THE ARCHITECTS' JOURNAL

Wednesday, March 23, 1927

THE STRUCTURAL ENGINEERS

THE process of multiplication which is going on today among professional bodies may almost be likened to the process of division which is the means of generation amongst the lowliest forms of life. One of the most recent of these offsprings is the Institution of Structural Engineers, a post-war body, which, it may be remembered, developed out of the Concrete Institute, and this body it is which is now about to petition for a Royal Charter of Incorporation.

Previous to the foundation of the Institute of "Structurals," as they are becoming to be called, there were already several engineering professional organizations, for the ramifications of the activities which go by the generic term of engineering are manifold. Of civil engineering there are now clearly three main divisions: Structural, Mechanical, and Electrical. In addition to these divisions there are such other specialized branches as water supply, railway, sanitary, heating, ventilating and illuminating, gas, and municipal. Originally, civil engineering was governed by the Institution of Civil Engineers, but during the last century these branches of the main body have established independent organizations. Whether or not it would have better served the interests of the engineering profession as a whole had these other societies contented themselves with being merely sections or departments of the main organization is not for us to say. But since the principle of separate societies has been admitted, there certainly seems place amongst them for a society of structural engineers.

The Institution of Structural Engineers already has a membership of over three thousand, and it is certainly the only society representing that particular branch of the engineering profession, a branch which is perhaps more intimately connected with the architectural profession than any of the others. The granting of a charter would, therefore, give it the standing to which it is certainly entitled.

The petition is, we understand, supported by Mr. Guy Dawber, who no doubt realizes that the architectural profession would, on the whole, benefit by the existence of a body having the same status as the R.I.B.A. itself, and whose members, therefore, would be guided and regulated in their professional conduct by a similar chartered body. The relationship between the R.I.B.A. and the "Structurals" is, we believe, already of the happiest, but there is no doubt that the position of the structural engineer in the hierarchy of a building enterprise requires definition. The whole process of modern building endeavour is undergoing change, and as new materials and new technique make their appearance, the necessity for a changed personnel becomes apparent. It is from these changes that the office of structural engineer has developed. Each country, in which modern conditions similar to our own exist, will doubtless evolve arrangements most suited to temperament and tradition. In some, we believe, the partnership between engineer and architect is more intimate, that is to say, the individual firm contains within itself the architectural and the engineering elements. In this country a different arrangement is working itself out. The engineer and the architect are to maintain their professional independence and their distinct organizations. But that the community be best served, harmonious relationship is essential. We think that this relationship, harmonious if indefinite in the past, will develop towards greater harmony and greater precision in the future if the Institution of Structural Engineers is placed upon the unequivocal footing which the granting of a Royal Charter can give.

The entrance of a new professional body into the lists of institutions holding a Royal Charter of Incorporation not unnaturally leads to speculation upon whether these organizations are of real use to their members and, of still greater importance, whether they serve the interests of the community as a whole. We think that to both these questions the answer is in the affirmative. National temperament has been an important factor in their development. This is clear from the fact that it is England that has given to the world the word club, and although professional institutions are more than clubs, this gregarious instinct of the Englishman has surely been an influential factor in the organization of professional life.

The *Year Book of Scientific and Learned Societies* records the names of eighty-eight societies claiming to exist for the benefit of practitioners in the professions of architecture, engineering, and surveying. And it may well be asked if there can, indeed, be a real need for all these. However, it appears that the majority of them are local or district organizations, which seek as much to organize social activities as to encourage mutual professional interest and help. But even, as is probable, allowing that a certain amount of redundancy does exist in all these professions—we know that it has existed in the profession of architecture—we think that there is yet room for an institution representing a body of men calling themselves structural engineers; we think that such an institution will be of benefit to engineers themselves, to architects with whom they will be brought into even more frequent contact, and to the public at large, who are more ready to employ the services of a man having a recognized professional status.

For all these reasons, therefore, we wish success to the petition for a Royal Charter of Incorporation for the Institution of Structural Engineers.

NEWS AND TOPICS

THE WINNING OF WATERLOO—MINERS' COTTAGES IN THE KENT COALFIELD—A UNIQUE ARCHITECTURAL STUDIO—MESSRS. SWAN AND EDGAR'S TOP STOREY—FROM A DISEMBODIED ARCHITECT

MUCH satisfaction was expressed at Westminster last week with the Prime Minister's announcement of the decision of the Cabinet on the future of the London bridges. Members of the House of Commons are particularly pleased at the fact that, in spite of many vicissitudes, Waterloo Bridge has been saved. Mr. Baldwin's statement was made at question time to a full house, and it was greeted with loud cheers. There had been unpleasant rumours abroad that the Cabinet, for financial reasons, had " turned down " the scheme of the Lee Commission almost in its entirety, and something akin to a sigh of relief rose from the floor of the House to the Press Gallery when the true facts were revealed. The record of the present Parliament in regard to the preservation of the beauties of Old London is now a notable one. The City churches, the Foundling Hospital site, and Waterloo Bridge have all been saved from utilitarian hands. Whether the present eyesore in the shape of the railway bridge at Charing Cross will be replaced by something larger and more artistic remains to be seen. On the whole, the attitude of the Government towards the double-decker Charing Cross Bridge scheme is favourable. A State contribution towards its cost will be forthcoming if, after examination of its engineering, financial, and æsthetic aspects by experts, the scheme appears to be satisfactory. The St. Paul's Bridge project is apparently dead, and little regret will be felt on that score.

* * *

The future of St. Aldate's in Oxford, the main entrance from the south, leading past the Tom Tower of Christ Church into Carfax, is still undecided. At a recent lecture given by a local councillor on " The Development of Oxford," it was suggested that the City Bus Company should be given some inducement to build central offices on the site that has recently been cleared ! Many members of the Oxford City Council seem to have little appreciation of the fact that good architecture is a commercial asset to any town, and that a short-sighted city council by their ignorance can do much to destroy prosperity. The Oxford City Council more and more is proving its incompetence. In spite of a warning from the Mayor, they recently decided to act illegally by trying to enclose a further portion of the Port Meadow for allotments, and last week had to withdraw. Now, under the magnificent hall of Cardinal Wolsey at Christ Church (the R.I.B.A. held a banquet there during their conference), it is suggested that 'bus offices would be fittingly placed ! A more likely development in St. Aldate's is the erection of a modern hotel, designed by a well-known architect in a way that will not clash with the old buildings nearby, and will, indeed, increase the beauty of a highway that is known all the world over by lovers of Oxford.

Considerable progress has been made in the building of miners' cottages in the Kent Coalfields, especially around Snowdown Pit. At Aylesham some 400 houses will, it is hoped, be completed by the end of this year. These were designed by Professor Abercrombie and Mr. Archibald, and are to be built by the Dorman Long Housing Company. Compared with miners' cottages in the north of England, designed by Sir Frank Baines, Major Douglas Wood, and other architects who have given their special attention to the needs of colliers, the Kent houses, although of attractive appearance outside, are not completely satisfying the present tenants. For one thing, colliers prefer to have a bath as soon as they enter their homes, in order to avoid carrying dirt upstairs into the bedrooms. This preference for the bathroom downstairs was very strongly expressed at the historic meeting held in the Town Hall of Chester-le-Street (a place now somewhat of ill omen) when the Office of Works were called in to plan a housing scheme there during the war. Professor Abercrombie's houses in the Kent coalfields err in this respect, and housewives complain that they find it an unending task to keep their homes clean.

* * *

A unique architectural studio has been erected by a well-known American architect, Mr. Benjamin H. Marshall, on the shores of Lake Michigan. The entrance is through fifteenth-century Roman gates. Within are treasures gathered from all corners of the earth. In the garden is a Chinese temple with everything, including carvings, embroideries and bed brought from China. Mr. Marshall's own studio consists of a fireproof building, the exact reproduction of one in the Doge's Palace, Venice. At one end of his studio is a fair-sized stage with modern lighting equipment. At the other end is a fifteenth-century Roman pulpit from which a cinema flashes pictures of buildings, plans, and sketches on to a screen. Nearby are spacious quarters for the staff of forty draughtsmen and clerks. Another room in his house is a tiny ship's cabin with a porthole from which a lightship can be seen on the lake outside, and arrangements made so that the floor rocks to and fro as if at sea. Another room is designed so as to carry out the atmosphere of the Nile. Here there is a trick table which rises from the floor. Like a trap-door, part of the floor can be raised by means of a counter weight to the full height of the room and thus forms a canopy for the table, decorated and lighted in Egyptian style. Outside is a tropical garden, with palms, orchids, and even birds flitting about. This garden, which measures 75 ft. by 110 ft. and is 50 ft. high, is enclosed, but the glass roof slides back on the pressure of an electric button. Thus ancient and modern mingle. Mr. Marshall is a great believer in lantern slides, for he contends that the blue print is not understood by the average layman.

* * *

I hear that Professor Lascelles Abercrombie, Professor of English at the University of Leeds, has had great success during his visit to the University of Strasbourg, Alsace. He was entertained by the Comité Alsacien d'Etudes and by the Dean of the University, Monsieur Pfister. The part that he played in planning the future of Stratford-on-Avon has aroused a good deal of interest on the Continent, where there is a growing interest in systematic planning.

The issue between Messrs. Swan and Edgar and the L.C.C. is interesting. For my own part, I do not see why big business should be constantly appealing against regulations which are made for the public welfare. However, the L.C.C. is able to stand its ground, and is not likely to be intimidated by threats of financial ruin, more especially if its members read the firms' sanguine prospectus. The Press, which has given a good deal of publicity to the incident, seems rather to have misrepresented the facts. As far as I can make out, the top storey can be used provided it is divided up according to regulations. References in the daily Press give the impression that the floor cannot be used under any conditions. I can hardly think that this is so.

* * *

The *London Society's Journal* for March contains an interesting reference to the proposed double-deck bridge at Charing Cross which should be pleasant reading to the members of the recent Commission on Cross-River Traffic. Lamenting that the Charing Cross Station is not to be removed to the south bank of the river, the writer in the *Journal* comforts himself that at least a solution acceptable to the railway company has been found by the Commission whose proposals will receive support from the London Society. In view of the fact that the Commission has been able to perform such useful functions, the value of a broad outlook upon town-planning subjects may be considered as established. Wealthy people in future might think of leaving bequests to promote the drafting of artistic and economic developments in urban districts instead of endowing cats' homes. The uncertainty whether our London open spaces will be adequately safeguarded is another topic dealt with in the *Journal*. Brunswick and Mecklenburg squares have only been saved by public protest at the last minute; and though "a miss is as good as a mile," the feeling is left behind that on some other occasion the company promoters may score a hit, and the open spaces may perish under a heap of bricks and mortar.

* * *

Of the Ideal Home Exhibition at Olympia a woman correspondent sends me this impression :

"Noise ! blare of the band, clatter of conversation, cries of the salesmen extolling their wares. Smell ! humanity, flowers, paint, perfumery, and the faint tang of disinfectant over all. Crowds ! seeking—what ? 'Every woman sees a home through her engagement ring,' says the advertisement. Certainly every woman sees the perfect house under the roof of Olympia. But that 'Ideal Home' is of her own building, that is the fun of it. She takes, it may be, tiles from one stand, a geyser from another, a Chesterfield from a third. These, and other delights, she places in that dream house of hers, a dwelling into which she has greedily packed all the pleasant things the model houses have to offer her, sun parlours, sleeping porches, working kitchens. To a woman, a plan means little, an elevation less, but show her a house in being and she will instantly remodel it nearer to her own heart's desire. And so, her creative instinct aroused, it is in the end the architect to whom she turns. 'I have seen this—and this—and this—make me the like, or, perchance, the very opposite.' Exhibitions such as these are often, if not always, an inspiration, invariably they are a stimulus. And that is why we women love them." And from this I know why women are our worst clients.

From a Disembodied Architect.

As I observed the little carved heads of nuns and monks and laymen—laughing, yawning, and sorrowing—on the low stone arcading of the Church of the Knights Crusaders, in the Temple, it occurred to me that the work of the early master masons was often embarrassingly individual. But so were the patrons ! Hence followed a second thought: this place of worship should be renamed the Church of the Tempted Templars. Mute though their effigies at my feet might be, we know their early principles grew despairingly cold, until one day Edward I took this church away from them.

I think the judgment poor which expected devotion to vows of chastity, poverty, and obedience from men so essentially martial as the Templars, who quarrelled over the right to take the van in battle, and of whom the crusading de Joinville told how one Christmas Day, as he dined with his knights at the board of Lord Peter of Avallon, they were surprised by Saracens, upon which the Templars rushed out and covered their retreat well and boldly. Through the gemlike ruby and dark blue of the chancel windows I saw "the straits of St. George by Turkey in flower with ships"; saw Templars leap out of the transports with helmets laced and lances ready. Then did trumpets sound, mangonels and crossbow bolts fly, and scaling ladders the Saracens' high walls defy.

It must have been a lovely church in its prime. Shadow broke into light and light into shadow over the stiff waterlily leaves clinging concavely to the airy, Transition pillars. The absence of transepts reminded one of the old *Hallen* churches in Germany. After quitting the round tower through the Romanesque doorway I sought out the seagulls. A shower of gold was bursting over the grey Thames.

ASTRAGAL

ARRANGEMENTS

WEDNESDAY, MARCH 23

At the Northern Architectural Association. 7.30 p.m. Alderman Stephen Easten, O.B.E., J.P., on The Relations between Architects and Builders.

FRIDAY, MARCH 25

The Royal Academy of Arts. Sending-in day for Architectural Drawings. 8.0 a.m. till 10.0 p.m. At the Burlington Gardens Entrance.

MONDAY, MARCH 28

At the Royal Institute of British Architects. 8.0 p.m. Special and Business Meetings: Election of Royal Gold Medallist; Election of Members.

WEDNESDAY, MARCH 30

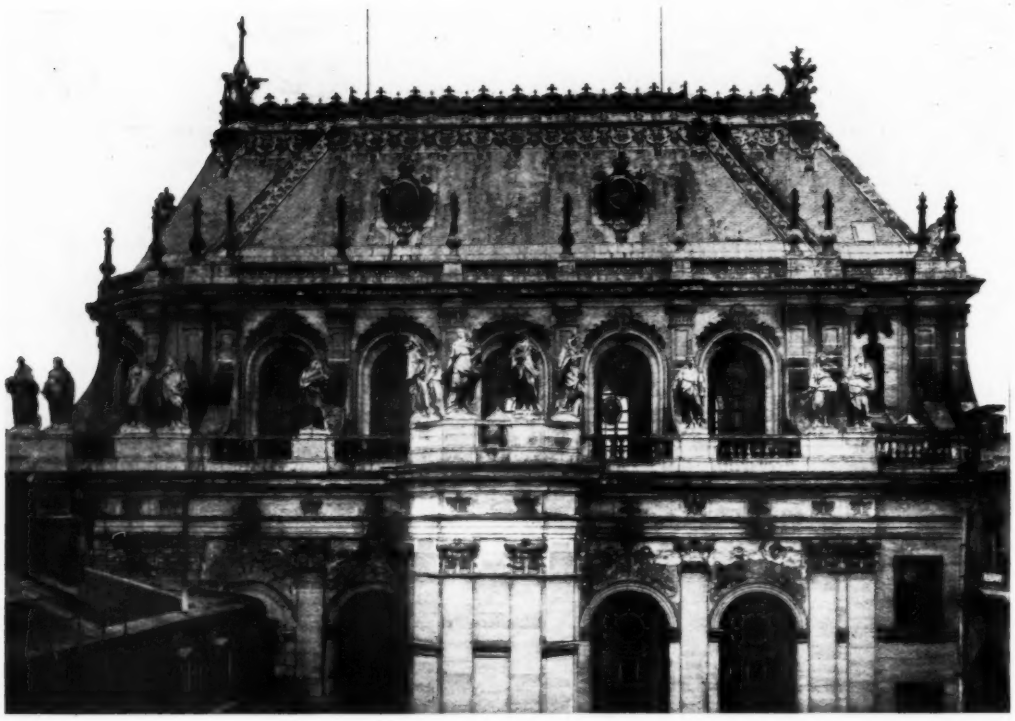
At the Institution of Civil Engineers. 6.30 p.m. Vernon Francis Cornish on The London County Council Becontree Housing Estate.

FRIDAY, APRIL 1

At the Royal Institution of Great Britain. 9.0 p.m. John Allen Howe, O.B.E., B.SC., F.G.S., on The Stones of London.

TUESDAY, APRIL 5

At the Design and Industries Association. 8.0 p.m. H. W. Hobbs, A.I.N.A., on Modern French Decorative Art.



Above, La Chapelle de Versailles. Detail of the North Façade.

SAINT-SIMON ON VERSAILLES

[ARRANGED AND RENDERED BY P. MORTON SHAND]

This very modern commentary on the architecture of Versailles is from the famous Mémoires *completed one hundred and seventy-five years ago. Saint-Simon died in 1755, but no authentic edition of his great work was published till 1830; an abridged English version came out in 1857. Mr. Shand has newly translated and grouped a number of somewhat discursive passages into the essay which follows.—Editor,* A. J.

SAINT-GERMAIN, in which were united marvellous vistas with the vast extent of a continuous forest, was a place unique, a site unrivalled for the beauty of its grounds and groves, that, in addition, enjoyed the advantages of possessing spring water at a considerable elevation, besides the amenities of admirable gardens, terraces, and eminences, the charms and conveniences offered by the Seine and a town lying ready to hand in a position such as already assured its existence.

Saint-Germain was abandoned by the King for Versailles, the dreariest and most unprofitable spot that could well be found, without views or woods, sans water and sans soil, since the whole of the ground is shifting sand or marsh, bereft, in consequence, even of good air.

