry before the lime is brushed on to it. An ordinary whitewash brush may be used provided the wash is driven well into the surface. The salt is sometimes omitted, or is replaced with tallow or vaseline; it is still somewhat doubtful whether these ingredients are really important, and further experiment is to be welcomed.

W. H.

WAGES FOR STEEPLEJACKS

E. D. writes: "*What are the rates of wages for steeplejacks and steeplejacks' labourers in a Grade A town? I have been quoted 4s. an hour and 2s. 9d. an hour respectively. This appears to me to be excessive.*"

There does not seem to be any flat rate per hour, the wages varying in accordance with the difficulties and risks of the work. The labourer attending does not usually climb, but hoists the material from the ground. The average rate of wages for steeplejacks in London is 5s. per hour, and the labourers attending get 1d. per hour over the ordinary building rate. Generally all work of this type is executed on a lump sum contract basis.

THE WEEK'S BUILDING NEWS

Plans passed at PURLEY: Two houses, Brancaster Lane, for Gridrah Estates, Ltd.; four houses, Beverley Road, Kenley, for Messrs. O'Sullivan, Ltd.; seven houses, Verulam Avenue, Purley, for Mr. A. T. Bate; five houses and garages, Riddlesdown Road, for Mr. Chas. Lewin; six houses, Riddlesdown Road, for Mr. C. Lewin; house, Hartley Old Road, Purley, for Mr. P. J. Reed.

*

Plan passed at SELSDON (Surrey): Twenty-six houses, Littleheath Road and Brent Road, for Messrs. R. Costain and Sons.

*

The GLASGOW Corporation Health Committee has passed plans prepared by the city engineer for the erection of a new observation ward at Belvedere Hospital, to accommodate thirty-two patients, at an estimated cost of £14,600.

*

The Corporation Tramways Committee has decided to provide a garage to accommodate 100 buses in Butterbiggins Road, GLASGOW, at an estimated cost of £35,000.

*

The ACTON Corporation has prepared a scheme for the construction of a new road from Victoria Road to Acton Lane. The total cost is estimated at £21,631, of which the B.C. will have to defray £12,009. This figure is exclusive of the cost of widening the bridge over the Great Western Railway, which is not at present arranged for. The new road will by-pass the existing Willesden Lane in Acton, and Acton Lane in Willesden (the latter being a subsidized road), and will open up a considerable area of undeveloped land.

*

Plans passed by the CHORLEY Corporation: Fifty-one houses, Granville Road, Marlborough Street, and St. Peter's Street, for the Corporation; bungalow, Coppull Road, for Mr. Wm. Scott; residence, Preston Road, for Lady Hibbert; bus station, for Ribble Motor Services, Ltd.; pavilion, off Beechwood Road, for the Beechwood Tennis Club; additions to leather works, Fellery Street, for Messrs. T. Brimley & Co.

*

The CHORLEY Corporation is suggesting an alternative site to the Office of Works for the erection of an employment exchange.

*

The BIRMINGHAM Education Committee is proceeding with the modernization of the Tilton Road Council School at a cost of £15,000.

*

The BIRMINGHAM Education Committee is purchasing a larger site for the erection of an elementary school in Severn Street.

*

The BIRMINGHAM Education Committee is acquiring land at Handsworth for the erection of a special school.

The BIRMINGHAM Education Committee is obtaining compulsory powers for the acquisition of land near Burney Lane for the erection of a secondary school.

*

The BIRMINGHAM Education Committee has decided to provide an elementary school at Yardley Wood at an estimated cost of £20,400.

*

Mr. F. H. Crabbe has acquired from the BIRMINGHAM Corporation a building lease of 3¾ acres at the corner of Shirley Road and Olton Boulevard.

*

Plans passed by the CHELTENHAM Corporation: Dressing-room, Irving Academy, Sandford Lawn, Bath Road, for Madame E. Irving; showroom, lock-ups, and workshops, Lansdown Road, for Mr. O. H. Goulding; skittle alley, The Midland Hotel, Gloucester Road, for Original Brewery Co.; houses, Badgeworth Road, for Mr. W. Drew.

*

Plans passed by SMETHWICK Corporation: Twelve houses, Woodlands Road, Warley, for Messrs. W. C. Stevens, Ltd.; six houses, Silverton Road, Smethwick, for Messrs. W. Lees and Sons; eight houses, Marion Road, for Messrs. Strong Bros.; six houses, Hugh Road, for Messrs. Lloyd Bros.; four houses, Woodlands Road, for Mr. F. V. Arter; additions to mineral water works, Halfords Street, for Messrs. Cresswell and Son.

*

Plans passed by DUDLEY Corporation: House, Himley Avenue, for Mr. James Smith; alterations, "The Pack Horse," Netherton, for Wolverhampton and Dudley Breweries, Ltd.; shop, Walker Street, for Mr. W. J. Hampton; extensions to bakery, King Street, Netherton, for Messrs. Round Bros.; office, Church Street, for the Eclipse Foundry; conversion of Bush Hotel into bank premises, High Street, for Barclays Bank, Ltd.; bungalow, New Rowley Road, for Mr. S. Oakley.

*

Plans passed by the HARWICH Corporation: House, Highfield Avenue, Dovercourt, for Mr. A. Middleton; two houses, Lime Avenue, Dovercourt, for Messrs. Fisher and Woods; house, Highfield Avenue, Dovercourt, for Mr. Storey; garage and store, Royal Hotel, Dovercourt, for Messrs. Cobbold & Co.; alterations to shop, High Street, Dovercourt, for Mr. S. E. Dowdy; alterations to shop, 75 High Street, Dovercourt, for Maypole Dairy Co.; house, Highfield Avenue, Dovercourt, for Mr. Marshall; house, Highfield Avenue, Dovercourt, for Messrs. Fisher and Woods.

*

The PLYMOUTH Corporation has obtained sanction to borrow £100,000 for further housing advances.

Plans passed by the NORTHAMPTON Corporation: Four houses, Forfar Street, for Messrs. S. G. Sale & Co.; two houses, The Drive, for Messrs. A. Glenn and Sons, Ltd.; two houses, Chestnut Road, for Mr. Jordans; seven garages, South Street, for Mr. Shrewsbury; two houses, Ardington Road, for Mr. W. C. Throssell; warehouse, The Riding, for Slade's Stores; two houses, Christchurch Road, for Messrs. Stafford and Agutter; two shops, and reconstruction of offices, 65 Abington Street, for Messrs. J. Ball and Sons; two houses, Kettering Road, for Mr. C. H. Rainbow; rebuilding, "The Red House," Weedon Road, for Mr. P. Phipps & Co., Ltd.; additional wards, conveniences, etc., Kettering Road, for the Northampton and County Nursing Home, Ltd.; two houses, The Drive, for Messrs. Walker and Perrett; abattoirs off Ransome Road, for Co-operative Wholesale Society, Ltd.; two houses, St. George's Avenue, for Messrs. A. P. Hawtin and Sons, Ltd.; steward's house and games room, Main Road, for Far Cotton W.M.C.; alterations and additions, Green Tree Inn, The Green, for Messrs. P. Phipps and Co., Ltd.; bakehouse and additions, 44 and 46 (The Tavern) Upper Harding Street, for Messrs. P. Phipps & Co., Ltd.

*

Messrs. C. F. Cole, Ltd., of Ealing Road, Alperton, are developing an estate at St. Andrew's Avenue, SUDBURY.

*

The Middlesex Education Committee has obtained sanction to borrow £14,000 for the erection of a new department at the EDGWARE Council School.

*

Plans passed by the COULSDON U.D.C.: Two houses, St. Andrew's Road, for Mr. H. J. Salter; two houses, Bramley Avenue, for Messrs. H. Hemmings, Ltd.; two houses, Coulsdon Rise, for Mr. T. Barden; four houses, Warwick Road, for Messrs. Chester and Hopkins; shop, The Avenue, for the County of London Electric Supply Co.; two houses, Woodcote Grove Road, for Mrs. Chapman; eight houses, Portnalls Rise, for Mr. A. H. Jones; three houses, Court Avenue, for the Coulsdon Heights Estate Co.

*

The MANCHESTER Corporation Health Committee is to purchase land at the corner of Oxford Road and Denmark Road and erect a tuberculosis dispensary and offices at a cost of £24,000.

*

The churchwardens of St. Stephen's are to erect a memorial hall in Stanley Street, DEVONPORT.

*

Mr. G. Coles has prepared a scheme for the development of the site of 57-59 Stamford Hill, HACKNEY, provision being made for a street surrounding the site, with intersecting streets.

The WAKEFIELD Corporation has authorized the city surveyor to submit sketch plans of the proposed maternity hospital on the Clayton Hospital site to the Ministry of Health, with a view to ascertaining whether such plans conform to the regulations of the Ministry.

*

The WAKEFIELD Corporation has decided to support a draft scheme for the constitution of a joint board comprising the county boroughs of Barnsley, Dewsbury, Halifax, Huddersfield, Rotherham, and Wakefield for the purpose of providing institutional accommodation for mental defectives.

*

Plans passed by the WAKEFIELD Corporation: Alterations, Black Rock Hotel, Cross Square, for the Leeds and Wakefield Breweries, Ltd.; house, Thornes Road, for Mr. H. Dobson; petrol depot, Calder Vale Road, for The Medway Oil and Storage Co., Ltd.; milk store, Horbury Road, for Mr. W. Sugars; additions to chapel, Wesley Street, for the trustees of the Wakefield Wesleyan Church; seven garages, Wentworth Street, for Mr. J. P. McLeod.

