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Next week will be published the Special Double Number on Concrete, to which reference has already been made on this page. There will be no KARSHISH article in that number, but the series will afterwards continue without interruption.

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PRINCIPAL CONTENTS

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CHRISTIAN BARMAN, *Editor*

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

RENDERINGS OF ARCHITECTURE

Selected and annotated by Dr. Tancred Borenius.

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

The picture here reproduced is the companion piece to the signed painting by Gennaro Greco previously noted (see No. xxxviii) as having formerly been, together with the present example, in the collection of the Dukes of Anhalt at Dessau, both pictures having since been sold by auction at Berlin in 1923. Dr. Voss, by whom these paintings were first published, notes that "what our reproductions do not give, or only slightly suggest, must specially be emphasized: this is the delicate, luminous tonality obtained by avoiding all strong, unburnt colours and by the use of very soft tints in greys, greyish-blues, and greyish-yellows which tend to a general harmony. The colouring is not so strong and effective as that of Pannini and his Roman predecessor Ghisolfi, but delicate, transparent, and rich in delicate and often scarcely perceptible shades."—[Private Collection.]

THE ARCHITECTS' JOURNAL

Wednesday, November 17th, 1926

THE ROYAL GOLD MEDAL

The Royal Gold Medal is the highest recognition of architectural achievement in the world, and the ceremony surrounding its presentation this year will be distinguished from its predecessors in several respects. In the first place the medal is to be presented by H.R.H. the Prince of Wales, and this in itself creates, we believe, a precedent in the annals of the ceremony; a precedent of particular significance at the present time, when a serious effort is being made to restore the art of architecture to its rightful place, both in the hierarchy of the arts, and in the lives of the people. Nowadays, when Royalty has such innumerable calls upon its time, the R.I.B.A. must be particularly aware of the honour conferred upon it by entertaining the heir to the throne.

Another fact that distinguishes this year's ceremony is that the recipient of the medal is a Swede. Since 1848, when the medal was instituted by Queen Victoria, it has, of course, frequently passed out of this country, having gone twelve times to France, four times to Austria, four times to Germany, three times to America, twice to Italy, and once to Holland and Canada. To that list must now be added the name of Sweden. It is surely not without a political significance, this transcending by art of national barriers, and the fact that representatives of two great nations are thus brought together in friendly intercourse is a link forged in that chain of international good will and amity which it is the desire of every individual citizen to see completed. England and Sweden, however, are bound together by other ties, for the blood of the Northern races runs in the Englishman's veins. Moreover, the two Royal houses are intimately connected. There is, too, a real similarity of temperament between the inhabitants of the two countries, which those who have come in contact with Swedes, or who have been fortunate enough to travel in Sweden, have not been slow to sense. An easy kind of understanding and intimacy establishes itself upon quite slight acquaintance.

There is another reason, too, why the presentation of the medal by the Prince of Wales to Professor Ragnar Östberg next Tuesday is particularly apposite. The Crown Prince of Sweden, it may be remembered, visited England in 1923, and on that occasion showed a very deep interest in, and knowledge of, architecture, and, moreover, made clear his immense admiration of the Stockholm Town Hall, Professor Östberg's most important work. We do not know if H.R. Highness has seen the Stockholm Town Hall; probably not, but he will have had opportunities of studying it by drawing and photograph. We hope his admiration of it will not be less than that of his kinsman, for surely it is without doubt one of the greatest architectural achievements of this century; indeed, we should not be surprised if posterity ranks it even higher, and places it amongst the few great buildings of the world.

The award of the gold medal, it will be remembered, " is conferred on some distinguished architect, or man of science or letters, who has designed or executed a building of high merit, or produced a work tending to promote or facilitate the knowledge of architecture or the various branches of science connected therewith." Professor Östberg has not only designed a building of high merit, but he has also promoted and facilitated the knowledge of architecture, for since 1921 he has held the Chair of Professor at the High School of Arts, and his influence has spread through the younger generation of Swedish architects. In 1924, those who visited the exhibition held in connection with the International Architectural Education Conference had an opportunity of observing the high standard of the work executed by his students.

And so there can surely be no doubt as to the rightness and appropriateness of this year's award. The Stockholm Town Hall is by no means the only building of Professor Östberg's that is worthy of study and admiration, but just as St. Paul's was Wren's life's work, and must be for ever associated with his name, so, too, is the Town Hall Östberg's life's work, and his name will live with it. The comparison is an apt one, too, for both these great buildings have, as it were, been an inspiration to the respective peoples. The sentimental affection of every Londoner has been centred upon St. Paul's. And the Town Hall, new as it is, has evoked a civic pride in Stockholm, for the building of it was no impersonal municipal undertaking, but a work which seemed rather to carry with it the sacrifice and interest of the community. And this is not surprising, for, himself inspired, Östberg gathered round him a band of artists and craftsmen whom he infused with his own inspiration. Nothing has been too small to receive care from the host of co-operators—workers in metal and plaster; designers of furniture and weavers; painters, carvers, and sculptors; workers in ceramics; clock and organ makers; bricklayers, masons, carpenters, joiners, and cabinet-makers. And into the whole is woven the history of mankind in general and of Stockholm in particular. Here, indeed, we have a great building which transcends style and which transcends analysis, and beaten out upon its copper summit is its message: " Glory to God in the Highest, and on Earth Peace, Good Will toward Men."

NEWS AND TOPICS

SIR EDWIN LUTYENS AT THE R.I.B.A.—THE PROTECTION OF RURAL ENGLAND—GIVING ROME SCHOLARS A CHANCE —THE CITY CHURCHES AT THE ARCHITECTURE CLUB.

PRIOR to the reading of Mr. Lanchester's paper on "Bridges and Traffic" at the R.I.B.A. on Monday night, the London Architecture Medal—"the Medal and Diploma for a building completed within a radius of four miles from Charing Cross during the three years ending 31st. December, 1925"—was presented to Sir Edwin Lutyens for his "Britannic House." Mr. Guy Dawber, the president of the Institute, presented this to Sir Edwin in words that were formal enough, for the traditions of the R.I.B.A. would hardly be departed from, one imagines, if Wren himself were to enter the meeting room. But the builder of Britannic House, Sir Howell Williams, made a moving little speech. "Sir Edwin Lutyens, architect," he testified, "had met him, the builder, as a human being. . . . Many architects"—there was, we fancied, a slight break in the speaker's voice—"many architects did not do this. . . . Sir Edwin had set up a human connecting link between architect and builder which he would like to see again." Sir Edwin had received the medal blushingly enough; we hoped the short speeches by Mr. Lloyd, (Sir Edwin's client) and Sir Howell Williams would have given him time to sufficiently collect himself to reply. He rose to return thanks. His face was very red. In a rather thick voice he said: (apropos, I think, of nothing in particular: apropos, perhaps, of the polite phrases of the previous speakers, or of everything in the whole preposterous universe) "I'm not sure," said Sir Edwin steadily, "that they're not all damned lies."

* * *

The formation of the Council for the Preservation of Rural England is very important. On July 21, 1926, the President of the Royal Institute of British Architects addressed a letter to no less than twenty institutions, societies and corporations in order to devise means of dealing with the growing effacement of the countryside. A draft constitution for the new body has been prepared and the first meeting of the new Council, consisting of two representatives from each of the bodies interested, will take place at the Royal Institute of British Architects on December 7 of this year. The chair will be taken by the Earl of Crawford and Balcarres, and Mr. Guy Dawber, President of the R.I.B.A., will welcome the representatives. Experts on every aspect of the problem of rural preservation will be consulted. One need only glance down the list of the societies co-operating in this great work to realize that a very formidable effort will be made to safeguard the beauty of the English countryside. The appeal has been addressed not only to influential societies with public objects, such as the Society for the Protection of Ancient Buildings, the Commons and Footpaths Preservation Society, and the Royal Society of Arts but also to powerful bodies such as the Royal Automobile Club, the Central Landowners' Association, the Surveyors' Institution and the Central Chamber of Agriculture, which, although they may have their own private interests to subserve, are yet very well capable of recognizing the desirability of maintaining intact, as far as possible, a precious national inheritance. The Council for the Preservation of Rural England has been established not a day too soon, and it may be hoped that its activities will be pursued with very great vigour and will be attended by substantial results.

* * *

It is, however, no use blinking the fact that between the desire to preserve and the ability to preserve the amenities of the countryside a great gulf may be fixed and while a congress of public spirited people may assemble and may even acquire considerable powers to execute their wishes, their efforts will not achieve the desired purpose unless they have in their minds not only an administrative policy but æsthetic standards which will enable them to prescribe remedies for the ills from which we suffer. For it must be confessed with shame that the defacement of the countryside which now arouses public indignation is committed in the name of architecture and building. It is a humiliating thought that either an architect or a builder could ever come to be regarded as a public pest, and it behoves us to analyse with extreme care the causes of æsthetic offence which are present in so many of the houses which are now springing up not only on the outskirts of big towns but in country districts. The houses are vulgar, that is the long and the short of it, and they are vulgar because their authors have not regarded architecture as a "polite art."

* * *

At a time when so many important buildings are being erected by men who have given insufficient attention to the problems of design it is pleasing to hear that the directors of Lloyds Bank Limited have expressed their determination to exercise their architectural patronage with the greatest care. Lloyds Bank have decided as and when occasion arises to offer to the British Rome Prize Scholars after their return to England an opportunity of submitting designs for their banking premises. It is largely through the inspiration and energy of Professor Reilly, himself a member of the Faculty of the British School at Rome, that this great banking corporation has decided to give young architects a chance. It is manifestly of advantage both to the public and to the banks themselves if their business premises are designed by artists who are given the opportunity to expend considerable care upon the design of each individual building, for by this arrangement it is far more likely that the bank premises will harmonize with the architecture of the street or township in which they are situated than if the designs are manufactured wholesale from patterns standardized in a central office. It may be hoped that the example of Lloyds Bank Limited will be followed by other great commercial houses, who will also take steps to seek out and employ the best architectural talent available on all occasions when a part of their capital is invested in bricks and mortar.

* * *

The tenth annual dinner of the Architecture Club was held on November 10 at the Savoy Hotel. The four speeches made after dinner took the form of a debate on the Union of Benefices and Disposal of City Churches Measure, which was recently passed by the National Assembly of the Church of England, and which will

probably come before Parliament on the 20th of this month. Lord Hugh Cecil opened the discussion with a really brilliant speech. He explained that if the Measure is passed there will be less danger that any of these fine buildings will be destroyed than is at present the case under the 1860 Act. He spoke with considerable force, not only because he was the originator of the Measure, but also because he felt that it had never received a fair consideration either from architects or from the societies which have so keenly defended the City churches. This, to some extent, is the case, for all those who are interested in the preservation of the City churches cannot forget Lord Phillimore's Report, with its recommendation that nineteen of them should be destroyed. We have, in fact, been given such just cause for alarm that we cannot rid ourselves of it. It is now felt that the only safe course is to object to any Bill which allows even the consideration of the destruction of a single church. Already twenty-three churches have been destroyed in the City. This is a very great number, and quite rightly architects share with the citizens of London itself the determination that not another building shall be allowed to go. There is little doubt that Lord Hugh was right when he said that his Measure would have the effect of making the churches safer than they have been hitherto. But he did not seem to recognize the fact that the London public have become so alarmed for the safety of these buildings that any Bill which contains a clause through which a single church could go is a Bill which at once produces opposition. He would have been wiser had he recognized this fact in framing his Measure, and if he had confined the scope of this document to the Union of Benefices alone. It should not be forgotten, however, that he was one of the objecting commissioners who did not sign the Phillimore Report, and that he deserves, as he has had, our willing gratitude for this. Further, we believe him without reserve when he tells us that in framing the Bill his one desire has been to bring peace to the diocese of London and to relieve the Bishop of that diocese of a very disagreeable responsibility.

* * *

Sir Reginald Blomfield in speaking of the subject showed again his unbroken determination to prevent the disappearance of any one of the remaining churches. He said that too many had already been destroyed, that if the Measure were to become an Act, the least interesting of the remaining buildings would go before long, and as years went by like deeds of vandalism would be repeated again and again until even St. Paul's Cathedral itself would not be safe. He spoke with feeling not only on the architectural side of the question, but of the spiritual significance of these buildings situated in a centre of money-dealing. It is probable that the public determination to oppose the removal of the City churches is very largely due to the resolute support Sir Reginald has all along shown in this matter. His vigorous resistance has been paramount, and his justly acknowledged appreciation of the architecture of the late seventeenth and early eighteenth century has reinforced our determination to defeat this trespass.

* * *

The death of Mr. Edward Bell from heart failure at the Mount, Hampstead, has taken at once from the world of books a careful and accurate writer and a great publisher, who was also a notable friend to architecture and to many forms of archæological research. Architecture is a highly technical art on its academic as well as in its constructional aspects, and Mr. Bell's enthusiasm as an amateur has been productive of a better popular understanding than is likely to be effected if writings upon the subject are only to be derived from the pens of professional architects. This service done to a professional cause by an influential layman is not always, or indeed often, so well and so successfully performed as it has been by Mr. Bell, who brought to his self-imposed task not only an inclination for architectural study, but the trained powers of a receptive and an analytical mind. His wide interest in different phases of architecture of many different times and places was not merely an excuse for skimming lightly over the surface of things and towards the end of his life his intimate knowledge of many styles gave more force to his analysis of any particular style under discussion at a given moment. His detailed descriptions were often founded upon the reports of excavators and explorers which would otherwise have been published only in ponderous works of forbidding aspect, in which they might easily have proved practically inaccessible to the busy architect and to the general public. His genuine enthusiasm for the advancement of learning and a spirit of fair play carried him with credit through the difficult position of the publisher who is also an author, and enabled him to do justice to archæology in general, and to those from whose researches he drew his material. To the admirable and popular *Bell's Cathedral Series* he acted as editor, and in part, contributor. As a publisher his name is associated with Sir Reginald Blomfield's histories of English and French Renaissance architecture, Sir Guy Laking's work on *European Arms and Armour*, and with many of the educational works and translations from foreign languages which have made the publishing house of George Bell and Sons famous.

* * *

Interviewed by me as to what action he would take with reference to the leader on St. Paul's in last week's JOURNAL, the Dean loftily replied: "I shall do nothing, sir. The Cathedral itself is moving in the matter."

ASTRAGAL

ARRANGEMENTS

THURSDAY, NOVEMBER 18

The Design and Industries Association (at Kettner's Restaurant). 8.0 p.m. Annual Dinner. Sir Lawrence Weaver, K.B.E., Hon. A.R.I.B.A., in the chair.

FRIDAY, NOVEMBER 19

At the Royal Society of Arts. 5.0 p.m. G. Topham Forrest, F.R.I.B.A., on The Greater London. Maurice E. Webb, D.S.O., F.R.I.B.A., will preside.

MONDAY, NOVEMBER 22

At the Architectural Association. 7.0 p.m. Walter Bayes A.R.W.S., on the Decoration of Walls from the Painter's point of view.

FRIDAY, NOVEMBER 26

At the Royal Technical College Architectural Craftsmen's Society. 7.45 p.m. W. Basil Scott, M.I.STRUCT.E., on Constructional Steelwork.

THE ORDINARY MAN ON ARCHITECTURE: i

[BY EDWARD SHANKS]

SITTING the other day at Lord's, I let my eyes rest for some time (since two of the most wearisome batsmen in the world were at the wicket) on the new stand, which has aroused some comment. One critic has said that as its result Lord's is now the ugliest cricket-ground in the kingdom, and, remembering this, I wondered why it should have so different an effect on me. After all, what do I know about architecture? Who am I to say whether a building is good or bad, who cannot put a name to the Orders when I see them and can never remember which is a pediment and which a triglyph. Yet, on the other hand, it must be for my benefit that architects attempt to make their buildings beautiful, not merely for the benefit of other architects. I know that they do make this attempt, for I have heard them talking about it. And, in fact, going about the streets I observe buildings here and there and pass on them judgments which hitherto I have kept to myself. So it occurred to me to speculate on these judgments and their reasons and validity, if any.

The ordinary uninstructed man is more concerned with architecture than with any other of the arts. He need never open a book, if he does not want to, nor see a picture, bar those on posters, and he can preserve himself from music at too close quarters. But he must either sit at home surrounded by his own house, or walk about the streets surrounded by the exteriors of other people's houses; and unless he is strangely absorbed in introspection or abnormally insensitive to outside impressions, these must make an effect on him. But he has no trained eye for the details of technique. He is at ease with a building or it makes him uncomfortable, but, save in extreme instances, he does not know and does not ask himself why. As a result, when he is pressed to justify his likes and dislikes, he snatches at any straw of recollection that may float past his mind. He has heard, perhaps, that the lower part of a building should not only *be*, but should also *look*, strong enough to support the upper part, and on such a scrap of knowledge he can play the most marvellous and misleading fantasias. Very often, in his desperate search for reasons for an opinion, he confuses the opinion itself. And, as often as not, he falls back on the dictum that beauty is use, use beauty, that the more exactly a building serves the purpose for which it has been erected the more beautiful it will be, and that the architect need not, must not, look elsewhere for salvation. This, sound and stern doctrine as it is, I conceive to be only part of the truth. At any rate, it failed to answer all the questions which arose in my mind while I contemplated that delightful red-roofed stand.

Above, grandstand at Lord's Cricket Ground. By Sir Herbert Baker.

But it is because I am frankly such a man, whose interest in architecture is intermittent and always uninformed, that I have ventured to set down these speculations. They are put forward not as possessing any intrinsic value, but as the plain confession of a layman too ignorant of the subject to know whether what he is saying is even new, let alone true. Ignorance sometimes has its uses for the wise. If here and there I seem to speak dogmatically, it is only because it is tiresome to be for ever apologetic.

Let us return to the new stand at Lord's. One's satisfaction in it is not wholly to be explained by the principle that beauty is use, use beauty. From the purely utilitarian point of view, indeed, it has a defect, though this is one that time may remove. The red tiles of the roof, charming as they are to look at, harmonize too well with the colour of the ball. When it is hit high the fieldsman will lose it against them, and be in danger of missing a catch. I think this has happened at least once already.