The King raised all that occupies this site, one building after another, without any general and informing plan. Noble and vile were brought into juxtaposition, the vast and capacious as the cabined and confined. His own apartment, and the Queen's likewise, was inconceivably inconvenient and unsuitable, the view from it, which was extremely restricted, giving over the privies and the most humble and malodorous offices beyond.

From the courtyard the effect of congestion and crowding is overpowering, and the immense wings seem to be running away without anything to arrest them. From the gardens, it is true, one can enjoy the beauty of the *ensemble*, but even then one has the impression of regarding a palace that has suffered from fire, for the top story and rooves are still lacking. The chapel, which overwhelms the other edifices because Mansard wanted to persuade the King to heighten the whole palace by another floor, has, seen from any point of vantage, the gloomy appearance of a catafalque. The craftsmanship is exquisite in every way and in all parts, but arrangement there is none, everything having been sacrificed to the gallery because the King hardly ever used the floor of the chapel. The side galleries are inaccessible owing to the fact that there is but a single passage leading to each of them.

Among all these salons piled one on top of the other there is neither private theatre, banqueting-hall, nor ball-room. Both in front and at the back much work remains to be done. In short, one could never exhaust the monstrous defects of this palace, at once immense in itself, yet more so in the cost of its construction, and costliest of all in the provision of its dependencies.

The gardens, the magnificence of which amazes the beholder, but which refuse the least return in practical utility, are in poor enough taste. It is only after crossing a vast torrid zone that one can manage to attain to any shade which is really cool, while beyond this again there is no choice of direction; one is forced to climb and then in turn descend wherever one goes, for with the hill, slight as is its elevation, the gardens end abruptly. The rubble blisters one's feet in walking, but without it one would soon be immersed in the sand, or the black mud which alternates with it in places.

The King loved to play the tyrant over Nature and to tame her by force of art and lavish expense. The violence which has been done to her here on every side disgusts and alienates one involuntarily. The abundance of imprisoned waters which have been tapped and diverted from all points of the compass, renders them viridescent and viscous. Indeed, they produce an unhealthy and quite tangible humidity, and an effluvia that is even more noticeable. Ditches extending to a course of four or five leagues are frequently encountered. The effect produced by the fountains is certainly superb, though their play has to be considerably husbanded, but, considered as a whole, these famous gardens cause one to admire and then hasten from the scene. In spite of all endeavours the dearth of water persisted, and those marvels of art, the fountains, kept drying up, as, indeed, they still continue to do, notwithstanding the provision made for them by those oceanic reservoirs which cost such millions to build in the shifting sand and lime. This very defect, incredible as it may sound, proved the undoing of the infantry. Madame de Maintenon was already the reigning favourite at the time, and as Louvois was in her good graces we enjoyed a spell of peace at Court. Louvois conceived the idea of deflecting the River Eure from its bed between Chartres and Maintenon and causing its stream to run through Versailles. The money and lives which this obstinate project cost throughout a number of years can hardly be estimated. Not merely subaltern lieutenants, but colonels, brigadiers, and the various staff officers employed, whoever they were, could not get leave to absent themselves from the surveillance of the work, or the camp established for the troops allotted to it, even for the space of a quarter of an hour. At length the war of 1688 interrupted this enterprise and it has never been resumed since. Only some shapeless earthworks remain to perpetuate the memory of this cruel folly.

The orangery, kitchen gardens, kennels, and stables, great and small, formed an amazing community; in fact, a whole town. In this town there was besides only one miserable inn, a windmill, and the little pack-of-cards château which Louis XIII built so as not to have to sleep on straw when he spent the night at Versailles on his hunting expeditions. The château is a very low and exiguous habitation, in which my father has slept many a time, extending round the precincts of the marble court, with the main building, which has only two short wings, lying to the rear.

To crown all, this Versailles of Louis XIV, this ruinous masterpiece of bad taste, where the wholesale changing about of groves and meres has swallowed up more money than will ever seem credible, could not even be brought to completion. The lawns and avenues, crowded with plants and trees as they are, cannot thrive, while the park needs to be continually restocked in game. Yet the walls of this park enclose within their vast ambit what is virtually a small province of the most cheerless and wretched country in the world.

The Trianon, in the park, at the gate of Versailles, was at first a sort of doll's glass-house, where one went to take a light collation. Later it was enlarged so as to provide sleeping accommodation. In the end it became a palace of marble, jasper, and porphyry, with delightful gardens full of exquisite trifles, and a menagerie, on the opposite side of the Versailles canal, filled with the rarest animals, both two- and four-footed. Clagny, built by Madame de Montespan on her own account, at the other end of the park of Versailles, which later passed into the possession of the Duc de Maine, was a superb seat decked out with gardens, lawns, and fountains on every side, besides possessing conduits worthy of the Romans. Nor Asia itself, nor all the ancient world, has anything vaster, more magnificent, multifarious or ingeniously designed to show, nor yet a pleasance so rich in choice works of art, marbles, bronzes, and paintings of every age and kind, and, in particular, fine statuary.

BEETHOVEN AND ARCHITECTURE

[BY MANNING ROBERTSON]

THE centenary of the death of Beethoven must have led many architects to ponder on the relationship between music and architecture and, perhaps, to wonder how it comes about that no architect's centenary could compare in world importance with that of this composer. This is certainly not an accident, and it must arise from some fundamental difference between the two art expressions. Music and architecture have so often been bracketed together that we have formed the habit of stressing the similarities rather than recognizing the differences which are more profound than those that exist between any two of the other arts.

Let us adopt, as a framework for discussion, the distinction that, of the five arts, three are perceived through space dimensions, with all that this implies, and two through time—the "Sphere-born harmonious Sisters, Voice and Verse."

Thus we get two groups: 1: Space (architecture, sculpture, painting). 2: Time (poetry, music).

The arts of group 1 share certain limitations in common. The opportunities for their expression on the grand scale are rare and expensive or difficult to obtain; also there nearly always exist restrictive conditions due to outside interference. Each work of art is unique and hence only to be seen in one place and destined to disintegration through the passage of time. These arts lend themselves to representations, and even to the copying, of Nature, and their art appeal is interwoven with a powerful associative influence.

The arts of group 2, on the other hand, only require materials that are negligible in price and their full resources are available to each individual, provided only that he possesses the barest means of livelihood. Works in this group, once admitted into the "world repertoire," can be realized in many places at once, they are not affected by the passage of time, and they possess no possible counterpart in Nature; the associative significance of music—the personal or historical memories it recalls—loses power at a much more elementary stage than does that of architecture. It may be argued that some of these distinctions are of an arbitrary nature, that, for example, the musical score corresponds to the drawing of the building and not to the building itself, which ought to be compared with the performance of the music. This would not be a legitimate comparison, since a symphony does not demand any particular background, whereas a building, a picture, and a piece of sculpture are dependent upon their setting. Even if circumstances forbid the production of an opera or symphony, yet the creation exists in the score, whereas a piece of architecture cannot, in the same sense, exist on a drawing. The musical interpretive artist, and the actor in a play, are secondary artists called in by the time nature of the medium.

Of all the arts in group 1 architecture is the most hemmed in and restricted by such questions as cost, outside interference, and practical considerations. Music and poetry are both equally free, but music is the more dependent upon the interpretive artist, hence the distinction between architecture and music is the most extreme that can be found. The latest developments in physics, which indicate a welding together of space and time to form a single space-time *continuum* (where in special circumstances the one is transmuted into the other), might lead to speculations as to the fundamental unity of the arts, a conception that it seems impossible to avoid, but such speculations could have no practical application.

The distinctions that we have been considering are important because they force the conclusion that in no conceivable circumstances could there be an architectural Beethoven. In music there is possible a freedom of expression unattainable in the spatial arts. Of what nature, then, was Beethoven's contribution, that he, alone among musicians, was able to use it adequately? His earlier work was grafted plainly on that of his predecessors, Haydn and Mozart. Only here and there is one conscious of a strange breath that ruffles the surface for a moment. As his assurance increases we find a growing sense of mysticism and the touch of real human experience transcribed into terms of music. We no longer enjoy the music because it is beautiful, but we understand it as a symbol of spiritual "events." Schopenhauer recognized in music an idea of the world, since whosoever could completely elucidate music, or rather translate it into rational concepts, would, at the same time, be producing a philosophy explaining the world. Richard Wagner, writing on the centenary of Beethoven's birth in 1870, considers that "if we survey the progress which music has made under Beethoven from an historical point of view, we may briefly describe it as the attainment of a faculty which had previously been denied it; by virtue of this faculty, music, from the confines of æsthetic beauty, strides into the sphere of the sublime."

With Beethoven's growing deafness there appears a sense of detachment, as though his deafness and the suffering it entailed were gradually removing him from the distractions of the world and, like the blindness of Faust, illuminating him from within. Finally, in his latest works—Piano Sonata Op. 111, the Choral Symphony, the Mass in D, and the last string quartets—we are aware of a giant figure, infinitely removed, who has conquered fate and seems to survey a world whose hardships can no longer touch his serene power and knowledge—a knowledge that enables him to bring strength and consolation to those below. The power of this inward intuition is, perhaps, more readily grasped when we remember that he himself never heard his greatest music.

That architecture has not, to the same extent, this transcending power does not belittle either its influence or importance. The power of music is concentrated but discontinuous; architecture is always exerting its influence. We might compare the action of architecture to the light of the sun falling uniformly, while music, we might say, concentrates that light, as through a burning-glass, to an intensity at one particular spot. No one, using any medium, can transmit an idea to another unless he and the recipient possess certain knowledge or experience in common. For instance, to a man born deaf, it would be impossible to illustrate the difference in timbre between a note on the violin and a note on the horn; we might elucidate its cause by means of diagrams in terms of overtones, and so on, but our explanation would carry him no farther, and in this respect music suffers from a serious handicap, since its deeper symbols appear to evoke a less general response than do those of any of the other arts. Training is, of course, necessary, but with higher music (as distinct from the rhythmic or harmonic elemental appeal) it too often seems to fall on ground where no real receptive soil exists. We can, in terms of geometry, express the properties of a three-dimensional world to two-dimensional beings, provided that they are prepared to accept some monstrous and incredible assumptions. In music we cannot even suggest the nature of its real appeal to the unresponsive. Nineteenth-century Europe has been regarded as the sphere of material commercialism. The mystical, the occult, and magic are considered the specialities of the Orient. This notion is as prevalent in the West as in the East, and the true answer, incomprehensible no doubt to the East, is that Europe in the nineteenth century produced a supreme mystic and seer in the person of Beethoven.

It would be a mistake to suppose that he stands isolated among musicians because he attained a unique knowledge of music, or because others were unable, or did not care, to follow his particular technique. The answer is far simpler. He was one of many equally capable musicians, but he was also a supremely great man. If such as Michelangelo possessed a similar "knowledge of reality," the limitations of the spatial arts would have prevented them from communicating it with the degree of power that was at Beethoven's command. With Shakespeare and Goethe we could make a more legitimate comparison. In Wagner's words: "Shakespeare remained wholly incomparable, until German genius produced in Beethoven a being that can only be analogically explained by comparison with him."

No one, whether or no he understands Beethoven's works, will deny him a place among the great ones of the world. Those who cannot experience his magic for themselves cannot fail to recognize his power through its influence upon others. This world recognition of Beethoven is a tribute to the range and intensity of art in its purest form, and is therefore the noblest homage that humanity can render to the significance of the arts as a whole.

THE OXFORD SCHOOL OF PATHOLOGY

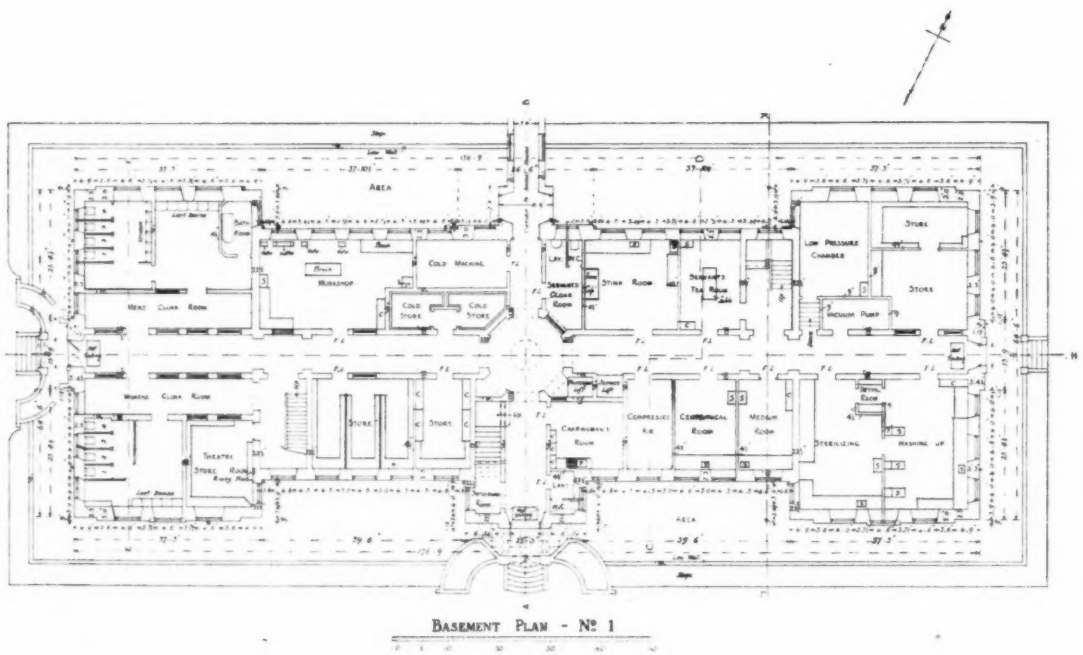
[BY C. CAMPBELL CROWTHER]

Of recent years there has been an apparent conspiracy to find academic Oxford stone, and to leave it brick. We do not seem to recall any notable effort in the traditional idiom since the unfortunate excursion of Oriel into the realm of *Art Nouveau*. Undoubtedly Messrs. Ruskin and Butterfield inaugurated this modern phase—the vicinity of the parks saw the sowing of a healthy crop of Venetian wild oats—while economy stringency plus the scabrous tendencies of the local freestone has ensured its perpetuation. In this latest contribution to the newer tradition, Mr. Edward Warren has conspired with the University to issue an almost brutal challenge to the Italianation of fifty years ago.

South Parks Road is a site of cheerful possibilities but of depressing actuality. Its residentiality is thoroughly nondescript in expression, while the proximity of Butterfield's Museum makes any serious attempt at Mr. Trystan Edwards's ideal of good manners an unappetizing farce. On the other hand, the frontage towards the parks themselves presents real scope for a liberal scheme of planning, and one hopes that a future generation will deal firmly with the Gothic anachronisms of an otherwise effective vista. As it is, Mr. Warren has sounded the keynote for such a reconstruction in producing a work which is, without servility, as traditionally English as Oxford itself.

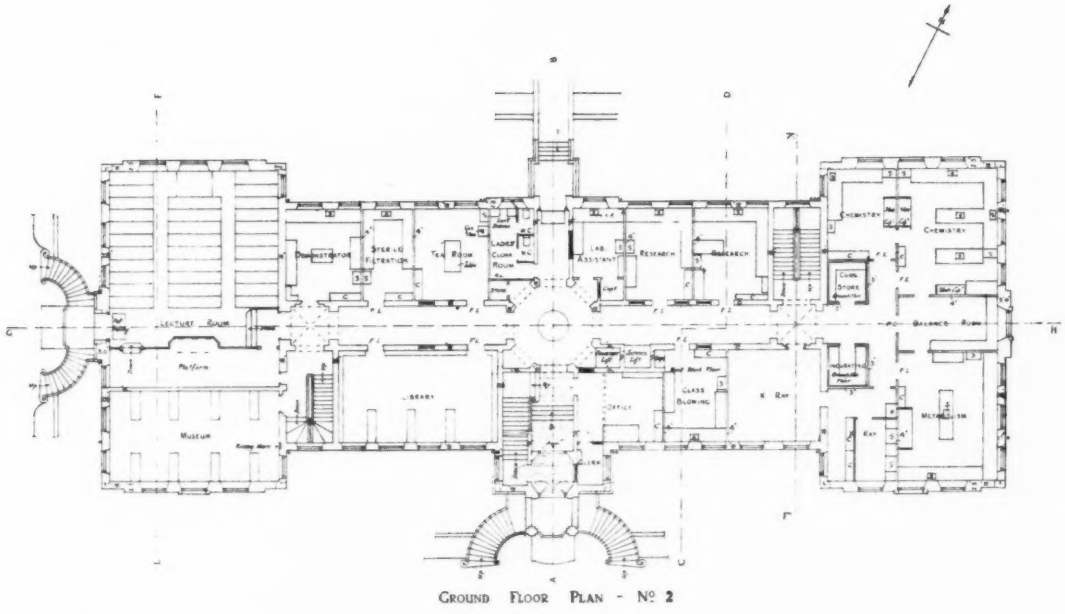
The provenance of his inspiration need not be laboured; the composition as a whole is more than wontedly faithful to the standards of Wren and his school. It is in the interpretation of detail rather than in general principles that Mr. Warren has allowed himself freedom. This is particularly noticeable in his exploitation of the organizing effect of a strongly punctuated coping. There is more than a reminiscence in the north-west front, with its rather slightly punctuated central member, of the mass-effect of Hampton Court. Where the architect has allowed his individuality play is in the deepening of the brick coping into what is virtually an attic story. The functional justification of such a feature will probably always be a matter for controversy, and undoubtedly its employment as comouflage for disorganized chimney-stacks has been common enough to warrant the view that its use is abuse. But even granting the point that a roof is as integral in, and as worthy of harmonization as, any other structural feature, it is none the less true that the artistic handling of a roof is often wasteful, and as such no less negative of function. Indeed, in the example under notice the attic contributes so much to the horizontal massing of the whole that one feels that the elevations would fall to pieces without it. In this connection, the well-defined string-courses contribute to the effect, and the splaying-out of the basement walls serves to balance the heavy cornice and coping. Strength of horizontal effect is, of course,

Oxford School of Pathology. By Edward Warren. View from south-west, showing south front and west end (with entrance to lecture theatre).