*

The Surrey County Council has now decided upon the erection of a reception hospital at BROOKWOOD. Sketch plans, allowing for a site for a medical officer's house, have now been prepared and forwarded to the Board of Control for provisional approval. The accommodation to be provided is for eighty-eight patients, forty males and forty-eight females, roughly in proportion to the average admissions of each sex for the past few years. The cost is estimated at £64,954.

*

Plans passed by the BEXHILL Corporation: Four houses, Collington Avenue, for Mr. J. E. Maynard; two cottages, Watermill Lane, for Mr. J. E. Maynard; four cottages, Eastwood Road, for Mr. F. Wood; business premises, Devonshire Road, for Barclays Bank, Ltd.

*

Plans passed by the PRESTWICH U.D.C.: Alterations to shops, 445 and 447 Bury New Road, for Messrs. Johnson Bros., Ltd.; house, Danesway, Bury Old Road, for Messrs. Ambler and Waite; two houses, Park Road, for Misses Fenton and Thistleton; alterations, 243, 245, and 247 Bury Old Road, for executors of late Mr. J. Whitehead; two houses, Bland Road, Hilton estate, for Messrs. Richardson and Sons.

*

The BEXHILL Corporation has requested the borough surveyor to obtain tenders for the Polegrove pavilion and the promenade wall round Colonnade Deck.

*

The BRIGHTON Education Committee has passed plans for alterations at Sussex Street School to provide accommodation for 248 infants.

The borough engineer of BEXHILL has prepared plans for the construction of fifty non-parlour houses on the Burnt House Farm site at Sidley as an extension of Buxton Drive. It is proposed to erect twenty-six semi-detached dwellings with three bedrooms, and twenty-four dwellings in blocks of four with two bedrooms. The surveyor estimated the cost of each type as £449 and £393 respectively. Tenders are to be obtained.

*

The BRIGHTON Corporation is to borrow £60,000 for the acquisition of further properties for widenings in Western Road, North Street, Old Steine, etc.

*

The executors of Joseph Robinson have prepared plans for the development of the Ingleside building estate, TYNEMOUTH.

*

The BRIGHTON Corporation has instructed Mr. W. H. Overton to prepare plans for new buildings at the power station.

*

The Heaton Park Cinema, Ltd., has submitted to the PRESTWICH U.D.C. plans for the erection of a cinema, dance hall, and shops at Bury Old Road.

*

The trustees of the Church of St. John the Evangelist are to erect a memorial hall in Richmond Hill, BRIGHTON.

*

The LEAMINGTON Corporation has obtained sanction for a loan of £26,000 for the erection of sixty-two houses on the Rusholme Farm estate.

*

Plans passed by the TYNEMOUTH Corporation: Four houses, Houghton Avenue, for Messrs. F. R. N. Haswell and Son; alterations to offices, Union Quay, for Messrs. Hays and Gray; shops and flats, Chirton Green estate, for Messrs. Chisholm & Co.; store, Edwina Gardens, North Shields, for Mr. F. Holmes; two houses, Chirton Green, for Messrs. F. R. N. Haswell and Son; three houses, Chirton Green estate, for Messrs. F. R. N. Haswell and Son; slaughter house, Queen Street, for Mr. J. R. Wallace.

*

Plans passed by the CROYDON Corporation: Thirty-five houses, Grange Road, for Messrs. Scratchley Bros.; three houses, Stafford Road, for Mr. W. Aston; machine shop, Purley Way, for Messrs. Grace and Marsh; sixteen houses, 3-35 Valley Walk, for Messrs. Paish, Tyler and Crump; six houses, Hatch Road, for Messrs. Truett and Steel; fifty-eight houses, Goldwell Road, Grove Road, and Bedford Avenue, for Mr. A. Duckit.

*

The MANCHESTER Corporation recommends the expenditure of £19,500 on the extension of the City Exhibition Hall and covering of land in Woollam Place and Liverpool Road for a miscellaneous market.

The Surrey County Council has now adopted the scheme prepared by Mr. E. Vincent Harris for the extension of the County Hall at KINGSTON at an estimated inclusive cost of £103,500, and authorized the County Hall Extension Joint Committee to take all necessary steps to carry the scheme through to completion. The new scheme has involved substantial alterations in the originally prepared scheme, with a new design incorporating the centre block of the previous one.

*

Messrs. Simpson Bros., Ltd., are in negotiation with the PENZANCE Corporation for a lease of the carcase market premises. They propose to alter existing building and erect a shop, salerooms, workrooms, and stores on the Market Place frontage in connection with their present business as tailors and outfitters.

*

The SWANSEA Education Committee is to select a site on the Mayhill housing estate for the erection of an elementary school.

*

Plans passed by the STOKE-ON-TRENT Corporation: Pavilion, Daintry Street, for Oakhill Bowling Club; twenty garages William Street, for Mr. Brayford; nine bungalows, Park Road, Fenton, for Messrs. Cooper & Co.; six houses, Etruria Vale, for Mr. A. Perry; ten houses, Harpfield Farm estate, for Mr. J. S. Palmer.

*

Plans passed at HANLEY: Additions, Upper Market Square, for Messrs. T. W. Woolworth & Co.; rebuilding Abbey Inn, Leek Road, for Messrs. S. Allsopp and Sons; extensions, Foundry Street, for Sentinel, Ltd.; two houses, Cauldon Road, for British Legion; four houses, Sneyd Street, for Messrs. J. G. Holloway & Co.; alterations, 7-11 Old Hall Street, for Dr. Kingsley Inman; extensions, Etruria Pottery, for Messrs. J. Wedgwood and Sons, Ltd.; alterations, 18 Piccadilly, for Messrs. H. E. Closs & Co.; additions, Bryan Street, for Variety Wafer Biscuit Co.; bottling stores, Shoulder of Mutton Inn, Sun Street, for Mr. W. Perry.

*

Plans passed at TUNSTALL: Two houses, Fegg Hayes Lane, for Mr. S. A. Forster; two houses, Chell Green, for Mr. W. Simcock; workshop, Fegg Hayes, for Mr. H. V. Smith; house, High Lane, for Rev. A. Wilkes.

*

Messrs. Cooper and Enderby are purchasing building sites from the GRIMSBY Corporation in Laceby Road.

*

The WARWICK Corporation is purchasing a site at Budbrook for a reservoir.

*

The STOKE-ON-TRENT Corporation is negotiating for housing sites in Stoke, Trent Vale, and Fenton.

