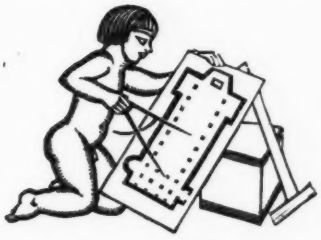
THE ARCHITECTS' JOURNAL



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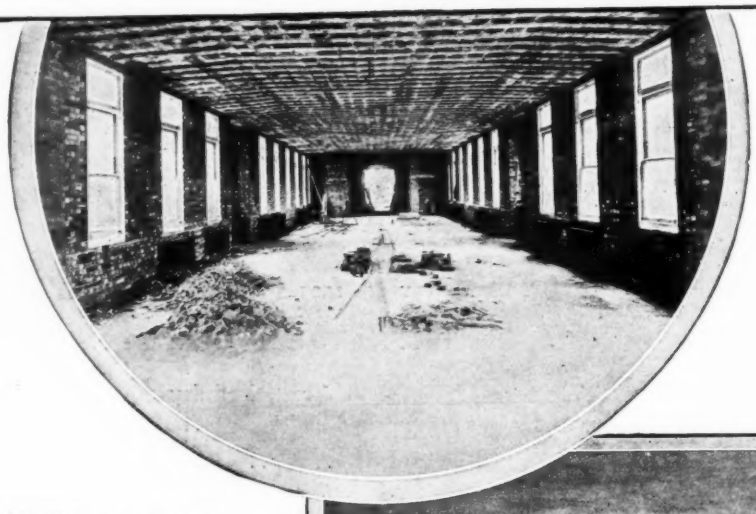
CHRISTIAN BARMAN, *Editor*

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.

WEDNESDAY, JULY 20, 1927. NUMBER 1696: VOLUME 66

PRINCIPAL CONTENTS

CAXTON FLOORS



VIEW OF HOSPITAL WARD FLOOR AND CEILING.

RESULT OF TEST
BY
MESSRS. DAVID KIRKALDY & SON

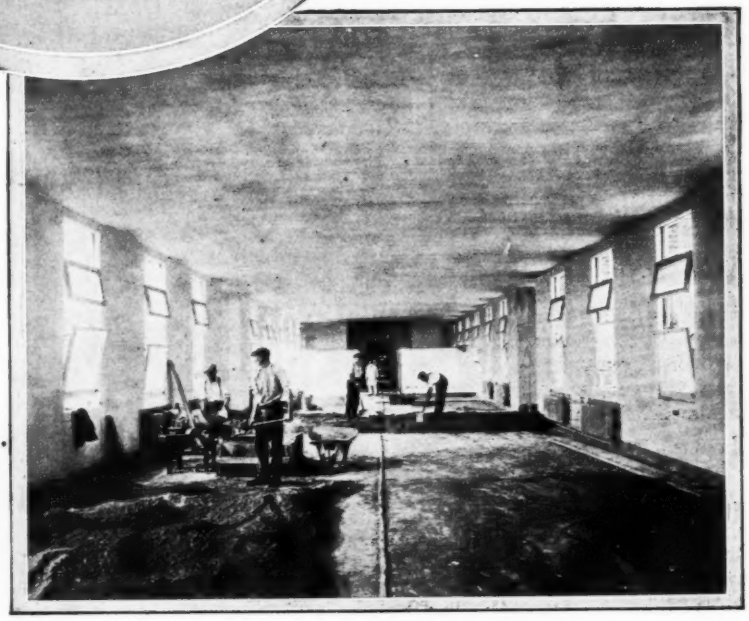
SPAN - - 27′ 0″

Central Deflections under the following loads:—

	Inch
42 lb. per square foot	·01
84 ,, ,,	·02
130 ,, ,,	·03
After removal of load	·00

This floor was designed to sustain a superimposed load of 84 lb. per square foot.

When overloaded 50% deflection equalled 1/32″



THE SAME WARD AT A LATER DATE, BEING TESTED BY LOADING WITH SAND.

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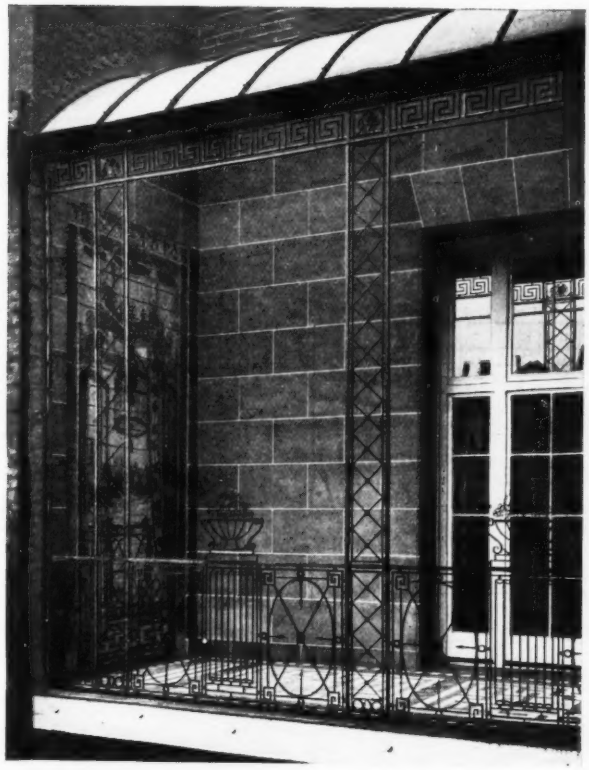


[*A working detail of this veranda appears on the following page*]

THE VERANDA, 21 HILL STREET, BERKELEY SQUARE, LONDON

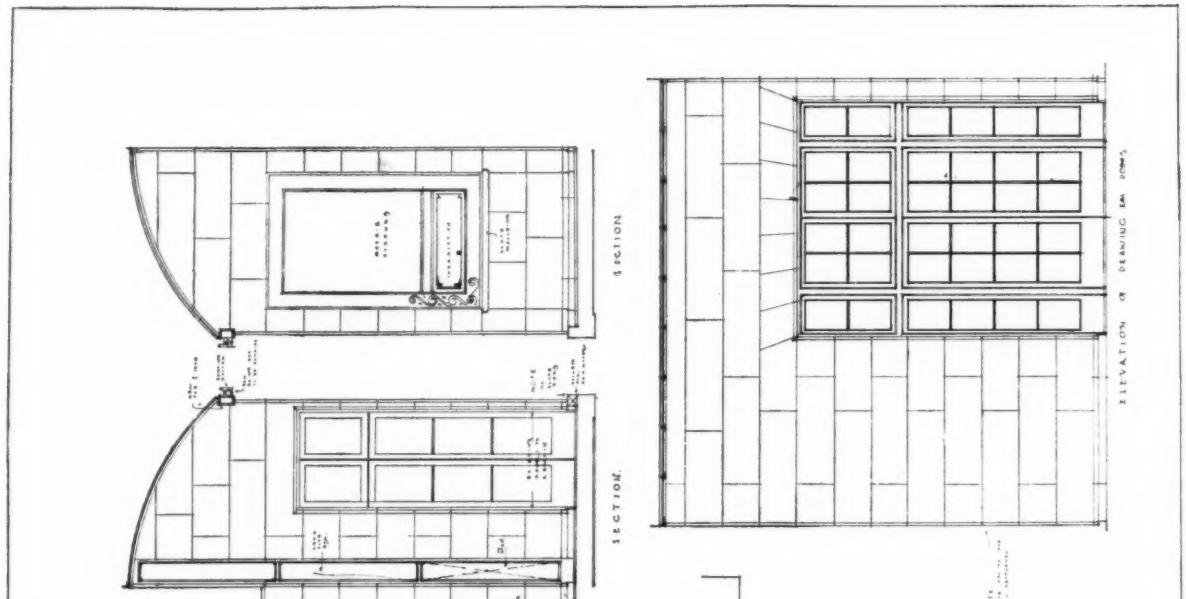
BY H. S. GOODHART-RENDEL

THE WEEK'S DETAIL

[BY H. S. GOODHART-RENDEL]

This veranda replaces an enclosed conservatory-like arrangement of treillage which shut off most of the light from the back drawing-room. Of this erection the floor and the glass roof remain. The paving, however, is new, and is made of Roman stone and green marble in the form of two mazes, the central tile of each maze being inlaid with black mastic, one to represent a fountain, the other a little kiosk. The walls are covered with green Cumberland slate slabs arranged like masonry. In the end wall is a large panel of Dutch tiles painted with a picture of the owner's house in the country seen through an imaginary window. The ironwork of the open side has been kept as light as possible for practical reasons. Some inevitable pipes have been cased in cast lead.

Messrs. Fenning & Co. did the floors and walls, the Birmingham Guild the wrought ironwork, and Messrs. Van Straaten and Son the tile panel.



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

THE ARCHITECTS' JOURNAL

Wednesday, July 20, 1927

A HARMFUL POLICY

THOSE of our readers who took care to make themselves familiar with the proceedings of the Select Committee on the Architects' Registration Bill, must have received a considerable shock when they read the evidence given by Sir Charles Morgan on behalf of the Institution of Civil Engineers. According to this gentleman, the main reason which prompts the Institution of Civil Engineers to oppose the Architects' Registration Bill is not to be found in any objection to registration as a principle, or any objection to the Royal Institute of British Architects. It arises from a fundamental objection to allowing any architect, however qualified, to call himself an engineer or to undertake engineering work of any kind. The speaker added that the Institution of Civil Engineers would not admit to membership any candidate with known architectural qualifications or who practised as an architect. He, indeed, professed to know of no case in which membership of the two societies was duplicated; although a casual scrutiny of the R.I.B.A. Kalendar reveals the existence in the ranks of that body of quite a number of corporate members of the Institution of Civil Engineers.

It is not exactly easy to define a civil engineer, except by saying that he is something that is not a military engineer. But we take it that the Institution of Civil Engineers includes a number of experts in structural design, and it is in its application to these that some people would, we suppose, describe such a policy as trades unionism of the wrong kind. Everybody would know what this phrase meant, but it would hardly be fair to trades unionism. The trades unions may insist on divisions of labour that many people would sooner not see insisted on; but they did not invent the principle of the division of labour. Nor do we think any trades union would defend the severance into two of a profession which has been one profession since the beginning of the world. Our views on the relation between architecture and engineering have been expressed again and again in these pages, and as recently as December 15 of last year Mr. H. V. Lanchester contributed an article which we believe sets forth the judgment of the majority of architects. Briefly, there are many functions which the busy modern architect must of necessity depute to other people. The production of working drawings is one of these. Yet what architectural assistant would venture to plead that his principal must not be allowed to go near the drawing-board? Mr. Lanchester's considered opinion was that there is more than one subsidiary function that is at the same time more arduous and more irrelevant than that of structural design. If we wanted to delegate part of the work, this is not the first part that we should choose. And if an architect does delegate the working-out of the mechanical parts of his building he does this, it must be understood, of his own free will, keeping the fuller right to resume this task himself at any moment and in any manner he may choose.

The attitude taken up by the Institution of Structural Engineers respects this view, which to our mind is the only reasonable one. In the lists of this Institution are some three hundred members of the R.I.B.A. Many architects study and practise the profession of structural engineering, and no doubt many structural engineers carry out architectural work. In no case does either of the two bodies admit members of the other *per se*. They have, like everybody else, to pass the ordinary admission test. And if an architect chooses to augment or reorganize his practice or to gain a firmer hold of the entire art of building by qualifying as a structural engineer, or if any structural engineer similarly seeks to extend his knowledge and capabilities by studying architecture, we are of opinion that it is to the public benefit that he should be encouraged to do so. This interweaving of the professions of architecture and structural engineering and the failure of the two societies named to expel as "blacklegs" any member convicted of practising in both "trades" was clearly understood and resented by the representative of the Institution of Civil Engineers, who thereupon sought to belittle and hold up as of no account the Institution of Structural Engineers. He even went so far as to state publicly that the Institution of Civil Engineers was petitioning against the application of the Institution of Structural Engineers for a Royal Charter, largely because the latter body was so wicked as to admit to membership architects who had qualified as, and who were engaged as, practitioners in the trade of structural engineering.

Until now the professions in this country have happily been entirely free from this zeal for compulsory subdivision. With regard to the particular case under review, every practitioner knows that, in the provinces especially, there have been and are many men who have had to qualify in two—or even more—branches of the great constructional profession—a profession which as a whole embraces all who practise either as architects, surveyors, or engineers. If a man chose to qualify in every single one and to pass the examinations of every distinct society which caters for architecture, engineering, or surveying, he has in the past been allowed to do so. Many men have earned great distinction in more than one.

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

NEWS AND TOPICS

THE NEW LONDON UNIVERSITY—THE COMPLETING OF BUSH HOUSE—A WINDFALL FOR THE R.I.B.A.—THE IVY GREEN.

CAREFUL thought is being given to the proposed development of the 11½ acres bought by the University of London at a cost of about £500,000. Certainly the administrative offices will be moved from the Imperial Institute in South Kensington, and will have to be accommodated at Bloomsbury. But, in addition, a hall of convocation, a senate house, a university library, and examination buildings are wanted. Among the departments that will expect to be properly housed under the future scheme are the Department of Historical Research, Birkbeck College, the Department of Zoology, the Students' Union, and the Officers' Training Corps. Fortunately, the site has many advantages, as it is easily reached from the main line railways and is well served by the Underground and by motor omnibuses. Furthermore, it is almost level, and this will facilitate the lay-out. Architects who have given consideration to the question are, however, urging that a proper development plan of both the Bloomsbury site and its surroundings should be prepared in order that no new building may be actually started upon without careful thought having been given to its surroundings, for it is urged with truth that the university buildings will be the most important architectural project in London for the first half of the twentieth century. In the future, too, it is proposed that more and more London University is to be used as a centre for students of the British Empire. Thus the development of the site has its Imperial aspect. Sir William Beveridge, the Vice-Chancellor, has already indicated in public something of the architectural magnitude of the work, and no doubt modern materials, such as steel and concrete, will be used, but these will have to be so utilized as to carry on the university spirit of design. Probably there will be a great competition announced before long in which architects will vie with each other in suggesting how the site can best be planned and what design of buildings in their opinion is most appropriate for London's University.

* * *

Speaking at a meeting of the Foundling estate on Friday, Sir Arthur du Cros, Bart., announced that the abandonment of the project of establishing Covent Garden at the site of the Foundling Hospital did not perturb them in the least. "It was only one of several projects which were being considered." "It is worthy of note," he continued, "that we have not received one practical suggestion from the many people and public bodies who have been ventilating their opinions as to the future of this property." This is carrying the war into the enemy's camp with a vengeance; and though each constructive critic may still just retain life enough to defend the sound practical sense of his own proposals, the fact remains that irresponsible outside criticism, however just it may be, lacks the pushing force to carry its way against immediate financial interests. Something is needed to give scientific conclusiveness to the bright ideas of those who write protests to the papers against schemes which they believe to be detrimental to the amenities, and that something seems terribly elusive in character. We have seen how feeble even a Royal Commission may be in the case of Waterloo Bridge, which would be a mere heap of wet rubbish by this time if the underscouring river had acted up to the predictions of the engineers of the demolition party; and the only real safeguard is to be sought in improved education of architects, public authorities, and the public at large in the economies of sound town planning. Rich men who have the interest and dignity of their city at heart might invest some of their funds in the promotion of these studies, so that a serious critic of any unsound scheme might have at least an instructed body of technical experts at his back, instead of having to assume the uncomfortable rôle of "a voice crying in the wilderness."

* * *

It has been stated that the northern wings of Bush House are now about to materialize, having been granted the approval of the London County Council, and Londoners will watch their growth with interest or anxiety, according to their individual temperaments. The rather bare flanks of the existing building are by no means offensive, even if they do not sustain the grandiose note struck by the great niche which fronts on Kingsway, though whether the additional buildings will improve the effect of the central portion, or detract from it by dwarfing its scale, time will tell. It is probable that if the present style is adhered to the result should be pleasant enough, as far as the immediate group of buildings is concerned. What is less satisfactory is the great height that is now being allowed in the case of certain of these gigantic blocks of offices. London lies in a latitude which prohibits all expectation of vertical or nearly vertical sunrays, and the chill shadows thrown by high buildings are much less welcome here than they may be in New York or Chicago, which lie in approximately the same parallels as Constantinople and Rome respectively. After all the years that portions of the island site have remained vacant, dwellers in the older buildings in the neighbourhood will experience a real diminution of the light and restriction of the outlook that have been afforded by the open space accidentally maintained in this busy part of London. Bush House is one of the most striking instances of the change that may be effected in the character of a district within a comparatively few years, for where this block of palatial offices now stands was formerly a tangle of mean streets not much above the dignity of slums.

* * *

Six-and-twenty years have elapsed since Sir Henry Irving unveiled the monument to Christopher Marlowe at Canterbury. Until now it has never been finished, but a letter from Mr. Mackail encourages the hope that completion will not be postponed for another quarter of a century. I am not reproaching any merely human agency for the long delay. I propose to set it down to the malign fates. Having cast their baleful shadows over the chequered career of poor Kit Marlowe, they are still relentlessly pursuing his perturbed spirit. At least, that's how I figure it out. But the powers of darkness shall not prevail against the Marlowe Memorial Committee. As spokesman for that committee, Mr. J. W. Mackail makes at long last the very welcome announcement that Mr. C. L. Hartwell, R.A., has undertaken to complete the monument in accordance with the intentions of the late Onslow Ford, whose mantle—or is it toga?—sits so gracefully on Mr. Hartwell. Mr. Ford, who sketched the original design for the monument, lived to model but one of the figures intended for it—that of

Irving as Tamburlaine. Mr. Hartwell has now executed two of the three figures required for the completion. He has modelled Edward Alleyn impersonating the Jew of Malta, and has also produced the figure of Forbes-Robertson as Faustus. Only an effigy of Edward II now remains to be done.

* * *

Enthusiasm for the cause of architectural education is reflected in the statement published a week ago that the late Mr. Alfred Charles Houston, A.R.I.B.A., has bequeathed " a substantial amount " for the formation of educational maintenance scholarships under the administration of the Institute. That he also bequeathed considerable funds to hospitals may be taken as an indication of the wide range of his sympathies, though architectural education itself is now being directed to the establishment of health as well as to the creation of beauty. The larger aspects of architectural training have been receiving rather more attention since the creation of the Board of Architectural Education, and the old idea that a knowledge of classic (or Gothic) detail made the architect is being relegated to a subordinate position. It is at least possible that the modern study of architecture promoted by Mr. Houston's gift will do as much for hygiene as the money he has devoted to the hospitals.

* * *

But, while there are signs that the Institute is waking up in regard to the relative importance of the human side of architecture as contrasted with the merely pedantic, the awakening may not have proceeded much farther than the yawning and stretching stage. Although many minor amendments have been made in the arrangement of the qualifying examinations that should lead to the substitution of genuine education for frenzied cramming, much still remains to be done to co-ordinate the artistic with the economic side of architectural design, and a recent public utterance to the effect that a studentship for the encouragement of economic design was hardly suitable for administration by the Institute might suggest that architectural education was bent upon falling asleep again at the earliest opportunity. Lack of definite knowledge of the economic factor in house construction has compelled architects to stand idly by while the jerrybuilder has been supplying the housing shortage, and has rendered them powerless to prevent some costly and ridiculous experiments of the Government in the employment of substitute materials. It should be obvious that the central authority on architectural education in the country is the proper administrator of studentships in economic design, though in the present nebulous state of ideas on the subject it is easy to comprehend its modest reluctance to undertake its duties.

* * *

I don't wonder that a chorus of approval has greeted the announcement in Parliament of the intention to limit the size and diminish the loads of gigantic automobiles. Varied building interests being rather deeply involved in the new proposals, it would be strange indeed if builders of all denominations were unanimous about them. Contractors are sure to complain at being obliged to employ two lorries for loads hitherto carried by one—a change demanding expensive additions to existing " fleets." Architects, however, are more likely to accept the restriction as tending to lessen the havoc wrought by motor traffic in ruining roadside buildings. Personally, I will confess that in moments of nervousness I have worried over the ridiculous nightmare-problem of whether houses ought really to be built of sturdier stuff and strength, or whether, alternatively, it would be more expedient and less costly to accommodate the weight of the traffic to the frailty of the houses under shock. I am, glad, therefore, that the transport authorities promise intervention in the supposititious but harassing dilemma. Overloaded motors—as cumbersome and unmanageable as ever the Great Eastern was when it encountered a gale—are a grave menace to the stability of wayside buildings, and are also a source of peril and discomfort to the inmates. Even in buildings situated a score or more yards away from a " main-travelled road," " peaceful possession " is impossible. Lumbering, overladen lorries keep awake a constant and well-founded dread that the truly terrific vibration that attends their continual passing will bring down the ceiling, or shatter the crockery, or shift the roof-slates.

* * *

" A rare old plant is the ivy green." I wonder how many of my readers will recognize that quotation as the refrain of a little poem recited by its author to Mr. Pickwick and his friends in the parlour of Mr. Wardle's Manor Farm in Dingley Dell. As the sentimental mood of the early days of Dickens affected " a green and yellow melancholy," the composer-reciter fell naturally to moralizing thus: " The stateliest building man can raise is the Ivy's food at last." Yet I venture to suppose that the fireman and the housebreaker could modify that proposition, but I would urge them to consider the wide sweep of poets' licence. It was a *Times* leader—no less—that prompted me to quote *Pickwick*. " Creeper-clad Walls " was the leader-writer's engaging theme. In dealing with this evergreen topic he betrayed a slight bias towards trimming. Observing that of late years many ancient buildings have been stripped of their covering of ivy, it being " now widely realized that the proportion and detail of good architecture are better worth showing than hiding," he at once proceeds to trim on this truism. He holds it not unreasonable for a gardener to suppose that high walls would look better if creeper-clad. Agreed; for while some buildings are commendable, there are many others that would be improved by a jolly good hiding. But I seem to detect a little weakness for trimming. Presently our author boldly advances a plea for trimming of a more literal sort. That is to say, he advocates the close cutting of ivy to keep it neat, trim, and comparatively harmless. He weakens on this suggestion by supposing it to be negatived by the present cost of labour. Well, I do admire his propensity for trimming. It certainly tends to a strictly impartial statement of the pros and cons of clothing walls with ivy, ampelopsis, or Virginian creeper—whether they, or any of them, encourage dampness, or whether they prevent it, and whether or not the birds and insects some of them harbour are an unmitigated nuisance. For my part, I am unable to forget the misogynist's retort. Quoth the lady, " The more he is ruined, the more she clings." To which came the retort discourteous, " True, madam, and the more she clings the more he is ruined." That is a hard saying, but I fear that ancient buildings preservation societies would give it full credit as applying to creepers. So, I fancy, would most architects who prefer honest building to picture-postcard prettiness.

ASTRAGAL

Original designs by Biagio Rebecca for the windows executed 1764-1774 by William Peckitt of York, for New College Chapel, Oxford. In the possession of the authorities of the college.

MEDIEVAL STAINED GLASS DESIGNERS

[BY JOHN A. KNOWLES]

SOME twenty years or more ago it was the fashion to deplore the present-day divorce between design and craftsmanship. When, however, anyone ventured to point out that Van Orlay did not execute the masterpieces of glass-painting to be seen in Brussels, and that many of the windows at Gouda were designed by one individual and executed by another, he was met with a pitying smile and the remark that those works represent the decline of the art, but in the glorious days of the thirteenth century things were different. But any theory with regard to ancient procedure and methods of building and craftsmanship can be advanced with safety provided one goes back far enough, and it would be easy to convince the general public that the Pyramids were built by practical masons without the interference of an architect, since it is impossible to disprove it.

Yet there is a fair amount of evidence that for hundreds, and even thousands, of years, where the best work was required the designer and the executant were rarely the same person. We do not like the "It must have been therefore it was so" method of argument, but the slightest consideration of the matter should be sufficient to make one realize that the technical process of many of the crafts are so difficult and the study required to attain to a mastery in design so prolonged, that a lifetime is all too short to become equally proficient in both. The craftsman needed the assistance of the designer. Thus the writer of Ecclesiasticus, in describing the smith sitting by the anvil, tells us "his eyes look still upon the pattern of the thing which he maketh" (Ecclesiasticus, xxxviii, 29); and the context seems to imply the same with regard to "every carpenter and workmaster that laboureth night and day; and they that cut and engrave seals and are diligent to make great variety and give themselves to counterfeit imagery."