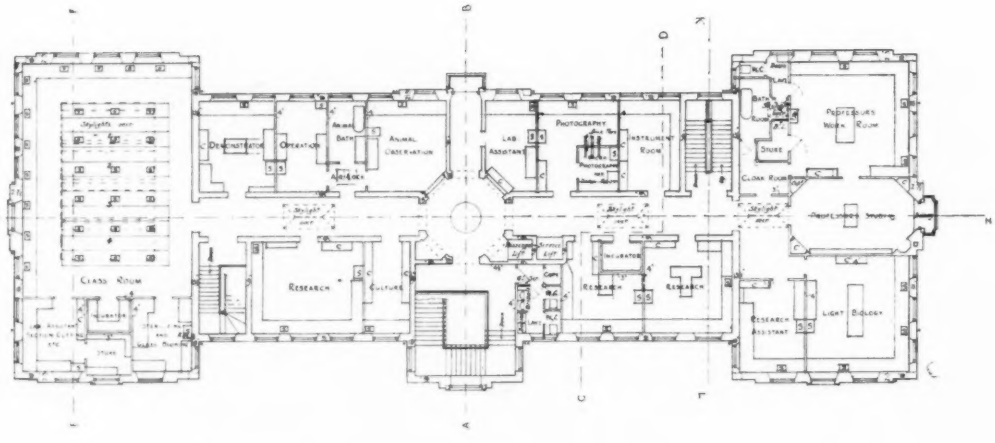


BASEMENT PLAN - Nº 1

Oxford School of Pathology. By Edward Warren.
Above, view from the south-east. Below, basement plan.

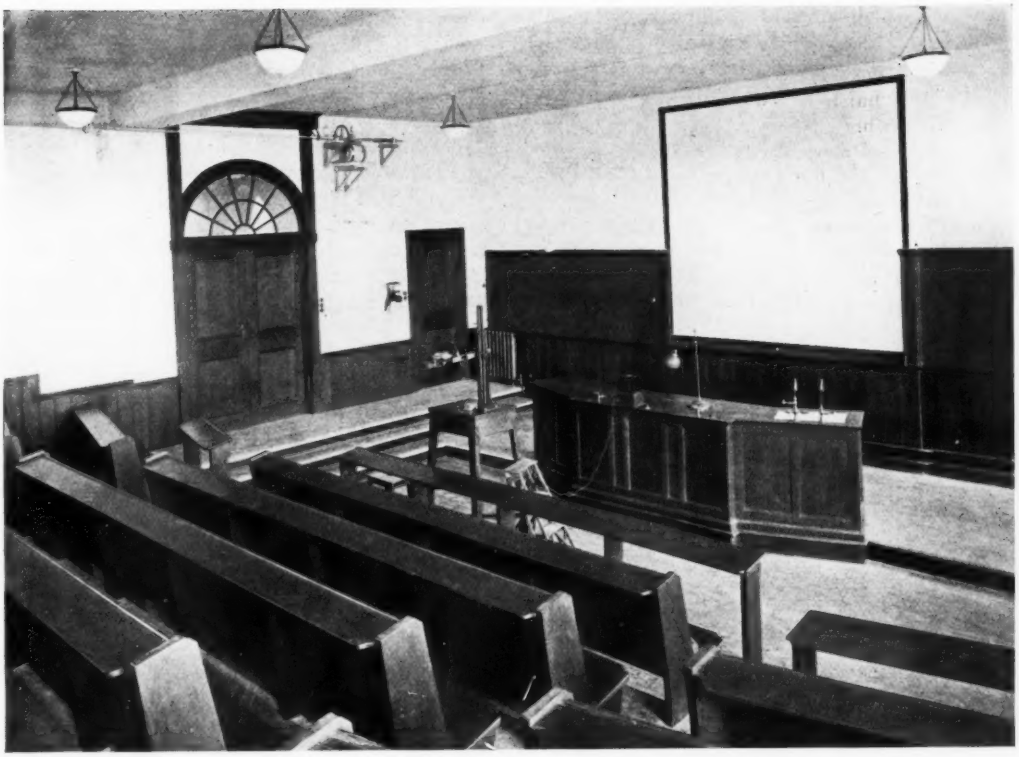


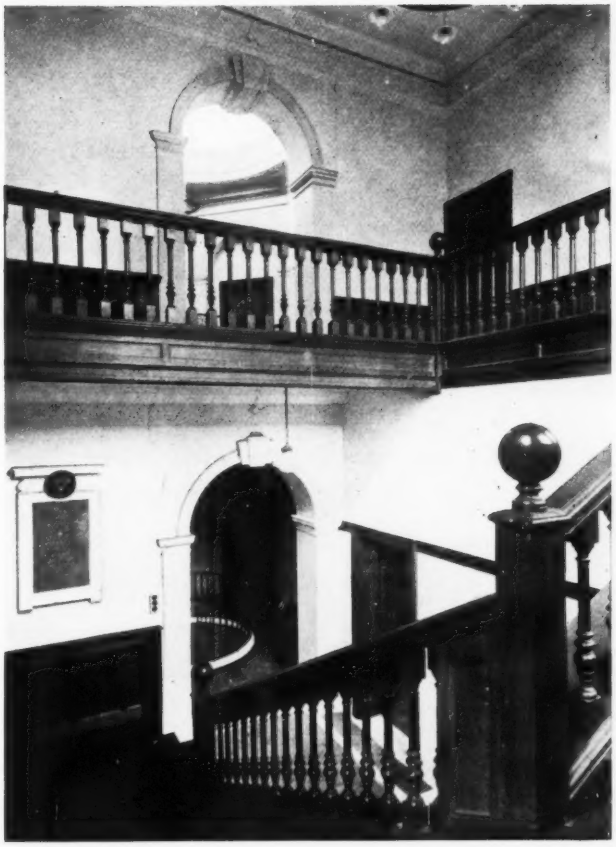
Oxford School of Pathology. By Edward Warren. Above, the main (south) front to South Park Road. Below, plan of ground floor.



FIRST FLOOR PLAN - № 3

Oxford School of Pathology. Above, view from the north-west showing covered way to the animal house in the rear. Below, plan of first floor.





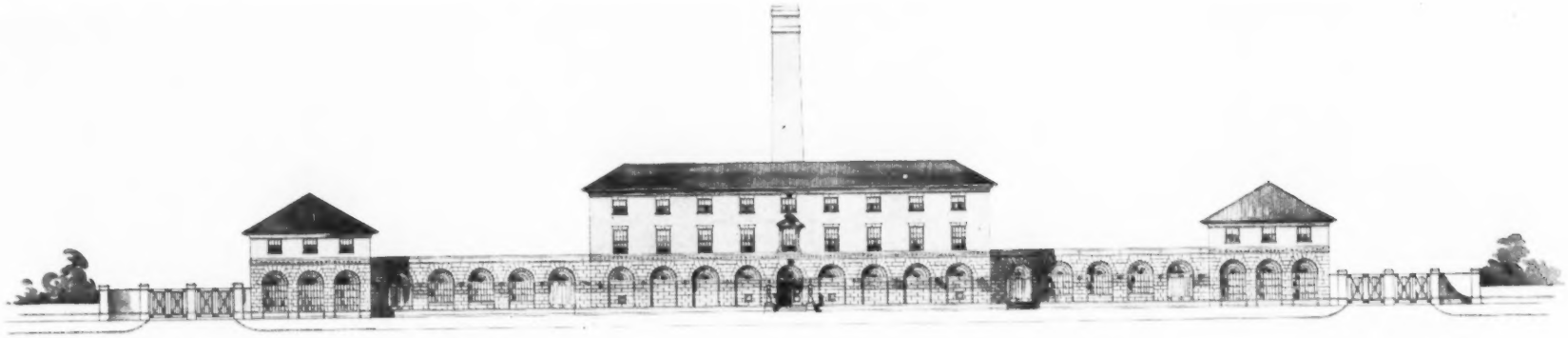
Oxford School of Pathology. By Edward Warren. Above, the interior of the Lecture Theatre. Below, the main entrance hall and oak staircase with memorial tablet to Sir William Dunn, Bart. A view from the first landing looking west.

the trump card of the English classical school, but its modern exponents tend to rely unduly on severity of detail; the flat arch has been worked to death, and too often the result has been to obscure the general motive of horizontality to a harsh rectangularity of detail. Mr. Warren, on the other hand, has used segmental arches of an unusual degree of curvature, and has even attempted to break up the horizontal shadows cast by the sills by the application of an upper projecting ledge. Altogether, there is a more genuine refinement in the design than one is accustomed to expect in the handling of modern brickwork. A feature in keeping with the scheme of a strong horizontal massing is the treatment of the frontage line of both elevations. The effect is to provide direct lighting from three sides and a-half. More than this, Mr. Warren has carried classicism a notable space towards the Cubist ideal of glass-sided boxes; the relative height and closeness of the lights are distinctly unusual, yet there is no sacrifice of traditional form involved. Incidentally, the efficiency of the direct lighting has facilitated some pleasing work on the indirect lighting of corridors through web-shaped fanlights of characteristic but by no means plagiaristic type. The interior decorations are rather conventional, and the furnishing of the lecture rooms bespeaks the utilitarian hand of the scientist. In passing, one hopes that the combination of floor-rake and

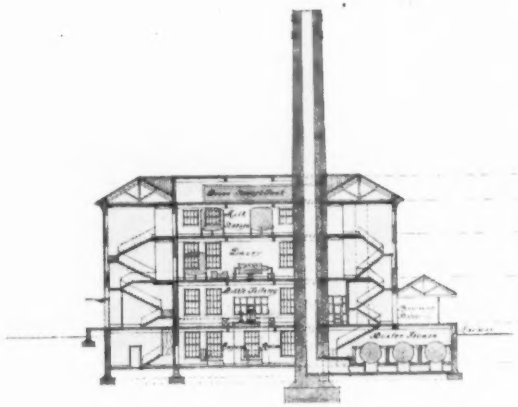
Oxford School of Pathology. By Edward Warren. Octagonal centre hall, looking south into main entrance hall, with circular floorlight in centre.

gutter drain-pipes, which are still too frequently regarded as excrescences.

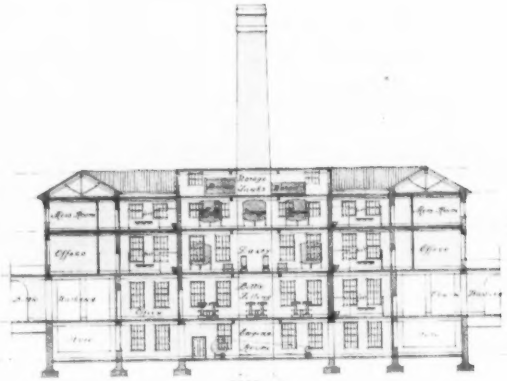
What, however, is more definitely to the point than any of the foregoing considerations is the adequacy of its functioning as a school of experimental research. Time and the pundits alone can answer the question fully, but at least one, and that perhaps the most important, aspect has received the fullest consideration. From the plans it will be seen that as far as possible all rooms devoted to research pure and simple have been grouped at the ends of the block, which stand out boldly beyond the general benches does what their ilk so rarely achieves, viz. to secure at once ample vision and a reasonable degree of comfort in taking notes. The latter feature is too often scamped, presumably at the instance of impassioned enthusiasts who live not by bread alone. There is ample interior communication, comprising as it does three staircases and passenger and service lifts. Altogether, Mr. Warren is to be congratulated upon a notable contribution to the reviving cause of a national architecture. That Oxford should possess it is but one more manifestation of an intelligent conservatism.



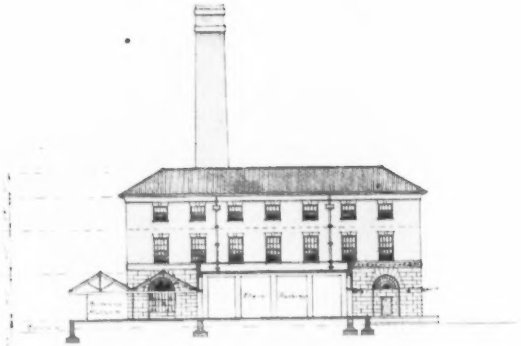
FRONT ELEVATION



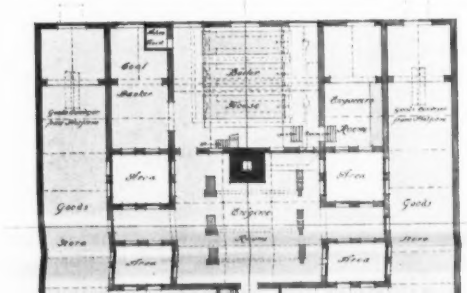
SECTION AB.

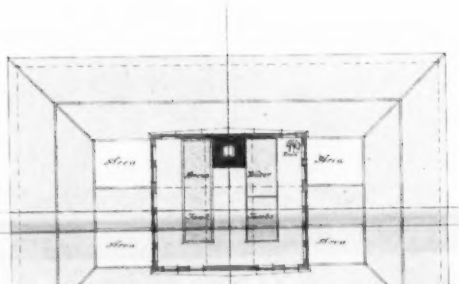


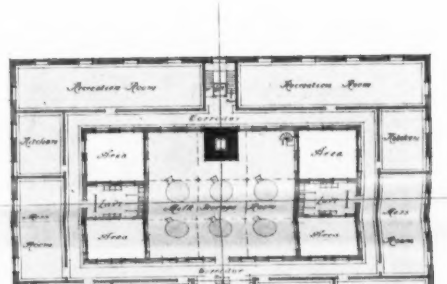
SECTION C.D.

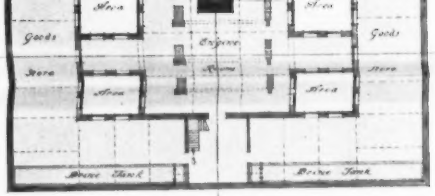


SECTION E.F.

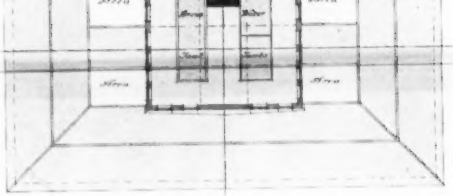




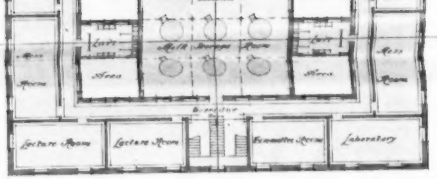




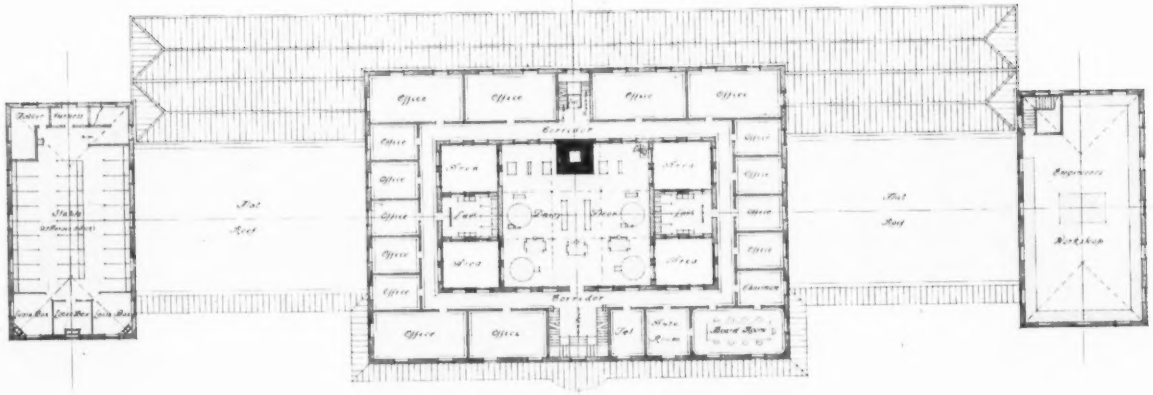
BASEMENT PLAN



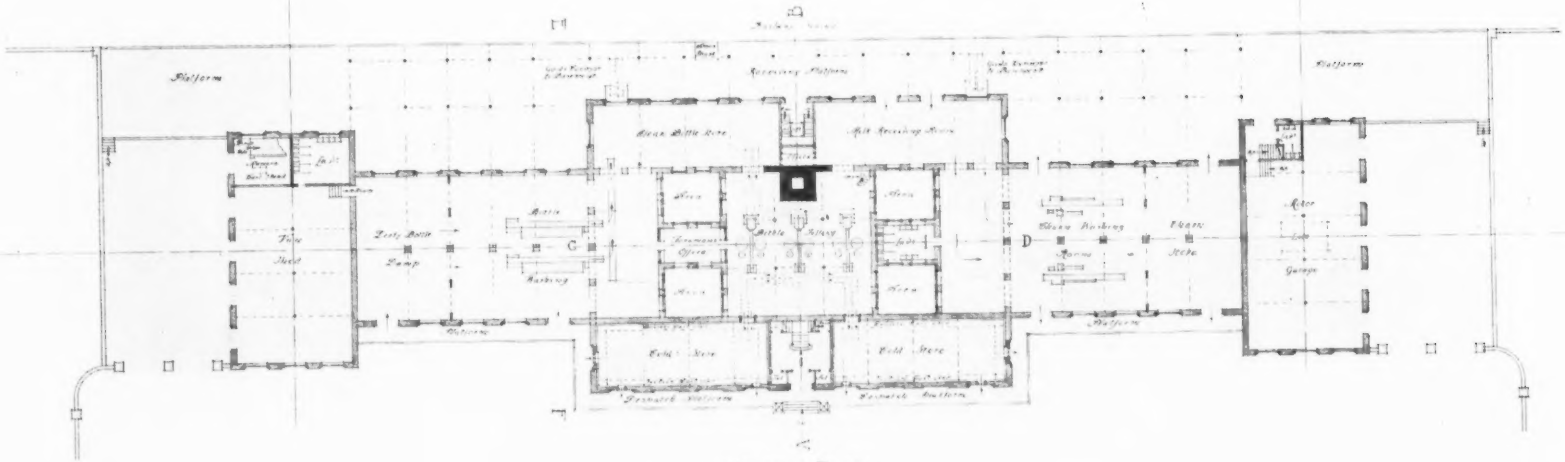
THIRD FLOOR & ROOF



SECOND FLOOR



FIRST FLOOR PLAN



GROUND PLAN

DESIGN FOR A MODEL DAIRY.
BY VICTOR L. JOHNSON.