RATES OF WAGES

			I	II
			s. d.	s. d.
A	ABERDARE	S. Wales & M.	1 7½	1 2¼
A₁	Abergavenny	S. Wales & M.	1 7	1 2¼
B	Abingdon ..	S. Counties	1 5½	1 1½
A	Accrington	N.W. Counties	1 7½	1 2¾
A₂	Addlestone	S. Counties	1 6	1 1½
A	Adlington ..	N.W. Counties	1 7½	1 2¾
A	Airdrie ..	Scotland	*1 7½	1 2¾
O₂	Aldeburgh	E. Counties	1 3	11½
A	Altrincham	N.W. Counties	1 7½	1 2¾
B₂	Appleby ..	N.W. Counties	1 4	1 0
A	Ashton-under-Lyne	N.W. Counties	1 7½	1 2¾
A₂	Atherstone	Mid. Counties	1 6	1 1½
B₂	Aylesbury ..	S. Counties	1 4	1 0
B₂	BANBURY	S. Counties	1 4	1 0
B₂	Bangor ..	N.W. Counties	1 4½	1 0½
A	Barnard Castle	N.E. Coast	1 7½	1 2¾
A	Barnsley ..	Yorkshire	1 7½	1 2¾
B₁	Barnstaple	S.W. Counties	1 5	1 0¾
A	Barrow ..	N.W. Counties	1 7½	1 2¾
A	Barry ..	S. Wales & M.	1 7½	1 2¾
B₂	Basingstoke	S.W. Counties	1 4	1 0
B	Bath ..	S.W. Counties	1 5½	1 1½
A	Batley ..	Yorkshire	1 7½	1 2¾
B	Bedford ..	E. Counties	1 5½	1 1½
A₂	Berwick-on-Tweed	N.E. Coast	1 6½	1 2
A₂	Bewdley ..	Mid. Counties	1 6½	1 2
B₂	Bicester ..	Mid. Counties	1 4	1 0
A	Birkenhead	N.W. Counties	*1 7½	1 2¾
A	Birmingham	Mid. Counties	1 7½	1 2¾
A	Bishop Auckland	N.E. Coast	1 7½	1 2¾
A	Blackburn	N.W. Counties	1 7½	1 2¾
A	Blackpool	N.W. Counties	1 7½	1 2¾
A	Blyth ..	N.E. Coast	1 7½	1 2¾
B₂	Bognor ..	S. Counties	1 4	1 0
A	Bolton ..	N.W. Counties	1 7½	1 2¾
A₂	Boston ..	Mid. Counties	1 6	1 1½
B₁	Bournemouth	S. Counties	1 5	1 0¾
B₂	Bovey Tracey	S.W. Counties	1 4½	1 0½
A	Bradford ..	Yorkshire	1 7½	1 2¾
A₂	Brentwood	E. Counties	1 6½	1 2
A	Bridgend ..	S. Wales & M.	1 7½	1 2¾
B₂	Bridgwater	S.W. Counties	1 4½	1 0½
A₁	Bridlington	Yorkshire	1 7	1 2¼
A	Brighouse	Yorkshire	1 7½	1 2¾
B₁	Brighton ..	S. Counties	1 5	1 0¾
A	Bristol ..	S.W. Counties	1 7½	1 2¾
B₂	Brixham ..	S.W. Counties	1 4	1 0
A₂	Bromsgrove	Mid. Counties	1 6½	1 2
C	Bromyard ..	Mid. Counties	1 3½	11½
A	Burnley ..	N.W. Counties	1 7½	1 2¾
A	Burslem ..	Mid. Counties	1 7½	1 2¾
A₂	Burton-on-Trent	Mid. Counties	1 6½	1 2
A	Bury ..	N.W. Counties	1 7½	1 2¾
A₁	Buxton ..	N.W. Counties	1 7	1 2¼
B	CAMBRIDGE	E. Counties	1 5½	1 1½
B₂	Canterbury	S. Counties	1 4	1 0
A	Cardiff ..	S. Wales & M.	1 7½	1 2¾
A	Carlisle ..	N.W. Counties	1 7½	1 2¾
B	Carmarthen	S. Wales & M.	1 5½	1 1½
B₂	Carnarvon	N.W. Counties	1 4½	1 0½
A₁	Carnforth ..	N.W. Counties	1 7	1 2¼
A	Castleford	Yorkshire	1 7½	1 2¾
B₁	Chatham ..	S. Counties	1 5	1 0¾
B₁	Chelmsford	E. Counties	1 5	1 0¾
A₂	Cheltenham	S.W. Counties	1 6	1 1½
A	Chester ..	N.W. Counties	1 7½	1 2¾
A	Chesterfield	Mid. Counties	*1 7½	1 2¾
B₂	Chichester	S. Counties	1 4	1 0
A	Chorley ..	N.W. Counties	1 7½	1 2¾
B₂	Cirencester	S. Counties	1 4½	1 0½
A	Clitheroe ..	N.W. Counties	1 7½	1 2¾
A	Clydebank	Scotland	1 7½	1 2¾
A	Coalville ..	Mid. Counties	1 7½	1 2¾
B₁	Colchester ..	E. Counties	1 5	1 0¾
A	Colne ..	N.W. Counties	1 7½	1 2¾
A₂	Colwyn Bay	N.W. Counties	1 6	1 1½
A	Consett ..	N.E. Coast	1 7½	1 2¾
A₂	Conway ..	N.W. Counties	1 6	1 1½
A	Coventry ..	Mid. Counties	1 7½	1 2¾
A₂	Crewe ..	N.W. Counties	1 6	1 1½
A₂	Cumberland	.....	1 6	1 1½
A	DARLINGTON	N.E. Coast	1 7½	1 2¾
A	Darwen ..	N.W. Counties	1 7½	1 2¾
B₂	Deal ..	S. Counties	1 4	1 0
A₂	Denbigh ..	N.W. Counties	1 6	1 1½
A	Derby ..	Mid. Counties	1 7½	1 2¾
A	Dewsbury ..	Yorkshire	1 7½	1 2¾
B	Didcot ..	S. Counties	1 5½	1 1½
A	Doncaster	Yorkshire	1 7½	1 2¾
C₁	Dorchester	S.W. Counties	1 3	11½
A₂	Driffield ..	Yorks	1 6	1 1½
A₂	Droitwich ..	Mid. Counties	1 6	1 1½
A₁	Dudley ..	Mid. Counties	1 7	1 2¼
A	Dundee ..	Scotland	1 7½	1 2¾
A	Durham ..	N.E. Coast	1 7½	1 2¾
B₁	EASTBOURNE	S. Counties	1 5	1 0¾
A	Ebbw Vale	S. Wales & M.	1 7½	1 2¾
A	Edinburgh	Scotland	1 7½	1 2¾
A	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 7½	1 2¾
B	Exeter ..	S.W. Counties	*1 5½	1 1½
B₂	Exmouth ..	S.W. Counties	1 4½	1 0½
B	FELIXSTOWE	E. Counties	1 5½	1 1½
A₂	Filey ..	Yorks	1 6	1 1½
A	Fleetwood ..	N.W. Counties	1 7½	1 2¾
B₂	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham ..	N.W. Counties	1 7½	1 2¾
B₂	Frome ..	S.W. Counties	1 4	1 0
A	GATESHEAD	N.E. Coast	1 7½	1 2¾
B₁	Gillingham	S. Counties	1 5	1 0¾
A₂	Gloucester	S.W. Counties	1 6	1 1½
A₂	Goole ..	Yorkshire	1 6½	1 2
B	Gosport ..	S. Counties	1 5½	1 1½
A₂	Grantham	Mid. Counties	1 6	1 1½
A₁	Gravesend	S. Counties	1 7	1 2¼
A	Greenock ..	Scotland	*1 7½	1 2¾
A	Grimsby ..	Yorkshire	1 7½	1 2¾
B₁	Guildford ..	S. Counties	1 5	1 0¾
A	HALIFAX ..	Yorkshire	1 7½	1 2¾
A	Hanley ..	Mid. Counties	1 7½	1 2¾
A	Harrogate	Yorkshire	1 7½	1 2¾
A	Hartlepools	N.E. Coast	1 7½	1 2¾
B₂	Harwich ..	E. Counties	1 4½	1 0½
B₂	Hastings ..	S. Counties	1 4	1 0
B₁	Hatfield ..	S. Counties	1 5	1 0¾
B	Hereford ..	S. W. Counties	1 5½	1 1½
B	Hertford ..	E. Counties	1 5½	1 1½
A₁	Heysham ..	N.W. Counties	1 7	1 2¼
A	Howden ..	N.E. Coast	1 7½	1 2¾
A	Huddersfield	Yorkshire	1 7½	1 2¾
A	Hull ..	Yorkshire	1 7½	1 2¾