In the Middle Ages it seems to have been the practice to exhibit a design, preliminary sketch, or model by an architect or professional designer, for the various craftsmen to tender for and work from. At Troyes in 1382 a "pourtraict" or design for a rood loft on a sheet of parchment "pour monstrer à Messieurs" cost five shillings. This proved unsatisfactory, and another one by the architect, Henri de Bruxelles, was shown and passed; and after being shown to the sculptors, a contract for the execution of it was drawn up with them (Alex. Assier, *Les Arts et Les Artistes dans l'ancienne Capitale de la Champagne*, ii, 63, Paris 1866). For the church of Sainte Madeleine, in the same city, Jacquet Cordonnier in 1457 made the cartoon from which Thibaut Clément executed the tapestry representing the life of the saint; and in 1517 Jean Briois made a black-and-white drawing on paper, representing Our Lord with Saint Peter and Saint Paul, for the carving over the principal doorway, "pour iceulx monstrer à Mess. pour savoir s'ils seroient bons patrons pour sur iceulx faire les ymaiges" (*Ibid.* i, pp. 47 and 52). In those days picture-painting formed but a part of an artist's daily work, and much of their employment was in acting as "designers to the trade" by rendering "occasional assistance" in supplying sketches and full-size cartoons where any good-class work, such as figure compositions, was required. Cennino Cennini, who lived in the second half of the fourteenth century, gives detailed instructions in his "Book of Art" on how to turn out practical working drawings for a large number of different

trades, such as printing fabrics and many others, and the designs which have come down to us by Holbein and others for gold and silversmiths' work, as well as for other crafts, are examples of the same thing at a later date.

No craft was in greater need of such help than that of stained glass. Glass painters' figure draughtsmanship was but makeshift stuff at best, and sometimes was positively bad. Though in early glass the draughtsmanship of the human figure was archaic, it was generally full of expression and not inferior to what was being done in the sister arts; but in later times much of it was mere repetition of half a dozen stock poses and gestures, with little or no feeling for the underlying form. This seems to point to a gradual abandonment of the services of the trained draughtsman and more and more reliance upon home-made " property " figures. One has only to glance at the drawing of the illustrations to the *Pageant of Richard Beauchamp, Earl of Warwick, c. 1485-1490* (ed. by Viscount Dillon and Sir W. H. St. John Hope, London: Longmans, Green & Co., 1914), or note the extreme refinement of the draughtsmanship of the recently discovered frescoes at Eton, to realize how much contemporary stained glass had declined.

Glass painters had not kept abreast of the times either in the study of the human figure or in the rendering of such simple accessories as a chair at the side of a bed. (See the present writer's " Medieval Methods of Employing Cartoons for Stained Glass," *Journal of the British Soc. of Master Glass-painters*, No. 3, Oct. 1925, and *Journal of American Inst. of Architects*, Jan. 1927.) Throughout the whole of the medieval period they were a hundred years behind the arts called fine in the study of the science of perspectives; and to the end were content to make parallel lines recede at all angles; not through any innate feeling that the effect of projection in glass was artistically wrong, for they tried to imitate it, but through sheer ignorance of

An Italian design for a stained glass windows In the possession of Mr. C. F. Bell.

how to produce it. There is internal evidence in many of the windows themselves that the craftsman who executed them was not a draughtsman, but worked from a cartoon furnished by some other. Thus in the clerestory at Great Malvern the glass painter has repeated a cartoon of a bishop four times. Then, after altering the position of the hands so as to disguise the fact that it was the same drawing, he has used it four times more. But in making these changes he has drawn the new hands far too large, a mistake the original draughtsman would have been incapable of.

It would seem that the authorities of cathedrals were aware of the makeshift character of much of the drawing in the regular run of bread-and-butter lines in window-making, for in one Italian contract the glass painters had to agree that the cartoons should be made "by a good and careful master." We have records of cases where not only preliminary sketches, but even finished glass was refused as not being good enough. Thus in 1379 Jean de Damery tried to get an order for a window at Troyes, but his design was refused "comme non souffisant ne convenable" (Alex. Assier, *Les Arts et les Artistes dans l'ancienne capitale de la Champagne*, i, p. 15); whilst at Arezzi, in 1513, it was decided with regard to a window which had been put up, that "it shall be, and hereby is, refused, and the contractors shall furnish another figure of better proportions, colouring, and draughtsmanship" (*Carteggio Inedito d' Artisti*, vol. ii, p. 449). When, therefore, something of a high order was required, either a "designer to the trade" or someone with some superior skill at figure draughtsmanship was called in, and the glass painter was either shown a design, which he himself afterwards drew out to the best of his ability, or full-sized cartoons were supplied to him to work from.

Cennini knocks on the head completely the engaging theory that the artist and the executant were one. In chapter 171, writing of "How Windows are Painted on Glass," he says: "It is true that this art is little practised by our craft (i.e. artists), but more by those who work specially at it; and commonly those masters who work at it have more practical knowledge than design"—[This statement is borne out by actual examples. Thus in the St. Cuthbert window at York, c. 1445, almost every device known to the glazier's craft—some of them, such as drilling holes and inserting jewels, of the greatest difficulty—have been successfully accomplished. But the draughtsmanship is poor and the composition weak, and this window cannot compare with the St. William window (c. 1421) opposite, where no feats of technical dexterity have been attempted.] —"and on account of their half knowledge, and for guidance in drawing they will come to him whose art is complete and universal and who has practice. Therefore when they come to you do thus," etc. (*The Book of the Art of Cennino Cennini*, trans. by Mrs. Heringham).

Examples where glass painters worked either from cartoons they had obtained from a professional designer, or which were supplied to them by their employers, are numerous. At the Duomo of Pisa, in 1301, one Baccio painted a window from cartoons by Cimabue (Leader Scott, *The Cathedral Builders*, p. 27a). In 1405 John Thornton was brought to York by the Dean and Chapter to design the great east window "with his own hand," but it was agreed that he was only "to paint the same in so far as shall be necessary." The fact that this gigantic work was completed in the short space of three years shows that he can have taken little active part in the execution of it ("John Thornton of Coventry and the Great East Window of York Minster." John A. Knowles. *Notes and Queries*, vii, 481).

In 1447 John Prudde of Westminster agreed to execute the windows of the Beauchamp Chapel at Warwick from cartoons "that shall be delivered by the said executors by patterns (i.e. cartoons) in paper, afterwards to be newly traced and pictured by another painter in rich colour" (Winston, *Hints on Glass-painting*, 1867 ed., Appen. B., p. 389, note).

In 1495 Aillet Pierre, glass painter, executed a window for Sainte Madeleine at Troyes, after cartoons furnished by the painter, Guillaume Passot. In 1505 Jehan Verrat and Balthasar, glass painters, agreed to paint a window over the altar of St. Anthony in Troyes Cathedral, "selon le patron à eulx montré." This was evidently a coloured design, for they had to agree to follow the colour-scheme shown, as well as the general arrangement of the design, including "pilliers portant tabernacles (canopies) en chascun jour (light) selon ledit patron" (Alex. Assier, *Les Arts and les Artistes dans l'ancienne capitale de la Champagne*, Paris, 1876, p. 27). The author of this design was doubtless Nicholas Cordonnier, for in the previous year he had been paid for executing "patrons au petit pied selon lequel les verriers doivent faire les verrières." He also made designs "pour envoyer à la ville de Limoges pour faire esmaulx sur iceulx patrons," and designed the street decorations for the entry of Louis XII into Troyes (*Ibid.* pp. 48-49).

A drawing by a glass painter (probably Hans Laubensal, c. 1580) for a stained-glass roundel. Made up from the woodcuts of "The Glazier" and "The Glass Painter" in Jost Amman's "Book of Trades," showing entire ignorance of the first principles of perspective. (Wyss Collect. Hist. Museum, Berne.)

A NORTHUMBERLAND FIRM

[BY RAYMOND McGRATH]

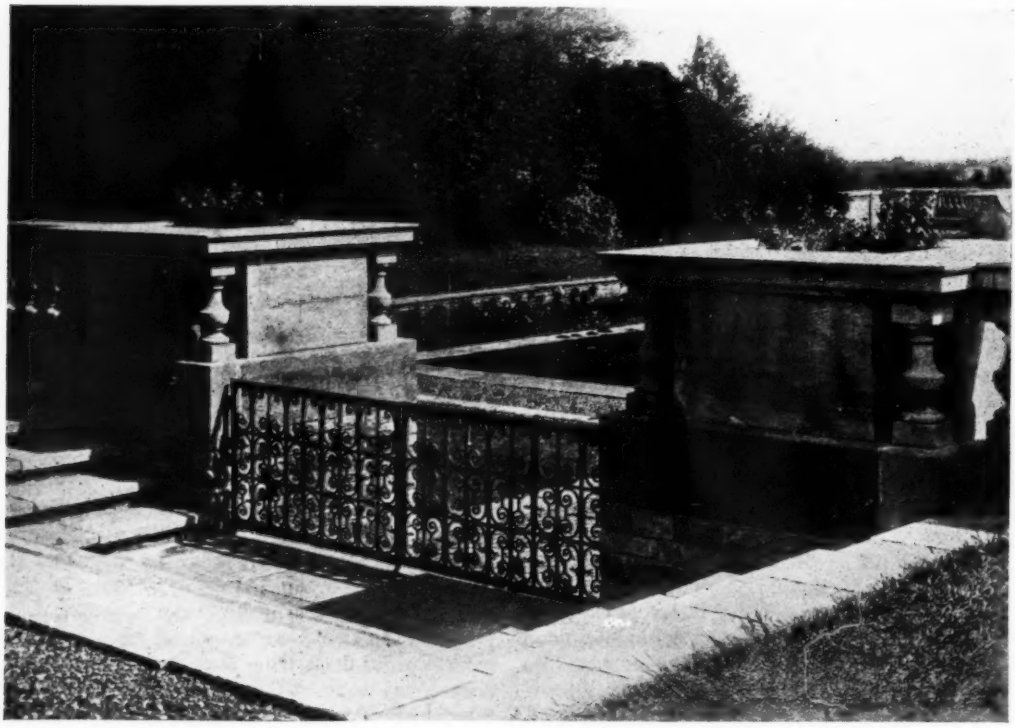
ENGLISH architecture finds its fullest expression in houses and churches, those two branches in which a steady evolution of ideas is most readily observed. Ever since the time Alfred burnt cakes domestic architecture has been, like a chameleon, changing colour to take count of greater comforts and newer requirements until we are confronted today with what one might readily suppose to be a last word in convenience, beyond which it would neither be wise nor safe to advance. Yet there is no reason to suppose that Arthur himself was not once just as ignorant of the excellent toasting qualities of a good fire as we were, only a few years ago, of the benefits and possibilities of electricity.

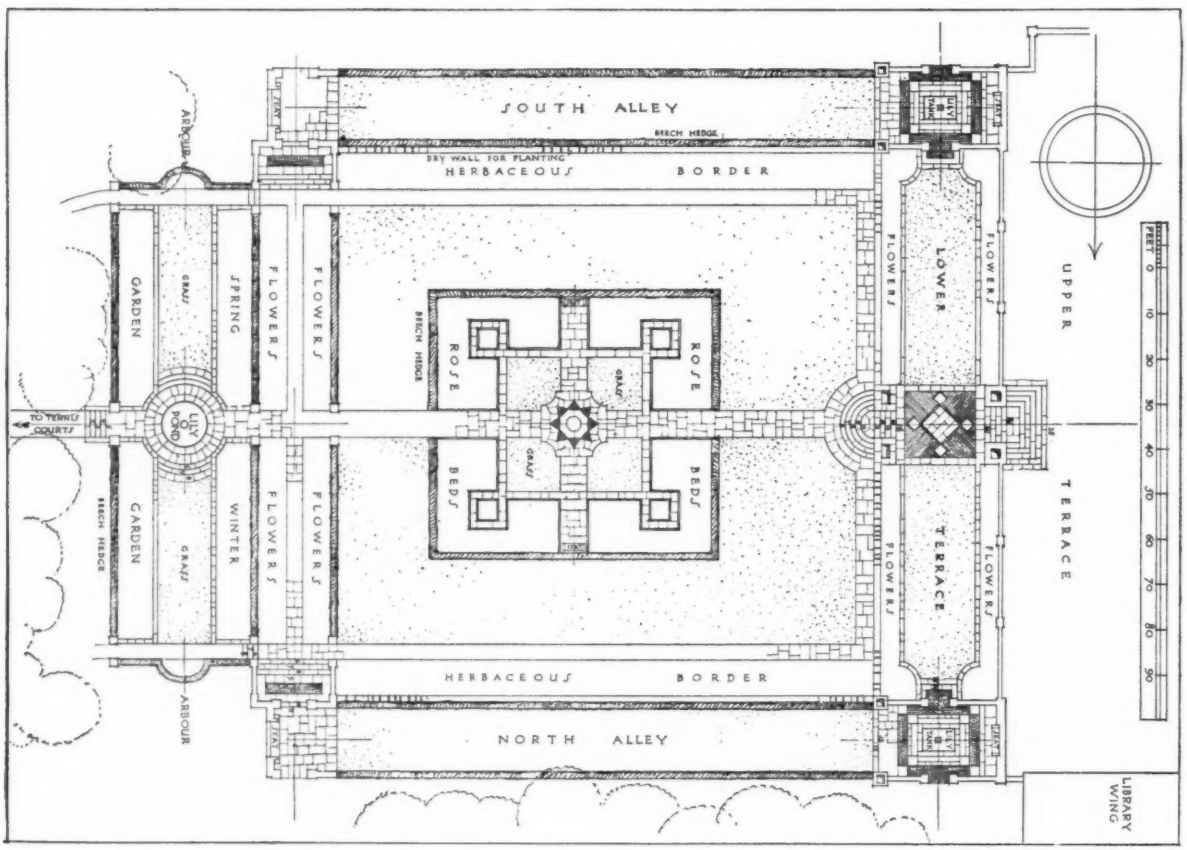
The old cottages of England were Gothic in character—that is to say, they were built before there were any questions about the style in which a house should be built. They owe their great beauty to the fact that the materials of which they were made were those of the particular locality which they adorned, and there was therefore a harmony between them and the natural surroundings. To build in this way is the prime meaning of good tradition. If every man who built a house today were first to look thoughtfully at one old cottage, would there be any need to worry about the disfigurement of rural England?

That the cottages of England are still Gothic in character is evident from some of the work which we reproduce. With the Renaissance and the improvements of transport, classic column or console found their way into domestic work, but the typical English features have always remained: the dormers, the pitched roofs, and the tall chimney stacks. These are still characteristics which delight us greatly. The luxury of individual craftsmanship in home building is now almost entirely denied to us. We have sacrificed the hand-bound thatch and the hand-wrought woodwork or iron. Yet, although the elements of our compositions are now chiefly machine-made bricks and tiles, machine-made mouldings and machine-made windows, the principles of beautiful simplicity still enable us to combine these elements in beautiful and satisfying ways. The economy which has always governed the building of dwellings has been an excellent discipline. It has brought out what Trollope called "the great architectural secret of decorating constructions and never descending to construct a decoration."

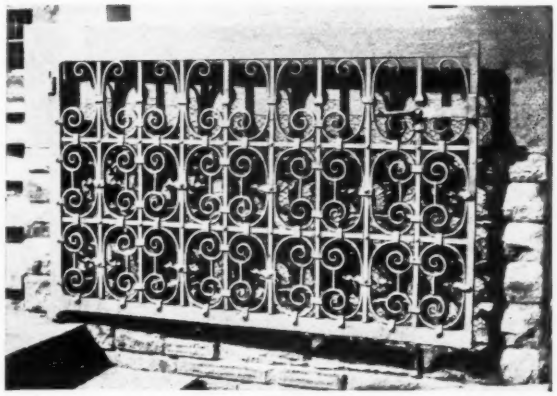
The characteristics of northern English architecture are simplicity and severity. This is the direct result of native materials expressing themselves in a natural style. The good tradition of the old domestic work of Northumberland is well fostered in the work of Messrs. Mauchlen and Weightman, of Newcastle-upon-Tyne. Examples of their work, chiefly from that town and its neighbourhood, are reproduced here. Unfortunately, the growing expense of masonry hinders the frequent use in domestic work of the local stone to which the older architecture owes so much of its beauty, but where opportunity has smiled upon the architect, as in the case of the estate cottages and stabling at Shoreston Hall, Bamburgh, for Sir Walter Runciman, Bart., the result is all that could be desired. Bamburgh is a small seaside resort, forty-five miles north of the Tyne, a

Estate cottages and stabling, Shoreston Hall, near Bamburgh, Northumberland. By Mauchlen and Weightman.



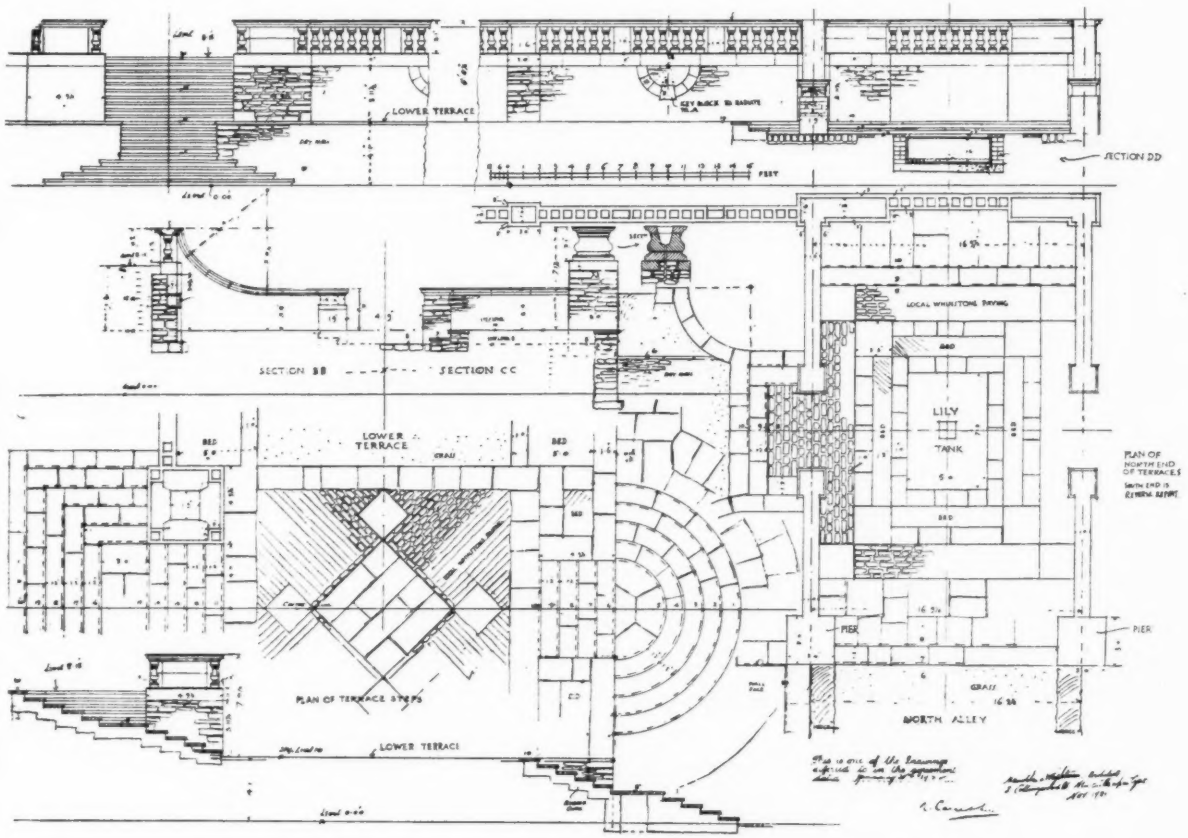


The garden, Doxford Hall, Northumberland. By Mauchlen and Weightman. Above, a detail of the terrace. Below, plan of the terrace and garden.



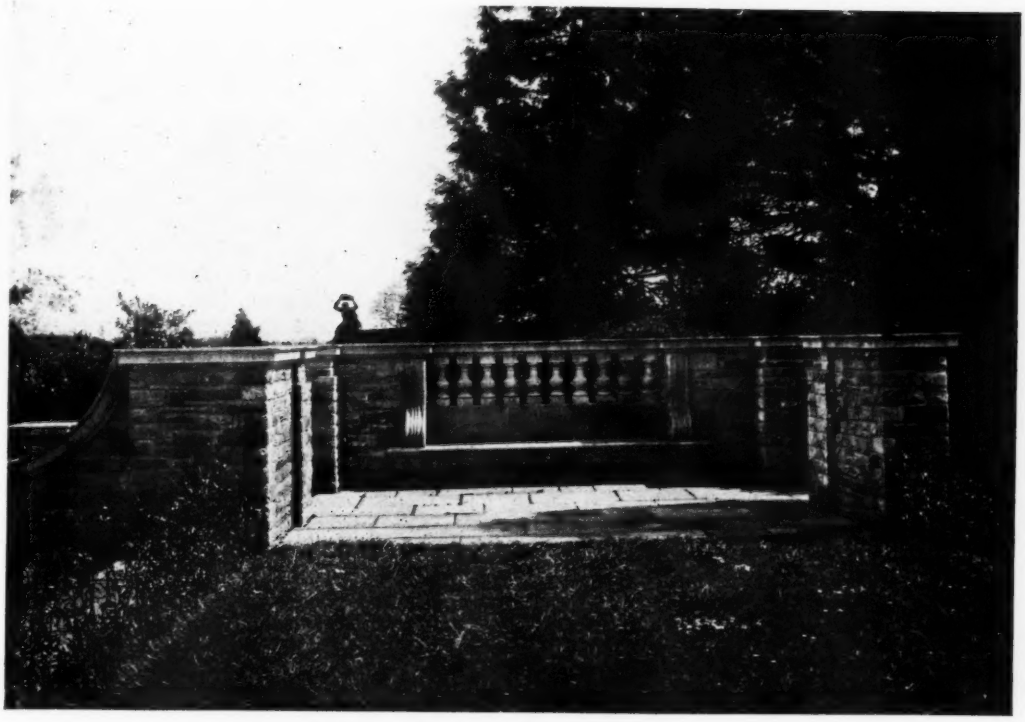
peaceful place with an atmosphere of history. The site of the buildings here illustrated is near the seashore. It is sheltered to east, north, and west by large sycamore trees. The group includes three cottages, with living-rooms facing the south or south-east, and stabling which comprises a coach-house, harness-room, hay-loft, loose-box, and stalls. This scheme is a very pleasing harmony. Harmony is an elusive quality. It depends on so many things, though the chief of them is certainly choice of materials. Here the simple ledged doors, the small wooden casements, the texture and random coursing of the stone, and the roofing of old pantiles in the traditional manner of Northumberland, combine to make these buildings a part of their setting. The dovecote in the gable of the coach-house gives one a feeling of peaceful habitation and intimacy. Particularly happy in treatment is the small building, linked by a low wall to the two cottages, which houses the coal-stores and water-closets of both. Another stone building is reproduced—a house at Ponteland, in the neighbourhood of Newcastle-upon-Tyne, which has the true North-of-England flavour about it.

It was only to be expected that, in a large town like Newcastle-upon-Tyne, brick should have superseded stone as an economical building material. This has been the case not only in England, but all over the world. In Sweden, in Finland, in Denmark, and in Holland and elsewhere we are witnessing a Renaissance of fine brickwork, and it is a pity that the English Tudor brickwork has not



The garden, Doxford Hall, Northumberland. By Mauchlen and Weightman. Details of the terrace.

The garden, Doxford Hall, Northumberland. By Mauchlen and Weightman. Above, the approach to the tennis courts. Below, the garden gate.



The garden, Doxford Hall, Northumberland. By Mauchlen and Weightman. Above, a garden seat. Below, rose-cutting table and dial.

re-blossomed with us. Messrs. Mauchlen and Weightman show good taste in their handling of brick. One of their most charming small houses is that at Wolsington. Here the base is tarred, and the rest of the brick is limewashed, except the stacks, which are harmonized with the mass of the fine slate roof. There is hardly anything more pleasing than the play of light and shade over a limewashed brick wall. The light tone enhances the texture of the surface. Very pale bricks also have this quality. Dark walls cannot give us the same pleasure. The simple dignity of the Wolsington house makes it an outstanding example of the work of the architects. There is no fussiness of shrubberies about it, and the spaciousness of the surroundings is in pleasing accord with the unbroken horizontal lines of the building. Two round windows give the entrance doorway its requisite accentuation.

The house at Jesmond has the same reticence. The combined garage and garden shelter is noteworthy. Brought into relationship with the garden it no longer has that air of aloofness which characterizes the average garage. It does not sulk in its own corner. The result is good, and it is this striving after unity which is probably an outstanding characteristic of the modern architectural spirit.

