THE

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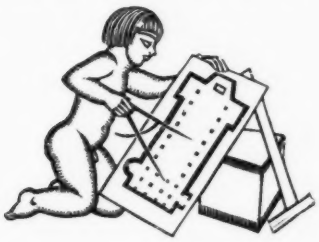

JOURNAL

THE ARCHITECTS' JOURNAL
WITH WHICH IS INCORPORATED THE BUILDERS' JOURNAL AND THE ARCHITECTURAL ENGINEER IS PUBLISHED EVERY WEDNESDAY BY THE ARCHITECTURAL PRESS (PROPRIETORS OF THE ARCHITECTS' JOURNAL, THE ARCHITECTURAL REVIEW, SPECIFICATION, AND WHO'S WHO IN ARCHITECTURE) FROM 9 QUEEN ANNE'S GATE, WESTMINSTER, S.W.

Next week the Current Architecture Section will be devoted to the illustration of some of the more recent ecclesiastical, banking, commercial, and other buildings of North Wales. The buildings will be described by Mr. Lionel B. Budden.

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TELEPHONE: VICTORIA 6936 (OWN EXCHANGE)
TELEGRAPHIC ADDRESS: BUILDABLE, PARL, LONDON

WEDNESDAY, OCTOBER 13, 1926. NUMBER 1656: VOLUME 64

PRINCIPAL CONTENTS

The Index to Advertisers will be found on page w.

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.

xxxix. Francesco Guardi (1712-1793).
The Procession to the Salute.

This is one further example from the same series as the pictures commented upon under Nos. xxxiii and xxxvi. The occasion depicted is that of the procession to Santa Maria della Salute on November 28. We look across the Grand Canal, on the far side of which rises Longhena's wonderful church; a procession including the Doge is moving up its steps, and a great crowd of people are slowly approaching it across a bridge of boats which spans the canal. It is interesting to note that, though the Doge and Senate of Venice have vanished, this ceremony is still annually performed in substantially the same fashion as it has been depicted by Guardi; it is, in fact, one of the three occasions in the year when a bridge of boats is thrown across the Grand Canal. The crowds are still great, and the glorious setting of Venice triumphantly engulfs the drabness of present-day fashions.—[Paris, Louvre.]

THE ARCHITECTS' JOURNAL

Wednesday, October 13th, 1926

STRIFE IN ARCHITECTURE

MR. G. A. PENTY's reference to the "Battle of the Styles," in the first of his articles on "Authority and Liberty in Architecture," is a reminder of a great struggle in the history of the art which is still progressing and from which there is likely to emerge no clear issue, for it was, and still is, a struggle of temperaments. It is a struggle, too, which can have begun at no very precise period. Just as we like to think that James Watt invented the steam engine, whereas he but epitomized the results of centuries of experimenting, so, too, we like to think of the Battle of the Styles as some new clear-cut issue, whereas it is nothing of the sort.

To understand the genesis of the battle it is necessary to go back some centuries before the particular episode in the nineteenth century to which the phrase refers took place; back, indeed, to the time of the introduction of the word *Romantic*, for that word is an indication of a new trend in intellectual development; it is the acknowledgment of an advancement of self-consciousness. It was in the middle of the seventeenth century that the word seems first to have made its appearance with any degree of precision attached to its meaning. The introduction of a new word in the language indicates a new object, a new thought, or a new reaction, and the word Romantic seems to have been introduced to express an indirect vision which was something hitherto unknown; the vision of Nature or of art through the medium of another art, usually through the medium of literature. It thus stood for something a little strange, something seen not quite clearly, but tinged with other values, an evoking of the past for the better enjoyment of the present, all of which things indicate an advanced degree of self-consciousness. And little by little there occurred in the development of thought an almost definite bifurcation, the paths taking on the names of *Romantic* and *Classic*, but there was always this difference between them: that whereas the one was indirect, the seeing of something through the medium of something else, the other was clear-cut and direct. And it is this fact that is often overlooked, especially by partisan historians of the battle, who point out that Gothic architecture is more indigenous to this country than Classic; which is in itself a debatable hypothesis, for what after all do we mean, in common parlance, by indigenous? Is the potato indigenous, is our faith indigenous, is the word indigenous indigenous? However, what is even less debatable is the fact that the Gothic revival was essentially a manifestation of the Romantic movement, a movement which saw one set of things in terms of another—a subjective movement, an imaginative movement, a literary movement.

Germany was, perhaps, the scene of the first real conflict. Indeed, as Mr. Logan Pearsall Smith points out, "Goethe took upon Schiller and himself the responsibility of having added to the world's woes this famous subject of debate." The Battle of the Styles was thus nothing more than a counterpart in architecture of a vast warfare that was raging elsewhere. And it was a warfare between conflicting ideals, between conflicting temperaments. How are these differences to be epitomized? Is it reason against imagination, and the objective against the subjective; is it perception against introspection, the finite against the infinite; is it order against disorder, the planned against the fortuitous, form against growth; is it the controlled against the uncontrolled; is it the general against the particular, the obvious against the mysterious; is it the spontaneous against the self-conscious? Actually it is surely all or any of these things, and although often enough these opposing qualities may be found side by side in the same work of art, two schools of thought have grown up, the opposition between which is based upon quite fundamental differences of outlook.

During the period when the so-called Battle of the Styles raged at its acutest the issues were fairly well defined. As knowledge of the past grew they tended to become more obscure, but even to-day there is a real cleavage between those in whom the formal instinct is highly developed, and those whose predilections are for the obscure and the strange. Thus the conflict, though ceasing to lie between the Gothic and Classic styles of architecture, persists nevertheless.

Of the three qualities so important in architecture of form, texture, and colour, that of form is surely the most important, and the appreciation of it requires a finer, a more sensitive, a more cultured mind than the appreciation of either colour or of texture. Those, therefore, who set a high value upon form in architecture are exercising a rarer discrimination than those who undervalue it and favour other qualities; but, nevertheless, this favouritism is based not so much upon any error of judgment, as upon a difference of temperament, a difference which would be found to affect the individual's entire outlook. Although it is unlikely that there will again occur revivals comparable with the Gothic revival, this difference of outlook will remain and will always manifest itself in architecture; and is it not a good thing that it should be so, for interest no less than progress depends upon diversity? Now, as then, the battle is not one of Right *versus* Wrong, of the virtues against the vices, or even of Beauty *versus* Ugliness, but rather a manifestation of man's growth.

NEWS AND TOPICS

MOVEMENTS IN ST. PAUL'S CATHEDRAL—THE NEW DELHI—THE KANSAS CITY WAR MEMORIAL—WELWYN'S NEW RAILWAY STATION—THE SPOILS OF SPORT.

IT is not so many months since the Cathedral Authorities were combating the proposal to close portions of the building for investigation and repair with comforting assurances that there was no need for alarm. The completion of the scheme for gradual patching and grouting would be all that was required, the golden cross stood "as high as ever it did," pessimistic warnings of danger to the fabric were "but newspaper stunts," and so forth. We have already enjoyed an opportunity of forming an opinion as to the correctness, or otherwise, of these too speciously cheerful utterances. Now, in evidence before the Commission on Cross River Traffic, the same authorities have admitted that *movement in the structure is continuing* in spite of the repairs executed in the interval. Canon Alexander is reported by the *Times* of October 6 as saying: "We have got continuous evidence that movement has taken place in the cathedral in recent years, and also since the original building. As you know, the cathedral gave when Wren was building it. The weights were unevenly distributed, and the position arose from the effect of which we are still suffering. But as late as the end of the eighteenth century the cathedral was closed for two and a-half years when special works had to be carried out, and we can submit to the Commission evidence of movement up to the present date, quite recently, and during the last week or two. We have that in writing."

* * *

However ludicrous these sudden changes of opinion may seem when viewed as the wire-pullings of astute men of the world, fighting, first, to maintain the regular order of the cathedral services, and to uphold a partial and insufficient, but convenient, routine of repair works, and now to preserve the amenities of the churchyard against the unwanted traffic of a new arterial road and bridge, they ahve also a tragic side. While the custodians emphasize alternately the evidences of safety or the evidences of danger as best suits the need of the moment, Wren's great work is steadily decaying under the action of natural forces. The Canon's hope that the present scheme of partial repair will "restore its stability" to the cathedral if they can be "let alone" is obviously foredoomed to failure. With an autumn gale blowing it is impossible to picture Saint Paul's being "let alone" for a single instant. Any reader of Mr. William Harvey's articles in our pages or, better still, his "Preservation of Saint Paul's Cathedral," will realize that the movements in the structure are the inevitable result of its imperfectly buttressed arch thrusts, and that though they may be accelerated by specific vibrations caused by storms, or heavy traffic, or by shifting of the waterscoured foundations, they will continue steadily towards collapsing point, even under the best of normal conditions unless the bursting pressures are scientifically analysed and adequately controlled. It is not enough to follow up the damage and squirt cement into cracks which widen again after the operation. It is also hopeless to protest against deep digging in the neighbourhood; the heart of a great city cannot be withheld from beating, and deep digging in a place where storage space is immensely valuable is hardly to be prevented even by law.

* * *

As a measure of repair for such an immense building the crack-stopping policy is worse than useless. As a foreign magazine puts it: "A les opérations sont à recommencer pour ainsi dire en permanence." Unfortunately, permanence is not quite the right word. The patching operations may follow up the cracks for a certain time, but the last crack will open too quickly for the conscientious patcher to fill, even if he feels inclined to stay to fill it.

* * *

The new capital of India at Delhi receives its long awaited inauguration this month, when the twin blocks of the secretariat buildings will be occupied as offices for the Administrative Staff of the Government. The designs for the buildings were prepared by Sir Herbert Baker, A.R.A., after a fierce discussion as to the propriety of allowing Indian master builders to plan and build in "the traditional way." The result of the agitation has been a serious attempt on the part of the architect to do justice to a simplified form of the Renaissance style and to the Moghul architecture of the district. The Indian Chujja or cornice of projecting slabs, the Chatri or domed kiosk on the flat roof to protect the watchman from the sun, and the Jali or geometrically-patterned pierced window slab have all been interwoven into the design. Comparatively little structural steelwork has been used, and throughout the more important corridors, chambers, and halls it has been found possible to employ genuine vaults of brick, stone or concrete. Some of the brick domes were built without centres of any kind, others with modelled centres of earth on top of constructions of brick laid dry. An attempt to persuade the "master builder" to provide beautiful tiles for the decoration of the interior showed what a fiasco might have resulted from the proposal to trust the whole design to local talent. The Indian tilemakers assembled for the work managed to get hold of the idea that some of their cherished trade secrets would be learned by the English, and decamped in a panic. The benevolent intention to revive the languishing industry and improve local technique by the aid of experimental chemistry was not in the least appreciated. A mixture of European and Moghul elements will also be visible in the Government House when this official residence of the Viceroy is completed. This work by Sir Edwin Lutyens, R.A., has been planned to accord with the two large secretariats blocks in style, though differences of detail and handling give variety to the group.

* * *

A development of the idea of self-determination led to the production of a third great block of buildings during the progress of the scheme, and Sir Herbert Baker produced a remarkable plan in which were included chambers for the Legislative Assembly, the Council of State, and the Council of Princes. These three halls and a central library have been included within a single circular outer range of corridors and subordinate chambers. The planning introduced several minor problems in architectural design and draughtsmanship, for every feature had to be considered in relation to the radial lines cutting the area of the great circle into sections. Special beam compasses had to be procured to draw the concentric lines of the circular design.

Part of the frieze of the Kansas City Memorial. By Edith Magonigle.

Conscious of being the geographical hub of the United States, Kansas City has built her war memorial and built it on a magnificent scale. On a succession of terraces that lift its crowning light 360 ft. above the surrounding country, a great shaft of masonry rises sheer 217 ft. from the broad platform which tops the terraces and extends along a front of 200 yards. Right and left are low buildings with colonnades of classical design. From the north, steps and ramps lead up to the platform, and from the south approach is along a wide, level, tree-lined avenue or mall to a formal lawn or *tapis vert*. The entrance on this side is flanked by winged sphinxes on a grand scale—32 ft. long and 20 ft. high. Near the top of the shaft (which is 35 ft. in diameter) are guardian winged figures more than 40 ft. high, so placed in niches that the perpendicular rise of the column is not marred. Just above the guardian figures is the censer beaming the light. A frieze 400 ft. long and 13 ft. high to decorate the 50-ft.-high front, or north wall of the terrace on which the shaft with its colossal angels stands, is the part of the memorial still to be completed. Of this we read: "This frieze, according to plan, is to be cut in low relief in three planes so as to leave the front of the terrace, viewed from the side, still seemingly flat. It represents one hundred and thirty-three yards of opportunity for conspicuous success or failure in combining adequate decorative quality with dramatic effect and historic significance. Obviously, a sculpture on such a scale on such a monument must mean something. A mere decoration, however decorative, is not enough."

* * *

The ultimate decision of what precisely the sculpture shall be lies with the Kansas City committee. However, the wall is ready for the carving, and designs for the frieze, which have been more than four years in the making (though they still lack final official approval), are now so far advanced toward completion that it is possible from photographs of the artist's cartoons to get a very fair idea of what the effect would be translated into stone. The idea of the design here is to give credit to the world-wide character of the American people's origins, to acknowledge their obligation to all the great nations and all the great civilizations that have gone before, and out of the successive remains of which all their social and cultural fabric is built. The historical perspective might have been carried back into the Dark Ages before civilization began, but that would have complicated matters needlessly. As a matter of fact, even 133 yards of history in stone cannot include half the civilizations of the last 6,000 years or so which have contributed more or less directly to the making of present-day America. The architect of the entire memorial is H. Van Buren Magonigle, and the proposed design for the frieze is the work of Edith Magonigle, his wife.

* * *

A notable opportunity has been missed at Welwyn. If the railway company had employed an architect with half the vision possessed by the other architects who have contributed to Welwyn, the new station might have been an example for all other companies. As it is, it is simply a reproduction of hundreds of others. I am told that the directors of the Welwyn Garden City, who have real appreciation of modern developments in architecture, made a valiant effort to persuade the railway company to depart from their old traditions, but their appeal was of no avail.

* * *

I have admiration, I tell myself, for the architecture of all things—the structural perfection of a leaf, or the lattice-girder work of a spider's web. Autumn is the time for seeing these things, for now the wind and rain sweep away all the ornament, and leave only the teeth and bones. A fallen leaf in a rain-pool will become perfectly skeletonized in a few weeks, and before breakfast the dew upon the webs of the large garden spiders will reveal their threads stretched from rose-bush to rose-bush like the gleaming steelwork of a new hotel. Now, also, is the time to look at haystacks if one is to see their architecture at its best, and it should be understood that a good rick-builder is no fool. To make a round stack perfectly round, swelling in the middle, tapering at the top into a cone, is a fine art, and the size of the whole must be so judiciously fixed that it will take all the hay without spoiling the shape—in a haymaker's expression, "with none to leave and none to lack." What architect or quantity surveyor could do that with bricks or stones in one of *his* edifices?

* * *

The big man in the check suit was talking loudly to the tired-looking architect. Even though they were at the far end of the room, the voice of the big man carried to me. "In the art of war," he was saying, "in the sport of kings, what is a Parthenon more or less? or a Rheims? or a Louvain? As well abolish fox-hunting, man! because it may entail the killing of a fox."

ASTRAGAL

JACOB EPSTEIN

"Medusa turneth men to stone!"
Of Her he learned the magic old,
Increasing it a thousandfold;
Like Midas, all he touched was gold.