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

			I	II
			s. d.	s. d.
A	ILKLEY ..	Yorkshire	1 7½	1 2¾
A	Immingham	Mid. Counties	1 7½	1 2¾
B	Ipswich ..	E. Counties	1 5½	1 1½
C₁	Isle of Wight	S. Counties	1 3	11½
A	JARROW ..	N.E. Coast	1 7½	1 2¾
A	KEIGHLEY	Yorkshire	1 7½	1 2¾
B₁	Kendal ..	N.W. Counties	1 5	1 0¾
B₁	Keswick ..	N.W. Counties	1 5	1 0¾
B	Kettering ..	Mid. Counties	1 5½	1 1½
A₂	Kidderminster	Mid. Counties	1 6½	1 2
B₂	King's Lynn	E. Counties	1 4½	1 0½
A	LANCASTER	N.W. Counties	1 7½	1 2¾
A₂	Leamington	Mid. Counties	1 6½	1 2
A	Leeds ..	Yorkshire	1 7½	1 2¾
A	Leek ..	Mid. Counties	1 7½	1 2¾
A	Leicester ..	Mid. Counties	1 7½	1 2¾
A	Leigh ..	N.W. Counties	1 7½	1 2¾
B₂	Lewes ..	S. Counties	1 4	1 0
A₂	Lichfield ..	Mid. Counties	1 6	1 1½
A	Lincoln ..	Mid. Counties	1 7½	1 2¾
A	Liverpool ..	N.W. Counties	*1 10	1 4½
A	Llandudno	N.W. Counties	1 6	1 1½
A	Llanelly ..	S. Wales & M.	1 7½	1 2¾
	London (12 miles radius)		1 9	1 4
	Do. (12-15 miles radius)		1 8½	1 3½
A	Long Eaton	Mid. Counties	1 7½	1 2¾
A	Loughborough	Mid. Counties	1 7½	1 2¾
B	Luton ..	E. Counties	1 5½	1 1½
A	Lytham ..	N.W. Counties	1 7½	1 2¾
A₁	MACCLESFIELD	N.W. Counties	1 7	1 2¼
B	Maidstone	S. Counties	1 5½	1 1½
A₂	Malvern ..	Mid. Counties	1 6	1 1½
A	Manchester	N.W. Counties	1 7½	1 2¾
A	Mansfield ..	Mid. Counties	1 7½	1 2¾
B₂	Margate ..	S. Counties	1 4	1 0
A₂	Matlock ..	Mid. Counties	1 6	1 1½
A	Merthyr ..	S. Wales & M.	1 7½	1 2¾
A	Middlesbrough	N.E. Coast	1 7½	1 2¾
A₂	Middlewich	N.W. Counties	1 6	1 1½
B₂	Minehead ..	S.W. Counties	1 4½	1 0½
A	Monmouth	S. Wales & M.	1 7½	1 2¾
A₁	S. and E. Glamorganshire Morecambe	N.W. Counties	1 7	1 2¼
A₂	NANTWICH	N.W. Counties	1 6	1 1½
A	Neath ..	S. Wales & M.	1 7½	1 2¾
A	Nelson ..	N.W. Counties	1 7½	1 2¾
A	Newcastle ..	N.E. Coast	1 7½	1 2¾
A	Newport ..	S. Wales & M.	1 7½	1 2¾
A	Normanton	Yorkshire	1 7½	1 2¾
A₂	Northampton	Mid. Counties	1 6½	1 2
A	North Staffs.	Mid. Counties	1 7½	1 2¾
A	North Shields	N.E. Coast	1 7½	1 2¾
A₂	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 7½	1 2¾
A	Nuneaton ..	Mid. Counties	1 7½	1 2¾
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W. Counties	1 7½	1 2¾
A₂	Oswestry ..	Mid. Counties	1 6	1 1½
B	Oxford ..	S. Counties	1 5½	1 1½
A	PAISLEY ..	Scotland	*1 7½	1 2¾
C	Pembroke	S. Wales & M.	1 3½	11½
A	Perth ..	Scotland	*1 7½	1 2¾
A₂	Peterborough	Mid. Counties	1 6	1 1½
A	Plymouth	S.W. Counties	*1 7½	1 2¾
A	Pontefract	Yorkshire	1 7½	1 2¾
A	Pontypridd	S. Wales & M.	1 7½	1 2¾
B	Portsmouth	S. Counties	1 5½	1 1½
A	Preston ..	N.W. Counties	1 7½	1 2¾
A	QUEENSFERRY	N.W. Counties	1 7½	1 2
B	READING ..	S. Counties	1 5½	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A₂	Retford ..	Mid. Counties	1 6	1 1½
A	Rhondda Valley	S. Wales & M.	1 7½	1 2¾
A₂	Ripon ..	Yorkshire	1 6	1 1½
A	Rochdale ..	N.W. Counties	1 7½	1 2¾
B	Rochester	S. Counties	1 5½	1 1½
A₁	Ruabon ..	N.W. Counties	1 7	1 2¼
A₂	Rugby ..	Mid. Counties	1 6½	1 2
A₂	Rugeley ..	Mid. Counties	1 6	1 1½
A	Runcorn ..	N.W. Counties	1 7½	1 2¾
A₂	ST. ALBANS	E. Counties	1 6	1 1½
A	St. Helens	N.W. Counties	1 7½	1 2¾
B₂	Salisbury	S.W. Counties	1 4	1 0
A₁	Scarborough	Yorkshire	1 7	1 2¼
A	Scunthorpe	Mid. Counties	1 7½	1 2¾
A	Sheffield ..	Yorkshire	1 7½	1 2¾
A	Shipley ..	Yorkshire	1 7½	1 2¾
A₂	Shrewsbury	Mid. Counties	1 6	1 1½
A₂	Skipton ..	Yorkshire	1 6½	1 2
B	Slough ..	S. Counties	1 5½	1 1½
A₂	Solihull ..	Mid. Counties	1 6½	1 2
A₂	South'pton	S. Counties	1 6	1 1½
B₁	Southend-on-Sea	E. Counties	1 5	1 0¾
A	Southport ..	N.W. Counties	1 7½	1 2¾
A	S. Shields ..	N.E. Coast	1 7½	1 2¾
A₂	Stafford ..	Mid. Counties	1 6½	1 2
A	Stockport ..	N.W. Counties	1 7½	1 2¾
A	Stockton-on-Tees	N.E. Coast	1 7½	1 2¾
A	Stoke-on-Trent	Mid. Counties	1 7½	1 2¾
B	Stroud ..	S.W. Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 7½	1 2¾
A	Swadlincote	Mid. Counties	1 7½	1 2¾
A	Swansea ..	S. Wales & M.	1 7½	1 2¾
B	Swindon ..	S.W. Counties	1 5½	1 1½
A₁	TAMWORTH	N.W. Counties	1 7	1 2¼
B₁	Taunton ..	S.W. Counties	1 5	1 0¾
A	Teeside Dist.	N.E. Counties	1 7½	1 2¾
B	Teignmouth	S.W. Coast	1 5½	1 1½
A	Todmorden	Yorkshire	1 7½	1 2¾
A₂	Torquay ..	S.W. Counties	1 6½	1 2
C	Truro ..	S.W. Counties	1 3½	11½
B₁	Tunbridge Wells	S. Counties	1 5	1 0¾
A	Tunstall ..	Mid. Counties	1 7½	1 2¾
A	Tyne District	N.E. Coast	1 7½	1 2¾
A	WAKEFIELD	Yorkshire	1 7½	1 2¾
A₁	Walsall ..	Mid. Counties	1 7	1 2¼
A	Warrington	N.W. Counties	1 7½	1 2¾
A₂	Warwick ..	Mid. Counties	1 6½	1 2
B	Wellingborough	Mid. Counties	1 5½	1 1½
A	West Bromwich	Mid. Counties	1 7½	1 2¾
B	Weston-s-Mare	S.W. Counties	1 5½	1 1½
A₂	Whitby ..	Yorkshire	1 6½	1 2
A	Widnes ..	N.W. Counties	1 7½	1 2¾
A	Wigan ..	N.W. Counties	1 7½	1 2¾
B₂	Winchester	S. Counties	1 4½	1 0½
B	Windsor ..	S. Counties	1 5½	1 1½
A	Wolverhampton	Mid. Counties	1 7½	1 2¾
A₂	Worcester ..	Mid. Counties	1 6	1 1½
A₂	Worksop ..	Yorkshire	1 6	1 1½
A₁	Wrexham ..	N.W. Counties	1 7	1 2¼
B	Wycombe ..	S. Counties	1 5½	1 1½
B₁	YARMOUTH	E. Counties	1 5	1 0¾
B₂	Yeovil ..	S.W. Counties	1 4½	1 0½
A	York ..	Yorkshire	1 7½	1 2

* 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. 4½d. *per hour*; LABOURER, 1s. 4½d. *per hour*; NAVVY, 1s. 4½d. *per hour*; TIMBERMAN, 1s. 6d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

Broken brick or stone, 2 in., per yd.	£0 11 6
Thames ballast, per yd.	0 11 0
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. 0 3 0

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. £0 1 6

SPREAD and level, including wheeling, per yd. 0 1 6

FILLING into carts and carting away to a shoot or deposit, per yd. cube 0 10 6

TRIMMING earth to slopes, per yd. sup. 0 0 6

HACKING up old grano. or similar paving, per yd. sup. 0 1 3

PLANKING to excavations, per ft. sup. 0 0 5

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 0 2 0

HARDCORE, 2 in. ring, filled and rammed, 4 in. thick, per yd. sup. 0 2 1

DO. 6 in. thick, per yd. sup. 0 2 10

PUDDLING, per yd. cube 1 10 0

CEMENT CONCRETE, 4-2-1, per yd. cube 2 3 0

DO. 6-2-1, per yd. cube 1 18 0

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 £1 16 0

BREEZE CONCRETE, per yd. cube 1 7 0

DO. in lintels, etc., per ft. cube 0 1 6

CEMENT concrete 4 2–1 in lintels packed around reinforcement, per ft. cube 0 3 9

FINE concrete benching to bottom of manholes, per ft. cube 0 2 6

FINISHING surface of concrete spade face, per yd. sup. 0 0 9

DRAINER

LABOURER, 1s. 4½d. *per hour*; TIMBERMAN, 1s. 6d. *per hour*; BRICKLAYER, 1s. 9½d. *per hour*; PLUMBER, 1s. 9½d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

Stoneware pipes, tested quality, 4 in., per ft.	£0 0 10
DO. *6 in., per ft.*	0 1 3
DO. *9 in., per ft.*	0 2 3
Cast-iron pipes, coated, 9 ft. lengths, 4 in., per yd.	0 5 6
DO. *6 in., per yd.*	0 8 6
Portland cement and sand, see "Excavator" above.	
Leadwool per cwt.	£2 0 0
Gaskin, per lb.	0 0 4½

STONEWARE DRAINS, jointed in cement, tested pipes, 4 in., per ft. 0 4 3

DO. 6 in., per ft. 0 5 0

DO. 9 in., per ft. 0 7 9

CAST-IRON DRAINS, jointed in lead, 4 in., per ft. 0 8 0

DO. 6 in., per ft. 0 10 0

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. 9½d. *per hour*; LABOURER, 1s. 4½d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour.*

London stocks, per M.	£4 15 0
Flettons, per M.	3 0 0
Staffordshire blue, per M.	9 10 0
Firebricks, 2½ in., per M.	11 3 0
Glazed salt, white, and ivory stretchers, per M.	24 10 0
DO. *headers, per M.*	24 0 0
Colours, extra, per M.	5 10 0
Seconds, less, per M.	1 0 0
Cement and sand, see "Excavator" above.	
Lime, grey stone, per ton	2 17 0
Mixed lime mortar, per yd.	1 6 0
Damp course, in rolls of 4½ in., per roll	0 2 6
DO. *9 in. per roll*	0 4 9
DO. *14 in. per roll*	0 7 6
DO. *18 in. per roll*	0 9 6

BRICKWORK in stone lime mortar, Flettons or equal, per rod £33 0 0

DO. in cement do., per rod 36 0 0

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

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

DO. circular on plan, add 12½ per cent. per rod.

DO. in backing to masonry, add 12½ per cent. per rod.

