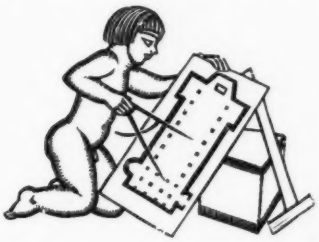
THE ARCHITECTS' JOURNAL



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ENCOURAGED by the success of the Heating Supplement, which was included free of charge with THE ARCHITECTS' JOURNAL for June 30, the Editor is happy to announce the appearance next week of a similar Technical Supplement devoted to DOORS AND WINDOWS. Many aspects of door and window design will be illuminated by Mr. Edwin Gunn and other experienced writers.

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PRINCIPAL CONTENTS

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CHRISTIAN BARMAN, *Editor*

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

RENDERINGS OF ARCHITECTURE

Selected and annotated by Dr. Tancred Borenius

xxxviii : Gennaro Greco (1663-1717)
Architectural Composition.

The subject of Panninesque paintings before Pannini has lately been discussed in a very interesting article by Dr. Hermann Voss in the June number of Apollo. *An important figure among the pre-Pannini painters of architectural subjects was Gennaro Greco, whom Dr. Voss regards as the founder of the school of "prospect painters" at Naples, emphasizing that "theirs was an important tendency that must in any case be considered of the same importance as the Roman one." A valuable clue to the style of Gennaro Greco is offered by two pictures which were formerly in the collection of the Dukes of Anhalt at Dessau, but were sold by auction at Berlin in 1923. The spacious and luminous architectural composition here reproduced is one of the two pictures in question ; it bears on a stone in the extreme foreground the signature "G. Grieco," which is Neapolitan dialect for "Greco."*—[Private Collection.]

THE ARCHITECTS' JOURNAL

Wednesday, October 6th, 1926

THE DECORATIVE RAILING

From time to time there appears in the lay press a plea for the removal of what are described as "useless" iron railings. *London's Beauty Behind Iron Bars* is the title of an article which that eminent publicist, Sir Harold Cox, has recently contributed to the *Graphic*, and he used once more the familiar arguments in favour of demolishing all railings which are not purely utilitarian. The point of view of these particular architectural "reformers" is so eminently plausible that it is not easy to combat it. They find it a very satisfactory means of propaganda to hint that their opponents must necessarily be reactionaries. Moreover, their position is much strengthened by the fact that very rarely, if ever, does anyone venture to take up the cudgels on behalf of the "decorative" iron railing. This word "decorative," however, gives the clue to the method of defence which may be employed by the sadly diminishing number of enthusiasts who are still capable of appreciating an architectural feature upon which our eighteenth-century forefathers lavished the minutest care and, one may add, no small measure of their discernment and good taste in matters of art.

Railings may conveniently be classified in four principal groups. In the first category are the railings which are both decorative and useful, and are thus worthy of our unqualified admiration. The second class are decorative, but not useful, while the third are useful, but not decorative. And, lastly, there are the outlaws among railings, *anathema maranatha*, which are neither decorative nor useful. The first and the last group are not likely to become the subject of controversy, for all will unite in praising the former and condemning the latter, but the second and third groups, and especially the second, invite discussion.

In order to understand the exact nature of the assault upon the decorative railing it may be well to consider on their merits some of the examples brought forward by the purists who would demolish, if they could, many hundred yards of the "iron bars" which now are a conspicuous feature in the streets of London. Sir Harold Cox takes as his first example of architectural depravity the railings in front of the Admiralty in Whitehall. In this instance, apparently, the critic is not quite sure whether the gibe of "uselessness" is sufficient, and he takes refuge in the description "ugly railings" which, of course, is intended to be a "knock-out" blow. But surely these particular railings are the reverse of ugly, for they display a restraint and refinement seldom seen in the cast ironwork of to-day. Before condemning this decorative handiwork let us consider some of the *æsthetic* functions of the railing. In the first place the railing serves the purpose of giving a necessary formal emphasis to an open space, if this space is set in relation to buildings. It is one of the chief means of giving an *urban* quality to our parks, gardens and squares. If, at the bidding of our rural-minded fanatics, we were to tear down the railings in the Bloomsbury squares, for instance, these places would immediately lose much of their architectural distinction; for the expanse of grass and shrubs, instead of being given definite boundaries, obviously parallel with the building frontages, would present a formless and unkempt appearance. Of course, if the square were bounded by a clipt hedge, or if it consisted of a lawn without any shrubbery at all, the vegetation would be bounded by lines sufficiently formal to enable it to take a certain cognizance of the lay-out of the surrounding architecture. The enormous advantage of the railing is that it enables us to plant trees, flowers, and shrubs in a delightfully informal manner within the enclosure without altogether sacrificing that note of urban restraint which should always characterize the features of a city. It is significant that Sir Harold Cox should have singled out for special praise the treatment of the grass verges by the Government offices which back on to St. James's Park. Here the grass is bounded by an ingenious curbstone of the most appalling crudity, but it must be acknowledged that railings, although they would probably be distinctly more decorative than the curbstone, can more suitably be dispensed with because the enclosure consists of plain grass, formal on plan.

It is probably true to say that at least 90 per cent. of the railings in London are basement railings, and thus have an obvious utilitarian purpose, namely, to prevent people falling down into the areas in front of the houses. It is necessary, however, to pay a tribute to the designers of these basement railings who, in innumerable instances, have made of them charming architectural features by means of which urban façades are given most decorative terminals at their lower extremities. A reference may also be made to the *symbolic* function of the railing which comes into evidence as soon as they are employed to give emphatic expression to the idea of a guard of defence to some building of which the contents are especially precious. Of such a character are the much-abused British Museum railings which, though badly designed, and thus deserving of part of the censure bestowed upon them, have at least the merit of giving to the building behind them a certain remoteness and an added dignity. Let our architectural reformers halt and consider before they make too clean a sweep of London's iron bars.

NEWS AND TOPICS

THE DOLGARROG DAM REPORT—ARCHITECTURE IN NEW MATERIALS—THAMES BRIDGES—ARCHITECTURAL STATISTICS—KENT COALFIELDS—A MEMORIAL TO THE "DIXMUDE."

THE report issued by Sir Alexander Gibb and Partners, consulting engineers, upon the failure and proposed repair of the dams involved in the Dolgarrog disaster should be of interest to others beside professional engineers. Dam bursts have been all too frequent of late years, and modern science has not come off too well in comparison with old-fashioned rule of thumb, since comparatively new dams fail quite as frequently as dams of great antiquity. At Eigiau dam it was found that "the foundations of the concrete wall are not, in general, carried deep enough to form an effective cut-off." "The concrete is generally of poor quality and is not watertight." Both in design and construction the dam seems to have been faulty, and its collapse a foregone conclusion. Had any surveyor familiar with the symptoms of decay been in a position to examine the structure, its collapse might have been foretold and the work strengthened in time to prevent the lamentable loss of life and property which attended the failure of the dam. "From observations made at the breach and in the test pits and on the exposed surfaces of the concrete wall, it appears that the concrete is generally poor and in places very bad, that the workmanship in placing the concrete has not been satisfactory." An interesting feature of the report is that evidences were discovered of an attempt to improve the quality of the indifferent concrete by grouting with cement under pressure after the dam had been built. In spite of this warning as to the limitations of grouting in saving an unsound structure, "strengthening of the concrete of the existing wall by grouting under pressure in cement" is one of the proposed measures of repair. It cannot be too generally known that grouting is not in itself a sufficient safeguard to a structure subjected to great tensile stresses, as is the down-stream side of a dam, and it is to be hoped that the other measures proposed for strengthening the structure will be designed to be of sufficient strength to make the grouting a matter of comparatively slight importance.

* * *

Professor Baldwin Brown has written to the *Times* a plea for ornament on buildings of reinforced concrete; and, lest that should conjure up a picture of a skeleton frame bedecked with traditional "enrichments," he justly and fitly explained the ample imaginative scope of his subject by instancing "the power, with which Sir Christopher Wren was so splendidly endowed, of balancing mass against mass and detail against plain mass in fine and satisfying proportions." We heartily commend this attention to the disposition of major and minor masses of structural elements to those who design in ferro-concrete as well as any other materials. Modern materials as erected to modern designs certainly seem to cry aloud for some man of genius to do the right thing by them. By all means let the ornamental side be given most concentrated attention, but preserve us from the indiscriminate peppering on of alleged "ornaments."

The modern engineer must feel his heart beat cheerily within him as he reads the evidence given by Councillor W. Barefoot, Mayor of Woolwich, before the Royal Commission on Cross-river Traffic. A high-level bridge two miles in length and crossing the river with a span of 1,120 ft. at the elevation of from 120 ft. to 130 ft. would be an engineering work of some magnitude, and seems cheap at the price estimated, £3,600,000. The project sounds distinctly interesting with its air of the grandiose, though it does not seem to have been received with much enthusiasm. This is a pity from one point of view, for if this attractive trifle were to be thrown to the engineers to divert their attention, they might not be so keen on pulling down Waterloo Bridge in the hope of building a new engineer's bridge in place of it.

* * *

An admirable method for presenting a general impression of the situation created in Europe by the tariff walls raised by the several countries has been thought out by Sir Clive Morrison-Bell, M.P. His device consists of a map on which the tariff "walls" have been indicated as veritable raised margins, like boundary walls of different heights. While Great Britain and Northern Ireland have merely a slight ridge along the coast, Spain and Russia have walls of very considerable height, perhaps for the express purpose of keeping out the enervating products of our industrialism? Travel in Spain is still interesting in that it is not yet hopelessly familiar, and the absence of factories has its good side in the absence of factory chimneys and factory "hands." In all probability the model was not designed to stimulate just this line of thought, though it shows at a glance that the great industrial countries, England, France, and Germany, have lower tariff walls than the more pastoral lands of the south and east of Europe. One day it will occur to the economic authorities to stimulate the interchange of commodities by doing away with the ridiculous walls, but it is just possible that travel will then lose half its charm in the international atmosphere that permeates any land when national costume is abandoned for the black coat of "civilization."

* * *

The science and art of town planning will have ample scope for the exercise of their beneficent magic if they seriously undertake to maintain the rural beauty of the Garden of England while planting in its midst the upas tree of the colliery. Coal is needed at the present time to carry on in these Islands the ordinary routine of life, but what is needed still more than coal is some cleanly substitute for it whose use will be compatible with some finer form of civilization than our grimy coal-getting and iron-smelting system which does not bear any real resemblance to an ordered scheme. It is an interesting and a pertinent inquiry whether it will benefit England more to undermine the 186,980 acres of farm and orchard or to let the coal lie where it is. Ruskin and other writers both before and since his time have pointed out the disadvantages of creating large classes of people who will be doomed to uninteresting manual labour, and the discontent and unrest that must accompany the imperfect use of their mental energies on their work. The discontent and unrest prophesied by these foreseeing thinkers have been familiar enough during the last few months, and Professor Abercrombie and Mr. John Archibald are setting out on a doubtful enterprise when they undertake to produce "a consciously thought-out

scheme which will have a beauty of its own—the beauty of efficiency and congruity." However, "nothing succeeds like success," and perhaps the town planners will charm us all, critics and miners together.

* * *

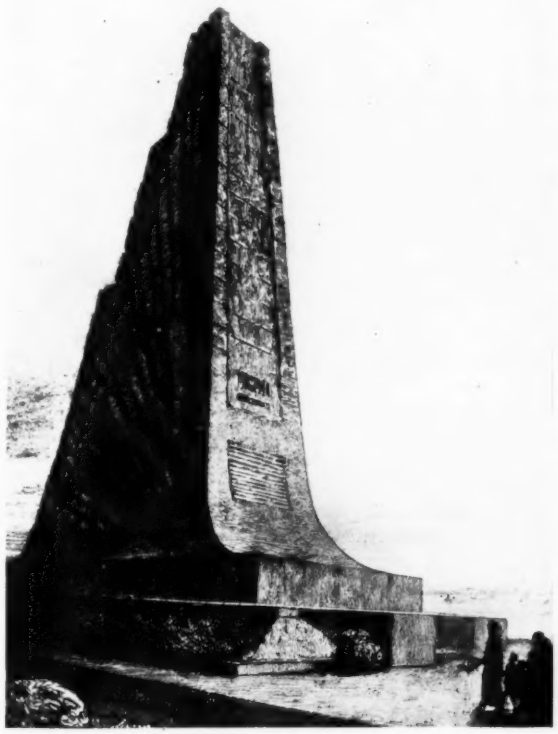
It is estimated that the additional population to be brought into Kent to work the new mines will number three hundred and eighty thousand, in addition to the existing population of three hundred thousand now in the district. To permit of planning with some freedom from antiquarian considerations, and in order to leave the old picturesque villages untouched as far as possible, the miners are to be found accommodation in separate new towns, one such town having been already begun under the joint control of the local authority and the company running the first two collieries. Six hundred acres of chalk downland have been devoted to this settlement, which is designed to hold thirty-six thousand people. A tree-lined boulevard is planned as the central feature of the town, and some space will be reserved for playing-fields and a patch of woodland. The factories and blast furnaces are to be kept distinct from these residential districts, of which it is proposed to create nine or ten, so that the grime inseparable from this industry shall interfere as little as may be with the home-life of the workers. It is hoped by this means to permit of the towns being made architecturally interesting and capable of taking their places in the landscape without altogether spoiling it. The coal itself, which is the motive of all these activities, is reported to be equal in quality to coal of similar chemical composition in South Wales, Yorkshire, and Lancashire. The workable seams are, however, at a great depth below the surface, some of them being more than 1,000 ft. underground, and carrying on, it is believed, under the sea.

* * *

The discovery of important evidences of Mycenæan culture in a partially demolished beehive tomb at Dendra, near Mycenæ, by a party of Swedish archæologists under the direction of Professor Persson, of Upsala, and Dr. Frodin, gains interest from the exceptional beauty of the works of art deposited with the buried remains of folk who were imposing personalities something like thirty-three centuries ago. Skeletons of three people who have been called king, queen, and princess by the excavators for purposes of classification were revealed lying on beds of clay nearly 6 ft. below the floor of the tomb chamber, which is itself eight metres in diameter. A particularly splendid cup in chased gold was found on the breast of the king. The cup is of large size, eighteen centimetres in diameter, and is decorated with sea scenes: Argonauts on the surface, dolphins diving, and four octopuses spreading their tentacles above coral rocks at the bottom. The detail is more naturalistic than that of Classic Greek art, and reaches an extraordinarily high level of decorative and technical perfection. There is something melancholy in the comparison of such admirable work with the productions of the present day. Modern examples of chased gold are too often of an order to be improved by remelting into the ingot; and it is strange that the Mycenæans should have enjoyed the monopoly of artistic discretion in the use of the precious metal.

* * *

I have had sent to me a perspective of the monument which has just been erected at Pierrefeu, Département de Var, in memory of Commandant du Plessis de Grenédan and the crew of the fleet airship *Dixmude*, that—as all men remember—was wrecked off the north coast of Sicily without a single survivor, in December 1923. As actually erected, it consists of a vast, soaring mass of hewn Corsican imperial granite, on either side of which is carved a tapering wing of heroic proportions. The height of these symbolic wings is some 70 ft. above the plinth,



Memorial to the crew of the "Dixmude" at Pierrefeu. By Michel Roux-Spitz.

the monument being clearly visible from a very considerable distance. The site chosen was the Place Jean-Jaurès, adjacent to the main road from Cannes to Hyères. This Place occupies the culminating point of a lofty terrace dominating the great plain of Cuers-Pierrefeu, 150 ft. beneath, in which lies the naval air station that was the home port of the ill-fated ship.

* * *

Another attempt to solve the housing problem has been set on foot at St. Paul's Cray, Kent, where, according to a notice in the *Times* of September 25, houses will be sold this autumn at about £300 each. The houses have been built on a novel system, passed for the housing subsidy by the Ministry of Health, and approved for a sixty-year loan. A photograph of one of the houses in course of construction appeared in the *Times* with the imposing title, "Solving the Rural Housing Problem," and accompanied by the interesting information that "an unskilled man can prepare the materials and build such a house in a few months." The point is, what is to prevent him?

ASTRAGAL

LONDON STATUES

[BY OSBERT BURDETT]

THE arrival of Professor Tancred Borenius's book on London statues and public monuments is the fulfilment of a dream, for it must be now three years or so since the present writer, in print and out of print, has declared how badly a book upon the statues of London was wanted, and has even tried, unsuccessfully, to persuade likely writers to produce one. Professor Borenius informs us in his preface that a census of the statues in London was compiled by Mr. T. W. Hill in 1911, and thus explains why his own field is a limited selection only. Few of us will complain of that, for we are only too thankful to have any accessible volume at all on the subject, which is often declared, with cursory contempt, to be unworthy of study. Unless my memory is at fault, only last year even Mr. Roger Fry declared, in I think an American journal, that there was only one good statue in London, and went on to ridicule the popular belief that he must be thinking of the statue of King Charles I at Charing Cross. He had some praise for the delightful base on which the Royal horseman stands, but he pointed out, in effect, that the horse itself was a timid work, neither "representational" nor "significant" artistically. The statue that Mr. Fry had in mind does not happen to be illustrated by Professor Borenius, and so, perhaps, is doubly worth mentioning. It was the little group of a mother and child, by Dalou, to be seen under a canopy that crowns the fountain which some worthy in the City caused to be placed in the open walk at the back of the Royal Exchange. As we must hope that the public will encourage Professor Borenius to follow his present volume with a successor, no apology is needed for dragging Dalou, a delightful sculptor, into our discussion of this book. Beside, Dalou (1838-1902) is modern !