H. J.

AUTHORITY AND LIBERTY IN ARCHITECTURE

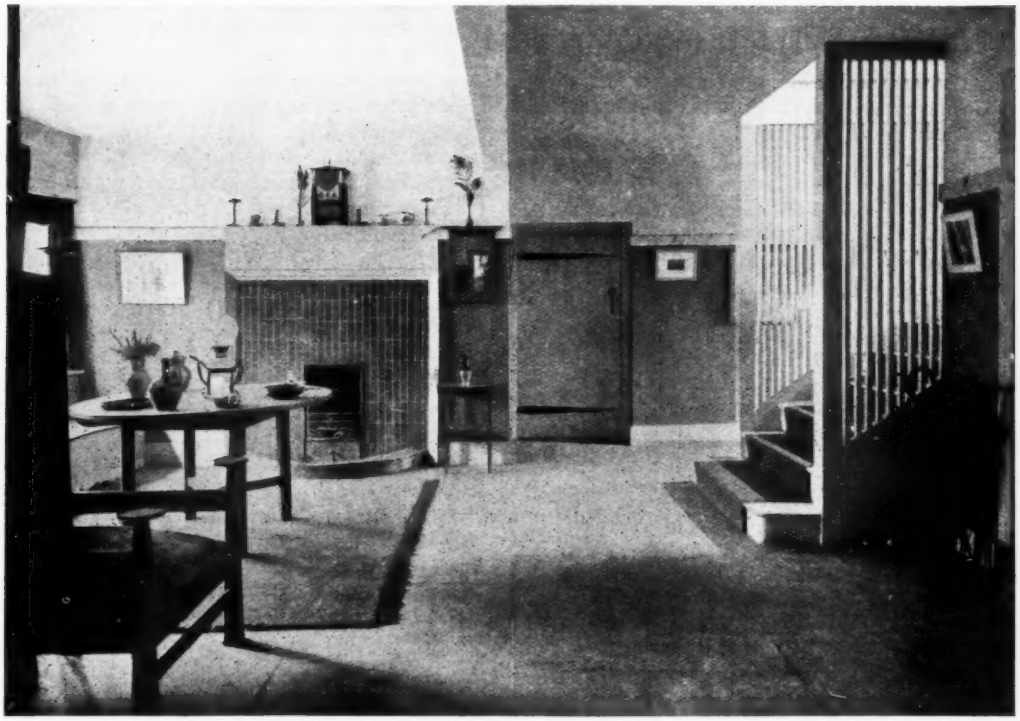
[BY ARTHUR J. PENTY]

iii: THE ARTS AND CRAFTS MOVEMENT

THE Gothic revival and the so-called Queen Anne revival lived side by side, scarcely competing with each other, for each had its own special province. Gothic was accepted for church work and Queen Anne, or vernacular as we prefer to call it, for domestic work. Indeed, architects practised both styles simultaneously. Norman Shaw built Gothic churches, while Bodley and Garner, Sedding, and other church architects built houses in the vernacular styles. The designs were often scholarly, but were apt to be somewhat disappointing in execution. However carefully old work might be studied, the revived tradition had not the life of the old. It did not quite come off. There was something missing. What was it? The answer had been given by Ruskin, who had connected the degradation of architecture with the degradation of craftsmanship. In the Middle Ages the designer and craftsman, the architect and builder, were united, not perhaps always literally in the sense that the designer always carried into execution his own designs, but in the sense that every architect and his designer had served an apprenticeship to a craft, and in consequence had formed a habit of thinking in the terms of material; with the result that their designs exhibited a feeling for material whether they executed them or not. The defect of the modern practice of architecture is that the architect, even when he favoured Gothic, continued in the later Renaissance tradition of being entirely an office man. He had never worked at a craft. The consequence was that as often as not he was ignorant of the processes by which his designs were carried into execution, and this uncertainty expressed itself in his work. His designs were not in any organic sense part of the material that was used. They lacked that indefinable quality which it was presumed had come to the old builders because of the actual handling of material. This approach to the problem of architecture had been, as I have said, suggested by Ruskin, but though his ill-considered advice about details had met with hasty response, this fundamental idea had been entirely ignored except by Morris and his group with whom it became a fixed creed. In 1861 Morris had established his workshop in Red Lion Square for the production of textiles, furniture, and stained glass, and though he received some assistance from others, yet for a generation he had to rely in the main upon the unassisted force of his own genius. The seed, however, which he sowed began silently and unostentatiously to bear fruit. His example came to be followed by others, and eventually took organized shape in the arts and crafts movement which can be dated from its first exhibition in 1888, or from the formation of the Art Workers' Guild in 1884, which rendered it possible. It should be remembered that the Arts and Crafts movement was, at the beginning, almost entirely an architects' movement, originating in the first instance among the young men in Norman Shaw's office, where Professor Lethaby was in those days chief assistant. Prior, however, to its more definite inception, some propaganda work had been done by Mr. A. H. Macmurdo, who had preached the gospel of architects taking up craftsmanship.

The movement was justified by its fruits. A rapid improvement of design followed. It came about naturally as the result of men with some knowledge of design giving their exclusive thought and attention to a single craft. The work of such pioneers as Ernest Gimson and the Barnsleys in furniture and woodwork, Henry Wilson and Bainbridge Reynolds in metalwork, Christopher Whall in stained glass, Alfred Powell in pottery, G. P. Bankhart in plasterwork, and George Jack in woodcarving, combined to effect a revolution in the crafts. Better standards of

Walnut Tree Farm. By C. F. A. Voysey.



"The Orchard," Chorley Wood. By C. F. A. Voysey.

design were established, and it was not long before they reflected themselves in architecture, especially in domestic work. But the thing that really galvanized architecture into a new life was the development which at a later date came to be known as New Art, and which to-day is only remembered by what was mistaken in it. It is important that we should understand that New Art had a good side as well as a bad; and it is important to understand what was good, for it is impossible to understand the situation in modern architecture apart from a just appreciation of the contribution made by New Art.

Though New Art was intimately associated with the Arts and Crafts movement, it was primarily an architects' and designers' movement rather than a craftsman's. It originated with Mr. C. F. A. Voysey. Before Mr. Voysey the tendency of design had been towards a greater simplicity, but architecture was still smothered by a surfeit of mouldings and other paraphernalia. Very few architects could handle them with any degree of skill, yet nobody thought it was possible to get on without them. They were a kind of architectural driftwood that stood in the way of progress. Mr. Voysey went to the root of the matter and cleared them all away. He stripped his designs almost entirely bare of ornament and of all mouldings whatsoever. On the outside of his houses he made use of roughcast instead of half-timbering and tile-hanging, which were then fashionable, while inside he banished not only nearly all mouldings, but pattern papers in favour of whitewashed or plain tinted walls. The result was magical. Architecture recovered the sense of space; and as that is fundamental it immediately sprang into new life. The reactions of this idea were good in every direction. Better Gothic, better Renaissance, better vernacular architecture, better craftsmanship resulted from it. In fact, so great was the improvement that I think we are justified in dating the rebirth of architecture from the day Mr. Voysey took his courage in his hands and stripped architecture of its superfluities. By that act Mr. Voysey put us all in his debt, and we gratefully acknowledge his great services at that juncture. He gave the spark necessary to fire the train laid by Pugin, Ruskin, Morris, Webb, Shaw, Lethaby, and others. But the rejuvenation of the traditional forms of architecture was not Mr. Voysey's aim. On the contrary, it was a by-product of his activities, the aim of which was the creation of a modern style that borrowed nothing from the past. For according to him there could be no hope for architecture so long as it continued to lean on tradition.

This idea became very popular in the nineties, and the type of design it gave rise to eventually became identified with the name of New Art. If experience counts for anything, it stands condemned. For the practical effect of thus attempting the creation of a new style of architecture by the method (to borrow a phrase current in politics in these days) of "direct action" was to encourage every kind of eccentricity. This appears to follow naturally from the repudiation of tradition. For when men set out to produce something new and without precedent the restraining influence which tradition supplies is entirely removed and there follows a restless striving after effect. It was this that eventually brought New Art into discredit, for the progress of design under its auspices was from absurdity to absurdity. And when reaction set in, it not only set in against the eccentricities of New Art, but against the Arts and Crafts movement, which had unfortunately become too closely identified with the ideas of new art—that is, in this country—for on the Continent, where it had spread, reaction did not set in against New Art. On the contrary, it continued to increase in influence until it reached its consummation in the Paris Exhibition of last year.

But the failure of new art was not the only cause of the

reaction which set in against the Arts and Crafts movement about the beginning of the century, for the ultimate cause of failure was economic. It is one thing to lend approval to a principle; it is another to translate it into practice when it means embarking on an enterprise that runs contrary to the trend of economic evolution, the tendency of which is not to unite the artist and craftsman, but to increase their separation. So, although we may acknowledge that we are indebted to the experiments in handicraft for better standards of design, we have yet to face the fact that the craft ideal of architecture does not readily adapt itself to the circumstances of present-day architectural practice. Experience proved it to be impossible for the architect to resume his position as master builder directing operations on the job instead of from an office, which the movement postulated as its ideal. The architects who did make the attempt either returned before long to office practice or became craftsmen in one of the decorative crafts. This was necessitated by a variety of causes into which I have not space to enter. Taken literally, therefore, the ideal proclaimed by the Arts and Crafts movement is entirely impracticable so far as the position of the architect is concerned, while it is only true within certain limits in regard to other crafts. In these circumstances it is important to realize what was true in the position of the Arts and Crafts movement and the extent to which it is practicable in the light of experience.

Now, in the first place, the movement was entirely right in insisting that design should be considered in relation to material. The truth of this can be best seen by comparing the academic with the vernacular Renaissance. In the former, materials and workmanship are subordinated to what is called pure design, that is, to abstract form; for it was the aim of the Renaissance architects to eliminate as far as possible all sense of material, texture, and local colour, ignoring as much as possible the differences of material in their details, mouldings, and ornaments. The result was that the nearer they approached to their ideal, the more lifeless, cold, and unsympathetic their architecture became. The vernacular Renaissance, on the other hand, which was the work of builders who continued the medieval tradition, borrowing only such elements from classic architecture as they could assimilate to their traditions, is full of life and interest. It possesses a quality which the architects missed and which came about naturally from their habit of mind which related design to material. And because of this the vernacular Renaissance, which we know by the names of Jacobean, Caroline, Queen Anne, and Georgian, is to be regarded as the genuine architecture of the Renaissance period. The attempt of the Classic School to-day to reverse such standards, to place the academic Renaissance on a higher plane, and to relegate the vernacular Renaissance to a position of inferiority, will not, I am assured, impose on this generation much longer; for it surely demands more æsthetic perception to recognize than to ignore the differences material makes in design. Yet the Classic School maintains the contrary.

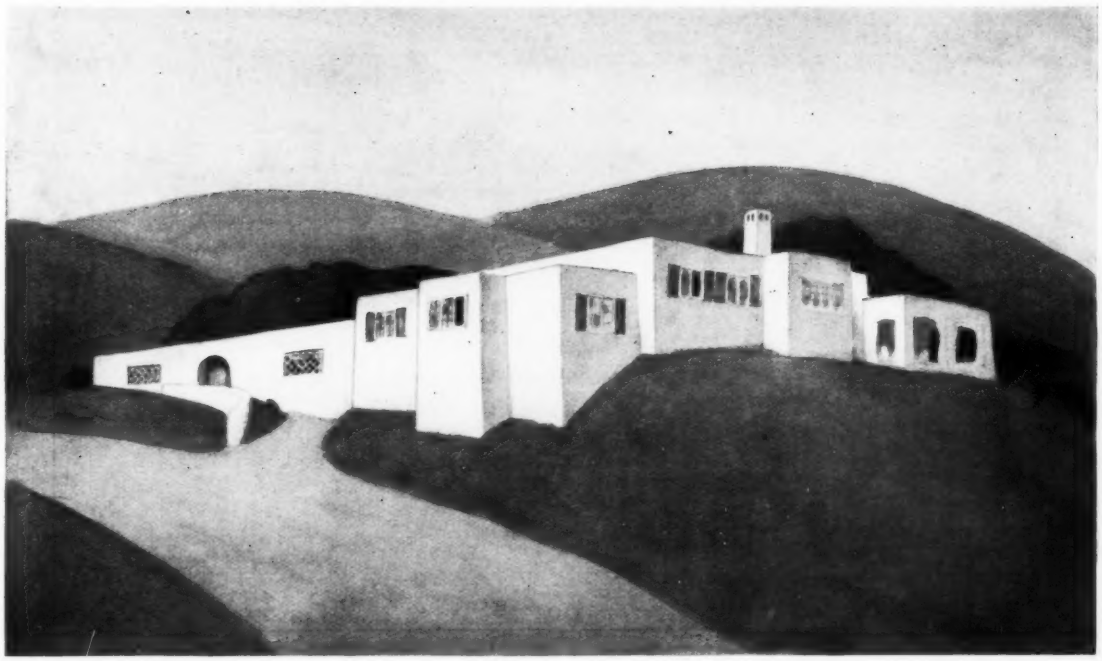
In insisting that design should be related to material the Arts and Crafts men were absolutely right, but in insisting that the designer and executant should be one and the same person they were only relatively right; for except in the more highly ornamental work it is not essential, while even in such work it is possible to employ assistants when the designer is working in close contact with them and can keep an eye on their work as it is being done. The need for the designer to execute his own work decreases as we pass from decorative to utilitarian craftsmanship, granting the architect is familiar with the details of construction and the way things are made, and looks at design from the point of view of material. Experience proves that excellent work can be done from designs made on paper, though I think that working entirely on paper demands of the designer a greater power of visualization than is the case with the craftsman who works in material; while again, the designer who works on paper is more dependent on precedent than is the craftsman, and is, therefore, less likely to produce original work. For such reasons it would be a great advantage if every architect had practical experience of craft work. A couple of years at the bench would not be wasted. It would give him a habit of mind that would serve him in good stead for the rest of his life by disposing him to think in terms of material. It would, moreover, make him a more intelligent patron of the crafts. In this direction architects could exercise an enormous influence. It may be impracticable at the present day for the architect to work on his buildings, but he can employ real craftsmen on the decorative parts of his work, and it is important that he should act here with a due sense of responsibility, for through the exercise of judicious patronage a body of craftsmen engaged in experimental handicraft could be kept in existence whose activities would react to the improvement of architectural detail.

During the nineties the Arts and Crafts movement flourished and exercised a rejuvenating influence upon architecture. But partly because of the discredit brought upon it by its too close association with New Art, partly because of the influence of the classical revival, and partly because of the increased pressure of economic conditions, reaction against it set in about the year 1902. Nevertheless, a great deal remained. There was a return to tradition, but it was to a more refined and purified tradition, handled in a much more skilful way than was the case before the emergence of the Arts and Crafts and New Art. If the craftsmen did not succeed in persuading the profession to support genuine craftsmanship, they at any rate brought commercial, meretricious ornament largely into discredit, and henceforth architects learned to do without it. Whitewashed or distempered walls replaced patterned wallpapers and stamped patterned wall-coverings, and that boxiness due to the use of unnecessary mouldings and casings tended to disappear. Externally, houses were no longer a patchwork of half-timber and tile-hanging, but were more and more faced entirely with brick, stone, or roughcast, as the case might be. The Hampstead Garden Suburb shows the influence of this purified tradition, which is to be seen at its best in the domestic work of Sir Edwin Lutyens. This style or tradition still finds favour for domestic work, whether in towns, suburbs, or in the country, though it is only in the building of country houses that it gets a chance, for much domestic architecture in towns and suburbs is below the poverty line and has to be done cheaply, while the influence of estate agencies, speculating builders, building regulations, etc., stand in the way of anything but a limited application of its principles.

Meanwhile, though the Arts and Crafts movement was defeated in architecture, it was not defeated in the crafts that did not depend on the patronage of architects for their support, and has exercised an increasing influence upon public taste, until at last it has brought into existence a public sufficiently educated to suspect much of the stuff that in these days calls itself architecture.

[*To be continued*]

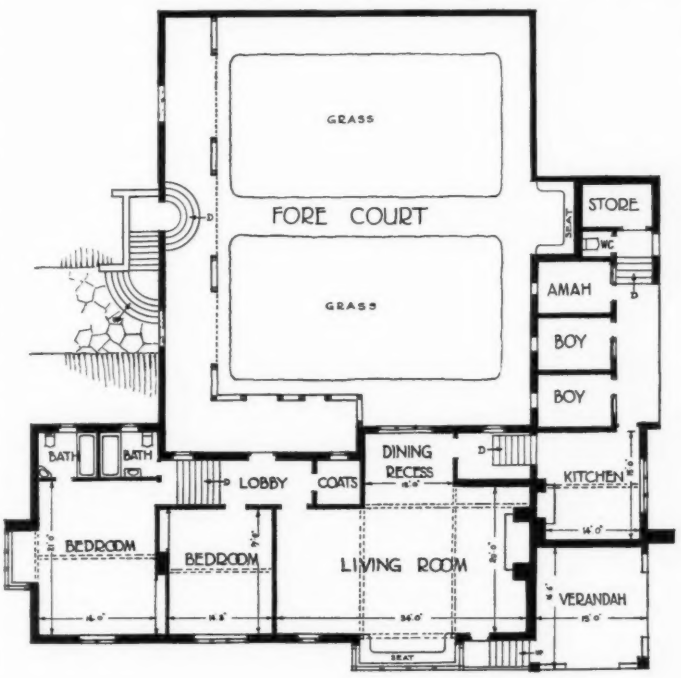
CURRENT
ARCHITECTURE
SECTION



THE ART OF THE BUNGALOW

[BY H. J. BIRNSTINGL]

THE cult of the bungalow is a post-war architectural manifestation in England. I do not mean to imply that bungalows were not built before the war, but their popularity has immensely increased of late years. Curiously enough, this popularity is partially based upon a fallacy. It is assumed that, accommodation for accommodation, a bungalow is cheaper than a two-story dwelling, but statistics go rather to prove the contrary, *provided that the construction of both buildings be of equal quality*. In those italicized words is, perhaps, to be found the real explanation. The fact is the bungalow gives more scope for jerry-building, for bad materials and workmanship, and all the products of those inspired geniuses who seek to find an architectural millennium in anything rather than in good, honest, straightforward building materials, than any other form of dwelling. A bungalow town is the jerry-builder's paradise.



The other chief reason for the bungalow's popularity, and I am not at all sure that this, too, is not a fallacy, is that (again, accommodation for accommodation) it saves labour; and that, today, is the prime quality for every house. But does it save labour? Certainly in a bungalow there is no staircase, but, on the other

Bungalow in Hong Kong. By M. H. Baillie Scott. Above, a perspective view. Below, the plan.

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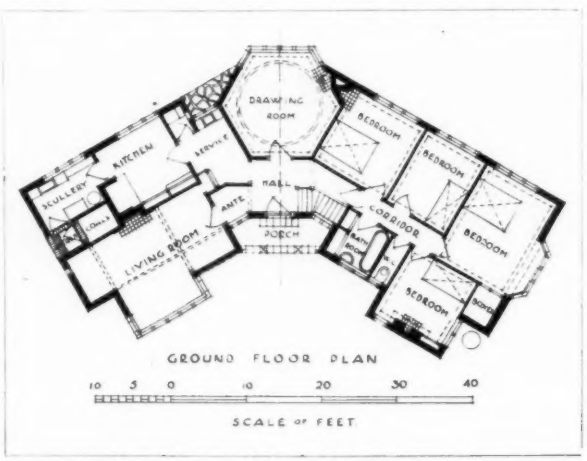
hand, unless rooms are to be used as passages there is more corridor and passage—often ill-lit, since outer walls are at a premium—than in the two-floor dwelling. I admit that more foot-pounds of energy are needed to raise the human body eight or nine vertical feet than to move it eight or nine horizontal feet, but from the point of view of what the housewife calls "running a house," I am at a loss to understand why spreading the accommodation on one floor saves more labour in "running the house" than compressing it into two floors.