DO. in raising on old walls, etc., add 12½ 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. £0 1 0

BEDDING plates in cement mortar, per ft. run 0 0 3

BEDDING window or door frames, per ft. run 0 0 3

LEAVING chases 2½ in. deep for edges of concrete floors not exceeding 6 in. thick, per ft. run 0 0 2

CUTTING do. in old walls in cement, per ft. run 0 0 4

CUTTING, toothing and bonding new work to old (labour and materials), per ft. sup. 0 0 7

TERRA-COTTA flue pipes 9 in. diameter, jointed in fireclay, including all cuttings, per ft. run 0 3 6

DO. 14 ft. by 9 in. do., per ft. run 0 6 0

FLAUNCHING chimney pots, each 0 2 0

CUTTING and pinning ends of timbers, etc., in cement 0 1 0

FACINGS fair, per ft. sup. extra 0 0 3

DO. picked stocks, per ft. sup. extra 0 0 7

DO. red rubbers gauged and set in putty, per ft. sup. extra 0 4 9

DO. in salt white or ivory glazed, per ft. sup. extra 0 5 6

TUCK pointing, per ft. sup. extra 0 0 10

WEATHER pointing, do. do. 0 0 3

TILE creasing with cement fillet each side per ft. run 0 0 6

GRANOLITHIC PAVING, 1 in., per yd. sup. 0 5 0

DO. 1½ in., per yd. sup. 0 6 0

DO. 2 in., per yd. sup. 0 7 0

If coloured with red oxide, per yd. sup. 0 1 0

If finished with carborundum, per yd. sup. 0 0 6

If in small quantities in finishing to steps, etc., per ft. sup. 0 1 4

Jointing new grano, paving to old, per ft. run 0 0 4

Extra for dishing grano, or cement paving around gullies, each 0 1 6

BITUMINOUS DAMP COURSE, ex rolls, per ft. sup. 0 0 7

ASPHALT (MASTIC) DAMP COURSE, ¼ in., per yd. sup. 0 8 0

DO. vertical, per yd. sup. 0 11 0

SLATE DAMP COURSE, per ft. sup. 0 0 10

ASPHALT ROOFING (MASTIC) in two thicknesses, ⅜ in., per yd. 0 8 6

DO. SKIRTING, 6 in. 0 0 11

BREEZE PARTITION BLOCKS, set in cement, 1½ in. per yd. sup. 0 5 3

DO. DO. 3 in. 0 6 6

BREEZE fixing bricks, extra for each 0 0 3

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. 9½d. *per hour*; DO. *fixer*, 1s. 10½d. *per hour*; LABOURER, 1s. 4½d. *per hour* SCAFFOLDER, 1s. 5½d. *per hour.*

Portland Stone:	
Whibed, per ft. cube	£0 4 6
Basebed, per ft. cube	0 4 7
Bath stone, per ft. cube	0 3 0
Usual trade extras for large blocks.	
York paving, av. 2½ in., per yd. super	0 6 6
York templates sawn, per ft. cube	0 6 9
Slate shelves, rubbed, 1 in., per ft. sup.	0 2 6
Cement and sand, see "Excavator," etc., above.	

HOISTING and setting stone, per ft. cube £0 2 2

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

PLAIN face Portland basis, per ft. sup. £0 2 8

DO. circular, per ft. sup. 0 4 0

SUNK FACE, per ft. sup. 0 3 9

DO. circular, per ft. sup. 0 4 10

JOINTS, arch, per ft. sup. 0 2 6

DO. sunk, per ft. sup. 0 2 7

DO. DO. circular, per ft. sup. 0 4 6

CIRCULAR-CIRCULAR work, per ft. sup. 1 2 0

PLAIN MOULDING, straight, per inch of girth, per ft. run 0 1 1

DO. circular, do., per ft. run 0 1 4

HALF SAWING, per ft. sup. £0 1 0

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

DO. Mansfield, 12½ per cent.

Deduct for Bath, 33⅓ per cent.

DO. for Chilmark, 5 per cent.

SETTING 1 in. slate shelving in cement, per ft. sup. £0 0 6

RUBBED round nosing to do., per ft. lin. 0 0 6

YORK STEPS, rubbed T. & R., ft. cub. fixed 1 9 0

YORK SILLS, W. & T., ft. cub. fixed 1 13 0

ARTIFICIAL stone paving, 2 in. thick, per ft. sup. 0 1 6

DO. 2½ in. thick, per ft. sup. 0 1 9

SLATER AND TILER

SLATER, 1s. 9½d. *per hour*; TILER, 1s. 9½d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour*; LABOURER, 1s. 4½d. *per hour.*

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

Slates, 1st quality, per 1,200:			
Portmadoc Ladies			£14 0 0
Countess			27 0 0
Duchess			32 0 0
Old Delabole	*Med. Grey*		*Med. Green*
24 in. × 12 in.	£42 11 3		£45 1 0
20 in. × 10 in.	31 4 3		33 0 6
16 in. × 10 in.	20 18 0		22 4 9
14 in. × 8 in.	12 1 0		12 16 3
Green Randoms per ton			8 3 9
Grey-green do., per ton			7 3 9
Green peggies, 12 in. to 8 in. long, per ton			6 3 9
In 4-ton truck loads, delivered Nine Elms station.			
Clips, lead, per lb.			£0 0 6
Clips, copper, per lb.			0 2 0
Nails, compo, per cwt.			1 6 0
Nails, copper, per lb.			0 1 10
Cement and sand, see "Excavator," etc., above.			
Hand-made tiles, per M.			£5 18 0
Machine-made tiles, per M.			5 8 0
Westmorland slates, large, per ton			9 0 0
DO. *Peggies, per ton*			7 5 0

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

Ladies, per square	£4 0 0
Countess, per square	4 5 0
Duchess, per square	4 10 0

WESTMORLAND, in diminishing courses, per square 6 5 0

CORNISH DO., per square 6 3 0

Add, if vertical, per square approx. 0 13 0

Add, if with copper nails, per square approx. 0 2 6

Double course at eaves, per ft. approx. 0 1 0

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

	Med. Grey	Med. Green
24 in. × 12 in.	£5 0 0	£5 2 0
20 in. × 10 in.	5 5 0	5 10 0
16 in. × 10 in.	4 15 0	5 1 0
14 in. × 8 in.	4 10 0	4 15 0
Green randoms		6 7 0
Grey-green do.		5 9 0
Green peggies, 12 in. to 8 in. long		4 17 0

TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square 5 6 0

DO., machine-made do., per square 4 17 0

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

FIXING lead soakers, per dozen £0 0 10

STRIPPING old slates and stacking for re-use, and clearing away surplus and rubbish, per square 0 10 0

LABOUR only in laying slates, but including nails, per square 1 0 0

See "Sundries for Asbestos Tiling."

CARPENTER AND JOINER

CARPENTER, 1s. 9½d. *per hour*; JOINER, 1s. 9½d. *per hour*; LABOURER, 1s. 4½d. *per hour.*

Timber, average prices at Docks, London Standard Scandinavian, etc. (equal to 2nds):	
7×3, per std.	£21 0 0
11×4, per std.	33 0 0
Memel or Equal. Slightly less than foregoing.	
Flooring, P.E., 1 in., per sq.	£1 2 6
DO. *T. and G., 1 in., per sq.*	1 2 6
Planed boards, 1 in. × 11 in., per std.	30 0 0
Wainscot oak, per ft. sup. of 1 in.	0 1 4
Mahogany, Honduras, per ft. sup. of 1 in.	0 1 3
DO. *Cuba, per ft. sup. of 1 in.*	0 2 3
DO., *African, per ft. sup.*	0 1 0
Teak, per ft. sup. of 1 in.	0 1 3
DO., *ft. cube*	0 12 6

FIR fixed in wall plates, lintels, sleepers, etc., per ft. cube 0 5 6

DO. framed in floors, roofs, etc., per ft. cube 0 6 6

DO. framed in trusses, etc., including ironwork, per ft. cube 0 7 6

PITCH PINE, add 33⅓ per cent.

FIXING only boarding in floors, roofs, etc., per sq. 0 13 6

SARKING FELT laid, 1-ply, per yd. 0 1 6

DO. 3-ply, per yd. 0 1 9

CENTERING for concrete, etc., including horsing and striking, per sq. 2 10 0

TURNING pieces to flat or segmental soffits, 4½ in. wide, per ft. run 0 0 4½

DO. 9 in. wide and over per ft. sup. 0 1 2

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, ⅞ in. thick and fillets nailed to sides of joists (joists measured over), per square	2	0	0
RUBEROID 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, 1¼ in. thick, laid complete with splayed headings, per square	2	5	0
DEAL skirting torus, moulded 1¼ 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 mastic :			
Deal 1 in. thick, per yd. sup.	0	10	0
DO. 1¼ in. thick, per yd. sup.	0	12	0
Maple 1¼ in. thick, per yd. sup.	0	15	0
DEAL moulded sashes, 1¾ 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, 1¼ 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.			
DEAL frames, 4 in. × 3 in., rebated and beaded per ft. cube	£0	15	0
Add for extra labours, per ft. run	0	0	1
STAIRCASE work :			
DEAL treads 1¼ in. and risers 1 in., tongued and grooved including fir carriages, per ft. sup.	0	2	6
DEAL wall strings, 1¼ 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
4½ in. × 3 in. oak fully moulded handrail, per ft. run	0	5	6
1¼ 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
1¼ in. beaded cupboard fronts, moulded and square, per ft. sup.	0	2	9
TEAK grooved draining boards, 1¼ 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* 1*s.* 9½*d. per hour ;* MATE, *do.* 1*s.* 4*d. per hour ;* ERECTOR, 1*s.* 9½*d. per hour ;* FITTER, 1*s.* 9½*d. per hour ;* LABOURER, 1*s.* 4*d. per hour.*

*

Mild Steel in British standard sections, per ton	£12	10	0
Sheet Steel :			
Flat sheets, black, per ton	17	0	0
DO., *galvd., per ton*	19	0	0
Corrugated sheets, galvd., per ton	18	10	0
Driving screws, galvd., per grs.	0	1	10
Washers, galvd., per grs.	0	1	1
Bolts and nuts per cwt. 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
WROT-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, 1*s.* 9½*d. per hour ;* MATE OR LABOURER, 1*s.* 4½*d. per hour.*

*

Lead, milled sheet, per cwt.	£1	9	0
DO. *drawn pipes, per cwt.*	1	10	0
DO. *soil pipe, per cwt.*	1	12	0
DO. *scrap, per cwt.*	1	0	0
Copper, sheet, per lb.	0	1	9
Solder, plumber's, per lb.	0	1	3
DO. *fine, 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	9½
R.W.P., 2½ in., per yd.	0	2	2
DO. *3 in., per yd.*	0	2	7
DO. *4 in., per yd.*	0	3	6½
Gutter, 4 in. H.R., per yd.	0	1	6½
DO. *4 in. O.G., per yd.*	0	1	10½