SOANE'S BANK OF ENGLAND

V: THE TREASURY

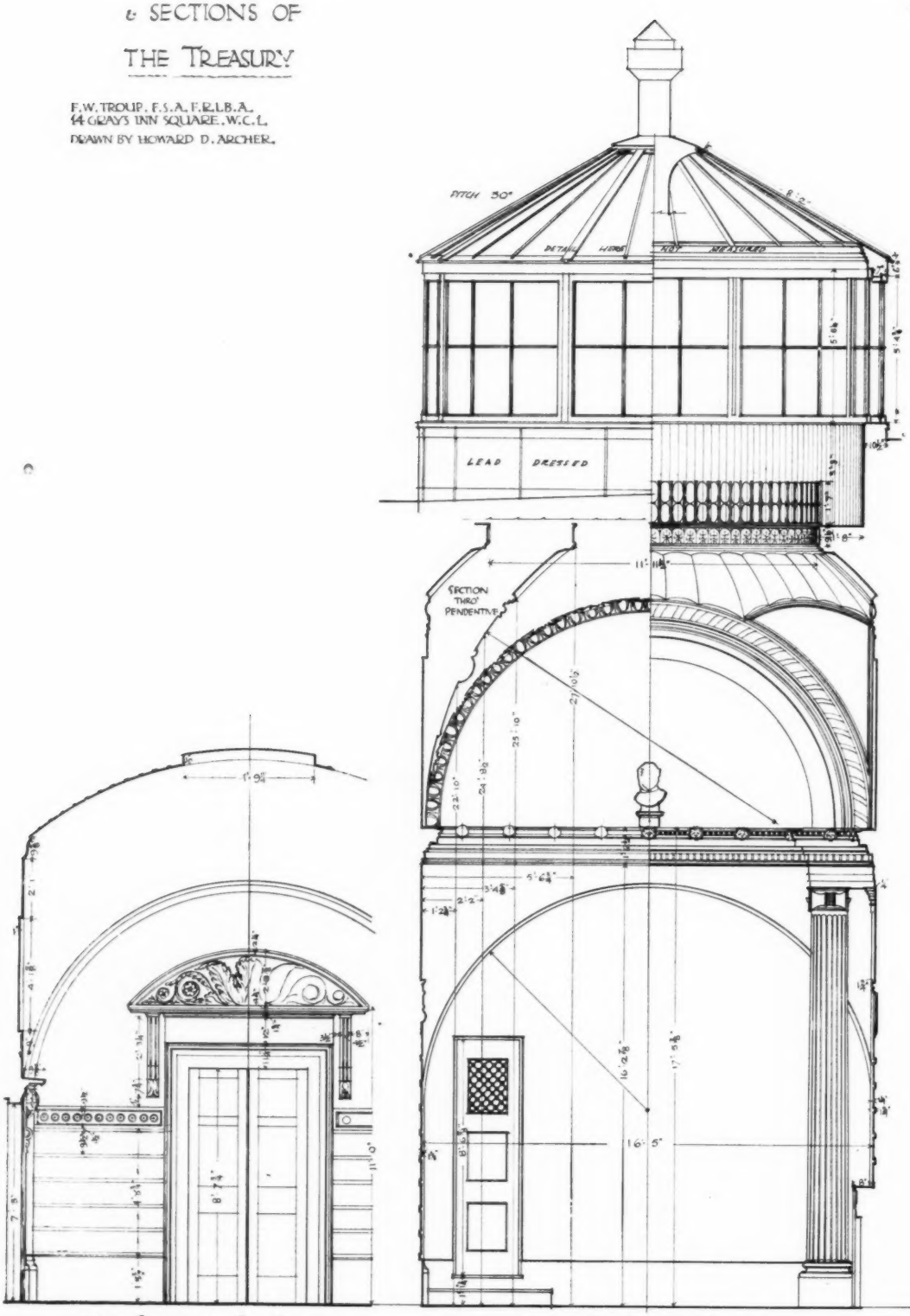
Plan and Sections

From 1765 to 1815 a large vestibule of Taylor's led from the front courtyard to the rotunda. As a mere connecting link it was wasteful of valuable space, and after the decision to pull it down had been put into effect, Soane built in its place a smaller hall, the outer Treasury, to accommodate an overflow of officials from the inner Treasury, and contrived alongside it at the same time a new way into the rotunda. The usual crowning fillet was omitted above the "ovolo" mouldings at the top of the rusticated wall treatment and main cornice, as was also done in the earlier Consols Office.—[H. ROOKSBY STEELE.]

HALF INCH SCALE PLAN & SECTIONS OF THE TREASURY

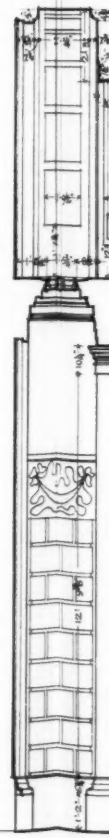
F.W. TROUP, F.S.A. F.R.I.B.A.
14 GRAYS INN SQUARE. W.C.1.
DRAWN BY HOWARD D. ARCHER.

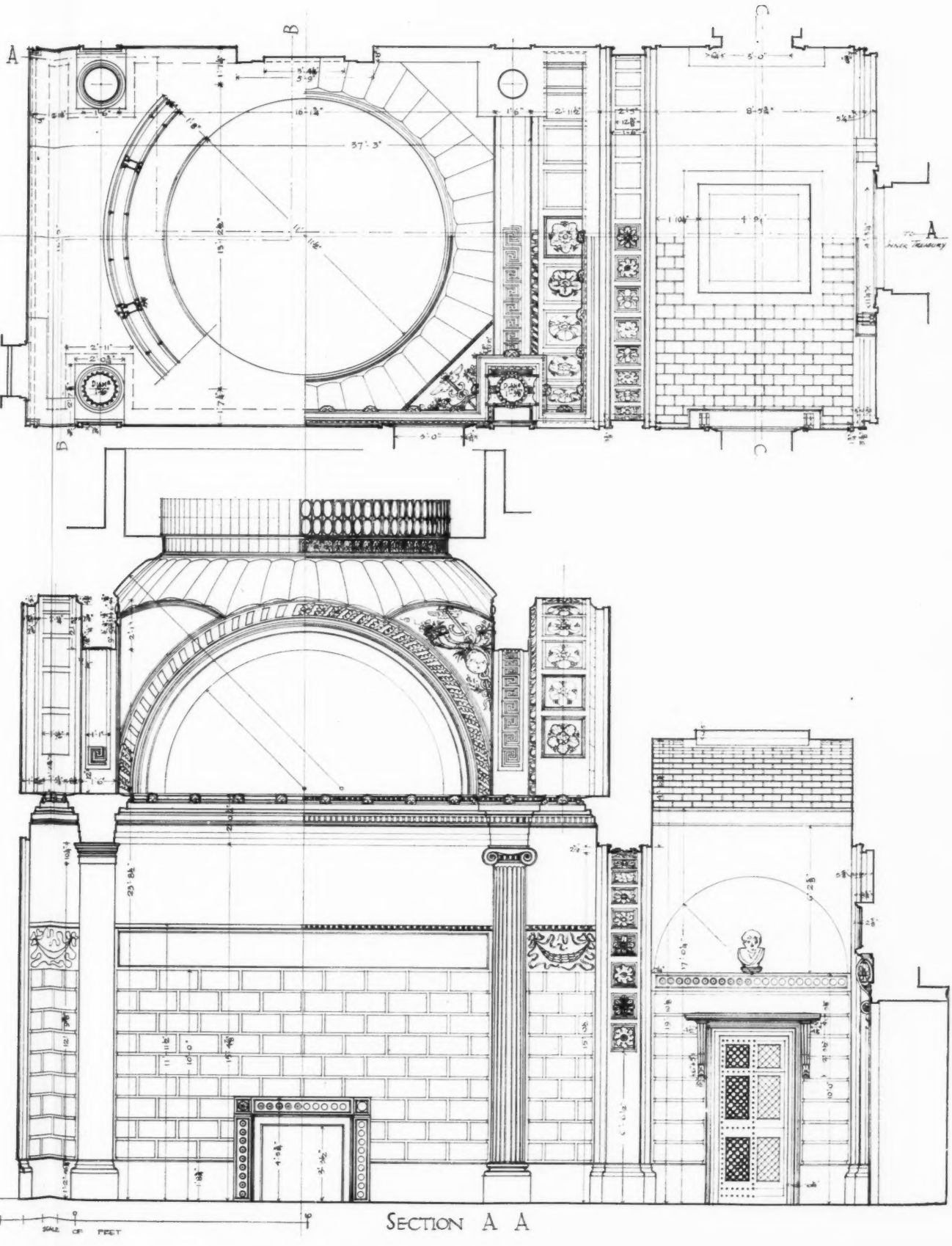
DRAWING No 45



PART SECTION C C

SECTION B B





SECTION A A

SOANE'S BANK OF ENGLAND. MEASURED DRAWINGS OF THE INTERIORS. (*v*) THE TREASURY. PLAN AND SECTIONS.

TRIBULATIONS OF EARLY PRACTICE: 3

[BY KARSHISH]

iii: DISPUTES WITH BUILDERS

OUR architect has already been warned that his relation with builders, however urbane and affable, is always one of conflict, and illustrations have been given of those petty skirmishes and manœuvrings which are part of the daily round of the architect in practice. We are here, however, concerned with upsets after the building is completed. The practical aspects of matters for dispute as they are likely to present themselves to our architect, and the way he may best address himself to disposing of them, are alone to be dealt with: the technicalities of law and of building practice and the intricacies involved by them are here avoided. Once again, this writing will be confined to a picture of the actual experiences our architect may expect to encounter.

Disputes between the architect and the builder, after the building is completed, mainly arise out of delays in completion, claims for extras, and defects appearing in the work. With regard to delays, however, it may be said at once that there will be no grounds for dispute, and I refer to the matter only to warn our architect not to make the mistake of thinking there will be. In the first place, by the time the building is completed delays will be past history, and the grievance is best forgotten; in the second place, it is no use wrangling about the exact amount of the penalty —represented by the number of days and parts of a day during which the works shall have been in arrears multiplied into the sum fixed in the contract as agreed, and liquidated damages— for this amount is in all cases exactly the same, namely, the sum of no pounds, no shillings, and no pence. The whole question is full of difficulties, but, broadly speaking, when time is not of the essence of the contract no penalty can be enforced, and time ceases to be of the essence of any contract which provides for possibility of delay and for allowances of time for extras and other matters, and, as such provisions are part of ordinary building contracts, penalties cannot be enforced under them. All that can be said of the provision of penalty for delay is that it holds up before the contractor his moral obligation to push on with the work, and acts to some extent as a frightener to builders who, although they have grown used to the inanimate nature of this effigy of retribution, as rooks grow accustomed to a scarecrow, have a feeling that it must possess powers of some kind and may prove mischievous if entirely ignored. All our architect can do when delays occur is to represent his own disappointment and concern; refer to the loss to both his own and the builder's reputation which must result; colour up a bright picture of the indignation of the building owner, and hint at an almighty row brewing. As a last resort he may suggest that the builder should relinquish part of the work—the painting and decorating, for instance. There is nothing that hurts the feelings of a builder more than a proposal of this kind; the veriest mule can be made to lumber into a gallop at the prick of such a goad, but the idea should be given the colour of an intention to help the builder, and by no means of a threat. Our architect must not have a row; to have a row is to discharge his piece and find himself unarmed before a well-equipped enemy, and then farewell to that spirit of *bona fide* good intention on the part of the builder, without which the whole paraphernalia of R.I.B.A. conditions enforced by the powers of the law cannot get a single brick well laid in good mortar and properly bonded and pointed. A builder, at settlement, might offer to pay something in acknowledgment of delay, but to do so would be to admit that the delay was his fault, and no builder will make that admission nor believe it to be true. The excessive delays have been his misfortune, not his fault. All building operations are compacted of delays. Even if we imagine an incompetent builder muddling through, it is hard to decide that his delays are his "fault." His haulage contractor went to collect the heating pipes and reported they were not at the goods yard, and it was only correspondence with the railway company that revealed that the man had gone to the wrong station. Then the back axle of the lorry broke, and by the time another had been hired, and the pipes arrived, the heating engineers, having nothing to do, had gone off to another job and did not come back for three weeks, which made it necessary to turn off some of the plasterers, and when plasterers were afterwards wanted they could not be obtained—and so on. No wonder the courts have been driven to decide that penalties for delay can only be enforced when no considerations for time extension are admitted.

We now come to the question of extras, which crops up when the builder presents his final statement of account; but as our architect wrote to the builder at the outset and warned him that it was to be clearly understood that no extra work should be charged unless ordered as an extra in writing, and agreed that he, on his part, would bring up no omissions unless he had notified the builder at the time; and as he has strictly observed the rule so laid down, he will have little to dread. This formal reminder to the builder that the stipulations of the contract are to be strictly observed is only fair, for as many architects work in a sloppy way and depend on a wrangle and a "square-up" bargain to settle the account, a builder might otherwise hesitate to send in claims for extras while the work proceeded, partly as likely to give the idea that he wished to squeeze all he could get out of the work, and, secondly, because if he made formal claims for certain extras he would have difficulty in establishing extras which he might not have claimed. We are to suppose, then, that extras and omissions have been notified and acknowledged while the work was in progress in a proper way, and may suppose our architect to tear the envelope and open the document. With it he finds a hefty wad of day-work sheets, receipted invoices from merchants, and perhaps his own authorities for extras, but these are usually sufficiently identified by a reference date to each appropriate item in the account. The account, he may suppose, is a perfectly orderly one, and yet there are a number of awkward matters to investigate and decide and to agree with the builder. After the amounts supported by accepted estimates have been checked over and ticked off, there remain various works for which prices have not been agreed. Some are detailed in measured accounts, others in day-work accounts of time and material. There is a list of expenditures against provisions, and most of these are represented by receipted invoices of merchants for the goods covered by the provisional sums. The amounts charged by the builder must be examined. Some are suitable for measurement by the quantity surveyor, and if the architect is not prepared to accept the amount, or the builder to agree the item, it must be so measured. Other items, charged day-work, are supported by day-work vouchers, which, under the contract, should have been sent in week by week. Our architect, unless there is a great deal of day work, or it is a large building, and there is a clerk of works to certify the sheets, will soon learn to distrust these day-work accounts. It is difficult to get the men correctly to allocate materials and time to a particular detail which happens to be separated from another only because the architect said of one, "do it" on Tuesday, and of the other, "do it" on Wednesday. The foreman is not likely to fret himself to secure that the time is exactly allocated when his credit for getting the contract work cheaply done is a conflicting interest. Day-work sheets must also be a nuisance to the builder, and they never yet convinced any architect that a charge he thought too large was a reasonable charge. The day-work sheets are, as an institution, bad. The fact of the system being introduced is an assurance that it will be abused. "The lorry" goes over to fetch a dozen lengths of 4 in. by 2 in., and, whatever else it brings, the charge is booked against the day-work account—and so on.

Our architect will tick off all items which he decides for one reason or another to accept, take stock of the rest of the account, and form an opinion about it—whether it is fair and can be readily agreed, or whether there are many or particular matters which he

will have to contest. When he knows what his own attitude to the business is, he makes an appointment for the builder to go over the account with him. The builder and his manager or estimator punctually arrive, or perhaps the builder's manager alone, and the negotiations open, for negotiations they exactly are. There is diplomacy. The builder may have intentionally overloaded the account in order to have something to concede; our architect will, on his side, perhaps make a show of stretching small points in the builder's favour so as to be better justified in stiffness on matters which he feels he cannot yield. Let us imagine the kind of points that arise at such an interview, it being remembered that our architect has to act as arbitrator. He is entirely concerned in arriving at a settlement that is just; he must not favour his client's interests as against the builder's; he must not allow any liking or sympathy for the builder to persuade him to pass charges which his client cannot fairly be asked to pay; above all, he must not be influenced to resist claims by the builder because in admitting them he confesses negligence or error for which he may be called to account by his client.