"The Ridge," Fenham, the home of Mr. B. Robinson, with its Dutch pantiles and sandstock brick, is a good example of their work. The garage is linked with the house; the plumbing, which so often ruins a façade, has been considered as a part of the design; the wrought ironwork has delicacy and refinement as befits iron; and the white plaster lunettes and white woodwork are sparkling accents in the soft tapestry of the brickwork. These houses are efficient, economical, and also beautiful. They do not make grave sacrifices in any one direction. Pope, who remarked of a house:

'Tis very fine,
But where d'ye sleep, or where d'ye dine?

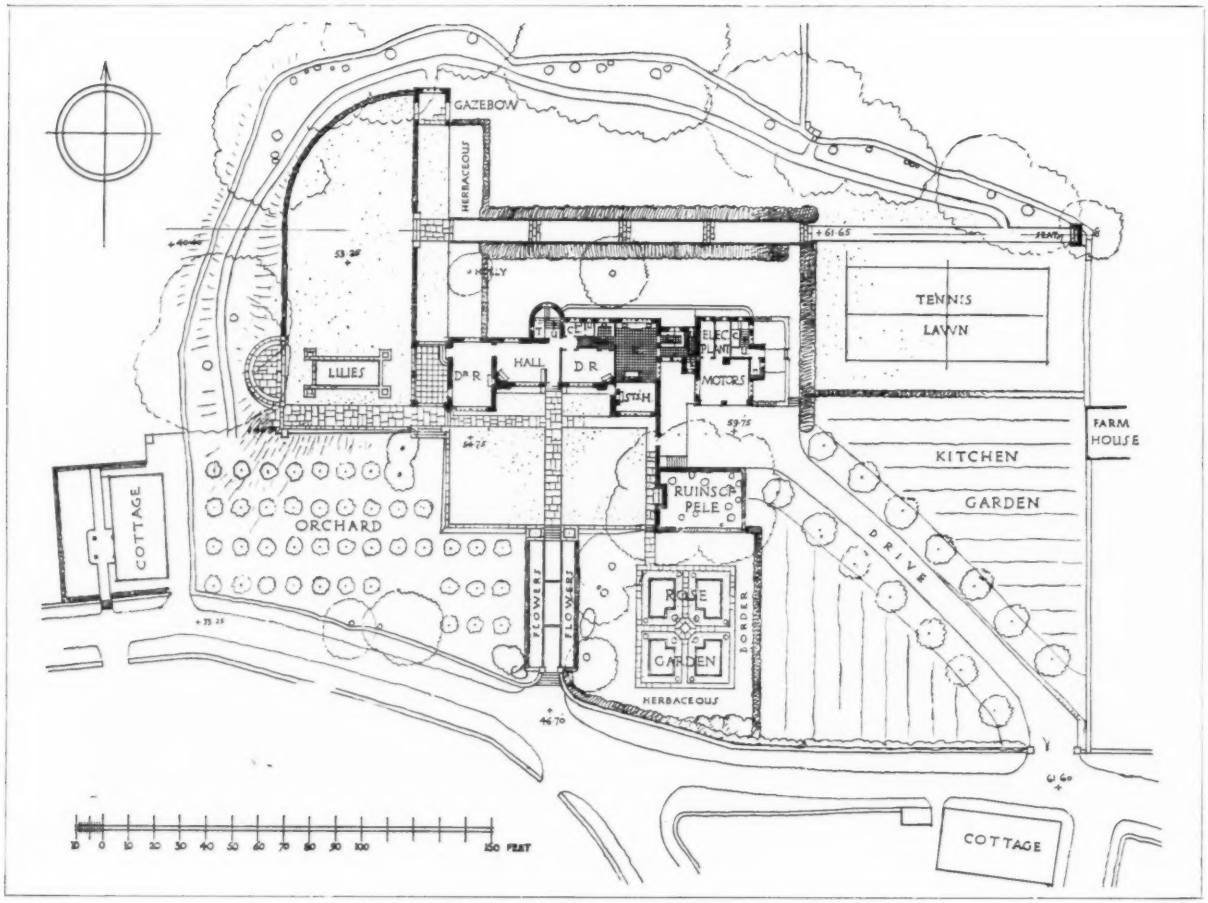
would have no scope for his satire here.

The development of the Axwell Park estate, near Newcastle-upon-Tyne, brings out two present prevalent desires —on the one hand, the desire of the architect to group small houses together and so put an end to the ribboning which disfigures the country everywhere, and on the other, the desire of the small householder himself to live in an individual home which can be readily identified from the houses of his neighbours. Both are proper desires, and the buildings at Axwell Park seem to have established a very happy mean between the two tendencies. Here we have semi-detached houses, detached houses, and bungalows grouped in relationship to one another and all harmonized by the use of two materials throughout: brick and pantiles, with occasional enrichments of plaster. Steel casements, painted white, have been employed with great success There is really great artistic satisfaction to be derived from the sharp, delicate lines of the modern steel casement. Providing it does not rust it is ideal. Painting is the greatest problem.

Great care has been taken to preserve the trees in the vicinity of the houses, and the estate has therefore been much enhanced. The cleft-wood fencing, which does not interfere with the flow of the landscape, is particularly commendable. Altogether the work of Messrs. Mauchlen and Weightman is typical of the conscientiousness and taste which have been brought to bear on the problem of the smaller house, in a steadily increasing degree of excellence, since its first real consideration in the eighteenth century.

The library wing, Doxford Hall, Northumberland. By Mauchlen and Weightman. An interior view of the library.

The library wing, Doxford Hall, Northumberland. By Mauchlen and Weightman. Above, a general view. Below, a detail of the corner stair.



Whitton, Rothbury, Northumberland. By Mauchlen and Weightman.

Doctor's House at Fenham, Newcastle-upon-Tyne. By Mauchlen and Weightman. Above, a general view. Below, the entrance front.

House at Ponteland. By Mauchlen and Weightman. Above, a general view. Below, the entrance.

SOANE'S BANK OF ENGLAND

viii: THE COLONIAL OFFICE

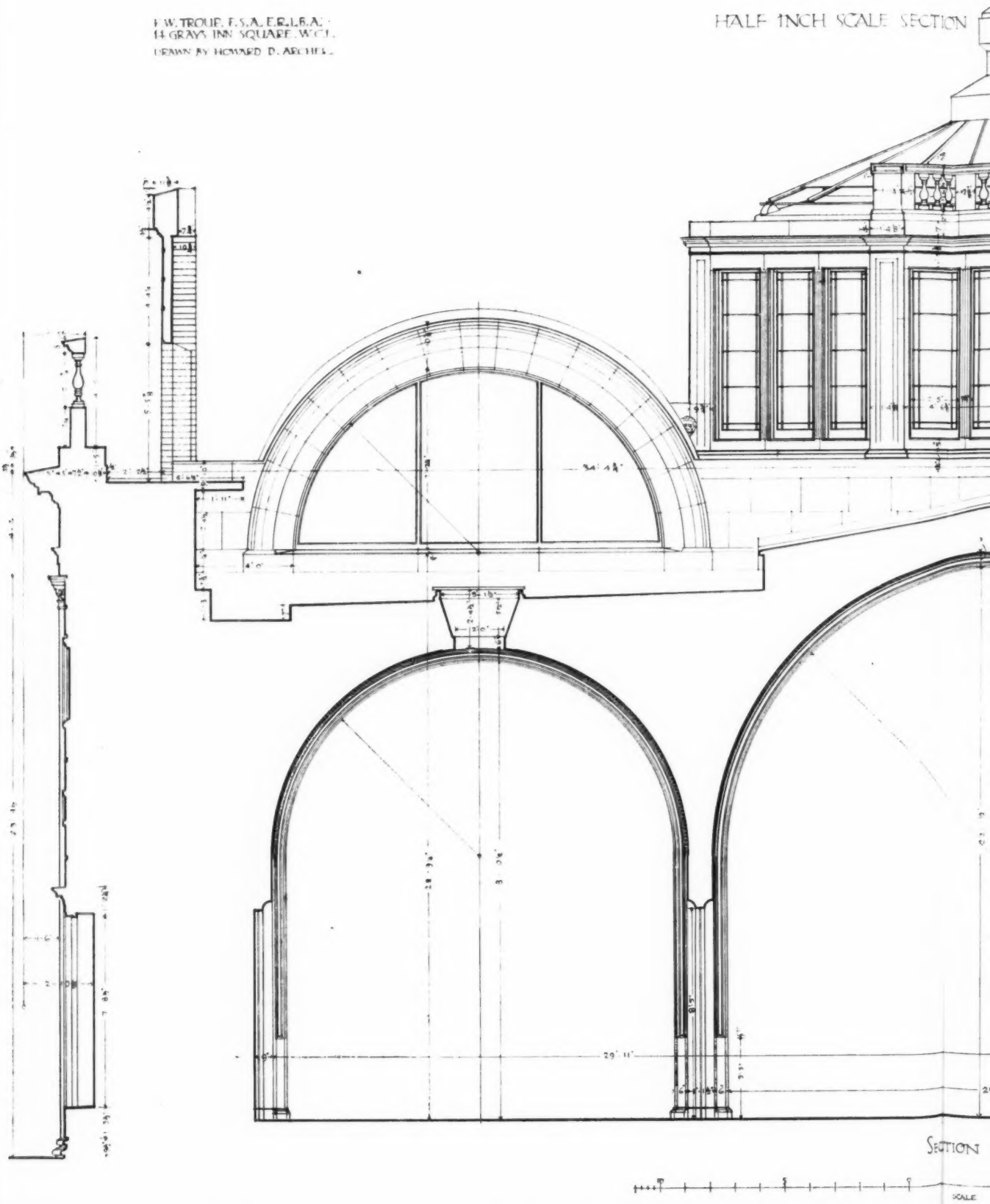
b: Long Section

Stone was used for the nave barrel vaults, whilst both the high and low aisle vaults and the dome were built up with hollow "pots" and plain brickwork, all springing from stone piers. In the lantern, the Ionic columns, the corner piers, mullions, lintels, and balustrades were stone, as was also the rim to the eye of the dome. The ornamental scrollwork in the upper part of the lantern was carried out in brass, and belonged, with the sloping, glazing, and "sunburner," to a period later than Soane. The original top was opaque and acted as a light reflecting surface.—[H. ROOKSBY STEELE.]

THE BANK

HALF INCH SCALE SECTION

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



SECTION

SCALE

ANK OF ENGLAND

SECTION OF COLONIAL OFFICE

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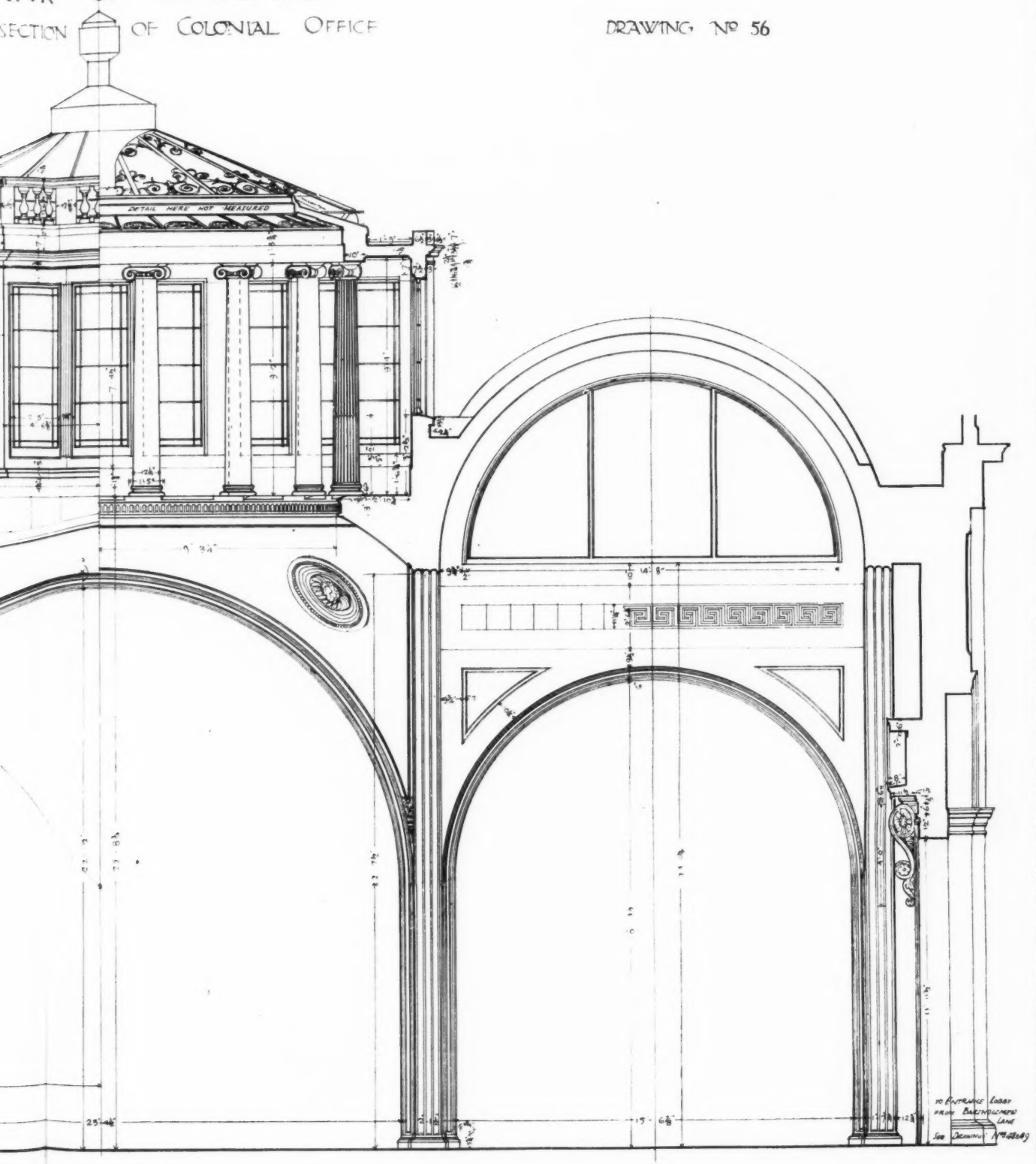

SECTION A–A

SCALE OF FEET

SOANE'S BANK OF ENGLAND. MEASURED DRAWINGS OF THE INTERIORS. (*viii*) THE COLONIAL OFFICE. (*b*) LONG SECTION.

STRUCTURAL ECONOMY IN TIMBER FLOORS AND ROOFS

[BY P. J. WALDRAM]

THE word economy is necessarily unpopular with designers and craftsmen who take a pride in their work. It inevitably suggests stinginess in the supply of material, and mass-production methods of getting it done with the least possible expenditure in wages. Good craftsmanship should never be stinted, but waste of all kinds, whether of labour or materials, is an offence against good craftsmanship, like sand-papering the centering for a brick arch.

A vast amount of waste in present-day design and methods is to be attributed to the desire of designers to save time badly needed for the many new problems which confront architects, by taking their scantling out of a textbook or by-laws, rather than considering the structural problems involved. Any list of scantlings proper for various spans, without due allowance for wide or close spacing of joists or rafters, necessarily involves waste upon intermediate spans or where spacings other than standard are necessary or used. For example, under the Ministry of Health Specification

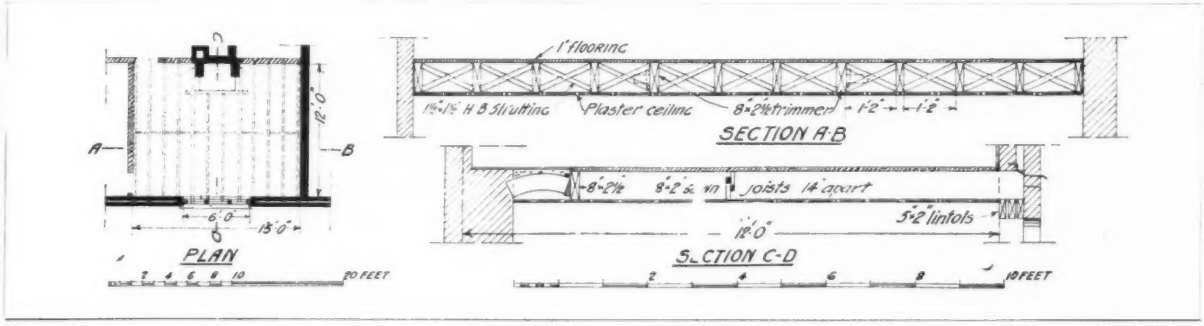

Figure one.

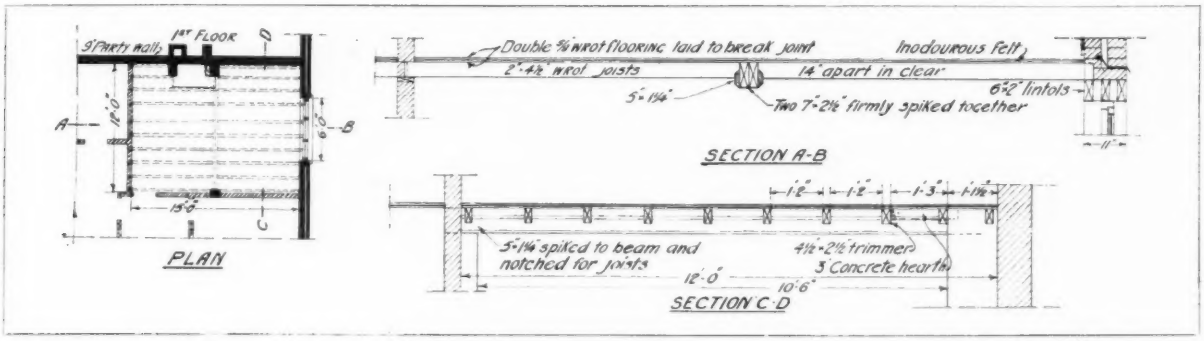

Figure two.

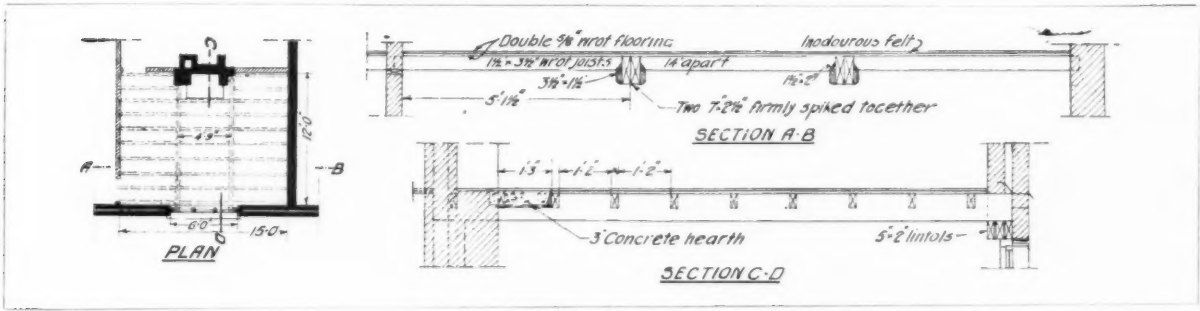

Figure three.

Beamed Cottage Floors. Specification—All to be as stiff as 2" × 7"–16" entres–11' 0" span. Main beams carry half loading of single joists.

for housing schemes, which might be considered to be the best of the by-laws, a 7×2 joist would be required for a span of 11 ft., but for anything over 11 ft. up to 12 ft. an 8×2 or a 7×2½ would be necessary. All these scantlings could be spaced 16 in. centre to centre. If it were possible to take credit for slightly closer spacing, the ordinary market size of 7×2 would have a wider range of usefulness. To bridge a span of 11 ft. 3 in., for instance, precisely the same degree of stiffness and strength would be obtained by spacing 7×2 joists 15 in. apart instead of 16 in. as with the use at 16 in. centres of 8×2, which is not a usual market size, or 7×2½ which contains 25 per cent. more timber than is specified for joists only 3 in. shorter.

The Ministry of Health Standard Specification, like all by-laws, in addition to being confined to a maximum joist spacing for plastered ceilings, also deals solely with single span floor joists. It makes no provision for "binder" floors in which those spans are reduced by the introduction of main beams, nor does it make any allowance for any continuity of floor joists over intermediate supports. Therefore, if the structural basis of the specification could be found it should be possible to widen its scope and to apply the same structural standards of strength and stiffness to reasonable variations of the somewhat narrow limits of design to which it is alone applicable at present.

The scantlings scheduled are the standard by-law sizes, slightly varied to render them consistent. It is impossible to deduce the exact specification of requirements upon which they have been determined, because each joist scheduled is the practical market size of, or *next above*, the scantlings which would exactly meet the requirements. All the joists scheduled would, however, comply with the following specifications:

Full distributed load 56 lb. per sq. ft. of floor carried.

Deflection per foot of span, when elastic modulus (E) is $1{\cdot}6\times10^6$ lb. per sq. in.=span/500 or $\frac{1}{4{\cdot}6}$ in. per foot of span.

It can be shown that these requirements can be reduced to the following simple formulæ.

For joists carrying a width B in feet over a span S in feet the moment of inertia (I) required is:

$$(1)\quad I=\frac{bd^3}{12}=\frac{BS^3}{30{\cdot}5}\text{ or }bd^3=\frac{BS^3}{2{\cdot}5}$$

Individual joists are exposed to local loading and vibrations which render essential a high degree of stiffness to prevent the cracking of plaster ceilings, and it is not suggested that the above specification of requirements is excessive for the individual joists to which it refers. It is, however, suggested that, as an alternative to a scheduled list of scantlings, the specification of requirements should be stated in some such form as above. This would, in a great majority of cases, enable the designer to avoid unnecessary waste by slight modifications, whilst complying with the specified requirements of strength and stiffness.

It is therefore recommended that in order to avoid unnecessary waste of timber the design of floor joists in one span should comply with:

a: The Ministry of Health schedules for joists 14 in. apart, or alternately with

b: The formula, which is consistent with *a*: of moment of inertia (I), of scantling in direction of loading = breadth in feet (B) of floor carried centre to centre of joists × cube of span in feet divided by 30, viz., $I=BS^3/30$.

The reduction of formula (1) is as follows:

Moment of inertia required to limit deflection of rectangular sections to span÷500 when E=1,600,000 lb. per sq. in., and load=56 lb. per sq. ft.

B = breadth of floor carried in feet.
d = depth of section in inches.
b = breadth of section in inches.
W = total load in cwts.
w = load per in. run in lbs. $=56{\cdot}B/12=4{\cdot}65{\cdot}B$.
S = span in feet.
l = span in inches $=12S$.
I = moment of inertia in inch units.
Z = section modulus in inch units.
E = elastic modulus.

$$\text{Deflection under distributed load}=\Delta=\frac{5}{384}\times\frac{Wl^3}{EI}$$

$$\text{Deflection}\div\text{span under ditto}=\frac{5}{384}\times\frac{Wl^2}{EI}=\frac{5}{384}\times\frac{wl^3}{EI}=\frac{1}{500}$$

$$I=\frac{5\times4{\cdot}65{\cdot}B\times S^3\times12^3\times500}{384\times1{\cdot}6\times10^6}=\frac{BS^3}{30{\cdot}5}=\frac{bd^3}{12}\text{ or }bd^3=\frac{BS^3}{2{\cdot}5}$$

Therefore, for given values of breadth of joist, scantling, breadth of floor carried, floor loading, stiffness, and elastic modulus of the material used, the depth of joist must be a constant proportion of the span.

Depth of floor joists 2 in. wide 1 ft. 4 in. centre to centre carrying 56 lb. per ft. sup. when deflection÷span $=\frac{1}{500}$

$$I=\frac{bd^3}{12}=\frac{d^3}{6}=\frac{BS^3}{30{\cdot}5}=\frac{1{\cdot}33{\cdot}S^3}{30{\cdot}5}=0{\cdot}0436S^3$$

$$d^3=0{\cdot}0436\,S^3\times6$$

$$d=\sqrt[3]{{\cdot}2106S^3}=0{\cdot}642S,\text{ say, }\frac{7}{11}S.$$

Stress on 2-in. joists 1 ft. 4 in. centres carrying 56 lb. per ft. sup. when deflection÷span $=\frac{1}{500}$

$$BM=MR$$

$$\frac{Wl}{8}=Zf$$

$$\frac{bd^2f}{6}=\frac{56\times1{\cdot}33{\cdot}\times12S^2}{8}\quad\therefore f=\frac{56\times1{\cdot}33{\cdot}\times12S^2\times6}{8\times2\times0{\cdot}642^2\times S^2}$$

$$=810\text{ lb./sq. in.}$$

With joists 2½ in. wide the depth required to give the necessary stiffness is about 0·6 S and the stress is 650 lb. per sq. in.