*

MILLED LEAD and labour in gutters, flashings, etc. per cwt.	3	2	6
LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft.	0	2	0
DO. ¾ in., per ft.	0	2	3
DO. 1 in., per ft.	0	3	0
DO. 1¼ in., per ft.	0	4	0
LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft.	0	6	0
DO. 3 in., per ft.	0	7	0
DO. 4 in., per ft.	0	9	9
WIPED soldered joint, ½ in., each	0	2	6
DO. ¾ in., each	0	3	2
DO. 1 in., each	0	3	8
BRASS screw-down stop cock and two soldered joints, ½ in., each	0	11	0
DO. ¾ in., each	0	13	6
CAST-IRON rainwater pipe, jointed in red lead, 2½ 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, 1*s.* 9½*d. per hour (plus allowances in London only) ;* LABOURER, 1*s.* 4½*d. per hour.*

*

Chalk lime, per ton	£2	17	0
Hair, per cwt.	2	0	0
Sand and cement see "Excavator," etc., above.			
Lime putty, per cwt.	£0	2	9
Hair mortar, per yd.	1	7	0
Fine stuff, per yd.	1	14	0
Sawn laths, per bdl.	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. ¾ 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, 1*s.* 8½*d. per hour.*

*

Glass : 4ths in crates :			
Clear, 21 oz.	£0	0	4½
DO. 26 oz.	0	0	5
Cathedral white, per ft.	0	0	7½
Polished plate, British ¼ in., up to 2 ft. sup. per ft.	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, ⅛ in., per ft.	0	0	6½
DO. *¼ in. per ft.*	0	0	6½
Linseed oil putty, per cwt.	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	
DO. 26 oz., per ft.	0	1	
Small sizes slightly less (under 3 ft. sup.).			
Patent glazing in rough plate, normal sp 1*s.* 6*d.* to 2*s.* per ft.			
LEAD LIGHTS, plain, med. sqs. 21 oz. usual domestic sizes, fixed, per ft. sup. and up	£0	3	
Glazing only, polished plate, 6½*d.* to 8*d.* per according to size.			

PAINTER AND PAPERHANGER

PAINTER, 1*s.* 8½*d. per hour ;* LABOURER, 1*s.* 4½ *per hour ;* FRENCH POLISHER, 1*s.* 9*d. per hou* PAPERHANGER, 1*s.* 8½*d. per hour.*

*

Genuine white lead, per cwt.	£2	7	6
Linseed oil, raw, per gall.	0	3	6
DO., *boiled, per gall.*	0	3	8
Turpentine, per gall.	0	4	
Liquid driers, per gall.	0	8	
Knotting, per gall.	0	18	0
Distemper, washable, in ordinary colours, per cwt., and up	2	5	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4
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	2½
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	
VARNISHING PAPER, 1 coat, per piece	0	0	6
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 2½

FIBRE BOARDINGS, including cutting and waste, fixed on, but not including studs or grounds per ft. sup. . . . from 3*d.* to	0	0	6
Plaster board, per yd. sup. . from	0	1	7
PLASTER BOARD, fixed as last, per yd. sup. . . . from	0	2	5
Asbestos sheeting, 5/32 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, 5/32 in. punched per M. grey	16	0	0
DO., *red*	18	0	0
ASBESTOS COMPOSITION FLOORING : Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0	7	
DO., ½ in. thick, suitable for domestic work, unpolished, per yd.	0	6	
Metal casements for wood frames, domestic sizes, per ft. sup.	0	1	
DO., *in metal frames, per ft. sup.*	0	1	
HANGING only metal casement in, but not including wood frames, each	0	2	1
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.

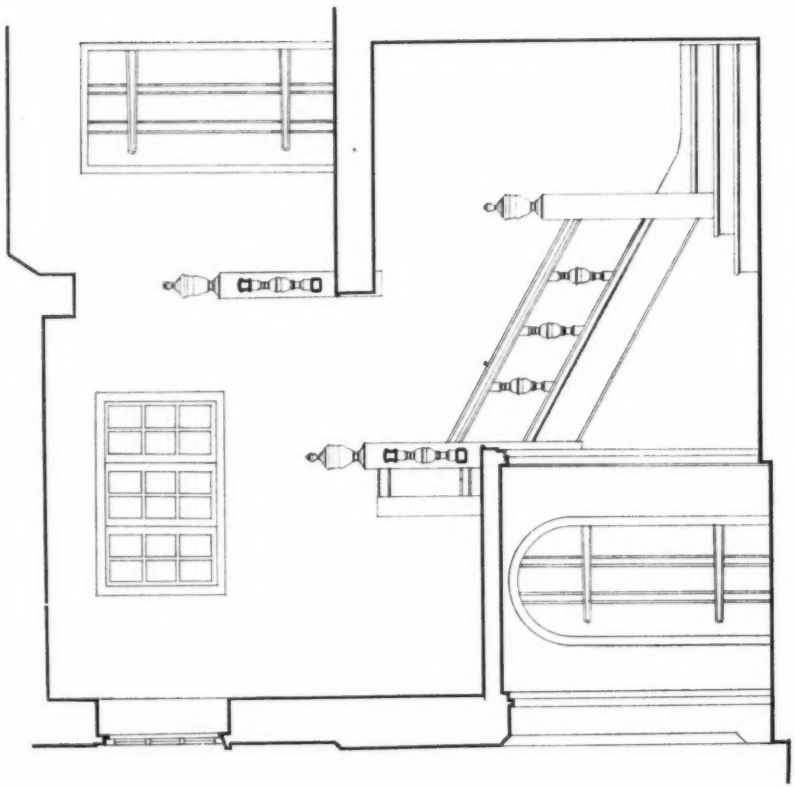
Thickness	1/16 in.			¼ in.			⅜ in.			½ in.		
Qualities ..	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4	9½	7½	—	1 0½	10	—
Figured Oak 1 side	8½	7	—	10	8	—	11½	—	—	1 6	—	—
Plain Oak 1 side	6½	6	—	7½	7	—	9½	—	—	1 0	—	—
Oregon Pine	5	4	—	5½	5	—	6	—	—	—	—	—