The statue of Queen Anne, Queen Anne's Gate, London. (Early Eighteenth century.) [*From* Forty London Statues and Public Monuments.]

This book falls into two divisions: an historical sketch of some thirty pages, and afterward, with descriptions and dates, the forty plates, illustrations in photogravure, from the negatives or rather from the prints of Mr. Hoppé. Either section is too provoking of pleasure to be summarized here, and the book will have the better justice done to it if the reader is left tantalized enough to explore its pages himself. Mr. Hoppé is too well known a photographer not to justify our expectation of charming photographic pictures from him. The illustrations to this volume make very pretty pictures, but their good qualities are not those of sculpture or architecture, but of easel pictures made by a camera. The details of most of the statues illustrated are lost in the scenes of their setting; the background and surroundings are what the camera conveys here; and we must not hope to learn from such pictures to appreciate the monuments chosen, but only to keep our eyes open for them as, to take examples, we cross St. James's Square, stand between the pillars of the portico of the National Gallery, with the afternoon sun in our eyes, stroll through Queen Anne's Gate in search of Queen Anne, wait before crossing Cockspur Street, linger in Old Palace Yard, saunter round Bloomsbury Square, or, delayed by the traffic, stare about Hyde Park Corner, now a nest of public monuments.

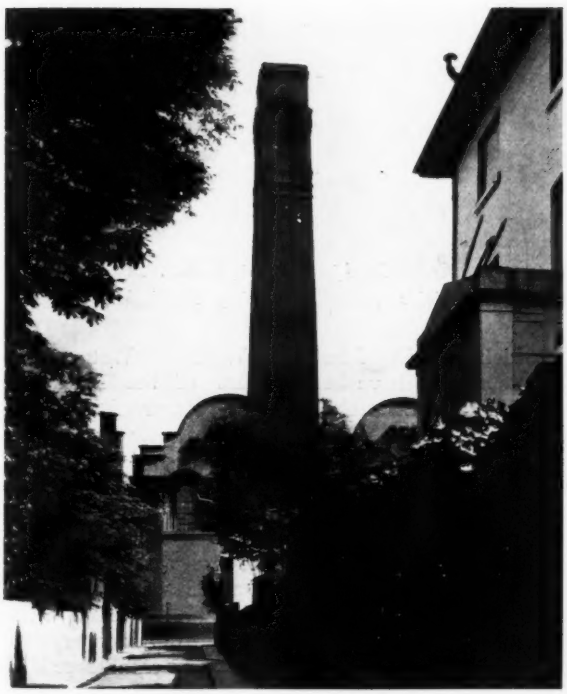
Everything that the architect will miss in the illustrations, however, will probably commend it the more to the architect's wife, and if she is pleased, she will tell her friends and make the book one of the favourite "gift-books" of the Christmas season. That will lead Professor Borenius, I trust, to let us have a sequel. In that event — when once Mr. Hoppé's treatment of the Albert Memorial, very justly described by Professor Borenius as "an episode in the landscape of Kensington Gardens," shall have done its work—the student of architectural sculpture can hope to be allowed, in a sequel, detailed and utterly different photographs of some of its sculpture reliefs, the best of which are worth study on their own artistic merits, more worth it, I think, than the whole, the familiar and handsome ciborium itself. The reason why the Albert Memorial seems like a wedding-cake without a wedding is not that it is ugly, but that its ornateness bears no sort of relation to *our* sense of Albert's importance. If it were understood to commemorate the grief of his wife, Queen Victoria, we should understand, and thus be free to admire its decorative profusion, its widow's weeds of gilt, mosaic, and carved stone. Call the memorial by its right name, and everyone will see something to admire in it.

Forty London Statues and Public Monuments. By Tancred Borenius. With Special Photographs by E. O. Hoppé. Methuen & Co. 10s. 6d.

FACTORY CHIMNEYS: ii

[BY P. M. STRATTON]

THE poor general result of chimney building is due to a habit of mind which looks on factories as unimportant in civic effect, and not so worthy of attention even for the sake of individual effect. In districts of London not wholly industrialized, along river banks and in old cathedral towns, a certain amount of thought is given to their design; in the manufacturing districts, where chimneys are as thick as trees in forests, the shapes usually are thoughtless and *gauche*. The reason is social as much as æsthetic, and marches with all the old and vast contempt of the Gradgrinds for the dignity of man and the amenities of life. To such people the most hopeful way of approach is through the welfare movement and the co-partnership movement. The case must be stated again and again for reconditioning and reconstituting the mass and volume of workshops on the æsthetic plane. There is every reason for orderliness and good disposition of plan; there are vital reasons for suitable decoration in form and colour on and within these buildings.

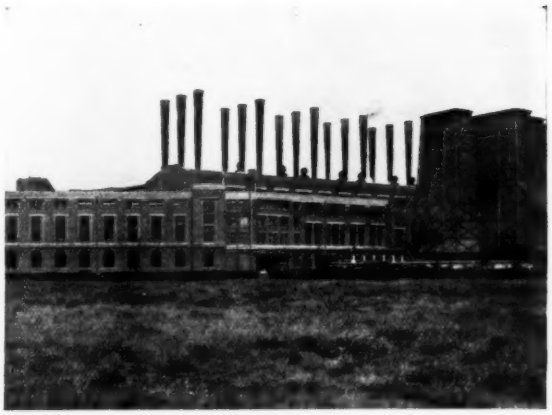


Much talk goes round against the ostentation of the wealthy. Nevertheless, it is not their splendid palaces which may procure their downfall, but that meanness and plainness of their factories in which architects have too frequently acquiesced. To deny design and its consequent dignity to the workshop is to deny the validity of all architecture. For the poorest attempt at design, or even the tawdriest ornament, does at least bear witness that man has too much spirit to live in a merely useful shell. Especially should thought be given to the placing and shaping of the chimney, so that its slender roundness may be set between the square shapes of workshops; or it may stand in friendly contrast to the long lines of sheds and docks, or it may dominate and close the end of a vista.

Following are further notes on some of the chimneys illustrated in this and the preceding article.

The New Medical College Buildings, Edinburgh. Sir Rowand Anderson and Balfour Paul were the architects

Above, the chimney at the power station, Lodge Road, London. Below, the electric power station, Fisherton.



Left, Lots Road power station, Chelsea. Right, Nechell's generating station, Birmingham.

of this individual little chimney which is built of buff-coloured bricks. When new the colour must have been very delightful and have given it a lightness desirable in the subject.

The Power Station, Lots Road, Chelsea. These four chimneys stand like four young gigantic Chelsea geniuses whose beards are not long enough to cover the deprivations of shirt or coat; so scanty is the modelling of their summits, so enormous is the sheer fall of limb to the buildings below. The clean straight lines of them with the long horizontal lines of roofs form the best composition of the kind in London. The symmetrical grouping of the four shafts, placed far inside the outer walls, makes them bear each a relation to the others, and the whole group a relation to their building. From almost any point the power station makes a picture.

Salisbury Electric Light Station. This supply is driven partly by water, and the building was once the old Fisherton Cornmill, stone built in the Middle Ages and with a brick addition of the eighteenth century, having segmental arches, the usual mark of the age to distinguish utilitarian buildings from civil or domestic architecture. It is thought that Mr. Doran Webb, F.S.A., was the designer of the chimney and remodeller of the building. He has kept the shaft in the background, using partly old materials; the panels are slight but quite enough, and the group still looks a composition of farm buildings; and the water still rushes out from the mill wheel, as it has done since A.D. 1100. There can exist no more charming expression of the change into the industrial age than this old young mill.

Another view of the Lots Road power station, Chelsea.

Worcester Waterworks. The great halls and distant altars of the Middle Ages make an extraordinarily strong impression on the towns round them. A cathedral city never fails to preserve a certain amount of decency as a whole, at least compared to some of the ultra manufacturing towns of the north and the nineteenth century. At Worcester, for instance, there is this well-arranged waterworks, planned so as to please the eye with its grouping, by an engineer, before the cleavage between the two professions had opened. The bricks are very hard, without texture, but on that account look all the stronger, as though every inch was doing its work. After all there is a technique for expressing strength by smoothness as well as our more modern technique for expressing softness and colour by texture.

The Tower Station, St. John's Wood. This chimney is square with entasis of vertebral shaft reducing so much as to get a line terrific in strength; it looks all bone and sinew till the summit stage, where rustications, an arch and pediment on each face give it a shaggy head. It is raised up above horizontals of low stories and galleries, and running out from its base towards Lodge Road is a high haunch drooping with shaggy moulding and carving round windows.

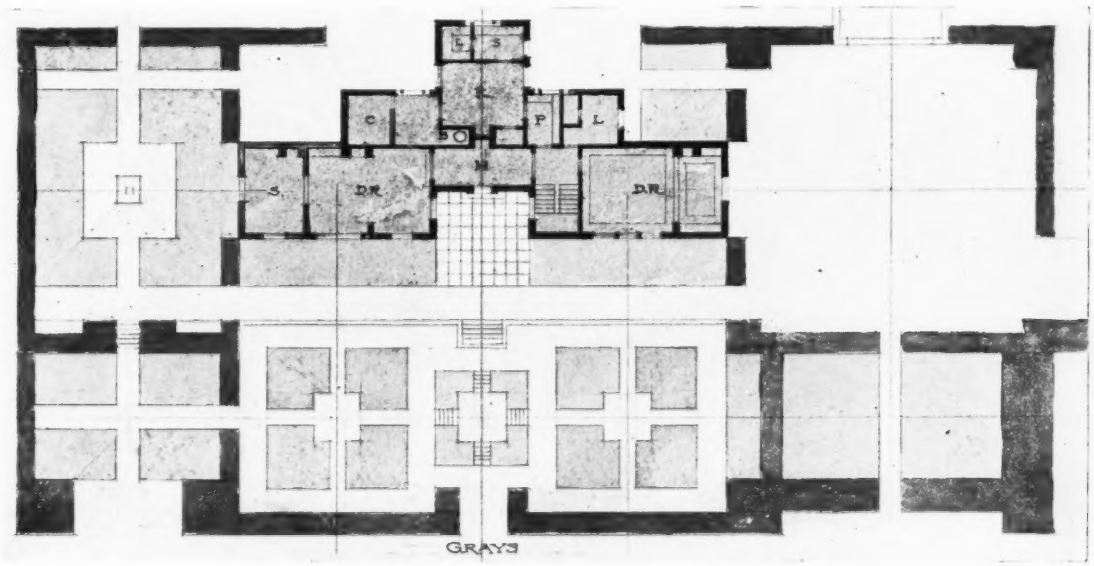
Birmingham Super-Generating Station. The chimneys are grouped; and being of steel have taken a different form to the old brick ones. There is a look of their being a cluster of black tulips, and design is evident in the whole scheme.

CURRENT
ARCHITECTURE
SECTION

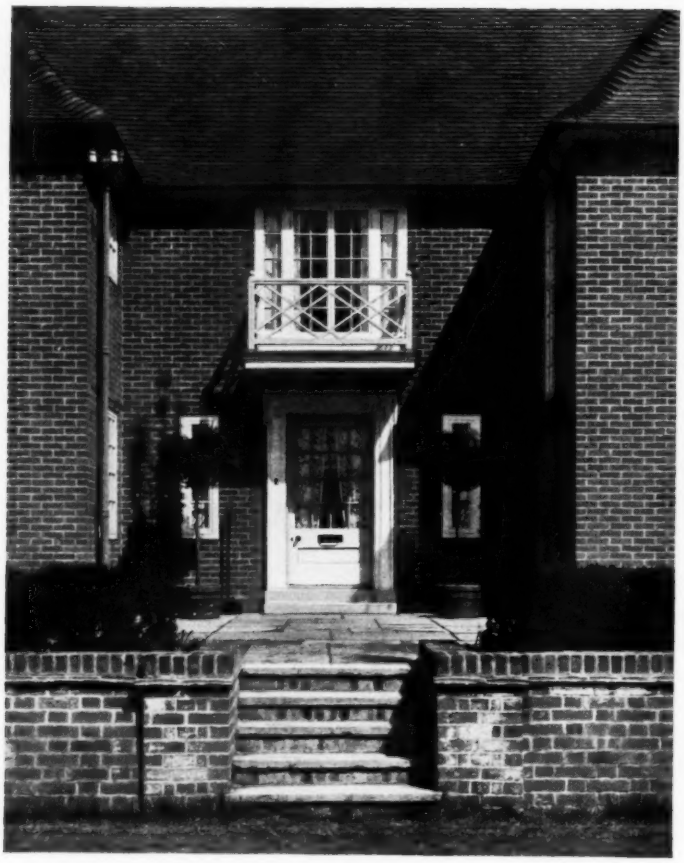
TWO HOUSES BY MR. W. CURTIS GREEN

[BY E. R. JARRETT]

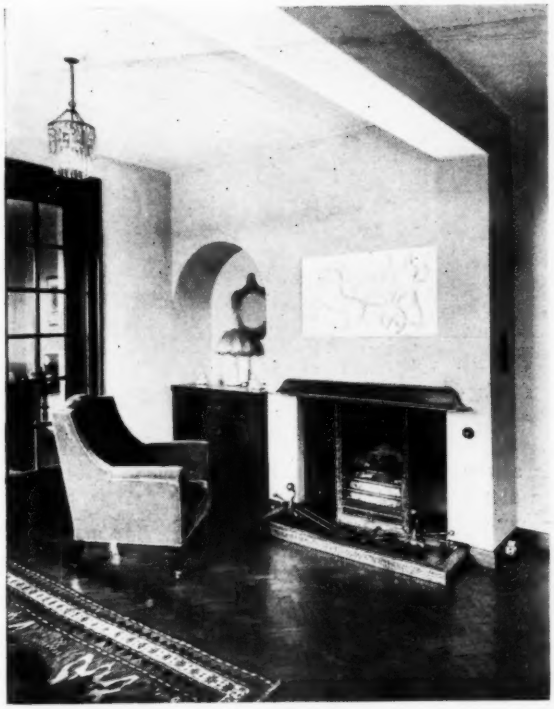
MR. CURTIS GREEN says he thoroughly enjoys wrestling with the problems of the small house; that to take the requirements given to him and to juggle with them until he obtains a solution satisfactory both to his client and to himself, often remodelling his original scheme considerably in the process, can be as interesting as the preparation of a design for a project of much greater magnitude. He also confesses to a liking for a centre line, and an effect of balance and regularity; while it is obvious from a study of the work illustrated that he possesses a feeling for form and mass,

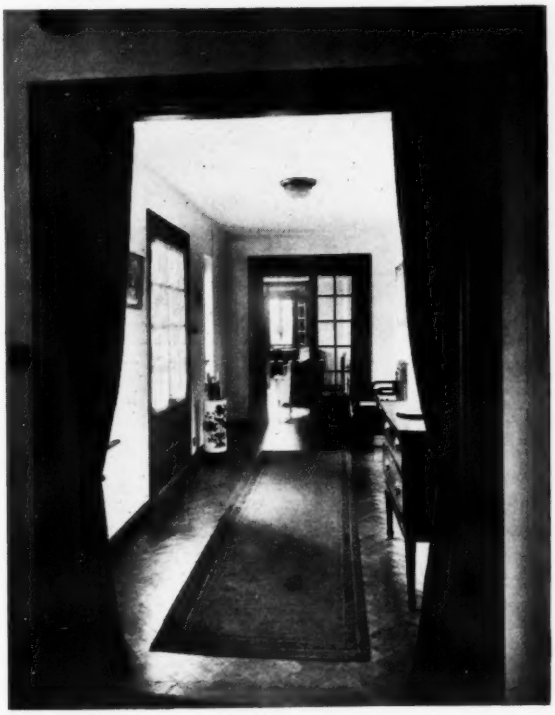


House at Highfields, West Thurrock. By W. Curtis Green.
Above, the entrance front. Below, the ground plan.



House at Highfields, West Thurrock. By W. Curtis Green. Above, the entrance front. Below, a detail of the entrance.





House at Highfields, West Thurrock. By W. Curtis Green. Above, the dining-room. Below, left, a corner in the drawing-room; right, the hall.

not regarding his building as merely possessing four elevations, each of which is to be observed individually, but rather the whole as a unit which, being three-dimensional, shall group pleasantly in perspective. This thinking in the round is of the greatest importance. Architecture is a plastic art, and must not be limited by tee- and set-square.