With joists 3 in. wide the depth required to give the necessary stiffness is about 0·56 S and the stress is 540 lb. per sq. in.

The superior economy of narrow over wide joists is obvious. Joists 3 in. wide contain 50 per cent. more cube of timber than joists 2 in. wide of the same depth.

With regard to the strength of joists in floors carrying 56 lb. per ft. sup. when deflection is limited to span ÷ 500, it will be seen that in order to meet the requirements of stiffness in individual joists it is necessary to adopt scantlings which leave unused a large proportion of the available strength. It is shown that with joists 2 in. wide at 16 in. centres, carrying floor loads of 56 lb. per ft. sup., the fibre stress at the theoretical depth required to limit the deflection to span÷500 is 810 lb. per sq. in. This would, of course, be reduced by addition to the theoretical scantling to cover market sizes, etc. For instance, the theoretical depth of 2 in. joists for 6 ft. spans is 3·82 in. The practical joist specified is 4×2. With this scantling the stress (f) would be

$$BM=MR=Zf=5{\cdot}33f=\frac{WL}{8}=\frac{6\times1{\cdot}33{\cdot}}{2}\times\frac{72}{8}\times112$$

$$f=112\times6\times1{\cdot}33{\cdot}\times72/2\times8\times5{\cdot}33=755\text{ lb. per sq. in.}$$

The convenient pre-war round figure of 1,000 lb. per sq. in. for safe fibre stress was a very conservative one, giving a factor of safety of about 8 or 9 with the timber then available. The quality of timber now available might be expected to develop an ultimate fibre stress of at least 6,000 lb. per sq. in., giving a factor of safety of 7½ at 800 lb. per sq. in. It will therefore be seen that under the foregoing specification for stiffness the requirements of strength are fulfilled to a degree which is more than adequate and may safely be disregarded.

The beamed construction of floors, which is practically a reversion to the experienced carpentry of the fourteenth and fifteenth centuries, offers very material advantages. It enables wood to be used in the proportion in which it grows and in which it is put upon the market, viz. in small quantities of large scantlings with a more generous supply of small stuff. The modern practice of using a majority of fairly large scantlings 7 in. and 9 in. deep is reflected in the market price, supplies and quality. Scantlings like 4×2 and 3×2 are always comparatively cheap, fairly plentiful, and generally of better quality. Scantlings like 7×2 and 9×2 are more expensive and scarcer, and generally

waney and full of large knots and sapwood. By the use of beamed floors 30 per cent. to 40 per cent. of timber can be saved, and they involve less labour. Scantlings for beamed floors are not specified by the Ministry of Health, and the following considerations are put forward as being those upon which their design should be based.

The assumed loading of 56 lb. per sq. ft. for cottage bedrooms is very largely in excess of any actual load, unless such floors be misused for the storage of heavy root crops or heavy books in unfurnished rooms, a highly improbable contingency which can only properly be provided for by the factor of safety. It would be sheer extravagance to design main beams to meet the assumption that every square foot of a bedroom would simultaneously be carrying $\frac{1}{2}$ cwt. at the same time, even though such an assumption be considered not unreasonable in the design of individual joists liable to concentrated live loads and unabsorbed impact.

The design of main beams might therefore be made consistent with the design of joists, and based upon the Ministry of Health criterion of stiffness (span ÷ 500), but under a loading of $\frac{1}{4}$ cwt. per ft. sup., i.e. by the formula $I = \frac{BS^3}{60}$

In figure four this is plotted for a number of scantlings for various spans and breadths (B) of floor supported.

It can be shown that joists of a span S with one end continuous are as stiff as joists of the same scantlings with both ends supported carrying a similar load over spans equal to S × 0·7.

In railway bridges and similar structures consisting of hard and unyielding material, reliance upon continuity is known to be fallacious and dangerous; but wood floors and timber framework generally are eminently suitable for continuous members because, being individually flexible, they can pick up small errors in workmanship without harm. In aeroplane design the efficiency of continuous members has been proved by innumerable tests, and such members are invariably used in positions where they receive sudden shocks of the most severe character.

To neglect the advantage of continuity in floor joists is extravagant, and the following recommendation is therefore made: That floors of which at least each alternate joist is continuous over two or more spans, separated by intermediate supports or beams, the scantlings of such joists may be determined as for a span equal to 0·75 of the actual span.

The proof of the proposition that a continuous beam may be considered to be as stiff as a free-ended beam of 0.7 of the continuous span is as follows:

The maximum deflection (Δ) of a beam of constant section of moment of inertia (I) with supported, but not fixed ends, supported over a single span (l) an equally distributed load W or w per unit of length × l is

$$(1)\ \Delta = \frac{5}{384} \times \frac{Wl^3}{EI} \text{ or } \frac{5}{384} \frac{wl^4}{EI}$$

The criterion of stiffness is $\frac{\Delta}{l}$

The maximum deflection (Δ_1) of a similar beam similarly loaded but continuous over a central support carrying the same loading over two spans of length l is

$$(2)\ \Delta_1 = \frac{5{\cdot}4}{1000} \times \frac{Wl^3}{EI} \text{ or } \frac{5{\cdot}4}{1000} \times \frac{wl^4}{EI} \text{ or } \frac{5}{922} \times \frac{Wl^3}{EI}$$

This occurs at points situated at a distance from the supported bearings equal to 0·421 L.

The deflection per foot of span as compared with (I) is $\Delta_1 \div 0{\cdot}842l$.

The ratio of Δ to Δ_1 is, therefore, as 922 : 384 and the ratio of $\frac{\Delta}{l}$ to $\frac{\Delta_1}{l}$ is 1095 : 384 or 2·85 : 1.

As deflection per foot of span under continuous loading of w per unit of length varies as span ^{3}, a beam centrally supported and carrying w over two spans l is as stiff as a single span beam of span $l \div \sqrt{2{\cdot}85}$ or ÷ 1·42. In other words, spans (S) with one end fixed or continuous can be treated as regards stiffness as if they were 0·78 instead of S.

[To be concluded]

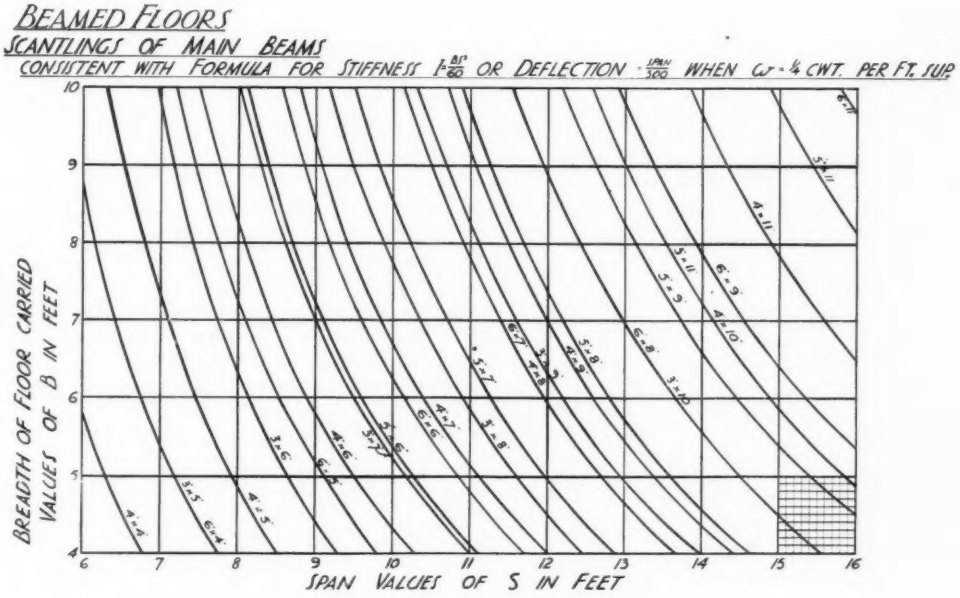

Figure four.

LITERATURE

LIME AND LIME MORTARS

UNUSUALLY close attention to practical building construction honourably distinguishes the welcome special report on Lime and Lime Mortars, issued by the Department of Scientific and Industrial Research. So largely has Portland cement replaced the use of lime in many branches of modern constructional work that a résumé of the known properties of the older material is almost necessary to revive intelligent interest in a valuable ingredient of most buildings. The investigations of the Department have resulted in a clear statement, both of the uses and the limitations of lime in building, and it is well for the architect to face the worst at the outset. Under the heading, Strength of Lime Mortars, it is stated that " In tests of the strength of brick piers under compression, occasionally it is found that a greater ultimate strength will be developed when the bricks are carefully embedded in sand alone, without any admixture, than when built up with lime mortar; though in the former case no tensile strength and but little shearing strength will be shown." Lime mortar is, therefore, only advocated where weights are not excessive, and a maximum of 100 to 150 lb. per square inch has been suggested as a safe working stress for lime-mortar brick construction. Even with these loads it should be noted that undue height of pier may induce failure by bending, and wind pressures may apply loads that will not be simply and safely compressional. The strength of mortar made with hydraulic lime may be considerably greater, since appreciable tensile resistance is often developed. As the use of lime is being advocated in some quarters for the coating of old, decaying stonework, the pronouncement of the Department on the permanence of limewashes is opportune.

" The simplest ' whitewash ' consists merely in a milk of slaked lime in water; this, however, easily rubs off, and disappears almost entirely if exposed freely to the weather for some months." Again, " A plain limewash can be greatly improved by the addition of common salt, in the proportion of 15 lb. common salt to 50 lb. of hydrated lime, or the putty obtained by careful slaking of half a bushel of lump quicklime with 7½ gallons of water." The beneficial effects ascribed to the employment of alkaline limewashes by one modern author in arresting organic decay of stonework is not endorsed by the report, but, on the other hand, the statement of a rival writer on stone preservation that limewashes are liable to promote exfoliation of the surfaces is also ignored.

It is possible, of course, that one stone's meat is another stone's poison, for the evidence of history goes to show that coatings of limewash have lasted throughout thousands of years when applied under favourable conditions. It is to be hoped that the Department will consider the practical utility of limewash as a stone preservative since it is being applied to Westminster Abbey and to other important buildings, and if it is really useless or harmful the facts should be ascertained and made widely known in time to prevent the treatment of other monuments. But though the report is silent on this rather exceptional use (or abuse) of lime, it is full of information on natural distribution of limestone and the burning, slaking, maturing, and use of lime in pigments, mortars, and in plastering. Strangely enough, the reason for applying plaster in three thin coats rather than in one thick one is not expressly stated, though it would save a good deal of vexation if this point were made clear. The three thin coats have very considerable advantages in respect of drying without cracking owing to the fact that they are more manageable as regards adhesion to the laths or to the wall surfaces, and the economy in specifying two-coat work is often more apparent than real.

A section upon pozzolanas, natural and artificial, presents to the reader a possible alternative to the use of natural hydraulic lime or Portland cement in thick walls or masses of concrete where fat lime would never set. A definition of pozzolana is given as follows: " A substance is said to be pozzolanic when, while not necessarily cementitious by itself, it possesses constituents which will combine with hydrated lime at ordinary temperatures in the presence of moisture to form stable insoluble compounds of cementitious value." Pounded bricks and tiles and burnt clay are included among artificial pozzolanas, and natural pozzolanas are generally somewhat similar in chemical composition, though their preparation may have included exposure to natural heat in a volcano from which they have been erupted instead of being burned by human agency. The necessity for including pozzolanic substances in mortars or concretes made with fat lime is insisted upon, and a useful hint is given to the effect that " the colour of an alleged hydraulic or ' blue lias ' lime does not necessarily imply hydraulic properties."

WILLIAM HARVEY

Lime and Lime Mortars. By A. D. Cowper, M.SC., A.I.C. Department of Scientific and Industrial Research. Building Research: Special Report No. 9. London. Published under the authority of His Majesty's Stationery Office, 1927. Price 1s. 9d. net.

ARCHITECTURAL DESIGN IN CONCRETE

Does a change of material revise the standards of architecture? Ultimately—yes. Immediately—no. This will probably be the verdict resulting from a study of this book, which covers almost every type of design that has been evoked by the adoption of reinforced concrete and its employment during recent years in all classes of structure. We see among these examples buildings so traditional in treatment that nothing in the design indicates a change of method. In others the domination of the material is paramount. Between these two types can be traced practically all the intermediate gradations.

The author in his selection and his review of the buildings given, quite evidently leans towards the logical rather than the evolutionary theory of architectural development; he is prepared to accept as architecture some of the designs which go beyond the logical necessities in order to emphasize the fact that reinforced concrete is susceptible to treatments previously unknown. Of course, such work makes for vitality, but it is questionable whether in the long run it does not impede rather than advance the movement towards the legitimate goal of a sound and expressive concrete architecture.

If we take history as our guide we shall find that all the work we can unreservedly admire has been evolved from an experimental stage by the gradual elimination of forms appropriate to preceding conditions, but no longer valid under changed ones, and we in our day are no better equipped æsthetically than the Greek or medieval architects who never dreamed of being able to skip over the intermediate steps of evolutionary growth. In this book there are a number of examples showing how, without abandoning our recognized standards of design, we can construct in concrete consistently and rationally; but there are others, which seem to meet with the author's approbation in equal measure, that exhibit the affectation of using concrete for the purpose of displaying what is possible in this material, rather than for that of fulfilling some fundamental requirement in a beautiful manner.

We would not wish any of the illustrations omitted, but if the book is to be regarded as a guide, it would certainly have been of more service had the criticisms differentiated clearly between the very varied points of view taken by the designers as to the right treatment of their material. Possibly the modesty of the author has withheld him from taking this attitude, or else he has felt that even unsuccessful experiments are in themselves a valuable contribution to our artistic growth. There is something to be said for this point of view, and at any rate we can make our own estimations and draw our own deductions from the material presented to us.

It is a little curious to note that the more traditional designs mostly come from America, and the more revolutionary ones from the Continent. In looking at some of the latter it does not seem clear how the difficulty with which we are familiar in England, namely, the conductivity of compacted concrete, is appropriately met. To give adequate protection against extremes of temperature and to avoid internal condensation, some form of inner lining is required; now to take, for example, MM. A. and G. Perret's very original and imaginative churches, with their thin concrete walls and immense areas of glass, it is difficult to conceive that a reasonably equable internal temperature could be maintained.

The formulation of these few aspects which this publication has brought to one's mind must make it obvious that it is not a book to be ignored, and it is clearly of value at the present time, not only by reason of the buildings illustrated, but also for all the hints it gives on the treatment of concrete from the architectural standpoint.

One trifling error should be pointed out: a provisional referencing of the illustrations in Arabic numbers, having no connection with the plates, has crept into the text and should be omitted in future editions, as liable to confuse the reader.

H. V. LANCHESTER

Architectural Design in Concrete. By J. P. Bennett. Photographs compiled by F. R. Yerbury. Ernest Benn, Ltd. Price 30s.

DRAWINGS OF ST PAUL'S

In 1920 the R.I.B.A. Measured Drawings Silver Medal was awarded to Mr. Arthur F. E. Poley for his drawings of St. Paul's Cathedral. Since 1920 Mr. Poley has taken advantage, as repairs to the fabric have afforded facilities for the purpose, to complete the survey which has been recorded on thirty-two plates.

The Council strongly commend the work to the attention of all architects and architectural students. It is the result of seven years' painstaking effort and worthy of recognition by the profession. Copies of the prospectus of the publication can be obtained from Mr. Poley at Willowbank, Hampton Hill, Middlesex.

Interior of the Breslau Centennial Hall.
[*From* Architectural Design in Concrete.]

THE REGISTRATION BILL

ARCHITECTURAL WORK OF THE CO-OPERATIVE SOCIETIES

AT the sitting of the Select Committee of the House of Commons, presided over by Sir Clement Kinloch Cooke, the Architects' Registration Bill was further considered, and Mr. A. V. Alexander, M.P., Secretary of the Parliamentary Committee of the Co-operative Congress, submitted a précis of evidence from which the following notes are extracted:

This evidence is submitted on behalf of the Parliamentary Committee of the Co-operative Congress, which speaks for the whole of the co-operative movement of Great Britain and Ireland. The co-operative movement is composed of over 5,300,000 members, it engages in all classes of business, and the turnover is approximately £200,000,000 per annum retail, and £100,000,000 per annum wholesale and productive. The extent of the business of the co-operative movement and its steady growth necessitate a great amount of architectural work being done, and it is necessary in dealing with a Bill in connection with architects to ensure that nothing may transpire as a result of the Bill which would interfere in a prejudicial manner with that department of co-operative activity.

Each co-operative society is completely autonomous in the management of its own affairs, and there is no compulsion placed upon any society to employ co-operative architects. A large number of the societies do, however, obtain their architectural services from the architects' departments of the Co-operative Wholesale Society of England and Wales and the Scottish Co-operative Wholesale Society. The principal service rendered by these departments is the architectural work in connection with co-operative business premises—shops, bakeries, warehouses, dairies, factories and, in many cases, meeting halls. In addition to the architectural work of the co-operative wholesale societies a small number of local societies have an architects' department of their own.

In the view of the Parliamentary Committee of the Co-operative Congress it is essential that these activities should be safeguarded by including in any enactment a clear provision which will cover the right of a corporate body to carry on the business of an architect, provided it employs registered architects. I would point out that this is not a new principle in legislation, and a precedent may be found in the Poisons and Pharmacy Act of 1908. It is submitted to the Select Committee, therefore, that a new clause should be added to the Bill, as follows:

> Nothing in this Act shall prevent a body corporate, firm, or partnership from carrying on the professional business of an architect—
>
> *a :* if the business of the body corporate, firm. or partnership, so far as it relates to architecture, is under the control and management of a superintendent who is an architect registered in accordance with this Act, whose name has been forwarded to the person appointed under Section 4 of the Act to keep the register, to be entered in the register, and who does not act at the same time in a similar capacity for any other body corporate, firm, or partnership; and
>
> *b :* if in every premises where such business as aforesaid is carried on, and is not personally conducted by the superintendent, such business is bona fide conducted under the direction of the superintendent by an assistant who is an architect registered in accordance with this Act.

The Parliamentary Committee of the Co-operative Congress also desire to draw the attention of the Select Committee to the growth of applications to Parliament for legislation for the making of professions, and even trades and occupations, into close corporations. There is, in consequence, a grave danger that the avenue to such professions, trades and occupations will be narrowed so as to make it much more difficult for children of working-class parents to qualify and earn their living in these professions and occupations. The Bill under consideration sets up a Council, with statutory authority to maintain a Register of Architects and the power to set up an Admission Committee and to prescribe qualifications for registration. It is submitted that it is essential that adequate representation should be given to working-class movements on the Board of Architectural Education which will advise the above-named Council, and it is suggested that the First Schedule should be amended by providing for representatives to be appointed by such bodies as the Union of Educational Institutions, the Workers' Educational Association, and the Central Education Committee of the Co-operative Union.

The Chairman: You seem to have some doubt as to whether or not this Bill will mean that the architect's profession will be a close corporation?—Yes.

The Chairman: That, I think, we have clearly shown will not be the case. If we can show you that, I take it you have no objection to the Bill? You think there might be a grave danger that the avenue to professional architecture will be made more difficult? If we can show to you that the Bill will not make it more difficult, that will meet your case?—Especially if you provide the safeguards we desire.

Capt. Wallace: Have you taken legal advice that under the Bill it would be impossible for a corporate body to carry on its profession?—It is difficult to answer that exactly. What we have to bear in mind is our experience in connection with other professions. If the real intention of the promoters of the Bill is not to make a rigid close corporation, but only to endeavour by registration to raise the status of architects, what we submit is that if we undertake in the future to employ none but registered architects we shall feel more secure if we have a clause in the Bill.

Sir M. Macdonald: What do you mean in this sense by " close corporation " ?—I am not a lawyer to give definitions nor even an eminent engineer like yourself; but we look at it from this point of view, that a professional occupation which has got statutory authority to control itself in a certain way as to prevent open access to it is a close corporation. While the Bill as at present framed does not meet that definition of mine, it might meet it in the next stage.

Sir M. Macdonald: Is not a close corporation a body whose members alone can statutorily claim fees?—Probably that would be a very good legal definition. What my Committee fear is the second stage of progress unless we have reasonable safeguards. I am convinced in my own mind that architects would not wish to remain in ten or twenty years' time satisfied with the present grant.

Sir M. Macdonald: Do you object to this close corporation?—It all depends whether the admission to that body is adequate. I cannot see there is any fundamental objection to that condition provided access to the corporation is reasonably open. We do not want to do anything to lower the standard of the profession or prevent them from attaining a reasonable standard. All we wish to secure is that reasonable access shall be maintained. The advice of my solicitor is, that if we secure the amendment submitted today together with the amendment of Clause 7 and the amendment which has now been offered to me by the promoters, our position would be very much safeguarded.

MAJOR BARNES RE-EXAMINED

Major Barnes was next re-examined.

The Chairman: You have read, I think, the evidence given to the Committee, and we are going to ask you certain questions. We have had many witnesses, and some of them, including Sir E. Turton, insisted on the retention of the proposed amendment to Clause 20, which, as you know, exempts persons employed under a local authority. Do you think the retention of that amendment is necessary?

Major Barnes: I have had an opportunity of looking at my answers when I was before the Committee last, and I gather I was under a misapprehension as to the real effect of the amendment. Looking at it as I now see it, there appears to me to be nothing in it that we can object to, because the effect of the amendment is to exempt local authorities from all the provisions of the

Bill with the exception of that relating to titles. Reading Sir E. Turton's evidence and the précis prepared by the County Councils Association and other evidence, they make it perfectly clear that they have no desire to use the term "registered architect" unless they are on the register. Therefore, speaking on behalf of the R.I.B.A., we are perfectly agreeable that the amendment proposed by the County Councils Association should be accepted.

The Chairman: Now about Clause 5, subsection 1 (*c*). The Institution of Municipal and County Engineers and the Institute of Builders have suggested that an amendment should be made whereby men of mature years with the proper qualifications may have an opportunity of getting on to the register and an amendment was suggested.

Major Barnes: We have considered that amendment and we are willing to accept it.

The Chairman then mentioned that certain witnesses had urged the desirability of defining in the Bill the expression bona fide and also of defining what is architecture.

Major Barnes said that nobody had found a means of defining bona fides. It appeared to the promoters that it was a term which it would be impossible to define in the Bill. The term was used in a great many connections and it was considered in relation to every connection in which it was used. They thought the only course to be followed was to construe it as it would be by the Admissions Committee, which was a completely representative body, and if their decision was questioned then, of course, it would go before the courts.

Major Barnes added that the Royal Institute did not think that the undertaker should combine with the architect or the greengrocer with the architect or anything of that kind should get even a semblance of encouragement if a man could demonstrate that the very smallest possible fraction of his work was devoted to architecture. They asked that if any qualifying words were added the Committee should take into consideration the possibilities of abuse.

The Chairman: It has been suggested that the Council to be set up should be an independent body. Have you any objection to that?—Yes, that is a matter with which I dealt fully. We would very strongly ask the Committee to take into the fullest account first of all precedent and secondly the facts of the situation. As to precedent we have a very strong one in that of the Law Society and also the Royal College of Veterinary Surgeons. In both these cases, when registration was applied for, these bodies occupied a dominating position and Parliament entrusted them with a register. On the facts, this Committee has had an opportunity of discovering the nature of the other bodies in the country who can legitimately be asked to be associated with the Royal Institute on the General Architectural Council, and we submit that no case has been made that there exists at the present time any body with any claim of the least substance in it to be associated with the Royal Institute of British Architects. It is the only body to which the great responsibility of maintaining this register can be entrusted. It has considerable history, great traditions, and has discharged its responsibilities with honour and satisfaction. We feel that to impose upon it an association such as has been suggested would not be to treat the Royal Institute with the consideration to which it is entitled.

In reply to another question, Major Barnes said that the suggestion that the Institute of Builders should come on the General Council of Architectural Education was not justified by their own actions in the matter of education. They had set up what they called a system of building education and they had carried that out without seeking or offering any representation on their system to the Royal Institute. They had shown by that action that they thought the education of builders could be carried on in that way and the Royal Institute did not disagree, but it did not lie in the mouth of the builders to come there and claim that they should be members of the General Architectural Council. The promoters had not had the slightest intimation from the Institute of Builders that they felt any dissatisfaction at all with their position on the Board. The promoters were willing to be helpful, but they did not feel any resentment because the builders had not brought them into their system.

The Chairman then asked witness if the promoters were prepared to accept the examinations of the surveyors for the purposes of the Bill.

The witness said he gathered that the two bodies concerned had not at the moment developed an examination system, and it would be quite open to both these bodies under the Bill when they developed their examinations to submit them to the Board of Architectural Education.