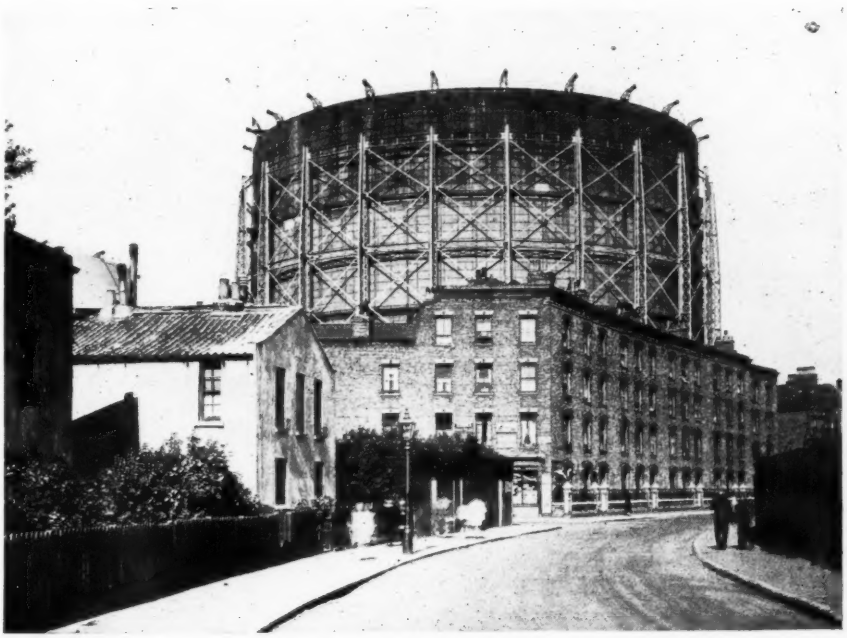
But, as they say, it is the same for both sides and cricket is so full of hazards that one more or less does not much matter. From the purely utilitarian point of view, again, I cannot see that this, or any other stand

possesses any obvious superiority over the unlovely mound stand, rather than look at which for long I would watch an Australian cricketer playing out time. The difference seems to me to be that this new stand not only serves its purpose, but also, in some way, expresses what its purpose represents. It is a place conveniently constructed for accommodating people who wish to watch a game of cricket, but, as well as that, it is, so to speak, a place which is *about* cricket, just as a poem might be about cricket. Do not ask me to say how this has been done, for this is a sphere in which, with all the technical knowledge in the world at one's command, one must still leave something unexplained. But it is not a matter of utility, except in the sense that all beauty and all expression are useful to life, nor is it merely a question of fitness for purpose. It is a satisfaction of the need to express, or have expressed for us, the things about which we feel deeply, and only in so far as it satisfies this need can architecture be called an art, not a craft. When it is an art, architecture moves in ways as mysterious as the poet speaking of:

> Magic casements opening on the foam
> Of perilous seas in faery lands forlorn.

But its effects are no less certain.

Now the uninstructed observer may or may not be conscious of the demand he makes on architecture, but it has a great deal to do with the quarrel that undoubtedly exists between him and the modern architects, who have, he thinks, failed to rise to unparalleled opportunities. For thousands of years man has built the same things over and over again, temples, houses, whether fortified or not, bridges and the like, and during the greater part of recorded time he has had the same materials at his disposal. Suddenly he has been given new things to build and, at the same time, new materials to build them with. He now needs railway stations, factories, great office buildings, and great blocks of flats, and steel and concrete have been given into his hands to meet his needs. Yet, where there should be a vast efflorescence of new styles there seems to be only tumbling and lack of imagination on the part of the architects, and as a consequence there is dissatisfaction in the mind of the ordinary man.



It may be, of course, that we are going through a transition period similar to that which occurred in the ancient world, when the temples of Greece gave way to the aqueducts, the amphitheatres, and forums of Rome (see that interesting and, in England, under-rated book, Dr. Oswald Spengler's *Untergang des Abendlandes*), and that we are not as a people yet fully alive to the new world in which we are actually living. Such a lack of adjustment to conditions would show itself, if not first, at any rate most obviously, in architecture. It would mean that our architects would in general reflect the public mind by continuing to build the old things that are no longer in place, and would reflect it

Above, Kennington gasometer. Below, G.P.O. telephone box. By Sir Gilbert Scott.

particularly by attempting to build the new things in the old manner which is not suited to them.

But it is hardly my business to adventure into the realm of underlying causes. My concern now is simply to state facts—facts, I mean, in the sense that it is a fact that these views have come into existence in my own mind. And my view is roughly that the ordinary man seeks in architecture, as a rule without being conscious of what he is seeking, not only fitness of means to purpose, but also, above that, in the non-utilitarian sphere, an *expression* of what that purpose means to him. He wants a railway station to work well as a railway station. He wants it to look like a railway station. And more, he wants it to convey by its appearance something of what the railway station stands for in his life.

[*To be concluded*]

AUTHORITY AND LIBERTY: i

[BY A. TRYSTAN EDWARDS]

READERS OF THE ARCHITECTS' JOURNAL have recently had an opportunity of studying five articles by Mr. Arthur J. Penty on the subject of "Authority and Liberty in Architecture." Mr. Penty has covered a very wide field, and has explained his point of view so lucidly that even if some of us disagree with his conclusions we must acknowledge our indebtedness to him for having given us so much serious matter for reflection. Mr. Penty shares with Professor Lethaby the honour of being a spiritual descendant of Ruskin, Morris, Pugin, and the other protagonists of the Gothic revival; and although he is capable of regarding that movement with critical eyes, I think that I I am not doing him an injustice in saying that he believes that it did more good than harm, and that certain people whom he describes as adherents of the classic school are the villains of the piece, it being they and they alone who, through their ignorance and pedantry, thwarted a movement so full of brilliant promise. How it came about that the distinguished leaders of the Gothic revival were defeated by ignoramuses and pedants I need not stop to inquire, for before venturing upon a few comments upon Mr. Penty's general thesis, it is more important to my argument to affirm that I, at least, cannot claim to belong to this powerful classic school to which Mr. Penty objects; in fact, I shall presently contend that it was not the classic school who conquered the revivalists, but that to a large extent these latter have determined the character of the buildings which now bear the classic imprint. In using the word "character" I wish to draw a distinction between character and style, for I cannot help thinking that Mr. Penty in treating architecture as if it were a battlefield of styles, has ignored a very important consideration, namely, that as far as the general appearance of a street or township is concerned, it is more necessary that the *character* of the buildings should be appropriate than that they should belong to any particular style.

This point may be illustrated by an excerpt from Mr. Aldous Huxley's brilliant book called *Jesting Pilate*, which contains some illuminating comments upon the architecture of Bombay. Quoting from the guide-book he says: "The Presidential Secretariat is in the Venetian Gothic style. The University Hall completed 1874, which is in the French decorated style of the fifteenth century, rubs shoulders with the early English Law Courts opened in 1879. The University Library, hearking back to an earlier century of the Hall, is in the style of fourteenth-century Gothic. The old General Post Office was designed in the medieval style by Mr. Trubshaw (Mr. Trubshaw was cautiously unspecific.) The Telegraph Office is Romanesque. The Victoria Station, of which the style is Italian Gothic, with certain Oriental modifications in the domes, confronts the Municipal Buildings in which the Oriental feeling introduced into the Gothic architecture has a pleasing effect." And he proceeds to inform us that "The Majestic Hotel is more wildly Mohammedan than anything that the most orthodox of great Moguls ever dreamed of, and the gigantic Taj Mahal Hotel combines the style of the South Kensington Natural History Museum with that of an Indian Pavilion at an International Exhibition. After an hour passed among these treasures of modern architecture I took a cab and in mere self-defence drove to the Town Hall, which is a quiet late Georgian affair built in the '30's. Long and low with its flight of steps, its central pediment, its Doric colonnade, it has an air of calm and quiet decency. Among so many architectural cads and pretentious bounders it is almost the only gentleman."

Now I contend that it was not the *style* of these buildings in Bombay which caused Mr. Aldous Huxley to condemn them, but their *character*. It would have been equally possible for the various Government buildings to have been designed in the classic style and still be "cads and bounders," while the "air of calm and quiet decency" which he admired in the columnated town hall could equally have been present in a Gothic building if this latter had been designed by somebody conversant with the principles of civic architecture. In fact, there exists in England to-day a very large number of medieval buildings which have just this quality of orderliness and restraint, but these are the genuine medieval buildings erected by men who had a clear appreciation of the fact that a work of architecture has social duties to perform, and is not merely an exercise in construction and craftsmanship. I may mention the colleges of Oxford and Cambridge as evidence of the manner in which our medieval forefathers succeeded in endowing their secular buildings with just the appropriate character. Here we have long, low buildings, many of them with parapet walls and unobtrusive roofs arranged in a charming variety of quadrangular formations, and all united in their determination to be companionable members of the architectural body politic. In the last century, however, various architectural "cads and bounders" have appeared in these ancient university towns, "cads and bounders" whom I affirm were nourished by the Gothic revivalists. It can scarcely be said that I am merely uttering my own opinion in making this statement, for is it not a matter of historic fact? Nobody disputes, of course, that the Gothic revivalists may have been themselves quite agreeable folk who were content to lead the orderly and respectable lives of citizens. How does it come about, then, that so many of the buildings inspired by them have been neither orderly nor respectable, and have shown no consciousness of their obligations to the townships of which they form a part? The Gothic revivalists propounded a theory of architecture which did not embrace within it the civic concept. This was unfortunate. It is better to have no theory of architecture than to have a theory which ignores manners, which does not recognize the obligation of architecture to be subservient to the visual art which regulates and ennobles the social relations of human beings.

[*To be concluded*]

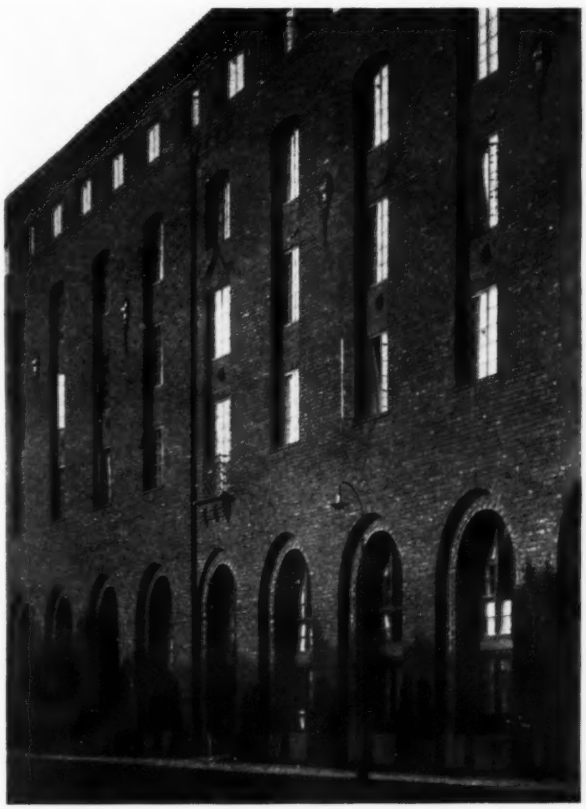
CURRENT
ARCHITECTURE
SECTION

RAGNAR ÖSTBERG

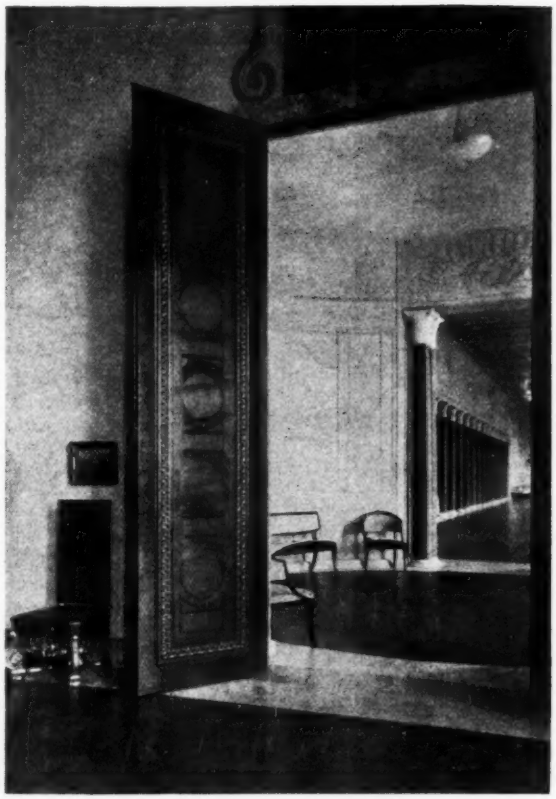
[BY F. R. YERBURY]

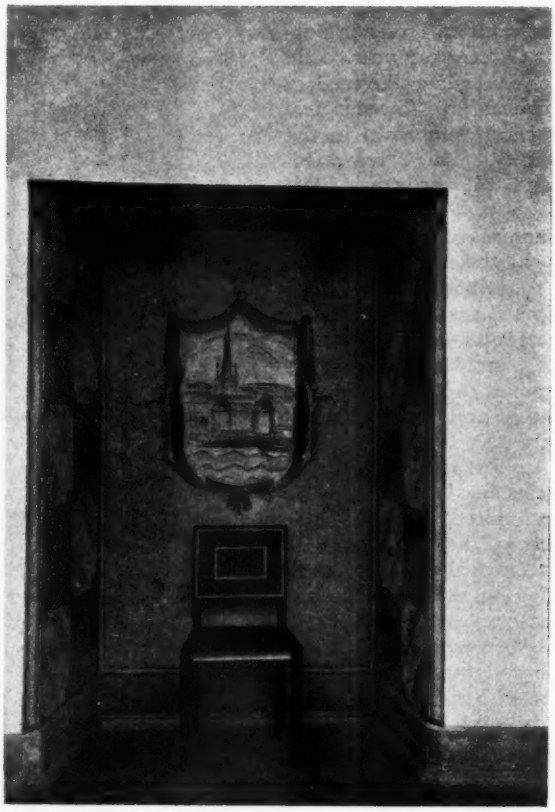
FEW awards of the Royal Gold Medal have given greater satisfaction to architects in this country and abroad than that made to Professor Ragnar Östberg this year. Until a few years ago the modern architecture of Sweden was practically unknown in this country. Indeed, few architects felt it worth their while to visit the Scandinavian countries either for the study of old or new buildings, but in 1923 rumours of the beauty of the new Stadhuset at Stockholm penetrated English architectural circles. Some of the more fortunate British architects, attracted by these rumours, travelled to Sweden and brought back stories and pictures of this masterpiece, together with news of the great architectural revival which had been going on in Sweden for the past ten years or so. Much has been written and talked about the modern architecture of Sweden since 1923, and now many of us look upon that country as one of the brightest centres in the modern architectural world.

One of the outstanding exponents of the Renaissance in Sweden is Ragnar Östberg, and it is due largely to the fame achieved by his Stadhuset that Swedish architecture is to-day so well known throughout the world. Östberg himself would be the first to deny this. He is a man of such extreme modesty and general charm of character that he would hasten to assure you in all sincerity that his own work was of really little importance compared with the efforts of others. Swedish architects think otherwise, and are proud of the honour which Östberg has earned for Sweden. Östberg has for some years played an important part in Swedish architectural affairs, and although his best known work is the City Hall, he has been responsible for many other buildings, which have invariably reached a very high



The City Hall, Stockholm. By Ragnar Östberg. Above, a view from the north-east. Below, the north-west elevation.



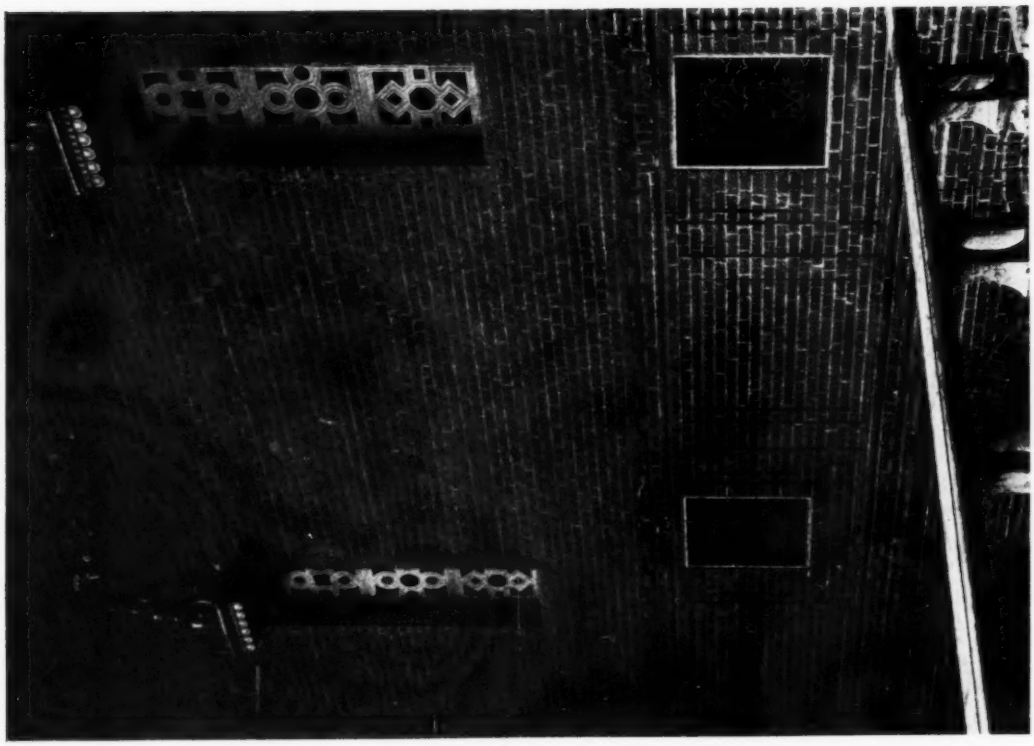


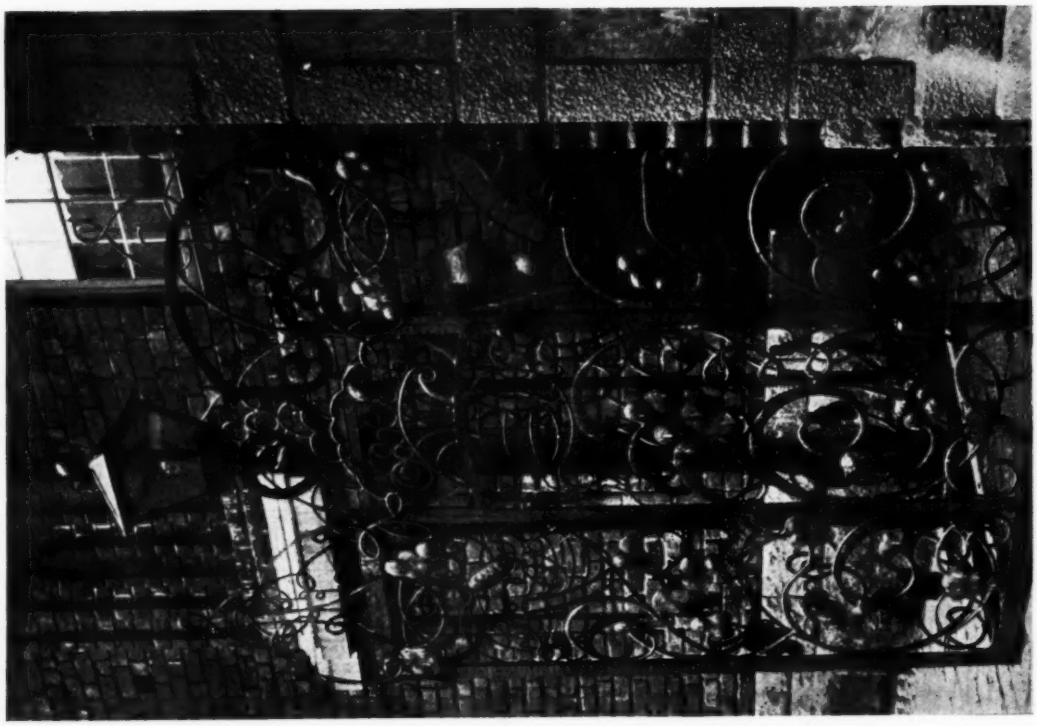
The City Hall, Stockholm. By Ragnar Östberg. Above, left, a pier-glass in the Prince's Gallery. Right, a view through the circular ante-chamber into the Prince's Gallery. Below, left, the south-west corner of the blue room. Right, detail of a recess in one of the corridors in the administrative block.