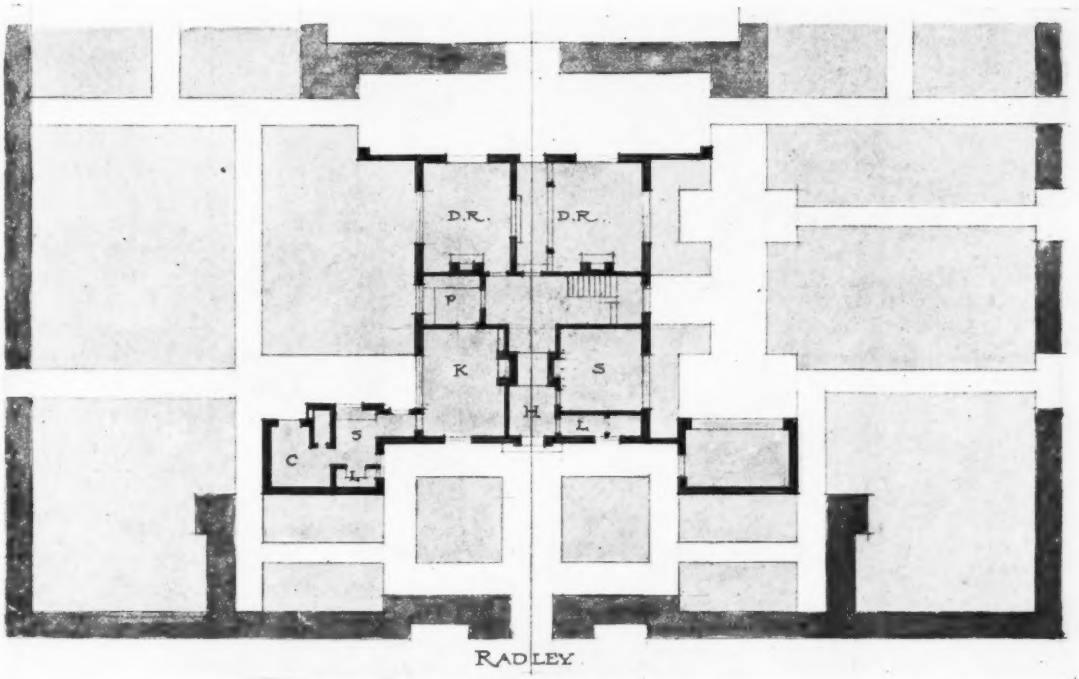
In considering these two houses, it is interesting to compare the drawings—which were exhibited at the Royal Academy two years ago—with the photographs of the completed works, and to note how much softer and more restful is the finished product than the most sympathetic rendering can make it on paper. In the latter case any slight irregularities of balance and arrangement are prone to leap to the eye, but with the growth of trees, hedges, and creepers this disparity of weight is lost by a merging into the general setting; the house itself taking its place, as all good houses should, in the surrounding landscape. In this connection one should note carefully the lay-outs. As befit symmetrical buildings these have been arranged on a system of axes and cross-axes, and although the illustrations hardly do sufficient justice to them, it may be mentioned that the original garden designs have been closely adhered to with considerable success, and it requires the lapse of but a few years before the garden bears the same relationship to the house as a horse to its rider blessed with good hands; the one will be a complement of the other.

In the treatment of the plans attention may be called to the position of the staircase, admittedly one of the most difficult features of a house of any size. Note the clean plan of the houses at Abingdon and West Thurrock, where the stairs are tucked conveniently away in a space to themselves. The planning of the remainder of the house in each instance is marked by a very workmanlike handling. Service from kitchen to dining-room is direct and easy, and it is noteworthy that in each case the pantry is planned to play the part of a "buffer-state" between those portions of the house occupied respectively by owners and domestics. It will be observed, too, that the mixed blessing known as the service-hatch between pantry and dining-room is omitted. It is, however, an arguable point whether greater facility of access might not have been provided between kitchen and scullery. But then it is always unfair to criticize plans which may have been dictated by special requirements.

House at Highfields, West Thurrock. By W. Curtis Green. The drawing-room.

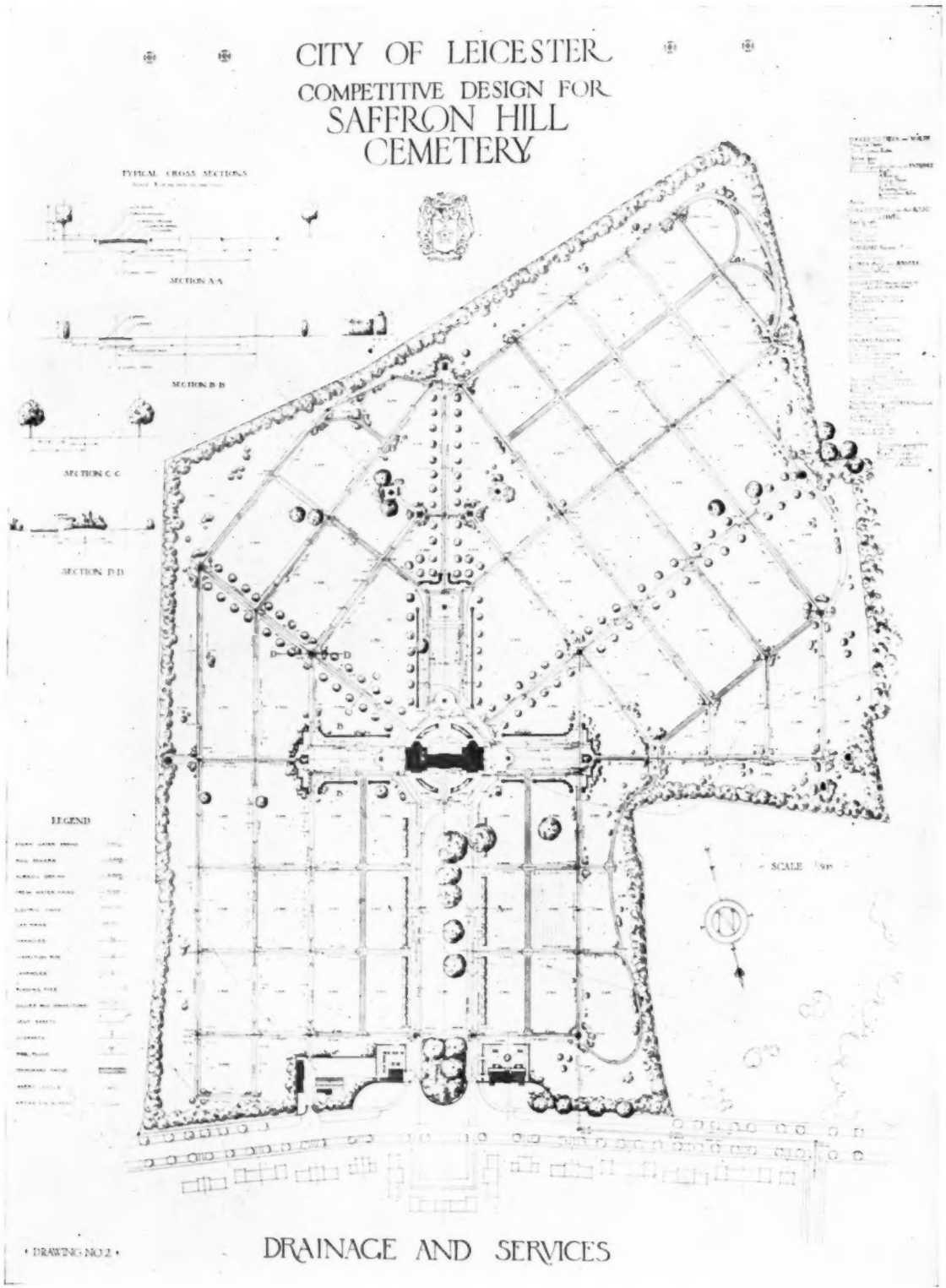
Many interesting devices have been used to enliven the living-rooms. In each case the drawing- and dining-rooms have that touch of character which raises them above the ordinary run of four-square rooms, as witnessed in the Abingdon house, where an air of spaciousness is obtained by the introduction of glazed doors between the dining- and drawing-rooms, steps down into the latter, and the placing of two piers which, besides serving the purpose of supporting a wall above, help to carry through the centre line of a plan remarkable for its symmetry.

The position of the fireplaces at West Thurrock should be noted. At first sight, perhaps, they may appear to be

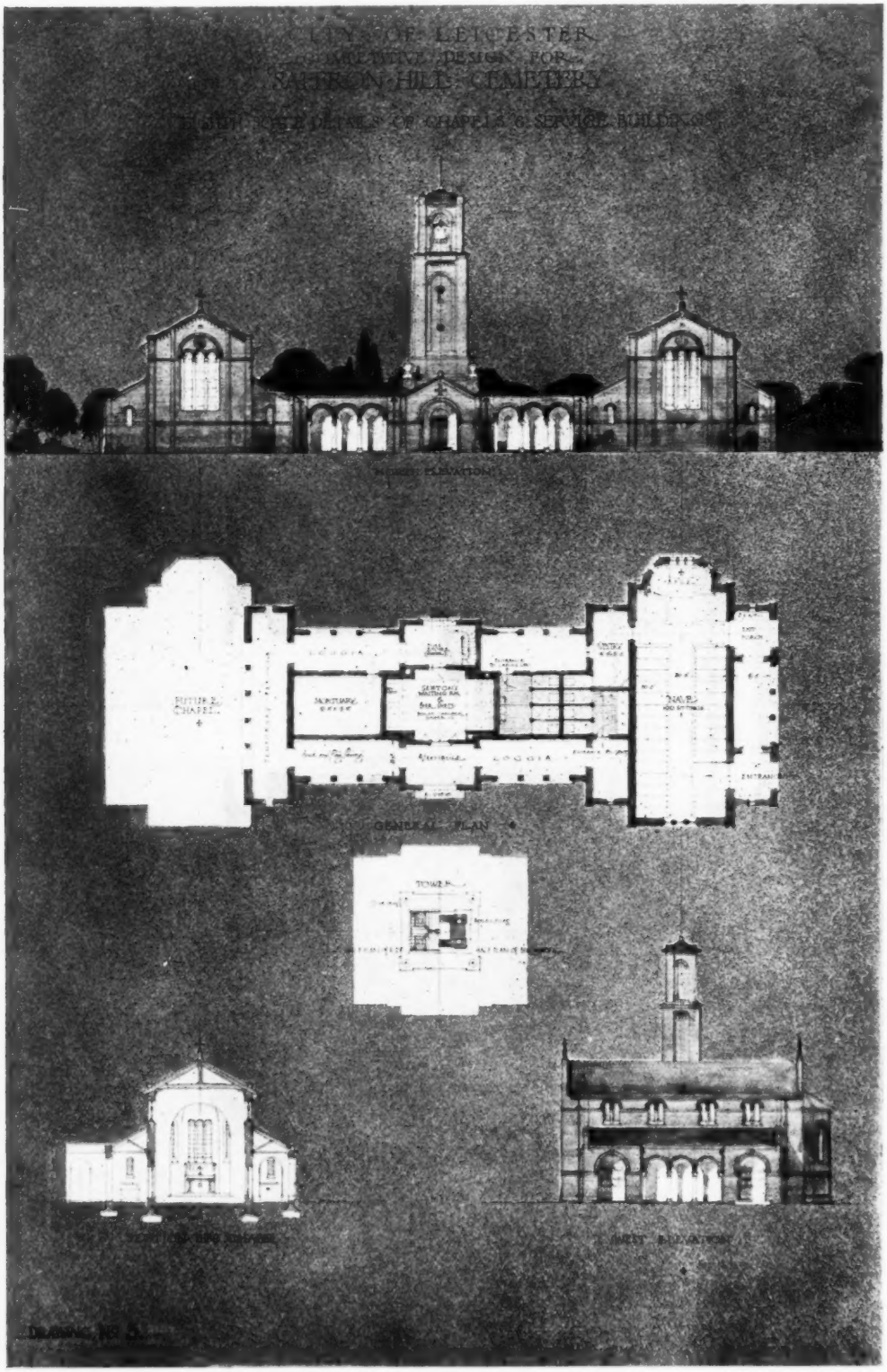


House at Radley College, Abingdon. By W. Curtis Green. Above, the garden side. Below, the ground plan.

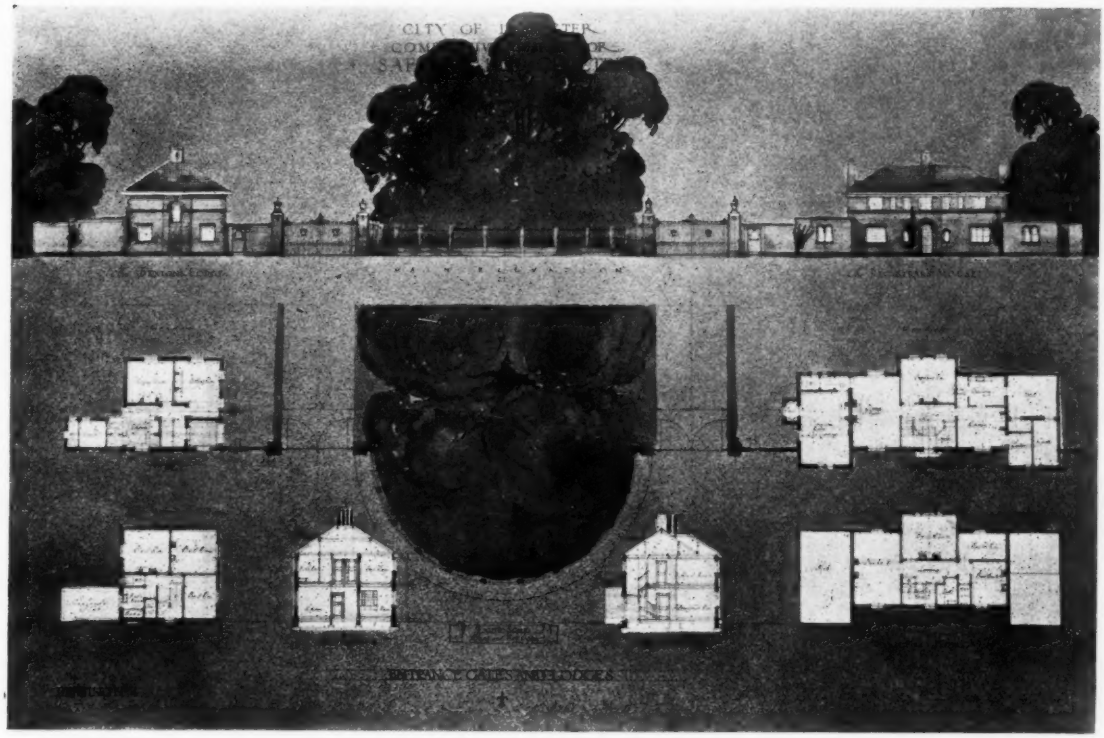
House at Radley College, Abingdon. By W. Curtis Green. Above, the garden side. Below, the front door.

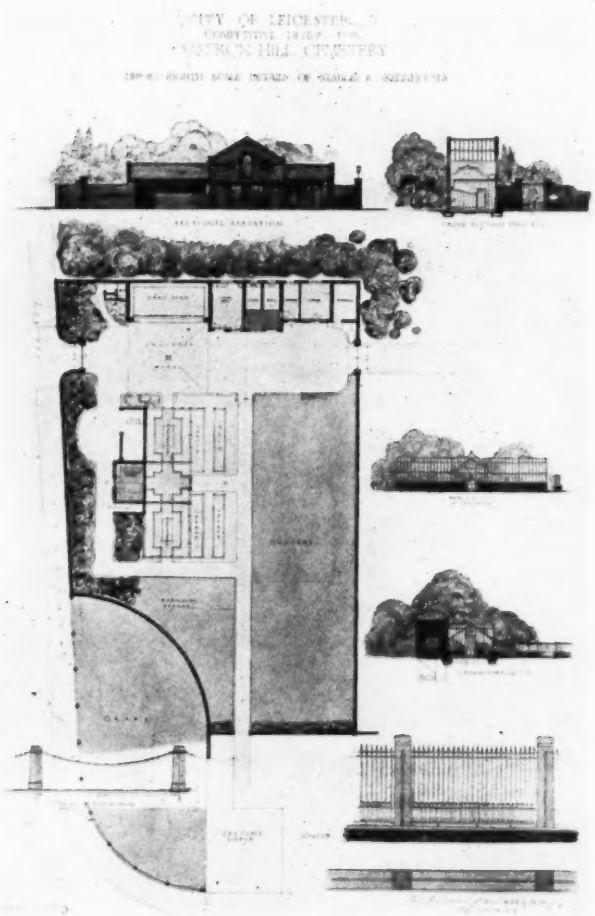


Saffron Hill, Leicester, Cemetery Competition. H. V. Lanchester, assessor. The first premiated design. By Thomas H. Mawson and Sons.