The Chairman: It was suggested that civil engineers might be prejudiced by the Bill.

Major Barnes: I do not think there is much ground for apprehension. The Institute of Civil Engineers is an extraordinarily powerful body and persons who employ them on the sort of work they do are very important persons. The work which is carried out is that of great public utility societies or by local authorities, and these are bodies who are not likely to draw false inferences from any legislation which is passed. The engineer is the important person on these jobs. He is called in first. The main scheme is with him, and I cannot see for a moment that to any substantial extent the services of architects are likely to be employed upon work of that kind without the fullest concurrence of the engineer.

Replying to another question witness said the promoters agreed that the Institute of Civil Engineers should be placed on the same footing as the local authorities in the matter of exemption.

Major Barnes was then asked several questions relating to architectural education. In reply he stated that one of the features of the architectural profession was that the young man got his chance by competition in quality. But the Institute set its face like a rock against any competition which was based on remuneration, that was to say, putting one architect against another in the matter of his fees. The Royal Institute thought that architects were better not engaged in auctioneering or house agent's business where questions of remuneration might arise. The Royal Institute felt strongly that the association of the architect and the builder was one which was open to gross irregularities.

The Chairman: Sir Charles Morgan suggested that the promoters could obtain their aim without legislation.

The witness: The short answer to that is that if we thought that we should not be here.

Sir M. Macdonald: The Institute of Civil Engineers have successfully attained their object without legislation.

Major Barnes: I do not think so. Sir Charles Morgan's evidence shows that many people fall below the standard set up by the Institute of Civil Engineers.

The Chairman: Now I come to a rather controversial point. It has been suggested there should be some definition of architecture in the Bill. Would it be possible to put a definition into the Bill?

Major Barnes: It would be quite possible to put in a definition, but it would be one that would create more difficulties than it would remove. You are dealing with a profession that fringes away into a sort of no-man's-land between architecture and engineering and you cannot draw the boundary line. What does really happen now is that everybody has a sufficient idea of what an architect, engineer or builder is and they go to one. To attempt to define a profession in this particular Act would be to attempt to do what has never been done in any other Act.

The Chairman: Professor Pite seemed to think that the poor boy was not sufficiently considered or thought of in the Bill. Perhaps you could say whether or not in your view there is any foundation for any suggestion of that kind.

Major Barnes said he would be surprised if there was any profession in Great Britain to which access was so open as the architectural profession. An examination of figures and facts showed that Professor Beresford Pite was under some misapprehension on the point. An examination had been made of the application forms of the last 115 boys in Great Britain actually admitted as probationers of the R.I.B.A. and now preparing for the Intermediate Examination.

Out of the 115, twenty-nine were pupils at "recognized schools." Their previous education was as follows:

Elementary schools ..	4
Private schools	1
Secondary schools ..	10
Public schools	14
	29

These twenty-nine represented the class which could afford relatively high fees, but even here there were four elementary school boys out of twenty-nine and only fourteen public school boys. The remaining eighty-six out of the 115 cases examined confirm in a remarkable way the views expressed by himself (Major Barnes):

5 were educated at private schools.
8 „ „ „ public schools.
17 „ „ „ secondary schools.
56 began their education at Council elementary schools.

Taking the two classes together, sixty, or more than half of the 115, were elementary school boys.

The Committee adjourned.

LAW REPORTS

ARCHITECT'S CLAIM FOR FEES

Lindsell v. *Young. King's Bench Division. Before Mr. Justice Avory*

This was an action by Mr. James Lindsell, an architect of Hornsey Rise, against Mr. Robert Young, a builder and contractor, claiming £1,088 as fees for work done.

Mr. Pereira appeared for the plaintiff and Mr. Moresby for the defendant.

The action arose out of work plaintiff did for the defendant as an architect in connection with the proposal to erect a block of flats upon the site of "The Briars" at Finchley. In March 1927 plaintiff sent in his account and defendant replied that he would send on a cheque as soon as the financing of the scheme was settled. The letter also stated that it was part of the arrangement between them that the plaintiff should wait for his fees until the finance had been arranged. Nothing was said, plaintiff pleaded, about the charges being excessive or the plans being incomplete. Plaintiff denied the arrangement alleged.

Plaintiff in his evidence said he was an architect practising since 1881. He was not a member of the R.I.B.A. He had undertaken a number of important buildings.

His lordship: We need not go into that. No defence is put forward that he was not competent.

Plaintiff said he made the original plans for the defendant and also plans in regard to the reduced scheme. He was engaged as the architect for the work. Proceeding, plaintiff said in June 1926 he went and saw the defendant, who explained that he proposed to pull down a large house and erect flats on the site. Defendant requested him to make some plans for a block of sixty-six flats. Nothing was said about plaintiff's remuneration on that occasion. Plaintiff prepared some sketches and submitted them to the defendant.

Mr. Moresby said the defendant admitted that the work was done.

Plaintiff said that scheme was not approved, and he then prepared plans for a block of thirty-three flats, which were approved by the U.D.C. on November 24. Plaintiff was instructed to get out a complete specification, and he did. No quantity surveyor was engaged, and he got out the quantities for the brickwork. He also got out particulars for the sub-contractors. The cost of the block of flats was estimated at £27,000. The larger block would have cost £43,000. Plaintiff was not going to supervise the work, as the defendant was going to build himself. About the middle of November plaintiff asked for some money on account, and defendant said he would see what he could do, but he would try and let plaintiff have £100 as soon as he could. On December 4 he received a wire from the defendant referring to money, saying he could do nothing till the following week. Later, he called at defendant's house and was handed £20 by the defendant's wife, she saying her husband had handed her £20 to give him. Plaintiff sent a receipt for the money on account. On the Christmas Eve defendant gave him another £5 on account, saying that was all he could give him. The fees he had charged were fair and reasonable and were less than the scale of the R.I.B.A.

Cross-examined. He never agreed to wait for his fees till the finance in regard to the flats was arranged. Plaintiff had known defendant some years. When plaintiff saw defendant he agreed that the defendant's scheme for flats was feasible, but would cost many thousands of pounds. Defendant never told plaintiff he could not go on with the scheme unless he was financed. Plaintiff was aware that his fees on this scheme would amount to £2,000 or £3,000, but he never mentioned any contract to secure his fees.

Mr. Moresby: I suggest that your arrangement with the defendant was that your fees would be dependent on his getting financed?—Nothing of the kind. Plaintiff said at a later interview defendant put that view forward, but witness denied it. Witness based his charges on the R.I.B.A. scale.

I put it to you that under that scale you would only be entitled to £250?—Plaintiff disagreed. He put his charges on the cost of the building, viz. 1 per cent. on the big scheme, and 2½ per cent. on the small scheme. His two sets of plans were quite different.

The defendant gave evidence, and said he formed the Robert Young Construction Co. When he saw plaintiff in regard to the scheme in question, he made it clear that if the finance was found and went through the plaintiff would be paid his fees. The plaintiff agreed to that. He gave the plaintiff £20 because he came to him in difficulties. It was a loan which was to be deducted if the finances went through. The £5 given plaintiff later was on the same understanding. Though one scheme of finance had fallen through, witness was still negotiating for finance to carry the scheme out. Should it go through, he would pay the plaintiff his fees.

Cross-examined. The receipt the plaintiff said he had given for the £20 witness said he had never seen.

This being the defendant's case, the parties, at the suggestion of his lordship, agreed to call expert evidence limited to the value of the work done.

Mr. Geo. L. Russell, A.R.I.B.A., Basinghall Street, said he considered the charges of the plaintiff fair and just having regard to the work done.

Mr. John Douglas Scott, A.R.I.B.A., and chairman of the Practice Standing Committee, called for the defendant, gave it as his opinion that the plaintiff's charges were excessive.

His lordship: Give me your idea.—Witness: Well, I should say £100 for the first scheme and £200 for the second scheme, plus out-of-pocket expenses. That is a fair value, treating the work as an abandoned project.

His lordship said the defendant had failed to satisfy him of any such special agreement as he had set up in regard to payment. Plaintiff made no such agreement as the defendant alleged, and was entitled to be paid. He arrived at the conclusion that the proper sum to be paid the plaintiff was £575, and he gave judgment for plaintiff for £575 with costs.

ALLEGED BREACH OF COVENANTS: REPAIR

Stennett v. *Doyle. Chancery Division. Before Mr. Justice Tomlin.*

In this action the defendant admitted that there had been certain breaches in the lease of an hotel of covenants to repair, paint, etc., and he asked the Court to find relief for forfeiture, offering to carry out the work in a reasonable time and to pay the costs of the action.

Mr. C. A. Bennett, K.C., appeared for plaintiff, and stated that the plaintiff was the landlord of the White Hart Hotel at Gainsborough, Lincs, and his action was for possession on the ground of breach of the covenants to keep the premises in good and habitable repair, and paint the outside iron and woodwork once

every four years and the interior every seven years. The lease ran from January 1918, and was for fourteen years, there being a right of re-entry if the covenants were not carried out. When the lease was granted the hotel was the principal commercial one in the town, but owing to its present state its value had deteriorated very greatly. Counsel could not resist the application for relief, but he submitted that the defendant should be put on stringent terms.

Mr. Hunt, for the defendant, said his client would undertake to commence the work at once and pursue it with speed, and, further, he would agree to the appointment of an independent surveyor to decide what work under the covenants should be carried out.

It was decided that a surveyor from either Birmingham, Leicester, Derby, or Burton-on-Trent, familiar with licensed property, should be nominated by the President of the Auctioneers' and Estate Agents' Institute, to carry out the suggestion of the defendant.

In adjourning the case his lordship said he would expect to be fully informed of what had been done, and upon being satisfied that the undertaking would be complied with, he would then make an order in the matter of relief for forfeiture asked by the defendant. The defendant would have to pay the costs of the action and the fees of the surveyor to be appointed.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

The Select Committee of the House of Commons, which is considering the Architects (Registration) Bill, met in private to go over the evidence which they had heard and to consider the suggested amendments to the Bill.

At question time Major Cope, replying for the Minister of Health, informed Mr. Buxton that ninety-eight schemes for the clearance of slum areas in various parts of the country had so far been confirmed, and the Minister anticipated that, in view of the progress which was being made generally with house building, local authorities would shortly be able to turn their attention in a greater degree to that aspect of the housing problem. The question of further legislation to facilitate and extend the power of dealing with slum conditions was at present engaging the Minister's attention.

Sir Robert Thomas asked the Home Secretary whether, in view of the rapid urbanization of the rural districts, he was prepared to introduce legislation dealing comprehensively with the whole question of the disfigurement of the countryside, and especially of beauty spots and holiday resorts, by advertisements, industrial plants, and other objects?

Sir W. Joynson-Hicks said the answer was in the negative. His Majesty's Government were always willing to consider any practicable suggestions that might be put forward for protecting the natural beauties of the country, but he was unable to conceive how it would be possible in a single measure to deal with a subject of such complexity and involving so many different interests. Extensive powers had during the life of this present Parliament been conferred on local authorities to protect their districts against disfiguring advertisements, and in town-planning schemes for land about to be developed for building purposes provision might be made for securing the amenities of the area.

Sir R. Thomas next asked the Minister of Health whether, in view of the steady encroachment of urban conditions upon the countryside, consequent upon the easy access afforded by motor transport, he had considered the desirability of setting apart certain districts as national parks for the purposes of health and holiday-making, with restrictions upon the erection of houses and industrial buildings?

Mr. Chamberlain said that measures were not contemplated in this direction. Action on the lines suggested would involve considerable expenditure, and he did not think the time had come for it. Much could be done by local authorities under town or regional planning schemes.

Sir John Power asked the Minister of Health whether, in the forthcoming Rent Restriction Bill, he intended to make it easier for people to obtain possession of their own houses for their own occupation?

Sir Walter de Frece asked the Minister of Health whether, in connection with the renewal of the Rent Restriction Act, he would consider the desirability of obtaining from the chief local authorities their views on the policy of gradual decontrol and its effect on the housing problem in their respective areas?

Mr. Chamberlain said that the present proposal of the Government was that the Rent Restriction Acts should be extended for one year by means of the Expiring Laws Continuance Act, and if that was done no amendments would be practicable.

CORRESPONDENCE

ART IN INDUSTRY

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—I read Mr. H. H. Peach's letter in your journal with interest. I agree with much that he says and he is evidently well equipped as an advocate for industry and apologist of the machine. I should like to point out to him, however, that the leader "Art *versus* Industry," to which he, in part, takes exception, dealt only with certain particular points raised by another correspondent, and was confined to the presentment of certain facts. Mr. Peach does not directly challenge any of those facts but confines himself to a general disparagement of the conclusions obviously, as I think, to be drawn from them. The subject is of interest to architects who are concerned both with the work of craftsmen and machine-made products of all kinds, and I would invite Mr. Peach, if I may do so, to justify his position either by demolishing the facts or my interpretation of them.

YOUR LEADER WRITER

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—Does your leader writer seriously suggest that a room full of collectors greedily bidding one against another at Christie's is a test of intrinsic merit? When he says that "even if it were in the power of the machine to rival the work of craftsmen, industry has no such motive," he is making a generalization which can be swept aside by example after example. I know a piano factory, staffed for the most part by sons and grandsons of craftsmen who worked at these same benches, where, in certain preliminary woodworking operations, the machine is doing as well, and sometimes better, work which used to be done throughout by hand, but which is now only finished by hand. And it is my impression that these craftsmen themselves pointed with pride to the efficiency of the machines employed. And is there nothing to be said in favour of the inexpensive pianos? Is it not a blessing that the humble people may have the enjoyment of music put within their reach as a result of this? Are the rich alone to have music in their homes because the rich alone can afford to pay for hand-craftsmanship? And what applies to pianos applies to numberless other things. There must be, in modern civilization, degrees of excellence. How can it be said that "industry . . . is alone concerned to produce" shoddy makeshifts? Has he never seen anything produced decently by a machine? Has he never seen a machine-cut gear wheel, or a safety razor-blade? Is every part of everything produced today to be made by hand?

WILBUR RUSSELL

ANNOUNCEMENTS

Mr. Robert Atkinson, Director of Education at the A.A., has been awarded the degree of Master of Architecture of the University of Liverpool.

Mr. Arthur F. Usher, F.R.I.B.A., and Mr. Joseph Hill, F.R.I.B.A., who are the partners in the firm of Messrs. Yetts, Sturdy and Usher, have removed their offices from 115 Moorgate, E.C.2, to 34 Gordon Square, W.C.1. Telephone, Museum 0467.

Messrs. Lowry and Woodhouse have removed from 33 St. James's Street to No. 15 Dean's Yard, S.W.1. Telephone, Victoria 3987.

Mr. T. D. Atkinson and Mr. C. W. Long have dissolved their partnership agreement. The practice will be continued by Mr. C. W. Long under the title of "Atkinson and Long."

In future, all communications to Mr. Joseph F. Delany, M.INST.C.E.I., M.INST.MECH.E., M.INST.M. AND CO.E., consulting engineer, should be addressed to 97 Stephen's Green South, Dublin.

SOCIETIES AND SCHOOLS

R.I.B.A. Council Meeting

Following are notes from the minutes of the last meeting of the Council of the R.I.B.A.:

Professor S. D. Adshead. The congratulations of the Council were conveyed to Professor S. D. Adshead on his appointment as a member of the Royal Fine Art Commission.

The Statutory Control and Development of Rural England. A comprehensive report on this subject prepared by the Town Planning and Housing Committee was approved and forwarded to the Council for the Preservation of Rural England.

International Congresses. In view of the agreement reached in Paris at a meeting of the Comité Central des Congrès Internationaux des Architectes, held on February 21, 1927, whereby it was unanimously agreed to dissolve the temporary organization and revive the Comité Permanent International des Architectes as this existed in 1914, the Council approved the reconstitution of the British Section of the C.P.I.A. as previously existing, and agreed to nominate delegates to represent the R.I.B.A. at the forthcoming International Congress to be held at The Hague from August 28 to September 4.

The Preservation of Ancient Cottages. Mr. O. P. Milne, F.R.I.B.A., was appointed to represent the R.I.B.A. on the Advisory Committee set up by the Royal Society of Arts to administer the scheme for the "Preservation of Ancient Cottages."

The British Engineering Standards Association. It was agreed to renew the annual grant of £100 to the British Engineering Standards Association for the year 1927.

The Franco-British Union of Architects. It was agreed to increase the annual grant to the Franco-British Union of Architects to £50 for the year 1927.

The University of Sheffield Court of Governors. Mr. Robert Atkinson, F R.I.B.A., was reappointed as the R.I.B.A. representative on the Court of Governors of Sheffield University for a further period of three years.

The Empire Forestry Association Governing Council. Mr. H. D. Searles-Wood, F.R.I.B.A., was reappointed as the R.I.B.A. representative on the Governing Council of the Empire Forestry Association.

The National Association for the Prevention of Tuberculosis. Mr. Sydney Kitson, F.R.I.B.A., was appointed as the R.I.B.A. delegate at the Thirteenth Annual Conference of the National Association for the Prevention of Tuberculosis.

The British Waterworks Association: Standing Committee on Water Regulations. Mr. H. D. Searles-Wood, F.R.I.B.A., and Lt.-Col. P. A. Hopkins, L.R.I.B.A., were reappointed as the R.I.B.A. representatives on the Standing Committee on Water Regulations of the British Waterworks Association.

Exhibition of Modern British Architecture. A hearty vote of thanks was passed to the members of the Hanging Committee for their work in connection with this Exhibition.

The Fellowship. The Council, by a unanimous vote, elected the following architects to the Fellowship, under the powers defined in the Supplemental Charter of 1925: Great Britain: J. L. Ball (Birmingham), J. B. Nicol (Aberdeen), F. C. Mears (Edinburgh), M. H. Bailie Scott (London), Adrian Gilbert Scott (London). Overseas: A. S. Hook (President of the Institute of Architects of New South Wales), B. J. Waterhouse (Vice-President of the Institute of Architects of New South Wales), John Perry (President of the Cape Institute of Architects).

The Eleventh International Congress of Architects

At a recent meeting of the permanent committee of the International Congress of Architects held in Paris, it was decided to hold the Eleventh International Congress in Amsterdam and The Hague from August 29 to September 4. This will be the first regular International Congress of Architects held since the war. The architects of the Netherlands have long desired this meeting and are exerting every effort to make it a notable gathering. Five of the subjects thus far decided upon for discussion are: 1: International competitions; 2: Legal protection of the title of architect; 3: Architectural copyright; 4: Architecture as practised by the architect and by the architect-builder; 5: Artistic development of architecture since 1900. A more detailed programme will be published later. The International Congress of Architects was organized in Paris in 1867, where the first three meetings were held. The fourth was held in Brussels in 1897, the fifth in Paris in 1900, the sixth in Madrid in 1904, the seventh in London in 1906, the eighth in Vienna in 1908, the ninth in Rome in 1911, and a congress was held in Brussels in 1922. Those expecting to be present should communicate with the Secretary of the British Section, Lt.-Col. H. P. Cart de Lafontaine, A.R.I.B.A.

The University of Liverpool School of Architecture

Following are the examination lists for July:

Faculty of Arts, Degree of B.Arch.

FIFTH EXAMINATION

Honours in Architectural Design

Class I
Heal, R. G.

Class II
Davies, E. F.
Mackenzie, K. R.

Honours in Architectural Construction

Class II
Hall, G. A. V.
Ridge, G. A.

Ordinary Degree
Aspland, A.

The above examinations secure exemption from the final examination of the R.I.B.A.

FOURTH EXAMINATION
Davies, E. F.
Docking, S. J.
Heal, R. G.
McKenzie, K. R.
Powell, H. H.

THIRD EXAMINATION
(which secures exemption from the intermediate examination of the R.I.B.A.)
Bodhiprasad, N.
Eden, W. A.
Freeman, P. G.
Wilkinson, H. H.
Williams, R. A.
Wright, L.

SECOND EXAMINATION
Archer, Hilary
Fairclough, A. B. R.
Harper, D. R.
Haywood, Nancie B.
Holford, W. G.
Hutton, C. W.
Marks, Joyce
Meldon, A. G. P.
Nelson, J. O.
Stephenson, G.

FIRST EXAMINATION
Baird, Margaret
Best, A. M.
Gardner-Medwin, R. J.
Goodacre, N. W.
Lunn, N. S.
Miles, Marjorie
Mitchell, N. B.
Mitchell, T. N.
Roberts, R. E.
Rossell, R. E.
Thornely, Ethel M.
Winston, D.
Worsnip, J. V.

Faculty of Arts, Diploma in Architecture.

FIFTH EXAMINATION

Distinction in Architectural Design
Lewis, O. G.
Stout, H. B.

Ordinary Diploma
Cotton, A. C.
Dobie, W. H. G.
Haynes, T. C.
Metcalfe, J. G.
Sumner, B. A.

The two examinations above secure exemption from the final examination of the R.I.B.A.

FOURTH EXAMINATION
Cotton, A. C.
Dobie, W. H. G.
Haynes, T. C.
Hughes, J. L.
MacGillivray, I. D.
Parry, H. T.
Stout, H. B.

THIRD EXAMINATION
(exempted from intermediate R.I.B.A.)
Ashworth, A. T.
Brown, C. S.
Burrows, A. C.
Cowin, J. N.
Crabtree, W.
Hearnden, E. G.
Holt, A. N.
Kelly, S. W.
Knowles, H. J.
Lightfoot, B. St. C.
Murray, E.
Plant, W. G.
Poulton, D.
Segar-Owen, G. J. S.

SECOND EXAMINATION
Archibald, R. M.
Fairless, C. L.
Furbur, E. R.
Griffith, R. G.
Hughes, J.
Inglis, J. B.
Kenyon, G.
Morter, P. S. P.
O'Flynn, E. P.
Owen, H.
Woods, H. J.
Wright, J. H.

FIRST EXAMINATION
Banister, H.
Bevan, H. L.
Frankenthal, J. J.
Jackson, R. J. L.
Kelly, R. H.
Mukhtar, A.
Peace, F. N.
Richardson, Rachel J.
Rowley, C. J.
Shennan, W. M.
Sheridan, J. G. R.
Stirrup, G.
Weerasinghe, O. F.

The School of Architecture, University of Liverpool

Following is a list of prizes awarded in the School of Architecture, University of Liverpool, session 1926-27: Holt Travelling Scholarship, P. G. Freeman (Third Year Student); Anthony Minoprio Prize, P. G. Freeman (Third Year Student); Holland and Hannen and Cubitts Prizes for Working Drawings: 1st Prize, W. G. Plant (Third Year Student); 2nd Prize, G. A. V. Hall (Fifth Year Student); John Rankin Prizes, J. B. Maxwell (Fifth Year Student); A. Owen (Fourth Year Student); White Star Prize, R. G. Heal (Fifth Year Student).

THE NEW FLATS FOR ST. PANCRAS

A model has been standing for the last few days in one of the rooms in the County Hall of the proposed new London County Council buildings to be erected on the cleared Ossulston Street site. This has aroused not only interest, but a good deal of admiration. Members of the London County Council and others have found the model most helpful in making it clear that Colonel Levita and his Housing Committee have no intention of erecting skyscrapers in London. The building represents a compromise. In two blocks the centre rises to nine stories, but the outlines are admirably broken up, and the architectural treatment effectively depends upon the massing of the buildings.

The plan contains a number of new ideas which will no doubt have their effect upon housing for many years to come. For example, sun balconies are being provided to all working-class flats above the fifth or sixth story, and on these there will be sufficient space for a perambulator or a cradle in which the baby can sleep. Then again, considerable modifications have been made with a view to reducing the possible loss upon public funds. As designed years ago, the nine-story buildings were not only somewhat monotonous in their external appearance, but would have involved a heavy loss upon public funds. The London County Council, however, have now obtained power from Parliament to build some thirty-five shops which will bring in substantial rents, and also garages. Then, too, on the ninth story studios are planned on the Vienna model, and no doubt these rooms will be much sought after by photographers and others. Thus the cost, although heavy, will largely be compensated for by these revenue-producing adjuncts.

In addition, there are to be a certain number of flats suitable for other than the working classes with a separate entrance and a drive skirting a garden. These flats, so near to the centre of London, should prove to be very attractive. They are planned to provide a sitting-room, two bedrooms, a spacious hall, and a kitchen. Probably the scheme will be still further modified, for it is not expected that one block will be completed until 1930, and the other and larger block until 1935.