There are other unpalatable facts to be faced in connection with the bungalow. It is a building form which is not indigenous to the English countryside, which is unfamiliar, and which seems to blend ill with the English landscape. These, however, are considerations which have little weight with the iconoclastic sex, and the demand for bungalows is certainly inspired by women who are willing to sacrifice all in the attainment of their labour-saving ideal.

However, be all this as it may, bungalows are popular and fashionable to-day, and it behoves architects to give some attention to their design. The planning of a bungalow presents difficulties which are quite unknown in two-story planning, and if more than the most exiguous accommodation is to be provided, waste space is inevitable, unless rooms are planned *en suite*, an arrangement quite incompatible with modern standards. The word "waste" in this connection is a selective term, but the general aim today is to plan small houses in which the ratio of communicating space to accommodational and working space is reduced to a minimum, and although corridors, passages, landings, and galleries may have real architectural value, they are not desired by the owner of a small house, yet their elimination in the bungalow plan is a difficult matter. The other difficulty arises through the insufficiency of outer wall, and again, except in the most exiguous types, this has to be met by the adoption of irregular-shaped plans, an internal courtyard, or by numerous projections.

Yet in spite of these difficulties and disadvantages many very charming bungalows are to be found which display both taste and skill in their design. The bungalow at Byfleet, by Mr. Alan Fortescue, for example, epitomizes the best of the post-war housing ideals. The necessity for economy, the leanness and spareness are synthesized into an altogether delightful building. This bungalow, indeed, is typical of Mr. Fortescue's work, whereby he seems to manage to satisfy the woman's demands without selling his soul. And the result is



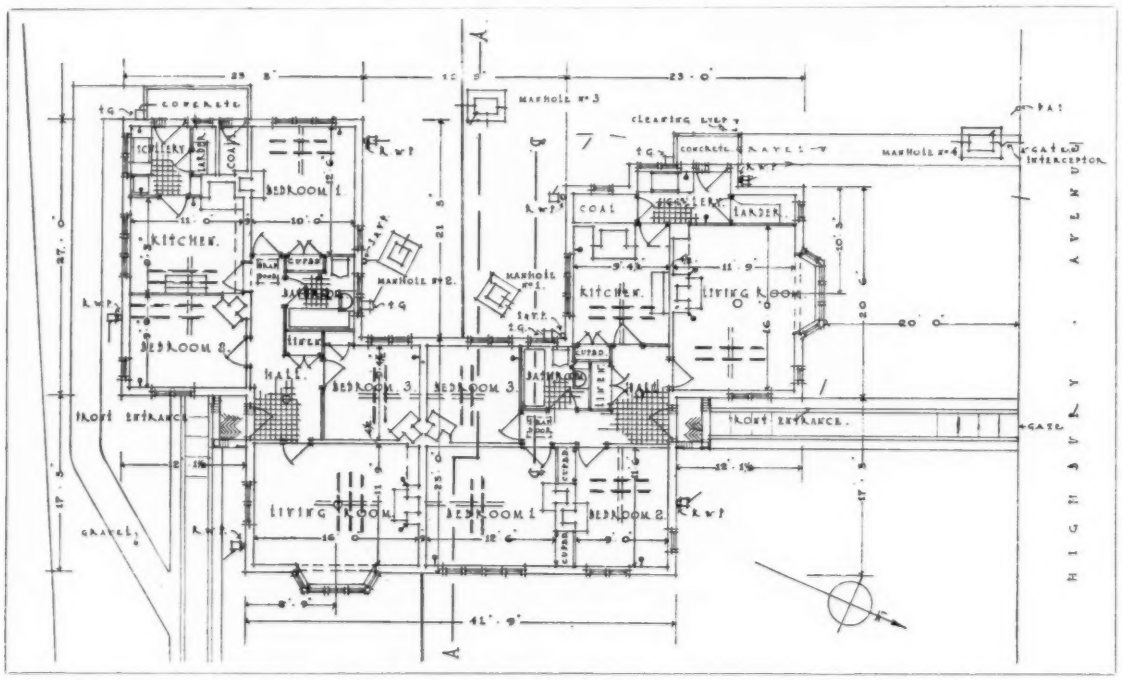
Bungalow at Leek. By Longden and Venables. Above, the entrance front. Below, the plan.

Bungalow at Leek. By Longden and Venables. Above, the sitting-room fireplace. Below, a corner of the sitting-room.

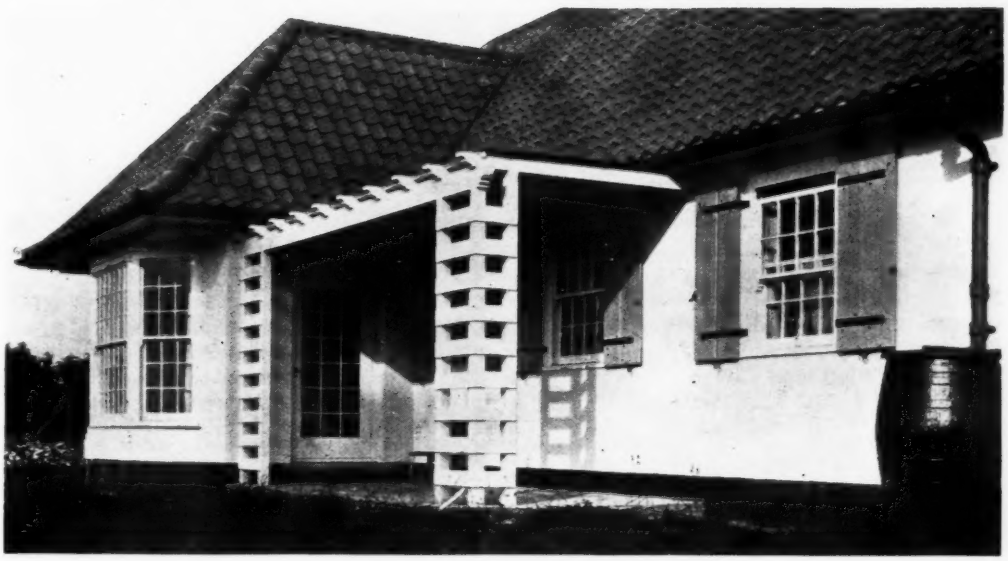
something as clean run as a racehorse. It is an admirable example of the compact four-square dwelling with small accommodation. But even so, the proportion of superficial area devoted to passage space is very considerable.

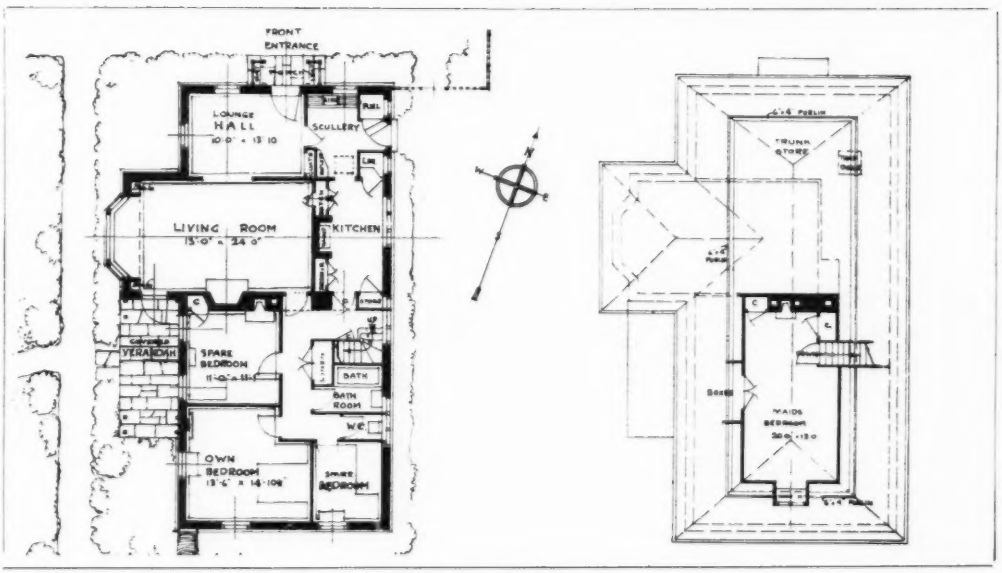
Mr. Hepworth's bungalow at Hereford is a size larger, and contains a large room in the attic, but if once the staircase is admitted there seems but little point in restricting the accommodation to which it leads to a single room. I feel sure Mr. Hepworth could have planned the same accommodation more conveniently, and even more economically, on two floors. Unfortunately, architects cannot select their own clients. Already in this plan we see the difficulties of avoiding passage rooms. Here it is possible to get from one end of the house to the other only by means of passing through the living-room or kitchen. Viewed from without the building composes pleasantly enough, and Mr. Hepworth has succeeded in imparting a thoroughly familiar look to the building despite the comparative novelty of its arrangement.

If the planning of a single bungalow presents difficulties, the planning of a semi-detached pair is likely to tax every ounce of ingenuity. Messrs. Easton and Robertson's arrangement is most satisfactory. Here is a pair of three-bedroomed bungalows, and every room is reached from a centrally-placed hall. An irregular shape has been adopted

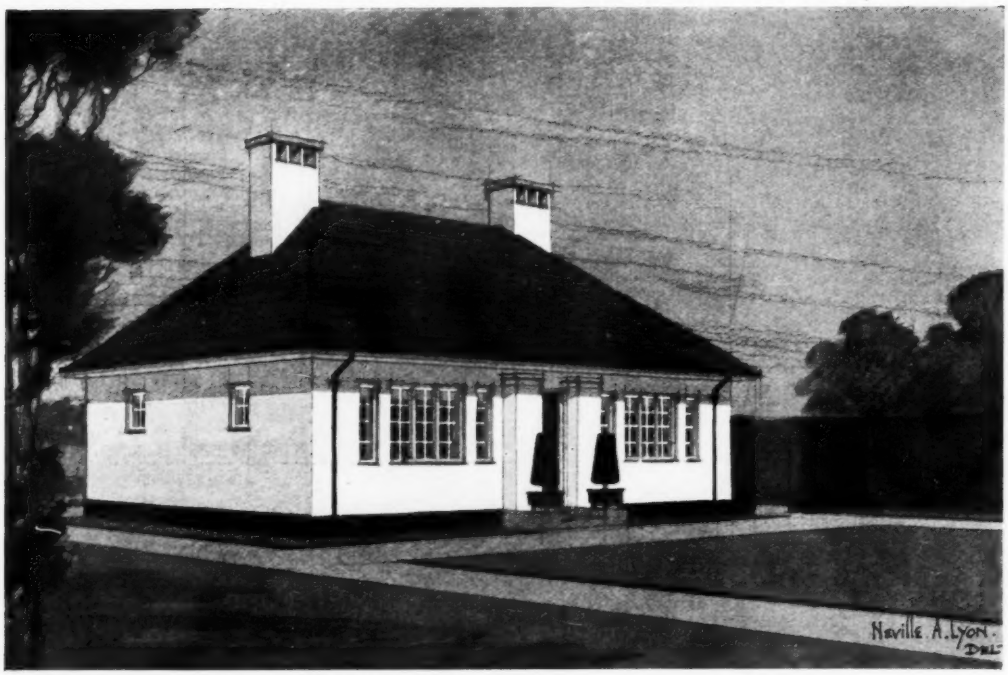


Bungalows at Prestatyn. By Easton and Robertson. Above, a general view. Below, the plan.





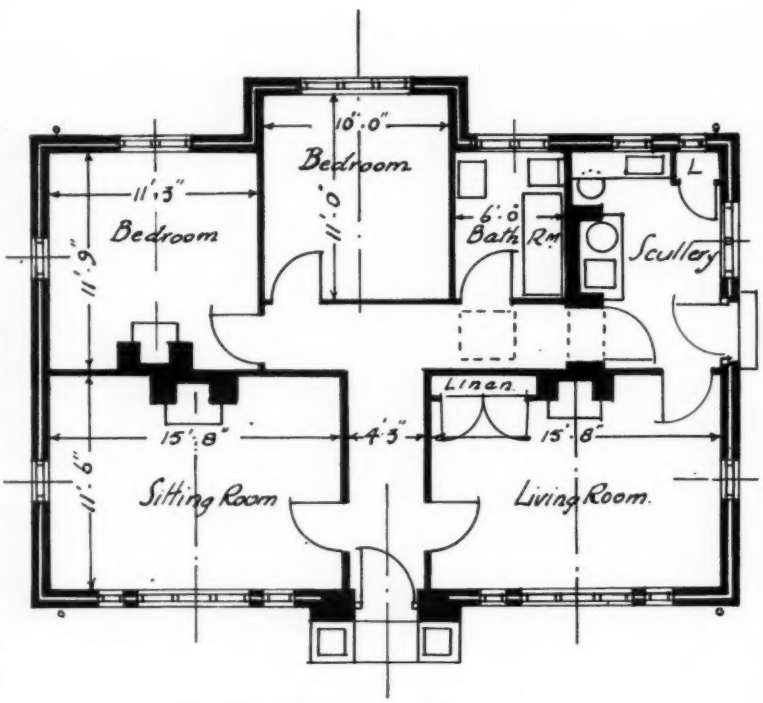
Bungalow at Hereford. By P. D. Hepworth. Above, a general view. Centre, an entrance detail. Below, the plans.



which gives the necessary amount of outer wall. The buildings are placed at a road junction, and the living-rooms of each bungalow face a different street. It is unfortunate that the line of intersection of the angle is almost due north, but by the insertion of bays in the living-rooms the most is made of the available sunshine.

The use of an L-shaped or some form of "sun-trap" plan is a favourite device amongst bungalow planners, and it presents an excellent means of coping with the particular bungalow difficulties. Messrs. Longden and Venables have made use of this form in the design of a bungalow at Leek. Here we have one wing devoted to bedrooms and bathroom, the other to living-room, kitchen, and offices, while at the junction is the hall and a hexagonal drawing-room. The need for ruthless economy has evidently not existed here, for there is about the design a certain delightful informality. The large stack on the right of the entrance which carries but one flue is, to say the least of it, a pleasant extravagance. The building is nicely placed on the crest of a hill and composes well.

With regard to the bungalow in Hong Kong, Mr. Baillie Scott writes: "In Hong Kong, where level sites for building are rare, and where labour is plentiful and cheap, it is customary to make an artificial levelled platform and so obliterate the natural contours of the country before beginning to build. The sketch illustrated shows a design for a bungalow, in which the natural levels of the ground have been one of the main factors of the plan. By so doing, the building seems to become part of its natural surroundings. In the design itself the aim has been to avoid, on the one hand, the importation of English traditions, and on the other, the reproduction of the features of the Chinese tradition, and so merely to produce a simple piece of building, which is the resultant of natural conditions and requirements." The result, too, is a building which spreads itself with delightful indolent negligence on the hill-top, with an abandonment which would be scarcely *comme il faut* in England.



Bungalow at Byfleet, Surrey. By G. Alan Fortescue.
Above, a general view. Below, the plan.

TALKS TO STUDENTS OF ARCHITECTURE

[BY W. S. PURCHON]

V: CONSTRUCTION AND DESIGN

THE fifth subject of the R.I.B.A. Intermediate Examination consists of two papers on "Constructional Design and the Properties and Uses of Building Materials." At one time this subject was called "Elementary Applied Construction," and at a later date "Simple Applied Construction in Elementary Design"; but recently the title was altered to "Constructional Design, etc." The student should realize that these changes are not merely matters of terminology dealt with academically, but that they are attempts to grapple with a real difficulty. It will also be found that in the R.I.B.A. "Suggested Outline Course of Study" this subject is referred to as "Architectural Construction," a term which is also not without significance. There has been much discussion on the relationship of architecture and building. At one time this discussion largely centred on the lack of attention paid to construction by designers, and it seems to have been felt that by emphasizing that architecture is only building, the malady would be rectified. This, however, was not the case, and the reason appears to be that while architecture is of necessity something good, building is not necessarily so. A further examination into the facts shows that certain students who do quite creditable work under the name of design, produce strange crudities when asked to do building construction, and it would seem wiser to suggest not that architecture is only building, but rather that building ought to be architecture. I would also suggest not that design is only an arrangement of construction, but that we cannot get good building construction without design.

The earlier papers set by the R.I.B.A. commonly dealt with isolated items, but more recently they seem to be based on an attempt to deal comprehensively with some comparatively usual subject, rather than disjointedly with a number of unrelated, if possibly more difficult, items. Candidates have, in fact, been asked to make working drawings to normal scales, including half-inch and full-size details, of an ordinary building, or part of a building, to make sketches or other details of special items of its construction, and to give brief notes on the materials used in building it. You should find your ordinary office experience helpful in this work, particularly if it gives you plenty of practice in preparing half-inch and full-size details; but, if possible, supplement it with class work. It is probable, however, that you will have to supplement both office and class work by special efforts of your own. The textbook recommended in the R.I.B.A. "Suggested Outline Course of Study" is *Architectural Building Construction* by Jaggard and Drury. This should, of course, be supplemented by reference to other works, and I would advise you to keep in touch with special articles on construction in such a paper as THE ARCHITECTS' JOURNAL, and with the annual volume *Specification*. Edwin Gunn's *Little Things That Matter* is also a very helpful book.

Remember that what you are striving after is the actual construction of real buildings, and the plates of architects' working drawings, published in such a journal as this, are a most useful guide. Take every opportunity to visit works in progress, and places where building materials are manufactured and worked, and use your sketch-book on these visits. You must also study building materials, and for this purpose you will find Munby's *Chemistry and Physics of Building Materials*, Laurie's *Building Materials*, and Mawson's *Experimental Building Science* useful; but this information you must supplement by reference to special articles in the technical Press, with *Specification*, with the actual practice in your office, and with the study of the materials used in the buildings you visit. *A Short History of the Building Crafts* will also help you to link up your studies of construction with those of architectural history.