The first thing our architect has to do is to avoid making heavy weather of the account. It is a good rule to go rapidly over it first, and at once tick off all that can be readily agreed. Three-quarters of the whole is thus conceded, and the way made easy for agreement on outstanding items, of which we will suppose there are now left only thirteen. In dealing with these our architect should avoid coming to a direct opposition of opinion; before that point is reached he should drop the subject for the time being and pass on to the next item. By the time the account has been traversed a second time the serious questions have not been agreed, but the whole account except five items is settled, and things are evidently not as bad as they seemed. The first of these five items we will imagine to be a small charge of £7 9s. 4d., but it raises a question of principle which our architect, rightly, is reluctant to yield. He feels that if he concedes the point he will be unable to hold his position in a much more serious matter still to be decided. The builder claims that the first item was ordered as an extra; our architect can recall that he told the foreman to do the work, but his view is that he directed the work to be done to get the foreman out of a difficulty due to incompleteness in work sent from the joiner's shop, but he chooses, for diplomatic reasons, to refuse to entertain the claim because no formal authority for it as an extra was given. He reminds the builder that if extras are to be brought up against him, omissions can also be claimed. The next item is a big one based on a wad of day-work vouchers. Our architect thinks the charge a great deal too high, and objects to it being charged as day work. The builder says that there is no other way of charging it. Our architect says it should be measured. Finally, after a long argument, it is agreed that the joinery shall be measured, and the whole of the carpenter's and joiner's time and material cut out of the day-work account, which will then represent only the cutting away, preparing, and making good. The architect realizes that though the charge is high the work may scarcely be profitable to the builder, who in no case will be paid for his trouble and for the confusion of his organization due to the intervention of the client with ideas for altering the building; and though our architect cannot accept the charge as it stands, he hopes that the measured account will not greatly reduce the amount. The next item is for dealing with a spring which was found when the cesspit was sunk, and which involved shuttering and pumping. The builder says he was obliged to do the work, although there is no order for an extra; but our architect does not think he would have entertained the idea of an extra had it been asked for. The builder now urges that if the position of the cesspit had not been altered he would not have struck the spring, and that the work in dealing with the spring is, therefore, due to the change and part of the extra. This is a good argument, and our architect is glad to have so sound a reason for conceding the point. Item four is another matter for measurement, but the builder brings such good reasons to show that measurement will bear hardly and unfairly upon him, that the item is accepted as day work, subject to the checking of the account against the vouchers. Item number five is the stiff fight. The builder's estimator produces from a gamekeeper's pocket in the lining of his coat, like a conjuring trick, several quires of abstract paper closely written over. The fact that all the rest of the account is now agreed is an inducement to get this remaining one settled quickly. It is an item for £128 14s. 1d., and it has arisen in a way characteristic of the ramifications of affairs of building.

Our architect specified, we may suppose, a smaller brick than the rest of the walling, for facing chimney stacks. The builder overlooked the necessity for ordering these to be specially made at the yard where the other facings were burnt, and proffers a sample brick to which the architect objects as being too soft. The builder points out that the same yard has been making such bricks for more than 100 years, and that the chimney is to be built in cement. The architect objects that the facings are to be bedded in lime mortar and the joints cut off, and the builder says that in any case a damp-proof course at the base of the stack will make things safe. The architect agrees to this. He afterwards goes on to site and finds the chimneys partly built and without damp-courses. He writes to the brickyard, and is told "undoubtedly in exposed situations a damp-course to parapets and chimneys is desirable." He thereupon reminds the builder that it was agreed that a damp-course should be fixed, and calls upon him to demolish and rebuild the chimneys. The builder now wants to charge for pulling down and rebuilding and for the damp-course. He claims that the work is an extra. Architect says that his approval of the bricks put forward was conditional upon a damp-course being used. Builder says that the bricks were used as an alternative to waiting two months for others to be specially made.

Our architect replies that the bricks ought to have been ordered long before. The builder retorts that he did not know they would have to be specially made, that the specification does not describe them as to be specially made. Disputes as to extras quite commonly resolve themselves into wrangles of this kind, and the example affords a good illustration of what was meant when it was said at the outset of this writing that the best qualification an architect can pray for is the kind of general capacity which depends on high vitality. Personal force and a quick, energetic mind are required to uphold a just assessment of the facts in contests of this kind. In the present instance we may suppose that the builder is obliged to yield the main point and to be satisfied with the concession which allows him the cost of putting damp-coursing to the chimneys.

[*To be concluded*]

NEW INVENTIONS

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

LATEST PATENT APPLICATIONS

5812. Armani, F. Building construction. March 2.
5835. Coveney, A. W. Moulding concrete, March 2.
6239. Ferranti, Ltd., and Ferranti, V. Z. de. Lightning, etc., arrester. March 5.
5847. Kelly, T. D. Erection of buildings. March 2.
5570. Motley, L. Manufacture of cement bags. February 28.

SPECIFICATIONS PUBLISHED

266424. Berridge, H. Contractible and expansible supporting means suitable for use in the construction of pipes, tunnels, bridges, and other bodies or structures.
266425. Rex, W. J. System of improved building construction.
243727. Ferrier, P. Manufacture of poles of reinforced concrete.
266455. Wood-Tebbs Co., Ltd., Tebbs, F. F., Allen, C. H., and Tyler, W. S. Casements, skylights, and like fasteners.

OPENINGS IN BRICKWORK

[BY T. SUMNER SMITH]

THE fundamental principles governing quantity surveying are accurate measurements and clear and concise descriptions. The object is to enable an estimate to be made of the intended building work. In brief, these may be said to be the essentials of quantity surveying, and they should be strictly observed for quantities to function. The general statement of methods recommended by the Manchester Society of Architects to be used in taking quantities, which may be said, and is understood, to mean the "Northern Method," states: "In taking quantities . . . measure and describe them as to give parties estimating the clearest idea, and at the same time in the most concise manner, of their cost and character." The preface to the *Standard Method of Measurement of Building Works*, though not quite so definite and explicit as this, implies as much, giving as a reason for formulating the "standard" that "the estimator was frequently left in doubt as to the true meaning of items in the bills of quantities which he was called upon to price, a circumstance which mitigated against scientific tendering."

Here we have authorities in agreement, but whose methods differ. Let us take as an illustration that of openings in brickwork. The northern method states that "openings of less than 100 sq. ft. *face* measure are to be measured as 'hollows' for labour." This is still the rule. The standard method makes no mention of "hollows," nor makes any allowance for labour in forming the openings, except in those cases of reveals which are not multiples of 4½ in., when an item of cutting and waste shall be given in feet run. Although in the south the method of measurement of "hollows" is little understood, nevertheless, the principle is a sound one. Were it properly understood in the north as well as the south, although it might not lead to the cheapening of the cost of construction, it might point out the way to the solution of the vexed question of man output. For who can say what should be the cost of a unit measure of brickwork, be it a superficial yard of 9 in. thick, or a rood, or a rod, as expressed in an item in a bill of quantities; or what the man output should be? Speaking generally, no two items of what is apparently the same thing is the same in two different sets of quantities, nor are they the same thing in two separate buildings, nor will the output be the same. Then, seeing that this is so, and that it is not safe to generalize from a particular case (as each one is), the price must therefore be a speculative one, as is also the estimated output.

Openings in brickwork are some of the things responsible for this, particularly if the following rule be observed: That the unit of measurement of an item should have its root in work in its simplest form of construction, and from which all measurements and prices should be based. The simplest form of work of bricksetting is that which does not require any scaffolding, and involves only straightforward labour. Assume, for example, a plain wall 60 ft. long, 5 ft. high, and one brick in thickness, built in old

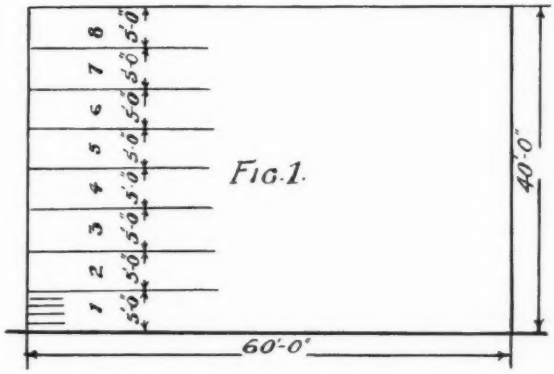


FIG. 1.

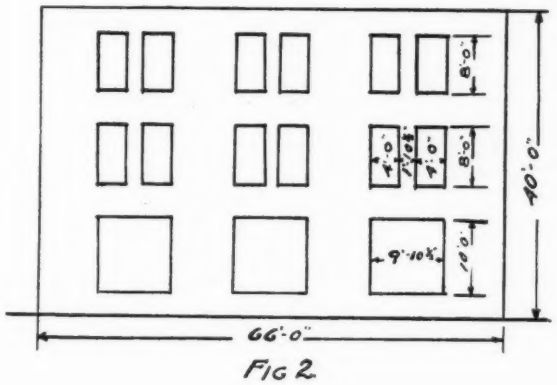


FIG 2.

English bond, and set in lime mortar. If the wall be raised another 5ft. it will necessitate the use of scaffolding and the placing of the bricks and mortar upon the scaffold for the second operation, which will increase the cost as a consequence. Probably, also, there will be a decrease in output in working from off a scaffold instead of from off the ground. Each successive 5 ft. in height will increase the cost slightly because of the modification of the working conditions, apart from whether it results in a decrease in output. In accordance with custom, a unit of measurement of an item may represent bricksetting work within and up to a height of 40 ft., and thereafter in stages of 20 ft. Taking 5 ft. as each operation of work, it will therefore be seen that we have eight operations in a height of 40 ft., all varying slightly in cost, whose average cost will be one-eighth the total. Variations from the simplest form of work in any, or during any, of these operations will modify the cost, therefore in conformity with the rule these pieces of work (variations) should be measured as separate items.

Even a unit of measurement of an item need not necessarily follow or conform to an average, depending upon the character of the work. For instance, chimney stacks in domestic work, though within a height of 40 ft., may, with advantage, be kept separate from other work because of the additional labour involved in their construction. This tends to keep the general work to a truer average, and emphasizes that the chimney stacks are too much of a break from the root or foundation to be grouped along with the average. We need not advance this point further. We have established a root which gives a basis of measure and price. We have ascertained how an average is derived up to and including a height of 40 ft., and thereafter in stages of 20 ft.

What degree is this average made susceptible of change by reason of openings? Let us assume that our plain wall, 60 ft. long, is to be built 40 ft. high and to represent the front of a building. Our average would hold good, provided there be no variation in the work, as in figure one. The quantity measurement of the area is 2,400 ft. superficial. If, however, openings be formed therein, as in figure two, there will be less quantity measure in the item of bricksetting, as the area will be 1719·75 ft. superficial, or 28⅓ per cent. less—slightly more than a quarter. This would not produce the same average, inasmuch as there would be the same work in connection with the scaffolding for approximately only three-quarters of bricksetting work. Hence it would be relatively cheaper to build a wall as in figure one than as figure two, whatever the practice may be. Another factor which will increase the relative cost of building a wall as figure two, as compared with that of figure one, is that the man output will be less owing to the bricksetter having to stop laying bricks to plumb the angles at the openings.

The principle of hollows is therefore a sound one, and, in passing, it should be noted that formerly the practice was to measure over light and dark, that is, no deductions were made for openings, it being considered at that time that the labour involved in forming the openings was equivalent to the amount that would be saved by the deductions thereof.

LITERATURE

COTTAGE DESIGN

THIS is a third and enlarged edition of the *Country Life* Book of Cottages which was first published in 1913 and revised in 1919. The present volume contains a complete account of post-war cottage design, and architects will find it a very useful work of reference. On reading it one realizes that there has never been a period when the art of cottage planning has been so intensively studied as today. Housing reformers have been animated by a sincere desire to study the needs of those who are destined to occupy the types of cottage they advocate, while at the same time they have recognized that the æsthetic aspect of cottage design must be given due consideration. A survey of a book like this naturally falls into two parts. In the first place a critic would examine the plans and consider with what degree of success they provide a solution of the social problem presented in cottage design. Secondly, he would turn his attention to the formal qualities of the buildings, and while recognizing the numerous practical circumstances which militate against the possibility of cottages being vested with great artistic distinction, he would consider whether the standard already attained is worthy of unqualified approval. It would be profitable exercise to take Sir Lawrence Weaver's illustrations one by one and apply to them these two criterions of judgment.

The author begins by affirming what is too often forgotten, namely, the fact that cottages are amongst the smallest of buildings does not reduce the complexity of the architectural problems they raise, but rather increases it. The amateur is likely to be no more successful in a cottage than the town house when it comes to the actual fact of the building. Especially is the difficulty of cottage design encountered in the plan, for in no other type of building has such a variety of accommodation to be enclosed in so small a space. The problem of arranging a living-room, three bedrooms, and the smaller domestic offices within four walls which are required to squeeze the available area to the minimum which is consonant with a certain standard of accommodation is an exceedingly complex one. Its complexity is not only formal, but social, because before we can tackle the jigsaw puzzle of how to fit the rooms inside the rectangle we have to discuss at great length the relative merits of different types of house. With regard to the vexed question of the parlour, Sir Lawrence Weaver writes with sympathy and understanding: "The old argument that parlours are a needless expense because cottagers use them only as a museum for useless furniture, wax flowers and wool mats may surely now be given decent burial, but even it were true the instinct is not unsound, the desire for wool mats is an embryonic appreciation of a higher standard of living and of the place of art in the home. Given the means of gratifying these instincts their fit exercise will follow with education. Without the means, and the parlour with its possibility provides the means, there can be small development in the right direction." And his argument with regard to the kitchen, living-room, and scullery, the relative merits of upstairs and downstairs bedrooms are all equally inspired with a fundamental respect for the cottage dweller and a recognition of the difficulties which he must necessarily encounter in attempting to preserve the dignities of family life in the exiguous quarters provided for him.

Practising architects will turn with especial interest to the very numerous cottage plans of various types which Sir Lawrence Weaver picked out with great care from hundreds which must come before his notice. A survey of these examples leads one to the conclusion that there are really no more discoveries to be made in cottage planning. All the possible permutations and combinations of rooms have now been tried and a selection made of those which are not only possible, but also practicable, and what is almost as important, economical. The problem of economy in cottage building has occupied the attention of Sir Lawrence Weaver for many years, and he speaks with peculiar authority upon this subject. Readers of his book will pay particular attention to what he has to say upon the uses of building materials, and especially alternative materials to the traditional brick or stone, his account of the recent experiments in concrete and concrete blocks being by far the most complete which has yet appeared. It is noteworthy that Sir Lawrence Weaver throughout his practical studies in cottage design continually bears in mind the æsthetic aspect. He has not only put before us a number of the very best examples of detached and

Cottages at Debden, Essex. By Kieffer and Fleming. [*From* Cottages: Their Planning, Design, and Materials.]

semi-detached cottages and cottages in groups, but he concludes with an appreciative chapter upon the more urban developments of cottage building at Kennington, Roehampton, and elsewhere. He has no sympathy with the policy of erecting in those urban areas rendered available for new buildings by slum clearances what he describes as "parodies of villages," and he puts in a plea for the ordered architectural expression of the best city life.

A useful feature of the book is a list of the names and addresses of the architects whose work he has picked out for illustration.

Square in Clematis Street, Hammersmith. By Matthew J. Dawson.
[*From* Cottages: Their Planning, Design, and Materials.]

In providing this list, Sir Lawrence Weaver performs a useful service to the architectural profession, inasmuch as it is a useful reminder to local authorities, landlords, building owners, and others engaged in estate development that they cannot expect to have good cottages unless they employ good architects to design them.

Cottages: Their Planning, Design and Materials. By Sir Lawrence Weaver. Country Life. 15s. net.

MODERN BRITAIN

There are some things in the science of architectural design that never change, and there are others that are never the same from one year to another. Opinions vary as to the relative importance or difficulty of these two aspects, but no one has ever dared to set either of them aside. In one way our buildings are bound to be timeless if they have any merit at all; in another they can have very little merit if they are not modern. To be truly modern is difficult, and becomes increasingly difficult as the scientific study of materials, and scientific thought and invention generally, add to the complexity of building processes. But a thorough knowledge of these processes is not enough to justify an architect's claim to modernity. His awareness of contemporary history must not be confined to the technicalities of building, for the building itself has to take its place in that history, and no amount of modernity in its construction can make up for a lack of it in the function or "programme" of the building.

Dr. J. H. Clapham, of King's College, has written a book which will do more than almost any book known to me to give the architect a proper knowledge of his own time. I have no hesitation whatever in recommending *An Economic History of Modern Britain* to all those who wish to learn something of the forces which have produced our present order of society. We live in the latter part of a period which is usually described as the Industrial Revolution, and it is about the years preceding the climax of that Revolution that Dr. Clapham writes. Those who have read the same author's earlier study of France and Germany will know what to expect; and they will not be disappointed. There is no other book like it in the English language, and when the work is completed (there are two volumes to come, which will bring the story down to the present day), it is sure to remain for many a year the best storehouse of information on nineteenth-century Britain that is available to the general reader.

There is no nonsense about Dr. Clapham; not his are the graceful trimmings, the bright commentaries, witty or otherwise, of the modern, fashionable historian. His purpose is not so much to paint a picture of the past in vivid and alluring colours as to let the past paint its own picture under the expert guidance of the author. His selection and arrangement of a perfectly astounding mass of material is unfailingly happy, and the light he throws on the past is sharp and steady. An architect reader with limited time at his disposal will not be able to read the whole book continuously; I recommend him to dip into it in an order such as the following. Let him begin with chapter i, *The Face of the Country*, jump to chapter v, *Industrial Organization;* and then go straight on to the two final chapters entitled *Life and Labour in Industrial Britain.* Having made himself familiar with these four chapters he may return to the beginning and read about the growth of population and of transport, and the organization of agriculture, commerce, railways, and such-like. And having read thus far he will, I am sure, look forward to Dr. Clapham's next volume with some impatience.