Above, the City Hall, Stockholm. By Ragnar Östberg. A detail in the golden hall. The walls are covered with gold mosaic with mosaic designs in colour by Einer Forseth.

standard of excellence. He was born in Stockholm in 1866. Like all Swedish architectural students, he studied at the technical high school, and afterwards entered the school of architecture at the Royal Academy, where he worked from 1888 to 1891. In this last year he gained the King's Medal. From 1891 to 1896 he worked in the office of Professor Clason, an architect who, perhaps, more than anyone else, has been responsible for the general revival of good architecture in Sweden. In 1893 Östberg visited the United States, and between 1896 and 1899 he travelled in Germany, France, Italy, Greece, Spain, and England. His sketchbooks are filled with notes and sketches from England, made during his tour here on a bicycle. He has always had a very great affection for England and its architecture.

Östberg started in practice in Stockholm in 1900, was appointed professor of architecture at the School of Art in 1901, and he was elected a member of the Royal Academy in the following year. He first came into prominence in Sweden through his designs for room fittings and furniture. In the early days of his practice he built some very charming houses of the smaller type, and there is now quite a long list of them to his credit in both town and country. One of the most interesting is a villa for Thorsten Laurin, in Djurgärden, at Stockholm. This was built about twenty years ago, but it still remains one of the most attractive

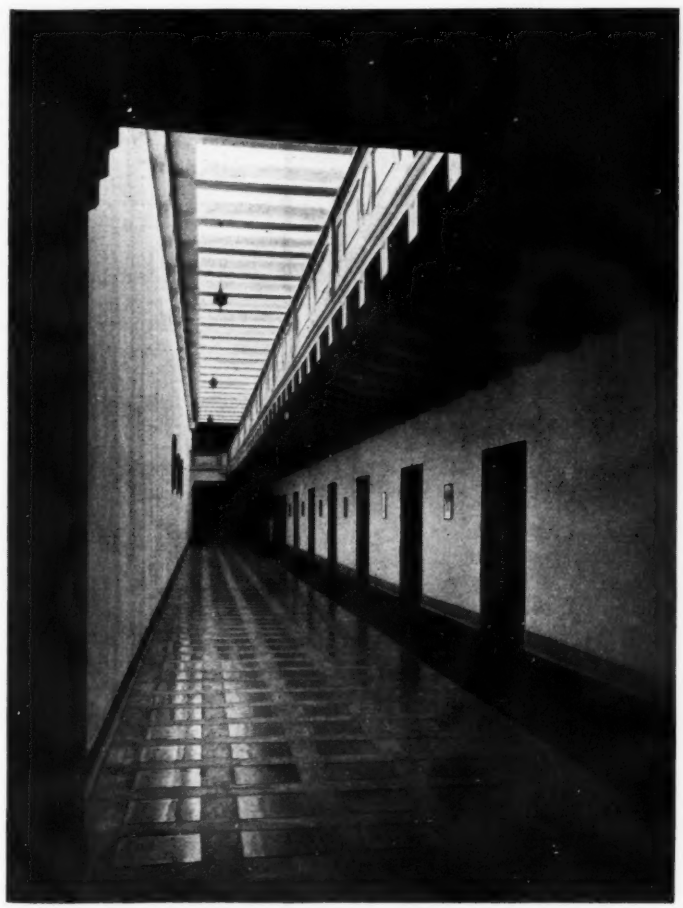




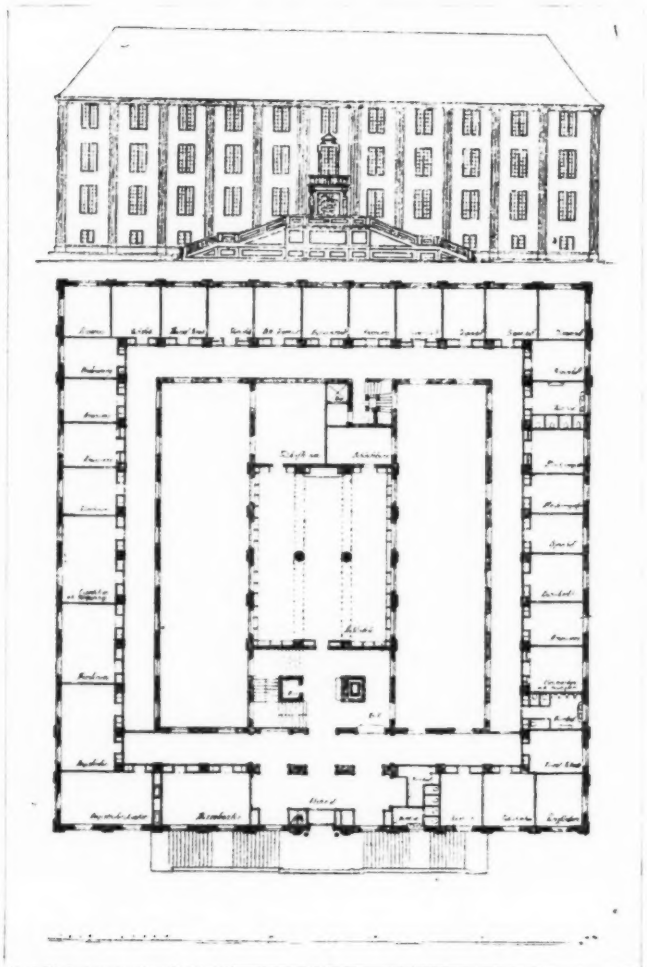
The City Hall, Stockholm. By Ragnar Östberg. Left, a grille in the People's Court. Right, a detail from the blue hall. The stone grilles light one of the corridors, and the windows a corridor below.

houses in this part of Stockholm. Although obviously built under the influence of the art and craft movement, it exhibits none of that freakishness or attempt at "artiness" which characterize so many of the houses built throughout Europe at this period. Another house of Östberg's in the same district was built in 1913 for P. H. Geber. This little house (and especially the courtyard) is regarded by many Swedish architects as one of the gems of modern domestic work in Sweden. Of important buildings perhaps the Ostermalms Public Secondary School (1910) and the Patent Office (1921) are, after the new Stadhuset, his greatest achievements.

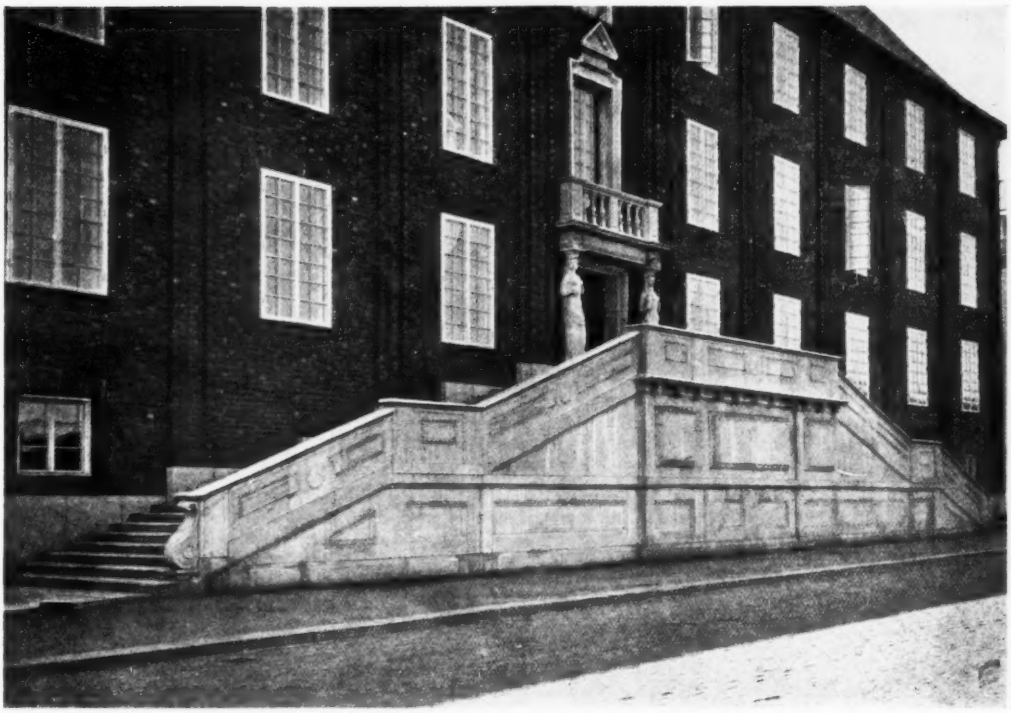
A competition was organized in 1903 for designs for the new City Hall, and the final competition was adjudicated in January 1905, when Östberg's designs gained the first prize. The winning design showed a great block of buildings, with four fronts, and almost quadrangular in form, enclosing a courtyard, with a great tower on the south-east angle, bordering on the waters of Lake Malaren. The whole building was shown faced with granite. In 1906 it was decided to carry out the building according to Östberg's plans. In 1908 it was resolved that the municipal buildings first suggested should be erected in another part of Stockholm, and that the site upon which they were to have been built should be occupied by a City Hall. The City Hall, it was decided, should accommodate the Communal Government and the subordinate municipal departments of Stockholm, and have State rooms for civic banquets and municipal festivities. This meant that the building

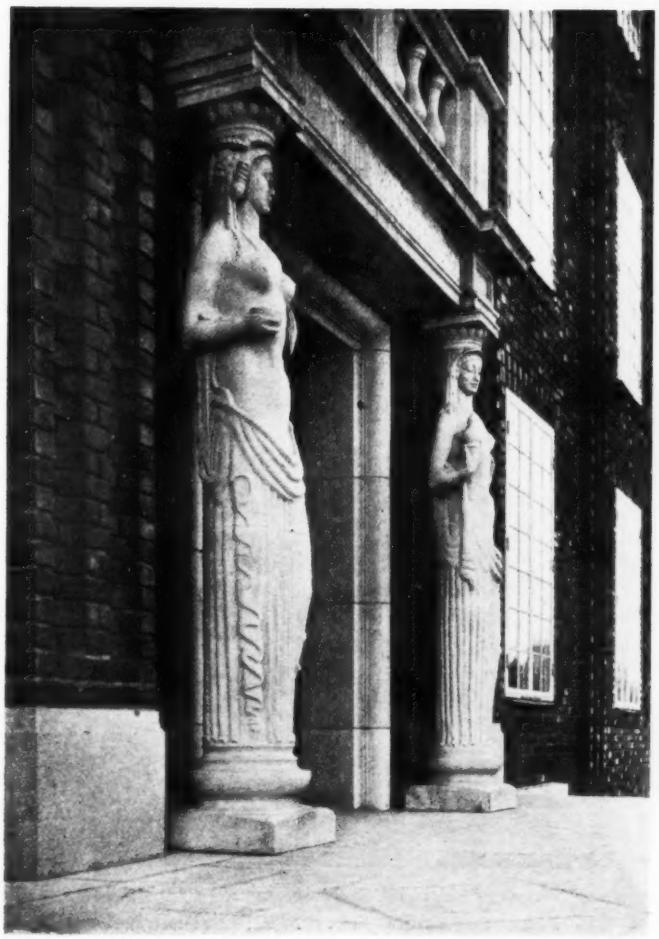


Above, the Patent Office, Stockholm. By Ragnar Östberg. Passage leading to the inner courts. Below, the City Hall, Stockholm. By Ragnar Östberg. An example of three-tier illumination in the administrative block.



The Patent Office, Stockholm. By Ragnar Östberg. Above, a general view. Below, the main front, and the ground plan.





The Patent Office, Stockholm. By Ragnar Östberg. Above, the entrance front. Below, a detail of the entrance.

Östberg had designed was to be used for an entirely different purpose from that for which it was originally intended. The drawings were thoroughly revised, but were not finally approved until 1909. Amongst other changes the idea of facing the building with granite was abandoned, and brick was substituted. Work commenced in 1911, and progressed slowly until the midsummer of 1923, when the building was formally opened by the King.

It is hardly necessary to attempt to describe this building in these pages as it has already been the subject of

House of P. H. Geber, Stockholm. By Ragnar Östberg.
Above, the entrance front. Below, the courtyard.

SOANE'S BANK OF ENGLAND

ii: THE OLD SHUTTING ROOM

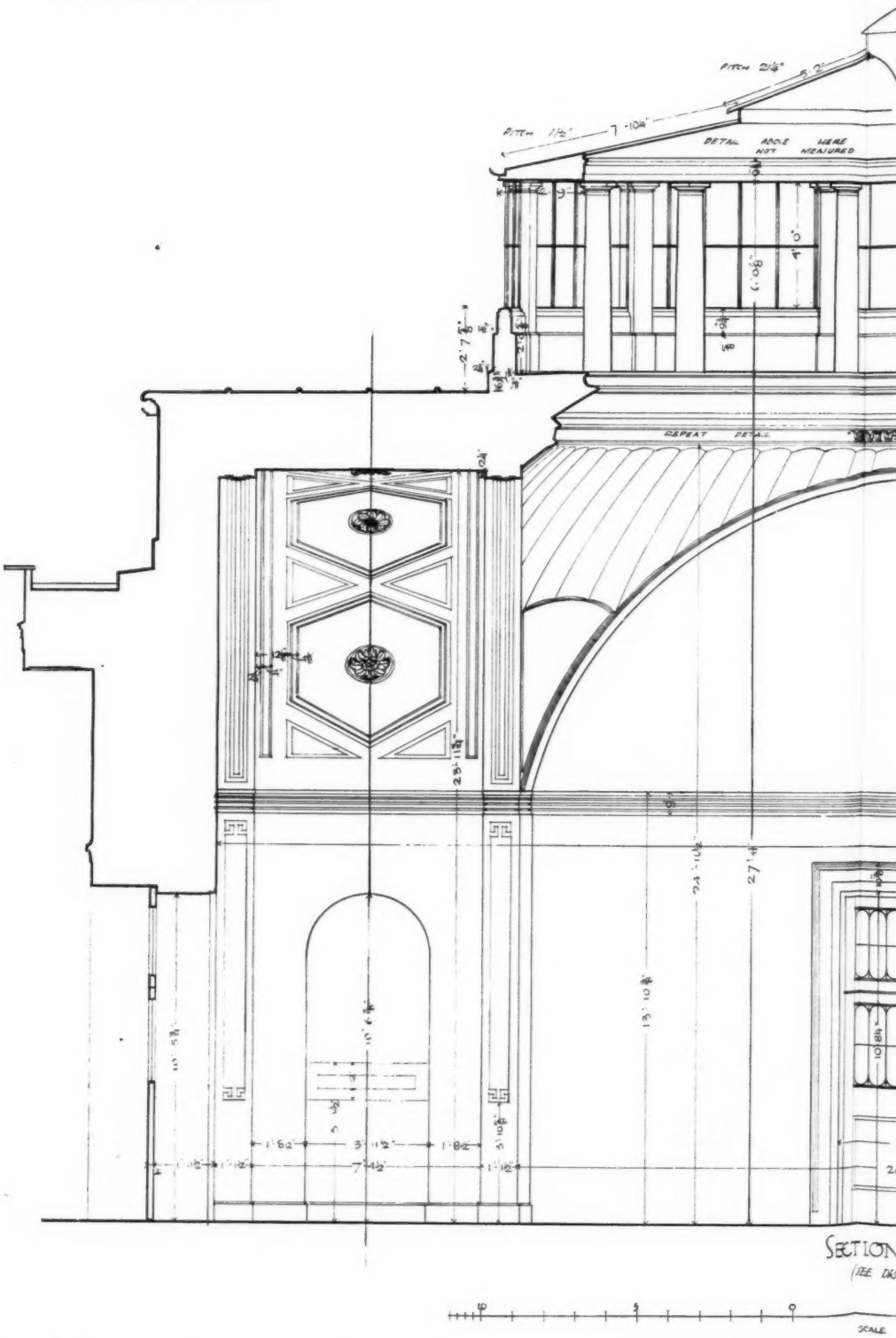
c: Cross Section

For the carcass work in the side and end vaults and in the dome the earthenware "pots" were intermingled with brickwork, the whole being cemented into a homogeneous mass by an exceedingly tough mortar of which Soane held the secret. The stone columns of the lantern were found recently to be inclined outwards about half an inch from the vertical, probably due, not to design, but to the thrusts set up by the upper glazing and "sunburner," both of which were added after Soane's time. The small circular skylights in the low side vaults were covered with single sheets of heavy cast glass, laid on the lead dressing of the curbs.—[H. ROOKSBY STEELE.]

THE BANK

HALF INCH SCALE SECTION OF OLD SHUTTING ROOM

E.W. TROUP, F.S.A. F.R.I.B.A.
H GRAYS INN SQUARE, W.C.1.
DRAWN BY HOWARD T. ARCHER.