Do not overlook the value of tradition in architectural construction, for you will gain much by a study of good old work, such as the domestic work of the Cotswold type and of the Georgian period. In sketching and measuring good old work you can learn a great deal about construction, and comeliness of form and proportion. Here your work in construction is overlapping, as it should, your studies of historical architecture and design. Bear in mind that much can be learnt of shapeliness and suitability of form in many such features as doors, windows, fanlights, cornices, eaves, and the like by a study of good old work. The work of good modern designers should also be studied to the same end, both from reproductions of working drawings and, where possible, from the actual buildings.

Make it your business to obtain experience of bringing together isolated items of construction so that you can readily produce a set of ¼-in. scale, ½-in., and full-size working drawings for a complete building. You should prepare such a set during your first year, selecting, of course, a very simple structure, and follow it up steadily with other sets in the following years. Your early efforts must of necessity be based on the designs of others, but later you can, and should, prepare working drawings from you own designs. You should also make full-size details right from the beginning of your course. If there is any problem you are not clear about, a full-size detail will usually settle it. In making full-size details be especially careful to show all the adjoining work.

Each student should acquire his own copy of the local building by-laws, and by checking all his work by them he will gradually acquire full knowledge of these requirements. There is much useful information in these regulations, as, for instance, the thicknesses of walls of varying lengths and heights, the scantlings and spacings of timbers in floors and roofs, flue construction, trimming to hearths, drainage, etc. The first of these items, the thicknesses of walls, is of such importance that each student should set up a sheet of wall sections for future reference. The spacing of timbers is also a very important one. Students (and architects, too) often give the scantlings of timbers on their sections, but neglect to state the spacing of them. This applies particularly to floor joists, common rafters, and roof trusses. The latter should, of course, be set out on plan, so that it can be readily seen that each is properly supported at each end.

While, generally speaking, plans, elevations, and sections are the leading drawings which you will be called upon to prepare, you should not overlook the possibilities of isometric projection in making clear special items of construction. This form of projection is particularly useful to the student, and it can at times be used to advantage in clearing up a doubtful point in the preparation of working drawings. For the student, however, it will be found invaluable in making clear to him much that would otherwise be vague and shadowy, and I would strongly advise you to set up isometric projections of many constructional items, such as the construction of doors, windows, roofs, etc. You will probably find some little difficulty in understanding slating, tiling, and plumbing on roofs, and will be well advised to make drawings of all such items to a large scale, and for this purpose there is nothing so clear as full size.

In certain branches of constructional work some little special knowledge of geometry is required. I advise you to take this up seriously, so that you can tackle such problems with precision, and not merely slur them over in an indefinite way. Among such problems may be mentioned the intersections of roofs of varying pitch, vaulting of various types, domes on pendentives, and niches. Such problems are interesting in themselves, and there is a distinct satisfaction to be obtained from the ability to deal with them definitely and with accuracy. If you allow such matters to slide you will constantly find yourself in difficulties, but if you really grapple seriously with a series of problems of this class you will always be able to work out for yourself similar problems as they arise in the future.

In all your work on construction keep constantly before you the idea of architectural design. Think not only of soundness and strength of construction, but also of proportion, and comeliness

of form and appropriateness. When studying materials consider not only the normal textbook information, but also their colours and textures, and suitability for use in architectural work of varying classes. Endeavour to keep in front of you the object of your studies—the designing and execution of buildings worthy to rank as architecture.

[To be concluded]

THE COMPETITORS' CLUB

A COURT OF APPEAL

THE question has often been asked whether a court of appeal might not reasonably be constituted, to which competitors who are dissatisfied with an award could submit their protest. We have seen that in Russia it was the practice that members of the professional society could view the designs, and submit criticism of an award before it was transmitted to the promoters. Such a course would hardly be acceptable here, nor would it be practicable in many cases; but it is obvious that an appeal which could only operate after an award has been made public is in every way undesirable, as it would tend to discredit the principle of professional adjudication, if not the whole competition system. This is the weak point in the position taken up by the R.I.B.A. at the present time. Feeling very strongly that criticisms sent to the Press of awards which dissatisfied competitors conveyed a bad impression to members of the public who were unable to test their validity, the R.I.B.A. issued a reminder that it possessed machinery for dealing with such complaints within its own organization. This is quite true, and for a long time past complaints have always been considered and reported on; but naturally the reports have afforded little consolation to aggrieved competitors. In the first place it is too dangerous to the credit of the system to make any demand for a revision of the award; and apart from this a confidential intimation to an assessor as to an error of judgment does not afford much satisfaction to a man with a grievance.

To clear the ground let it be stated at once, clearly and emphatically, that no appeal is desirable as to the relative merits of designs. This should be absolutely subject to the decision of the adjudicators. No one would gain by introducing the possibility of prolonged arguments on questions of design. Practically all the occasions in which complaints have been lodged have been those where there has been an alleged ambiguity in, or misinterpretation of, the conditions. Architects seem to be relatively much better able to distinguish between the merits of designs than to appreciate the implications of the regulations laid down to control the arrangement of a building before it has been visualized.

There is an increasing tendency to submit conditions to the R.I.B.A. before they are issued. This is all to the good, but it can hardly be expected that these should be there analysed in detail if the main provisions comply with the standard requirements. Moreover, very often the weak spot is not in the conditions themselves, but in the answers to competitors' questions, which have sometimes contradicted each other, or even the intentions of the conditions themselves. These discrepancies sometimes have been due to the answers having been given by the promoters, and not by the assessor, and sometimes to the assessor not having formulated in his mind what the conditions and the answers imply. Where a competition has failed by reasons of this kind it would undoubtedly be desirable to have some means of revision; but it is doubtful if this can be provided without introducing too cumbersome a procedure. If it is to be of service this must operate before the final award, and, therefore, can only be set in motion by the assessor's initiative. As a rule the assessor does not realize that there is difficulty, and so would be unlikely to invite criticism. There have been a few cases where he has realized his dilemma very acutely, and it might, therefore, be well to provide a small body to whom he could appeal as to the fair interpretation of his own conditions. Beyond this it is doubtful whether it would be possible to go, however much we may feel that no trouble is too great, if we could devise a method ensuring perfect fairness under all circumstances.

Fortunately competition conditions are steadily improving, and the demonstration of a failure puts a number of the profession on the alert to avoid a similar one in the future. Unluckily there are still a great many forms of trap, and it would be optimistic to imagine that these have all been exposed. If a competitor discovers one he may be able to get things put right by a skilfully devised question, and it is certainly the duty of the assessor to consider with especial care any questions that seem to give a hint as to some difficulty in interpreting the conditions. Our conclusion must, therefore, be that it is only practicable to give our court of appeal a very limited scope, and that a general advance in the conduct of competitions must depend more on a keener appreciation of the importance of conditions without flaws and ambiguities, and a recognition of the fact that decisions must be made in precise accordance with these, even where they have introduced an element eliminating the best solution.

SENESCHAL

Appreciative of the fact that two heads may be better than one, Seneschal will be at all times ready to consider articles on competition subjects for publication on this page. Such should be from 800 to 1,200 words in length, and deal with questions of general interest to competitors.

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.

SOANE'S BANK OF ENGLAND

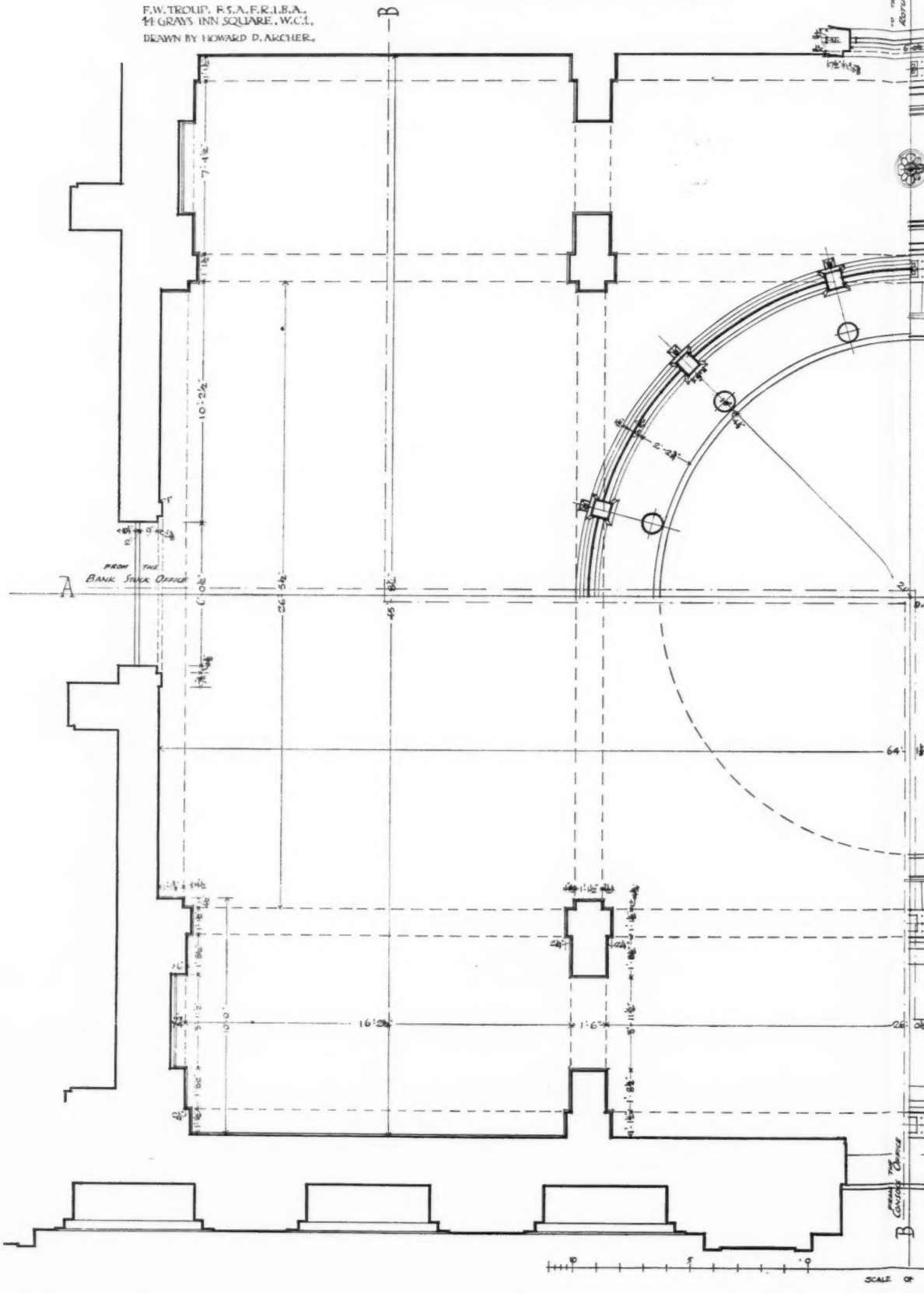
ii: THE OLD SHUTTING ROOM

a: The Plan

In 1795 Soane condemned the second of Taylor's Transfer Offices, owing to the decomposition of its wooden superstructure, and erected instead a fire-resisting room, which copied exactly, in the disposition of piers, dome, and vaults, his first reconstruction, the Bank Stock Office. Known originally as the "4 and 5 per cent. Office," it changed later to "Shutting Room," a term derived from the closing or shutting of the lists of stocks when these became fully subscribed to. Stone, brick, and plaster were used as before, but with greater simplicity, and with a lightness which produced a feeling of delicate balance.—[H. ROOKSBY STEELE.]

HALF INCH SCALE PLAN OF OLD SHUTTING ROOM

F.W. TROUP, F.S.A., F.R.I.B.A.,
14 GRAYS INN SQUARE, W.C.1.,
DRAWN BY HOWARD P. ARCHER.



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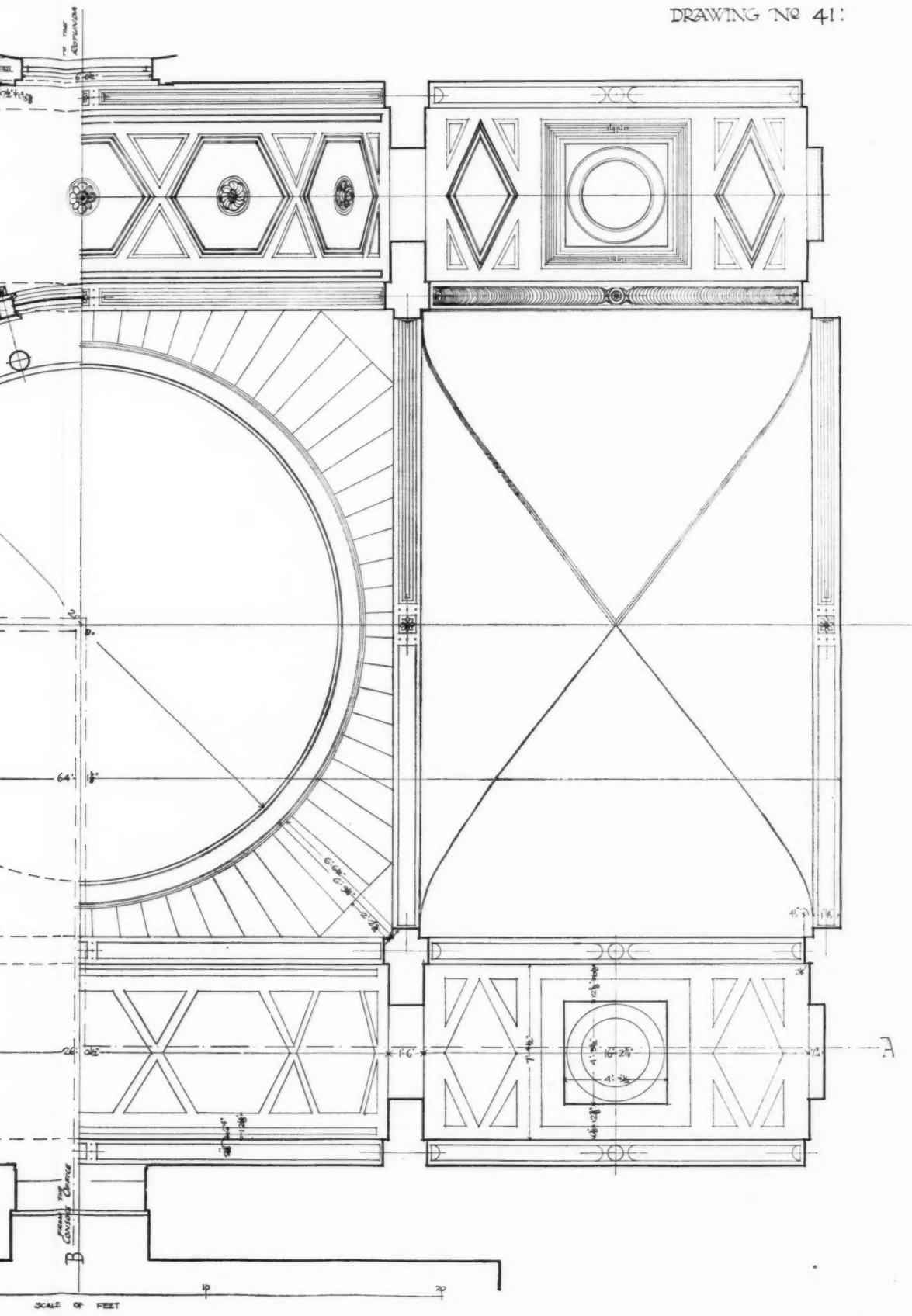


SOANE'S BANK OF ENGLAND. MEASURED DRAWINGS OF THE INTERIORS. (*ii*) THE OLD SHUTTING ROOM. (*a*) THE PLAN

THE ARCHITECTS' JOURNAL TECHNICAL SUPPLEMENTS

Doors & Windows

13 October MCMXXVI

THE ELEVATION OF WILLIAMS & SOWERBY'S PREMISES,
61, OXFORD STREET, LONDON

Contents

OF THIS SUPPLEMENT

Cottage

DOORS & WINDOWS

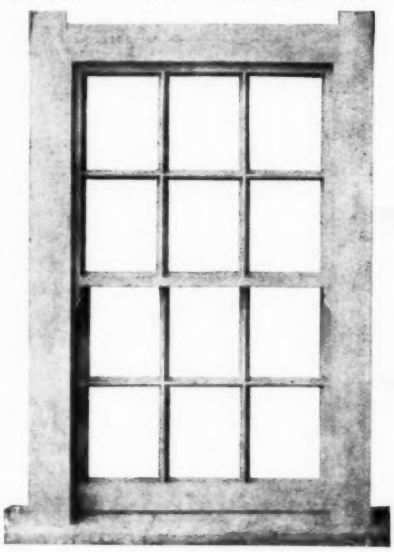
THE maintenance, without false notes, of a cottage standard in the design of domestic detail is by no means the easy thing it seems—to judge by results. Yet the essentials are a very simple matter, and can be quite readily expressed as a series of *do's* and *don'ts*, which reference to old cottages in all parts of the country will show as of general application:

1: Avoid fuss. Do the simple thing straightforwardly.

2: Study economy of means—which is not fully synonymous with economy of material. A window-frame set nearly flush with the external wall-face needs no sill other than the oak sill forming part of its frame, and no arch or lintel, though a weathering is often desirable. This may take the form of a double or triple course of tiles projecting a few inches, laid on the window-head, or a weatherboard fitted to the head below the brick-work. Many good brick cottages (and particularly estate cottages built by competent clerks of works) are ruined in appearance by stone sills and unnecessarily heavy arches or lintels.