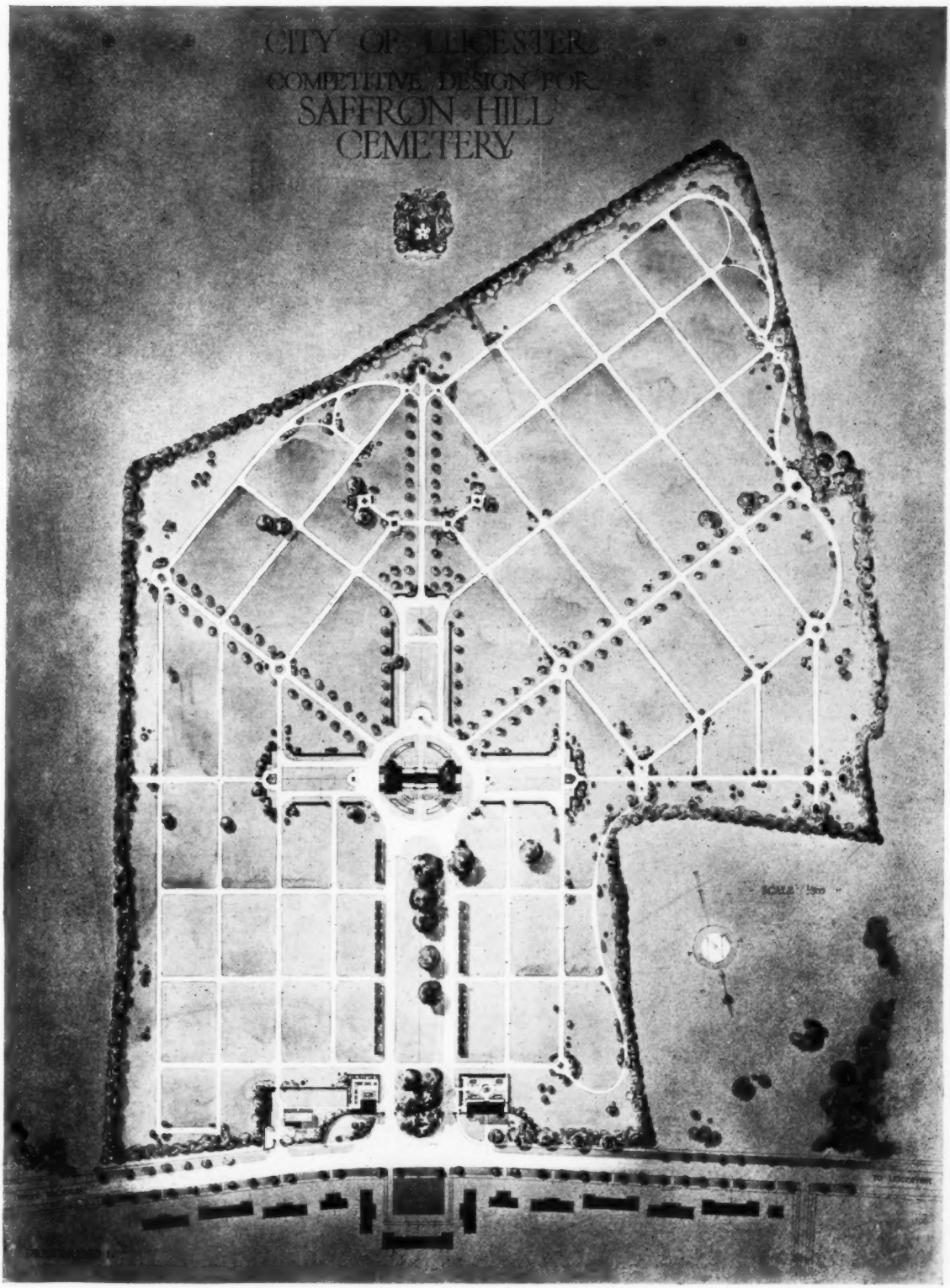


Saffron Hill, Leicester, Cemetery Competition. H. V. Lanchester, assessor. The first premiated design. By Thomas H. Mawson and Sons.

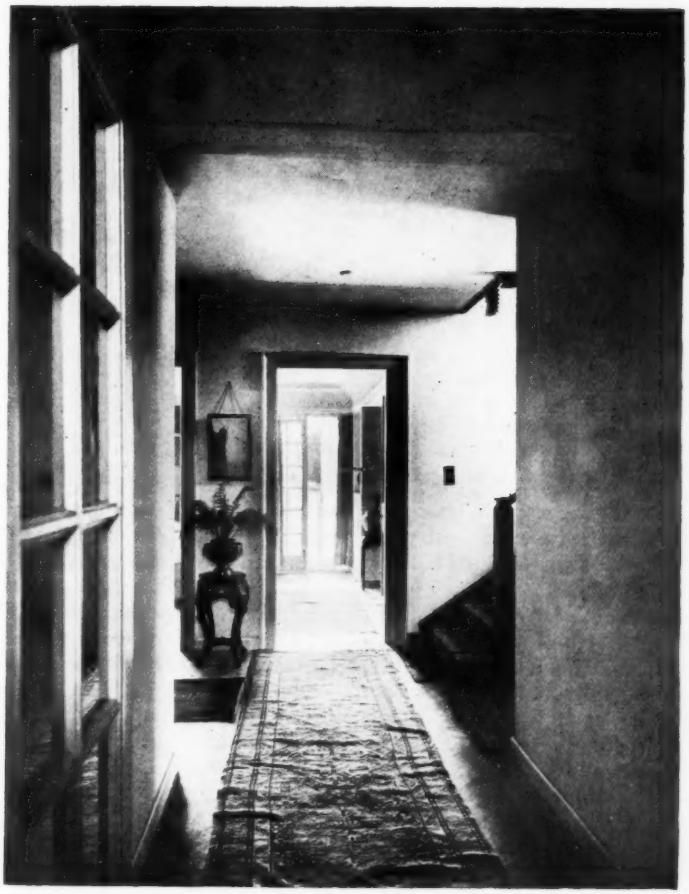




Saffron Hill, Leicester, Cemetery Competition. H. V. Lanchester, assessor. The first premiated design. By Thomas H. Mawson and Sons.



Saffron Hill, Leicester, Cemetery Competition. H. V. Lanchester, assessor. The first premiated design. By Thomas H. Mawson and Sons.



House at Radley College, Abingdon. By W. Curtis Green. Above, the dining-room. Below, the staircase hall.

slightly too much out of centre but they facilitate the gathering-in of the flues and, owing to the position in the dining-room, the honoured guest may enjoy his dinner without feeling his dress-coat being scorched on his back.

Of the elevations, that at Abingdon is, perhaps, the more satisfying. The general massing of elements, the placing of doors, windows, and chimney stacks, and the sense of support lent by the two projecting wings form an excellent illustration of the effect obtainable from a direct use of materials and an appreciation of the proportionate values of void, solid, light, and shade. The other one does not quite reach this level, the recession of the doorway between two wider masses somewhat disturbs the complete harmony of the front, and the doorway, more particularly in dead elevation, appears somewhat crushed. Close inspection of this entrance shows it to be a feature happily conceived and handled, worthily fulfilling its purpose as focal point in the design. The playful balustrading to the little balcony will not be overlooked.

A strong point in the design of both houses is the careful placing of the chimney stacks. Of a size proportionate to the buildings, they penetrate the roof in an orderly manner, which denotes a nice adjustment in planning and become not, as is so often the case, irrelevant excrescences, but corporate and essential elements of the design as a whole.

Internally there are many delightful features. At West Thurrock the fireplace, with black marble surround and brass canopy, surmounted by a relief and flanked by an arched recess, forms an asymmetrical grouping of great charm. There is a sense of extreme refinement in the wall surfaces which is largely attributable to the omission of a cornice. Far from impoverishing the design this omission adds to the room considerable dignity, the whole forming a striking argument for simplicity coupled with taste in design. Attention may also be drawn to the fireplace in the drawing-room at Abingdon, an interior of Dutch bricks surrounded by a robust bolection moulding carried out in slate.

The materials used are employed in a manner as direct and unaffected as the design. The walls are 11 in. hollow, the bricks being hand-made and of broken colour to remove any appearance of monotony from the use of stretcher-bond. Casements and frames are of wood, the frames being set back ¾ in. from the face of the wall. In the case of the West Thurrock house, which occupies a very exposed site, as an additional safeguard against the weather, Nicoll's patent weather check is inserted between the meeting stiles and as a continuous hinge. The ground floors are of pitch pine polished, a small drop of indian ink being mixed with the polish to kill the red colour of the wood. All internal joinery, except where painted, is of American basswood, slightly stained and waxed.

Pleasantly designed, well detailed, and soundly built, these two houses are of the type which, thoroughly English in character, mellow with age, and take their place quite naturally in the countryside, and at the same time have every appearance of being very comfortable houses to live in.

House at Radley College, Abingdon. By W. Curtis Green. The drawing-room, looking into the dining-room.

[For list of contractors and sub-contractors see page 428.]

TALKS TO STUDENTS OF ARCHITECTURE

[BY W. S. PURCHON]

IV: THE CALCULATION OF STRUCTURES

If your probationership of the R.I.B.A. was obtained by passing a recognized school-leaving examination, your knowledge of elementary mathematics is probably in order. If it is not, polish it up, and then tackle mechanics. You are then ready to study the actual calculations of structures, for which suitable books are Charlesworth and Bates's *Mechanics for Builders*, Husband and Hardy's *Structural Engineering*, P. Waldram's *Principles of Structural Mechanics* and *Structural Design*, and Hardy's *Statics*.

First I would advise you to do all your calculations neatly and clearly, for a large proportion of errors are due to slovenly work. Many errors again are due to confusion of units, mixing up inches and cwts. with feet and tons. Begin your studies by getting clear ideas of the different stresses and of the meanings of live loads, dead loads, safe loads, and factors of safety. Be sure that you understand centre of gravity, and that you can find it for various plane figures, solids, and arrangements of weights. Work at such matters as the moments of forces, triangle, parallelogram, and polygon of forces until you are perfectly clear about them. Next draw up a list of the weights per cubic foot of materials commonly used in building operations, including water, and note which are heavier than water, and which lighter. The act of doing this will probably save you from a number of absurd mistakes in later work. If you know the unit weights of the material you can calculate the actual weights of parts of structures.

Your next task should be to draw up a statement of the strengths of the various substances you are likely to use in building operations, including brickwork, stonework, concretes of different types, timbers, cast-iron, wrought-iron, and steel. Distinguish between safe loads and breaking loads, noting the varying factors of safety to use for different materials and different types of structure. Also note the difference between the crushing loads on bricks and the crushing loads on brickwork. Note how lime and cement mortars affect the strengths of different qualities of bricks. These tables which you are drawing up should be taken from the results of actual tests, which are recorded in various textbooks. The bearing power of various subsoils should also be noted at this stage, and some simple calculations made of foundations. Follow this up with a series of beam calculations. Take a set of cantilevers and beams, loaded in various ways with concentrated and distributed loads, and make sure that in each case you can calculate mathematically the reactions at the supports, and the shearing stress, and bending moment at any point, being careful about your units in each case. Then try the same calculations by graphic methods. Never leave a graphic calculation of this kind without putting down the results in figures. Having stated the results, then check by the previous mathematical method, and note the amount of error. Be careful to check in this way the bending moment at a special point, not necessarily the centre, in each case, and always note the maximum bending moment.

You may next proceed to the calculation of the actual sizes of beams required for any ordinary purpose. Start with timber beams, and study a formula in which the bending moment is equated with the moment of resistance. Work out the safe load and the breaking load per square foot for a number of rooms of different spans with varying sizes and spacings of joists, and in each case see that your answer is a reasonable one. A good domestic floor will probably carry safely from ½ to 1 cwt. per square foot, and break at from 1½ to 3 or 4 cwts. per square foot, so note that your results approximate to these figures if you have used normal sizes and spacings of joists. Always apply an approximate check of this kind to your calculations; this is, perhaps, the most useful advice that can be given to a young student of this subject. Be sure you understand why building by-laws allow the substitution of other timber scantlings providing the same value of bd^2 is maintained. After working a number of normal examples, try a slightly more complicated problem. For instance, find the size of joists required for the floor of a bedroom, about 16 ft. × 12 ft. 6 in., and then see what saving of timber can be effected by placing two timber beams across the shorter span and supporting smaller joists on them. This problem requires considerable care in working. The joists should be exactly set out in plan, and their cubic contents accurately calculated after their scantlings have been determined.

Rolled steel joists should then be considered. You should set out some full-size common examples of the standard steel sections, both for joists and other forms, noting the exact methods of finding radii, slopes, etc. Next study the methods of finding the moment of resistance of a rolled steel joist by means of the modulus of the section. This is well worth tackling, as it will enable the information given in steel section tables to be used with understanding. Having found the accurate moment of resistance in this way, work out for your own satisfaction, how it differs, and why, from the results obtained by the simple process of multiplying approximate area of section of one flange by the total depth and by the unit stress.

You can now calculate by both the approximate and the accurate method a number of examples of rolled steel joists and built-up steel girders loaded in various ways, and check your results by the figures given in the books of tables.

Piers of brickwork and stonework, and struts and pillars of timber, cast-iron and steel should next be tackled. You will note that the safe and breaking unit loads which are given are for short specimens, i.e. for examples in which the length or height is not more than about five times the least width. If, therefore, a pier or strut is a short specimen, you may find its strength by simply multiplying the area of its cross section by the unit load, but if the example is longer than this a more elaborate calculation is necessary. Note carefully, then, that the whole object of these somewhat complicated calculations is that of finding a reducing value of the load which may be put on a unit of area of section as the relative length or height of the strut or column is increased. Work out the load per square inch of section, which is allowed in a number of examples in one of the books of steelwork tables.

Inaccurate results are often obtained by forgetting to bring some dimension in feet to inches, or some load in cwts. to tons. The only way to guard against slips of this kind is to check your work by approximate methods, and to note that your answer is expressed in the right units. For example, suppose you have to find the safe total load which can be placed on a certain steel stanchion. First ascertain an approximate reasonable answer, which we will say you fix at 50 tons. Now work your more elaborate calculation. If the answer to this comes to 47 tons, the chances are that you are not far wrong, though there is always a possibility that you have made two errors which have counteracted each other. Check again by finding the safe load on a short specimen of similar sectional area, and by finding the actual load you are allowing on unit area of section.

In calculating the stability of walls you will have little difficulty in dealing with simple cases of wind and water pressure, but will be troubled with problems in earth pressure. A good plan is to take a section formed by an approximate method, and to test its stability by two or three of the different methods given in the textbooks. Also try it by the different methods, but with the batter reversed. In calculating steel roofs by the usual graphic methods, make sure that you have really completed your calculation. It is at least necessary that you should state the actual stress in each member. Make a custom of doing this for every example you work. You should always, in practising these problems, find the actual sections required for the members, and calculate typical joints, for then you will really have applied your graphic methods to the actual solution of the problem.

[*To be continued*]

BUILDING AND DECORATIVE TIMBERS

[BY G. A. T. MIDDLETON]

V: TROPICAL AMERICAN, WEST INDIAN AND AFRICAN TIMBERS

MAHOGANY is the best-known timber from the West Indies and the tropical belt of the New World. First brought to England nearly four hundred years ago, it has, for the last two hundred years at least, probably been used, until quite recently, more than any other wood for high-class joinery and cabinet work. The tree is large and handsome. Its wood is large, free from knots and other defects; it shrinks and warps very little; it has a satin-like sheen when polished, especially when it is cut to display the medullary rays. Its colour is a rich nut brown which improves with age. Thirty feet is not an unusual length for this timber, and the squares range from twelve inches to as much as fifty inches. The wood is somewhat hard and heavy, yet it is not difficult to work. The quality varies, and popularly the "Spanish" of Cuba, Trinidad, and San Domingo, is differentiated from the "bay," which comes from Honduras, though botanically they are the same and practically difficult to distinguish. Supplies, in British Honduras at least, are being increased under a recently formed forestry department, and promises to be regular and sufficient to maintain a large trade. Efforts are also being made to introduce the timber into other British Colonies, notably Ceylon, with similar climate and soil.

The Honduras forests contain many other timbers, notably the cedar and the logwood. The former is well known owing to its use for the manufacture of cigar boxes, and from the latter the dye of that name is obtained. Far more valuable for building purposes is the sapodilla, or chewing gum. Of this timber two indigenous varieties produce both gum and wood of high quality. The timber becomes available for felling in regular rotation as the old trees cease to produce an adequate supply of the more valuable product, the gum. It is a timber of which much more may be heard, as its growth is doubly profitable.

A pseudo-walnut also grows in Honduras. It resembles closely the true walnut, and is useful for the same purposes. It is hard, and takes a good polish. Locally it is known as "black poison-wood," because the bark contains a gum which is poisonous when fresh. The wood contains no poison, and is safe to use.

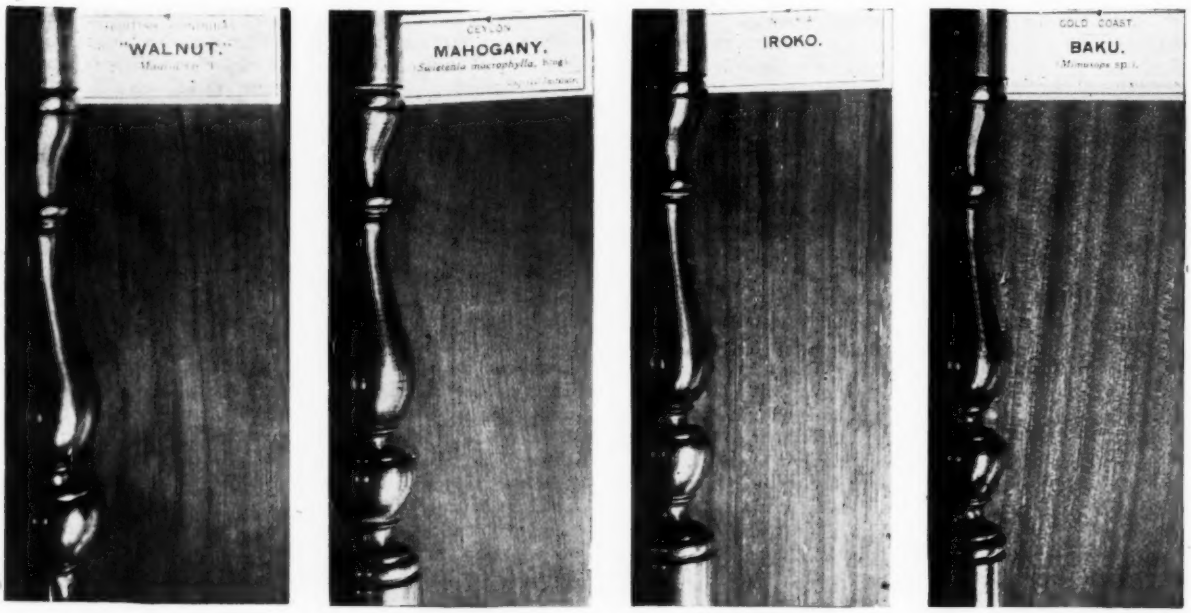
Greenheart—possibly the finest timber in the world for under-water use and shock resistance, as in the piles of sea jetties—is indigenous to British Guiana, and grows nowhere else. It is clean and straight in grain, very heavy and tough, hard, strong and elastic; but it is not a beautiful wood. Comparatively little of this wood comes into the market, though there is much of it in the forests.