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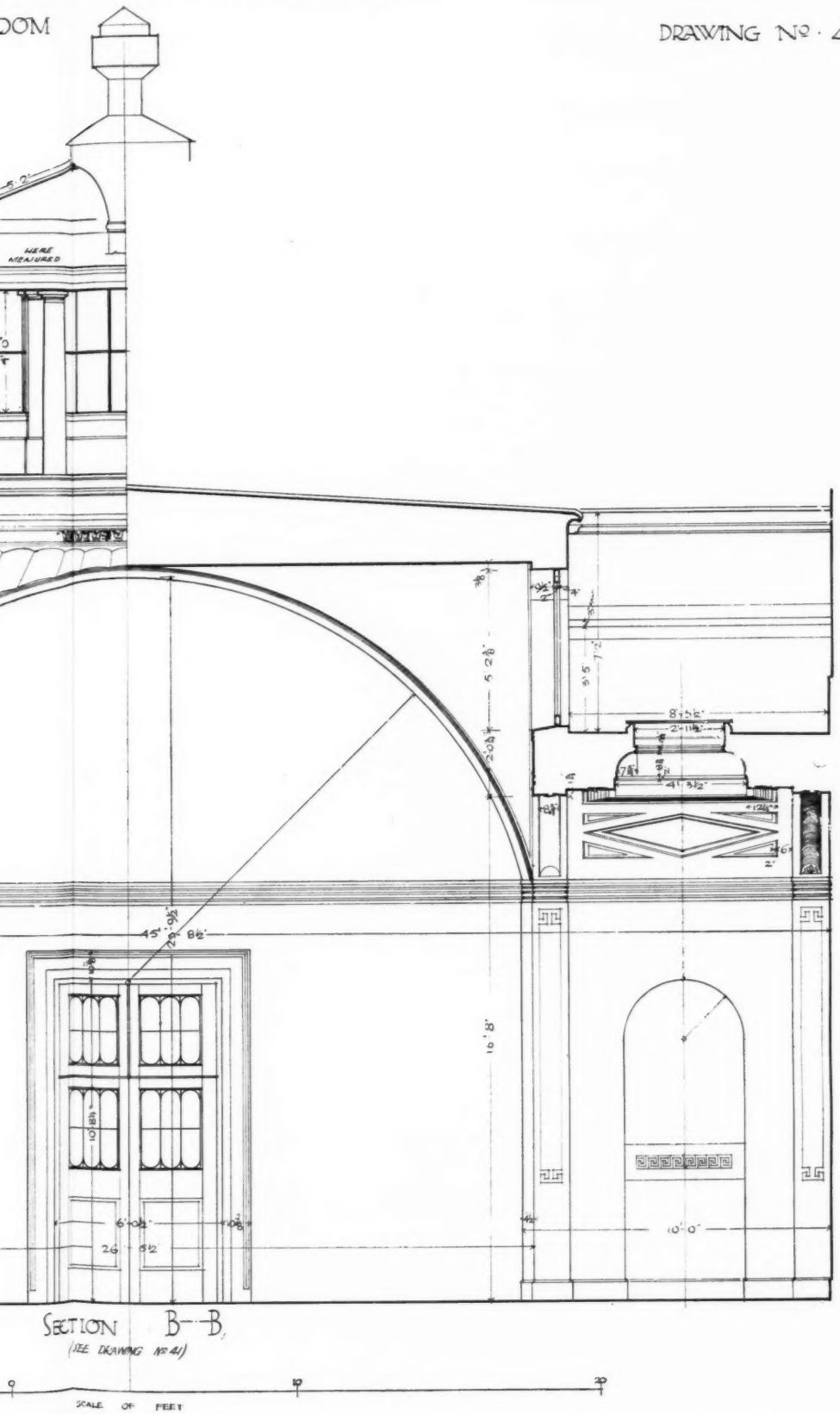
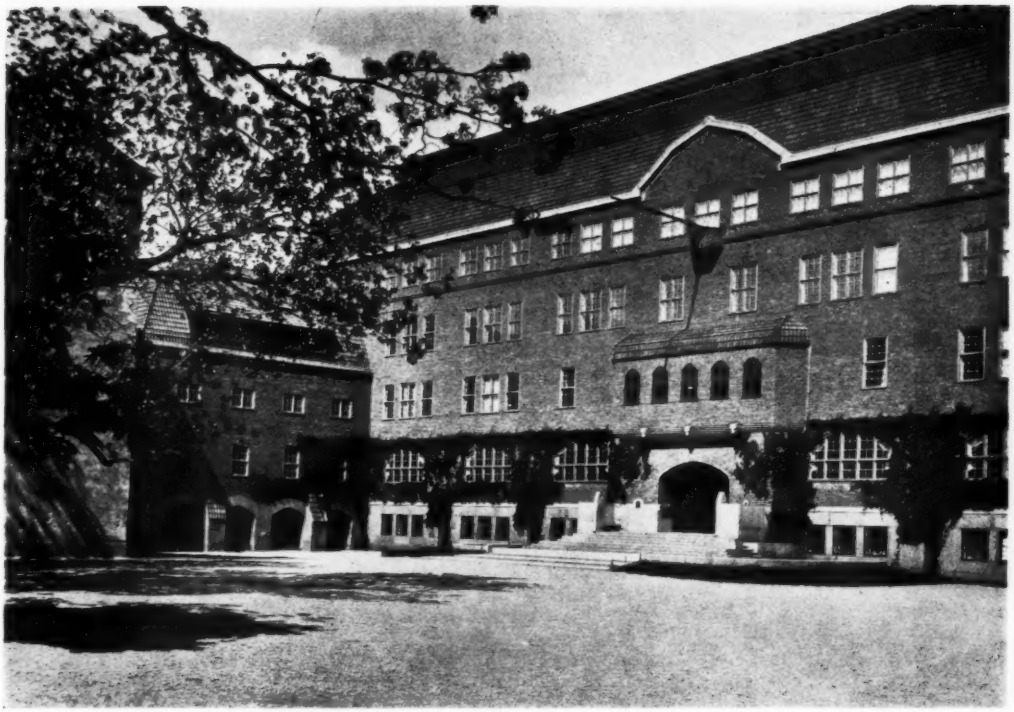
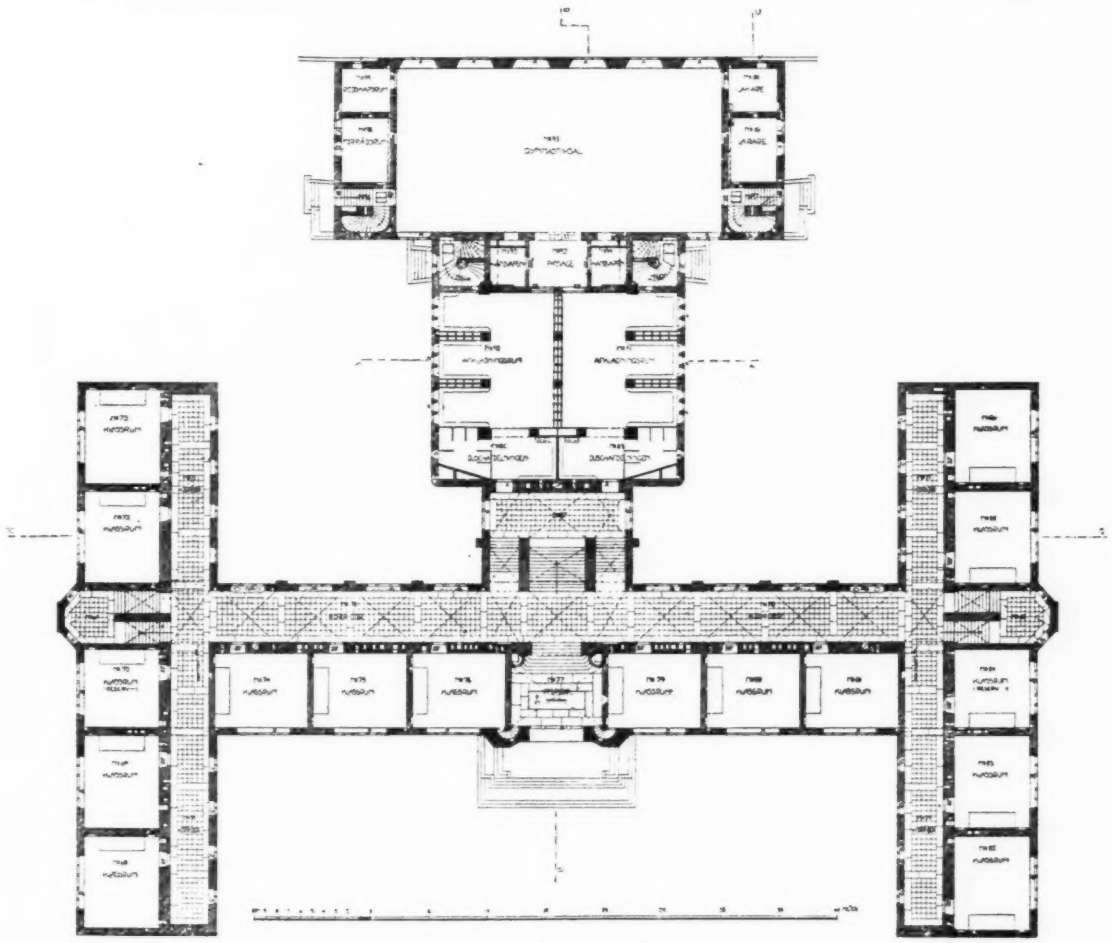
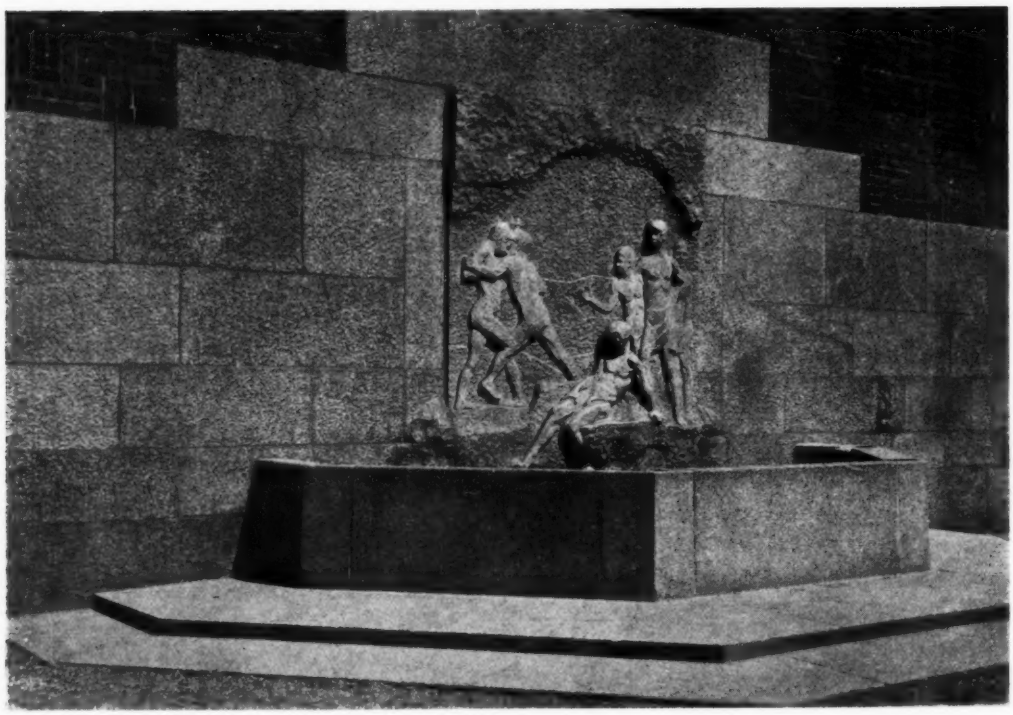


SOANE'S BANK OF ENGLAND. MEASURED DRAWINGS OF THE INTERIORS. (*ii*) THE OLD SHUTTING ROOM. (*c*) CROSS SECTION



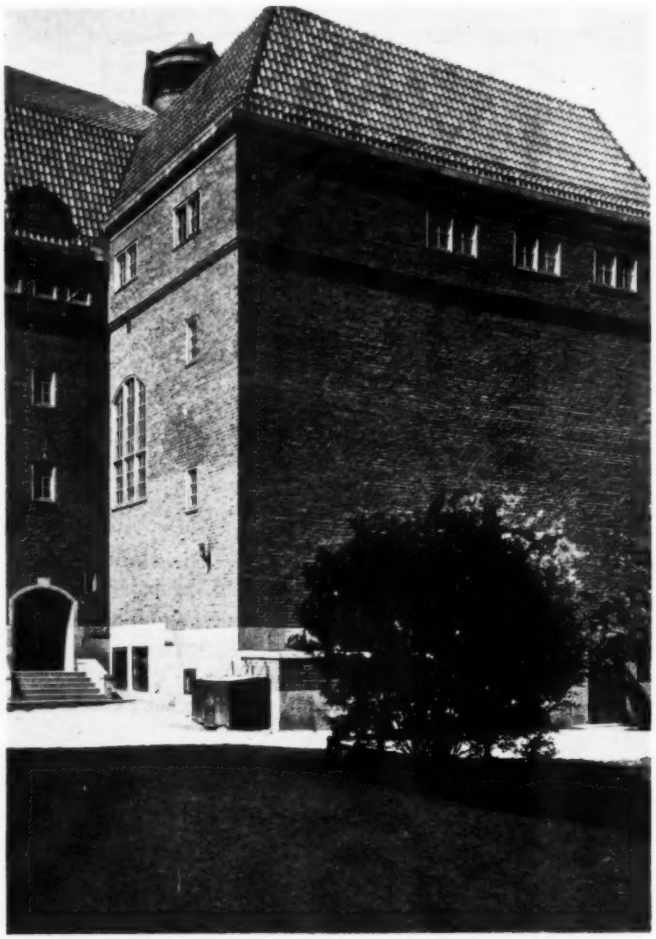


Ostermalms Secondary School. By Ragnar Östberg. Above, central block with main entrance. Below, the ground-floor plan.



much discussion in England. Like most important buildings, it has received its due share of criticism. Swedish architects criticize each other's work, both in public and in private, in a way we are not accustomed to in England. The criticism, however, is reasoned and sincere. It is accepted as such, and all makes for general progress. Some have said that the city hall is of a character unsuited for its purpose, others have said that it is illogical, others that it is too romantic. But notwithstanding this, even the severest critics will tell you that they consider the building to be one of the finest that the modern world has produced, and they are generous in their admiration of Östberg's achievement. It would be difficult to find another modern building in Europe, or, indeed, in the whole world, where such obvious care has been bestowed upon every detail, where on every hand the work of the skilled craftsman, guided by a great master-mind, is in evidence. All those who have been privileged to see, not only this building, but other examples of his work, are unanimously agreed that Östberg is one of the most outstanding figures of the modern architectural world, and as such will add lustre to the illustrious list of holders of the highest architectural honour that England can bestow.

[The photographs accompanying this article were specially taken by the author.]



Ostermalms Secondary School. By Ragnar Östberg. Above, the fountain. Below, a detail of the east wing.

TRIBULATIONS OF EARLY PRACTICE: ii

[BY KARSHISH]

V: THE MEN

My immediate purpose is to produce in the mind of the reader a sense of the personal reciprocity and atmosphere of surroundings which the architect will encounter when he joins the scene of building operations, so that he may know what to expect and not advance experimentally upon the deeps like a bather, in dread of a chilly plunge, testing the temperature with an outstretched toe. Many an architect has never got into touch with builders' people, or with building operations, until he advances upon the field as officer in charge of operations. Be assured that the workmen will size him up; Tom will wink to Harry, and, in a remote corner, Bill will mew to Jim, or call softly "Puss, puss," and be perfectly understood to draw attention to the air of being a stray cat which the young man with a Rolls-Royce under his arm presents. A house building in the country is, perhaps, the happiest scene of labour to be readily found—the exiguous engineer not having yet destroyed the craft of building because he has not, among his multiple devices, yet produced a building machine—and the very soul of England seems to dwell amid such operations. I will try to present the colour of the daily activities of such a builder as our architect should seek. I will say, however, that the whole of the details, both of persons and of setting, in what follows is imaginary: I do not give a picture of any actual builder's business, nor do I give a composite picture, but draw upon the sense I have of the whole world of building of the kind we have in view. The picture is not one of a builder's yard, but of all builders' yards; and I present it as being more true to the facts than a representation of any actual group of facts would be.