GLAZING, CASEMENTS, AND WINDOW BOARDS

3: Lead glazing in rectangular panes should not exceed a maximum of 8 in. by 6 in., nor be used in multiples of more than three panes wide or six panes high when that size is reached. On the minimum side 6 in. by 4 in. should not be passed. Lead glazing in wooden casements is seldom successful. Where it is used the deadlights should be glazed direct to the rebates of the frame, and the opening-lights fixed to an iron casement.



"Four panes high and three wide for the double-hung sash is the basic size." An example from one of Boulton and Paul's stock patterns.

4: Wood casements establish a slightly bigger scale. A great majority of old cottage windows will be found to be based on a width over the frame of 3 ft. 9 in. for a two-light mullioned casement, each light being two panes wide, and the height of the panes equivalent to the length of the diagonal of a square set up on the width (sight size). Four panes high is about the limit. The astragals should be at least 1 in. full. Staybars and fasteners look wrong if fashioned in the fanciful shapes which may be permitted with metal casements.

5: Windows generally should be low in the wall (considered from within). A height in excess of 6 ft. 9 in. to top of head is detrimental to the cottage effect, and window-boards should be at table height, about 2 ft. 3 in. where outlook is desired. Within these limits there is ample scope for all reasonable requirements. Casements over four lights wide may well have lights grouped by one or more heavier mullions, or by doubled mullions with intermediate panel.

SASHES AND ARCHES

6: Though sashes are not easily reconciled with a cottage scale of design, they are successfully used in very pleasing cottages in Bucks, Dorset, Lincoln, and elsewhere. Setting in reveals 4½ in. deep is fatal to effect. The panes should be proportioned as described for casements, and if this be done, and the dimensions so fixed preserved, there is no reason against the use of sashes and casements in the same building—it is reasonable, for instance, to use sashes for ground-floor rooms and casements below the eaves. A two-light or doubled sash is never successful, but one three panes wide with single-pane-wide sidelights can be pleasantly introduced. Four panes high and three wide for the double-hung sash is the basic size, but a good many Bucks examples run to four panes

wide. On the cottage standard, an extra flat outer lining edge-moulded, following a rectangular form internally and cambered to the window-arch above, seems more appropriate than a moulding to break the joint next shallow brick reveal.

7: Well-cambered arches in one ring (4½ in.), with a broad spandrel filling the space over the flat head of the sash or casement, were the usual type in cottage work when arches were needed. Sash frames being only boxed require arches where in brickwork; casements only need them where the walling material is flint or rubble unequal to forming quoins.

EXTERNAL DOORS AND PORCHES

8: The essentially cottage type of external door is that composed of wide boards with narrower splayed or moulded vertical cover fillets over the joints. Any form of sashed door is ruinous to the cottage effect. A width of at least 3 ft. clear and a height of, say, 6 ft. 6 in. should be attained. Ample material in the door-frame is desirable both on æsthetic and practical grounds—there is value in mere bulk of substance as a resistance to oft-recurring shocks. Probably more petty annoyance is caused by wet blowing under external doors than by any other single detail defect in cottage construction. An oak threshold, standing 3 in. high outside, with the internal quarry paving rising 1 in. up its inner side, in conjunction with a well-designed weatherboard which throws water clear of the step, is a better treatment than any form of brick or stone step, and allows a mat to lie within the door.

It is entirely a fallacy to suppose that such a threshold has a tendency to trip the unwary. Its upper surface lies practically level with the door-mat, and it is this surface on which an entering visitor unconsciously steps—the threshold is rarely touched.

9: Apart from the recessed porch there seem only two other forms which offer any advantages in protection and shelter, combined with gracious design. These are the typical stone West Country form in which wing walls project on either side of the door about 6 ft. apart, and are covered by an extension of the main roof slope, leaving space for a bench or seat on either side, and the gabled form in which the entry is based on human stature, while the eaves on either side drop below. Pentroofs of various kinds, from the sloping board on brackets upwards, are often found on cottages, but are rarely original or of much real use.

The continuous swept-out pentroof termination to an upper story of weather-tiles is in another category, and affords valuable shelter with an agreeable emphasis. Examples so far apart as Goudhurst in Kent and Dunster in Somerset show this admirable treatment, whereby a row of cottage doorways and ground-floor bays is unified with great success, but such matters are rather outside the detailed consideration of doors and windows, and, with the vexed subject of bays, pertain to general design.

INTERNAL DOORS

10: Internal cottage doors of the ledged type are not necessarily the crude affairs of the building construction book. Old farm-house and cottage doors are often charmingly designed. A common scheme is to make up the door of three wide boards and two narrow ones alternated, the narrow boards thicker than the wide ones, rebated out to cover them, and moulded on the projecting face, but showing, of course, a flush back on the opposite side to lie flat against the ledges. Other types were of five boards of even width, moulded as well as grooved, or rebated for an inch or more from the edge. Ledges (braces were uncommon) were more numerous, thinner, and narrower than is now usual, and they were splayed or chamfered all round the edges, including the ends, with a wide, flat bevel.

It is better to put a carpet-strip across the threshold of each door than to have a ¾ in. gap through which draughts may whistle. Again, the raised surface is not in practice found troublesome, as most people automatically anticipate a possible trip from mats or carpet-edges.

11: A japanned rim lock with spun brass knobs confers just the shoddy touch which spoils a cottage. Wooden latches or dead black Norfolk latches are suitable furniture for ledged doors.

12: Again, avoid fuss. Do the simple thing straightforwardly.

EDWIN GUNN

The living-room of Prinsted farmhouse.
Designed by Oliver Hill.

Fire-Resisting

DOORS & WINDOWS

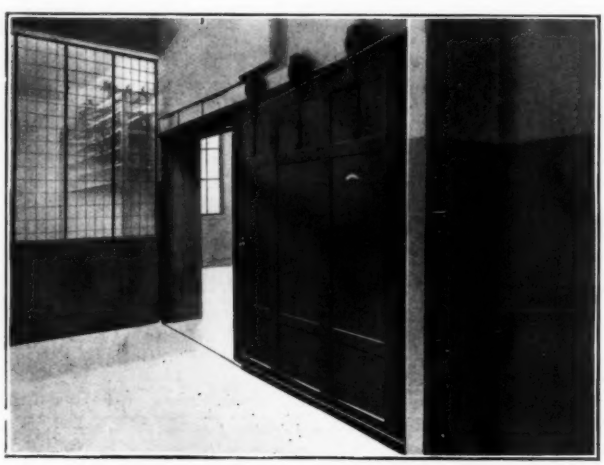
FIREPROOF DOORS

Two types of doors come within the category of fire-resisting: one for the protection of property, and the other for the protection of life. The former type is more commonly called fireproof; the door is hung in a grooved or rebated iron frame and is generally constructed of wrought iron ¼ in. thick, stiffened against buckling under heat by styles and rails on each face at least 4 in. wide and ¼ in. thick.

These doors play their part in the protection of property in the following way: In the County of London all buildings of the warehouse class are required to be divided in separate fire risks by division walls; and all openings in these division walls are required to be fitted with double iron doors or shutters. Outside the County of London generally there is not this obligation, but many owners find it advantageous to take similar precautions against losses which can never be adequately covered by insurance. Imagine an extensive factory building, with large open floors perforated with lifts and staircases, entirely destroyed by fire. Many months must elapse before the building can be reinstated and new machinery installed, during which time all the trade has been acquired by business rivals. Against such a risk as this buildings are constructed with fire-resisting floors and divided up into cells or fire areas by division walls. A sprinkler system is also introduced, and the owner can then confidently await such a substantial reduction in his annual premium from the insurance companies that in a few years he has recouped himself for the additional outlay.

The fire at Les Grands Magasins du Printemps in Paris on September 21, 1921, is an eloquent illustration of the danger of constructing large retail stores as one fire risk without the protection of division walls and imperforate fire-resisting floors. This building had a length of about 300 ft., with an average width of about 190 ft. The highest floor was about 95 ft. above the street level, and the total cubic contents amounted to about 7,250,000 cubic feet. The building had scarcely been completed, and was just one big fire cell, the floors being perforated with open staircases, lifts, and galleries. The constructional steelwork was unprotected and collapsed under the heat, and in a few hours only the skeleton remained of a building, the construction of which had extended over a period of seven years. The stores are now being rebuilt, and are fitted with steel fireproof doors.

For the guidance of owners and their architects, the Fire Offices Committee has issued a book of rules for the construction and fixing of fireproof doors and shutters. One of the many economic considerations in the administration of factories and warehouses is the reduction to a minimum of the supervisory staff, and for this purpose as many openings in the division walls as are permitted are essential. Similarly in large retail stores it is desirable that the public should have unimpeded access between all departments, and with this end in view the openings should be as large and as numerous as possible. The maximum area of these doorways is 56 ft., with a maximum width of 7 ft., and in London the total width of openings should not exceed half the length of the division wall in which they occur.

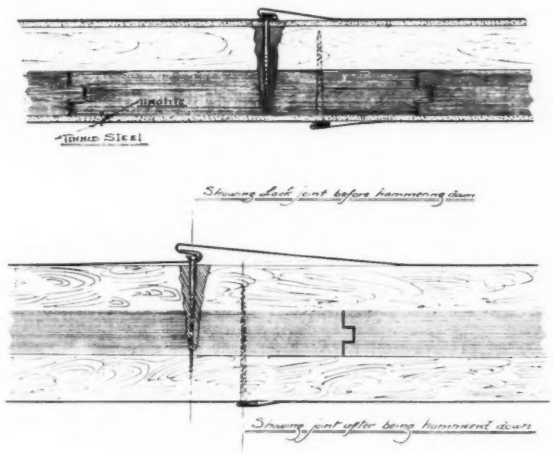


Doors at Magasins du Printemps, Paris. By John Booth and Sons.

An ordinary steel fireproof door will resist a temperature of 2,000 deg. Fahrenheit for a period of two hours, but from time to time doors of special construction have been accepted as fireproof after passing a fire test at a temperature of 1,500 deg. Fahrenheit for one hour and preventing the passage of flame or smoke. One of these doors is constructed of three layers of ⅞ in. deal planks, completely encased in xxx charcoal tinned steel or iron sheets not exceeding 14 in. by 20 in., and not less than No. 26 B.W.G. The rules further provide for the fixing of the sheets, the fixing and number of the hinges, etc. etc. These doors may also be hung as sliding doors, and the rules go into considerable detail as to the methods to be adopted as regards hanging, rollers, and the method of securing close contact with the sides of the openings, etc. One of the most recent of the composite fireproof doors to be approved by the Fire Offices Committee is a hollow door of lattice-work pattern protected on each side with sheets of asbestos millboard ⅛ in. thick, these in turn being covered with sheet steel No. 20 B.W.G. The lattice-work core of the door is rectangular, and is composed of flanged steel strips interlocking at right angles, so as to form 3 in. squares, the flanges being adjacent to and supporting the asbestos. Another approved type of door is constructed of steel faces in steel angle frame, with a packing of asbestos sheets alternated with corrugated steel sheets to provide the necessary rigidity. A further door of special construction is a panelled door: the outer faces and framework are of steel, the thin panels filled with asbestos millboard, and the remainder of the door filled with a fibrous mixture of asbestos and kieselguhr.

Reinforced concrete has also been successfully introduced as a filling to doors constructed with thin sheet steel faces. One of the main objects aimed at in designing these patent doors has been lightness, as compared with the iron door, while it is claimed that these doors are also non-conductors of heat and not liable to buckle. The Fire Offices Committee in approving these doors have, in certain cases, reduced the maximum area of the openings to which they may be fitted.

A reference has been made to large retail stores, and in many of these buildings iron doors have been abandoned in favour of revolving steel shutters, which in no way interfere with the general scheme of decoration and the architectural treatment of the doorways; all that is necessary are the steel channels in which the shutters run, and these are required to be fixed so that the shutters are practically flush with the faces of the walls. In certain cases, specially large openings are permitted if a greater depth of opening is provided to ensure a distance between the two shutters equal to one-fourth the width of the opening. One of the accompanying illustrations is from a photograph of such an opening in one of the large modern

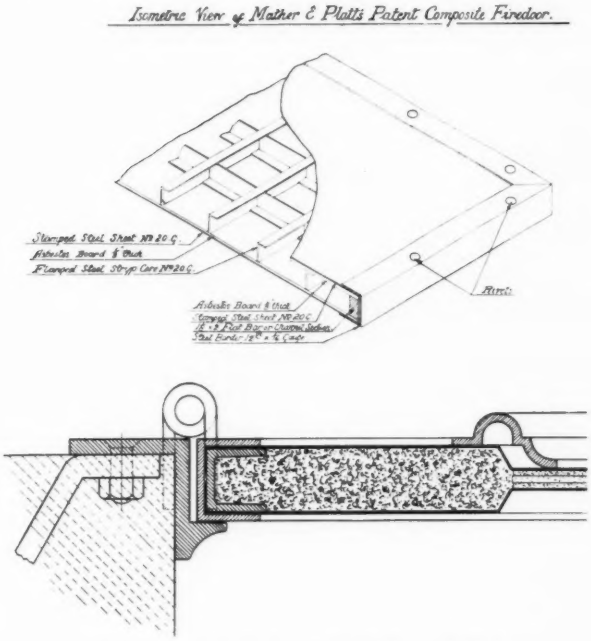


Above, a section through an armoured door. By Mather and Platt, Ltd. Below, a detail of the lock joint before and after hammering down.

stores in the West End of London. In addition to revolving shutters this opening is fitted with self-closing fire-resisting doors of a different type, and which it is now proposed to describe.

FIRE-RESISTING DOORS

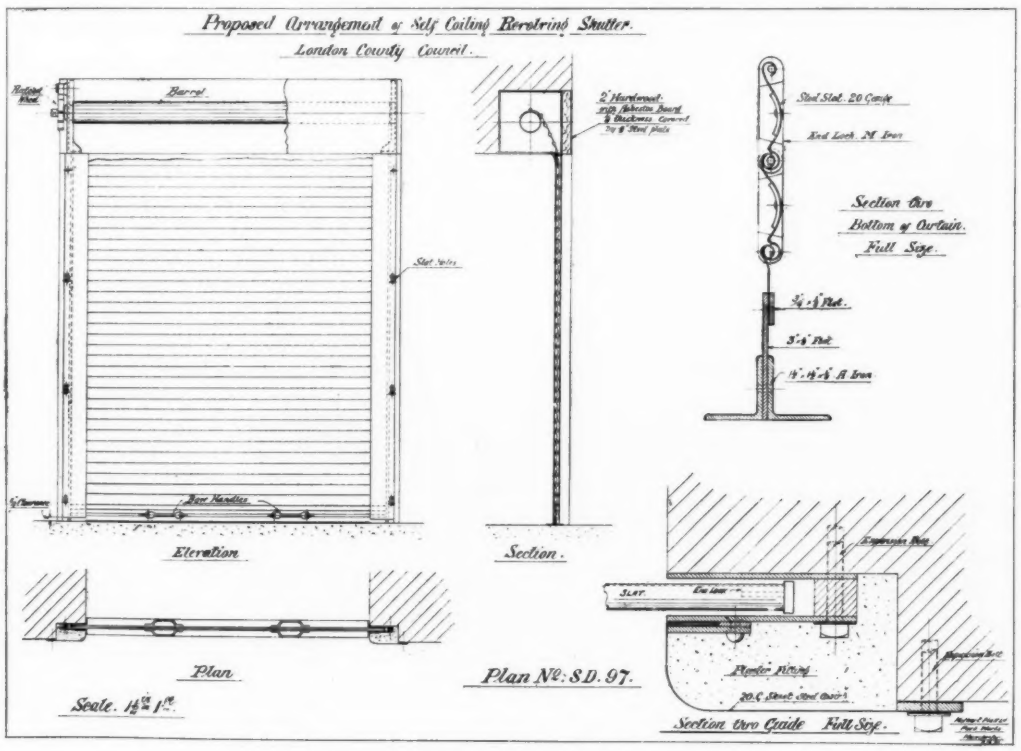
Fire-resisting doors for the protection of life are usually constructed of hardwood of a minimum finished thickness throughout, except where glazed, of 1¾ in. Oak, teak, jarrah, karri, mahogany, walnut, ash, and elm are some of the woods which come within the category of hardwood. Doors constructed of bronze are also approved. These doors should be provided to all openings in staircases and lift-shafts which are enclosed with incombustible materials, and to be effective should, in



Above, a composite firedoor. By Mather and Platt, Ltd. Below, a section through a Dreadnought door.

the case of staircases, be rendered self-closing by means of metal springs.

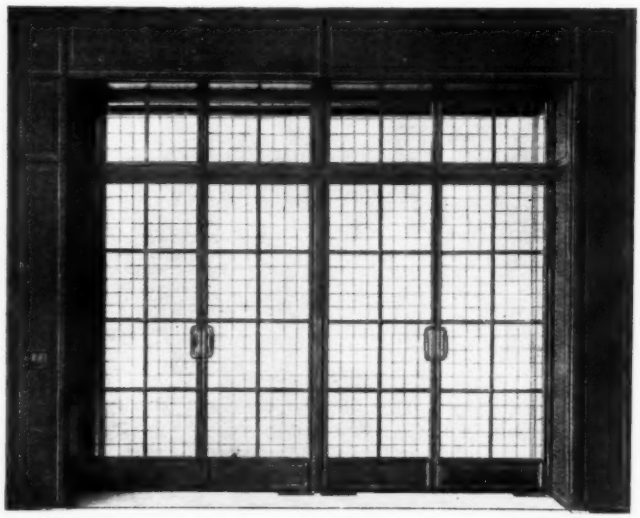
Doors to lift-shafts should be electrically controlled, so that no door can be opened unless the lift be at that level and that all doors must be closed before the lift cage can be operated. By these means the passage of flames or smoke is prevented or retarded from entering either the lift-shafts or the enclosed



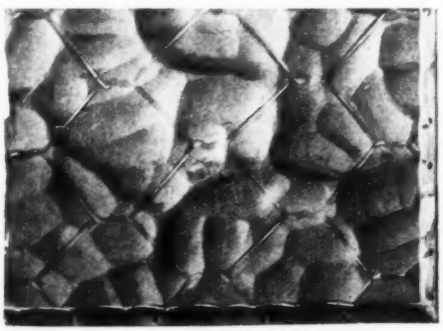
A self-coiling revolving shutter. By Mather and Platt, Ltd.