Crabwood is also a product of Guinea. It has greater beauty than the greenheart, but it is little known in England, suffering in the same way from lack of initiative in the development of the colony.

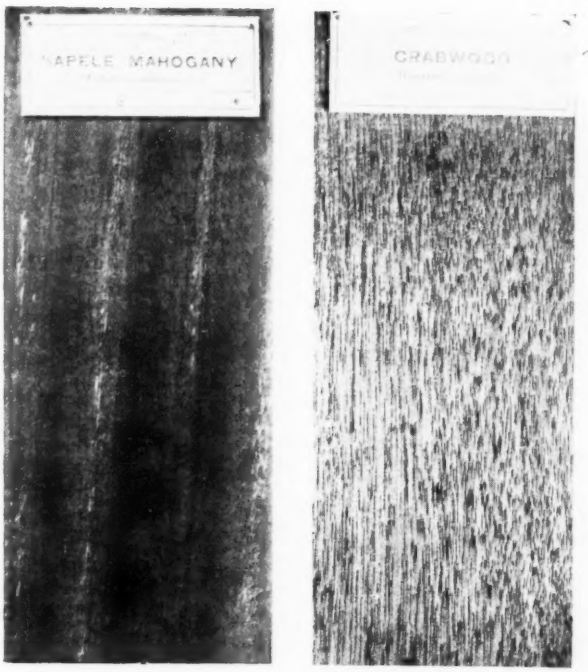
The forests of Equatorial Africa are of enormous extent. At present they are largely undeveloped, and must continue to be so for a long time, owing to the extreme difficulties of transport. The writer has handled specimens of many very fine timbers from the Soudan. These are unknown, and must remain unknown, in the European market on this account. It is the same with the products of Kenya, Tanganyika, and almost the whole of the interior.

The West Coast is somewhat different, and a certain quantity of African mahogany and African teak comes from Nigeria and the Gold Coast. Several different timbers go by each of these names. They are distinct from one another as they are from the true mahogany and the true teak; yet the resemblance is so close, both in appearance and qualities, that even practised experts may be deceived.

Sapele, or jebu, for instance, has the satin-like surface of mahogany, which it closely resembles, yet it is not a mahogany at all. It is scented like a cedar, and its colour and texture are extremely variable. It is obtainable in fine, large, well-squared logs, and in considerable quantity.



Left to right, pseudo-walnut from Honduras. Honduras mahogany grown in Ceylon. Iroko. Baku.



Left, Sapele mahogany. Right, crabwood.

Iroko, another Nigerian timber, closely resembles teak. It is a hard and durable wood of good appearance, it saws and planes well, it is suitable for joinery and for heavy construction, and its weight is about forty-eight lb. per cubic foot. It is one of the best of the Nigerian timbers, and certainly one of the best-known outside Africa—as it well deserves to be.

Baku, from the Gold Coast, is a more distinctive timber, and is fairly common. At present it is used principally for furniture, but, like many another valuable wood, is not much known in England for the reasons already given. The tree has an average girth of ten feet.

[*To be continued*]

[For information contained in this article, and for facilities for obtaining the accompanying illustrations, the author has to thank the Crown Agents for the Colonies, the Empire Forestry Association, and the officials of the Imperial Institute.]

CORRESPONDENCE

THE R.I.B.A. AND NEW SOCIETIES

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—As a practising architect, who is not a member of the R.I.B.A., I should like to comment on the letter which recently appeared in the professional Press from the President of the R.I.B.A. Until the provisions of the proposed Registration Bill are made public it is obviously impossible to form an opinion on their merits or adequacy. In the meantime the known reluctance of the R.I.B.A. to provide facilities for admitting any architect into their membership who has passed the student stage would seem to indicate the intention to differentiate in the Registration Bill very considerably between members and non-members of the R.I.B.A. It seems, therefore, to be expecting a good deal of non-members to expect them to rest satisfied with a mere statement, unsupported by details, that the proposed Registration Bill safeguards their interests.

The Institute rules do not make provision for the admission of those non-members who, during their student days either omitted to sit, or were for some reason prevented from sitting, for the Institute examinations, and despite this have attained established positions either as practising architects or as official architects to Governments or large corporations, although there is no doubt that many such cases exist. Not only is there no such provision now, but the Institute appears to have gone out of its way to close up previous avenues of entrance, and to make it virtually impossible for any architect to obtain membership except by passing the Final or Special Examination for Associateship. Both the Final and Special Examinations (which, I understand, are identical except for the preliminary work) are framed for the purpose of examining students, and are not intended for, nor are they in the least degree suited to, the examination of anyone whose professional career has passed that stage.

I am not in favour of reducing in any way the standard demanded by the Institute of its members; but I do consider that it is in the interests of Registration, the R.I.B.A., and all qualified architects that the R.I.B.A. should be able to claim that its members include all qualified architects, which at present it is unable to do. At the same time to ask a busy architect, perhaps the head of a large office, to leave his work to cram for and answer involved theoretical papers suited only to students is unreasonable. It seems particularly unreasonable in the case of our profession, because our executed work, unlike a doctor's, for instance, can be readily examined, either actually or from drawings and photographs, and its merits or demerits ascertained. I know I shall be told that the R.I.B.A. has tried this system before, and that it has failed. The failure, which I admit, was due to the method of applying the system and in no way to the system itself.

Some definite pronouncement from the President of the R.I.B.A. on the question of the policy of his Institute on this important question would, I think, be of considerable value. Failing this, the R.I.B.A. cannot be surprised if even those non-members who, like myself, believe in the importance of having only one governing body, in self-defence join any society that happens to be open to them rather than face a Registration Bill belonging to no society at all. Membership of an allied society alone is not sufficient, with all due deference to the President's statement to the contrary, as voting powers for all practical purposes are confined to R.I.B.A. members; and what the established qualified architect requires is at least equal voting powers, on a point that affects him vitally, to those given to one of the latest batch of students which has successfully negotiated the R.I.B.A. Final Examinations.

The R.I.B.A. cannot prevent new societies arising, but by a progressive policy it can limit the influence of such societies, making it most improbable that they will count amongst their members any qualified architects. I submit that the present R.I.B.A. policy is rendering it almost inevitable that qualified architects will be found amongst the members of new societies, and if this is the case the effect on Registration may be disastrous.

UNITY

THE BRITISH OCCUPATION OF JERUSALEM

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—What precisely does "Astragal" mean by the terms "English occupation," on page 320, when he refers to excavations in and about Jerusalem? J. M. GLOVER

"Astragal," in reply, says: "I had in mind not only the present civil administration, but also the feat of arms which made it possible. I had to find a word which would not do injustice to the fine record which the army has created for itself in the matter of archæology in Palestine, and selected the general term 'Occupation' ('Act of taking possession') to describe the circumstances which have been favourable to this kind of research since the exit of the Turk. Many monuments and sites were preserved by the wisdom and archæological zeal of our officers in the field, which would otherwise have been despoiled or obscured in the race for gain or the rage for modern improvement. Various specific names have been given to our continued intervention in the government of Palestine, but those who are in a position to realize the pressure of the facts have no doubt of its nature. The protesting Arab who finds that the country is being turned by us, despite his protests, into 'A National Home for the Jews,' has to bow to the reality of occupation by whatever softer name it may be called."

THE ARCHITECT'S BALANCE SHEET

[BY OUR FINANCIAL CORRESPONDENT]

THE cash book and how to keep it in a concise yet simple manner has already been described in the issues for June 16 and 23. It seems a pity that though many architects keep books in their own pet way they should not carry out such work according to strict bookkeeping rules, and thereby ascertain the profit made or loss sustained and the position of their capital account at the end of each year. For example, let it be assumed that an architect started his profession with £300. The cash book would be debited £300, and capital account credited with a similar amount.

The cash book has been written up with imaginary receipts and payments for the year ended December 31, 1925 (see form A). The next step is to purchase a small, inexpensive ledger, which is the only other accounting book required in order to record every entry from the cash book.

Open the following accounts in the ledger :

1. Capital account.
2. Professional fees.
3. Investments.
4. Expenses.
5. Drawings.
6. Office furniture.
7. Travelling expenses.

The following rule must be strictly adhered to in posting the cash book to the ledger :

a : Post all receipts to credit of ledger accounts.

b : Post all payments to debit of ledger accounts.

The ledger accounts Nos. 1-7 will then, using the above figures, appear as illustrated, and show the balances as extracted for trial balance purposes and the opening trial balance referred to later herein.

With regard to account No. 6, it is advisable to write off depreciation at the rate of 5 per cent. p.a. and charge this amount to profit and loss account.

The balances on these accounts (before closing same) marked X including the cash book balance at December 31, 1925, are then extracted, which forms the trial balance (see form B), and proves whether all the postings and casts of the cash book and ledger are correct.

The accounts relating to profit and loss are then written off, and form C shows the results after taking into consideration that the fees owing at the end of the year were assumed to be £170, and that expenses accrued, but not paid, at December 31, 1925 were £50.

The balance sheet figures are fully shown in form E, and the architect would have ascertained therefrom that he had made a net profit of £517 10s., and that his capital in the business at December 31, 1925, was £417 10s. (or £117 10s. more than when he started), made up as follows :

	£ s. d.
Assets as detailed per form E	467 10 0
Less creditors for expenses per form E	50 0 0
	417 10 0

The investment is included in the business accounts because it was purchased out of business funds and not privately.

All expenses of a private nature should be charged to drawings if paid out of the business in order to keep the expenses of the profession entirely separate.

It will be observed that the ledger accounts are closed off in accordance with the profit and loss account, and that the accounts owing either to or by the architect are brought down on the ledger accounts as assets and liabilities respectively. In order to prove that the books have been correctly closed at the end of the financial year another trial balance is taken out, called opening trial balance, from the ledger and cash book (see form D), the debits and credits of which should agree.

Remember that all debits on the ledger of the opening trial balance are assets, and that all credits are liabilities. As soon as the opening trial balance has been agreed, the new year's postings may be proceeded with, when the same procedure is followed for the ensuing year.

The expenses have not been detailed here, but they should obviously be given various headings as desired, e.g. rent, rates, water, insurance, lighting, etc., or whatever accounts are considered necessary. The amount of £550 appearing as a charge under this head in the profit and loss account would be detailed accordingly, and not in one lump sum, as shown in form C for the sake of brevity.

FORM A

CASH BOOK (CONDENSED FORM)

Year ended December 31, 1925

1925	£ s. d.	1925	£ s. d.
Jan. 1. To Capital	300 0 0	Dec. 31. By Expenses, viz.: Rent, Rates, Telephone, Lighting, etc.	500 0 0
Dec. 31 „ Fees ..	1,000 0 0	„ Travelling Exs.	100 0 0
		„ Investment ..	102 0 0
		„ Drawings ..	400 0 0
		„ Office Furniture	50 0 0
		„ Balance c/d ..	148 0 0
	£1,300 0 0		£1,300 0 0
1926 Jan. 1. To Balance b/d X Y	£148 0 0		

FORM B

TRIAL BALANCE

December 31, 1925

	Debits. £ s. d.	Credits. £ s. d.
Cash at Bank	148 0 0	
Capital		300 0 0
Professional Fees		1,000 0 0
Investment	102 0 0	
Expenses	500 0 0	
Drawings	400 0 0	
Office Furniture	50 0 0	
Traveling Expenses	100 0 0	
	£1,300 0 0	£1,300 0 0

FORM C

PROFIT AND LOSS ACCOUNT

Year ended December 31, 1925

	£ s. d.		£ s. d.
To Expenses (Sundry) ..	550 0 0	By Fees	1,170 0 0
„ Travelling Expenses	100 0 0		
„ Depreciation— Office Furniture ..	2 10 0		
	652 10 0		
„ *Profit* transferred to Capital Account ..	517 10 0		
	£1,170 0 0		£1,170 0 0

FORM D

OPENING TRIAL BALANCE

January 1, 1926

	Debits. £ s. d.	Credits. £ s. d.
Capital Account		417 10 0
Professional Fees	170 0 0	
Investment	102 0 0	
Expenses		50 0 0
Office Furniture	47 10 0	
Cash at Bank	148 0 0	
	£467 10 0	£467 10 0

Note.—The items in Form B are marked X in the illustrated ledger accounts, and those in Form D are marked Y.

FORM E

BALANCE SHEET

December 31, 1925

LIABILITIES	£ s. d.		ASSETS	£ s. d.	
Creditors		50 0 0	*Cash at Bank*		148 0 0
Capital Account:			*Investment:*		
Jan. 1, 1925 £360 0 0			£100 5% War Stock 1929–47 at Cost ..		102 0 0
Profit one year to date transferred from Profit and Loss Account	517 10 0		*Office Furniture:*		
	817 10 0		Purchase Price 50 0 0		
Less Drawings one year to date ..	400 0 0		*Less* Depreciation written off	2 10 0	
		417 10 0			47 10 0
			Debtors		170 0 0
		£467 10 0			£467 10 0

No. 1

CAPITAL ACCOUNT

1925	£ s. d.	1925	£ s. d.
Dec. 31. To Drawings transferred A/c5	400 0 0	Jan. 1. By Cash X	300 0 0
„ To Balance c/d	417 10 0	Dec. 31. „ Profit one year ..	517 10 0
	£817 10 0		£817 10 0
		1926	
		Jan. 1. By Balance b/d Y	£417 10 0

No. 2

PROFESSIONAL FEES

1925		1925	
Dec. 31. To P. & L. A/c	£1,170 0 0	Dec. 31. By Cash X	£1,000 0 0
		Balance c/d ..	170 0 0
			£1,170 0 0
1926			
Jan. 1. To Balance b/d Y	£170 0 0		

No. 3

INVESTMENT

1925		1925	
Dec. 31. To Cash £100 War Stock 1929–47 at 102	£102 0 0	Dec. 31. By Balance c/d ..	£102 0 0
1926			
Jan. 1. To Balance b/d $\frac{Y}{X}$	£102 0 0		

No. 4

EXPENSES

(*Separate Accounts, of course, are kept for each Expense*)

1925		1925	
Dec. 31. To Cash .. X	£500 0 0	Dec. 31. By P. & L. A/c ..	£550 0 0
„ Balance c/d	50 0 0		
	£550 0 0		
		1926	
		Jan. 1. By Balance b/d Y	£50 0 0

No. 5

DRAWINGS

1925		1925	
Dec. 31. To Cash .. X	£400 0 0	Dec. 31. By Transfer Capital A/c ..	£400 0 0

No. 6

OFFICE FURNITURE

1925		1925	
Dec. 31. To Cash .. X	£50 0 0	Dec. 31. By P. & L. A/c Depreciation	£2 10 0
		„ Balance c/d	47 10 0
			£50 0 0
1926			
Jan. 1. To Balance b/d Y	£47 10 0		

No. 7

TRAVELLING EXPENSES

1925		1925	
Dec. 31. To Cash .. X	£100 0 0	Dec. 31. By P. & L. A/c ..	£100 0 0

COMPETITION CALENDAR

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

October 30. New Offices for Scottish Legal Life Assurance Society, Bothwell Street, Glasgow. Assessor, Mr. John Keppie, A.R.S.A., F.R.I.B.A. Particulars from Mr. William Watson, Secretary, 84 Wilson Street, Glasgow, before August 21. Deposit £1 1s.

November 30. *a:* Design for a house costing £1,500; *b:* design for a house costing £850. Assessor, Mr. E. Guy Dawber, P.R.I.B.A., together with two others to be appointed by him whose names will be made known later. Premiums in each section: First, £150; second, £100; third, £50. Particulars from the secretary, *Daily Mail* Ideal Houses Competition, 130 Fleet Street, E.C.4. The prize-winning £1,500 house will be erected and completely furnished and equipped at the 1927 *Daily Mail* Ideal Home Exhibition at Olympia to be held next March.

January 3, 1927. Academy, Perth. Open to Architects practising in Scotland. Assessor, Mr. James D. Cairns. Premiums: £100 and £50. Particulars from Mr. R. Martin Bates, Education Offices, Perth. Deposit £1 1s.

January, 8, 1927. Town Hall Extension and Public Library Building for the City of Manchester. Assessors, Messrs. T. R. Milburn, R. Atkinson, and Ralph Knott. Preliminary competition open to architects of British Nationality. Particulars from Mr. P. M. Heath, Town Clerk. Deposit £1 1s.

January 25, 1927. Conference Hall, for League of Nations, Geneva. 100,000 Swiss francs to be divided among architects submitting best plans. Sir John Burnet, R. A., British representative on jury of assessors.

The conditions of the following competitions have not as yet been brought to the notice of the R.I.B.A.

No date. Town Hall and Library, Leith. Assessor, Sir George Washington Browne, R.S.A. Particulars from the City Chambers, Edinburgh.

No date. Incorporated Architects in Scotland: 1: Rowand Anderson Medal and £100; City Art Gallery and Museum; 2: Rutland Prize (£50) for Study of Materials and Construction; 3: Prize (£10 to £15) for 3rd year Students in Scotland; 4: Maintenance Scholarship, £50 per annum for 3 years. Particulars from Secretary of the Incorporation, 15 Rutland Square, Edinburgh.

SOCIETIES AND INSTITUTIONS

R.I.B.A. Exhibition of Dominion Architecture

In October and November the R.I.B.A. Galleries will be devoted to an exhibition illustrative of the architecture of the Dominions and Colonies. There will be special sections devoted to Canada, Australia, New Zealand, and South Africa, and a further section for the Colonies, including Hong Kong, Singapore, the West Indies, etc. The architectural institutes and societies in the Dominions and Colonies which are affiliated to the R.I.B.A. have been invited to undertake the task of selecting and dispatching the exhibits, which will consist of drawings, photographs, and models of buildings. The exhibition will be opened about October 19.