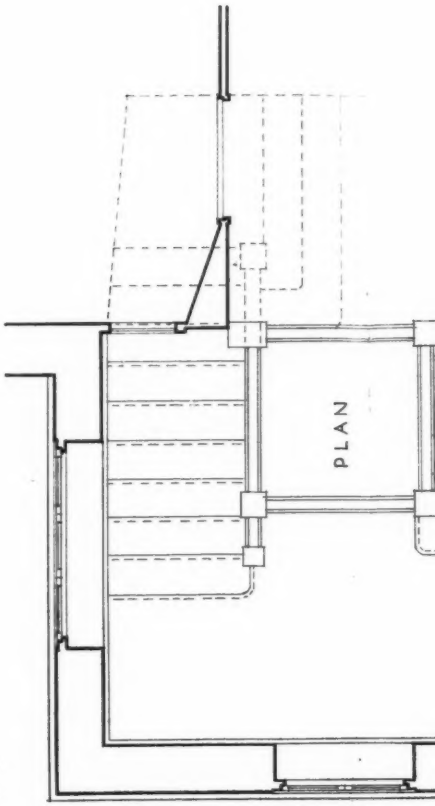
Six Staircases

by

OLIVER HILL

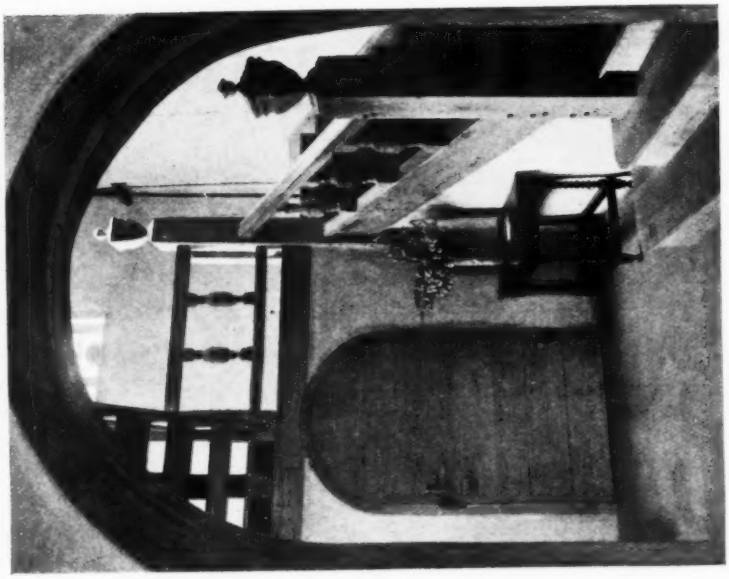
Part One

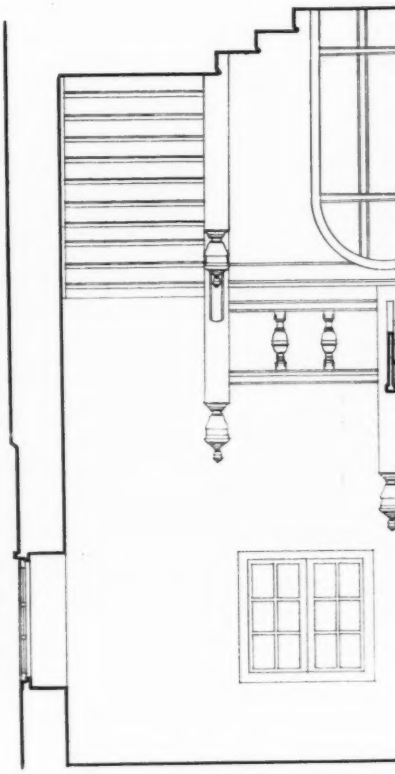


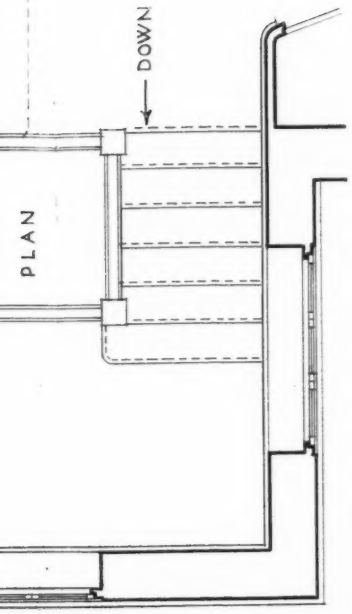


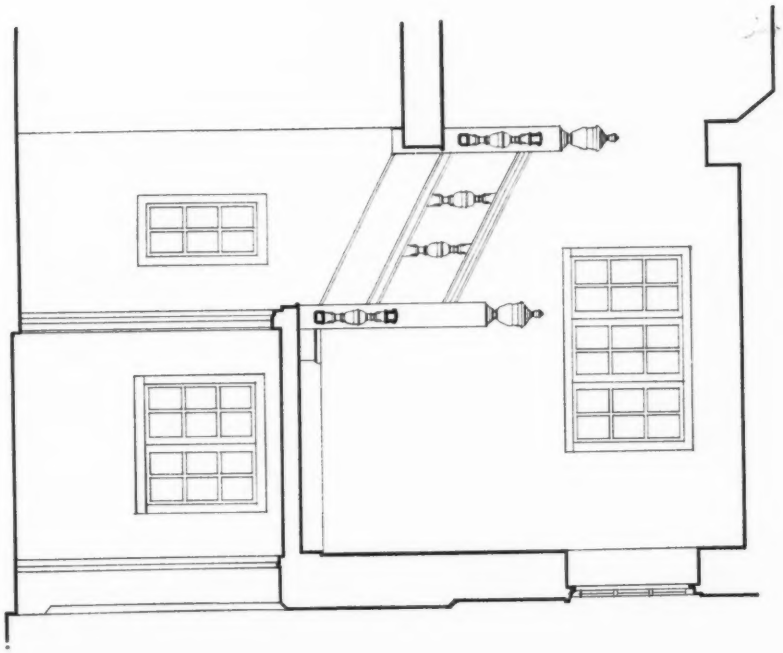
MERRYFIELD HOUSE WITNEY

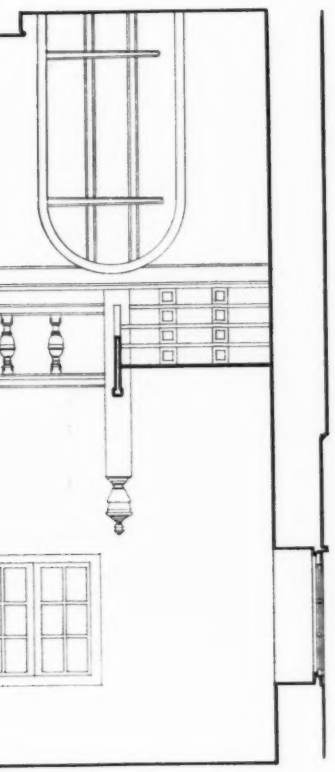
MAIN STAIRCASE

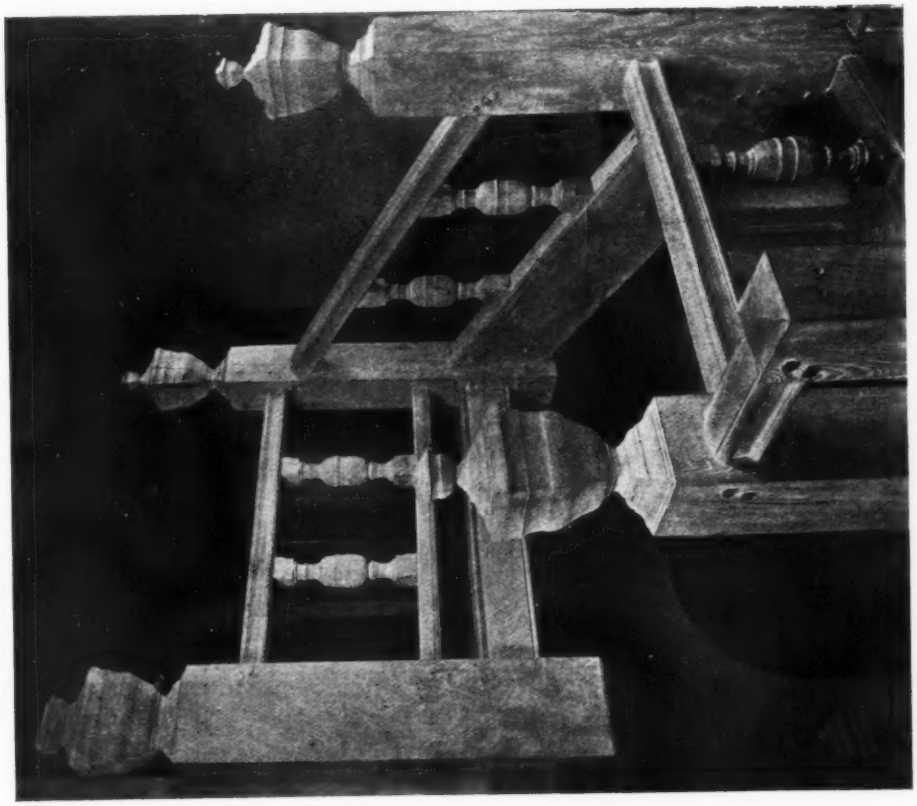




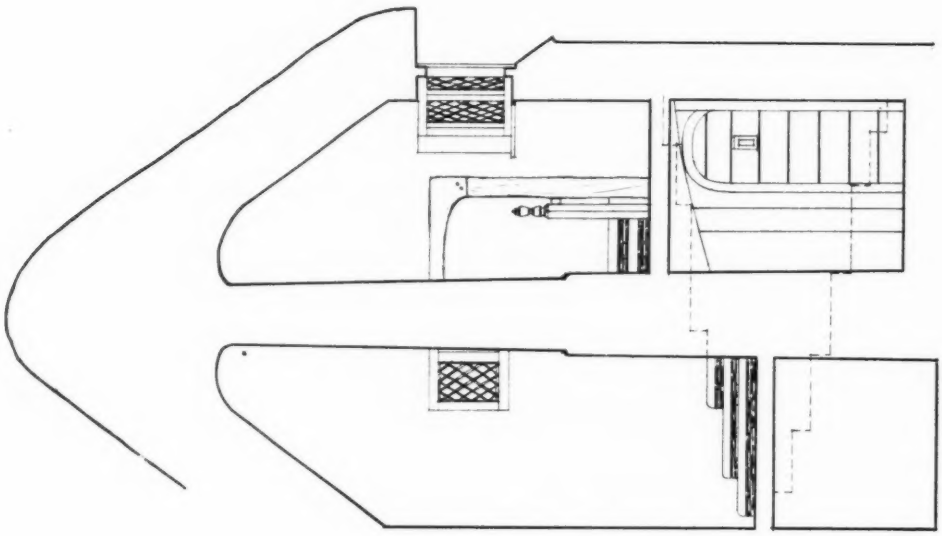


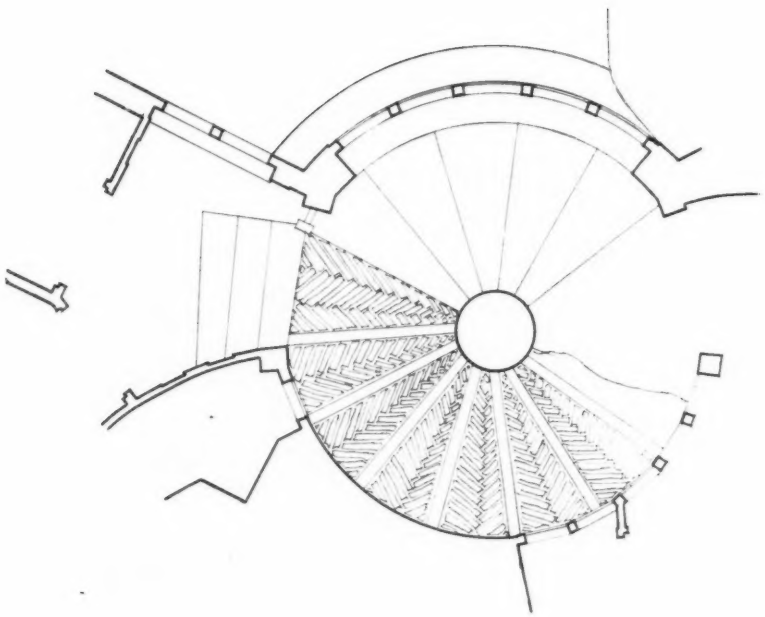