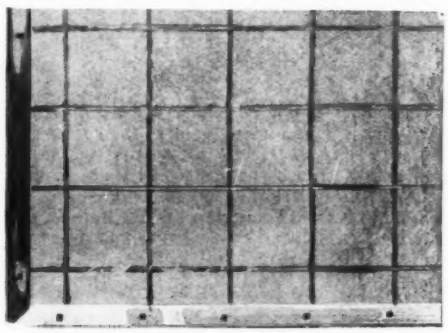
staircases. Similar self-closing doors should be provided to all doors affording access to external iron staircases for the protection of persons descending the staircase from any story above the outbreak of fire.

Architects naturally are loth to introduce solid doors into artistic schemes for the internal decoration of premises of public resort, restaurants, salons, etc., and it is possible to overcome this objection in several ways. When the doors are painted, panels of softwood may be used if the panels are sheathed with compressed asbestos sheeting $\frac{3}{16}$ in. thick securely fixed in the styles and rails. Should, however, a door be required of polished hardwood throughout the doors could be constructed with three-ply panels, the central member of the panel being a sheet of compressed asbestos faced on both sides with polished hardwood. A third way would be to construct the panels with a portion splayed with the thin portion of the panel covered with a heavy moulding.



Screens between departments at Whiteley's premises, fitted with Luxfer fire-resisting glazing. The architect was W. Curtis Green.





Two examples of wired glass. By Pilkington Brothers, Ltd.

All staircase doors should be hung to open in the direction of escape, and, as it is desirable that as many of the enclosed staircases as possible should be in everyday use, it is also found necessary that these doors should swing both ways. Collisions between persons using these staircases may occur unless the precaution is taken of glazing the upper panels with clear glass at sight level, and this raises the question of what glass is sufficiently fire-resisting.

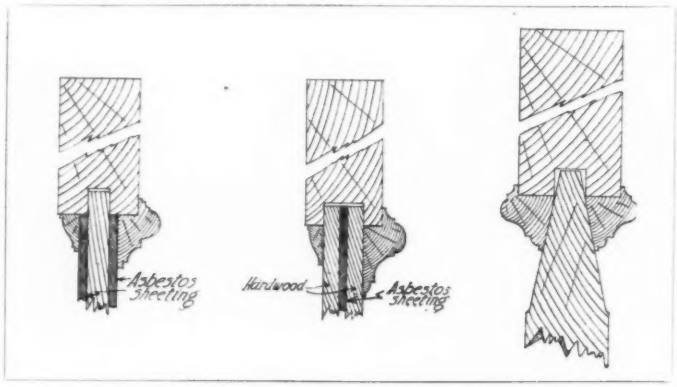
Plate glass $\frac{1}{4}$ in. thick has been found adequate for the purpose if manufactured in either of the two following ways. *a :* Plate glass in which wire mesh is embedded; no panels of this glazing should exceed 2 ft., either in height or width, and should be secured in the doors by means of hardwood beads screwed in position. Until recently the wire mesh used in this form of glazing has been of hexagonal pattern, but the "Georgian" glazing is now manufactured with wire mesh of a rectangular pattern, a distinct improvement from an artistic point of view.

b : Plate glass in 4 in. squares in metal cames. This form of fire-resisting glazing is one which is perhaps best described by quoting from the first schedule of the London Building Acts (Amendment) Act, 1905 :

> Glass not less than $\frac{1}{4}$ in. thick in direct combination with metal, the melting point of which is not lower than 1,800 deg. Fahrenheit, in squares not exceeding 16 sq. in. and in panels not exceeding 2 ft. across either way.

In this form of glazing the standard pattern is for each square of glass to measure 4 in. by 4 in., but, to avoid the square appearance, a pattern in which the small panel of glass is 6 in. in height and 4 in. in width is now supplied.

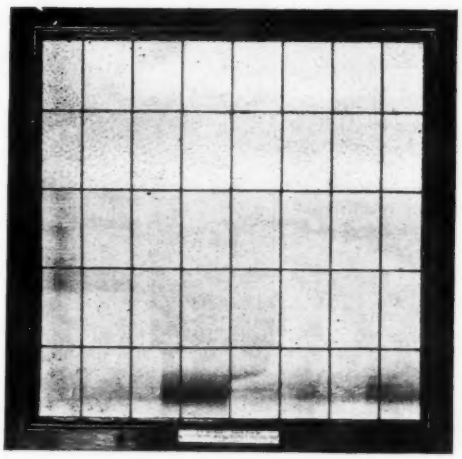
In planning the exit doorways to staircases the doors should always be so far recessed that when open they do not project over the steps and landings, and any lobbies necessary should also be constructed entirely of fire-resisting materials. While fire-resisting doors to staircases are usually constructed in hardwood, cases occur where a staircase enclosing wall also acts as a division wall, and it has been found possible to hang successfully as a double action swing-door one of the lighter pattern doors of special construction accepted as fireproof doors.

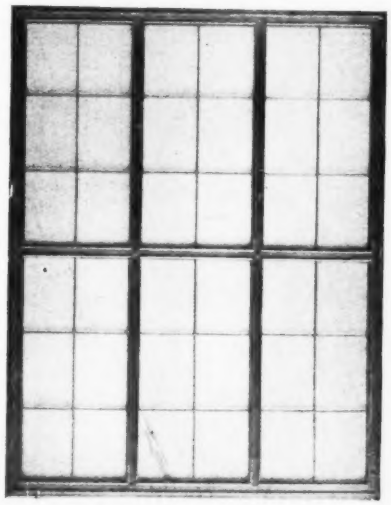


Fire-resisting door panels of wood and asbestos sheeting.

FIRE-RESISTING WINDOWS

Fire-resisting windows serve a dual purpose, both of saving life and property. All windows by or near which external iron staircases pass should be of fire-resisting construction, i.e. hardwood $1\frac{3}{4}$ in. thick, or steel, and wherever possible should be fixed shut. The sashes should be glazed with fire-resisting glazing, and the glazing bars should be so spaced





Two types of wired plate glass in metal cames. By Luxfer, Ltd.

that no pane of glazing exceeds 2 ft. across either way. It is essential that these windows should be fixed shut, as otherwise the whole object of their fire-resisting construction is defeated, for in the event of an outbreak of fire next an open window, flames and smoke are drawn into the outer air and persons cannot descend the staircase.

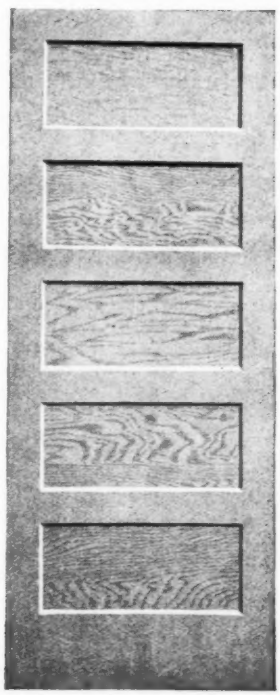
Where an outside iron staircase is provided for a comparatively small number of persons only, doorway access is not imperative, and valuable working floor space is saved by utilizing one of the windows for access to the staircase landing. In this event, the window should be a casement sash 4 ft. high and 2 ft. 6 in. wide, hung to open outwards, rendered self-closing, glazed with fire-resisting glazing, and fastened by a simple fastening, such as a cockspur fastening; the sill of the window should not be more than 2 ft. 6 in. above the floor.

Fire-resisting glazing is used for the preservation of property, generally in external walls for the purpose of preventing fire spreading from a building to adjoining premises. A warehouse containing much valuable stock may be menaced by an adjacent sawmill and timber yard; in such a case, fire-resisting windows with the additional protection of a system of drenchers would be of considerable service in retarding the spread of fire from the timber yard to the warehouse. Fire-resisting glazing is hard to break, and its use in skylights, etc., in positions where difficulties of access, etc., render repairs costly is an economical proposition.

A new edition of their rules for the construction and fixing of fireproof doors, shutters, and compartments has just been issued by the Fire Offices Committee, of 63 Watling Street, London, E.C., and the names are given therein of certain firms who undertake to construct metal covered doors in strict accordance with the rules.

The Manufactured

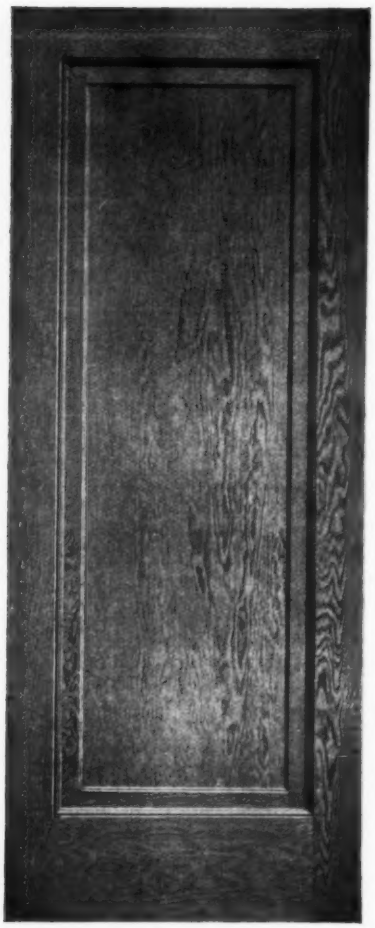
DOOR



Some architects are inclined to decry the manufactured door, partly from an antagonistic feeling to anything that is "standardized," and partly from having seen a number of bad examples where the only achievement has been the disfigurement of a good piece of wood. But, without taking into consideration the actual quality of the wood, a door, whether "standardized" or not, must be judged solely on the merits of its design. It is true that there are a number of instances of manufactured doors which are designed, quite frankly, in bad taste, yet at the same time there are many firms to-day who are producing doors which are thoroughly sound in every way, and which pass all the canons of good taste in design.

On the whole the manufactured door is most successful where the design is simple and straightforward. For simple effectiveness, perhaps nothing can better the one-panelled door. This is a type of door which might be suitable for almost any room, since its non-committal design makes it adaptable to whatever may be the treatment to which the room has been subjected. The only objection to it that can be raised is that it is liable to warp or shrink, but there are now doors on the market which—being subjected to water-tests before leaving the workshop—are fully guaranteed to do neither. The many-panelled door, of course, greatly diminishes the risk there may be of warping and shrinking, and by reason of its construction makes an altogether stronger door. From the

Left, a five-panelled "Sasco" door by James W. Southern and Son, Ltd., of Manchester. Right, an eight-panelled "Red Cone" western pine door by Bryce, White and Company, Ltd.



The single-panelled example of the "Laminex" door produced by the Woco Door Company.

point of view of design, however, the use of too many panels is a mistake, and, as a general rule, where a door has more than six panels, it is wise to give them a unified size, as in the "Red Cone" door illustrated here. The dividing of the door vertically—in the case of the small internal door—by a number of parallel muntins should be avoided also. The best arrangement is either to leave out the muntins altogether (in which case the door would have horizontal panels or two or three large panels) or to divide the door into two by central muntins.

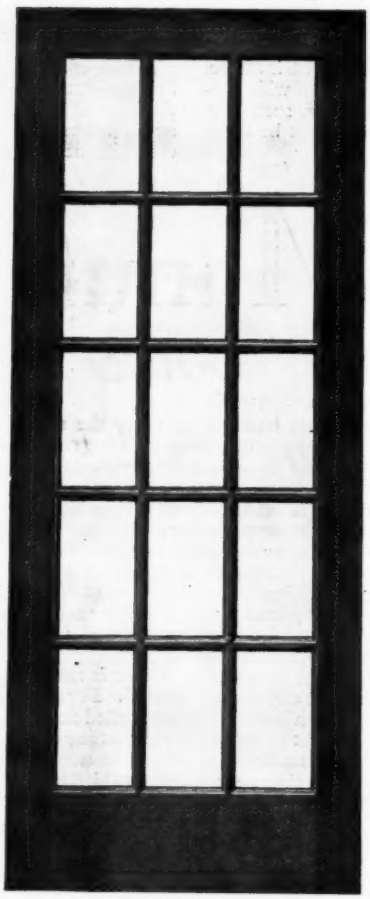
It is pointless, however, to lay down too many hard and fast rules, as design cannot be governed entirely by laws. The matter rests with the good or bad taste of the designer, and it cannot be urged enough that door manufacturers should put this side of their work into the hands of really capable men who know how to handle shapes and understand the meaning of scale. The firms that do this must realize that it pays.

But as a general rule simplicity is undoubtedly the keynote of good design in the case of this type of door, where the question of expense and economy are two of the chief considerations. It is always a mistake to attempt something too ambitious for the material used, for it is then that accidents are bound to occur.

The doors illustrated here are all of a high standard, mainly on account of the fact that they have been designed in a simple and direct manner.

The experience of many years has enabled these firms to produce an efficient door which is thoroughly sound and reliable constructionally, and shows the results of good workmanship, and which it is yet possible to put on the market at a low price, owing to mass production. Douglas-fir is the wood used for the "Metco" door, manufactured by the Merchant Trading Company, Ltd. The wood is thoroughly kiln-dried by the latest "Moore" kiln-drying process to a degree sufficient to meet the exigencies of the English climate. The panels of the interior doors are made with three-ply rotary-cut plywood, glued and sanded to a smooth surface on both sides, and the joints of the doors are dowelled. The company has figures which show that its mill has a daily output of 5,000 doors.

The Woco Door Company has collaborated with architects in developing a complete series of designs for the "Laminex" door. This is a laminated door which has been subjected to a soaking test, remaining under water for several days, and afterwards to a test of intense heat, and in warehouses where stocks of these doors have been stored they have endured the ravages of flood and fire. The company claims that throughout these tests in no instance has the "Laminex" door suffered except in appearance.



A production of the Merchant Trading Company, Ltd. This "Metco" door is suitable for use as a garden door.

A "Cebos" door with five raised panels, by Charles Boss and Company, Ltd.

The "Sasco" door, a production of James W. Southern and Son, Ltd., is made from specially selected Columbian pine, carefully seasoned by a scientific process, and is guaranteed not to warp, shrink or twist. Bryce, White and Company, Ltd., who specialize in joinery work of all kinds have produced in their "Red Cone" pine door another thoroughly efficient and sound article, both from the standpoint of design and construction.

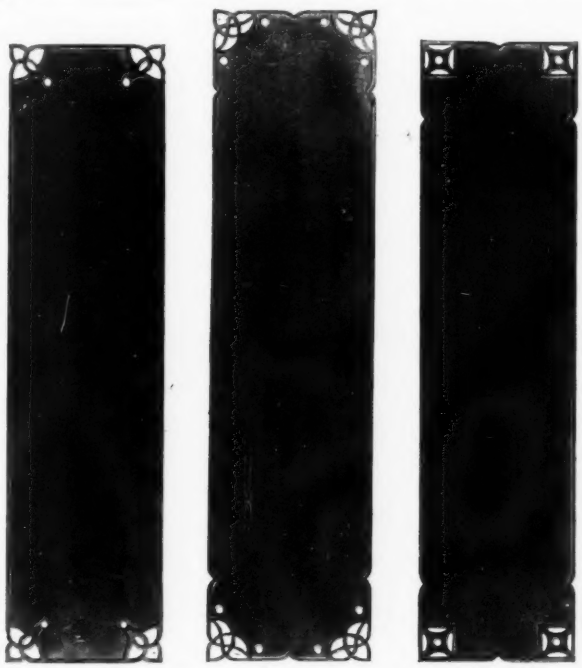
The "Cebos" door, which is distributed by Charles Boss and Company, is manufactured from the best old growth yellow Douglas fir, and a feature of this particular door is that the lock rail is made wider than usual so as to enable four dowels to be used on each side. This eliminates the risk of an open joint when mortice locks are inserted, for even if one dowel is cut, three dowels still remain intact.

Modern

DOOR FURNITURE

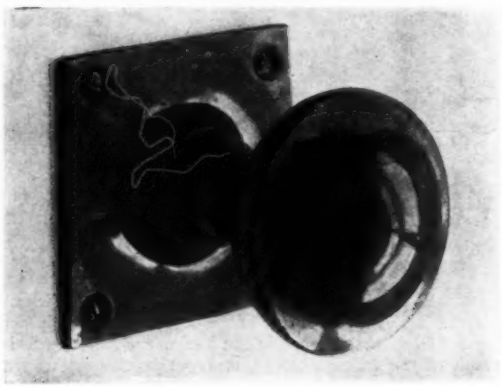
In almost every class of work which the Englishman attempts he gets to a level of superior mediocrity, and, through a lack of proper attention to detail, narrowly misses the highest perfection; and there is a lack of proper understanding between the makers of kindred articles which deprives both of them of their full measure of success. In architecture, for instance, there is a revival of interest and a new life which, carried to its extent, should produce buildings of a very high order; and yet, though most of the materials and appurtenances of the modern house are well and thoughtfully designed and well made in themselves, there are a few sections which have not been glamoured with this striving after the modern spirit. I refer particularly to standard articles, because where a fitting is specially made to fill a certain position it may be presumed that it will be designed to conform with its surroundings. Practically every conceivable requirement for the modern house has been standardized in its various forms and sizes, until with buildings of the less expensive kind it is rather a question of "assembling" than of building.