The Programme of the R.I.B.A.

The new session of the R.I.B.A. opens on November 1 when the President, Mr. E. Guy Dawber, F.S.A., will deliver his inaugural address, and a programme of exceptional variety will be begun. Many months of preliminary organization will shortly culminate in the official launching of the Council for the Preservation of Rural England, the objects of which have already been the subject of much favourable comment in the Press. The comprehensive exhibition of Dominion and Colonial architecture will be open to the public for a month. On November 23 His Royal Highness the Prince of Wales will be the guest of the R.I.B.A. at the annual dinner, which will take place in the Guildhall, and will be the occasion of the presentation, by the Prince, of the Royal Gold Medal for Architecture to Professor Ragnar Ostberg, of Stockholm, the first Scandinavian architect who has ever received this coveted honour. In the latter part of the session the annual conference of British architects will be held in London, when a gathering in unprecedented numbers from

all parts of the Empire is anticipated. The list of lectures to be delivered is of an unusually varied character. Mr. H. V. Lanchester is dealing with "Bridges and Traffic," Mr. Howard Robertson will give an account of "Modern French Architecture," Mr. H. Percy Adams and his partner, Mr. Lionel G. Pearson, will deal with "Modern Hospital Planning" as exemplified in England and the United States. Two distinguished American architects, Mr. Thomas Hastings and Mr. Harvey Corbett, of New York, will lecture respectively on "The Devonshire House Buildings" and "The Organization and Cost of the Building Industry in America." Professor Patrick Abercrombie will give an account of "The Planning of East Kent," with which he has been closely associated from the beginning of the new development, while Mr. Boris Anrep will deliver a discourse on "Mosaics," and Mr. George Drysdale will pay a tribute to the memory of his late partner in a lecture on "The Work of Leonard Stokes." On the strictly professional side it is hoped to launch the long-looked for Registration Bill,

ANNOUNCEMENTS

Mr. J. R. Alabaster has been appointed assistant in the School of Architecture, University College, London.

On Thursdays and Fridays during October Sir John Soane's Museum, 13 Lincoln's Inn Fields, W.C.2, will be open free from 10.30 a.m. to 5 p.m. On Thursdays and Fridays during November it will be open free from 10.30 a.m. to 4 p.m.

After nearly forty years public service Mr. Robert Angel, A.R.I.B.A., is about to retire from the position of architect, engineer, and surveyor to the Bermondsey Borough Council. He was born in Liverpool, and served the corporations of St. Helen's, Liverpool, Birkenhead, and Walsall. At present he is supervising the erection of Bermondsey's new baths, the cost of which is £160,000. He is also an etcher, and some of his work has been hung at the Royal Academy.

NEW INVENTIONS

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

LATEST PATENT APPLICATIONS

22807. Hubbard, T. House fire-escape. September 16.

23079. I. G. Farbenindustrie Akt.-Ges. Manufacture of acid-proof cementing-compositions. September 18.

22536. Jarvis, E. B. Wall-paper roll, and means of trimming same. September 13.

22895. Mathmah Ges. Manufacture of building-slabs, etc. September 16.

22973. Riesterer, C. Roofing, etc., tiles. September 17.

SPECIFICATIONS PUBLISHED

258008. Bartlett, H. System of puttyless glazing.

258073. Eriksson, J. A. Manufacturing of porous artificial stone.

258090. Leabank Manufacturing Co., Ltd., and Kent, F. W. Buildings, walls, and the like.

258124. Turner Bros. Asbestos Co., Ltd., and Turner, S. Roofing tiles or sheets and the like.

ABSTRACT PUBLISHED

255707. Dehn, F. B. Walls, girders and beams.

TWO HOUSES
BY MR. W. CURTIS GREEN

Following are the names of the contractors and sub-contractors for the two buildings illustrated on pages 415 to 422:

Radley College, Abingdon, for Mr. Verry. The contract price was £2,800, and the price per foot cube 1s. 2d. J. Smith, Oxford, roofing felt; Zeta & Co., Stratford, Bennett's Patent Wood Block "Bed-grip" flooring; Van Straaten, Ltd., London, grates; Carter and Aynsley, London, door furniture.

House at Highfields, West Thurrock, for The Tunnel Cement Co., West Thurrock. The general contractors were Messrs. Brown Bros. (Grays), Ltd., and the general foreman was Mr. W. Clark. The contract price was £3,477. Daneshill Brick Co., bricks; Redpath Brown & Co., structural steel; Roberts, Adlard & Co., tiles; Nicholls and Clarke, glass; Acme Block Flooring Co., wood-block flooring; Jeffreys & Co., central heating; T. Elsley & Co., grates; S. C. Henderson, plumbing; J. Gibbons & Co., door furniture; Tonks, Ltd., window furniture; H. Stannard and Sons, plaster.

TRADE NOTES

On Wednesday, October 6, the motor travelling exhibit of the National Radiator Company, Ltd., will be at the Raven Repository and Sale Ground, Shrewsbury, and on Friday, October 8, at Little Roodee Parking Ground, Chester.

The growing demand for a smaller size domestic hot-water boiler has led to the development and production by Mr. O. Bruster, of 4 Lloyds Avenue, E.C.3, of the Glow-Worm Minor, which is now on the market. Embodied in the design of this boiler are patented features, which are claimed to be unique in cast-iron boilers, and to tend materially towards improved efficiency. The firebox is heavily ribbed. These ribs, being cast vertically do not obstruct the downward feeding of the fuel; but by making immediate contact with the incandescent coke, they attain a relatively high temperature which they transmit to the water inside the boiler. Another advantage of the vertical internal ribs, one which results in the maximum heat being transmitted to the water, is that they form channels for the admission of air so that the combustion of the fuel is most active next the boiler-heating surface. In other respects the boiler retains most of the well-known features which have distinguished the Glow-Worm No. 1 and No. 2. The manufacturer recently carried out the following test with the Glow-Worm Minor: the boiler was fixed in a permanent manner in a kitchen scullery, and the hot-water cylinder was of 30-gal. capacity, with suitable pipe connections, and, therefore, represented an average domestic installation. The temperature of the cold water throughout the installation was 46 deg. F. The fire was lighted at 10.30 a.m., with coke and wood. In forty minutes the flow temperature had reached 158 deg. F., and 6 gal. of hot water at an average temperature of 146 deg. F. were drawn off. During the period of one hour after this, at ten-minute intervals, 6 gal. of water at an average temperature of 150 deg. F. were drawn off. The maximum temperature of the flow pipe during this period was 170 deg. F. During the next fifty minutes, 42 gal. of water at an average temperature of 150 deg. were drawn off; the coke consumption being approximately 7 lb. per hour.

THE BUILDING EDUCATOR

Sir Isaac Pitman and Sons, Ltd., announce the publication in thirty fortnightly parts of *The Building Educator*, edited by Mr. R. Greenhalgh, A.I.STRUCT.E. This, the publishers state, will form a new and authoritative treatise, containing a complete course of instruction in architecture and building, written by experts in the various branches of the industry, together with special contributions by eminent authorities on the subjects dealt with. Part one will be ready on October 16. The price of each part will be 1s. 3d. net. Copies can be obtained of all newsagents and bookstalls.

ARCHITECTURAL EDUCATION

THE RE-OPENING OF THE SCHOOLS

We have received the prospectuses for the forthcoming session of the Architectural Association School of Architecture; the Bartlett School of Architecture, University College; and the University of Liverpool School of Architecture.

Admission to the Architectural Association School of Architecture carries with it exemption from the preliminary examination for probationership of the R.I.B.A. The school course has been recognized as being of such standard as to warrant special recognition by the R.I.B.A. This recognition takes the form of accepting the school intermediate and diploma examinations in place of the Institute's intermediate and final examinations, except in the subject of professional practice. Students who have passed through the five years' course of the school successfully, which entails obtaining a pass in the school intermediate and diploma examinations, are eligible to take the professional practice examination of the Institute. When they have passed this examination, and have completed twelve months' office experience, they can then apply for election as Associates of the R.I.B.A. The school course extends over five years. The first two years are considered as the lower school, the remaining three years as the upper school. A diploma is awarded by the Architectural Association to students who have completed the five years' course satisfactorily, and who have in conjunction with the fourth and fifth years' course spent at least six months on practical work, either in an architect's office, as assistant clerk of works, or in a workshop. The standard to be reached by students before the diploma is awarded is a very high one, and the gaining of the diploma may, therefore, be regarded as a distinction. Diplomas will be issued twice yearly, in April and October. A special affix in the R.I.B.A. Kalendar is given to indicate that the member holds the A.A. Diploma. The intermediate and diploma examinations are held twice a year, at the end of the spring term and early in the second half of the summer term. Any student who has completed the third year of the school is eligible to sit for the intermediate examination, and any student in the fifth year who has passed the intermediate examination may sit for the diploma examination. No student who has not completed the full five years' course is eligible for final exemption and to sit for the R.I.B.A. examination in professional practice. The director of education is Mr. Robert Atkinson, F.R.I.B.A., and the principal is Mr. Howard Robertson, F.R.I.B.A., S.A.D.G.

University College, owing to its central position, its engineering laboratories, Slade school of fine art, sculpture studios, school of hygiene, department of archæology, and lectures and classes on general subjects, offers special facilities for a full and comprehensive course of architectural education on a sound basis. The advantages to be gained by students attending lectures and classes in other departments are manifest. They are brought into touch with students engaged in other, but to some extent kindred, pursuits; they work side by side with future engineers, painters, and sculptors. In the lectures on general subjects and in the collegiate life they meet students intending to follow other professions or callings. Such general intercourse is not only advantageous to architectural students during the period of their early study, but is likely to be of lasting benefit to them. To assist the student at the outset of his career, a curriculum has been arranged not only to ensure training on a systematic basis, but also to obviate, as far as possible, the inevitable hiatus that occurs between ordinary school education and academic study. During the third year students taking the certificate course qualifying for exemption from the intermediate examination of the R.I.B.A. concentrate mainly on design and constructional subjects, and prepare a specified number of designs combining construction with requirements likely to be encountered in modern practice. Work during the fourth and fifth years is confined to courses specially arranged for students taking the degree and diploma courses as well as for those students who elect to enter for the prizes offered by the R.I.B.A. and other bodies. In addition to advanced lectures on construction, structural engineering, acoustics, and professional practice, students have to prepare designs at intervals to meet stated programmes. Architectural drawing is fully dealt with in the architectural studio, but, in addition, students sufficiently advanced may draw from the life in the Slade school. The teaching of modelling is carried on in new studios adjoining both the School of Architecture and the Slade school. In these studios architectural students will be able to obtain instruction in modelling. Special arrangements have been made whereby architectural students can attend the Slade school to become acquainted with the principles governing decorative painting in so far as the subject is related to architecture. The following courses are provided—i: The B.A. (Architecture) Degree Course of the University; ii: The Certificate Course in Architecture; iii: The Diploma Course in Architecture; iv: Advanced Design Class; v: Evening Courses in Design and Construction of Modern Buildings; vi: The Atelier; vii: Certificate Course in Town Planning; viii: Diploma Course in Town Planning and Civic Architecture; ix: Diploma Course in Town Planning and Civic Engineering. The school is under the control of Professor A. E. Richardson, F.S.A., F.R.I.B.A.

The Liverpool University School of Architecture offers courses which are designed to provide a full professional education at a university standard for all who intend to practise as architects and who wish to acquire their training in an atmosphere of liberal studies side by side with the students of other professions. To meet the varied needs of architectural practice as they have now developed, the school offers courses of study leading, if preceded by matriculation, to the degree of bachelor of architecture (B.Arch.) or, if not so preceded, qualifying for the diploma in architecture. These courses, which are identical both for the degree and for the diploma, extend over five years and are of three kinds—the pass course, the course with honours or distinction in architectural design, and the course with honours or distinction in architectural construction. The curriculum of the first three years is common to all three courses, whilst that of the fourth and fifth years in the case of students taking honours or distinction goes beyond the pass type. Each of the courses is devised so as to equip the student with the most efficient training possible for the vocational work he proposes to do. The study of design, beginning with exercises in the elements of architectural form, is finally carried to a stage at which it involves the solution of large and complex problems of composition. Construction is taught in its simplest aspects in the first year, and in that year as in all the subsequent parts of the courses is progressively related to the teaching of design. From the third year onwards students are required to develop carefully rendered schemes with the detailed and working drawings necessary for a contract. Throughout, stress is laid on logical planning as the basis of good architecture, and a large proportion of the subjects set in the school studios are planning problems. The lecture courses are arranged to run parallel with the work done under instruction in the studios. Under the regulations governing the courses of study students are required to spend six months of their fourth and fifth years respectively in some approved form of practical work, usually in an architect's office where they can earn a salary. For some time past the school has established connections with certain of the best known architectural offices in New York. In consequence, students during the summer term and long vacation of their fourth year of study have the opportunity of securing temporary positions as paid assistants in these offices at rates of pay which, with care, cover their passages either way. Professor C. H. Reilly, O.B.E., M.A.(CANTAB.), F.R.I.B.A., is Roscoe professor of architecture in charge of the school; Professor L. B. Budden, M.A., A.R.I.B.A., is associate professor of architecture; and Professor Patrick Abercrombie, M.A., F.R.I.B.A., is Lever professor of civic design.

READERS' QUERIES

THE ROADS IMPROVEMENT ACT, 1925

H. R. writes: "Section 5 of the Roads Improvement Act, 1925, gives compensation for injury sustained by a property owner whose property is affected by the prescription of a building line. Can this compensation be claimed at once or must it wait till the portion of property is taken over? To state a case, the prescribed building line cuts off about one-third of a business premises situated on a main street of a town, and the property is damaged because if a re-building is proposed adjoining property must be acquired to enable the same volume of business to be carried on. If the premises are offered for sale the prescription of the building line will considerably reduce the sale value. Can compensation for this be claimed now?"

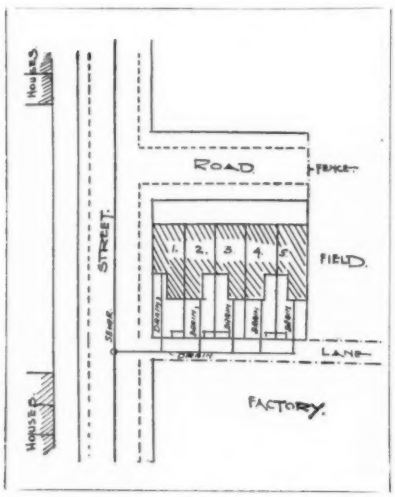
This matter will probably take some time to settle, but there can be no harm done in giving immediate notice to the authority that a claim will be made. Capable professional advice will be needed for so technical a claim. A good surveyor should be appointed at once to watch your querist's interests from the beginning. This early appointment may save a great deal of expense and worry. F.S.I.

COST OF CONVERSION OF DRY CLOSETS

S.X. writes: "A factory proprietor in England has been asked by the local authority to convert five dry closets into w.c.s. This request has been made under the Public Health Act, 1875. I understand that under the Public Health (Amendment) Acts a local authority is entitled to contribute half the cost of such work. Is this always the case? Does any part of the Housing and Town Planning Act apply? As all the houses on the property belong to one proprietor, is the drain at the back a sewer maintainable by the Council."

Unless the local authority can prove the existence of a nuisance they have no powers to compel the owner to alter the method of his sewage disposal. It may, nevertheless, be wise for him to do so, and he should approach the local authority with a proposal to ask for their contribution if he thinks it well to do so—there is no hard and fast rule about the matter. I believe the present system of foul water drainage is a sewer from the point of the connection of the second house drain. The portion connected with the top house (No. 5 on the plan) is a private drain.

F. S. I.



WORMS IN FURNITURE

J. K. writes: "Is there a simple and effective method of destroying ordinary wood worms in old furniture and other timber?"

Use a preparation such as Hope woodworm destroyer or Kenford Beetle fluid. The preparation must be brushed on and allowed to soak into the wood. It is best applied to the inner and under surfaces, which are devoid of polish. All corners in carcases and drawers should receive careful attention, and any crevices in open joints, for it is in these places that the moth lays her eggs. A defective leg is best stood in a small jar containing the fluid. A good preparation can be made at home consisting of paraffin and Solignum in equal proportions. Stop all worm holes with dark wax and watch for any new ones that appear.

J. C. R.

A CRACKED CELLAR FLOOR

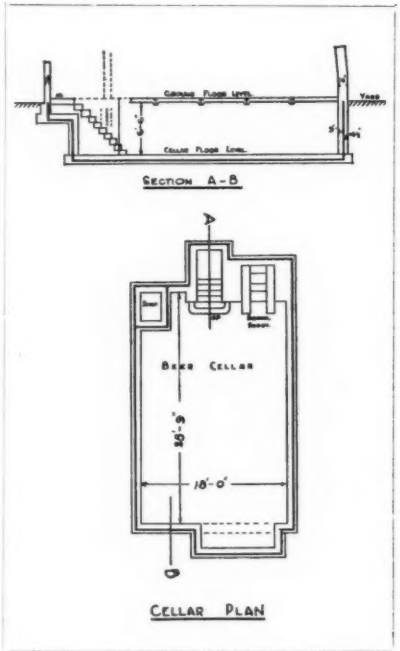
R. E. writes: "The floor shown on the accompanying plan and section has cracked from A to B, owing to water pressure. The floor is 12 in. thick, with a layer of asphalt laid in the middle of it, and turned up the walls, as shown on the plan. From inquiries made I assume that the highest point of the water level is not more than 2 ft. above the cellar floor level. I propose to remove about 4 in. or 5 in. of the concrete floor, taking care not to pierce the existing asphalt work, then lay a layer of expanded metal over the whole surface and place steel girders (9 in. by 7 in.) at intervals of about 5 ft. 9 in., let into the wall 9 in. at each end. Would this be satisfactory?"