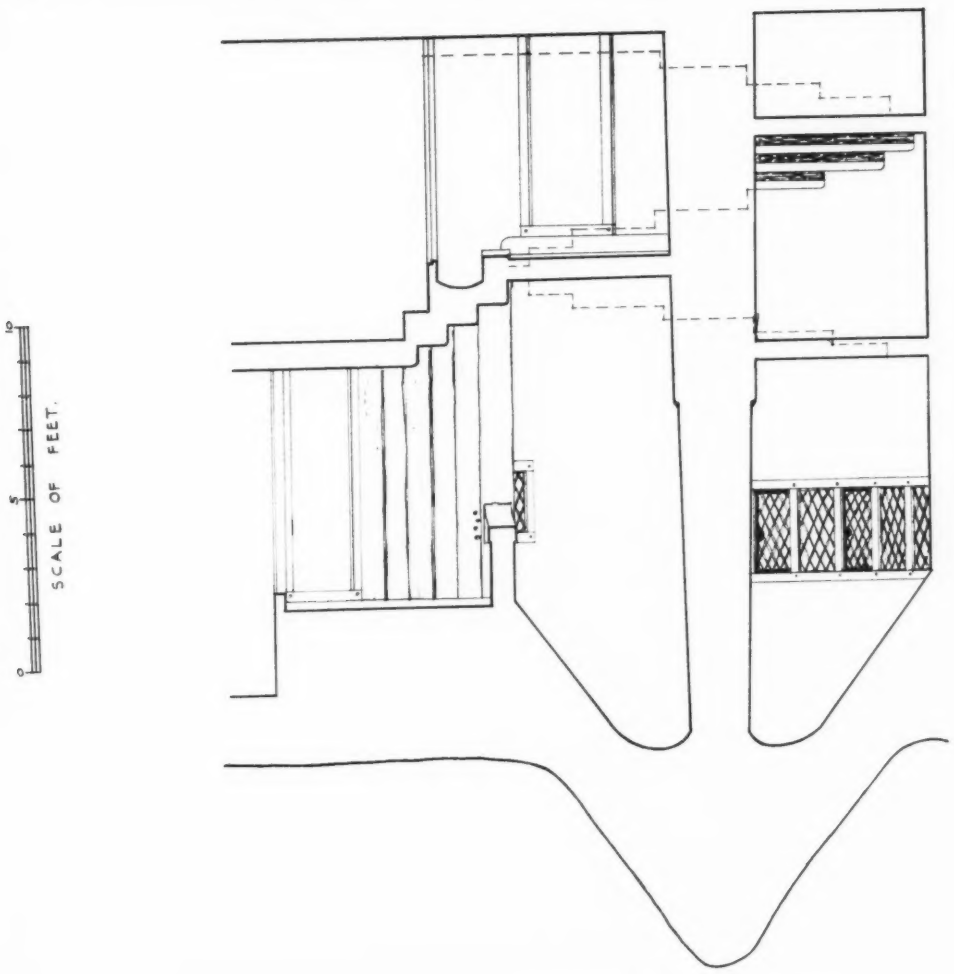
SIX STAIRCASES BY OLIVER HILL. 3. MAIN STAIRCASE AT MERRYFIELD HOUSE, WITNEY.



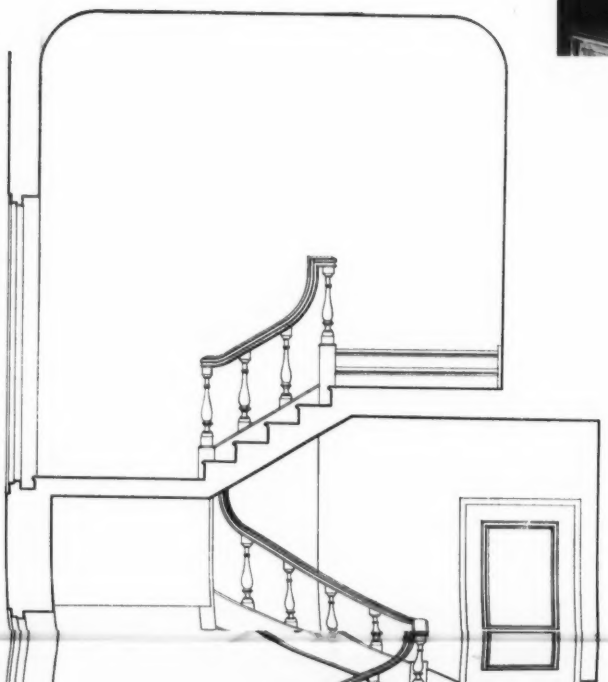


HOLMBURY ST. MARY
STAIRCASE

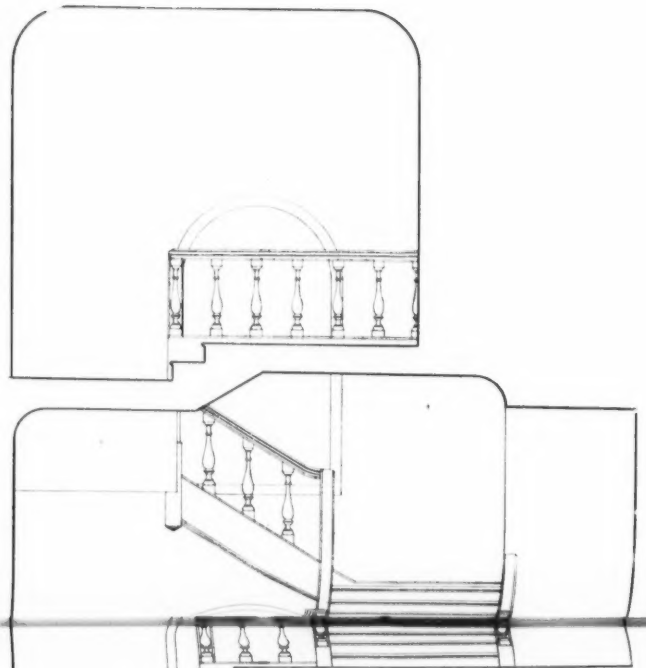
SIX STAIRCASES BY OLIVER HILL
2. STAIRCASE AT HOLMBURY ST. MARY

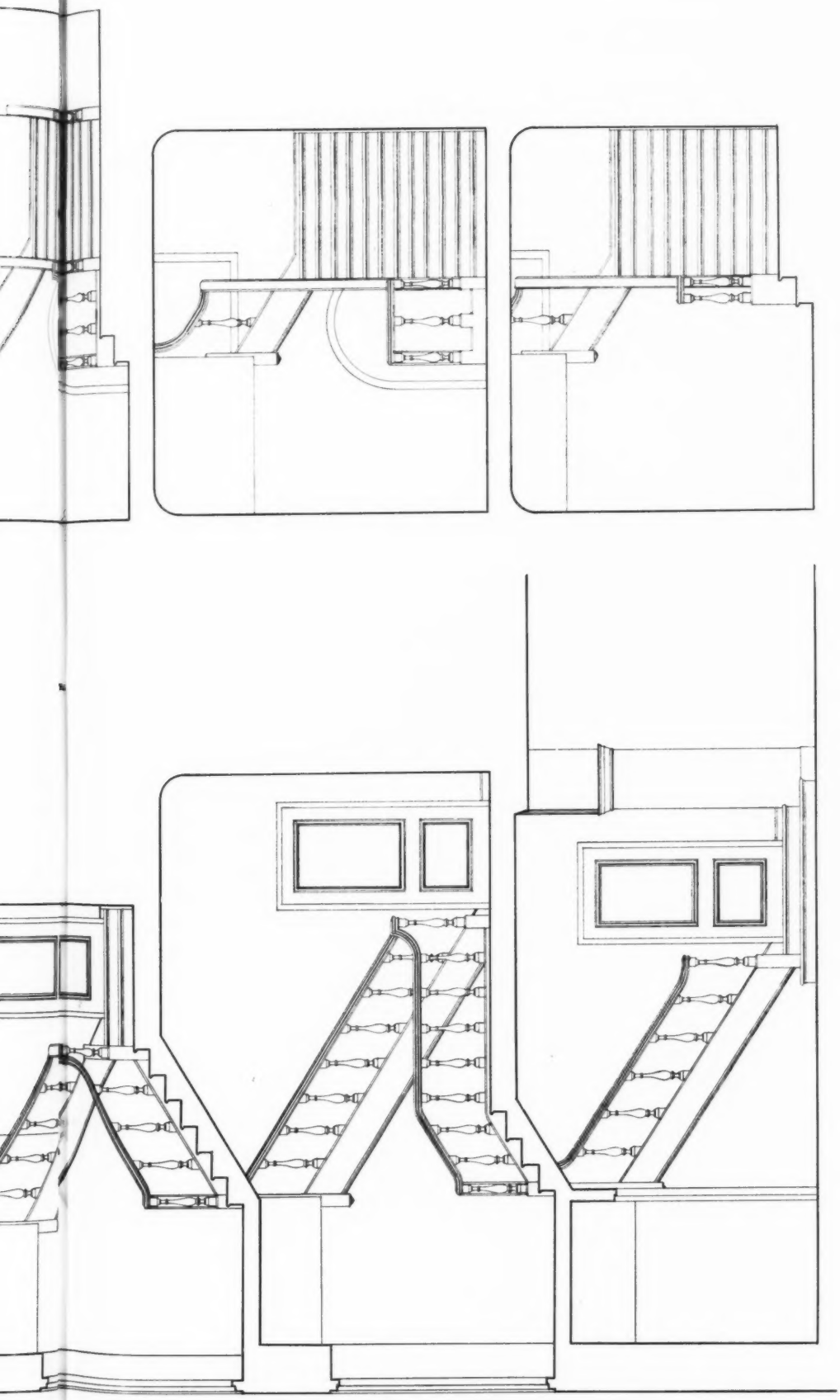


GAYFERE HOUSE
S.W.



SECTIONS THROUGH STAIRCASE





SIX STAIRCASES BY OLIVER HILL. I. STAIRCASE AT GAYFERE HOUSE, LONDON, S.W.