In giving one or two typical quotations I will limit myself to one from each of the two passages on housing and sanitation that run from pages 27 to 42 and from pages 536 to 547. Here is a glance at the rural cottage throughout England from the first of these :—

> So late as 1850 it was reported of Northumberland that "the state of the labourers' cottages" was, "in the majority of cases, most discreditable to the county. It will hardly be believed that the labourer's cow and his pig are still lodged,

in too many cases, under the same roof as himself, the cowhouse being divided only by a slight partition wall from the single apartment which serves for all the inmates." The opener parts of Cumberland had their " uncouth mud villages " in 1820, such as those which James Graham began to clear from his father's Netherby estate, when he took charge of it in 1821, to make way for the " substantial, extensive, commodious, and I might almost say elegant, farmhouses and farmsteadings " of which his Scottish agent wrote nineteen years later. In the North Riding of Yorkshire in 1800, the two-room cottage had been " very rare," and the cottagers—like the Lowland Scots—slept in " close wainscotted beds." In the East Riding, on the other hand, cottages, though hard to come by, were generally good—two lower rooms and two bedrooms. But neither one-room nor " mud " structure was typical of England generally. Cobbett's horrified " no upstairs " is as South English as the rest of him. When English commissioners report—some years later—on what they describe as the very bad housing conditions of Wiltshire, Dorset, Devon, and Somerset, their complaint is, not of one-room cottages, but that the single bedroom cottage is much too common and that three-bedroom cottages are unknown.

And then, from the second of the two passages to which I referred, take the following picture :—

> The " new towns "—every place had one or more, whether so called or not—had come so fast. That of Manchester stretched " up a hill of clay." " Single rows of houses or groups of streets stand here and there, like little villages on the naked, not even grass-grown, clay soil; the lanes are neither paved nor supplied with sewers, but harbour numerous colonies of swine penned in small sties or yards, or wandering unrestrained through the neighbourhood." It is the pig scavenger of the Middle Ages. Even in a better-looking section of the new town, " many streets are unpaved and without sewers "—" private " streets these, of one-brick-thick houses, timed to fall down before the short ground lease ran out and all reverted to the landowner.

I said that Dr. Clapham's method was to let the past speak for itself. The proportion of quoted matter in these extracts is possibly a little heavier than it is throughout the book, but the method is the same all along. It may seem an easy method, but anyone who has tried it will know that it is not. To be able to read a collection of contemporary statements as though it were a novel (Dr. Clapham's book is easier to read than most examples of the latest fiction) is to absorb historical knowledge in its purest and yet, in the long run, its most palatable form.

B.

An Economic History of Modern Britain : The Early Railway Age, 1820-1850. By J. H. Clapham, LITT.D., Fellow of King's College. Cambridge University Press. Price 25s. net.

ENGLISH DECORATIVE PLASTERWORK

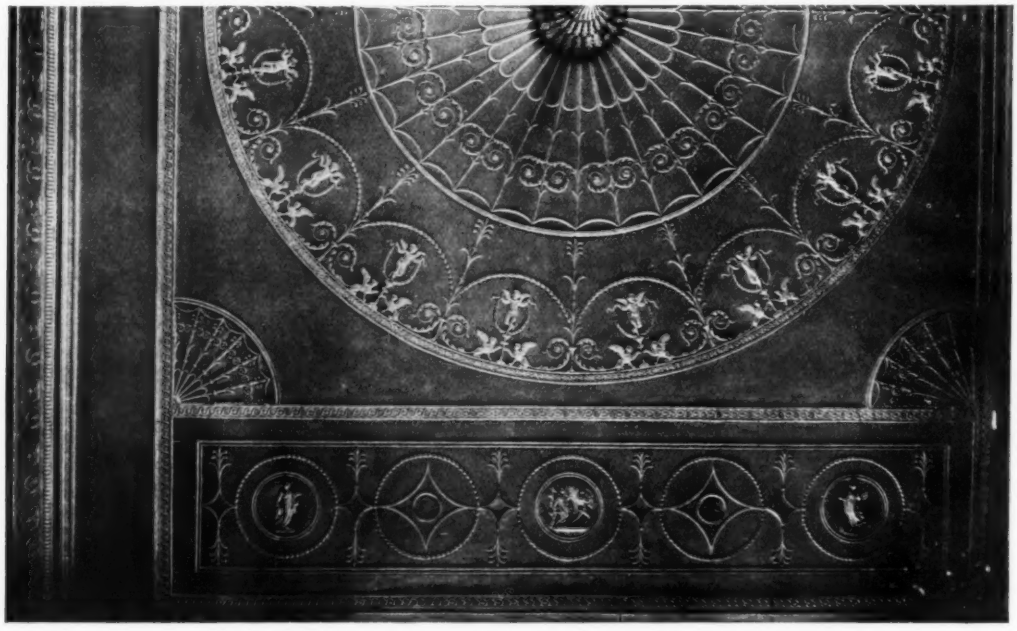
Miss Jourdain has again added to the steady flow of works on architectural decoration appearing in this country, one which, this time, deals with the art of the plasterer—and let it be said at once that her *English Decorative Plasterwork of the Renaissance* is a valuable contribution.

In the preface the author says : " It is not, perhaps, yet generally realized what richness of decorative plaster exists in England in spite of the amount that has been swept away during the nineteenth century," and no greater truth could be told.

Although plasterwork is, and has been for many centuries, a medium of decoration appreciated by most countries in Europe, it was probably never used to greater advantage and understood better than by the Englishman, who was generally content to get his effect with a purely " whitewash " finish and unadorned by colour or by the introduction of paintings into his scheme. This was, of course, particularly the case in the earlier phases of the Renaissance.

It is interesting to see that the craft of the plasterer was beginning to be undermined by the " manufacturer " so early as the eighteenth century; for apparently papier mâché, which had been made in Paris before 1740, was introduced into England shortly after that date, and one is led to believe that what is known today as linen-cruster, which adorns many a cornice and ceiling of an hotel or private dwelling, is the outcome of some French inventor of that period.

Anyway, in the eighteenth century the decay had set in, and except for the final flourish of the classic revival of which the brothers Adam were the chief exponents, the skill of the plasterer



Eighteenth-century ceiling in a house at St. Stephen's Green, Dublin.
[*From* English Decorative Plasterwork of the Renaissance.]

Plasterwork at Bleaze Hall, Westmorland, showing a design of the early seventeenth century. [*From* English Decorative Plasterwork of the Renaissance.]

had by the end of the century fallen into oblivion, and the magnificence of his work in the early Renaissance of this country, forgotten.

As an expression in decoration the craft has, unfortunately, fallen on comparatively evil days in late years. Its possibilities seem to have been overlooked to a great extent in the nineteenth century and to be ruled out as decoration these days on account of expense, much to the impoverishment of many a scheme. But, nevertheless, it is to be hoped that with the present-day fashion for simplicity, or let us say in a more charitable way, through the economic necessity for a more simplified form of decoration, that the art of the plasterer may even yet again flourish—maybe this time in geometric shapes even more simplified perhaps than the designs of the sixteenth and seventeenth centuries, when the geometric basis was left very prominent in the finished design.

The author has grouped the subject into six phases, giving a chapter to each one commencing with the early Renaissance, 1540-1640, and ending with the classic revival of the latter part of the eighteenth century, besides giving a short index to plasterers and various plates of comparative mouldings.

The work deals entirely with interior decoration, and is concise and always to the point—there are 200 well-chosen illustrations, and among them many which show interesting examples which one does not remember having seen illustrated before.

CLAUDE MILLER

English Decorative Plasterwork of the Renaissance. By Miss M. Jourdain. Batsford, Ltd. Price £1 10s.

CORRESPONDENCE

"FRIENDS" OF THE PROFESSION

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—Your happily-timed leading article in your issue for March 2 is calculated, as you desire, to pour oil on the waters so needlessly troubled. If this spirit had governed the promoters of the Bill it is likely that its progress would have been less thorny than it seems to be. I have not seen the letters you refer to in the Press, but in the Institute Journal for March 5 is a letter referring to them from the President of the R.I.B.A. This seems to reflect a repentance in this respect and to indicate the adoption of a wiser policy for the future, so that the letters have evidently had a salutary effect.

You say very truly that "the right of a political minority to express its views is surely unquestionable," and it is as surely the best policy for those directing the majority to treat the expression of those views with sympathy, for it sometimes happens that the majority of today is the minority of tomorrow.

Your policy of placation is wise, and is to be heartily commended to those in charge of the Bill. I wish that I could share your optimism in thinking that "in a generation the public may have learned to discriminate between the work of a body of qualified men and that of a few unqualified men." It is not borne out by past experience, and for at least one generation after the passage of the Bill it will be very much the reverse.

The growing tale of resignations from the R.I.B.A. is significant, and though these may be swamped by the influx of new "Fellows," whose added subscriptions are, of course, not to be despised, it is doubtful if such watering of the stock will, as you hope, help the public.

"TEMPLE"

EUCLID

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—With reference to Mr. H. C. Hughes's review of Mr. A. Trystan Edwards's recent publication *Architectural Style*, I see that Mr. Hughes suggests that Euclid was a little man,

nervous in speech. Mr. Hughes is wrong. I happen to know that Euclid was a big man, assertive, bold, and even dogmatic in speech. The source of my information was a distant relative of mine, alas! now deceased, who, in one of her former states on earth, frequently met Euclid.

From what she has told me Euclid spent none of his time chasing pirates, although on one occasion he was actually chased by pirates, who were probably trying to infringe his copyright. On that occasion he and his shipmates, sturdy geometers all, defended themselves bravely, until their axioms were blunted and their stock of equilateral triangles exhausted. They took to flight, and only escaped by sailing under the Pons Asinorum, where the pirate craft, with its broader base and longer hypotenuse could not follow.

According to my deceased relative, Euclid died about 300 years B.C., in the act of trying to bisect accurately a particularly obtuse infinitive. She further stated that she considered this a fortunate event, as the æsthetic sense of a great many people would have been shocked if Euclid had managed to effect the split and so have created a duality which would have required a great deal of resolving.

I am afraid that I shall not be able to give you any further information yet awhile (doubtless you will be thankful), since it is improbable that I shall meet the lady again for two or three thousand years.

I am, sir, yours, in a spirit punctuated and inflected with levity,

W. G. PRINGLE

THE NATURE OF ELASTICITY

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—I do not wish to prolong the correspondence on this subject, but it appears to me that Mr. Barman does not appreciate the difference between the application of a live load on a yielding plank and the blow of a hammer upon a compressible material firmly supported. If he will think this matter out he will see that there is no comparison between the two conditions. In his letter on p. 363 he states that the words in quotation marks were taken from my letter on p. 171; but what are the facts? In my letter referred to, the sentence reads: "In striking a brittle material like glass the effect is taken up in an extremely short distance owing to the incompressibility of the material, and shattering takes place." In Mr. Barman's letter this is converted into: "For if the effect is taken up in an extremely short distance owing to the incompressibility of the plank, then the blow will be more acute," etc. In his remarks on page 363 he says he was speaking of what happened *as the load is applied*, while I say what happens *when the load has been applied*. I am sorry I cannot see what he means by this statement.

HENRY ADAMS

[Professor Adams is wrong when he concludes that I do not appreciate the difference between the application of a live load and the blow of a hammer. I do. But all the thinking of which I am capable has not yet convinced me that no comparison is possible between (*a*) what happens to a material possessing certain mechanical properties when it is struck a blow which multiplies the effective weight of the hammer by twenty, and (*b*) what happens to a material possessing similar properties when it has imposed upon it a live load which multiplies the effective weight of the load by two. Will not Professor Adams give us an article on this subject? I believe it would be of value to all readers interested in the construction of factories, schools, dancing floors, bridges, and such like. The words quoted by me from Professor Adams were: "Taken up in an extremely short distance owing to the incompressibility." They occur in both the sentences printed above. I carefully placed only the words quoted in inverted commas. Another way of putting the distinction which appears obscure to Professor Adams is that the passage in my article to which he took exception was concerned with what happens to the load or blow at the moment of impact, while he was solely concerned with what happens to the plank at that moment, or immediately after.—CHRISTIAN BARMAN.]

LAW REPORTS

REPAIRING COVENANTS: BREACH. REFEREE'S REPORT

Evans v. *Musk. Court of Appeal. Before Lords Justices Bankes and Scrutton, and Mr. Justice Romer*

A point of some interest was raised by this appeal, which had reference to the report of Mr. Ernest Herbert, of Hammersmith Terrace, as referee in assessing damages for breach of covenants in respect of houses at Totterdown Street, Tooting, the question raised being whether the referee had complied with the terms of reference. Plaintiff said the award should be remitted to the referee as he had failed to comply with the terms of the reference. The referee had assessed that £715 was due to the plaintiff, as landlord, for breach of repairing covenants of the leases, but the plaintiff's case was that the referee, instead of assessing what was due under the schedule of dilapidations, had taken into consideration the age and use of the buildings and had misdirected himself in law.

The Court dismissed the appeal, with costs.

Lord Justice Bankes, in giving judgment, said any reasonable person would have read the instructions to the referee to mean that he was to assess the amount that was required to put the building in such a condition as to obey the conditions of the lease, having regard to the age and condition of the buildings that were 200 years old. Plaintiff, however, said the referee should merely have priced the schedule, but no one could reasonably put such a construction on the order to the referee. There was no real ground for interfering with the referee's report, and it was a thousand pities that money had been spent in contesting it.

The other members of the Court concurred.

ALLEGED NUISANCE. BUILDING SCHEME COVENANT

Roberts and others v. *Hemmings and others. Chancery Division. Before Mr. Justice Eve*

This action raised two points of law. The first concerned an alleged building scheme, and the second the rights of occupiers of houses as to the extent of actionable discomfort arising from an alleged nuisance from noise and smell from pig-keeping.

The plaintiffs were a Mrs. Roberts and other owners and occupiers of premises with gardens situate in Manor Park, Lee, Kent, and the defendants, Mr. Hemmings, Mr. Miller, and others, the owners and occupiers of land at the rear of the premises.

Plaintiffs' case was that Mr. Hemmings, who owned the land, was bound by a covenant which was incorporated in a building scheme, and that he should not use the land for other than purposes under the scheme. They said the land was being used as a piggery and a depot for traction engines. They further said that the use of the land for such purposes constituted a nuisance arising from smell from the piggery and from smoke from the traction engines, and from noise from work carried on in the early morning and late at night in repairs to the engines. The plaintiffs accordingly sought injunctions against defendants, pleading that they were subject to a covenant which was for the protection of the plaintiffs.

Defendants denied that they were subject to any building scheme, and denied that the plaintiffs suffered a nuisance from acts committed on the land by them.

Mr. Gover, K.C., and Mr. Guest Mathews appeared for the plaintiffs, and Mr. J. W. Manning, K.C., and Mr. D. Ralph Thomas for the defendants.

His lordship, in a considered judgment, regretted that the parties had not seen fit to come to some reasonable terms. The first question he had to deal with was that of the alleged building scheme set up by the plaintiffs. The defendant, Hemmings, held a lease of the land, and he was urged to purchase the freehold, and he was told that if he did this he could not be proceeded against by the defendants. The land originally belonged to the Kentish estates of Lord Northbrook, and he granted certain leases to builders many years ago, and in those leases was the covenant relied on in this case. It was said that the original intention was

that a building scheme should apply. But he had to look at the matter as it stood today, and he found that the intention of the defendant, Mr. Hemmings, was to use the land as he had done, and that intention was known at the time he purchased the freehold. Under those circumstances how could it be said that that part of the estate was governed by a building scheme which originated sixty-odd years ago? He found, as a fact, that there was no building scheme, and on that issue the plaintiffs failed.

The second question was as to the alleged nuisance from smell and noise. He found, as a fact, that the piggery was kept in a satisfactory and sanitary condition, and that the noise had been greatly exaggerated. All the plaintiffs failed on this part of the case except Mrs. Spurr, and he held that she was entitled to an injunction to restrain Miller from carrying on business so as to occasion to her nuisance by noise before seven in the morning or after ten at night, and on Sundays between ten and two in the afternoon. Apart from that he did not see that anybody else was entitled to relief in the action. Mr. Hemmings was entitled to his costs of the action as against the plaintiffs generally, and Mr. Miller was only bound to pay such costs as would have been occasioned if the action was brought by Mrs. Spurr against him for nuisance by noise, and he was entitled to be paid costs incurred by reason of the other plaintiffs, all of whom had failed, in his opinion, against him. As against Mr. Hemmings the action was dismissed, with costs.

THE GOVERNMENT AND THE BRIDGES

[BY OUR PARLIAMENTARY REPRESENTATIVE]

The policy of the Government in regard to the London bridges was announced by the Prime Minister at question-time last week. Replying to Sir William Davison and Sir George Hume, Mr. Baldwin said: "His Majesty's Government have given most careful consideration to the report of the Royal Commission on Cross-River Traffic in London presided over by Lord Lee. I desire, in the first place, to express the appreciation of the Government of the ability and energy displayed by the Commission in their consideration of the difficult and complicated problem referred to them. I propose in this reply to deal first with the recommendations of the report which are concerned with the central area of London.

"His Majesty's Government are prepared to make a grant from the Road Fund to the London County Council of 75 per cent. of the approved cost of reconstructing the existing Waterloo Bridge in the manner recommended by the Commission. The acceptance of the proposal to preserve Waterloo Bridge involves the provision of further facilities for cross-river traffic at Charing Cross. The Government are therefore inviting the London County Council and the Southern Railway Company to join with them in appointing engineers to examine the scheme for the double-decker road and railway bridge put forward by the Commission, and will be prepared to contribute to the scheme if, after examination of its engineering, financial, and æsthetic aspects, it appears satisfactory.

"As regards the proposed Ludgate Bridge, if the City Corporation decide to proceed with this scheme, the Government are prepared to make a grant on the same basis as the Government had contemplated in the case of the St. Paul's Bridge scheme, viz. 50 per cent. of the net cost of the road approaches.

"The Government also agree with the Commission in thinking that the Victoria Dock Road is a scheme of urgent importance, and are prepared to make a grant on the basis of 75 per cent. towards its approved cost.