The name of the firm is Tumble and Son. Its founder has long been dead, but the style of the firm still remains exact, for the original "son," now principal, who is sixty-one, has himself a son in the business who is thirty-nine and, on this morning at 9 o'clock, is sitting beside the driver of the firm's new lorry, fourteen miles distant on the way to one of the jobs: and this son also has a son of sixteen who is an apprentice in the joiner's shop, and engaged at the moment in breaking up glue in a newspaper with a hammer, and is being told to "get a move on." The office building is a tiny house in the by-street of a town. This house was built by the founders of the firm on the site of an old mansion whose ancient gates still shut off the yard from the street. The present principal was born in one of the three rooms on the first floor where he now sits pricing out bills, but the garden of his childhood has long been given over to the growing needs of the business and forms the yard. There is a lorry standing in the road, and men are coming and going through the gate loading up joinery. The door of the house is open, and that of the once sitting-room on the left has a sliding hatch in the panel with the word "Enquiries" painted on it. If you inquire for Mr. Tumble you will be directed to go upstairs by a youth whom you have disturbed in his perennial occupation of booking up the men's time in the pay-roll, and sticking on countless thousands of national insurance stamps all conscientiously licked with his tongue. The stairs have been newly scrubbed and the treads protected with strips of lead. On the landing a door opens to another office with a counter, behind which is a venerable clerk who has been chief estimator and manager to the firm for fifty-four years, and who has worn out the seat of 117 pairs of trousers in giving his stool the polish you admire. He recognizes you with a friendly smile, and ushers you into his chief's room. Mr. Tumble has his hat on; he lives in his hat, for he is in and out all day. He now, in honour of your visit, puts it on the table. "How do you find things, sir?" he says. He is a fresh-looking, frank, happy, bright-eyed man with a shaving of wood in his beard. His room is not exactly untidy so much as cluttered up with things that are there only as a habit and because they have been there so long. Mr. Tumble sits, not at a table, but at a stool at a high counter. The poker is a bit of gas barrel, and a large pictorial almanack, which displays a beautiful girl in pink and green draperies, with a dove on her finger and a gazelle at her knee, titled "Gossop's Drain Purifier," hangs over the mantelpiece. In reply to your inquiry, Mr. Tumble says: "Yes, Griggs has about set out that bay window now," and he puts his hat on. You follow him through a door on the opposite side of the small room, and up some haphazard steps through a door into the joiners' shop. It is an old weather-boarded loft over the timber store, the screaming of the circular saw below sounds loudly. There are seven or eight joiners working at benches amid a clean, aseptic odour of dried pine, crossed now and again with the keen, wholesome, bitter fragrance of English oak which so gladdens the architectural nose. Mr. Gregory, the shop foreman, known to everyone as "Greg," was an apprentice in the firm when his master used to come to the shop to glue his kite, and the two men understand one another like brothers. Greg is thin and tall and grey, with a concentrated, absorbed manner and a stoop. He has had much trouble in his life, of which his master knows every detail. He handles the boards on which he has set out the window, in rapid movements of his strong hands and sinewy arms. All, you find, have been observed and done. He has corrected one mistake in your drawing, and has proposals for meeting two difficulties arising out of the design which the gifted architect had not foreseen. There are a hand-power drilling and a mortising machine, and a power-driven routing and moulding machine, but this cannot be used while the engine is running the saw below. Downstairs in the yard the architect goes with the builder to the shop where the blacksmith works, ideally ventilated, but in that abyssmal gloom traditional in his trade. Bob is making back flaps to the architect's design, and scratching his head a great deal over them, too. The metal is too light to hold the heat, he says; he gets a cold-shut every time. It is an acetylene-welding job he thinks. The architect, in fact, informed only by museum specimens of sixteenth-century craftsmanship, has given Bob more to chew than Bob can manage. "It'll cost a tidy bit," his master says. "I shall have to get at it some other way. Don't you take on, Bob, I see how it is. Get along with that handrail core. Greg will give you the setting out." In one corner of the yard a man is making up plasterer's putty. "Not for you, sir," Tumble says, seeing the architect eyeing it. "I keep a bit always made up in the yard for odd jobs about. That old fellow, 'Father Christmas,' they call him, why he was a labourer with us when my father built the joiner's shop, there, the year after I was born. He's a careful old fellow. I can always trust him, but he's so deaf you'd think he was stupid. 'Charlie,' run and tell Frank I'm coming on the lorry. I shan't be more than a few minutes. Can I give you a lift, sir?"

If, in the above, I have not shadowed forth the sense of responsibility in the master for the welfare of his workpeople, the identity with his interests of the men and the good-fellowship and single-mindedness, reality, competence, and the cheerful happiness in their work and the atmosphere of goodwill and joints of beef at Christmas, and of master and man standing by one another and of the necessities of each being a claim on the other, then I have failed to convey the strong impression such fields of activity give. This, indeed, is what commonly was; this is what is still to be found; this is the spirit which characterizes the true building craft of England, and which, so far as I am aware, seldom exists in industry. It is true that trades unionism has poisoned much that was above price, and that industry has overflowed and, in some cases, fouled the field of craftsmanship, but our architect will find that "ca-canny" and the dreary motive of "working it" and of bettering the bargain on all occasions is a policy overlaying the workman only and in essence foreign to him. It is an evil, which, like many, establishes a vicious circle. The workman who checks

The characters appearing in these articles are entirely imaginary, and are not intended to bear any resemblance to real persons, whether living or dead.

himself in the natural zest which belongs to all skilled work not only loses that zest, but provokes a boredom which makes the small task allotted to him a burden which his natural exuberance would never allow him to know in the full exercise of his powers. Next to the builder the person of first executive importance is the clerk of works. It used to be said that architects, on the brink of setting up in practice, made good clerks of works. I once, long ago, felt sure of this, and had a most profound sense of the capacity of one particular man so placed, but I have gradually been led to alter that opinion out of an increasing sympathy with builders. Schools of architecture do not now produce young fellows so well equipped for the duty as even I was after five years as pupil and assistant in an architect's office. Clerks of works, who are usually drawn from the higher ranks of builders' general foremen, are nominated by the architect to control the work in the owner's interest; they are, in fact, the servants of the architect, and the nature of the relationship was fixed vividly in my mind for all time by a public utterance of the late Henry T. Hare. The sally in question was the most happy, triumphant, and successful of any I have observed, and I mention this because the delighted response of the clerks of works to the architect's *mot* is the illuminating point. The occasion, then, was the annual dinner of the Clerks of Works Association; the scene the King's Hall of the Holborn Restaurant, filled with beaming, well-fed clerks, and a relatively anæmic array of guests in white ties at a raised table running the length of the hall. Hare was present, I fancy, as President of the Architectural Association, and as chief guest his speech had prominent place. In proposing the health of the clerks he said that he had lately dreamed that he was in the hereafter and looking on at the initiation of those who followed him through the ordeal of the last trump. In turn were ushered forward the architects, the quantity surveyors, the builders, and each group was exactly directed to its appointed place. Then the seneschals brought in yet another group. They were the clerks of works. The figure on the judgment throne at once rose, swept his arm across the heavens and the voice sounded: "Sit, gentlemen, wherever you please." The delighted laughter which followed this kept the speaker silent to the point of serious embarrassment and must have lasted for between one and two minutes, nor did it then completely subside. It was clear that the clerks of works understood the exact bearing of the point of view and recognized a truth which, introduced into an after-dinner speech, was certainly subtle.

Our architect is not likely to require the services of, or, indeed, have the opportunity of employing, a clerk of works for many years, so that it is only necessary to say that the salient, proved and tested, qualities of all well-accredited clerks of works is perfect honesty—temptations to the contrary are always at their elbows—loyalty, tactfulness, self-control, and conscientiousness. In addition, they have by long exercise an extraordinary steadfast and well-balanced judgment. The important thing for our architect to bear in mind—and it is a consideration which applies also to his dealings with all who stand in a relation to him of vicarious responsibility—is to support the clerk of works' authority. This does not mean that our architect must not superimpose an adverse discretion upon the clerk of works' opinion—although it is an unfortunate thing should he have to do so—but that by his address and bearing he should particularly give the colour of authority to the clerk of works' views; never question his opinion in front of the builder's work-people and, when he finds it necessary for the clerk of works to withdraw from the position he has taken, the architect must find some tactful reason for requiring him to do so. For example, there is usually no difficulty in supporting the clerk of works' decision on the facts, and then citing some new consideration or circumstance, of which the clerk of works could not be aware, as a reason for a contrary judgment. It weakens the staying powers of a devoted servant not to support and encourage him; and it enforces the opposition and refractoriness with which he usually has to contend if it is made to appear to others that he has not the full support and confidence of the architect.

Of the general foreman I shall have much to say when we come to consider the kind of experience our architect may expect when he undertakes supervision of the works. Unlike the clerk of works, whose qualities as a man, whatever his capacities may be, are uniformly stable and good; the general foreman may be any kind of man that his country knows. He is one whose individuality has had full rein unless, indeed, as sometimes happens he has sprung from estimator or manager's clerk. The right kind of general foreman, however, has been apprenticed to a trade in which he has become leading hand, trade foreman, and, finally, general foreman. It has been represented to me by workmen that general foremen usually owe their position, not to practical efficiency, but to "book-learning, figuring, and writing letters." There is little truth in this, although, obviously, a general foreman who cannot do simple sums and express himself clearly in legible writing would be badly handicapped. One of the most capable general foremen I have known could scarcely write more than his name, and it is clear that all such men owe their position and their power to fulfil their duties to quite other capacities than literary ones. It is thus that their individuality is made emphatic, for it is this which constitutes the personal force which carries them along and enables them to command, direct, foresee, and organize. Thus it is that the general foreman may be any and every kind of man and get his results in every and any kind of way. He may be quick-tempered and alert; moody and methodical; a bit of a bully, perhaps, disliked by the men, a tippler, and not to be taken at his word, but getting things done by a kind of fierce energy; or he may be quiet in manner, clear-headed, and adroit; sly, circumspect, and malicious, and feared as a mischief-maker; muddle-headed and living from one hour to the next and getting his results only by an inexhaustible fund of activity of mind; he may be angry and dissatisfied with his hands, or cheerful and thinking the best of them. Our architect has got to know his man, to encourage or constrain him and deal with him in such a way as to get the best service from him.

[*To be continued*]

IN PARLIAMENT

[BY OUR PARLIAMENTARY CORRESPONDENT]

Parliament reassembled for the autumn session last week. Outlining a heavy programme of business, the Prime Minister intimated that it was intended to pass into law before Christmas the Rural Housing Bill. The House would be asked to approve a resolution dealing with the housing subsidy under the 1924 Act.

Sir T. Vansittart Bowater, one of the members for the City of London, presented a petition from the users of the City churches in the City of London against the Union of Benefices and Disposal of Churches (Metropolis) Measure. The petition was signed by Thomas Ellis, deputy, and 9,725 other actual users of the City churches, and read as follows: "We, the inhabitants of, and daily workers in, the City of London, being users of the parish churches and churchyards of the City, regard with dismay the proposals contained in the Union of Benefices and Disposal of Churches (Metropolis) Measure now before your honourable House, proposing to give power to the Bishop of London to bring about the demolition of ancient City churches, and thus deprive your petitioners of the convenient facilities they at present enjoy for attendance at midday services and for private devotion now so general throughout the City of London."

At question time Mr. Campbell asked the Under-Secretary for the Home Office, as representing the First Commissioner of Works, whether he had received any offer to substitute a stone bridge for the suspension bridge over St. James's Park lake; and, if so, whether he would state the facts and conditions of the offer, together with any reason for making the substitution suggested?

Captain Hacking said that an offer of a free gift of a stone bridge had been made, but the proposal was at present in abeyance. Should it be revived, the House would be placed in full possession of the facts before any decision was reached.

Sir John Gilmour, the Secretary for Scotland, stated that on October 31, 1926, the number of Weir houses erected in Scotland, with the assistance of State funds, was 854, and the number occupied was 484.

PRESENT-DAY BUILDING CONSTRUCTION: iv

[BY WILLIAM HARVEY]

PLASTERWORK: ii: THE PLASTERER AT SCHOOL

Some interesting work is being done in the plastering school at the Northern Polytechnic despite the rather cramped quarters in the workshop, and great things may be hoped for from the school when the new premises are complete and more space can be allotted to each craft. At present, one miniature workshop has been built above another in the schoolroom, so that student-plasterers may have walls and partitions available for the exercise of their skill. Figure one shows the interior of one of these miniature rooms, which has been provided with a stud partition on which the students have nailed the laths for their work. Care has been taken to keep a space for the key of the plaster between the laths, which are a little farther apart than most plasterers would have nailed them. One old rule is that the space between laths should be just wide enough to grip the tip of the little finger (⅜ in.), but it is far better that the key should be a trifle too thick and strong through the laths being rather widely spaced, than too thin and weak through their being nailed on too close together. The breaking joint of the lathing in bays a yard wide can be recognized in the illustration, where the lower half of the partition is shown lathed with laths butt-jointed on one of the vertical studs, and the upper half has its laths butt-jointed on another stud. The laths are of the quality known as sawn laths of lath and a half thickness, this being an ordinary standard in moderately good class work. Sawn laths have the disadvantage that their fibres are often cut askew by the saw in some places, with the result that they move somewhat under the alternate swelling and contraction to which they are subjected by the application of the wet mortar and by its drying out at a later stage in the proceedings. Rent laths are better, for the reason that the plane of cleavage follows the grain of the wood, and since only wood that is reasonably free from knots can be cleft, the rent lath is composed throughout of long, nearly straight-grained wood in which the fibres are continuous from one end to the other. Just how much more the sawn lath twists and bends after it has been fixed in the work is really a matter for experiment, but the fact is that any lath with the grain of the wood running slantwise across its width will bow out in one direction as it swells with water absorbed from the plaster, and then will return to normal as the water dries, after which it will continue to move to the opposite side as it goes on shrinking with age. If the movements are excessive, the brittle plaster cracks under the strain about the line of that particular lath, and although stopping the crack may make things presentable again for a time, the weak place generally cracks again as the lath goes on moving.

The student seen in the illustration is applying the first coat of "lime and hair-coarse stuff," this coat being known by the name of "pricking-up coat" when applied across lathing, but is simply called the "rendering coat" when applied to a solid wall. The lime is slaked on the school premises, and the mortar is mixed with clean, sharp sand in the proportion of one of lime to three of sand, with one pound of long, clean, well-beaten cow-hair to every cubic foot of coarse stuff. The first coat is purposely spread rather thinly by means of the steel laying trowel, used with an upward sweep of the arm. If the correct amount of force is used, the coarse stuff is driven through between the laths in fine, continuous, curling rolls to form the key, but the pressure must not be overdone, or the coat on the front of the lathing will be reduced almost to nothing, and will part company with the too-excellent key on the other side. The scratches seen on the parts of the pricking-up coat that have already dried are made with a fan of broken ends of laths nailed together, the purpose being to give a key to the next coat. The diagonal direction of the scratches is chosen to avoid penetrating too deeply through the half-set coat of mortar and so breaking its hold upon the lathing. If the scratches were made in the direction of the laths, the scratching points would tend to run along their edges and would push off the key, bringing the plaster down again as soon as it was fairly on. The flat-topped square of wood held in the student's left hand is known as a "hawk," and is used to bring small supplies of material within range of the laying trowel.

But very much more intricate work is also undertaken by the students, and figure two shows one of them trying his hand at trammel running an ellipse, or, as it is usually and incorrectly called, an "oval." The finished work was to be an elliptical medallion containing an inscription and surrounded by a raised border of moulding; and to ensure that several facsimile copies of it might be made, the original positive was to be prepared for gelatine casting. The first step in the work consisted in the preparation of a flat plaster base-plate with plaster and strips of canvas upon a backing of wood. On this flat base the wooden trammel was set in position and securely nailed down, and the profile mould was tried for the position of the curved outline of the work.

The detail of the trammel and profile mould are shown in figure three. These pieces of apparatus consist of a trammel or pair of grooved tracks made in two pieces of wood arranged to cross one another at right angles, and a travelling radius rod armed with two pegs to slide in the grooves.

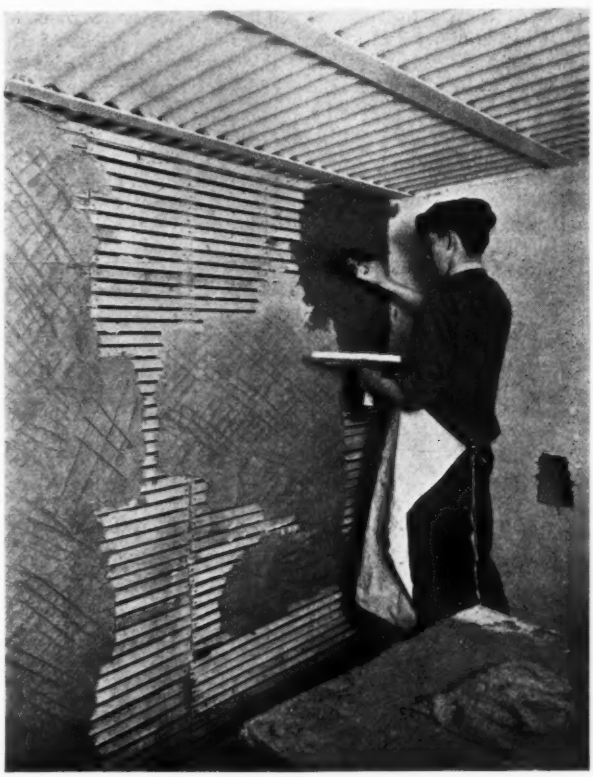


Figure one. A student spreading the "pricking-up coat" of "lime and hair-coarse stuff" with a "laying trowel."

The apparatus works upon an exact geometrical principal as far as tracing a single elliptical outline is concerned, though a slight error creeps in when a moulded margin is added to the ellipse. The true full width of the margin is accurately represented at the extremities of the major and minor axes, but is slightly reduced at all other parts of the curve. The error is too small to worry about in most cases though a moulding containing several small parallel beads might emphasize the trifling deformation and lack of true parallelism at the intermediate parts of the curve midway between the extremities of the axes. Mouldings most suitable for execution by the process of trammel running an ellipse are those in which the greater part of the width is occupied by a broad, plain band, cavetto, ovolo, or cyma. To keep the error within bounds care must be taken to have the two pegs which work up and down the grooves in the trammel in the same plane as the zinc profile mould, and this is managed by inserting them in fairly thick blocks of wood, whereas the zinc profile is nailed on to the face of a slightly thinner piece of wood.

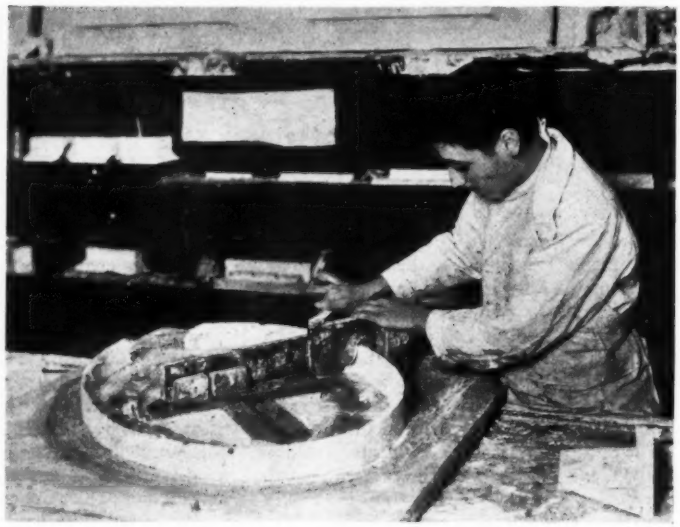


Figure two. Trying the effect of the "profile mould" and "trammel" on the elliptical or, so-called, "oval" medallion. The raised margin of the ellipse is formed with canvas and plaster on a basis of long nails driven into the plaster-faced "moulding-board."

The distance between the pegs is made equal to the difference between the lengths of the semi-major and semi-minor axes of the ellipse, and the outer side of the profile then traces the elliptical curve if it is fixed at a distance equal to the major axis of the ellipse from the further peg. It is, of course, possible to set out the accurate ellipse, as the outline of the central panel and let the outline of the outer edge of the moulded margin come as it will, but this arrangement leaves four comparatively flat places on the outermost margin just where they will show up, and it is most suitable to set out the outer line as the ellipse.