Provided that the whole trouble can be attributed *to water pressure alone*, the means proposed should prove adequate to meet the case. A head of water of 2 ft. implies a load from this cause of about 125 lb. per sq. ft. over the area of the floor, and, although a depth of 9 in. for the girders is on the shallow side, they would take the pressure with a certain amount of deflection. Their bearings in the walls at their ends must be provided with templates to spread the load on the brickwork, the templates being tailed 9 in. into the walls and placed above the girders instead of below them in the usual way. The upper surface of the floor being the tension side, the expanded metal should be laid with its edges pinned down under the girders, but with the centres of the sheets brought up to the level of their upper flanges. Before any works are put in hand, the premises should be surveyed to ascertain whether any other causes are at work beside the water pressure. If the walls of the building are very high and heavy, and are sinking bodily into the ground, the pressure may be very much greater than has been counted upon, and subsidence may continue to produce bulging and cracking in the floor. On the other hand, the bulging and cracking may be due to initial settlement of the building, and after this has once come to a standstill very little additional strength may be needed to keep the floor from moving. If the walls are at rest, the weight of the floor concrete would contribute something to keeping down the water pressure, but it is probably better to ignore this small factor of safety, since water pressure is adaptable and follows up every inch of deflection in the floor slab almost without diminution of its own force.

One point which demands attention is the effect of placing the upward thrust of the bulging floor principally upon the inner faces of the side walls. Movements in the building may have already thrown these walls slightly out of perpendicular, and, if this is found to be the case, the new girders should be carried through to the outer faces of the walls, though the vertical damp-course would have to be carried out round their ends. The brickwork will have to be cut away in any case, so that the girders may be inserted.

If continued settlement of the building into the waterlogged ground has to be feared, the floor girders might be made to do duty in spreading the weight over a large area of subsoil, but for this purpose they would have to be calculated as parts of the grillage of a girder foundation. In that case, very heavy girders might be required.

W. H.



THE WEEK'S BUILDING NEWS

Housing at Bickley

Plans of sixteen houses, four garages, and two stores have been passed at Bickley.

A Welsh Building Exhibition

A building trades exhibition has been opened in the Drill Hall, Cardiff.

A Wandsworth Road-repairing Scheme

The Wandsworth Council has begun an £80,000 road-repairing scheme.

Town Planning at Molesey

A scheme of town planning for East and West Molesey has been prepared by Professor Adshead.

Royal Victoria Hospital Extensions

The Royal Victoria Hospital authorities are making an earnest appeal for £10,000 to build a new wing.

Additional Housing at Failsworth

The Failsworth District Council has decided to put up forty more houses when the present scheme is completed.

Houses for Greenford

The Greenford (Middlesex) Council proposes to erect 168 cottages, at a cost of £101,048.

Housing at Stirling

The Scottish Board of Health has approved a scheme for the erection of twenty houses at Burnside Street, Stirling.

An Electricity Scheme for Coventry

The Coventry City Council proposes to undertake a scheme for the extension of their electrical works, at a cost of £5,000,000.

Housing at Kettering

The Kettering Rural District Council has decided to apply to the Minister of Health for sanction to a loan of £14,885 for the erection of thirty houses at Corby.

Middlesbrough Building Developments

The Middlesbrough Corporation has approved of forty-five sets of plans, including nineteen subsidy houses and alterations to business premises.

Housing in Surrey

Contracts have been entered into for the erection of an additional 114 Council houses in Esher and the Ditton Urban District.

Housing at Ware

The Ministry of Health has sanctioned the erection of thirty new houses by the Ware Rural District Council in the Standon district at a cost of £14,150.

Road Widening at Edinburgh

The Edinburgh Town Council is recommended to proceed with the widening of Gorgie Road and bridge and the widening of the road at Junction Bridge, Leith.

L.C.C. Housing Schemes

Housing schemes on sites at Battersea, Deptford, Greenwich, Lambeth, Wandsworth, Lewisham, and Camberwell, are being prepared by the L.C.C.

Improvements to Hampton Court

The Office of Works has advised the Hampton Urban District Council to provide an improved access to the riverside east of Hampton Court Bridge.

Aldgate Improvements

The cost of the improvement scheme which the L.C.C. proposes to undertake with regard to Aldgate's hay market will be £61,000.

Housing at Dublin

The North Dublin Rural District Council has received the sanction of the Local Government Department to build forty-three labourers' cottages.

Housing at Listowel

The Listowel Urban District Council proposes to ask the Government for a grant or a long-term loan for the erection of artisans' houses. Thirty houses, and afterwards 100, are required.

Housing Progress at Newton Abbot

The Ministry of Health has given permission to the Newton Abbot Council to proceed with the immediate erection of a further seventy houses on the Broadlands site.

A New Bridge Across the Danube

A bridge across the Danube from Belgrade to Panezewo, the terminus of the former Austro-Hungarian State Railway, is about to be built by a number of German firms. The cost is calculated at about £1,500,000.

Belfast Housing Loan Sanctioned

The Ministry of Home Affairs has now sanctioned the payment to the Belfast Civic Authorities of the subsidy of £37,600, which up to now has been withheld, in connection with the 375 houses built on the Whiterock site.

A Worcestershire Housing Scheme

Howley Grange Farm and land, situated at Lapal, Hales Owen, one of Worcestershire's historic buildings, has been sold to a Birmingham firm of builders for the purpose of building development. It is intended to erect about 200 houses on the estate.

Glasgow Electricity Developments

A proposal to introduce electricity in the new re-housing schemes for depossessed slum-dwellers at Duke Street and Govan Hill is made by the Glasgow Corporation Sub-Committee on Housing. There are 180 houses at Duke Street and 228 at Govan Hill, of two and three apartments.

Keighley Building Developments

The Parks Committee of the Keighley Town Council proposes that the committee be authorized to work in collaboration with the Housing Committee in the formation of a scheme for the lay-out, for recreation and housing purposes, of the land situate between West Lane and Highfield Lane.

Housing in Scotland

The Scottish Board of Health has approved of the Ayrshire County Council's scheme, under the Housing Act, 1924, for the erection of 184 two-apartment and 164 three-apartment houses throughout the parishes of Beith, Dalry, Dreghorn, Kilbirnie, Kilwinning, Stevenston, and West Kilbride.

Housing in East Lothian

At a meeting of the Western District Committee of East Lothian it was stated that negotiations had been entered into with proprietors of ground for new sites at various centres. The capital cost of the next development scheme, which originally comprised 100 houses, will entail an outlay of £43,000.

Improvements at Brighton

Developing the policy of widening Western Road, the main east-to-west business artery of the town, the Brighton Improvements Committee recommends the Town Council to purchase the freehold of No. 2 Western Road as part of a £20,000 scheme for abolishing the three buildings at the south-east corner of the road.

A Open Space for Beckenham

The L.C.C. has asked the Lewisham and Beckenham Council to contribute to the cost of securing Beckenham Place Park as a public open space in connection with the South-East District Town-Planning Scheme. In the scheme an area of 197 acres, including nearly all the park, has been scheduled as a public open space.

A Gift to Canterbury School

Sturry Court, the home of Viscount Milner, has been presented by Viscountess Milner to the King's School, Canterbury. The governors of the school propose, after the necessary alterations and additions have been made, to use the buildings to accommodate the junior or preparatory department of the school.

An Edgware Estate Purchase

The famous estate of Canon's Park, recently owned by Sir Arthur du Cros, has been purchased by Mr. George Cross for nearly £100,000. This sale marks an important step towards the development of the Edgware district as a residential area, and plans are being prepared for the development of this estate, in which plots for over 500 houses will shortly be available.

RATES OF WAGES

			I	II
			s. d.	s. d.
A	ABERDARE	S. Wales & M.	1 8	1 3½
A₁	Abergavenny	Do.	1 7½	1 2½
B	Abingdon ..	S. Counties	1 6	1 1½
A	Accrington ..	N.W.Counties	1 8	1 3½
A₃	Addlestone	S. Counties	1 6½	1 2
A	Adlington ..	N.W.Counties	1 8	1 3½
A	Airdrie ..	Scotland	*1 8	1 3½
C₁	Aldeburgh	E. Counties	1 4	1 0½
A	Altrincham	N.W.Counties	1 8	1 3½
B₃	Appleby ..	N.W. Counties	1 4½	1 0½
A	Ashton-under-Lyne	N.W.Counties	1 8	1 3½
A₃	Atherstone	Mid. Counties	1 6½	1 2
B₃	Aylesbury ..	S. Counties	1 4½	1 0½
B	BATH ..	S.W.Counties	1 6	1 1½
B₃	Banbury ..	S. Counties	1 4½	1 0½
B₃	Bangor ..	N.W. Counties	1 5	1 1
A	BarnardCastle	N.E. Coast	1 8	1 3½
A	Barnsley ..	Yorkshire	1 8	1 3½
B₁	Barnstaple	S.W. Counties	1 5½	1 1½
A	Barrow ..	N.W.Counties	1 8	1 3½
A	Barry ..	S. Wales & M.	1 8	1 3½
B₃	Basingstoke	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 8	1 3½
B	Bedford ..	E. Counties	1 6	1 1½
A₃	Berwick-on-Tweed	N.E. Coast	1 7	1 2½
A₃	Bewdley ..	Mid. Counties	1 6½	1 2
B₃	Bicester ..	Mid. Counties	1 4½	1 0½
A	Birkenhead	N.W.Counties	†1 9	1 3½
A	Birmingham	Mid. Counties	1 8	1 3½
A	Bishop Auckland	N.E. Coast	1 8	1 3½
A	Blackburn	N.W.Counties	1 8	1 3½
A	Blackpool	N.W.Counties	1 8	1 3½
A	Blyth ..	N.E. Coast	1 8	1 3½
B₃	Bognor ..	S. Counties	1 4½	1 0½
A	Bolton ..	N.W.Counties	1 8	1 3½
A₃	Boston ..	Mid. Counties	1 6½	1 2
B₁	Bournemouth	S. Counties	1 6	1 1½
A	Bradford ..	Yorkshire	1 8	1 3½
A₃	Brentwood	E. Counties	1 6½	1 2
A	Bridgend ..	S. Wales & M.	1 8	1 3½
B₃	Bridgwater	S.W. Counties	1 5	1 1
A₁	Bridlington	Yorkshire	1 7½	1 2½
A	Brighouse ..	Yorkshire	1 8	1 3½
B₁	Brighton ..	S. Counties	1 6	1 1½
A	Bristol ..	S.W. Counties	1 8	1 3½
B₃	Brixham ..	S.W. Counties	1 4½	1 0½
A₃	Bromsgrove	Mid. Counties	1 6½	1 2
C	Bromyard ..	Mid. Counties	1 4	1 0½
A	Burnley ..	N.W.Counties	1 8	1 3½
A	Bursiem ..	Mid. Counties	1 8	1 3½
A₃	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury ..	N.W.Counties	1 8	1 3½
A₃	Buxton ..	N.W.Counties	1 6½	1 2
B	CAMBRIDGE	E. Counties	1 6	1 1½
B₃	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff ..	S. Wales & M.	1 8	1 3½
A	Carlisle ..	N.W.Counties	1 8	1 3½
B	Carmarthen	S. Wales & M.	1 6	1 1½
B₃	Carnarvon..	N.W.Counties	1 5	1 1
A₁	Carnforth ..	N.W. Counties	1 7½	1 2½
A	Castleford ..	Yorkshire	1 8	1 3½
B₁	Chatham ..	S. Counties	1 5½	1 1½
B₁	Chelmsford	E. Counties	1 5½	1 1½
B	Cheltenham	S.W. Counties	1 6	1 1½
A	Chester ..	N.W.Counties	1 8	1 3½
A	Chesterfield	Mid. Counties	‡1 8	1 3½
B₃	Chichester..	S. Counties	1 4½	1 0½
A	Chorley ..	N.W.Counties	1 8	1 3½
B₃	Cirencester	S. Counties	1 5	1 1
A	Clitheroe ..	N.W.Counties	1 8	1 3½
A	Clydebank	Scotland	1 8	1 3½
A	Coalville ..	Mid. Counties	1 8	1 3½
B₁	Colchester..	E. Counties	1 5½	1 1½
A	Colne ..	N.W.Counties	1 8	1 3½
B₁	Colwyn Bay	N.W.Counties	1 5½	1 1½
A	Consett ..	N.E. Coast	1 8	1 3½
B₁	Conway ..	N.W. Counties	1 5½	1 1½
A	Coventry ..	Mid. Counties	1 8	1 3½
A₃	Crewe ..	N.W.Counties	1 6½	1 2
A₃	Cumberland	.....	1 6½	1 2
A	DARLINGTON	N.E. Coast	1 8	1 3½
A	Darwen ..	N.W.Counties	1 8	1 3½
B₃	Deal ..	S. Counties	1 4½	1 0½
B₁	Denbigh ..	N.W.Counties	1 5½	1 1½
A	Derby ..	Mid. Counties	1 8	1 3½
A	Dewsbury ..	Yorkshire	1 8	1 3½
B	Didcot ..	S. Counties	1 6	1 1½
A	Doncaster ..	Yorkshire	1 8	1 3½
C₁	Dorchester	S.W.Counties	1 4	1 0½
A₃	Driffield ..	Yorks	1 6½	1 2
A₃	Droitwich..	Mid. Counties	1 6½	1 2
A₂	Dudley ..	Mid. Counties	1 7	1 2½
A	Dundee ..	Scotland	1 8	1 3½
A	Durham ..	N.E. Coast	1 8	1 3½
B₁	EASTBOURNE	S. Counties	1 6	1 1½
A	Ebbw Vale	S. Wales & M.	1 8	1 3½
A	Edinburgh	Scotland	1 8	1 3½
A	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 8	1 3½
B	Exeter ..	S.W. Counties	§1 7	1 2½
B₂	Exmouth ..	S.W. Counties	1 5	1 1
B	FELIXSTOWE	E. Counties	1 6	1 1½
A₃	Filey ..	Yorks	1 6½	1 2
A	Fleetwood ..	N.W.Counties	1 8	1 3½
B₃	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham ..	N.W.Counties	1 8	1 3½
B₃	Frome ..	S.W.Counties	1 4½	1 0½
A	GATESHEAD	N.E. Coast	1 8	1 3½
B₁	Gillingham	S. Counties	1 5½	1 1½
B	Gloucester..	S.W.Counties	1 6	1 1½
A₃	Goole ..	Yorkshire	1 7	1 2½
B₁	Gosport ..	S. Counties	1 5½	1 1½
A₃	Grantham..	Mid. Counties	1 6½	1 2
A₃	Gravesend..	S. Counties	1 7	1 2½
A	Greenock ..	Scotland	*1 8	1 3½
A	Grimsby ..	Yorkshire	1 8	1 3½
B₁	Guildford ..	S. Counties	1 5½	1 1½
A	HALIFAX..	Yorkshire	1 8	1 3½
A₁	Hanley ..	Mid. Counties	1 7½	1 2½
A	Harrogate ..	Yorkshire	1 8	1 3½
A	Hartlepools	N.E. Coast	1 8	1 3½
B₃	Harwich ..	E. Counties	1 5	1 1
B₃	Hastings ..	S. Counties	1 4½	1 0½
B₁	Hatfield ..	S. Counties	1 5½	1 1½
B	Hereford ..	S.W.Counties	1 6	1 1½
B	Hertford ..	E. Counties	1 5½	1 1½
A₁	Heysham ..	N.W.Counties	1 7½	1 2½
A	Howden ..	N.E. Coast	1 8	1 3½
A	Huddersfield	Yorkshire	1 8	1 3½
A	Hull ..	Yorkshire	1 8	1 3½