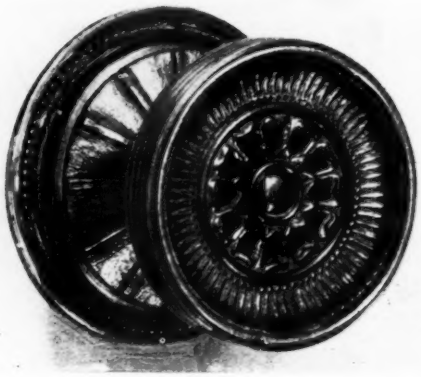
Doors and windows as well as baths and fireplaces can be chosen at will from a catalogue, and some of the designs are quite pleasing. They are generally of modern feeling rather than traditional, and fall the more easily into line with modern requirements. This fact makes it the more strange that makers of handles, and door furniture in general, have not come forward more readily with up-to-date designs, but have clung to the traditional styles which were made to take their places in other and quite different circumstances. The highly-chased knob of the eighteenth century does not readily hold its own in the plain, and, above all, in the *small* room of the modern house, and yet reproductions are still made in mass, and are to be found quite incongruously situated in the majority of houses which are being built to-day. One reason for this is that there has been no great move in the matter of door handle designs to coincide with the new types of doors which are being used; the ornate handle was admirably suited to the highly-decorated doors of the same period, but now that simplicity is the vogue we must have a plain fitting. There is no reason whatever for the assumption that because an object has no ornament it necessarily fails in point of interest; a fitting of this sort may derive interest from the nature of its material; excellent effects may be obtained by the wear and polish in the plainest bronze knob, and there is no reason why colour should not be introduced to a greater extent. After all, the handle is the part of a door which demands most notice, and while it need not be unduly emphasized, it deserves some prominence, and consequently should receive fair consideration from the point of view of design. But apart from the question of mere appearance many of these traditional patterns are far from practicable, being of the "knuckle-duster" type! Efficiency is essential in these days, and the handle and mortice lock which work freely and noiselessly are prizes well worth seeking and guarding in a house. Another modern demand is of a



Three finger-plates by the Birmingham Guild.

Two door handles by Conyn Ching and Company.





Left, a door handle by Comyn Ching and Company. Right, a door handle at 21 Eaton Place. Designed by H. S. Goodhart-Rendel.

purely domestic nature; it is that fittings of this sort shall need no cleaning, and although a number of firms produce examples in various substances, such as bronze and enamel and lacquered brass, the effect of the carving and heavy moulding on the traditional and "reminiscent" styles is the reverse of cleanly, for all that it may be this accumulation of dirt which gives the desired effect.

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WILLIAM HARVEY

SOME COURSES IN ARCHITECTURE

In our last issue we published particulars of the educational work of the Architectural Association School of Architecture, the Bartlett School of Architecture, University College; and the University of Liverpool School of Architecture. This week we give details of the courses available in the Department of Town Planning, University College; the School of Building, Ferndale Road, Brixton; the Westminster Technical Institute; and at the Central School of Arts and Crafts, Southampton Row.

The Department of Town Planning at University College, Gower Street, has been established in order to provide systematic courses of training for architects who desire to acquire expert knowledge in the laying out of towns. The courses of study in the University have the approval of the Town Planning Institute, and exemption from the qualifying examinations of the Institute are granted to candidates who have obtained the University diploma in town planning. The lectures and courses include town planning, civic architecture and landscape design, town furnishing, planting, municipal engineering, and municipal law. Work in the studio consists in the preparation of town planning schemes for actual areas. Town improvement schemes are prepared for the general development of existing towns and for the development of such areas as are ripe for the preparation of a statutory scheme under the Town Planning Acts of 1909 and 1919. Visits are arranged during the session to actual areas which are to be the subject of development in the studio. The department of town planning is directed by Professor S. D. Adshead, M.A.MANCH., F.R.I.B.A.

The work of the architectural evening classes at the School of Building, Ferndale Road, Brixton, is under the general superintendence of Professor Beresford Pite, M.A., F.R.I.B.A., assisted by Messrs. H. F. Murrell, A.R.I.B.A.; L. M. Austin, A.R.C.A., A.R.I.B.A.; H. J. Harding, A.R.C.A. (ARCH.); A. R. H. Jackson, A.R.C.A.; F. Shelley; and E. B. Webber, A.R.I.B.A. Students who are admitted Probationers of the R.I.B.A. have opportunities for preparing the subjects of the intermediate examination in history and design, and for the preparation of all the testimonies of study. Facilities are provided for instruction in the language subjects required for registration as a Student of the Royal Institute of British Architects. Students of the R.I.B.A., having passed the intermediate examination, undertake the problems in design required for the final examination under the tuition provided at the school.

At the Westminster Technical Institute group courses of

instruction have been arranged to enable students engaged in the offices of architects, building and quantity surveyors or builders and in the building trades to follow out a systematic course of study extending over several years, and involving attendance for several evenings a week. These group courses cover the requirements of the R.I.B.A., the Surveyors' Institute, and the Institute of Builders. Students who thus supplement their practical experience in their offices and on the works, by a little enthusiasm and conscientious study on the lines suggested, should be capable of passing the professional examinations of their respective institutions on the completion of the full courses. The instructors include Major F. C. Webster, Mr. W. J. Wilsdon, and Mr. L. Lickis.

Sir Banister Fletcher, V.-P.R.I.B.A., is delivering at the Central School of Arts and Crafts, Southampton Row, W.C., a course of twenty-four lectures on "Ancient Architecture," under the auspices of the University Extension Board of the University of London, South Kensington. The course includes a study of Prehistoric, Egyptian, West Asiatic, Greek, Roman, Early Christian, and Byzantine Architecture, and will be fully illustrated by special lantern slides, photographs, diagrams, and models.

THE R.I.B.A.

The Exhibition of Dominion and Colonial Architecture

The Prince of Wales has graciously acceded to the request of the Council of the R.I.B.A. that his name should be included in the list of patrons of the exhibition of Dominion and Colonial Architecture. The exhibition, which has been organized by the R.I.B.A. with the co-operation of the affiliated societies in the dominions, will be opened to the public (free) in the galleries of the R.I.B.A. on October 20. It will remain open between the hours of 10 a.m. and 6 p.m. (Saturdays 10 a.m. to 1 p.m.) until November 17. The opening ceremony takes place on Tuesday, October 19, at 3 p.m.

The R.I.B.A. Archibald Dawnay Scholarships 1926-27

In accordance with the terms of the will of the late Sir Archibald Dawnay, the Royal Institute of British Architects have awarded the R.I.B.A. Archibald Dawnay Scholarship of £75 for the year 1926-27 to Miss C. W. Preston, School of Architecture, Architectural Association, and the R.I.B.A. Archibald Dawnay Scholarship of £50 for the year 1926-27 to Mr. E. B. O'Rorke, School of Architecture, Architectural Association.

Mr. R. P. Cummings, School of Architecture, Architectural Association, who was awarded a special scholarship of £50 for the year 1925-26, has been awarded a second-year scholarship of £75 for the year 1926-27, and Mr. W. R. Brinton, School of Architecture, Architectural Association, who was awarded a scholarship of £50 for the year 1925-26, has been granted a renewal of his scholarship for the year 1926-27.

TRADE AND CRAFT

During the whole of this week commencing on October 11 demonstrations will be given in the motor travelling exhibit of the National Radiator Company, Limited, in the Winter Gardens, Coronation Walk, Southport. From October 19 to 21 demonstrations will be given in front of the Palatine Cinema and Café, Palatine Road, Withington, Manchester.

It is now possible to obtain gas grates with the fronts encased in actual copper, antique brass, or pewter. This new series is described and illustrated in a booklet on Davis injector-ventilating gas grates, just issued by the Davis Gas Stove Co., Ltd. It includes interiors for building-in, and the stoves comprise, besides the injector-ventilator and other improvements, the radiation burner, thermo fire front, and the adjustable flue nozzle. All the other series and accessories of the company are also described and illustrated. Among the most valuable features of the stoves of the company is the injector-ventilating principle. The arrangement is simple. There is the usual flue-outlet of suitable shape and size, through which the products of combustion escape. Above it is a second opening, which acts as a ventilator, the ascent of the current through the lower outlet setting up injector action. By this means, while the fire distributes pure radiant heat throughout the room, it is claimed that the air of the apartment is changed often enough (up to six times an hour) to keep the atmosphere healthy and pleasant.

The directors of Messrs. Bell's United Asbestos Company, Limited, have declared an interim dividend on the ordinary shares of 6d. per share, being 2½ per cent. (actual), less income tax, on account of the current year. The dividend will be paid on October 18 to shareholders on the register on October 4. The ordinary share transfer books will be closed from October 4 to 16 inclusive.

Among the many high-class preparations manufactured by Messrs. Brunner Mond & Co., Ltd., silicate of soda, of which they manufacture several grades, is one of considerable importance. That known as P.84 has been in general use for many years for hardening and waterproofing concrete surfaced roads, concrete foundations to macadam roads, railway station platforms, concrete sea and other retaining walls, and harbour work. Its application is claimed to increase the tensile strength by 20 per cent. Through the Mond Staffordshire Refining Co., Ltd., Brunner Mond's P.84 silicate of soda is now being introduced to the public in smaller packages than has been the case hitherto for such uses as factories and warehouses, public and private garages, for builders and house decorators, and for such other purposes where a limited quantity is required. Apart from its hardening and waterproofing properties, when used with cement and concrete it is claimed to have the following advantages: "it increases the adhesion and covering capacity of whitewash and distemper; it is an excellent petrifying liquid for plastered walls to be whitewashed and distempered; it reduces porosity in Keene's cement and plaster of Paris; it prevents the permeation of oil and other liquids into cement concrete."

NEW INVENTIONS

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

LATEST PATENT APPLICATIONS

23463. Fahey, J. Apparatus for moulding concrete, etc., walls. September 23.

23689. Krasnik, H. L. Floors for buildings, etc. September 25.

23735. Makram, T. Means for interconnecting building bricks. September 25.

23552. Pessell, C. A., and Pessell, R. C. Buildings for cattle, etc. September 24.

23625. Reynolds, W. A. Walls, etc. September 24.

SPECIFICATIONS PUBLISHED

258314. Stewart, P. M., and Ratcliffe, G. H. C. Manufacture of bricks and blocks for building purposes.

258391. Francis, A., and Walker, F. Device for spacing and locking shuttering for concrete walls and buildings.

258453. Cowiesons, Ltd., Cowieson, F. D., and Douglas, J. W. Buildings.

258430. Throp, A. Clamping devices for stones.

258320. Fitzgerald, F. W. V. Means of and method for effecting the hydration of concrete and other similar materials.

ABSTRACT PUBLISHED

256291. Davis, J. H. Metallic fabrics.

THE WEEK'S BUILDING NEWS

More Houses for Shepperton

The Staines Rural District Council proposes to erect twenty houses at Shepperton.

Aberdeen Hospital Extensions

Extensions to the Aberdeen City Hospital, at a cost of £69,100, are proposed.

More Houses for Deal

The Deal Town Council proposes to erect twenty further houses on the Mill Road site.

Housing at Horsham

Financial assistance for the erection of another twenty-two houses is to be given by the Horsham Urban District Council.

Extensions to the Cumberland Infirmary

Extensions are to be carried out at the Cumberland Infirmary, at Carlisle, at a cost of £19,800.

A Bampton Housing Scheme

The Bampton Urban District Council has decided to formulate a combined housing scheme for both Bampton and Shillingford.

Housing at Limavady

The Limavady Rural District Council has approved of a scheme for the erection of 103 labourers' cottages at a cost of £35,170.

Working-class Houses for Hailsham

A definite scheme for the erection of working-class houses throughout the Hailsham rural district is to be prepared for the Rural District Council.

Housing Progress at Falkirk

At Falkirk Dean of Guild Court plans have been submitted by the Falkirk Town Council in respect of the erection of 218 houses at an estimated cost of £82,000.

Housing at Mitcham

The Mitcham Council is applying to the Ministry of Health for sanction to borrow a further £150,000 for advances under the Small Dwellings Acquisition Acts.

Town Planning at Finchley

The Finchley Urban District Council has decided to prepare a further town-planning scheme to include the remainder of the district not already dealt with.

Inverness Infirmary

The directors of the Northern Infirmary, Inverness, have appointed Sir John Burnet, R.A., LL.D., as the architect of the new infirmary.

Plans Passed at Worthing

The Worthing Town Council has passed plans for the erection of 101 dwelling-houses and thirty-nine other buildings, of a total estimated cost of over £83,000.

Housing at Winchester

Plans of the new housing scheme and of houses at Littleton, Andover Road, Winchester, Compton, thirty-two houses at Fair Oak, and bungalows at Fair Oak and Hookpit have been passed at Winchester.

More Houses for Chertsey

The Ministry of Health has approved the Chertsey Urban District Council's proposal to erect thirty houses on the Pyrcroft site and twenty-four houses on the Green Lane site.

Blackpool's New Parade

A new marine parade and park have recently been opened at Blackpool by the Earl of Derby, in whose honour the park has been named Stanley Park. The scheme has involved a total expenditure of £570,000.

New Bridge for St. James's Park

The Office of Works has prepared designs for a new structure to replace the iron suspension bridge over the lake in St. James's Park. The new bridge will be of stone and will cross the lake in three spans on flattened arches.

A New Memorial for Chesterton Church

The memorial to the late Greville Verney, nineteenth baron, Lord Willoughby de Broke, placed in the old church of Chesterton, near Leamington, was recently dedicated by the Lord Bishop of Coventry. The memorial takes the form of an English oak chancel screen and new choir stalls. The chancel has also been relaid with Hornton stone floor slabbing, and other improvements have been carried out. Mr. C. M. C. Armstrong, F.R.I.B.A., was the architect for the work.

The Future of Hull

In discussing the future of Hull, in the course of a recent address, Principal Morgan said that there were great developments ahead of the city in the next fifty years. One of the most important factors was the nucleus of the great educational centre which already existed where stood the municipal training college, the Newland secondary school, a vast space of hundreds of acres, to which would be added a university college, and, finally, he hoped, a university. In this centre lay a great opportunity of development unparalleled in any other city.

A Building Apprenticeship Scheme

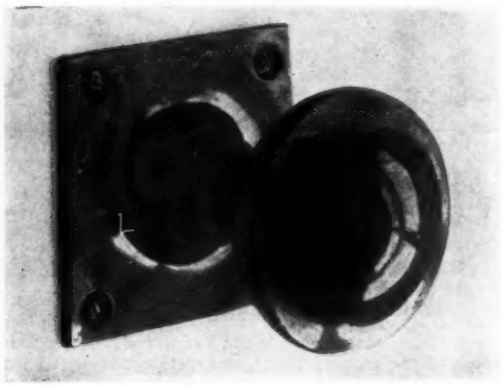
Efforts are being made to secure a joint meeting of employers and employees in the building trade in Oldham and Middleton, along with representatives of Oldham and District Education Committees, to discuss the educational part of the apprenticeship scheme. The parties concerned some time ago agreed as to the wages to be paid to apprentices and the craft conditions that shall obtain. With a view to producing a trained and better educated workman the scheme provides that arrangements be made for the apprentices to attend daytime classes up to sixteen years of age, and afterwards evening classes. All apprentices are now indentured until they are twenty-one years of age.

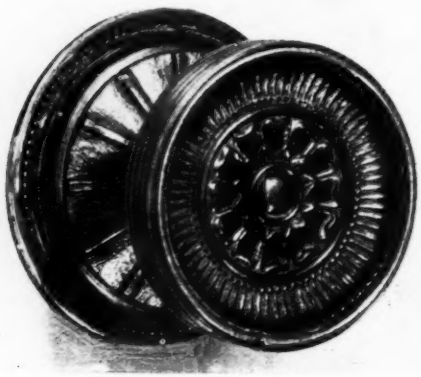
Town Planning at Sheffield

Sir William Hart, the Town Clerk of Sheffield, recently explained Sheffield's future town-planning schemes to members of the Garden Cities and Town Planning Association. It was stated that about one-half of the total area of the city is covered by housing schemes. Under the Housing Acts 4,441 houses have been built at a capital expenditure of over £4,000,000. The policy of a ring road, as at Leicester, has been adopted at Sheffield. This will be about 20 miles long, of which 9 miles are constructed. The city has been pursuing a forward policy by constructing roads in advance of requirements, thereby gaining a certain amount of control when development takes place, and charging frontagers with cost of road-making at such a time. Low-lying land and various gorges are being preserved as open spaces. Several slum clearance schemes are in progress. Most of the housing estates are provided with playing fields, and on the Manor estate 70 acres have been set aside for this purpose.

L.C.C. and a Pimlico Site

The Westminster Housing Association has issued a report on the negotiations which have taken place with the Westminster City Council and the London County Council with regard to the acquisition of a site in Pulford Street, Pimlico. Pulford Street runs from Lupus Street to Grosvenor Road, and the association hoped that the Westminster City Council would be able to obtain a site of nearly two acres for a housing scheme for Westminster. The London County Council, however, last July, stated that the site was not for sale as they required it for the erection of a factory for the manufacture of tramway tickets. In April the valuer of the London County Council gave an assurance that "no obstacle would be placed in the way of the Westminster City Council utilizing the site, and any serious offer made by them for its purchase would receive proper consideration." In July, however, the London County Council approved a proposal to utilize the site to accommodate the Council's tramways printing and checking sections and punch repair shop. The Association complains that the report of the Highways Committee of the L.C.C. on July 27 makes no mention of the Westminster City Council's desire to acquire the site.