The plaster moulding cannot be run in a single operation as soon as the trammel is fixed and the pegs and profile mould set in relation with one another. A core has first to be formed like a little upright rim, elliptical on plan. This part of the work is commenced by driving some wire nails into the surface of the plaster-faced "moulding-board" that is being used as base. Around these nails a core of canvas and plaster is formed, every part of which is kept well within the contour of the moulding. This consistent reduction of the dimensions of the core is achieved by putting a "muffle" of plaster on the profile mould, the muffle projecting about a quarter of an inch beyond the edge of the zinc. When the core is complete, a bowl of fine, neat plaster is gauged up to the thickness of cream, and this is thrown on to the core by hand, and the mould is worked round by means of the trammel without any muffle on the scraping edge of the zinc profile. This process forms the moulding, though a little touching up may be necessary with the plasterer's small tool on the ragged selvedges, and if only one sample were wanted this model might be accepted as the finished work. In any case, the trammel is removed at this stage, and the ground of the moulding-board is cleaned up from the plaster that has been spilt on it in the earlier processes.

Any ornaments or letters that are to be included in the elliptical panel are now fixed in position, and, if the work is being prepared for the making of multiple copies by the gelatine process, every surface is coated with a solution of orange shellac in methylated spirit. Three coats are given, in fact, and then the work is dusted over with French chalk when the shellac is thoroughly dry. After this the surfaces are greased with tallow and linseed oil. These precautions strengthen the plaster at the same time that they make it unlikely that any added layers of plaster will adhere to it. The whole of the inner face of the mould is then covered with a layer of clay some five-eighths of an inch in thickness, and the outer rim is heightened with a narrow ridge of clay one inch thick. Outside the rim two "loose-pieces" are formed of canvas and coarse plaster, with bases about one and half inches in thickness, so that they will stand up in position when placed against the outside of the moulding. These loose pieces are then shellac coated, chalked, and greased exactly as was the case with the model itself. The clay is in the position where the gelatine is to be, and a "case" is now formed on top of the layer of clay so as to make a box into which the gelatine may be poured. A "firstings" coat of plaster is splashed all over the clay and the "loose-pieces," and this is followed by a coat of "seconds," with a layer of canvas laid on over the whole surface and well brushed in with the splash brush and more plaster. Additional stiff-

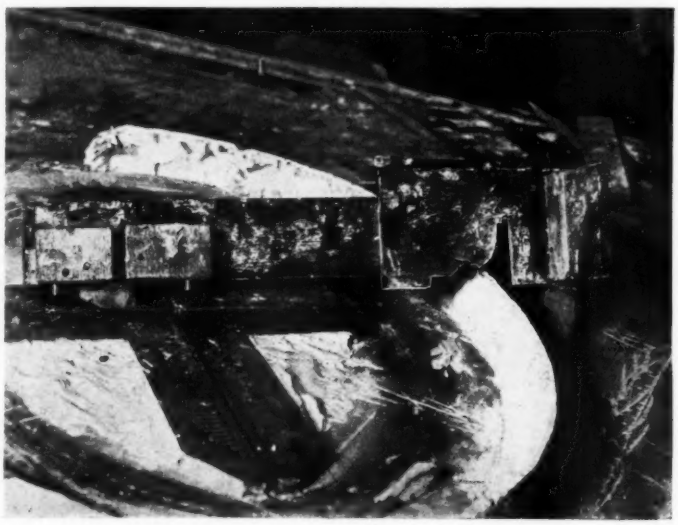


Figure three. Detailed construction of the "trammel," the zinc "profile mould," and the method of attaching the various parts. The raised margin or "core" has just been formed with the profile mould with a "muffle" of plaster projecting a quarter of an inch from its edges.

ness is given to the case by embedding one inch by quarter-inch laths on top of the canvas and, around the whole, a frame is made of two inch by half-inch battens. Laps of canvas are then soaked in liquid plaster and covered over the battens to hold all together.

The next step is to identify the position of the "case" by making marks on it and on the moulding-board with an indelible pencil; after which the "case" is lifted off and the clay cleaned away, and the loose pieces are removed after their positions have also been identified. The case is prepared for the introduction of the jelly by having air holes pierced in the uppermost places to prevent the jelly being arrested in its flow by accidental air pressures. It is also necessary to have an entrance hole through which to pour in the warm and liquefied jelly, and in the actual case described, two holes were used. To persuade the jelly to rise to the highest parts of the case, each jelly hole is provided with a zinc funnel which reaches to a rather higher level than the top of the other parts of the case. The case is then treated to the routine of shellac, chalk, and grease, and is carefully replaced in position above the model and its loose pieces, which have also been dusted over with French chalk and oiled with boiled oil. The case is well wadded down in position with plaster and canvas to hold it down, for the liquid jelly might otherwise float it out of position. The funnels are fixed and the jelly is made ready by being cut into small pieces and warmed in a pail surrounded with warm water in a container placed over a gas ring; the jelly is allowed to cool again to prevent it flowing under pressure and finding its way into the more or less porous plaster by melting the shellac, the exact consistency being determined by experience. The jelly is allowed some three or four hours to set, or more, perhaps, in hot weather, and the case is taken off once more, inverted, and dusted with chalk. The jelly is then lifted from the model and replaced in the case, where it is cleaned with turpentine, or with methylated spirit also, if any shellac has stuck to its surface. It is then carefully dried by means of strips of paper stabbed down on to the surface with the end of a brush, dusted with French chalk, and washed out with alum water. When dry it is again dusted with the chalk and oiled with linseed oil ready for casting.

Superfine plaster is used for the "firstings" coat of the cast, a little size-water being used in the gauging to retard the set. A coat of secondings is next splashed on and a coat of canvas is laid over and brushed in with plaster, on the top of which a second coat of canvas is laid and brushed in as before. One inch by one quarter-inch laths are used to stiffen the backing, and where the curves of the model require it, the laths are bent to shape by the simple expedient of bruising them with a hammer. When set, the cast is lifted out of the jelly mould, which is carefully cleaned and oiled again for the next cast. In cold weather as many as eighty casts have been taken from a single jelly mould of simple design, but the more complicated the subject the sooner wear and tear will affect the jelly. In the end the mould gets worn and rounded at the angles, and there is nothing for it but to cut it up and remelt it for another mould.

Figure four. Trying the reverse profile mould in position while the core of the reverse mould is being built up with old casts and a thin layer of new plaster.

The operation of running a "reverse" moulding is illustrated in figure four. The subject to be cast is a coved cornice, and the bed for it is being prepared with old casts built up with a little new plaster. Over this rough core a gauging of soft plaster is splashed to form a key, and then more plaster is splashed on, and the zinc "reverse" profile is run along to give shape to the mould. The profile is muffled with plaster in the first instance, and in the illustration it is being tried for position in the early stages of building up the core. Just how a "reverse" profile differs from a simple profile may be realized by comparing this zinc template with that used for the "oval," in which the finished moulding was indicated by the void in the zinc, not by the solid metal as in this case. When the core has been run with the muffled profile it is well hacked to form a key for the running-off coat. Before the zinc is cut to shape the possibility of withdrawing the cast from the mould has to be considered, and the angles of the moulded members are eased to permit of the cast pulling free of the mould. This is a most important affair, since plaster expands as it sets and grips hard in all crevices. In preparing the plaster reverse mould to take the cast it is treated to the three coats of shellac, the chalk, and the grease, as already described in connection with the "case" of the "oval." The cast is composed of firstings and secondings, two coats of canvas, lines of one inch by one quarter-inch lath at wall and ceiling lines for fixing the

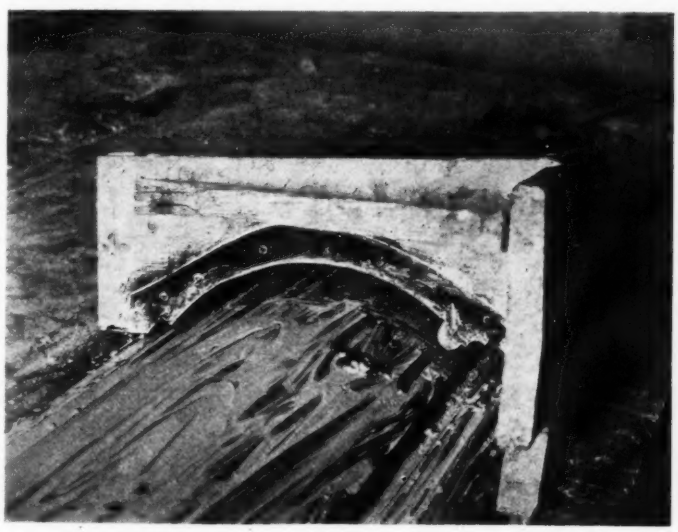


Figure five. A detail of the "reverse profile mould" of zinc which is nailed to the "stock," a piece of wood fixed at right angles to the "horse." The "horse" runs along the bench-top beside the "running rule" seen on the right-hand lower corner of the illustration.

work on the job, and bruised laths embedded in plaster to follow the curve of the cove and stiffen the work.

Figure five shows in detail the " reverse profile mould " nailed to the " stock," which is in turn fixed upright and at right angles to the " horse," and kept rigidly in position by two sloping pieces of wood called the " handles." The lower edge of the " horse " runs on the top of the bench, and is pressed against the " running rule," a strip of wood two inches wide by half an inch deep, which is nailed to the bench-top and just shows at the right-hand side of the illustration.

LITERATURE

LOOKING BACKWARDS

IN *Berkeley Square*, a play in the writing of which Mr. J. C. Squire has collaborated with Mr. John Balderston, a well-known American journalist, a young man falls in love with the eighteenth century and is suddenly switched back into that delectable period. The young man was engaged, at the moment this happened, on a book on architecture, about which we are told much less than we should have liked to hear. The backward journey through time must have attracted him all the more on that account. It is a journey of much the same kind that Mr. Yerbury has undertaken in his latest book. The book is called *Georgian Details of Domestic Architecture*, a very matter-of-fact title, calculated, no doubt, to appeal to the architect in search of what the Americans call " precedent." It does not, however, really do justice to the book, which is a most attractive one, and which cannot be better described than as the record of a journey similar to that undertaken by Peter Standish in *Berkeley Square*. The difference is, of course, that the traveller is a photographer of genius instead of a temperamental young author about to marry a girl with money. The journey is full of excitement. In plates i and ii we are in London; in plate iii in Bath; in plate iv, back in London; in plate v we make a lightning excursion to Windsor; in plate vi we make another quick appearance in London; in plate vii we fly to Farnham; and so on, with disarming and, to tell truth, rather pleasing incongruity. To say that the book is not planned is, of course, incorrect, for plates i to x represent street architecture; plates xi to xlv single façades in their entirety; plates xlvi to liv parts of façades; plates lv to lxxxviii (roughly) doors and windows; plates lxxxix to cvii ironwork, internal as well as external; plates cviii to cxvii rooms; plates cxviii staircases; plates cxxxiv to cxliv fireplaces; and plates cxlv to cl internal doors. That the book is not a book in quite the ordinary sense is shown by the fact that this arrangement is nowhere hinted at. It is not so much a book as a collection of photographs made by an artist of great skill and gifted with a superlative power of movement. The hectic journey ends at Surbiton, Surrey; but it ends far too soon. Mr. Yerbury must try his wings again; he might do worse than fly northwards once or twice; and he certainly ought to see a little more of the West country than is contained within the town of Bath.

C. B.

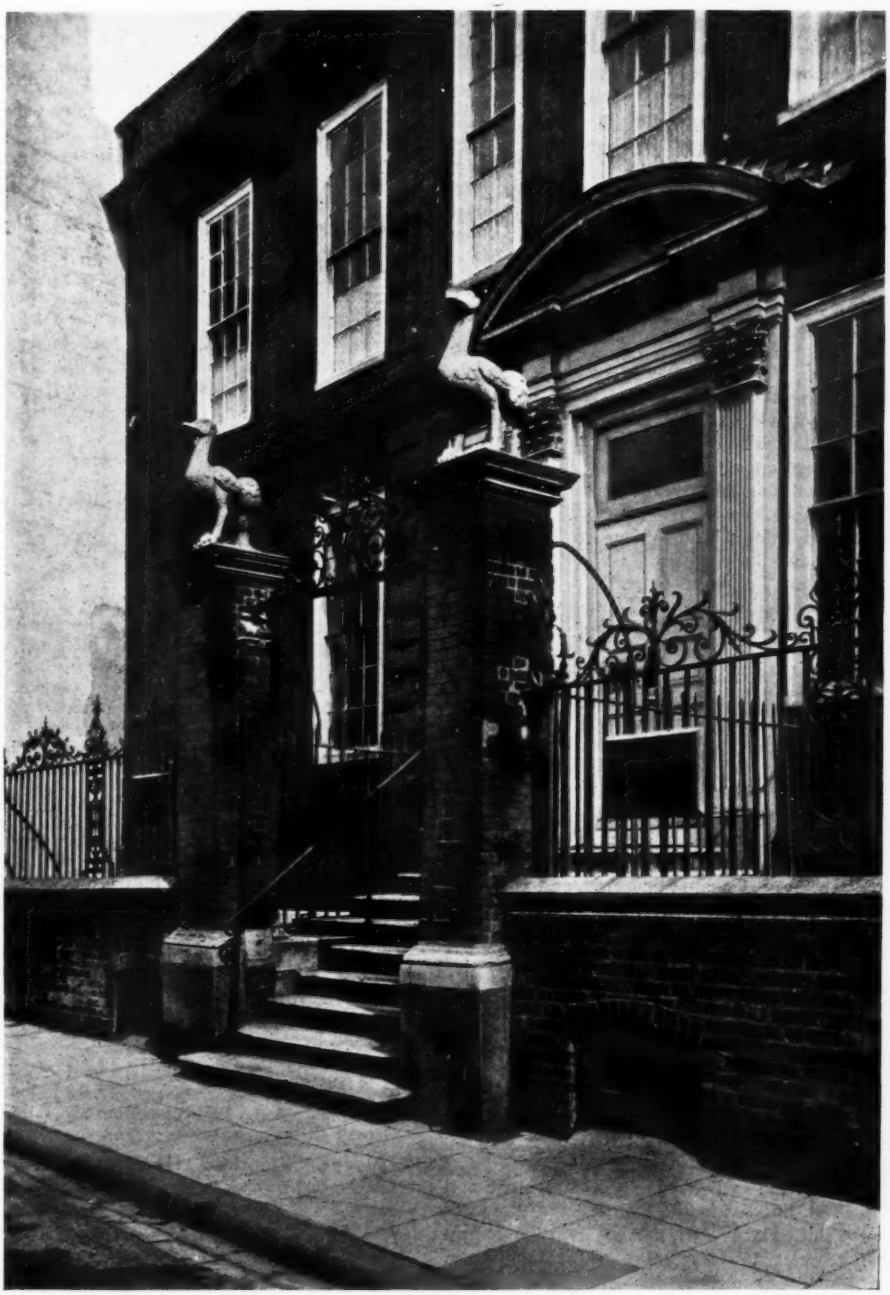
Georgian Details of Domestic Architecture. By F. R. Yerbury. London: Ernest Benn, Ltd. 30s. net.

A WINDOW DICTIONARY

Only those who tread the paths of architecture and building realize fully the efforts necessary to keep pace with the ever-changing methods of construction. In every phase of building the brain of the specialist is continually concentrated on the invention of newer and better methods for stimulating both the quality and quantity of the workers' output, with the result that the profession is confronted with a dream-like and almost fantastic display of constructional methods, appliances, and fittings. Fortunately for the architect each of these methods offers its own peculiar constructional or æsthetic advantages, but, unfortunately, many of them include special features for which particular names have to be coined. Any architect, therefore, who desires to use newer and more modern methods—and who does not !—is faced with the problem not only of mastering the mysteries of an unusual construction, but of adding new terms to his already overloaded architectural vocabulary before he can discuss the work with any degree of success with the owner, or with those commissioned to undertake it. A case in point is the metal window.

Arthur Street, Regent's Park. [*From* Georgian Details of Domestic Architecture.]

While many constructional details embodied in this type of window retain the nomenclature of those they resemble in the ordinary wooden window there are others that have no counterparts. It is, therefore, a great relief to find with so common a fitting as the metal window, the use of which is almost universal for almost every type of building, that all our difficulties absolve freely under so zealous and excellent a tutor as Mr. W. F. Crittall. His book can be carried in the pocket, and the reader who peruses its contents can readily become decked with the blush of understanding of the purpose of such details as "acorn," "austral," "draft," "dolly," "sprigg," "stilt," "turnbuckle," and the like. The author in his preface tells us that "the original intention in compiling these definitions of the various technical terms used in the metal window business was for the instruction of new members of the staff of my own firm. . . . While some makers may not entirely agree with my definitions, which were not originally intended for public circulation, I hope they will understand that the object in publishing this book is not as propaganda for my own firm, but for the general enlightenment of possible users of metal windows, with the ultimate result that other firms besides my own may reap the benefit." Mr. Crittall's book will be looked at and studied with great interest and even pleasure. Much of the charm of the book is due to the diagrams; these are neatly drawn in a delightful manner. E. R.



Princes Risborough, Bucks. [*From* Georgian Details of Domestic Architecture.]

A Window Dictionary. By W. F. Crittall. London: B. T. Batsford, Ltd. Price 2s. 6d. net.

THE COMPETITORS' CLUB

THE EXPANDING SCOPE OF COMPETITIONS

It must be a grievous sight for those who are not in love with the idea of competition to see its rapid advance into many fields that were formerly closed. While competitions of various kinds have long been part of the established regime in education, they were limited to this stage of life in nearly every direction other than that in which the designs of buildings offered an especial reason for their employment. This is due to the fact that the architect cannot express his ideas unless someone else is satisfied that they are worth expression. For a long time architecture held this field almost alone, but nowadays competitions are frequently held for novels, essays, musical compositions, and other forms of artistic expression. Even the architectural competition is widening its scope. Formerly limited to important public buildings, it now embraces commercial premises, small houses, furniture, town planning, and minor embellishments.