A NORTHUMBERLAND FIRM

Following are the names of the contractors and sub-contractors for two of the buildings, by Messrs. Mauchlen and Weightman, illustrated on pages 97 to 106:

Doxford Hall, Northumberland, library wing and garden, for the Rt. Hon. Walter Runciman, M.P. General contractor, for garden contract, Messrs. R. Carse and Sons, Amble. The stone was from a local quarry, and Yorkshire flags were obtained from F. Shackleton, of Goole. The balustrades are in Bath stone, by Messrs. Bath Stone Quarries, Ltd.; M. Aynsley and Sons, Newcastle-upon-Tyne, wrought-iron gates; Backhouse, Ltd., York, shrubs and trees.

Whitton Grange, Rothbury, Northumberland. General contractor, T. Muckle and Sons, Rothbury. Stone was obtained from Messrs. Muckle's quarry, and "Precelly" rustic slates from Davies Bros., Portmadoc; Dinning and Cooke, Newcastle, low-pressure hot water; Falcon and Cross, Newcastle, electric wiring; Henry Hope and Son, Birmingham, steel casements; Bewley and Scott, Dunston-on-Tyne, English oak panelling and stair; Backhouse, Ltd., York, shrubs and trees. The electric light fixtures were designed by the architects.

TRADE NOTES

The Liverpool Corporation have placed a contract with Messrs. Standard Telephones and Cables Limited for the supply of 200 Gamewell Fire Alarm Boxes. The whole of the work will be carried out at the company's factory at Hendon.

The Ogden Engineering Co. have secured a large contract for the complete air washing, heating and ventilating apparatus for the Masonic Temple, Bradford, Yorkshire. It will be a six-story building designed on the most up-to-date lines.

Messrs. Allen-Liversidge, Ltd., have announced a final dividend on the ordinary shares of 5 per cent. (less income tax), making, with the interim dividend paid, 10 per cent. for the year ended April 30.

The travelling exhibit of the National Radiator Company, Ltd., which is fitted with a working installation of the Ideal Cookanheat and Ideal Classic Radiators, will give the following demonstrations: July 22 and 23, adjoining Half-way House Hotel (corner of Middleton and Bury Old Roads), Cheetham Hill, Manchester. July 25, in front of White Horse Inn, Prestwich. July 26, Market Place, Radcliffe. July 27 to August 1, Royal Lancashire Show, Bolton.

The exhibits of Messrs. Ruston and Hornsby, Ltd., at the Royal Show at Newport, Mon., included petrol-paraffin and oil engines, pumps and pumping plant, excavators, and a collection of agricultural machinery. Among the best-known of the firm's specialities are petrol-paraffin engines, two types of which are suitable for all industrial and electrical purposes. These engines start immediately from cold without the use of a blow lamp. They run for a short time on petrol, and afterwards on refined petroleum, paraffin, or kerosene. Two other specialities of the firm are the vertical and the horizontal airless injection oil engines. Both these engines run on the cheapest oils, either crude, residual or tar-oil, and each embodies its own particular advantages.

Messrs. Parker, Winder and Achurch, Ltd., of Birmingham, have sent us particulars of an oil burner which is about to be introduced into this country. This burner has achieved much popularity in America, and burns light fuel oil and is noiseless. It can be installed in any existing warm air, hot water, steam, vapour or vacuum heating plant in a few hours. The oil fuel is stored in a tank, preferably underground, and is fed mechanically to the oil burner. Here it is atomized, ignited, and projected under the boiler as a fierce flame. The whole process is controlled by a thermostat. This may be fixed in any room in the building. It consists of a thermometer and a lever which is connected electrically with the oil burner. The lever moves along a plate showing degrees of temperature. It is set at the desired degree, and if the temperature shown on the thermometer is less than that desired this action sets the mechanism of the burner working. As soon as the desired heat of the room (and of the whole house) has been achieved by the operation of the burner, the thermostat automatically closes down the burner and the latter only functions again when the heat of the room has fallen below the desired level, when it runs again until the heat is normal.

THE SUN INSURANCE OFFICE

Above the shop front of the Sun Insurance Company, Ltd., illustrated in our issue for June 15, page 867, appeared a board bearing the name of Messrs. W. S. Barton & Co., builders and contractors. It might be assumed from the inclusion of this board that Messrs. W. S. Barton & Co. were responsible for the shop front. This is incorrect. The contractors for the Sun Insurance Co., Ltd., were Messrs. Turnbull and Son. The board of Messrs. W. S. Barton & Co. was exhibited to denote that they were carrying out alterations to the upper floors of the Canadian Pacific Railway's premises.

THE WEEK'S BUILDING NEWS

The ILFORD Corporation is seeking sanction to borrow £50,000 for further housing advances.

*

The managers of the St. Gregory's Roman Catholic School, Farnworth, BOLTON, are to enlarge the school to accommodate a further 300 children.

*

The BOLTON Corporation Housing Committee is acquiring more land at Moorfield estate and voting £17,000 for the erection of houses.

*

The CHELTENHAM Corporation Spa Committee has asked Mr. Barnard to prepare plans and estimates for the provision of new baths at the rear of the Winter Gardens, it having been decided that it would be impracticable to adapt the south transept of the Winter Garden for medical baths.

*

The BIRMINGHAM Corporation Gas Committee is acquiring premises in Harborne for purposes of branch offices and depot.

*

The MANCHESTER Corporation proposes a capital expenditure of £609,000 on housing schemes at Withington.

*

The MANCHESTER Education Committee is obtaining a site at Gorton for the erection of a special school.

*

The MANCHESTER Corporation is acquiring land at Ladybarn at a cost of £38,500 for a housing site.

*

The Sutton Dwellings Trust is acquiring a site at St. Quintin Park, KENSINGTON, at a cost of £15,000 for the erection of tenements.

*

The WIMBLEDON Corporation Housing Committee is to proceed with the development of a housing site in Birkbeck Road.

*

The WIMBLEDON Corporation has obtained sanction for a loan of £10,000 in connection with the development of Wimbledon Park estate.

*

The Ministry of Health has approved the plans of the WIMBLEDON Corporation for the erection of a day nursery for which tenders are shortly to be obtained.

*

The OXFORD Corporation Housing Committee has approved the lay-out of the London Road frontage of the Gipsy Lane housing site, showing houses in pairs and the lay-out of houses in blocks on the Gipsy Lane frontage.

*

The OXFORD Corporation has asked the city estates surveyor to prepare modified plans for the provision of an abattoir.

The EASTBOURNE Corporation has decided to erect ninety-eight more brick houses on the Victoria Drive estate, and the borough engineer is to prepare the plans and invite tenders.

*

Alderman T. W. Tanfield is to extend the Dudley Fountain Arcade in Market Place, DUDLEY.

*

The CAERNARVON Corporation has instructed the architect to prepare plans and invite tenders for the erection of the new Town Hall and municipal offices.

*

The Watch Committee has passed plans for alterations at the Picturedrome, Holderness Road, HULL.

*

The HULL Education Committee has in view the provision of school accommodation in the Sutton Ings and Marfleet districts.

*

The HULL Education Committee has decided to erect a combined clinic on a site in East Hull.

*

The SCULCOATES R.D.C. has approved the draft agreement with the Hull Corporation for the construction of the Anlaby by-pass road.

*

The HULL Parks Committee has prepared a scheme for the provision of a municipal golf course, the cost being estimated at £24,000.

*

The HULL Corporation Markets Committee is to hold a special meeting to consider the desirability of proceeding with a scheme for the erection of a public abattoir.

*

Plans passed by the HULL Corporation: Ninety-eight houses, new streets off Tween Dykes, for Messrs. F. Sewell and Son; six houses, private lane, for Mr. Simmonite; six houses, private lane, for Mr. C. Wray; four houses and garages, James Reckitt Avenue, for Mr. H. Needler; eight houses, James Reckitt Avenue, for Mr. Simmonite; six houses, James Reckitt Avenue, for Mr. T. W. Watts; four houses, Ceylon Street, for Mr. W. H. Gray; twelve houses, Northfield Road, for Mr. L. Caley; twelve houses, Woldcarr Road, for Mr. C. H. Smith; eight houses, Parkfield Drive, for Messrs. J. H. Fenwick and Son, Ltd.; six houses, Woldcarr Road, for Messrs. Barnett Bros.; three houses and shops, Portobello Street, for Mrs. Isabella Price; two houses and shops, Portobello Street, for Mr. R. Boddy.

*

The Essex Education Committee is compulsorily acquiring a site at GRAYS for the erection of an elementary school.

The HULL Corporation has purchased a site at Bilton for a pumping-station.

*

The GLASGOW Corporation Housing Committee has acquired 13 acres at Haghill for a rehousing scheme.

*

The GLASGOW Corporation is to proceed with the erection of over 400 houses on the Balornock estate.

*

Messrs. John Keppie and Henderson, architects, have prepared plans for the extension of the premises of the *Glasgow Herald* in Buchanan Street, Mitchell Lane, and Mitchell Street, GLASGOW.

*

The Brownieside Coal Co., Ltd., has obtained land from the GLASGOW Corporation at Brackenhirst Farm for the erection of fireclay works.

*

The Ministry of Transport has promised a grant of 25 per cent. of the total cost of £93,000 for the construction of a new bridge across the River Kelvin at Botanic Gardens, GLASGOW.

*

The Ministry of Transport has made a further grant to the Dumbarton C.C. of one-half towards the estimated cost, amounting to £214,180, of the construction of the new road from the GLASGOW city boundary to Duntocher.

*

The GLASGOW Corporation has obtained a grant of one-half of the total cost of £15,150 for the scheme for widening London Road.

*

The BIRMINGHAM Corporation Baths Committee is being asked to consider the provision of cottage baths in the St. Martin's ward.

*

Mr. F. M. Kirby, architect, is to remodel the "Old Mother Red Cap," High Street, ST. PANCRAS.

*

Mr. George Vernon, A.R.I.B.A., is to erect premises for Messrs. Nettlefold and Sons in Euston Road and Upper Woburn Place, ST. PANCRAS.

*

Messrs. Crowe and Careless, architects, are to erect a factory on a site in Gordon House Road, CAMDEN TOWN.

*

A large block of flats is to be erected in Drummond Street and Drummond Crescent, ST. PANCRAS.

*

Messrs. Maple & Co., Ltd., are to erect one-story projecting shops at their premises in Grafton Street, Tottenham Court Road, ST. PANCRAS.

The L.C.C. is to proceed with the erection of a fire brigade station at the corner of Wolseley Street and Jacob Street, Dockhead, BERMONDSEY.

The BERMONDSEY B.C. has approved the plans prepared by Mr. Tansley, architect, for the extension of the central library, and is to invite tenders for the work.

*

Plans passed by the WANDSWORTH B.C.: Alterations and additions to Steven and Adams' factory, Point Pleasant, Southfield, for Mr. R. A. C. Churchward; alterations and additions, "Spotted Horse," High Street, Putney, for Mr. H. Parr; additions, "Bull" public-house, High Street, Wandsworth, for Messrs. J. Kidd and Son; alterations, "Lord Raglan," Wandsworth Road, Clapham, for Mr. W. F. Foster.

*

Messrs. Grace and Marsh, Ltd., are to carry out alterations and additions at the factory and offices of the Grange Mills, Grove Road, BALHAM.

*

The Collett Building Co., Ltd., are to erect twenty-two houses in Valley Road, STREATHAM.

*

Mr. C. H. Simpson is to erect a bottling store for Brandon's Putney Brewery in Felsham Road, PUTNEY.

*

Messrs. Truett and Steel, Ltd., are to erect fifty houses on the Streatham Garden Village estate, Leigham Court Road, STREATHAM.

*

The WANDSWORTH B.C. has passed plans submitted by Mr. C. Aish for additions and alterations at the Balham Picture House, Balham High Road.

*

Messrs. H. Somerford and Son, Ltd., are to carry out alterations at the Empire Picture Palace, High Road, STREATHAM.

*

Messrs. Smee and Houchin are to erect a Wesleyan Methodist Church in Gantshill Crescent, ILFORD.

*

The ILFORD Corporation has asked the borough surveyor to re-submit his estimate for the provision of the new bath on a site acquired in the High Road.

*

Plans passed by the MORECAMBE Corporation: Three garages and extension, Bull Hotel, for Mr. J. Smith; two houses, Mount Avenue, Bare, for Mr. A. Relph; alterations, Memorial Hall, for the Parochial Church Council; two bungalows, Bare Lane, for Messrs. Naylor and Robinson; warehouses and offices, Euston Road goods yard, for Mr. W. J. Cross; two houses, Broadway, for Mr. J. E. Roscoe; two houses, Mounty Avenue, for Mr. R. Gardner; two houses, Bare Lane, for Mr. H. L. Moody.

Mr. S. Cohen has prepared a lay-out for the development of the Swilley House estate, PLYMOUTH.

*

Plans passed by the ILFORD Corporation: Five houses, Southdene Gardens, Eastern Avenue, for Mr. D. W. Lucas; six houses, Auckland Road, for Messrs. W. Longworth & Co.; ten houses, Hamilton Road, for Messrs. Wakeling and Smith; thirty houses, Aldborough Road, for Messrs. Baskett and Brown; six shops and houses, Green Lane, for Mr. F. Smith; additions to "Black Horse" public-house, High Road, for Messrs. Whitbread & Co., Ltd.; eight houses, Sandyhill Road, for Mr. Geo. Reeves; extension to factory, Grove Road, for Messrs. W. Downs, Ltd.; four houses, Levett Gardens, for Messrs. J. W. Moore and Son; new roads and sewers, Vicarage Lane, Charter Avenue, and Vicarage Gardens, for Mr. R. B. Grantham.

*

Plans passed by the PLYMOUTH Corporation: Fourteen houses, Whitleigh estate, for Messrs. A. Searle and Son; four houses, Northdown Road, for Mr. F. Westcott; twelve houses, Browning Road, for Mr. R. Bate; three shops and flats, Bladderley Road, for Mr. F. Westcott; alterations, Stoke House, Tavistock Road for Board of Guardians; church-room, Baptist Church, Pembroke Street, for deacons.

*

The PLYMOUTH Watch Committee has passed plans for alterations and additions at the Tivoli Theatre.

*

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

*

The L.C.C. has prepared an amended scheme for widening Clapham Park Road, CLAPHAM, at a cost of £140,000.

*

The ILKESTON Corporation has asked the borough engineer to prepare plans for the erection of seventy-four houses on the Rutlans estate, and forty on the southern site.

*

Plans passed by the ILKESTON Corporation: Workshop, Market Street, for Mr. E. Cobb; spirit store, Rupert Street, for Mr. Samuel Shaw; paint shop, Trueman's Court, for Mr. H. Paling.

*

The BRADFORD Corporation is seeking power to borrow £50,000 for the White Abbey area improvement scheme.

*

The BRADFORD Corporation is seeking sanction for a loan of £50,000 for further housing grants.

*

The East Riding Education Committee is to erect an elementary school at WATER FULFORD to accommodate 280 scholars.

The SALFORD Corporation is to extend the Agecroft power station at a cost of £150,000.

*

Plans passed by the YORK Corporation: House and shop, Melrosegate, for Messrs. Gray and Sons; additions, Peaseholme Green, for Messrs. Adams Hydraulics, Ltd.; alterations, Piccadilly, for Messrs. W. Dove and Sons; two houses, Wolfe Avenue, for Mr. C. Tesseyman; lay-out, Millfield Lane and Tang Hall Lane, for Mr. G. A. Hope; additions, Nunthorpe Secondary School, for the Education Committee; additions, Fulford Road Special School, for the Education Committee; two houses, Finsbury Street, for Mr. W. Johnson; additions, Leake Street, for the Northern Motor Utilities, Ltd.

*

Plans passed by the BRADFORD Corporation: Two houses, Bingley Road, for Mr. A. E. Hardy; two houses, Ascot Avenue, for Messrs. J. Crabtree and O. M. Garlick; two houses, Upper Rushton Road and Baring Avenue, for Mr. Thos. Elsworth; twenty houses, Harrogate Road and Pullan Avenue, for Messrs. R. R. North & Co.; twenty houses, Dudley Hill Road and Wellington Road, for Mr. W. Farrer; six houses, off Leeds Road, Thackley, for Mr. J. E. Keighley; eight houses, Bolton Lane and King's Road, for Mr. F. Dalby.

*

The SEAHAM HARBOUR U.D.C., having visited the Ministry of Health, has obtained conditional approval for a scheme for the erection of seventy-two additional houses on the Carr House estate.

*

The COVENTRY Corporation is acquiring 114 acres of land for the purpose of new sewage disposal works.

*

The COVENTRY Corporation Electricity Committee is seeking sanction to borrow £208,000 in connection with extensions at the LONGFORD generating station.

*

The LEICESTER Corporation is to proceed with the erection of 500 houses on the Braunstone estate, at a cost of a quarter of a million.

*

The TYNEMOUTH Corporation has approved plans submitted by the estate owners for the development of the St. George's estate, provision being made for an open space.

*

The SEAHAM HARBOUR U.D.C. has asked the officials to report upon the advisability of building a number of houses for sale purposes on the vacant site on the Carr House estate.

*

The borough engineer of MORECAMBE has prepared plans for the erection of showrooms and offices for the electricity department on a site at the corner of Euston Road and New Queen Street.

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
B₃	BANBURY	S. Counties	1 4½	1 0½
B₃	Bangor ..	N.W. Counties	1 5	1 1
A	BarnardCastle	N.E. Coast	1 8	1 3½
A	Barnsley ..	Yorkshire	1 8	1 3½
B₁	Barnstaple	S.W. Counties	1 5½	1 1½
A	Barrow ..	N.W. Counties	1 8	1 3½
A	Barry ..	S. Wales & M.	1 8	1 3½
B₃	Basingstoke	S.W. Counties	1 4½	1 0½
B	Bath ..	S.W. Counties	1 6	1 1½
A	Batley ..	Yorkshire	1 8	1 3½
B	Bedford ..	E. Counties	1 6	1 1½
A₃	Berwick-on-Tweed	N.E. Coast	1 7	1 2½
A₂	Bewdley ..	Mid. Counties	1 7	1 2½
B₃	Bicester ..	Mid. Counties	1 4½	1 0½
A	Birkenhead	N.W. Counties	*1 10	1 4½
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
B₂	Bovey Tracey	S.W. Counties	1 5	1 1
A	Bradford ..	Yorkshire	1 8	1 3½
A₂	Brentwood	E. Counties	1 7	1 2½
A	Bridgend ..	S. Wales & M.	1 8	1 3½
B₃	Bridgwater	S.W. Counties	1 5	1 1
A₁	Bridlington	Yorkshire	1 7½	1 2½
A	Brighouse	Yorkshire	1 8	1 3½
B₁	Brighton ..	S. Counties	1 6	1 1½
A	Bristol ..	S.W. Counties	1 8	1 3½
B₃	Brixham ..	S.W. Counties	1 4½	1 0½
A₃	Bromsgrove	Mid. Counties	1 7	1 2½
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
A₃	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury ..	N.W. Counties	1 8	1 3½
A₁	Buxton ..	N.W. Counties	1 7½	1 2½
B	CAMBRIDGE	E. Counties	1 6	1 1½
B₃	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff ..	S. Wales & M.	1 8	1 3½
A	Carlisle ..	N.W. Counties	1 8	1 3½
B	Carmarthen	S. Wales & M.	1 6	1 1½
B₃	Carnarvon	N.W. Counties	1 5	1 1
A₁	Carnforth ..	N.W. Counties	1 7½	1 2½
A	Castleford	Yorkshire	1 8	1 3½
B₁	Chatham ..	S. Counties	1 5½	1 1½
B₁	Chelmsford	E. Counties	1 5½	1 1½
A₃	Cheltenham	S.W. Counties	1 6½	1 2
A	Chester ..	N.W. Counties	1 8	1 3½
A	Chesterfield	Mid. Counties	*1 8	1 3½
B₃	Chichester	S. Counties	1 4½	1 0½
A	Chorley ..	N.W. Counties	1 8	1 3½
B₃	Cirencester	S. Counties	1 5	1 1
A	Clitheroe ..	N.W. Counties	1 8	1 3½
A	Clydebank	Scotland	1 8	1 3½
A	Coalville ..	Mid. Counties	1 8	1 3½
B₁	Colchester ..	E. Counties	1 5½	1 1½
A	Colne ..	N.W. Counties	1 8	1 3½
B₁	Colwyn Bay	N.W. Counties	1 5½	1 1½
A	Consett ..	N.E. Coast	1 8	1 3½
B₁	Conway ..	N.W. Counties	1 5½	1 1½
A	Coventry ..	Mid. Counties	1 8	1 3½
A₃	Crewe ..	N.W. Counties	1 6½	1 2
A₃	Cumberland	.....	1 6½	1 2
A	DARLINGTON	N.E. Coast	1 8	1 3½
A	Darwen ..	N.W. Counties	1 8	1 3½
B₃	Deal ..	S. Counties	1 4½	1 0½
B₁	Denbigh ..	N.W. Counties	1 5½	1 1½
A	Derby ..	Mid. Counties	1 8	1 3½
A	Dewsbury ..	Yorkshire	1 8	1 3½
B	Didcot ..	S. Counties	1 6	1 1½
A	Doncaster	Yorkshire	1 8	1 3½
C₁	Dorchester	S.W. Counties	1 4	1 0½
A₃	Driffield ..	Yorks	1 6½	1 2
A₃	Droitwich ..	Mid. Counties	1 6½	1 2
A₁	Dudley ..	Mid. Counties	1 7½	1 2½
A	Dundee ..	Scotland	1 8	1 3½
A	Durham ..	N.E. Coast	1 8	1 3½
B₁	EAST-BOURNE	S. Counties	1 6	1 1½
A	Ebbw Vale	S. Wales & M.	1 8	1 3½
A	Edinburgh	Scotland	1 8	1 3½
A	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 8	1 3½
B	Exeter ..	S.W. Counties	*1 7	1 2½
B₂	Exmouth ..	S.W. Counties	1 5	1 1
B	FELIXSTOWE	E. Counties	1 6	1 1½
A₃	Filey ..	Yorks	1 6½	1 2
A	Fleetwood ..	N.W. Counties	1 8	1 3½
B₂	Folkestone	S. Counties	1 5	1 1
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
A₃	Gloucester	S.W. Counties	1 6½	1 2
A₃	Goole ..	Yorkshire	1 7	1 2½
B	Gosport ..	S. Counties	1 6	1 1½
A₃	Grantham	Mid. Counties	1 6½	1 2
A₁	Gravesend	S. Counties	1 7½	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
A	Hanley ..	Mid. Counties	1 8	1 3½
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

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

			I	II
			s. d.	s. d.
A	ILKLEY ..	Yorkshire	1 8	1 3½
A	Immingham	Mid. Counties	1 8	1 3½
B	Ipswich ..	E. Counties	1 6	1 1½
C₁	Isle of Wight	S. Counties	1 4	1 0½
A	JARROW ..	N.E. Coast	1 8	1 3½
A	KEIGHLEY	Yorkshire	1 8	1 3½
B₁	Kendal ..	N.W. Counties	1 5½	1 1½
B₁	Keswick ..	N.W. Counties	1 5½	1 1½
B	Kettering ..	Mid. Counties	1 6	1 1½
A₂	Kiddermin-ster	Mid. Counties	1 7	1 2½
B₂	King's Lynn	E. Counties	1 5	1 1
A	LANCASTER	N.W. Counties	1 8	1 3½
A₂	Leamington	Mid. Counties	1 7	1 2½
A	Leeds ..	Yorkshire	1 8	1 3½
A	Leek ..	Mid. Counties	1 8	1 3½
A	Leicester ..	Mid. Counties	1 8	1 3½
A	Leigh ..	N.W. Counties	1 8	1 3½
B₃	Lewes ..	S. Counties	1 4½	1 0½
A₃	Lichfield ..	Mid. Counties	1 6½	1 2
A	Lincoln ..	Mid. Counties	1 8	1 3½
A	Liverpool ..	N.W. Counties	*1 10	1 4½
B	Llandudno	N.W. Counties	1 5½	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	Lough-borough	Mid. Counties	1 8	1 3½
B	Luton ..	E. Counties	1 6	1 1½
A	Lytham ..	N.W. Counties	1 8	1 3½
A₁	MACCLES-FIELD	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	Middles-brough	N.E. Coast	1 8	1 3½
A₃	Middlewich	N.W. Counties	1 6½	1 2
B₂	Minehead ..	S.W. Counties	1 5	1 1
A	Monmouth S. and E. Glamorganshire	S. Wales & M.	1 8	1 3½
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
A₃	Norwich ..	E. Counties	1 6½	1 2
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	QUEENS-FERRY	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
A₃	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
B₃	Salisbury	S.W. Counties	1 4½	1 0½
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
A₃	South'pton	S. Counties	1 6½	1 2
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	Swadlincote	Mid. Counties	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
B	Teignmouth	S.W. Coast	1 6	1 1½
A	Todmorden	Yorkshire	1 8	1 3½
A₂	Torquay ..	S.W. Counties	1 7	1 2½
C	Truro ..	S.W. Counties	1 4	1 0½
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	WAKE-FIELD	Yorkshire	1 8	1 3½
A₁	Walsall ..	Mid. Counties	1 7½	1 2½
A	Warrington	N.W. Counties	1 8	1 3½
A₂	Warwick ..	Mid. Counties	1 7	1 2½
B	Welling-borough	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
A₂	Whitby ..	Yorkshire	1 7	1 2½
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	Wolver-hampton	Mid. Counties	1 8	1 3½
A₃	Worcester ..	Mid. Counties	1 6½	1 2
A₃	Worksop ..	Yorkshire	1 6½	1 2
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 3

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

PRICES CURRENT

EXCAVATOR AND CONCRETOR

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

*

Broken brick or stone. 2 in., per yd.	£0 11 6
Thames ballast, per yd.	0 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 1 6
SPREAD and level, including wheeling, per yd.	0 1 6
FILLING into carts and carting away to a shoot or deposit, per yd. cube	0 10 6
TRIMMING earth to slopes, per yd. sup.	0 0 6
HACKING up old grano. or similar paving, per yd. sup.	0 1 3
PLANKING to excavations, per ft. sup.	0 0 5
DO. over 10 ft. deep, add for each 5 ft. in depth, 30 per cent.	
IF left in, add to above prices, per ft. cube	0 2 0
HARDCORE, 2 in. ring, filled and rammed, 4 in. thick, per yd. sup.	0 2 1
DO. 6 in. thick, per yd. sup.	0 2 10
PUDDLING, per yd. cube	1 10 0
CEMENT CONCRETE, 4-2-1, per yd. cube	2 3 0
DO. 6-2-1, per yd. cube	1 18 0
DO. in upper floors, add 15 per cent.	
DO. in reinforced-concrete work, add 20 per cent.	
DO. in underpinning, add 60 per cent.	
LIAS-LIME CONCRETE, per yd. cube	£1 16 0
BREEZE CONCRETE, per yd. cube	1 7 0
DO. in lintels, etc., per ft. cube	0 1 6
CEMENT concrete 4–2–1 in lintels packed around reinforcement, per ft. cube	0 3 9
FINE concrete benching to bottom of manholes, per ft. cube	0 2 6
FINISHING surface of concrete spade face, per yd. sup.	0 0 9

DRAINER

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

*

Stoneware pipes, tested quality, 4 in., per ft.	£0 1 3
DO. *6 in., per ft.*	0 2 8
DO. *9 in., per ft.*	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 8 0
DO. 6 in., per ft.	0 10 0

Note.—These prices include digging concrete bed and filling for normal depths, and are average prices.
Fittings in Stoneware and Iron according to type. *See* Trade Lists.