"The other projects recommended by the Lee Commission are of varying degrees of urgency. The general financial policy of the country renders it impossible in the view of the Government to accept the suggestion of the Commission to raise a large loan on the security of the Road Fund. Consequently, the rate at which these projects can be carried out must depend upon the allocation which can be made each year from those revenues, due regard being had to the other claims upon the Fund. In these circumstances, His Majesty's Government have decided to authorize the Ministry of Transport to negotiate with the local authorities concerned on the basis of grants of a suitable percentage towards the execution of the remaining schemes as funds are available, the total expenditure upon all the schemes dealt with in the report being limited to a sum which, upon the average of a series of years, will not exceed £1,000,000 a year.

"The Government consider that these proposals constitute the maximum commitment of public money upon which it is now prudent to embark for this purpose. It is not intended to adopt the recommendation of the Commission for the constitution of a special traffic authority. The Government are confident that they can rely upon the co-operation of existing local authorities of the Metropolitan area without the intervention of any new body. The London County Council and the Corporation of the City of London are being informed accordingly."

Colonel Vaughan-Morgan inquired as to whether the Government had made up their mind as to for how many years they would be prepared to grant the concession of £1,000,000 per annum?

Mr. Baldwin said the answer was in the negative. Before that question could be answered accurately, it would be necessary to have a certain amount of consultation with the local authorities—a consultation which was being embarked on at once.

Major Crawford asked whether the Prime Minister or the Government had considered the grant of 50 per cent. of the net cost of the road approaches to Ludgate Bridge (which was intended to serve a very congested district south of the river); and would he consider, with regard to all these schemes, as he had rejected the idea of a loan on the security of the Road Fund, the question of the reimbursement of the cost of means of levying an improvement rate on the enhanced land values created by them?

Mr. Baldwin: "As to the first question, I cannot foretell what the result of the consultation will be. I would remind the hon. member that, so far as the building of bridges is concerned, the City has resources and facilities which the London County Council have not. As to the second question, I think the existing financial methods will be sufficient to deal with the problem."

Lt.-Colonel Fremantle asked whether the arrangement with regard to Charing Cross bridge ruled out the possibility of the Southern Railway terminus being removed to the south side of the river?

Mr. Baldwin said he thought that the Lee Commission reported against that on the ground of expense.

COMPETITION CALENDAR

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

March 26. In connection with the tenth Manchester Building Trades Exhibition, a competition is being held for designs for new façades on the north, south, and west sides of Albert Square, Manchester, and on one side of new Grand Avenue. The façades of the buildings in the Grand Avenue and the west side of the square are to be designed as suitable for shops with showrooms and offices over. The façades of the buildings on the north and south sides of the square are to be designed as suitable for offices only. The whole of the designs should comply with the by-laws and regulations of the Manchester Corporation. Assessors: Mr. H. S. Fairhurst, F.R.I.B.A., Professor C. H. Reilly, O.B.E., M.A., F.R.I.B.A., Professor A. C. Dickie, M.A., F.S.A., A.R.I.B.A., Mr. Francis Jones, F.R.I.B.A., Mr. John Swarbrick, F.R.I.B.A. The directors offer an award of £200 to the architect placed first by the assessors, on condition that the assessors consider the design to be worthy of the award. If the assessors should not consider the design placed first good enough to merit an award of £200, they may subdivide the sum amongst the competitors, or they may withhold it or only award a portion of the amount offered. Particulars and plan from Competition Manager, City Hall, Deansgate, Manchester.

April 12. New offices at Trowbridge for the Wiltshire Working Men's Conservative Benefit Society. Assessors, Messrs. Cyril A. Farey, A.R.I.B.A., and Robert Lowry, F.R.I.B.A. Premiums amounting to £250. Particulars from the Chief Secretary, Mr. Henry H. Dyer, Stallard Street, Trowbridge, Wilts. Deposit one guinea, which will be returned on receipt of a bona fide design or if the conditions are returned two weeks before the closing date of the competition.

April 30. Town Hall and Library, Leith. Assessor, Sir George Washington Browne, P.R.S.A. Four premiums are offered. Particulars

and a plan of the site will be supplied to competitors on payment of a fee of two guineas, which will be returned on receipt of a design in accordance with the conditions. Should architects on receipt of the particulars not desire to compete, the deposit will be refunded provided the papers are returned within four weeks. Inquiries to be addressed to Mr. A. Grierson, Town Clerk, City Chambers, Edinburgh.

May 31. New school for 1,000 boys for the Governors of the Bradford Grammar School. Premiums, £300, £200, and £100. Assessor, Mr. Arnold Mitchell, F.R.I.B.A. Particulars and plan of site from Mr. W. Brear, Secretary, Grammar School, Bradford, Yorks. Deposit £1 1s.

June 15. Shakespeare National Memorial Theatre, Stratford-upon-Avon. The competition is open to architects of the British Isles and America. It will be in two sections—a preliminary competition for sketch design only, from which six designs will be selected by the assessors; each of the selected competitors will be paid £100 premium towards the cost of preparing a further more detailed design, which will form the second half of the competition. The selected architect will be paid in accordance with the Schedule of Charges sanctioned by the R.I.B.A. Assessors, Mr. E. Guy Dawber, P.R.I.B.A., and Mr. Cass Gilbert, who will both act in an honorary capacity, and Mr. Robert Atkinson, F.R.I.B.A. Particulars, with site plan, etc., from the Secretary, Shakespeare Memorial Theatre, Stratford-upon-Avon. Deposit £1 1s., which will be refunded should the conditions be returned within one month.

June 30. Designs for the planning of the Civic Centre, Birmingham. Assessor, Mr. H. V. Lanchester, F.R.I.B.A. Premium of £1,000 to the design placed first, and a further sum not exceeding £1,000 divided between the authors of other approved designs. Particulars from Mr. Herbert H. Humphries, M.INST.C.E., City Engineer and Surveyor. Deposit £1 1s., which will be returned after the receipt of a design or the return of the documents supplied.

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

COMPETITION NEWS

Morecambe Swimming Pool and Baths Competition

The following six architects have been selected to take part in the above limited competition:

Fred Harrison, 30 Willow Street, Accrington.
Easton and Robertson, 36 Bedford Square, London, W.C.1.
Boddy and Dempster, 19 Palace Street, Westminster, S.W.1.
A. W. S. and K. M. B. Cross, 45 New Bond Street, London, W.
Thomas H. Mawson and Sons, High Street House, Lancaster.
Horth and Andrew, Custom House Buildings, Whitefriargate, Hull.

TRADE NOTES

In the Park Lane Hotel, London, illustrated in our issue for March 9, Messrs. R. W. Brooke & Co., Ltd., flooring specialists, of 36 Dale Street, Liverpool, laid all the flooring. They are now laying a spring dance floor in the hotel.

The directors of Messrs. Bell's United Asbestos Co., Ltd., have resolved to recommend to the shareholders at the annual general meeting to be held on April 7: *a:* The payment of a balance dividend of 2s. per share on the ordinary shares of the company, which, with the interim dividend paid in October last, makes a total distribution of 12½ per cent. for the year; *b:* that £2,000 be placed to staff pensions account; and *c:* that £43,973 8s. 3d. be carried forward.

In our issue for March 9 we stated that Messrs. Francis Polden & Co., Ltd., were responsible for the electric light fixtures at Empire House, St. Martin's-le-Grand. We are now informed that this firm were responsible for the whole of the electrical installation, and that they also accepted responsibility for the lifts in conjunction with Messrs. Waygood-Otis, Ltd.

The success attained by the use of fuel oil for central heating in America, and its extensive adoption in this country for public buildings, hotels, and large business premises generally, will undoubtedly, in the near future, lead to its use on a big scale for smaller buildings and the larger type of private dwelling. Thus, the present moment is opportune to bring before architects and others full particulars of the most suitable plant for the installation of central heating by fuel oil in every class of building, and to give reliable information with regard to first and running costs. This has been done in a valuable little booklet just issued by Shell-Mex, Ltd., who, although they do not manufacture oil-burning plant, maintain a special department to advise interested parties on the selection of the most suitable apparatus for each individual requirement. Central heating by fuel oil is claimed to possess many advantages from the points of view of cleanliness, efficiency, safety, silence, and cost of running. One of the worst fears of the would-be convert to central heating by fuel oil seems to be that of fire, but this appears to be groundless owing to the fact that the fuel oil marketed by Shell-Mex is rendered innocuous by the elimination of all fractions volatile at ordinary temperatures. The booklet contains some interesting diagrams, and should be in the hands of every one interested in central heating. Among the more important London installations are Devonshire House, Bush House, Adelaide House, and Shell Corner, the central heating plant at the latter being open to inspection at any time. A copy of the booklet can be obtained on application to Messrs. Shell-Mex, Ltd., at Shell Corner, Kingsway, London.

THE WEEK'S DETAIL

The general contractors for the staircase at Austin Reed's premises, illustrated on pages 407 and 408, were W. F. Blay, Ltd., and among the sub-contractors were the following: Moreland Hayne & Co., steelwork; Smith, Major and Stevens, lifts; Fenning & Co., marble and terrazzo work; Cuthbert and Taylor, glazing; J. W. Singer and Sons, staircase enclosure and handrails; Plaster Decoration Co., decorative plaster; James Gibbons, Ltd., rear window; Service Painting Co., paint work.

THE OXFORD SCHOOL OF PATHOLOGY

Following are the names of the contractors and some of the sub-contractors for the Oxford School of Pathology, illustrated on pages 415 to 420: General contractors, Wooldridge and Simpson, Ltd., Oxford, who also executed the joinery; clerk of works, Mr. A. S. Taylor, clerk of works to the University; general foreman, Mr. Adkins; contract price, £68,219; price per foot cube, 2s. 5d. for main building, and 1s. 7½d. for animal houses; quantity surveyors, Selby and Sanders, Westminster; consulting electrical engineer, Mr. H. M. Leaf, A.M.I.C.E., Westminster; consulting engineers for heating and h.w. supplies, etc., Dolby and Williamson, Westminster. Sub-contractors: S. and E. Collier, Ltd., 2⅜ in. old English facings in selected special dark colours, Clipsham stone; Redpath, Brown & Co., Ltd., structural steel; Roberts, Adlard & Co., slates; The Art Pavements and Decorations, Ltd., "Biancola" floors, wall linings, and lavatory partitions; Haywards, Ltd., pavement and floor lights; Kleine Patent Fire-Resisting Flooring Syndicate, Ltd., patent flooring; Norris Warming Co., Ltd., central heating; V. G. Middleton & Co., Ltd., electric wiring and electric light fixtures and bells, and automatic relay telephone system; James Gibbons, Ltd., door furniture; Crittall Manufacturing Co., Ltd., and John H. Pye, casements; F. Clubb and Son, and John H. Pye, iron staircases; Elliston and Cavell, Ltd., and J. Avery & Co., special dark blinds; Tyler and Freeman, electrically operated gear; Merryweather and Sons, Ltd., fire appliances; F. Clubb and Son, metalwork; John H. Pye, animal houses; A. W. Peacock, stone carving; H. C. Tanner, marble; The North of England School Furnishing Co., Ltd., wall blackboards; Penrose Lifts, Ltd., lifts; The Leyland and Birmingham Rubber Co., Ltd., rubber flooring; George Blay, fencing; Leo Sunderland & Co., Ltd., refrigerating plant.

THE WEEK'S BUILDING NEWS

The Rev. J. H. Caswell is to proceed with the erection of the second portion of St. Mary's Church, in Holdenhurst Road, BOURNEMOUTH.

*

Mr. H. Horspool is to erect a hall for public worship on a site in Waverley Road, BOURNEMOUTH.

*

The SWANSEA Corporation Libraries Committee is considering a scheme for the acquisition of Old St. Martin's Church, Dunvant, for purposes of a branch library.

*

The Welsh Education Committees are supporting a resolution urging the erection of a broadcasting station in WALES in order to maintain the individuality and the culture of the Welsh nation.

*

The SWANSEA Education Committee is to erect a school at Vetch Field, Cadle, by direct labour.

*

Messrs. Truman, Hanbury, Buxton & Co., Ltd., are to build an hotel at Mumbles Road, BLACKPILL, near Swansea.

*

Plans passed by the SWANSEA Corporation: Rebuilding 15 Waterloo Street, for Cash Hardware Stores, Ltd.; dairy, Ravenhill Road, for Mr. J. P. Hancock; additions, "Welcome Inn," Mynyddbach, for Messrs. Truman, Hanbury, Buxton & Co., Ltd.; twelve houses, St. Illtyd's Crescent, for Mr. A. E. Wright; five houses, Fern Street, for Mr. J. Willis; six houses, Walter Street, Manselton, for Messrs. Weaver Bros.; new road off Caswell Road, for Mr. A. L. Gregor; six houses, Moorside Road, for Mr. A. V. Hopkins; additions, "Chili Arms," Fabian Street, for Messrs. Truman, Hanbury, Buxton & Co.; alterations and additions, Woodfield Street, Morriston, for Barclays Bank, Ltd.; nine houses, Middle Road, for Mr. D. Phillips; additions, Picton Place, for Committee of Blind Institute.

*

The authorities of the Royal Free Hospital, KING'S CROSS, are obtaining possession of land in St. Andrew's Gardens, preparatory to a proposed enlargement of the hospital.

*

Plans passed by ST. PANCRAS B.C.: Billiard hall, rear of 66, 67, and 68 Chalton Street, abutting on Clarendon Grove; additions, "Goat in Boots," 31 Stanhope Street; reconstruction of vaults, 39-40 Warren Street, for Mr. A. E. Watson, architect.

*

The BLYTH borough engineer has been asked to prepare a scheme for the improvement and extension of the accommodation at the municipal buildings.

The BLYTH Corporation is considering land for recreation grounds at Bebside, and are obtaining possession of a site at Cowpen.

*

The BLYTH Corporation Housing Committee is considering the erection of additional houses, and in this connection has obtained reports of houses that have been erected by the Corporations of Tynemouth and Wallsend.

*

The BLYTH Corporation has asked the borough engineer to prepare plans for the general ultimate lay-out of The Links.

*

The BLYTH Corporation has prepared a scheme for straightening Laverock Hall Road.

*

The Ministry of Health has consented to revised plans for the erection by the ST. PANCRAS B.C. of four blocks of tenements on the Somers Town area. It is now also proposed to erect a fifth block in Clarendon Street. Tenders will shortly be invited for the erection of the five blocks.

*

The Ministry of Health has held an inquiry into the scheme of the CARLISLE Corporation for sewering the Rickerby estate at a cost of £10,500.

*

The West Riding and Lancashire County Councils have come to an agreement for the widening of Eadsford Bridge, near CLITHEROE.

*

Land has been acquired by the Lancashire C.C. for the diversion of the main road at LITTLE SINGLETON.

*

The Lancashire C.C. has acquired land required for the construction of the new GARSTANG by-pass road.

*

The LANCASHIRE C.C. is estimating an expenditure for the year of £44,000 on county bridges, and £48,000 for the improvement and widening of canal bridges.

*

Plans passed by WANDSWORTH B.C.: Alterations and additions, "King's Head," Clapham Park Road, for Mr. D. H. Harding; eight houses, Abbotswood Road, Streatham, for Mr. A. Soden; six houses, Leigham Court Road, Streatham, for Mr. F. Grant; alterations and additions, "Lord Palmerston," Merton Road, for Messrs. H. Roffey and Sons; three shops, Gracedale Road, Streatham, for Messrs. Antill and Squires.

*

The LAMBETH B.C. is to widen Brixton Road between Stockwell Road and Stockwell Park Walk.

Plans passed by HASTINGS Corporation: Premises, Pelham Street, for Messrs. F. W Woolworth & Co., Ltd.; four houses, Red Lane, for Mr. H. M. Jeffery, architect; private chapel, Hill House School, for Mr. Harold Burleigh, architect; ballroom, Warrior Square, for Messrs. H. Ward and Son, architects; garage and showrooms, The Green, for Messrs. Callow and Callow, architects.

*

The WEYMOUTH Corporation is to provide new accommodation for the maternity and child welfare centre, and is to consider if it can be provided in connection with the scheme for new municipal buildings now under consideration.

*

The WEYMOUTH Corporation has agreed to the plans of the borough engineer for the lay-out of Melcombe Regis Gardens, a feature being the provision of a pergola 320 ft. long.

*

Plans passed by WEYMOUTH Corporation: Refreshment room extension, New Bridge Inn, Westham Road, for Messrs. Crickmay and Sons; dairy buildings, Walpole Street, for Messrs. Andrews and Andrews; stores in yard, Commercial Road, for Messrs. King and Son; additions, nurses' home, Weymouth Hospital, Melcombe Avenue, for Messrs. Crickmay and Sons.

*

Plans passed by BOLTON Corporation: Thirty-two houses, Kingscourt Avenue, for Messrs. Leigh Bros.; sixteen houses, Park Road, for Mr. Wilfred Andrew; sixteen houses, Maldwyn Avenue, for Mr. John S. Hughes; six houses, Auberson Road, for Mr. A. S. Woods; twelve houses, Woodstock Drive, for Messrs. Leigh Bros., Ltd.; alterations, Brooklyn Hotel, Green Lane, for Messrs. Magee, Marshall & Co., Ltd.; alterations, "Three Pigeons," Wigan Road, for Messrs. J. Jackson and Son, Ltd.

*

The BOLTON Corporation is seeking permission to borrow £150,000 for further housing advances.

*

On behalf of Mr. H. Worsley plans have been prepared by Messrs. Thomas E. Smith and Sons, surveyors, for converting twenty back-to-back houses in Gregson Field, BOLTON, into ten through houses.

*

The BOLTON borough engineer has prepared a scheme for dealing with the Egyptian Street insanitary area, involving street works and making back-to-back houses into through houses.

*

The BOLTON Corporation Libraries Committee is to obtain a site on the Moorfield estate for the erection of a branch library.

Before deciding as to the provision of a crematorium, the PORTSMOUTH Corporation Cemeteries Committee has asked the city engineer to obtain further information on the subject from towns which have such provision.