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 8	1 3½
A	Immingham	Mid. Counties	1 8	1 3½
B	Ipswich ..	E. Counties	1 6	1 1½
C₁	Isle of Wight	S. Counties	1 4	1 0½
A	JARROW ..	N.E. Coast	1 8	1 3½
A	KEIGHLEY	Yorkshire	1 8	1 3½
B₂	Kendal ..	N.W. Counties	1 5	1 1
B₂	Keswick ..	N.W.Counties	1 5	1 1
B	Kettering ..	Mid. Counties	1 6	1 1½
A₃	Kidderminster	Mid. Counties	1 6½	1 2
B₂	King's Lynn	E. Counties	1 5	1 1
A₁	LANCASTER	N.W.Counties	1 7½	1 2
A₃	Leamington	Mid. Counties	1 6½	1 2½
A	Leeds ..	Yorkshire	1 8	1 3½
A	Leek ..	Mid. Counties	1 8	1 3½
A	Leicester ..	Mid. Counties	1 8	1 3½
A	Leigh ..	N.W. Counties	1 8	1 3½
B₃	Lewes ..	S. Counties	1 4½	1 0½
A₃	Lichfield ..	Mid. Counties	1 6½	1 2
A	Lincoln ..	Mid. Counties	1 8	1 3½
A	Liverpool ..	N.W.Counties	‖1 9	1 3½
B	Llandudno	N.W.Counties	1 6	1 1½
A	Llanelly ..	S. Wales & M.	1 8	1 3½
	London (12 miles radius)		1 9½	1 4½
	Do. (12–15 miles radius)		1 9	1 4
A	Long Eaton	Mid. Counties	1 8	1 3½
A	Loughborough	Mid. Counties	1 8	1 3½
B	Luton ..	E. Counties	1 6	1 1½
A	Lytham ..	N.W. Counties	1 8	1 3½
A₁	MACCLESFIELD	N.W.Counties	1 7½	1 2½
B	Maidstone ..	S. Counties	1 5½	1 1½
A₃	Malvern ..	Mid. Counties	1 6½	1 2
A	Manchester	N.W.Counties	1 8	1 3½
A	Mansfield ..	Mid. Counties	1 8	1 3½
B₃	Margate ..	S. Counties	1 4½	1 0½
A₃	Matlock ..	Mid. Counties	1 6½	1 2
A	Merthyr ..	S. Wales & M.	1 8	1 3½
A	Middlesbrough	N.E. Coast	1 8	1 3½
A₃	Middlewich	N.W. Counties	1 6½	1 2
A	Monmouth	S. Wales & M.	1 8	1 3½
	S. and E. Glamorganshire			
A₁	Morecambe	N.W. Counties	1 7½	1 2½
A₃	NANTWICH	N.W.Counties	1 6½	1 2
A	Neath ..	S. Wales & M.	1 8	1 3½
A	Nelson ..	N.W. Counties	1 8	1 3½
A	Newcastle ..	N.E.Coast	1 8	1 3½
A	Newport ..	S. Wales & M.	1 8	1 3½
A	Normanton	Yorkshire	1 8	1 3½
A₂	Northampton	Mid. Counties	1 7	1 2½
A	North Staffs.	Mid. Counties	1 8	1 3½
A	North Shields	N.E. Coast	1 8	1 3½
B	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 8	1 3½
A	Nuneaton ..	Mid. Counties	1 8	1 3½
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W.Counties	1 8	1 3½
A₃	Oswestry ..	Mid. Counties	1 6½	1 2
B	Oxford ..	S. Counties	1 6	1 1½
A	PAISLEY ..	Scotland	*1 8	1 3½
C	Pembroke	S. Wales & M.	1 4½	1 0½
A	Perth ..	Scotland	*1 8	1 3
A₃	Peterborough	Mid. Counties	1 6½	1 2
A	Plymouth	S.W. Counties	¶1 8	1 3½
A	Pontefract..	Yorkshire	1 8	1 3½
A	Pontypridd	S. Wales & M.	1 8	1 3½
B	Portsmouth	S. Counties	1 6	1 1½
A	Preston ..	N.W.Counties	1 8	1 3½
A	QUEENSFERRY	N.W.Counties	1 8	1 3½
B	READING..	S. Counties	1 6	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A₃	Retford ..	Mid. Counties	1 6½	1 2
A	Rhondda Valley	S. Wales & M.	1 8	1 3½
A₃	Ripon ..	Yorkshire	1 6½	1 2
A	Rochdale ..	N.W.Counties	1 8	1 3½
B	Rochester ..	S. Counties	1 5½	1 1½
A₁	Ruabon ..	N.W.Counties	1 7½	1 2½
A₂	Rugby ..	Mid. Counties	1 8	1 3½
A₃	Rugeley ..	Mid. Counties	1 6½	1 2
A	Runcorn ..	N.W. Counties	1 8	1 3½
A₃	ST. ALBANS	E. Counties	1 6½	1 2
A	St. Helens..	N.W.Counties	1 8	1 3½
A₁	Scarborough	Yorkshire	1 7½	1 2½
A	Scunthorpe	Mid. Counties	1 8	1 3½
A	Sheffield ..	Yorkshire	1 8	1 3½
A	Shipley ..	Yorkshire	1 8	1 3½
A₃	Shrewsbury	Mid. Counties	1 6½	1 2
A₂	Skipton ..	Yorkshire	1 7	1 2½
B	Slough ..	S. Counties	1 5½	1 1½
A₂	Solihull ..	Mid. Counties	1 7	1 2½
B	South'pton	S. Counties	1 6	1 1½
B₁	Southend-on-Sea	E. Counties	1 5½	1 1½
A	Southport ..	N.W.Counties	1 8	1 3½
A	S. Shields ..	N.E. Coast	1 8	1 3½
A₃	Stafford ..	Mid. Counties	1 7	1 2½
A	Stockport	N.W.Counties	1 8	1 3½
A	Stockton-on-Tees	N.E. Coast	1 8	1 3½
A	Stoke-on-Trent	Mid. Counties	1 8	1 3½
B	Stroud ..	S.W.Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 8	1 3½
A	Swansea ..	S. Wales & M.	1 8	1 3½
B	Swindon ..	S.W. Counties	1 6	1 1½
A₁	TAMWORTH	N.W.Counties	1 7½	1 2½
B₁	Taunton ..	S.W. Counties	1 5½	1 1½
A	Teeside Dist.	N.E. Counties	1 8	1 3½
A	Todmorden	Yorkshire	1 8	1 3½
A₂	Torquay ..	S.W.Counties	1 7	1 2½
B₁	Tunbridge Wells	S. Counties	1 5½	1 1½
A	Tunstall ..	Mid. Counties	1 8	1 3½
A	Tyne District	N.E. Coast	1 8	1 3½
A	WAKEFIELD	Yorkshire	1 8	1 3½
A₂	Walsall ..	Mid. Counties	1 7	1 2½
A	Warrington	N.W.Counties	1 8	1 3½
A₃	Warwick ..	Mid. Counties	1 6½	1 2
B	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 8	1 3½
B	Weston-s-Mare	S.W. Counties	1 6	1 1½
A₃	Whitby ..	Yorkshire	1 6½	1 2
A	Widnes ..	N.W.Counties	1 8	1 3½
A	Wigan ..	N.W.Counties	1 8	1 3½
B₂	Winchester	S. Counties	1 5	1 1
B	Windsor ..	S. Counties	1 6	1 1½
A	Wolverhampton	Mid. Counties	1 8	1 3½
A₃	Worcester ..	Mid. Counties	1 6½	1 2
A	Worksop ..	Yorkshire	1 8	1 3½
A₁	Wrexham ..	N.W. Counties	1 7½	1 2½
B	Wycombe ..	S. Counties	1 6	1 1½
B₁	YARMOUTH	E. Counties	1 5½	1 1½
B₂	Yeovil ..	S.W. Counties	1 5	1 1
A	York ..	Yorkshire	1 8	1 3½

* Plasterers, 1*s.* 9*d.*

† Carpenters and Painters, 1*s.* 8½*d.*

‡ Plumbers, 1*s.* 9*d.*

§ Painters, 1*s.* 6*d.*

‖ Carpenters and Plasterers, 1*s.* 8½*d.*

¶ Painters, 1*s.* 7*d.*

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.*

	£	s.	d.
Broken brick or stone, 2 in., per yd.	£0	11	6
Thames ballast, per yd.	0	13	0
Pit gravel, per yd.	0	18	0
Pit sand, per yd.	0	14	6
Washed sand	0	15	6

Screened ballast or gravel, add 10 per cent. per yd.
Clinker, breeze, etc., prices according to locality.

Portland cement, per ton	£2	19	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	2	4
SPREAD and level, including wheeling, per yd.	0	2	4
PLANKING, per ft. sup.	0	0	5
DO. over 10 ft. deep, add for each 5 ft. depth 30 per cent.			
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 lintols, etc., per ft. cube	0	1	6

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 yd.	£0	1	3
DO. *6 in., per yd.*	0	2	8
DO. *9 in., per yd.*	0	3	6
Cast-iron pipes, coated, 9 ft. lengths, 4 in., per yd.	0	6	9
DO. *6 in., per yd.*	0	9	2
Portland cement and sand, see "Excavator" above.			
Lead for caulking, per cwt.	£2	5	6
Gaskin, per lb.	0	0	5½
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	9	0
DO. 6 in., per ft.	0	11	0

Note.—These prices include digging 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.	2	18	0
Staffordshire blue, per M.	9	10	0
Firebricks, 2½ in., per M.	11	3	0
Glazed salt, white, and ivory stretchers, per M.	21	10	0
DO. *headers, per M.*	21	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	12	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.

FACINGS, FAIR, per ft. sup. extra	£0	0	2
DO. Red Rubbers, gauged and set in putty, per ft. extra	0	4	6
DO. salt, white or ivory glazed, per ft. sup. extra	0	5	6
TUCK POINTING, per ft. sup. extra	0	0	10
WEATHER POINTING, per ft. sup. extra	0	0	3
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
BITUMINOUS DAMP COURSE, ex rolls, per ft. sup.	0	0	7
ASPHALT (MASTIC) DAMP COURSE, ½ 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, ½ 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

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:			
Whitbed, per ft. cube	£0	4	7
Basebed, per ft. cube	0	4	8
Bath stone, per ft. cube	0	3	9
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

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 M:			
Portmadoc Ladies	£14	0	0
Countess	27	0	0
Duchess	32	0	0
Clips, lead, per lb.	0	0	4
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. gauge, 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
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.	31	0	0
Memel or Equal. Slightly less than foregoing.			
Flooring, P.E., 1 in., per sq.	£1	5	0
DO. *T. and G., 1 in., per sq.*	1	5	0
Planed Boards, 1 in.×11 in., per std.	30	0	0
Wainscot oak, per ft. sup. of 1 in.	0	2	0
Mahogany, per ft. sup. of 1 in.	0	2	0
DO. *Cuba, per ft. sup. of 1 in.*	0	3	0
Teak, per ft. sup. of 1 in..	0	3	0
DO., *ft. cube*	0	15	0
FIR fixed in wall plates, lintels, sleepers, etc., per ft. cube	0	5	9
DO. framed in floors, roofs etc., per ft. cube	0	6	3
DO., framed in trusses, etc., including ironwork, per ft. cube	0	7	3
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.	3	10	0
SLATE BATTENING, per sq.	0	18	6

PRICES CURRENT; *continued.*

CARPENTER AND JOINER; *continued.*

DEAL GUTTER BOARD, 1 in., on firring, per sq.	£3	5	0
MOULDED CASEMENTS, 1¼ in., in 4 sqs., glazing beads and hung, per ft. sup.	0	3	0
DO., DO., 2 in., per ft. sup.	0	3	3
DEAL cased frames, oak sills, 2 in. d.h. sashes, brass-faced pulleys, etc., per ft. sup.	0	4	0
DOORS, 4 pan. sq. b.s., 2 in., per ft. sup.	0	3	6
DO., DO., DO., 1¼ in., per ft. sup.	0	3	0
DO., DO., moulded b.s., 2 in., per ft. sup.	0	3	9
DO., DO., DO., 1¼ in., per ft. sup.	0	3	3
If in oak multiply 3 times.			
If in mahogany multiply 3 times.			
If in teak multiply 3 times.			
WOOD BLOCK FLOORING, standard blocks, laid in mastic herringbone:			
Deal, 1 in., per yd. sup., average	0	10	0
DO., 1¼ in., per yd., sup., average	0	12	0
DO., DO., 1¼ in. maple blocks	0	15	0
STAIRCASE WORK, DEAL:			
1 in. riser, 1¼ in. tread, fixed, per ft. sup.	0	3	6
2 in. deal strings, fixed, per ft. sup.	0	3	9

PLUMBER

PLUMBER, 1s. 9½d. *per hour;* MATE OR LABOURER, 1s. 4½d. *per hour.*

Lead, milled sheet, per cwt.	£2	3	0
DO. *drawn pipes, per cwt.*	2	4	6
DO. *soil pipe, per cwt.*	2	6	6
DO. *scrap, per cwt.*	1	9	6
Copper, sheet per lb.	0	1	0
Solder, plumber's, per lb.	0	1	2
DO. *fine, per lb.*	0	1	5
Cast-iron pipes, etc.:			
L.C.C. soil, 3 in., per yd.	0	4	1
DO. *4 in. per yd.*	0	5	0
R.W.P., 2½ in., per yd.	0	2	0
DO. *3 in., per yd.*	0	2	5
DO. *4 in., per yd.*	0	3	3
Gutter, 4 in. H.R., per yd.	0	1	5
DO. *4 in. O.G., per yd.*	0	1	9
MILLED LEAD and labour in gutters, flashings, etc.	3	10	6
LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft.	0	2	1
DO. ¾ in., per ft.	0	2	5
DO. 1 in., per ft.	0	3	3
DO. 1¼ in., per ft.	0	4	6
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
CAST-IRON R.W. PIPE, at 24 lb. per length, jointed in red lead, 2½ in., per ft.	0	2	5
DO. 3 in., per ft.	0	2	10
DO. 4 in., per ft.	0	3	3
CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft.	0	2	7
DO. O.G., 4 in., per ft.	0	2	10
CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft.	0	7	0
DO. 3 in., per ft.	0	6	0
Fixing only:			
W.C. PANS and all joints, P. or S., and including joints to water waste preventers, each	2	5	0
BATHS only, with all joints	1	18	0
LAVATORY BASINS only, with all joints, on brackets, each	1	10	0

PLASTERER

PLASTERER, 1s. 9½d. *per hour (plus allowances in London only);* LABOURER, 1s. 4½d. *per hour.*

Chalk lime, per ton	£2	11	0
Hair, per cwt.	0	18	0
Sand and cement see "Excavator," etc., above.			
Lime putty, per cwt.	£0	2	8
Hair mortar, per yd.	1	7	0
Fine stuff, per yd.	1	14	0
Sawn laths, per bdl.	0	2	9
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, ½ 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	5
WHITE glazed tiling set in Portland and jointed in Parian, per yd., from	1	11	6
FIBROUS PLASTER SLABS, per yd.	0	1	10

GLAZIER

GLAZIER, 1s. 8½d. *per hour.*

Glass: 4ths in crates:			
Clear, 21 oz.	£0	0	6
DO. 26 oz.	0	0	7½
Cathedral white, per ft.	0	0	6½
Polished plate, British ¼ in., up to 2 ft. sup.	0	2	0
DO. *3 ft. sup.*	0	2	6
DO. *7 ft. sup.*	0	3	6
DO. *25 ft. sup.*	0	4	0
DO. *100 ft. sup.*	0	4	6
Rough plate, ⅞ in.	0	0	6
DO. *¼ in., per ft.*	0	0	6½
Linseed oil putty, per cwt.	0	16	0
GLAZING in putty, clear sheet, 21 oz.	£0	0	11
DO. 26 oz.	0	1	0
GLAZING in beads, 21 oz., per ft.	0	1	1
DO. 26 oz., per ft.	0	1	4
Small sizes slightly less (under 3 ft. sup.).			
Patent glazing in rough plate, normal span 1s. 6d. to 2s. per ft.			
LEAD LIGHTS, plain, med. sqs. 21 oz., usual domestic sizes, fixed, per ft. sup. and up	£0	3	6
Glazing only, polished plate, 6½d. to 8d. per ft. according to size.			

DECORATOR

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

Genuine white lead, per cwt.	£3	11	0
Linseed oil, raw, per gall.	0	3	7
DO., *boiled, per gall.*	0	3	10
Turpentine, per gall.	0	6	2
Liquid driers, per gall.	0	9	6
Knotting, per gall.	1	4	0
Distemper, washable, in ordinary colours, per cwt., and up	2	0	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4
Single gold leaf (transferable), per book	0	1	11
Varnish copal, per gall. and up	0	18	0
DO., *flat, per gall.*	1	2	0
DO., *paper, per gall.*	1	0	0
French polish, per gall.	0	19	0
Ready mixed paints, per gall. and up	0	10	6
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
STRIPPING old paper and preparing, per piece	0	1	7
HANGING PAPER, ordinary, per piece	0	1	10
DO., fine, per piece, and upwards	0	2	4
VARNISHING PAPER, 1 coat, per piece	0	9	0
CANVAS, strained and fixed, per yd. sup.	0	3	0
VARNISHING, hard oak, 1st coat, yd. sup.	0	1	2
DO., each subsequent coat, per yd. sup.	0	0	11

SMITH

SMITH, *weekly rate equals 1s. 9½d. per hour;* MATE, *do. 1s. 4d. per hour;* ERECTOR, 1s. 9½d. *per hour;* FITTER, 1s. 9½d. *per hour;* LABOURER, 1s. 4d. *per hour.*

Mild steel in British standard sections, per ton	£12	10	0
Sheet steel:			
Flat sheets, black, per ton	19	0	0
Do., Galvd., per ton	23	0	0
Corrugated sheets, galvd., per ton	23	0	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

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 3d. to	0	0	6
Plaster board, per yd. sup. from	0	1	7
PLASTER BOARD, fixed as last, per yd. sup. from	0	2	8
Asbestos sheeting, ⅛ 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, ⅛ in. punched per M., grey	17	0	0
DO., *red*	19	0	0
ASBESTOS COMPOSITION FLOORING: Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0	7	0
DO., ½ in. thick, suitable for domestic work, unpolished, per yd.	0	6	6
Metal casements for wood frames, domestic sizes, per ft. sup.	0	1	6
DO., *in metal frames, per ft. sup.*	0	1	9
HANGING only metal casement in, but not including wood frames, each	0	2	10
BUILDING in metal casement frames, per ft. sup.	0	0	7
Waterproofing compounds for cement. Add about 75 per cent. to 100 per cent. to the cost of cement used.			
Plywood:			
3 m/m alder, per ft. sup.	0	0	2
4½ m/m amer. white, per ft. sup.	0	0	3½
¼ m/m figured ash, per ft. sup.	0	0	5
4½ m/m 3rd quality, composite birch, per ft sup.	0	0	1½