The objects of the promoters are also more varied. While in most cases the object of the promoters is simply to acquire a good design, in others they are merely acting as agents for a clientele which they have themselves brought into being, as in the case of competitions promoted by the Press, in the hope of interesting this or that public in the results. The controllers of the popular and technical papers are shrewd enough to know that the better the manner in which competitions are conducted the more satisfactory will be the results. As a consequence there is usually little to complain of in this direction. The awards are sufficient to ensure a good response, and the result exhibits to the public an interesting variety of solutions of the problem set.

There is another type of competition which can only be reprobated, namely, that run for direct profit, with entrance fees estimated to exceed the premiums. Although sometimes decided on merit, this type of competition is often a gamble in which the decision is arrived at by pure chance, such as when the first correct answer that comes to hand obtains the prize. Another type, only a shade better, is that in which the award goes to the list—no matter what of—which is in closest accord with the combined verdict of the competitors. Luckily, it is not possible to deal with architecture on these lines, though something might be done in the way of compiling lists of architects, were the members of the profession more numerous, or the public better informed. There is, however, not much to be feared, and architects will probably be left in peaceful isolation, while the lucubrations of the public are directing themselves towards the relative merits of writers, musicians, actors, and football teams.

The extension of the competition to embrace all subjects that come within an architect's orbit gives him plenty of scope for amusement, and the opportunity to carry on the method to which he was inured during the period usually recognized as that of his education. During his education, when he is first introduced to the competitive principle, he knows well enough about where he stands, even when the work he does is not ostensibly compared with that of others, and realizes that the measure of his success depends on the quality of his output. The weak point in the continuity between the earlier, or educational, stage and the later, or professional, one lies in the fact that the standards of merit are apt to be shifted somewhat, moving from the dominance of expressional propriety towards that of practical efficiency. The judge in the first case is untrammelled, but in the second he has to take account of the interests of the promoters, and to regard himself to some extent as their agent. This difficulty is, in a measure, met by the framing of educational programmes, imagining a promoter, and adjudicating on the basis of definite practical and economic requirements. This scheme might be carried a little further by including in the educational studies a proportion, say one in three, of the subjects set, following exactly the lines of a public competition. The problem tackled need not necessarily be a difficult one, but it should include all the requirements of the public competition as to descriptive notes, and estimates of cubic contents and cost. The newly fledged architect would then feel more at home when embarking on his first efforts in the open field.

While on the subject of how to make a start in the architectural profession, may not a manifest omission in the curriculum of our schools receive a passing note? Professional practice is a recognized subject, even finding a place in the R.I.B.A. examination, but the most important feature in this—How to land a job—seems to be completely ignored. It is not unlikely that the architect's first job is, in many cases, obtained by the merest chance, and that only afterwards does the question of skill and merit come in. There must be, indeed there are, many ways other than competitions by which the beginner can indicate his capacity, and if he lacks it, many ways of disguising the fact and conveying the proper impression. We have all met men who are skilful in both directions, but why is not this skill taught in the schools, and tested in the R.I.B.A. examination? Assuredly most young architects feel this difficulty very keenly, as the one most inimical to their immediate success, and would welcome its removal. After all, life as a whole is a competition, when it is not a gamble. Success in it does not solely concern itself with technical ability, although we may assume it should. Is it therefore too cynical to suggest that the subject of architectural practice should include a section "How to succeed as an architect"?

SENESCHAL

COMPETITION CALENDAR

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

November 22. Designs for Herefordshire General Hospital, Hereford. The Governors of the Hospital invite architects who wish to be included in a limited competition for the above, and who have special experience in hospital design, to send in their names to Mr. Seager H. Evans, Secretary, Herefordshire General Hospital, Hereford, on or before 10 a.m. November 22. From these names six will be invited to compete. The Assessor nominated by the president of the R.I.B.A. is Mr. Charles E. Elcock, F.R.I.B.A. Premiums: £150, £100, £75, and the remainder £25 each.

November 30. *a*: Design for a house costing £1,500; *b*: design for a house costing £850. Assessors, Messrs. E. Guy Dawber, P.R.I.B.A., Louis de Soissons, F.R.I.B.A., and C. W. Miskin. 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. 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. Town Hall Extensions and Public Library Building, Manchester. Assessors, Messrs. T. R. Milburn, Robert Atkinson, and Ralph Knott. Particulars from Mr. P. M. Heath, Town Clerk. Deposit £1 1s.

January 25. 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.

No date. Incorporated Architects in Scotland: 1: Rowand Anderson Medal and £100; City Art Gallery and Museum; 2: Rutland Prize (£30) 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.

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

January 15. Designs for complete modern furniture for *a*, a double bedroom, *b*, a drawing-room, *c*, sitting hall, *d*, dining-room. Assessors, the Countess of Oxford and Asquith, the Lady Islington,

Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A. (Director of H.M. Office of Works), Messrs. H. Clifford Smith, F.S.A. (Department of Woodwork, Victoria and Albert Museum), F. V. Burridge, O.B.E., R.E., A.R.C.A. (Principal of the Central School of Arts and Crafts), P. Morley Horder, F.S.A., Philip Tilden, Percy A. Wells (Principal of the Cabinet Department, Shoreditch Technical College), Holbrook Jackson (Editorial Director, The National Trade Press, Ltd.), and Captain Edward W. Gregory (Editor, *The Furnishing Trades' Organizer*). For the preliminary adjudication there are 200 guineas in prizes, and for the final, 300 guineas. Particulars from the Editor, *The Furnishing Trades' Organizer*, Regent House, Kingsway, London, W.C.2. An exhibition of prints and drawings of modern furniture and decoration is being held in the Gallery of Carlton House, Great Queen Street, W.C.2, until November 27.

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

TRADE NOTES

The Medway's Safety Lift Company, Ltd., have secured the service of Mr. R. A. Evans, of Leicester, who will act as provincial sales manager.

Messrs. Setchell and Sons, Ltd., inform us that the reduction of ten per cent. in the price of Old Delabole slates, announced in our issue for November 3, applies only to medium green sized slates and not to seconds.

The General Electric Co., Ltd., announce that owing to expanding business they have found it necessary to augment the existing telephone service at their head office, Magnet House, Kingsway, W.C.2, by the addition of further lines. Regent 7050 now has 61 lines.

Messrs. Gent & Co., Ltd., of Faraday Works, Leicester, have received an order, among many others, to install in the new Legislative Government Buildings at Delhi, India, a complete system of Pul-syn-etic clocks, consisting of a transmitter, transmitting relays, and many hundreds of clocks of all sizes and descriptions.

It is remarkable that twenty-eight of the shopfitting contracts issued in connection with the reconstruction of Regent Street and its environs during last year should have been secured and executed by the House of Sage. This outstanding achievement has been marked by the issue by the firm of a series of plates which indicates in a most interesting manner the magnitude of the reconstruction. The first two plates show Regent Street before and after reconstruction. Then follow photographs, illustrations, and working drawings of the shopfronts and fittings for which the firm were responsible in the various buildings. A key map showing the location of these buildings is also given. The latter will be of particular value to those—especially visitors to London—who desire to see the buildings for themselves. Twenty-two of the contracts have been executed in Regent Street, the remaining six being situated in Oxford Circus, Princes Street, Hanover Square, Maddox Street, Conduit Street, and Brewer Street respectively. Among the larger buildings in Regent Street are those for Dickins and Jones, Ltd. (Henry Tanner, architects), Peter Robinson (T. P. and E. S. Clarkson and H. Austen Hall, FF.R.I.B.A.), Liberty & Co. (Edwin T. and E. Stanley Hall, M.A., F.R.I.B.A.), Mansfield and Sons, Ltd. (G. Crickman and Sons), Swan and Edgar, Ltd. (Louis de Blanc, L.R.I.B.A.), Galleries Lafayette, Ltd. (Wm. Woodward, F.R.I.B.A., and Mons. F. Chanut), Robinson and Cleaver, Ltd. (G. Crickman and Sons), Edwards and Sons (Henry Tanner, architects). One has only to glance at the illustrations to realize the capabilities of Messrs. Fredk. Sage & Co. to undertake so much important work during so short a period, and to appreciate the excellent craftsmanship they have contributed to so famous a thoroughfare.

Writing on the Romance of Roadmaking in *The Roadmaker*, an interesting illustrated journal issued on behalf of the British Reinforced Concrete Engineering Company, Ltd., Mr. A. N. Lansdell says that although we in England received our first lessons in road engineering from the Romans, they were themselves indebted to the Carthaginians. He says: "But the Carthaginians were by no means the originators of the art, and it would be interesting to trace their connection backwards and eastwards to those early cultures which were the cradle of western civilization. In ancient Babylon we find the prototypes of modern constructions. Yet who would venture to assert that even the warrior-queen Semiramis, whose very reality is dimmed by the mists of mythology, was the first to use setts when she so laid the streets of Babylon more than four thousand years ago? An interesting record of 1,400 years later tells how Nebuchadnezzar constructed a 'broad road' having a foundation of brick covered with asphalt and surfaced with limestone flags. This is a remarkable case of adaptation to circumstances. For the Babylonian bricks were of sun-dried clay and quite unable to withstand the action of water; and while the natural asphalt (this is the slime mentioned in Genesis xi. 3 and xiv. 10, and Exodus ii. 3) available was a sufficient protection for them it was itself too soft for surfacing, especially in so hot a climate. This explains further why the final surface should be of flags and not setts. Yet by how little did our most modern asphalt road miss having a three thousand year old ancestor?" Among the other interesting articles in the journal are Imposing Streets: No. V.—The "Grands Boulevards," Paris, and Watling Street, Kent, by W. B. Gunnell.

NEW INVENTIONS

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

LATEST PATENT APPLICATIONS

26330. Adams, A. Material for making floors, etc. October 21.
26440. Ashman, H. W., British Fibrocement Works, Ltd., and Buxton, G. H. Roofing-tiles, etc. October 22.
26297. Ebner, F. H. Manufacture of tiles for flooring, etc. October 21.
26124. Lusty, G. R., and Dark, T. H. Ladder bracket for supporting scaffold boards. October 20.
26370. Parkes, S. R. Door furniture. October 22.

SPECIFICATIONS PUBLISHED

259701. Booth & Co., Ltd., and Lee, H. Radiator and similar regulating valves.
259832. Patterson, T. K., and Hodgins, L. H. Bricks, blocks, and the like for building.

ABSTRACT PUBLISHED

257145. Kent, G. E., 67 Colbourne Street, Toronto, Canada. Heat-insulating linings and coverings.

ANNOUNCEMENTS

Mr. Frank J. Robinson, L.R.I.B.A., has opened an office at 20 High Street, Keynsham.

Mr. D. Harvey, chief assistant in the Hull City architect's office, has been elected city architect, in succession to Mr. Hirst, who has retired on superannuation.

Mr. Aylwin O. Cave, F.R.I.B.A., has moved to 59 Great Ormond Street, London, W.C.1. Telephone: Museum 6690.

Mr. E. Emrys Edmunds has commenced practice at "Ilston House," 94 Mansel Street, Swansea, and will be glad to receive catalogues, etc.

READERS' QUERIES

VIBRATION IN A WAREHOUSE FLOOR

E. W. writes: "I have been instructed to deal with a case of excessive vibration in the floor of a warehouse. On inspection I find that the 11 in. by 3 in. timber joists have a span of 18 ft. 3 in., that the room concerned is used for packing and dispatching goods, and that the vibration occurs when heavy cases, weighing up to 10 cwt., are rolled and bumped across the floor. At such times a case frequently falls as much as a foot (see sketch) without any effort being made to steady the bump. They are also at times dropped bodily for about 12 in. from a block of wood on which they are stood for the purposes of packing and nailing up (see sketch). I propose to insert two R.S.J.'s, as shown on the accompanying sketch plan, to reduce the span of the timber joists, and am anxious that these steel joists should be rigid under the above conditions. Could you let me know any formula by which to ascertain the bending moment and deflection on a beam caused by a load of x cwt. falling through y in. at an assumed velocity of 60 inches per second?"

The vibration is excessive because the joists are far too light for the purposes of a factory or warehouse of such a span. The superimposed load on the floor, if estimated according to the London Building Act, would be 224 lb. per sq. ft. of floor area in addition to the dead load or actual weight of the floor. Taking the weight of the floor as 22 lb. per sq. ft., the total load would be 224 plus 22, or 246 lb. to the sq. ft. With joists approximately 16 in. apart, centre to centre, each joist near the side of the warehouse is called upon to bear nearly 6,000 lb. instead of the 1,800 lb. which might be considered a safe load. The joists near the well are even more severely overtaxed, as they are more widely spaced and bear the trimming of the well.

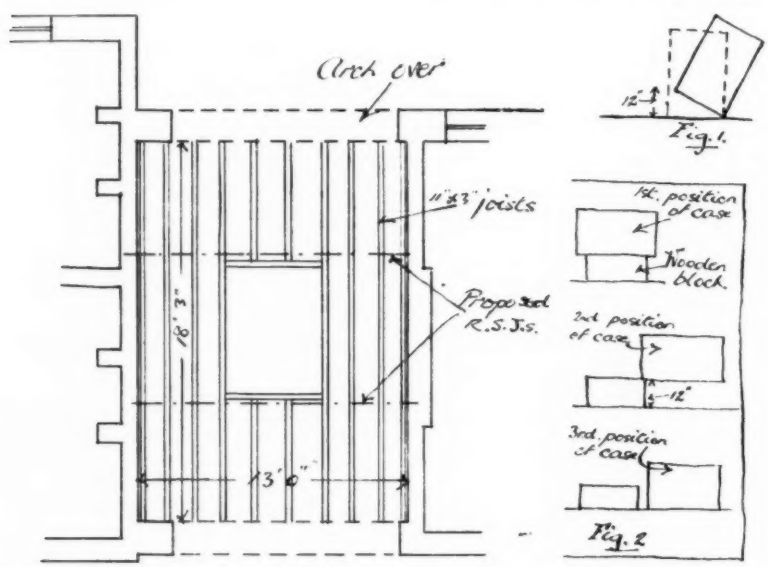
Inserting two intermediate supports will reduce the spans just about sufficiently to allow the present joists to serve their purpose if they are in anything like good condition. They should be strutted rigidly in the middle of the span. The new R.S.J.'s will have to bear approximately 6 ft. by 13 ft. of floor area apiece, for it will be safer to omit to deduct for the well. This gives 6 ft. by 13 ft. by 246 lb., or 19,188 lb. The girders should be selected to carry this load, and their own weight across the span of the room without excessive deflexion. The flange areas may be on the liberal side to permit of the existing joists being bolted into position through a thick bedding of hard packing felt.

The Editor welcomes readers' inquiries on all matters connected, directly or indirectly, with architectural practice. These inquiries are dealt with by a board of experts, to which additions are constantly being made as, and when, need arises. No charge is made to readers for this expert service. The only thing we ask is that diagrams should be clearly and legibly drawn out and lettered in black ink.—Ed. A.J.

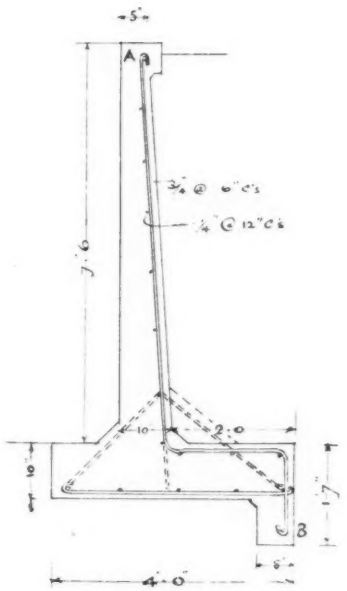
The padstones in the old walls must be made large enough to transmit the reactions at the ends of the R.S.J.'s without imposing an eccentric or excessively concentrated load, and hard felt seatings will also be useful here between girder and padstone. The brickwork should be examined and strengthened, if necessary, to support the loads, and it should be ascertained whether the foundation is adequate to carry the added girder loads in the new positions. As a practical check it would be advisable to inspect some similar warehouse where the floor has proved satisfactory, for more can be learned by comparing the actual conditions and strengths of joist than by endless theoretical calculation.

If any mathematician can provide the formula required it will still be well to take a pessimistic view of the result, since vibration and changes in the intensity of loading generally have a tendency to rattle the particles of material in process of time, and bring about more speedy decay than would be produced by a stationary load.

W. H.



Vibration in a warehouse floor. Left, plan at gateway, looking up and showing the joists of the packing room over. Right, diagrams showing methods of handling packing cases.



A Retaining Wall. [See Answer to S. B.]

A RETAINING WALL

S. B. writes: "With regard to your expert's answer to my query published in your issue for October 20, page 491, is the amended design satisfactory?

The balance of the wall, its resistance to bodily sliding, and its attachment to its base have all been very considerably improved. The thickness of the concrete is still meagre and might profitably be increased to 7 or 8 in. at the top of the wall, and 12 or 13 in. at the foot. The gusset between the wall and the foundation slab is small in size and lacking in power to resist the tensile stresses which it will be called upon to bear as the foundation slab picks up weight and the wall receives thrust, for the bent reinforcement rods can open out from a right angle to an obtuse angle under stress. If direct tensile reinforcement were to be introduced in the positions shown in the broken lines the strength of the wall would be very materially increased. The provision of counterforts at intervals of about 8 ft. to join the top of the wall A to the extremity of the foundation-slab B by tensional reinforcement might be made instead of the alteration to the gusset.

W. H.

THE WEEK'S BUILDING NEWS

A New Town Hall for Clacton

A new town hall is to be erected at Clacton.

Housing at Molesey

Molesey Council is to build seventy-six more houses.

Proposed Fire Station for Hendon

The Hendon Council proposes building a fire station at Mill Hill.

Housing at Crayford

The Crayford Council is to build sixty-three new houses at Slades Green.

Claybury Asylum to be Enlarged

The L.C.C. is to enlarge the Claybury Lunatic Asylum.

New Shops for Southwark

Shops are to be built by the L.C.C. on the Tabard Street estate, Southwark.

A New Railway Station for Epsom

A new railway station is to be erected at Epsom to replace the two existing stations.

More Houses for Chelmsford

The Chelmsford Council proposes to erect another 100 houses.

A New Church for Cheam

A new church is to be built in Gander Green Lane, Cheam.

Cheshunt Housing Scheme

The Cheshunt Urban District Council is to erect thirty-two houses on the Paul's site.

Housing at Eton

At Eton forty new houses are to be built on the sanatorium site.

Proposed Roads for Eltham

The Woolwich Council proposes to spend £64,325 on new roads on their Eltham estate.