BRICKLAYER

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

*

London stocks, per M.	£4 15 0
Flettons, per M.	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.	24 10 0
DO *headers, per M.*	24 0 0
Colours, extra, per M.	5 10 0
Seconds, less, per M.	1 0 0
Cement and sand, see "Excavator" above.	
Lime, grey stone, per ton	2 17 0
Mixed lime mortar, per yd.	1 6 0
Damp course, in rolls of 4½ in., per roll	0 2 6
DO. *9 in. per roll*	0 4 9
DO. *14 in. per roll*	0 7 6
DO. *18 in. per roll*	0 9 6
BRICKWORK in stone lime mortar, Flettons or equal, per rod	£33 0 0
DO. in cement do., per rod	36 0 0
DO. in stocks, add 25 per cent. per rod.	
DO. in blues, add 100 per cent. per rod.	
DO. circular on plan, add 12½ per cent. per rod.	
DO. in backing to masonry, add 12½ per cent. per rod.	
DO. in raising on old walls, etc., add 12½ per cent. per rod.	
DO. in underpinning, add 20 per cent. per rod.	
HALF-BRICK walls in stocks in cement mortar (1–3), per ft. sup.	£0 1 0
BEDDING plates in cement mortar, per ft. run	0 0 3
BEDDING window or door frames, per ft. run	0 0 3
LEAVING chases 2½ in. deep for edges of concrete floors not exceeding 6 in. thick, per ft. run	0 0 2
CUTTING do. in old walls in cement, per ft. run	0 0 4
CUTTING, toothing and bonding new work to old (labour and materials), per ft. sup.	0 0 7
TERRA-COTTA flue pipes 9 in. diameter, jointed in fireclay, including all cuttings, per ft. run	0 3 6
DO. 14 ft. by 9 in. do., per ft. run	0 6 0
FLAUNCHING chimney pots, each	0 2 0
CUTTING and pinning ends of timbers, etc., in cement	0 1 0
FACINGS fair, per ft. sup. extra	0 0 3
DO. picked stocks, per ft. sup. extra	0 0 7
DO. red rubbers gauged and set in putty, per ft. sup. extra	0 4 9
DO. in salt white or ivory glazed, per ft. sup. extra	0 5 6
TUCK pointing, per ft. sup extra	0 0 10
WEATHER pointing, do. do.	0 0 3
TILE creasing with cement fillet each side per ft. run	0 0 6
GRANOLITHIC PAVING, 1 in., per yd. sup.	0 5 0
DO. 1½ in., per yd. sup	0 6 0
DO. 2 in., per yd. sup.	0 7 0
If coloured with red oxide, per yd. sup.	0 1 0
If finished with carborundum, per yd. sup.	0 0 6
If in small quantities in finishing to steps, etc., per ft. sup.	0 1 4
Jointing new grano. paving to old, per ft. run	0 0 4
Extra for dishing grano, or cement paving around gullies, each	0 1 6
BITUMINOUS DAMP COURSE, ex rolls, per ft. sup.	0 0 7
ASPHALT (MASTIC) DAMP COURSE, ½ in., per yd. sup.	0 8 0
DO. vertical, per yd. sup.	0 11 0
SLATE DAMP COURSE, per ft. sup.	0 0 10
ASPHALT ROOFING (MASTIC) in two thicknesses, 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
BREEZE fixing bricks, extra for each	0 0 3

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

MASON

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

*

Portland Stone:	
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. super	0 6 6
York templates sawn, per ft. cube	0 6 9
Slate shelves, rubbed, 1 in., per ft. sup.	0 2 6
Cement and sand, see "Excavator," etc., above.	

*

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

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

PLAIN face Portland basis, per ft. sup.	£0 2 8
DO. circular, per ft. sup.	0 4 0
SUNK FACE, per ft. sup.	0 3 9
DO. circular, per ft. sup.	0 4 10
JOINTS, arch, per ft. sup.	0 2 6
DO. sunk, per ft. sup.	0 2 7
DO. DO. circular, per ft. sup.	0 4 6
CIRCULAR-CIRCULAR work, per ft. sup.	1 2 0
PLAIN MOULDING, straight, per inch of girth, per ft. run	0 1 1
DO. circular, do., per ft. run	0 1 4
HALF SAWING, per ft. sup.	£0 1 0

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

DO. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
DO. for Chilmark, 5 per cent.

SETTING 1 in. slate shelving in cement, per ft. sup.	£0 0 6
RUBBED round nosing to do., per ft. lin.	0 0 6
YORK STEPS, rubbed T. & R., ft. cub. fixed	1 9 0
YORK SILLS, W. & T., ft. cub. fixed	1 13 0
ARTIFICIAL stone paving, 2 in. thick, per ft. sup.	0 1 6
DO. 2½ in. thick, per ft. sup.	0 1 9

SLATER AND TILER

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

*

Slates, 1st quality, per 1,200:		
Portmadoc Ladies		£14 0 0
Countess		27 0 0
Duchess		32 0 0
Old Delabole	*Med. Grey*	*Med. Green*
24 in. × 12 in.	£42 11 3	£45 1 0
20 in. × 10 in.	31 4 3	33 0 6
16 in. × 10 in.	20 18 0	22 4 9
14 in. × 8 in.	12 1 0	12 16 3
Green Randoms, per ton		8 3 9
Grey-green do., per ton		7 3 9
Green peggies, 12 in. to 8 in. long, per ton		6 3 9

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

Clips, lead, per lb.	£0 0 6
Clips, copper, per lb.	0 2 0
Nails, compo, per cwt.	1 6 0
Nails, copper, per lb.	0 1 10

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

Hand-made tiles, per M.	£5 18 0
Machine-made tiles, per M.	5 8 0
Westmorland slates, large, per ton	9 0 0
DO. *Peggies, per ton*	7 5 0

*

SLATING, 3 in. lap, compo nails, Portmadoc or equal:	
Ladies, per square	£4 0 0
Countess, per square	4 5 0
Duchess, per square	4 10 0
WESTMORLAND, in diminishing courses, per square	6 5 0
CORNISH DO., per square	6 3 0
Add, if vertical, per square approx.	0 13 0
Add, if with copper nails, per square approx.	0 2 6
Double course at eaves, per ft. approx.	0 1 0

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

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

TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square	5 6 0
DO., machine-made do., per square	4 17 0

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

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

See "Sundries for Asbestos Tiling."

CARPENTER AND JOINER

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

*

Timber, average prices at Docks, London Standard Scandinavian, etc. (equal to 2nds):

7 × 3, per std.	£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 6
DO. framed in floors, roofs, etc., per ft. cube	0 6 6
DO., framed in trusses, etc., including ironwork, per ft. cube	0 7 6
PITCH PINE, add 33⅓ per cent.	
FIXING only boarding in floors, roofs, etc., per sq.	0 13 6
SARKING FELT laid, 1-ply, per yd.	0 1 6
DO., 3-ply, per yd.	0 1 9
CENTERING for concrete, etc., including horsing and striking, per sq.	2 10 0
TURNING pieces to flat or segmenta soffits, 4½ in. wide, per ft. run	0 0 4½
DO. 9 in. wide and over per ft. sup.	0 1 2

continued overleaf

CARPENTER AND JOINER: *continued.*

SHUTTERING to face of concrete, per square	£1	10	0
DO. in narrow widths to beams, etc., per ft. sup.	0	0	6
USE and waste of timbers, allow 25 per cent. of above prices.			
SLATE BATTENING, per sq.	£0	12	6
DEAL boarding to flats, 1 in. thick and firrings to falls, per square	2	10	0
STOUT feather-edged tilting fillet to eaves, per ft. run	0	0	6
FEATHER-edged springer to trimmer arches, per ft. run	0	0	4
STOUT herringbone strutting (joists measured in), per ft. run	0	0	6
SOUND boarding, ¾ in. thick and fillets nailed to sides of joists (joists measured over), per square	2	0	0
RUBEROID or similar quality roofing, one-ply, per yd. sup.	0	2	3
DO., two-ply, per yd. sup.	0	2	6
DO., three-ply, per yd. sup.	0	3	0
TONGUED and grooved flooring, 1¼ in. thick, laid complete with splayed headings, per square	2	5	0
DEAL skirting torus, moulded 1¼ in. thick, including grounds and backings, per ft. sup.	0	1	0
TONGUED and mitred angles to do.	0	0	6
WOOD block flooring standard blocks laid herringbone in mastic :			
Deal 1 in. thick, per yd. sup.	0	10	0
DO. 1¼ in. thick, per yd. sup.	0	12	0
Maple 1¼ in. thick, per yd. sup.	0	15	0
DEAL moulded sashes, 1¾ in. with moulded bars in small squares, per ft. sup.	0	2	6
DO. 2 in. do., per ft. sup.	0	2	9
DEAL cased frames, oak sills and 2 in. moulded sashes, brass-faced pulleys and iron weights, per ft. sup.	0	4	6
MOULDED horns, extra each	0	0	3
DOORS, 4-panel square both sides, 1¾ in. thick, per ft. sup.	0	2	6
DO. moulded both sides, per ft. sup.	0	2	9
DO. 2 in. thick, square both sides, per ft. sup.	0	2	9
DO. moulded both sides, per ft. sup.	0	3	0
DO. in 3 panels, moulded both sides, upper panel with diminished stiles with moulded bars for glass, per ft. sup.	0	3	6
If in oak, mahogany or teak, multiply 3 times.			
DEAL frames, 4 in. × 3 in., rebated and beaded, per ft. cube	£0	15	0
Add for extra labours, per ft. run	0	0	1
STAIRCASE work :			
DEAL treads 1¼ in. and risers 1 in., tongued and grooved including fir carriages, per ft. sup.	0	2	6
DEAL wall strings, 1¼ in. thick, moulded, per ft. run	0	2	6
If ramped, per ft. run	0	5	0
SHORT ramps, extra each	0	7	6
ENDS of treads and risers housed to strings, each	0	1	0
2 in. deal mopstick handrail fixed to brackets, per ft. run	0	1	6
4½ in. × 3 in. oak fully moulded handrail, per ft. run	0	5	6
1¼ in. square deal bar balusters, framed in, per ft. run	0	0	6
FITTINGS :			
SHELVES and bearers, 1 in., cross-tongued, per ft. sup.	0	1	6
1¼ in. beaded cupboard fronts, moulded and square, per ft. sup.	0	2	9
TEAK grooved draining boards, 1¼ in. thick and bedding, per ft. sup.	0	4	6
IRONMONGERY :			
Fixing only (including providing screws) :			
To DEAL—			
Hinges to sashes, per pair	0	1	2
Do. to doors, per pair	0	1	7
Barrel bolts, 9 in., iron, each	0	1	0
Sash fasteners, each	0	1	0
Rim locks, each	0	1	9
Mortice locks, each	0	4	0

SMITH

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

*

Mild Steel in British standard sections, per ton	£12	10	0
Sheet Steel :			
Flat sheets, black, per ton	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

PLUMBER

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

*

Lead, milled sheet, per cwt.	£1	13	6
DO. *drawn pipes, per cwt.*	1	14	0
DO. *soil pipe, per cwt.*	1	17	0
DO. *scrap, per cwt.*	1	5	6
Copper, sheet, per lb.	0	1	9
Solder, plumber's, per lb.	0	1	3
DO. *fine, per lb.*	0	1	9
Cast-iron pipes, etc. :			
L.C.C. soil, 3 in., per yd.	0	4	0
Do. 4 in., per yd.	0	4	9½
R.W.P., 2½ in., per yd.	0	2	2
DO. *3 in., per yd.*	0	2	7
DO. *4 in., per yd.*	0	3	6½
Gutter, 4 in. H.R., per yd.	0	1	6½
DO. *4 in. O.G., per yd.*	0	1	10½

*

MILLED LEAD and labour in gutters, flashings, etc.	3	2	6
LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft.	0	2	0
DO. ⅝ in., per ft.	0	2	3
DO. 1 in., per ft.	0	3	0
DO. 1¼ in., per ft.	0	4	0
LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft.	0	6	0
DO. 3 in., per ft.	0	7	0
DO. 4 in., per ft.	0	9	9
WIPED soldered joint, ½ in., each	0	2	6
DO. ⅝ in., each	0	3	2
DO. 1 in., each	0	3	8
BRASS screw-down stop cock and two soldered joints, ½ in., each	0	11	0
DO. ⅝ in., each	0	13	6
CAST-IRON rainwater pipe, jointed in red lead, 2½ in., per ft. run	0	1	7
DO. 3 in., per ft. run	0	2	0
DO. 4 in., per ft. run	0	2	10
CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft.	0	2	0
DO. O.G., 4 in., per ft.	0	2	3
CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft.	0	4	6
DO. 3 in., per ft.	0	3	6
Fixing only :			
W.C. PANS and all joints, P. or S., and including joints to water waste preventers, each	2	5	0
BATHS, with all joints	1	3	6
LAVATORY BASINS only, with all joints, on brackets, each	1	10	0

PLASTERER

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

*

Chalk lime, per ton	£2	17	0
Hair, per cwt.	1	5	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

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LATHING with sawn laths, per yd.	0	1	7
METAL LATHING, per yd.	0	2	3
FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock, ¾ in., per yd.	0	2	4
DO. vertical, per yd.	0	2	7
RENDER, on brickwork, 1 to 3, per yd.	0	2	7
RENDER in Portland and set in fine stuff, per yd.	0	3	3
RENDER, float, and set, trowelled, per yd.	0	2	9
RENDER and set in Sirapite, per yd.	0	2	5
DO. in Thistle plaster, per yd.	0	2	5
EXTRA, if on but not including lathing, any of foregoing, per yd.	0	0	5
EXTRA, if on ceilings, per yd.	0	0	5
ANGLES, rounded Keene's on Portland, per ft. lin.	0	0	6
PLAIN CORNICES, in plaster, per inch girth, including dubbing out, etc., per ft. lin.	0	0	3
WHITE glazed tiling set in Portland and jointed in Parian, per yd., from	1	11	6
FIBROUS PLASTER SLABS, per yd.	0	1	10

GLAZIER

GLAZIER, 1*s.* 8½*d. per hour.*

*

Glass : 4ths in crates :			
Clear, 21 oz.	£0	0	4½
DO. 26 oz.	0	0	5
Cathedral white, per ft.	0	0	7
Polished plate, British ¼ in., up to 2 ft. sup. per ft.	0	1	6
DO. *4 ft. sup.* ,,	0	2	9
DO. *6 ft. sup.* ,,	0	3	0
DO. *20 ft. sup.* ,,	0	3	7
DO. *45 ft. sup.* ,,	0	3	9
DO. *65 ft. sup.* ,,	0	3	11
DO. *100 ft. sup.* ,,	0	4	4
Rough plate, ⅛ in., per ft.	0	0	6½
DO. *¼ in., per ft.*	0	0	6⅝
Linseed oil putty, per cwt.	0	17	6

*

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	0
Glazing only, polished plate, 6½*d.* to 8*d.* per ft. according to size.			

PAINTER AND PAPERHANGER

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.	£2	7	6
Linseed oil, raw, per gall.	0	3	6
DO., *boiled, per gall.*	0	3	8
Turpentine, per gall.	0	4	0
Liquid driers, per gall.	0	8	6
Knotting, per gall.	0	18	0
Distemper, washable, in ordinary colours, per cwt., and up	2	5	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4½
Single gold leaf (transferable), per book	0	2	0
Varnish, copal, per gall. and up	0	18	0
DO., *flat, per gall.*	1	2	0
DO., *paper, per gall.*	0	16	0
French polish, per gall.	0	17	6
Ready mixed paints, per gall. and up	0	15	0

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LIME WHITING, per yd. sup.	0	0	3
WASH, stop, and whiten, per yd. sup.	0	0	6
DO., and 2 coats distemper with proprietary distemper, per yd. sup.	0	0	9
KNOT, stop, and prime, per yd. sup.	0	0	7
PLAIN PAINTING, including mouldings, and on plaster or joinery, 1st coat, per yd. sup.	0	0	10
DO., subsequent coats, per yd. sup.	0	0	9
DO., enamel coat, per yd. sup.	0	1	2½
BRUSH-GRAIN, and 2 coats varnish, per yd. sup.	0	3	8
FIGURED DO., DO., per yd. sup.	0	5	6
FRENCH POLISHING, per ft. sup.	0	1	2
WAX POLISHING, per ft. sup.	0	0	6
STRIPPING old paper and preparing, per piece	0	1	7
HANGING PAPER, ordinary, per piece	0	1	10
DO., fine, per piece, and upwards	0	2	4
VARNISHING PAPER, 1 coat, per piece	0	9	0
CANVAS, strained and fixed, per yd. sup.	0	3	0
VARNISHING, hard oak, 1st coat, yd. sup.	0	1	2
DO., each subsequent coat, per yd. sup.	0	0	11

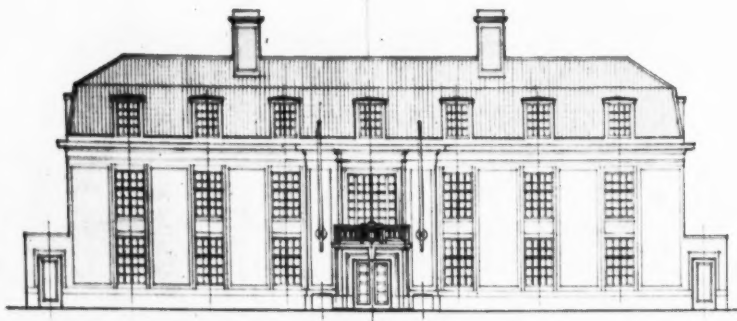
SUNDRIES

Fibre or wood pulp boardings, according to quality and quantity.			
The measured work price is on the same basis . . . per ft. sup.	£0	0	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, $\frac{5}{32}$ in., grey flat, per yd. sup.	0	2	3
DO., *corrugated, per yd. sup.*	0	3	3
ASBESTOS SHEETING, fixed as last, flat, per yd. sup.	0	4	0
DO., corrugated, per yd. sup.	0	5	0
ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey	2	15	0
DO., red	3	0	0
Asbestos cement slates or tiles, $\frac{5}{32}$ in. punched per M. grey	16	0	0
DO., *red*	18	0	0
ASBESTOS COMPOSITION FLOORING : Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0	7	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

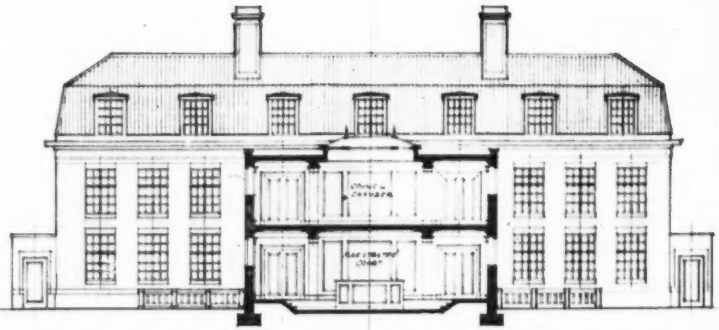
Waterproofing compounds for cement. Add about 75 per cent. to 100 per cent. to the cost of cement used.

PLYWOOD, per ft. sup.

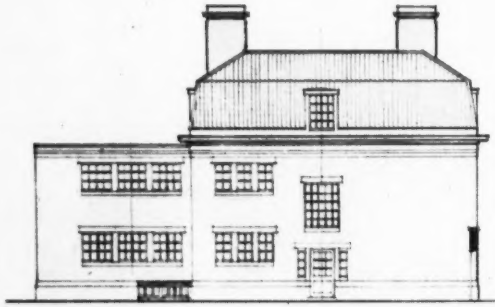
Thickness	$\frac{3}{16}$ in.			¼ in.			⅜ in.			½ in.		
Qualities ..	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4	9½	7½	—	1 0½	10	—
Figured Oak 1 side	8½	7	—	10	8	—	11½	—	—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



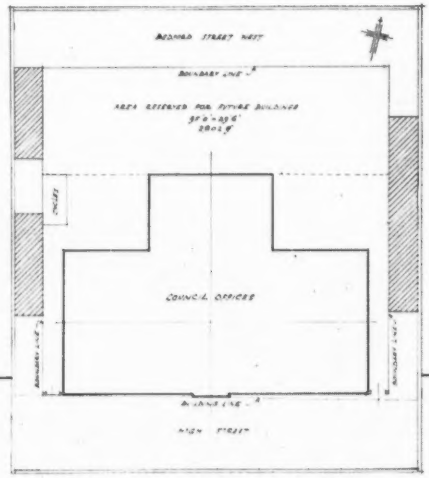
FRONT ELEVATION TO HIGH STREET



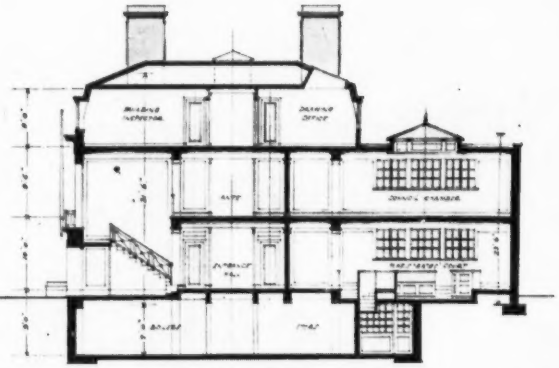
SECTION THROUGH COUNCIL CHAMBER.