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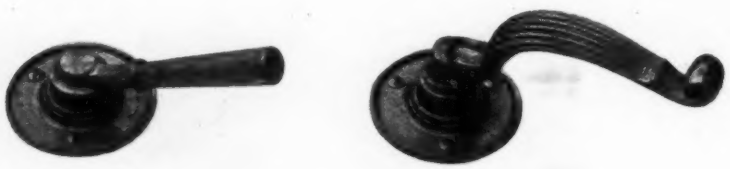

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WILLIAM HARVEY

SOME COURSES IN ARCHITECTURE

In our last issue we published particulars of the educational work of the Architectural Association School of Architecture, the Bartlett School of Architecture, University College; and the University of Liverpool School of Architecture. This week we give details of the courses available in the Department of Town Planning, University College; the School of Building, Ferndale Road, Brixton; the Westminster Technical Institute; and at the Central School of Arts and Crafts, Southampton Row.

The Department of Town Planning at University College, Gower Street, has been established in order to provide systematic courses of training for architects who desire to acquire expert knowledge in the laying out of towns. The courses of study in the University have the approval of the Town Planning Institute, and exemption from the qualifying examinations of the Institute are granted to candidates who have obtained the University diploma in town planning. The lectures and courses include town planning, civic architecture and landscape design, town furnishing, planting, municipal engineering, and municipal law. Work in the studio consists in the preparation of town planning schemes for actual areas. Town improvement schemes are prepared for the general development of existing towns and for the development of such areas as are ripe for the preparation of a statutory scheme under the Town Planning Acts of 1909 and 1919. Visits are arranged during the session to actual areas which are to be the subject of development in the studio. The department of town planning is directed by Professor S. D. Adshead, M.A.MANCH., F.R.I.B.A.

The work of the architectural evening classes at the School of Building, Ferndale Road, Brixton, is under the general superintendence of Professor Beresford Pite, M.A., F.R.I.B.A., assisted by Messrs. H. F. Murrell, A.R.I.B.A.; L. M. Austin, A.R.C.A., A.R.I.B.A.; H. J. Harding, A.R.C.A. (ARCH.); A. R. H. Jackson, A.R.C.A.; F. Shelley; and E. B. Webber, A.R.I.B.A. Students who are admitted Probationers of the R.I.B.A. have opportunities for preparing the subjects of the intermediate examination in history and design, and for the preparation of all the testimonies of study. Facilities are provided for instruction in the language subjects required for registration as a Student of the Royal Institute of British Architects. Students of the R.I.B.A., having passed the intermediate examination, undertake the problems in design required for the final examination under the tuition provided at the school.

At the Westminster Technical Institute group courses of

instruction have been arranged to enable students engaged in the offices of architects, building and quantity surveyors or builders and in the building trades to follow out a systematic course of study extending over several years, and involving attendance for several evenings a week. These group courses cover the requirements of the R.I.B.A., the Surveyors' Institute, and the Institute of Builders. Students who thus supplement their practical experience in their offices and on the works, by a little enthusiasm and conscientious study on the lines suggested, should be capable of passing the professional examinations of their respective institutions on the completion of the full courses. The instructors include Major F. C. Webster, Mr. W. J. Wilsdon, and Mr. L. Lickis.

Sir Banister Fletcher, V.-P.R.I.B.A., is delivering at the Central School of Arts and Crafts, Southampton Row, W.C., a course of twenty-four lectures on "Ancient Architecture," under the auspices of the University Extension Board of the University of London, South Kensington. The course includes a study of Prehistoric, Egyptian, West Asiatic, Greek, Roman, Early Christian, and Byzantine Architecture, and will be fully illustrated by special lantern slides, photographs, diagrams, and models.

THE R.I.B.A.

The Exhibition of Dominion and Colonial Architecture

The Prince of Wales has graciously acceded to the request of the Council of the R.I.B.A. that his name should be included in the list of patrons of the exhibition of Dominion and Colonial Architecture. The exhibition, which has been organized by the R.I.B.A. with the co-operation of the affiliated societies in the dominions, will be opened to the public (free) in the galleries of the R.I.B.A. on October 20. It will remain open between the hours of 10 a.m. and 6 p.m. (Saturdays 10 a.m. to 1 p.m.) until November 17. The opening ceremony takes place on Tuesday, October 19, at 3 p.m.

The R.I.B.A. Archibald Dawnay Scholarships 1926-27

In accordance with the terms of the will of the late Sir Archibald Dawnay, the Royal Institute of British Architects have awarded the R.I.B.A. Archibald Dawnay Scholarship of £75 for the year 1926-27 to Miss C. W. Preston, School of Architecture, Architectural Association, and the R.I.B.A. Archibald Dawnay Scholarship of £50 for the year 1926-27 to Mr. E. B. O'Rorke, School of Architecture, Architectural Association.

Mr. R. P. Cummings, School of Architecture, Architectural Association, who was awarded a special scholarship of £50 for the year 1925-26, has been awarded a second-year scholarship of £75 for the year 1926-27, and Mr. W. R. Brinton, School of Architecture, Architectural Association, who was awarded a scholarship of £50 for the year 1925-26, has been granted a renewal of his scholarship for the year 1926-27.

TRADE AND CRAFT

During the whole of this week commencing on October 11 demonstrations will be given in the motor travelling exhibit of the National Radiator Company, Limited, in the Winter Gardens, Coronation Walk, Southport. From October 19 to 21 demonstrations will be given in front of the Palatine Cinema and Café, Palatine Road, Withington, Manchester.

It is now possible to obtain gas grates with the fronts encased in actual copper, antique brass, or pewter. This new series is described and illustrated in a booklet on Davis injector-ventilating gas grates, just issued by the Davis Gas Stove Co., Ltd. It includes interiors for building-in, and the stoves comprise, besides the injector-ventilator and other improvements, the radiation burner, thermo fire front, and the adjustable flue nozzle. All the other series and accessories of the company are also described and illustrated. Among the most valuable features of the stoves of the company is the injector-ventilating principle. The arrangement is simple. There is the usual flue-outlet of suitable shape and size, through which the products of combustion escape. Above it is a second opening, which acts as a ventilator, the ascent of the current through the lower outlet setting up injector action. By this means, while the fire distributes pure radiant heat throughout the room, it is claimed that the air of the apartment is changed often enough (up to six times an hour) to keep the atmosphere healthy and pleasant.

The directors of Messrs. Bell's United Asbestos Company, Limited, have declared an interim dividend on the ordinary shares of 6d. per share, being 2½ per cent. (actual), less income tax, on account of the current year. The dividend will be paid on October 18 to shareholders on the register on October 4. The ordinary share transfer books will be closed from October 4 to 16 inclusive.

Among the many high-class preparations manufactured by Messrs. Brunner Mond & Co., Ltd., silicate of soda, of which they manufacture several grades, is one of considerable importance. That known as P.84 has been in general use for many years for hardening and waterproofing concrete surfaced roads, concrete foundations to macadam roads, railway station platforms, concrete sea and other retaining walls, and harbour work. Its application is claimed to increase the tensile strength by 20 per cent. Through the Mond Staffordshire Refining Co., Ltd., Brunner Mond's P.84 silicate of soda is now being introduced to the public in smaller packages than has been the case hitherto for such uses as factories and warehouses, public and private garages, for builders and house decorators, and for such other purposes where a limited quantity is required. Apart from its hardening and waterproofing properties, when used with cement and concrete it is claimed to have the following advantages: "it increases the adhesion and covering capacity of whitewash and distemper; it is an excellent petrifying liquid for plastered walls to be whitewashed and distempered; it reduces porosity in Keene's cement and plaster of Paris; it prevents the permeation of oil and other liquids into cement concrete."

NEW INVENTIONS

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

LATEST PATENT APPLICATIONS

23463. Fahey, J. Apparatus for moulding concrete, etc., walls. September 23.

23689. Krasnik, H. L. Floors for buildings, etc. September 25.

23735. Makram, T. Means for interconnecting building bricks. September 25.

23552. Pessell, C. A., and Pessell, R. C. Buildings for cattle, etc. September 24.

23625. Reynolds, W. A. Walls, etc. September 24.

SPECIFICATIONS PUBLISHED

258314. Stewart, P. M., and Ratcliffe, G. H. C. Manufacture of bricks and blocks for building purposes.

258391. Francis, A., and Walker, F. Device for spacing and locking shuttering for concrete walls and buildings.

258453. Cowiesons, Ltd., Cowieson, F. D., and Douglas, J. W. Buildings.

258430. Throp, A. Clamping devices for stones.

258320. Fitzgerald, F. W. V. Means of and method for effecting the hydration of concrete and other similar materials.

ABSTRACT PUBLISHED

256291. Davis, J. H. Metallic fabrics.

THE WEEK'S BUILDING NEWS

More Houses for Shepperton

The Staines Rural District Council proposes to erect twenty houses at Shepperton.

Aberdeen Hospital Extensions

Extensions to the Aberdeen City Hospital, at a cost of £69,100, are proposed.

More Houses for Deal

The Deal Town Council proposes to erect twenty further houses on the Mill Road site.

Housing at Horsham

Financial assistance for the erection of another twenty-two houses is to be given by the Horsham Urban District Council.

Extensions to the Cumberland Infirmary

Extensions are to be carried out at the Cumberland Infirmary, at Carlisle, at a cost of £19,800.

A Bampton Housing Scheme

The Bampton Urban District Council has decided to formulate a combined housing scheme for both Bampton and Shillingford.

Housing at Limavady

The Limavady Rural District Council has approved of a scheme for the erection of 103 labourers' cottages at a cost of £35,170.

Working-class Houses for Hailsham

A definite scheme for the erection of working-class houses throughout the Hailsham rural district is to be prepared for the Rural District Council.

Housing Progress at Falkirk

At Falkirk Dean of Guild Court plans have been submitted by the Falkirk Town Council in respect of the erection of 218 houses at an estimated cost of £82,000.

Housing at Mitcham

The Mitcham Council is applying to the Ministry of Health for sanction to borrow a further £150,000 for advances under the Small Dwellings Acquisition Acts.

Town Planning at Finchley

The Finchley Urban District Council has decided to prepare a further town-planning scheme to include the remainder of the district not already dealt with.

Inverness Infirmary

The directors of the Northern Infirmary, Inverness, have appointed Sir John Burnet, R.A., LL.D., as the architect of the new infirmary.

Plans Passed at Worthing

The Worthing Town Council has passed plans for the erection of 101 dwelling-houses and thirty-nine other buildings, of a total estimated cost of over £83,000.

Housing at Winchester

Plans of the new housing scheme and of houses at Littleton, Andover Road, Winchester, Compton, thirty-two houses at Fair Oak, and bungalows at Fair Oak and Hookpit have been passed at Winchester.

More Houses for Chertsey

The Ministry of Health has approved the Chertsey Urban District Council's proposal to erect thirty houses on the Pyrcroft site and twenty-four houses on the Green Lane site.

Blackpool's New Parade

A new marine parade and park have recently been opened at Blackpool by the Earl of Derby, in whose honour the park has been named Stanley Park. The scheme has involved a total expenditure of £570,000.

New Bridge for St. James's Park

The Office of Works has prepared designs for a new structure to replace the iron suspension bridge over the lake in St. James's Park. The new bridge will be of stone and will cross the lake in three spans on flattened arches.

A New Memorial for Chesterton Church

The memorial to the late Greville Verney, nineteenth baron, Lord Willoughby de Broke, placed in the old church of Chesterton, near Leamington, was recently dedicated by the Lord Bishop of Coventry. The memorial takes the form of an English oak chancel screen and new choir stalls. The chancel has also been relaid with Hornton stone floor slabbing, and other improvements have been carried out. Mr. C. M. C. Armstrong, F.R.I.B.A., was the architect for the work.

The Future of Hull

In discussing the future of Hull, in the course of a recent address, Principal Morgan said that there were great developments ahead of the city in the next fifty years. One of the most important factors was the nucleus of the great educational centre which already existed where stood the municipal training college, the Newland secondary school, a vast space of hundreds of acres, to which would be added a university college, and, finally, he hoped, a university. In this centre lay a great opportunity of development unparalleled in any other city.

A Building Apprenticeship Scheme

Efforts are being made to secure a joint meeting of employers and employees in the building trade in Oldham and Middleton, along with representatives of Oldham and District Education Committees, to discuss the educational part of the apprenticeship scheme. The parties concerned some time ago agreed as to the wages to be paid to apprentices and the craft conditions that shall obtain. With a view to producing a trained and better educated workman the scheme provides that arrangements be made for the apprentices to attend daytime classes up to sixteen years of age, and afterwards evening classes. All apprentices are now indentured until they are twenty-one years of age.

Town Planning at Sheffield

Sir William Hart, the Town Clerk of Sheffield, recently explained Sheffield's future town-planning schemes to members of the Garden Cities and Town Planning Association. It was stated that about one-half of the total area of the city is covered by housing schemes. Under the Housing Acts 4,441 houses have been built at a capital expenditure of over £4,000,000. The policy of a ring road, as at Leicester, has been adopted at Sheffield. This will be about 20 miles long, of which 9 miles are constructed. The city has been pursuing a forward policy by constructing roads in advance of requirements, thereby gaining a certain amount of control when development takes place, and charging frontagers with cost of road-making at such a time. Low-lying land and various gorges are being preserved as open spaces. Several slum clearance schemes are in progress. Most of the housing estates are provided with playing fields, and on the Manor estate 70 acres have been set aside for this purpose.

L.C.C. and a Pimlico Site

The Westminster Housing Association has issued a report on the negotiations which have taken place with the Westminster City Council and the London County Council with regard to the acquisition of a site in Pulford Street, Pimlico. Pulford Street runs from Lupus Street to Grosvenor Road, and the association hoped that the Westminster City Council would be able to obtain a site of nearly two acres for a housing scheme for Westminster. The London County Council, however, last July, stated that the site was not for sale as they required it for the erection of a factory for the manufacture of tramway tickets. In April the valuer of the London County Council gave an assurance that "no obstacle would be placed in the way of the Westminster City Council utilizing the site, and any serious offer made by them for its purchase would receive proper consideration." In July, however, the London County Council approved a proposal to utilize the site to accommodate the Council's tramways printing and checking sections and punch repair shop. The Association complains that the report of the Highways Committee of the L.C.C. on July 27 makes no mention of the Westminster City Council's desire to acquire the site.

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
A₂	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	Burslem ..	Mid. Counties	1 8	1 3½
A₂	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
A₂	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	EAST-BOURNE	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
A₂	Goole ..	Yorkshire	1 7	1 2½
B₁	Gosport ..	S. Counties	1 5½	1 1½
A₃	Grantham ..	Mid. Counties	1 6½	1 2
A₂	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
B₂	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
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
A₃	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
A₂	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

§ 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. §

* Plasterers, 1s. 9d.

† Carpenters and Painters, 1s. 8½d.

‡ Plumbers, 1s. 9d.

§ Painters, 1s. 6d.

‖ Carpenters and Plasterers, 1s. 8½d.

¶ Painters, 1s. 7d.

PRICES CURRENT

EXCAVATOR AND CONCRETOR

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

Broken brick or stone, 2 in., per yd.	£0 11 6
Thames ballast, per yd.	0 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:	
Whilbed, 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 18s. 0d. 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, 1*s.* 9½*d. per hour*; MATE OR LABOUREP, 1*s.* 4½*d. 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, 1*s.* 9½*d. per hour (plus allowances in London only)*; LABOURER, 1*s.* 4½*d. 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, ¾ in., per yd.	0	2	4
DO. vertical, per yd.	0	2	7
RENDER, on brickwork, 1 to 3, per yd.	0	2	7
RENDER in Portland and set in fine stuff, per yd.	0	3	3
RENDER, float, and set, trowelled, per yd.	0	2	9
RENDER and set in Sirapite, per yd.	0	2	5
DO. in Thistle plaster, per yd.	0	2	5
EXTRA, if on but not including lathing, any of foregoing, per yd.	0	0	5
EXTRA, if on ceilings, per yd.	0	0	5
ANGLES, rounded Keene's on Portland, per ft. lin.	0	0	6
PLAIN CORNICES, in plaster, per inch girth, including dubbing out, etc., per ft. lin.	0	0	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, 1*s.* 8½*d. per hour.*

Glass: 16ths 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, ⅛ 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	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 1*s.* 6*d.* to 2*s.* per ft.

LEAD LIGHTS, plain, med. sqs. 21 oz., usual domestic sizes, fixed, per ft. sup. and up	£0	3	6

Glazing only, polished plate, 6½*d.* to 8*d.* per ft. according to size.

DECORATOR

PAINTER, 1*s.* 8½*d. per hour*; LABOURER, 1*s.* 4½*d. per hour*; FRENCH POLISHER, 1*s.* 9*d. per hour*; PAPERHANGER, 1*s.* 8½*d. 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* 1*s.* 9½*d. per hour*; MATE, *do.* 1*s.* 4*d. per hour*; ERECTOR, 1*s.* 9½*d. per hour*; FITTER, 1*s.* 9½*d. per hour*; LABOUREP, 1*s.* 4*d. 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, 5/32 in., grey flat, per yd. sup.	0	2	3
DO., *corrugated, per yd. sup.*	0	3	3
ASBESTOS SHEETING, fixed as last, flat, per yd. sup.	0	4	0
DO., corrugated, per yd. sup.	0	5	0
ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey	2	15	0
DO., red	3	0	0
Asbestos cement slates or tiles, 5/32 in. punched per M. grey	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
4 m/m amer. white, per ft. sup.	0	0	3½
4 m/m figured ash, per ft. sup.	0	0	5
4½ m/m 3rd quality, composite birch, per ft sup.	0	0	1½