Public Baths for Greenwich

New public baths and washhouses are to be erected in Greenwich at a total cost of £135,000.

Housing at Cambridge

The Cambridge Town Council has agreed to erect on land in Coldham Lane, approximately 150 houses.

Hornsey Housing Scheme

The Housing Committee recommends that the Council should proceed with the erection of thirty-two houses.

Guildford Cathedral Site

The High Steward of Guildford, Lord Onslow, has offered the option of a site for the Cathedral of the new diocese of Guildford.

Ilkley Housing Plans

The Ministry of Health has given a general agreement to approve for subsidy seventy houses providing these are erected before October 1 next year.

Housing Plans at Dewsbury

The Dewsbury County Council has instructed the borough surveyor to prepare plans for the erection of sixty-five houses on the Thornhill site.

Bridge Improvements in Lancashire

The improvement of seventeen bridges over canals in Lancashire, at a cost of £204,000, will be carried out on a four-years' programme.

Gosport Wharf Scheme

The Gosport Council has agreed to ask the Ministry of Health for sanction to borrow £15,000 for the repair of the wharf in Harbour Road.

£7,500 Hospital Gift

Sir John and Lady Jarvis, of Hascombe Court, Godalming, have made a gift of £7,500 to the Royal Surrey County Hospital for a new ward.

Bulkington's Water Works Scheme

The Ministry of Health is to hold an inquiry into the Bulkington District Council's application for sanction to borrow a sum of £8,929 for works of water supply.

More Houses for York

The York Housing Committee has instructed the city engineer to prepare plans for another ninety houses on the Tong Hall estate.

Housing Plans at Beckenham

Plans of thirty-one additional houses have been approved by the Beckenham Council, including twenty-four houses in Ravensbourne Avenue.

Proposed Houses at Cobham

At a meeting of Cobham Parish Council it was decided to ask the Epsom Rural Council to provide forty more houses for Cobham.

Promenade Extensions at Bournemouth

The borough engineer is to prepare plans and estimates for the extension of the promenade westwards of Fisherman's Walk, at an estimated expenditure of £10,000.

Walsall Housing Loan

The Ministry of Health has sanctioned the erection of seventy additional houses at Rushall and Pelsall by the Walsall Rural District Council, and it has been decided to borrow £32,500 to defray the cost.

A Farnham Housing Scheme

The Housing Committee of the Farnham Urban Council is having prepared working drawings and specifications for the first instalment of thirty-eight houses of their housing scheme.

Housing at Bramhill

The Building and Housing Committee of the Bramhill Urban District Council has sanctioned the amended plan for thirty houses on the Shepley House estate, Norbury Moor.

Skegness Bathing Pool Scheme

The scheme for an orchestral piazza and bathing pool at Skegness, to be completed for next season, has been commenced. The site is on Marine Gardens, and the total cost will be £30,000.

New Glasgow Housing Scheme

The Glasgow Corporation Housing Committee has recommended the acceptance of an offer for the erection of 250 houses at Hillhouse and Balgraybank, at a cost of £101,191.

Manchester and Private Enterprise

The Manchester City Council has resolved to apply to the Ministry of Health for sanction to borrow the further sum of £150,000 in respect of the assistance of new construction of houses under the 1923 Act.

A School for Norton

The Education Committee expresses the opinion that a site of 4½ acres on the south side of Darlington Lane is the most desirable for the proposed new elementary school for Norton, and has ordered certain preliminaries to purchase to be carried out.

Housing at Billericay

The Ministry has approved the grant in respect of a further thirty-nine houses, and intimated that it is prepared to approve the subsidy for a further 100 houses. The Ministry has also granted the subsidy in respect of 900 houses.

Bexhill Improvements

The Corporation is about to improve the approaches to Bexhill on the east, the Ministry of Transport having agreed to make a grant of half the expenditure of £36,000 for widening the narrowest portion of the road between the town and Eastbourne.

Proposed Glasgow Academy of Music

In connection with the scheme for the establishment of a Scottish National Academy of Music in Glasgow, it is understood that negotiations have been practically completed for the acquisition of the premises at present occupied by the Glasgow Liberal Club. £29,000 is still required to complete the scheme.

RATES OF WAGES

			I	II
			s. d.	s. d.
A	ABERDARE	S. Wales & M.	1 8	1 3½
A₁	Abergavenny	S. Wales & M.	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
B₁	BANBURY	S. Counties	1 4½	1 0½
B₂	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
B₁	Basingstoke	S.W. Counties	1 4½	1 0½
B	Bath ..	S.W. Counties	1 6	1 1½
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
A₁	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
B₂	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
B₂	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
B₂	Cirencester	S. Counties	1 5	1 1
A	Clitheroe ..	N.W. Counties	1 8	1 3½
A	Clydebank	Scotland	1 8	1 3½
A	Coalville ..	Mid. Counties	1 8	1 3½
B₁	Colchester ..	E. Counties	1 5½	1 1½
A	Colne ..	N.W. Counties	1 8	1 3½
B₁	Colwyn Bay	N.W. Counties	1 5½	1 1½
A	Consett ..	N.E. Coast	1 8	1 3½
B₁	Conway ..	N.W. Counties	1 5½	1 1½
A	Coventry ..	Mid. Counties	1 8	1 3½
A₃	Crewe ..	N.W. Counties	1 6½	1 2
A₃	Cumberland	.....	1 6½	1 2
A	DARLINGTON	N.E. Coast	1 8	1 3½
A	Darwen ..	N.W. Counties	1 8	1 3½
B₃	Deal ..	S. Counties	1 4½	1 0½
B₁	Denbigh ..	N.W. Counties	1 5½	1 1½
A	Derby ..	Mid. Counties	1 8	1 3½
A	Dewsbury	Yorkshire	1 8	1 3½
B	Didcot ..	S. Counties	1 6	1 1½
A	Doncaster	Yorkshire	1 8	1 3½
C₁	Dorchester	S.W. Counties	1 4	1 0½
A₃	Driffield ..	Yorks	1 6½	1 2
A₃	Droitwich	Mid. Counties	1 6½	1 2
A₂	Dudley ..	Mid. Counties	1 7	1 2½
A	Dundee ..	Scotland	1 8	1 3½
A	Durham ..	N.E. Coast	1 8	1 3½
B₁	EASTBOURNE	S. Counties	1 6	1 1½
A	Ebbw Vale	S. Wales & M.	1 8	1 3½
A	Edinburgh	Scotland	1 8	1 3½
A	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 8	1 3½
B	Exeter ..	S.W. Counties	§1 7	1 2½
B₂	Exmouth ..	S.W. Counties	1 5	1 1
B	FELIXSTOWE	E. Counties	1 6	1 1½
A₃	Filey ..	Yorks	1 6½	1 2
A	Fleetwood ..	N.W. Counties	1 8	1 3½
B₃	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham	N.W. Counties	1 8	1 3½
B₃	Frome ..	S.W. Counties	1 4½	1 0½
A	GATESHEAD	N.E. Coast	1 8	1 3½
B₁	Gillingham	S. Counties	1 5½	1 1½
B	Gloucester	S.W. Counties	1 6	1 1½
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 2
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 10	1 4½
B	Llandudno	N.W. Counties	1 6	1 1½
A	Llanelly ..	S. Wales & M.	1 8	1 3½
	London (12 miles radius)		1 9½	1 4½
	Do. (12-15 miles radius)		1 9	1 4
A	Long Eaton	Mid. Counties	1 8	1 3½
A	Loughborough	Mid. Counties	1 8	1 3½
B	Luton ..	E. Counties	1 6	1 1½
A	Lytham ..	N.W. Counties	1 8	1 3½
A₁	MACCLESFIELD	N.W. Counties	1 7½	1 2½
B	Maidstone	S. Counties	1 5½	1 1½
A₃	Malvern ..	Mid. Counties	1 6½	1 2
A	Manchester	N.W. Counties	1 8	1 3½
A	Mansfield ..	Mid. Counties	1 8	1 3½
B₃	Margate ..	S. Counties	1 4½	1 0½
A₃	Matlock ..	Mid. Counties	1 6½	1 2
A	Merthyr ..	S. Wales & M.	1 8	1 3½
A	Middlesbrough	N.E. Coast	1 8	1 3½
A₃	Middlewich	N.W. Counties	1 6½	1 2
A	Monmouth	S. Wales & M.	1 8	1 3½
	S. and E. Glamorganshire			
A₁	Morecambe	N.W. Counties	1 7½	1 2½
A₃	NANTWICH	N.W. Counties	1 6½	1 2
A	Neath ..	S. Wales & M.	1 8	1 3½
A	Nelson ..	N.W. Counties	1 8	1 3½
A	Newcastle	N.E. Coast	1 8	1 3½
A	Newport ..	S. Wales & M.	1 8	1 3½
A	Normanton	Yorkshire	1 8	1 3½
A₂	Northampton	Mid. Counties	1 7	1 2½
A	North Staffs.	Mid. Counties	1 8	1 3½
A	North Shields	N.E. Coast	1 8	1 3½
B	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 8	1 3½
A	Nuneaton ..	Mid. Counties	1 8	1 3½
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W. Counties	1 8	1 3½
A₃	Oswestry ..	Mid. Counties	1 6½	1 2
B	Oxford ..	S. Counties	1 6	1 1½
A	PAISLEY ..	Scotland	*1 8	1 3½
C	Pembroke	S. Wales & M.	1 4½	1 0½
A	Perth ..	Scotland	*1 8	1 3
A₃	Peterborough	Mid. Counties	1 6½	1 2
A	Plymouth	S.W. Counties	¶1 8	1 3½
A	Pontefract	Yorkshire	1 8	1 3½
A	Pontypridd	S. Wales & M.	1 8	1 3½
B	Portsmouth	S. Counties	1 6	1 1½
A	Preston ..	N.W. Counties	1 8	1 3½
A	QUEENSFERRY	N.W. Counties	1 8	1 3½
B	READING ..	S. Counties	1 6	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A₃	Retford ..	Mid. Counties	1 6½	1 2
A	Rhondda Valley	S. Wales & M.	1 8	1 3½
A₃	Ripon ..	Yorkshire	1 6½	1 2
A	Rochdale ..	N.W. Counties	1 8	1 3½
B	Rochester	S. Counties	1 5½	1 1½
A₁	Ruabon ..	N.W. Counties	1 7½	1 2½
A₂	Rugby ..	Mid. Counties	1 8	1 3½
A₃	Rugeley ..	Mid. Counties	1 6½	1 2
A	Runcorn ..	N.W. Counties	1 8	1 3½
A₃	ST. ALBANS	E. Counties	1 6½	1 2
A	St. Helens	N.W. Counties	1 8	1 3½
A₁	Scarborough	Yorkshire	1 7½	1 2½
A	Scunthorpe	Mid. Counties	1 8	1 3½
A	Sheffield ..	Yorkshire	1 8	1 3½
A	Shipley ..	Yorkshire	1 8	1 3½
A₃	Shrewsbury	Mid. Counties	1 6½	1 2
A₂	Skipton ..	Yorkshire	1 7	1 2½
B	Slough ..	S. Counties	1 5½	1 1½
A₂	Solihull ..	Mid. Counties	1 7	1 2½
B	South'pton	S. Counties	1 6	1 1½
B₁	Southend-on-Sea	E. Counties	1 5½	1 1½
A	Southport	N.W. Counties	1 8	1 3½
A	S. Shields ..	N.E. Coast	1 8	1 3½
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, 1*s.* 9*d.*

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

‡ Plumbers, 1*s.* 9*d.*

§ Painters, 1*s.* 6*d.*

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

¶ Painters, 1*s.* 7*d.*

PRICES CURRENT

EXCAVATOR AND CONCRETOR

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

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 lintels, 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.	23 0 0
DO *headers, per M.*	23 10 0
Colours, extra, per M.	£5 10 0
Seconds, less, per M.	1 0 0
Cement and sand, see "Excavator" above.	
Lime, grey stone, per ton	£2 17 0
Mixed lime mortar, per yd.	1 6 0
Damp course, in rolls of 4½ in., per roll	0 2 6
DO. *9 in. per roll*	0 4 9
DO. *14 in. per roll*	0 7 6
DO. *18 in. per roll*	0 9 6
BRICKWORK in stone lime mortar, Flettons or equal, per rod	33 0 0
DO. in cement do., per rod	36 0 0
DO. in stocks, add 25 per cent. per rod.	
DO. in blues, add 100 per cent. per rod.	
DO. circular on plan, add 12½ per cent. per rod.	
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, ½in., 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, ¾ in., per yd.	0 8 6
DO. SKIRTING, 6 in.	0 0 11
BREEZE PARTITION BLOCKS, set in Cement, 1½ in. per yd. sup.	0 5 3
DO. DO. 3 in..	0 6 6

THE wages are the Union rates current in London at the time of publication. The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary, but will vary according to quality and quantity. The measured prices are based upon the foregoing, and include usual builders' profits. Though every care has been taken in its compilation it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry.

MASON

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

Portland Stone:	
Whitbed, per ft. cube	£0 4 6
Basebed, per ft. cube	0 4 7
Bath stone, per ft. cube	0 3 0
Usual trade extras for large blocks.	
York paving, av. 2½ in., per yd. sup.	0 6 6
York templates sawn, per ft. cube	0 6 9
Slate shelves, rubbed, 1 in., per ft. sup.	0 2 6
Cement and sand, see "Excavator," etc., above.	
HOISTING and setting stone, per ft. cube	£0 2 2
DO. for every 10 ft. above 30 ft., add 15 per cent.	
PLAIN face Portland basis, per ft. sup.	£0 2 8
DO. circular, per ft. sup.	0 4 0
SUNK FACE, per ft. sup.	0 3 9
DO. circular, per ft. sup.	0 4 10
JOINTS, arch, per ft. sup.	0 2 6
DO. sunk, per ft. sup.	0 2 7
DO. DO. circular, per ft. sup.	0 4 6
CIRCULAR-CIRCULAR work, per ft. sup.	1 2 0
PLAIN MOULDING, straight, per inch of girth, per ft. run	0 1 1
DO. circular, do. per ft. run	0 1 4
HALF SAWING, per ft. sup.	£0 1 0

Add to the foregoing prices if in York stone 35 per cent.
DO. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
DO. for Chilmark, 5 per cent.

SETTING 1 in. slate shelving in cement, per ft. sup.	£0 0 6
RUBBED round nosing to do., per ft. lin.	0 0 6
YORK STEPS, rubbed T. & R., ft. cub. fixed	1 9 0
YORK SILLS, W. & T., ft. cub. fixed	1 13 0

SLATER AND TILER

SLATER, 1s. 9½d. *per hour*; TILER, 1s. 9½d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour*; LABOURER, 1s. 4½d. *per hour.*
N.B.—Tiling is often executed as piecework.

Slates, 1st quality, per M:	
Portmadoc Ladies	£14 0 0
Countess	27 0 0
Duchess	32 0 0
Clips, lead, per lb.	0 0 4
Clips, copper, per lb.	0 2 0
Nails, compo, per cwt.	1 6 0
Nails, copper, per lb.	0 1 10
Cement and sand, see "Excavator," etc., above.	
Hand-made tiles, per M.	£5 18 0
Machine-made tiles, per M.	5 8 0
Westmorland slates, large, per ton	9 0 0
DO. *Peggies, per ton*	7 5 0

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

Ladies, per square	£4 0 0
Countess, per square	4 5 0
Duchess, per square	4 10 0
WESTMORLAND, in diminishing courses, per square	6 5 0
CORNISH DO., per square	6 3 0
Add, if vertical, per square approx.	0 13 0
Add, if with copper nails, per square approx.	0 2 6
Double course at eaves, per ft. approx.	0 1 0
TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square	5 6 0
DO., machine-made DO., per square	4 17 0

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

FIXING lead soakers, per dozen	£0 0 10
STRIPPING old slates and stacking for re-use, and clearing away surplus and rubbish, per square	0 10 0
LABOUR only in laying slates, but including nails, per square	1 0 0

See "Sundries for Asbestos Tiling."

CARPENTER AND JOINER

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

Timber, average prices at Docks, London Standard, Scandinavian, etc. (equal to 2nds):	
7×3, per std.	£20 0 0
11×4, per std.	30 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 LABOURER, 1*s.* 4½*d. per hour.*

Lead, milled sheet, per cwt.	£2	4	6
DO. *drawn pipes, per cwt.*	2	6	0
DO. *soil pipe, per cwt.*	2	8	0
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	12	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	17	0
Hair, per cwt.	0	18	0
Sand and cement see "Excavator," etc., above.			
Lime putty, per cwt.	£0	2	9
Hair mortar, per yd.	1	7	0
Fine stuff, per yd.	1	14	0
Sawn laths, per bdl.	0	2	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: Aths in crates:			
Clear, 21 oz.	£0	0	6
DO. 26 *oz.*	0	0	7½
Cathedral white, per ft.	0	0	6½
Polished plate, British ⅛ 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, ¼ in.	0	0	6
DO. ¼ *in., per ft.*	0	0	6½
Linseed oil putty, per cwt.	0	16	0
GLAZING in putty, clear sheet, 21 oz.	£0	0	11
DO. 26 oz.	0	1	0
GLAZING in beads, 21 oz., per ft.	0	1	1
DO. 26 oz., per ft.	0	1	4
Small sizes slightly less (under 3 ft. sup.).			
Patent glazing in rough plate, normal span 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, per 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*; LABOURER, 1*s.* 4*d. per hour.*

Mild steel in British standard sections, per ton	£12	10	0
Sheet steel:			
Flat sheets, black, per ton	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, $\frac{3}{16}$ 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, $\frac{3}{16}$ in. punched per M., grey	16	0	0
DO. *red*	18	0	0
ASBESTOS COMPOSITION FLOORING: Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0	7	0
DO. ½ in. thick, suitable for domestic work, unpolished, per yd.	0	6	6
Metal casements for wood frames, domestic sizes, per ft. sup.	0	1	6
DO. *in metal frames, per ft. sup.*	0	1	9
HANGING only metal casement in, but not including wood frames, each	0	2	10
BUILDING in metal casement frames, per ft. sup.	0	0	7
Waterproofing compounds for cement. Add about 75 per cent. to 100 per cent. to the cost of cement used.			
Plywood:			
3 m/m alder, per ft. sup.	0	0	2
4½ m/m amer. white, per ft. sup.	0	0	3¾
¼ m/m figured ash, per ft. sup.	0	0	5
4½ m/m 3rd quality, composite birch, per ft. sup.	0	0	1½