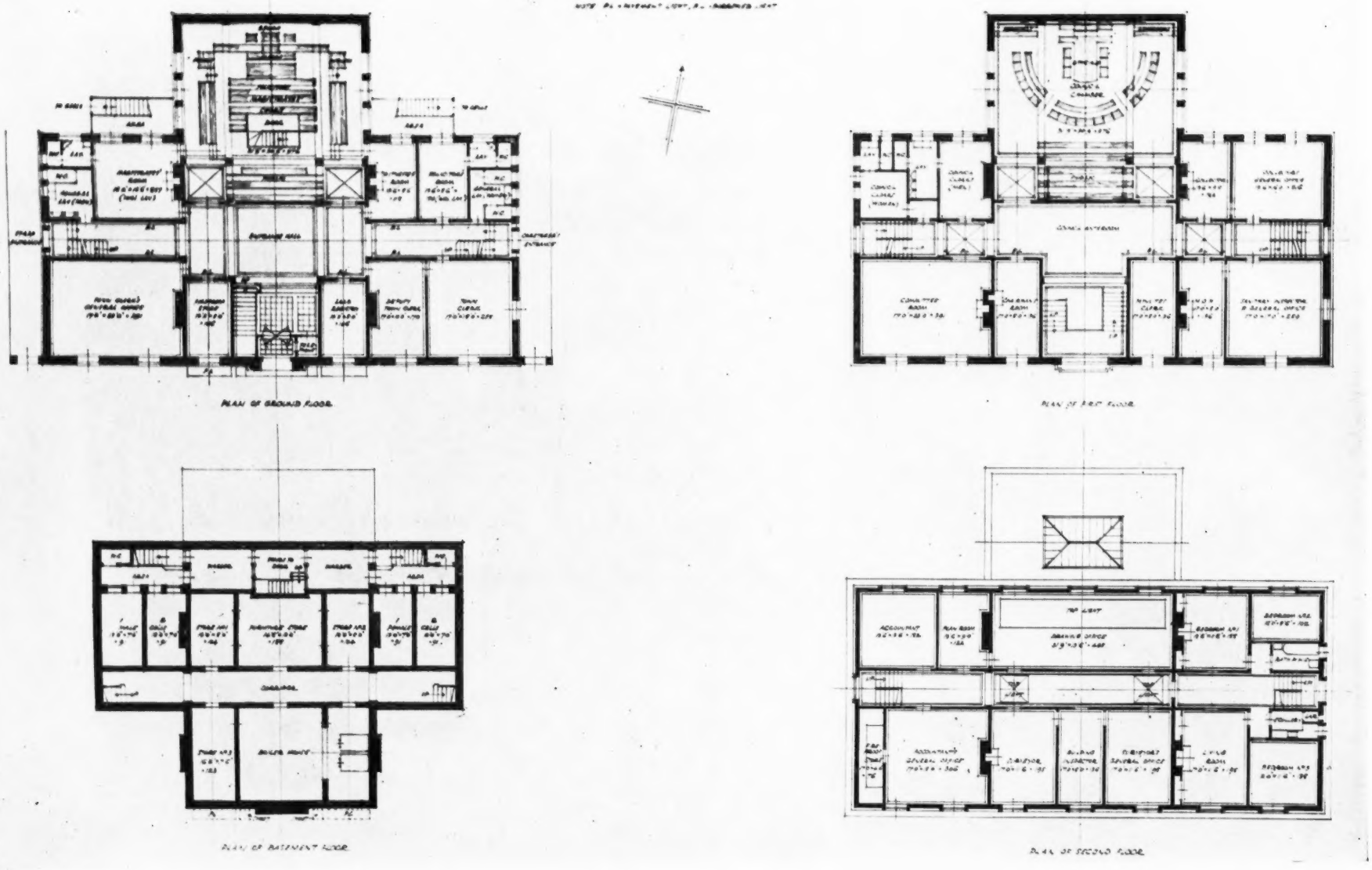
SIDE ELEVATION



BLOCK PLAN TO SCALE OF 1/16 INCH = 1 FOOT

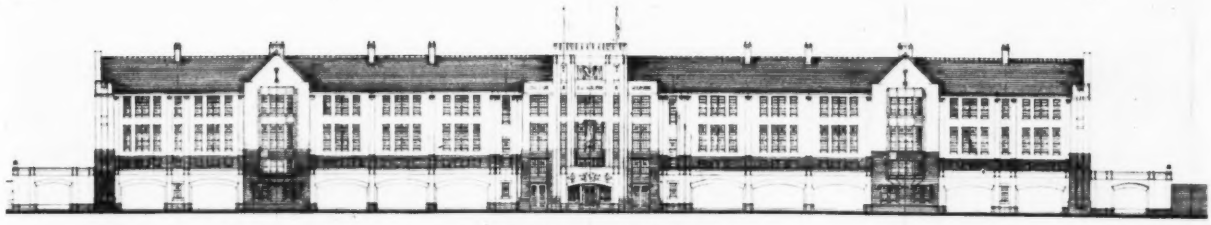


SECTION ON CENTRE LINE

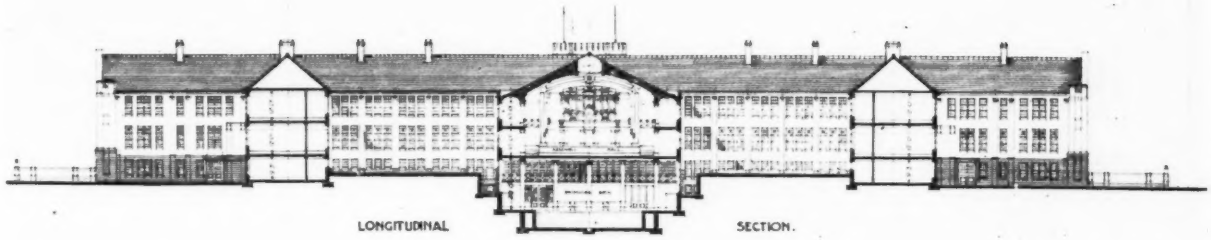


Bognor Council Offices Competition. Winning Design. By Charles Cowles-Voysey.

BRADFORD GRAMMAR SCHOOL.
COMPETITION



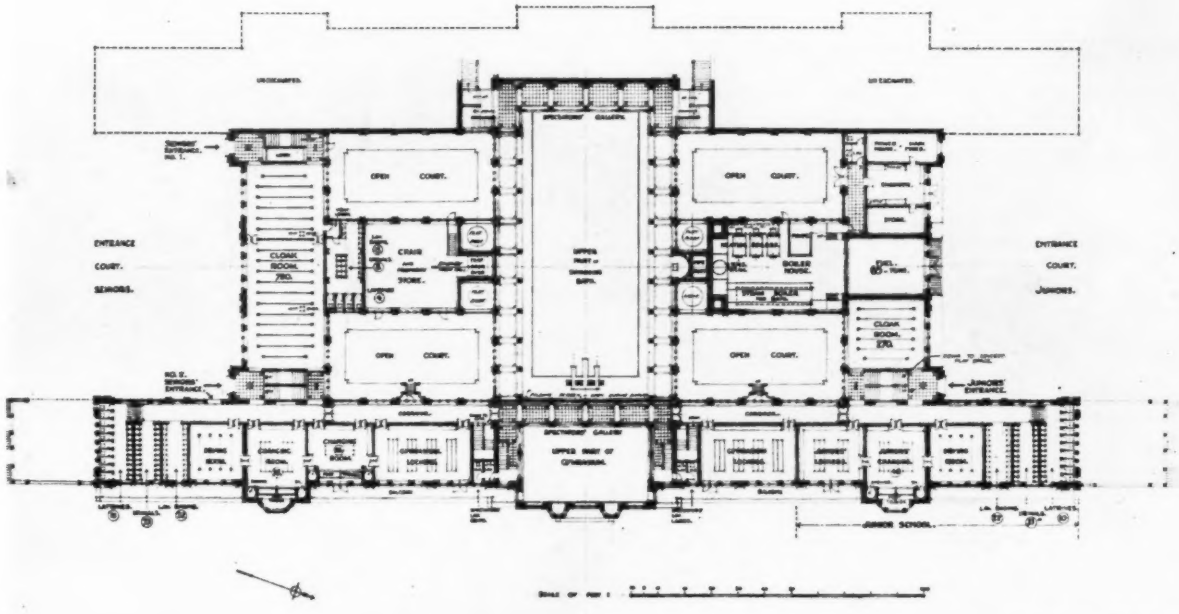
NORTH-EAST ELEVATION.



LONGITUDINAL SECTION.

BRADFORD GRAMMAR SCHOOL.
COMPETITION

SUB-GROUND FLOOR PLAN.



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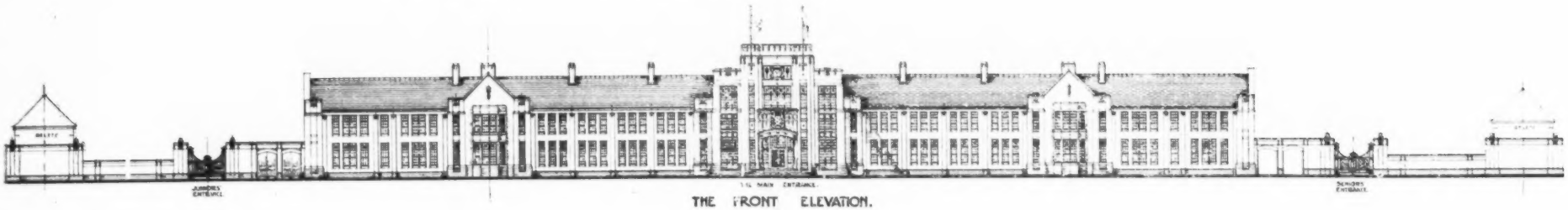
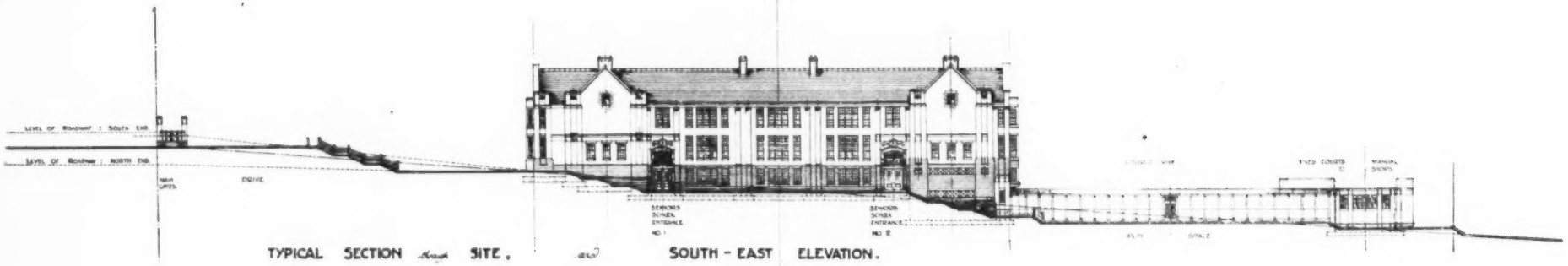


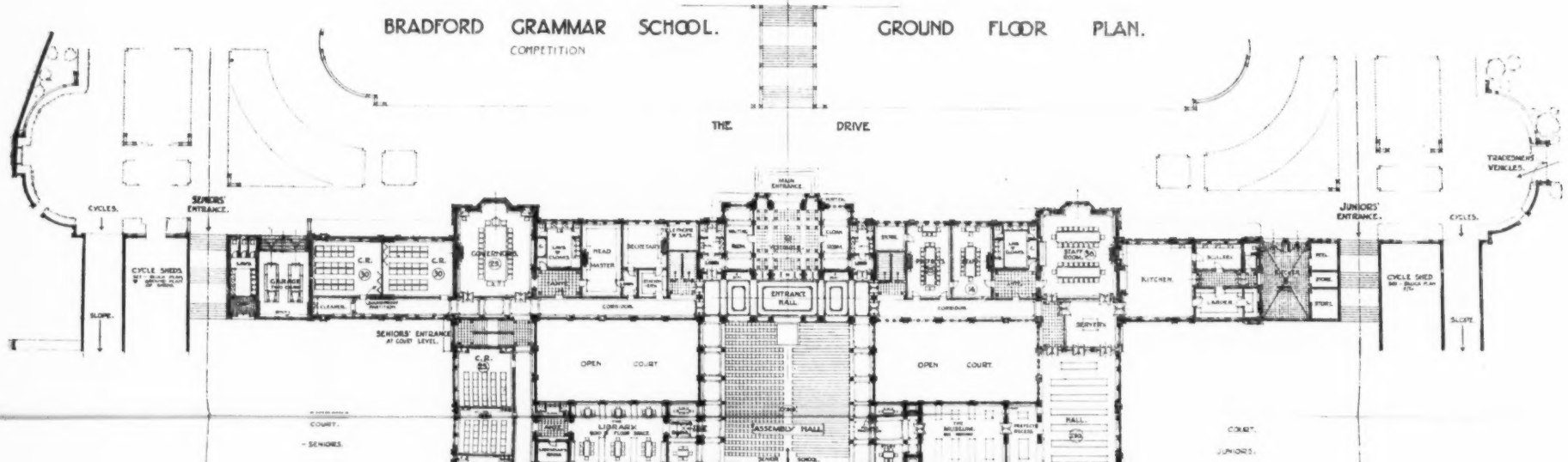
THE FRONT ELEVATION.

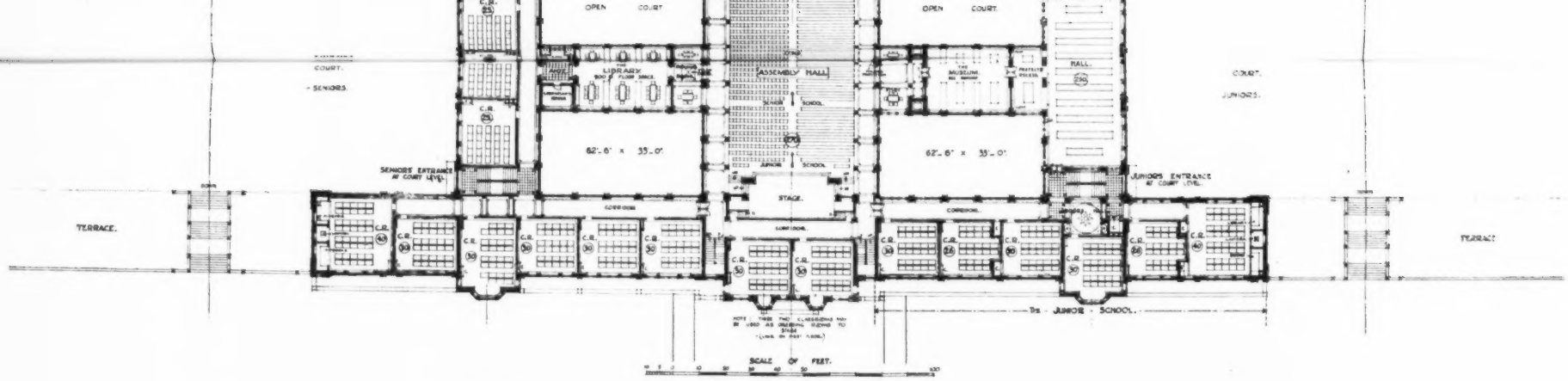


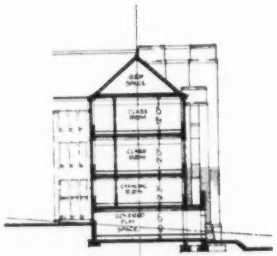
TYPICAL SECTION SHOWING SITE. SOUTH - EAST ELEVATION.

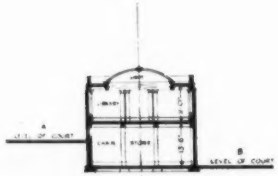
BRADFORD GRAMMAR SCHOOL. GROUND FLOOR PLAN.

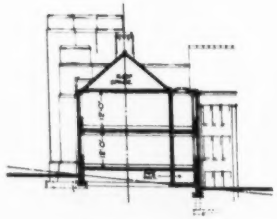
COMPETITION

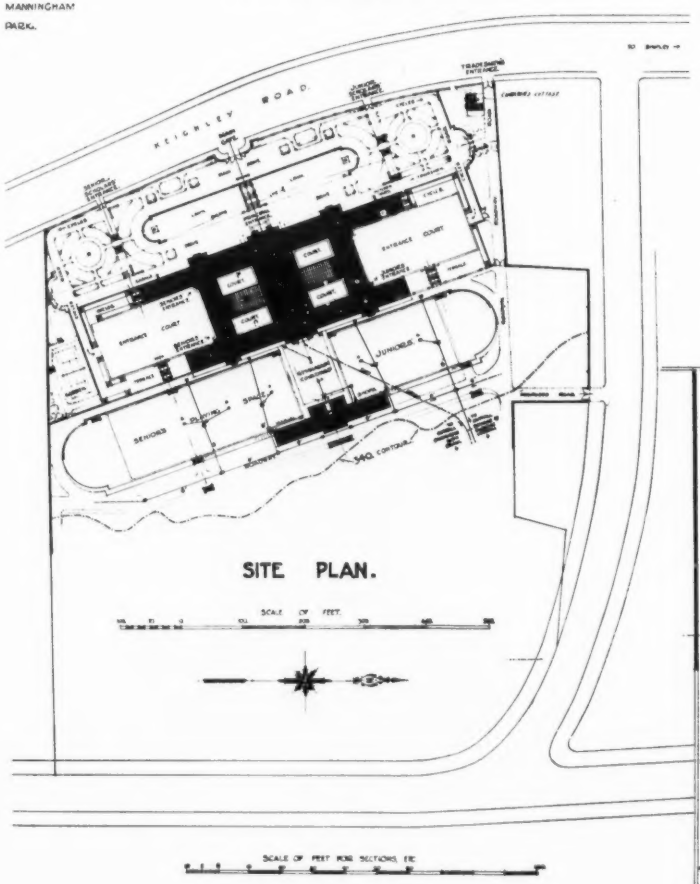


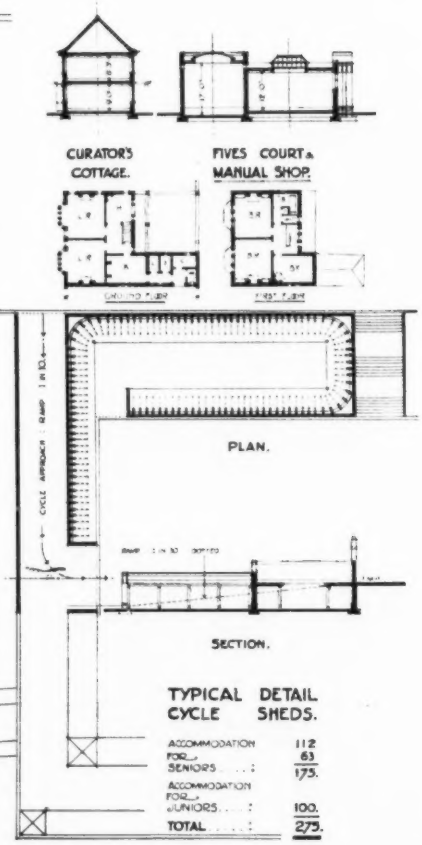












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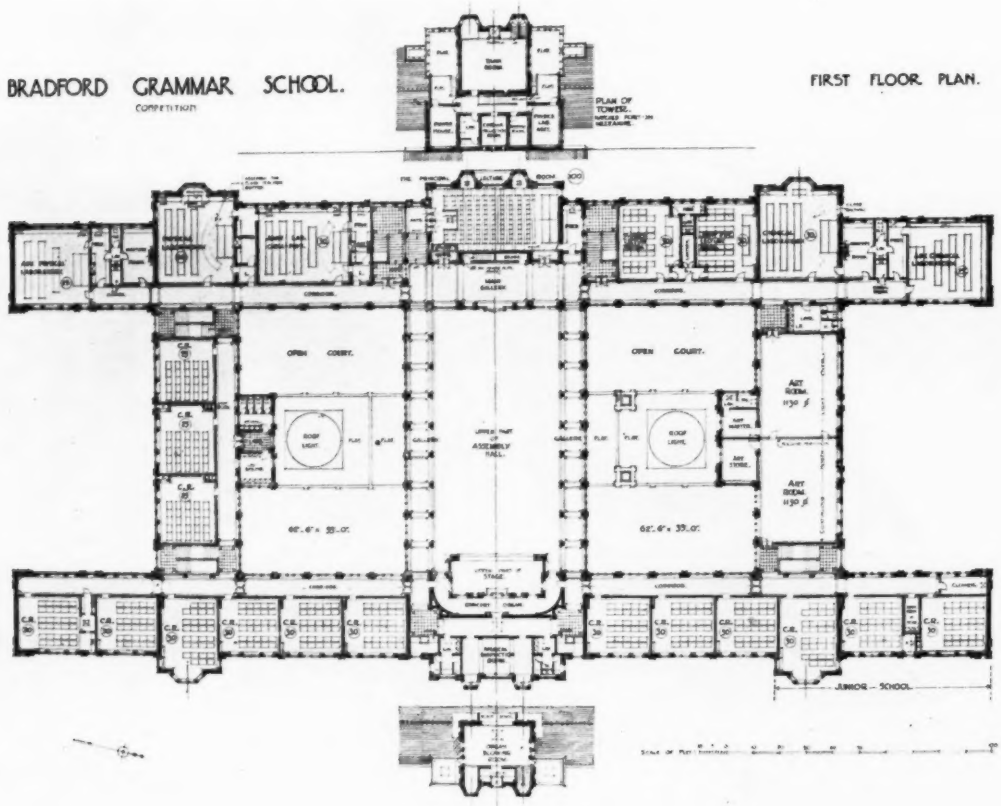

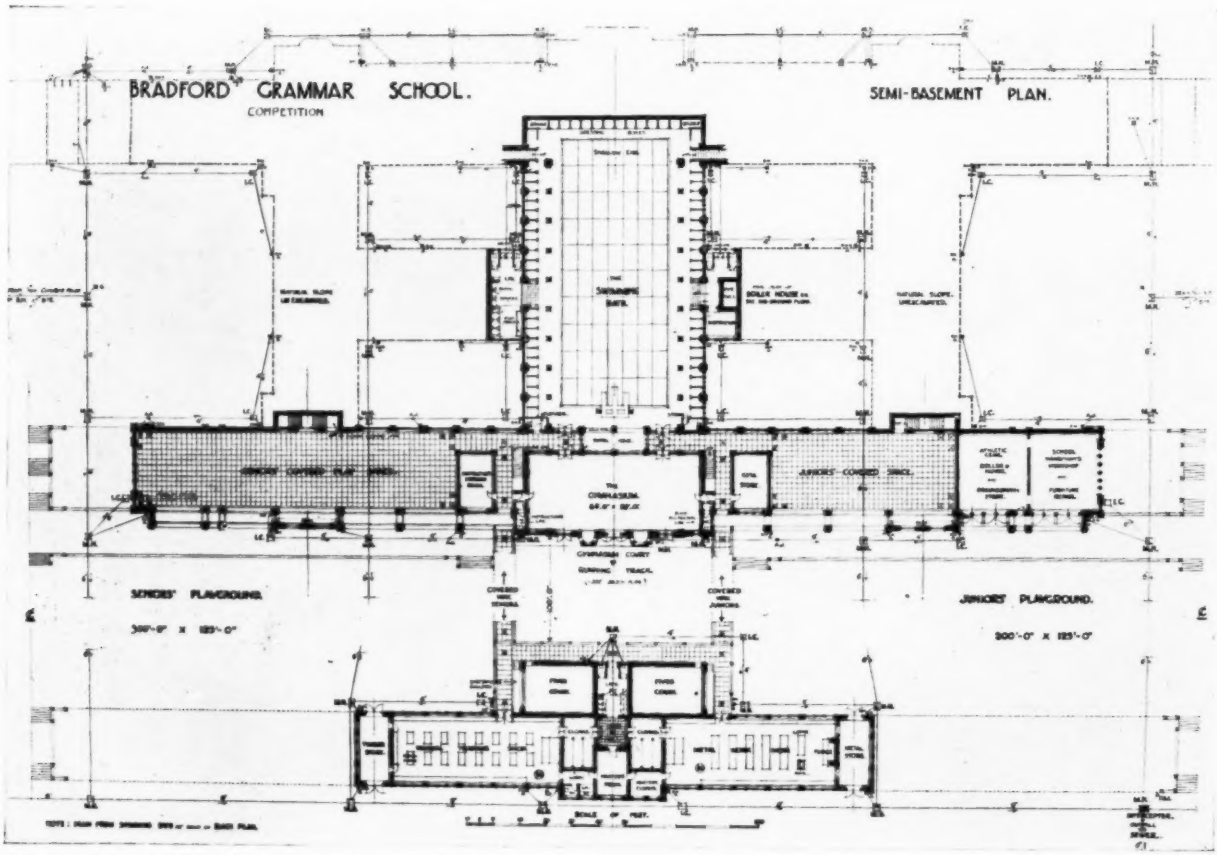

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