*

The Ministry of Transport has put before the LONDON C.C. various schemes for the construction of alternative routes to ease traffic congestion in main roads, the total cost being £600,000. The chief proposal is for alternative routes at the "Elephant and Castle," involving a cost of £377,000. The L.C.C. suggests part of the "Elephant" scheme, at a cost of £58,000, by widening Union Road and Harper Street.

*

The HAMMERSMITH B.C. is to carry out a southern improvement scheme at a cost of £30,000.

*

Mr. D. P. Hayworth is to lay out the Elmfield housing estate between Leigham Court Road and Valley Road, STREATHAM.

*

Plans passed by BRIGHTON Corporation: Six houses, Stanmer Villas, for Mr. A. Holloway; alterations, 157-162 Western Road, for Messrs. Boots (Chemists), Ltd.; four houses, Reigate Road, for Mr. E. B. Hayward; thirty houses, Barnett Road, for Messrs. Haywards (Brighton), Ltd.; new wing, New Sussex Hospital for Women, Windlesham Road, for Hospital Committee; alterations, "Carpenters' Arms," West Street, for Messrs. Edlins, Ltd.

*

The BRIGHTON Corporation has obtained sanction to grant another 100 housing subsidies.

*

The Kent Education Committee is acquiring land in Gipsy Road, BEXLEY HEATH, for the erection of an elementary school.

*

The Governors of the DARTFORD Grammar School are to raise a loan for an extension scheme.

*

The BAKEWELL Rural Council has decided to apply to the Ministry of Health for sanction to grant subsidies for a further thirty houses.

*

The DARLINGTON Corporation has appointed a sub-committee to report upon the question of the erection of a new town hall and municipal buildings.

*

Plans passed by LEWISHAM B.C.: Sixty houses, Cranston Road estate, for Messrs. Clout and Tysoe, Ltd.; eighteen houses, Chedleigh Road, for Messrs. J. W. Heath and Sons; 105 houses, L.C.C. Downham estate, for Mr. J. G. Stephenson; five houses, Polsted Road, for Messrs. Middletons (Builders), Ltd.

Plans passed by FULHAM B.C.: New building, Maxwell Road, for Messrs. J. and C. Bowyer, Ltd.; new building, rear of 49-51 High Street, for Mr. J. H. Heathman; buildings, Peterborough Road, for Messrs. H. N. Barnes, Ltd.; additions, West Kensington Station, for railway company.

*

The FULHAM B.C. Electricity Committee is to erect new showrooms for the department in Fulham Road, in accordance with plans prepared by Mr. H. M. de Colleville, at an estimated cost of £13,000.

*

Plans passed by the BERMONDSEY B.C.: Premises, Grimscott Street, for Messrs. E. Lazenby and Son, Ltd.

*

The Bermondsey B.C. has prepared plans for the improvement of ROTHERHITHE Town Hall at a cost of £3,286.

*

The BERMONDSEY B.C. has prepared a scheme for clearing the Vaughan Street area of about four acres, but are objecting to the suggestion of the L.C.C. that re-housing should be provided in block tenements.

*

The Great Western Railway Company is to carry out extensions to the North Dock Lock drawbridge, SWANSEA.

*

The SWANSEA Corporation is seeking sanction for a loan of £100,000 for further housing advances.

*

The WAKEFIELD Corporation has considered the question of street improvements in the centre of the city, and called for plans for an improvement line for Kirkgate, Warrengate, the Springs, and Northgate.

*

It is proposed to widen and improve Watford Road, WEMBLEY, at a cost of £80,000.

*

The Middlesex County Council is to widen the High Road, HARROW WEALD, at an estimated cost of £22,250.

*

A ballroom of 9,800 sq. ft. is to be built near STREATHAM HILL station.

*

At a cost of £30,000, Upper North Street, POPLAR, L.C.C. school is to be rebuilt.

*

The L.C.C has sanctioned a £10,200 loan to BATTERSEA Council for tenements in Gatemore Road.

*

The new Kelvin Hall at GLASGOW, to be finished in July, will have probably the largest concrete roof in the world. The superficial area of the roof will be 24,000 sq. yds.

The CANVEY ISLAND Council has decided to construct a reinforced concrete road across the island, nearly four miles, at a cost of £50,000.

*

A scheme for an open-air swimming bath in Regent's Park, to cost approximately £12,500, is being considered by the Marylebone Council. The Office of Works has agreed to grant a licence for a site in Albert Road at the foot of Primrose Hill, and adjoining the gymnasium.

*

The Governors of St. Bartholomew's Hospital, LONDON, have adopted a great rebuilding scheme, estimated to cost about £200,000. It is proposed to erect five-story structures, with a surgical ward on each floor; an electric therapeutic department is to be established in the basement, and new laboratories will be constructed on the roof.

*

The British Land Company is to construct roads and sewers on their Perry Hill estate at CATFORD.

*

The NOTTINGHAM City Council has approved the principle that the municipality should provide a crematorium.

*

A scheme is to be presented to BRADFORD City Council for the rebuilding of part of the central area of the city, owned by the Corporation, at a cost of £230,000. The proposed new buildings will provide new accommodation for municipal departments, and the ground floor will be devoted to shops.

*

The Housing Committee of SOLIHULL Rural District Council, Warwickshire, recommended that application be made to the Minister of Health for provisional approval to a scheme for the erection of seventy-two small dwellings.

*

In connection with a proposal by the WESTMORLAND County Council to construct a new £32,000 bridge on the road between Shap and Penrith to replace the Earmont bridge, the Society for the Protection of Ancient Buildings have written asking to be allowed to submit a report on the bridge.

*

The WALSALL Housing Committee propose to erect 374 houses on the Ida Road site in the proportion of 80 per cent. non-parlour type and 20 per cent. parlour type. The Ministry of Health has approved of the erection of 182 houses on the Beatrice Street site, and has sanctioned a loan for £75,240.

*

Mr. R. S. Ayling, F.R.I.B.A., of London, has been appointed by the COVENTRY Corporation to prepare sketch plans and estimates for a public abattoir.

The SOUTH MOLTON R.D.C. is to construct a reinforced concrete bridge and culvert at Brasford Mill, Witheridge.

*

Plans passed by PORTSMOUTH Corporation: Fourteen houses, St. Swithin's Road, Copnor, for Mr. E. A. G. Wright; nine houses, Chelmsford Road, for Messrs. F. Faulkner and Son; eight houses, Copythorn Road, for Mr. W. Ford; ten houses, Asylum Road, for Messrs. A. R. West; twelve houses, Kensington Road, for Messrs. J. Brittan; twelve houses, Kenyon Road, for Mr. E. T. Hughes; nine houses, Chelmsford Road, for Messrs. G. Coleman and Sons; six houses, Baffins Road, for Mr. R. C. Brittan; ten houses, Dartmouth Road, for Mr. T. H. Chandler; five houses, Selsey Avenue, for Mr. S. A. Evans.

*

The PERSHORE R.D.C. is in communication with the Ministry of Health regarding a scheme to obtain a water supply from the River Avon.

*

The WORCESTERSHIRE C.C. is to obtain a site for the erection of a small-pox hospital.

*

The WORCESTERSHIRE Education Committee is now to proceed with the erection of an elementary school to serve the districts of Hill and Cakemore.

*

Plans have been prepared by the Worcestershire Education Committee for the erection of a School of Art and Technical School on a site in Albert Road, MALVERN.

*

The Staffordshire and Worcestershire Education Committees have come to an agreement for the enlargement of the HALESOWEN Grammar School. The plans are to be prepared by the Worcestershire authority.

*

The BIRMINGHAM Cripples' Union has in contemplation a scheme for the enlargement of their institution for tuberculous cripples.

*

The PERSHORE R.D.C. is endeavouring to secure a site for a housing scheme.

*

The WORCESTERSHIRE C.C. has purchased land for a new bridge over the River Avon and the by-pass road at Evesham.

*

The GLASGOW Corporation has under consideration a scheme for the reconstruction of premises in Sauchiehall Street for showroom purposes.

*

The CITY OF LONDON Corporation is to proceed with the widening of Aldgate High Street and Minories.

*

The KIDDERMINSTER Corporation has in view a scheme for the construction of a new road from Mill Street to Hall Road.

Plans passed by the BLYTH Corporation: Forty-eight cottages, Hodgsons Lane, for Mr. R. Baxter; warehouse, King Street, for Mr. R. Sutton; two houses, Back Bath Terrace, for Messrs. J. Goulding and Son.

*

The Port of London Authority is unable to agree to the proposals for the construction of a public landing stage, and the NORTHFLEET U.D.C. propose to discuss the matter further with the Port Authority.

*

The NORTHFLEET U.D.C. has decided to erect fifty-two houses on the Northfleet House estate, and tenders are to be invited, though the Council may decide to build by direct labour.

*

Plans passed by BOURNEMOUTH Corporation: Four houses and shops, Green Road, for Mr. W. Bonfield; church, Charminster Avenue, for Trustees; three houses, Ashling Crescent, for Messrs. G. J. Luckham and Son; five houses, Belle Vue Road, for Mr. C. B. Philpots; six houses, Stanley Road, for Mr. A. Gould; warehouse, Malmesbury Park Road, for Messrs. William Dibben and Sons; six houses, Clarkson Road, for Mr. A. Nicklen; nine houses, Redbreast Road, for Mr. S. G. Ward; central store, Commercial Road, for Messrs. F. W. Woolworth & Co., Ltd.

*

The managers of St. Walburga School have acquired land in Malvern Road, Moordown, BOURNEMOUTH, for the erection of a new school.

*

In connection with the Carlisle Street improvement scheme the MARYLEBONE B.C. has given general directions to the architects, Messrs. Ashley and Newman, in regard to the lay-out plans for the development of the district. Tenements will be provided, and provision is to be made for as many open spaces as possible.

*

The Middlesex Hospital authorities are to construct a bridge across Union Street and a subway under Foley Street, MARYLEBONE.

*

The Board of Education has approved the plans of the WAKEFIELD Education Committee for the Manygates elementary school.

*

The WAKEFIELD Corporation is considering the possibility of establishing a hostel for the staff and pupils of the maternity home.

*

The WESTMINSTER City Council has prepared plans for the reconstruction of the convenience in Piccadilly Circus at a cost of £17,750.

*

The Lister Institute is to add another story to their premises in Grosvenor Street, WESTMINSTER.

Messrs. Watney, Combe, Reid & Co., Ltd., are to erect buildings at the corner of Allington Street and Brewer Street, WESTMINSTER.

*

The WESTMINSTER city engineer has prepared revised plans for the provision of new baths on the site of the old Marshall Street baths, showing the ultimate provision of a second-class swimming bath with filtration plant.

*

The L.C.C. Education Committee has acquired a site at Charlton Park, GREENWICH, for the provision of an open-air school.

*

The managers of the St. Patrick's Roman Catholic School, WHITECHAPEL, are to provide increased accommodation.

*

The L.C.C. Education Committee is to proceed with alterations at Upton House, HACKNEY, at an estimated cost of £12,360, to adapt the premises for use as an open-air school, a central school, and divisional offices.

*

Messrs. Gunton and Gunton are in communication with the BOURNEMOUTH Corporation regarding proposals for the erection of a Wesleyan Church in Alma Road.

*

Plans passed by PAIGNTON U.D.C.: Twelve houses, Maidenway Lane, for Messrs. H. Lloyd and Son; two houses, Barcombe Heights, for Mr. W. Jury; nine garages, Oldway Road, for Mr. F. Binmore.

*

The MID-YORKSHIRE Board for the Mentally Defective has under consideration proposals for the extension of the Mid-Yorkshire institution.

*

The Carr Manor Estate Co., Ltd., are to erect shops off Stainbeck Lane, on the Carr Manor estate, LEEDS.

*

The LEEDS Corporation is to convert old laundry premises at Beckett Street into an ambulance station.

*

The CARLISLE Corporation has come to terms with the R.D.C. for the provision of a water supply to Aglionby.

*

In connection with the proposal for the strengthening of HOLT Fleet bridge, the Worcestershire C.C. propose to invite Monsieur Gueritte to collaborate in the scheme with the county surveyor at a fee of £500.

*

The MARYLEBONE B.C. has now prepared a scheme for the construction of an open-air swimming bath in Regent's Park, the cost being estimated at £12,500.

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
B₂	Bangor ..	N.W. Counties	1 5	1 1
A	BarnardCastle	N.E. Coast	1 8	1 3½
A	Barnsley ..	Yorkshire	1 8	1 3½
B₁	Barnstaple	S.W. Counties	1 5½	1 1½
A	Barrow ..	N.W. Counties	1 8	1 3½
A	Barry ..	S. Wales & M.	1 8	1 3½
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
A₂	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 9	1 3½
A	Birmingham	Mid. Counties	1 8	1 3½
A	Bishop Auckland	N.E. Coast	1 8	1 3½
A	Blackburn	N.W. Counties	1 8	1 3½
A	Blackpool	N.W. Counties	1 8	1 3½
A	Blyth ..	N.E. Coast	1 8	1 3½
B₃	Bognor ..	S. Counties	1 4½	1 0½
A	Bolton ..	N.W. Counties	1 8	1 3½
A₃	Boston ..	Mid. Counties	1 6½	1 2
B₁	Bournemouth	S. Counties	1 6	1 1½
B₂	Bovey Tracey	S.W. Counties	1 5	1 1
A	Bradford ..	Yorkshire	1 8	1 3½
A₃	Brentwood	E. Counties	1 6½	1 2
A	Bridgend ..	S. Wales & M.	1 8	1 3½
B₂	Bridgwater	S.W. Counties	1 5	1 1
A₁	Bridlington	Yorkshire	1 7½	1 2½
A	Brighouse	Yorkshire	1 8	1 3½
B₁	Brighton ..	S. Counties	1 6	1 1½
A	Bristol ..	S.W. Counties	1 8	1 3½
B₃	Brixham ..	S.W. Counties	1 4½	1 0½
A₂	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
B₁	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff ..	S. Wales & M.	1 8	1 3½
A	Carlisle ..	N.W. Counties	1 8	1 3½
B	Carmarthen	S. Wales & M.	1 6	1 1½
B₃	Carnarvon	N.W. Counties	1 5	1 1
A₁	Carnforth ..	N.W. Counties	1 7½	1 2½
A	Castleford	Yorkshire	1 8	1 3½
B₁	Chatham ..	S. Counties	1 5½	1 1½
B₁	Chelmsford	E. Counties	1 5½	1 1½
B	Cheltenham	S.W. Counties	1 6	1 1½
A	Chester ..	N.W. Counties	1 8	1 3½
A	Chesterfield	Mid. Counties	‡1 8	1 3½
B₃	Chichester	S. Counties	1 4½	1 0½
A	Chorley ..	N.W. Counties	1 8	1 3½
B₃	Cirencester	S. Counties	1 5	1 1
A	Clitheroe ..	N.W. Counties	1 8	1 3½
A	Clydebank	Scotland	1 8	1 3½
A	Coalville ..	Mid. Counties	1 8	1 3½
B₁	Colchester ..	E. Counties	1 5½	1 1½
A	Colne ..	N.W. Counties	1 8	1 3½
B₁	Colwyn Bay	N.W. Counties	1 5½	1 1½
A	Consett ..	N.E. Coast	1 8	1 3½
B₁	Conway ..	N.W. Counties	1 5½	1 1½
A	Coventry ..	Mid. Counties	1 8	1 3½
A₃	Crewe ..	N.W. Counties	1 6½	1 2
A₃	Cumberland	.....	1 6½	1 2
A	DARLINGTON	N.E. Coast	1 8	1 3½
A	Darwen ..	N.W. Counties	1 8	1 3½
B₃	Deal ..	S. Counties	1 4½	1 0½
B₁	Denbigh ..	N.W. Counties	1 5½	1 1½
A	Derby ..	Mid. Counties	1 8	1 3½
A	Dewsbury ..	Yorkshire	1 8	1 3½
B	Didcot ..	S. Counties	1 6	1 1½
A	Doncaster	Yorkshire	1 8	1 3½
C₁	Dorchester	S.W. Counties	1 4	1 0½
A₃	Driffie'd ..	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	EASTBOURNE	S. Counties	1 6	1 1½
A	Ebbw Vale	S. Wales & M.	1 8	1 3½
A	Edinburgh	Scotland	1 8	1 3½
A	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 8	1 3½
B	Exeter ..	S.W. Counties	§1 7	1 2½
B₂	Exmouth ..	S.W. Counties	1 5	1 1
B	FELIXSTOWE	E. Counties	1 6	1 1½
A₃	Filey ..	Yorks	1 6½	1 2
A	Fleetwood ..	N.W. Counties	1 8	1 3½
B₃	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham ..	N.W. Counties	1 8	1 3½
B₃	Frome ..	S.W. Counties	1 4½	1 0½
A	GATESHEAD	N.E. Coast	1 8	1 3½
B₁	Gillingham	S. Counties	1 5½	1 1½
B	Gloucester	S.W. Counties	1 6	1 1½
A₂	Goole ..	Yorkshire	1 7	1 2½
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
B₂	Kendal ..	N.W. Counties	1 5	1 1
B₂	Keswick ..	N.W. Counties	1 5	1 1
B	Kettering ..	Mid. Counties	1 6	1 1½
A₂	Kidderminster	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	Loughborough	Mid. Counties	1 8	1 3½
B	Luton ..	E. Counties	1 6	1 1½
A	Lytham ..	N.W. Counties	1 8	1 3½
A₁	MACCLESFIELD	N.W. Counties	1 7½	1 2½
B	Maidstone	S. Counties	1 5½	1 1½
A₃	Malvern ..	Mid. Counties	1 6½	1 2
A	Manchester	N.W. Counties	1 8	1 3½
A	Mansfield ..	Mid. Counties	1 8	1 3½
B₃	Margate ..	S. Counties	1 4½	1 0½
A₃	Matlock ..	Mid. Counties	1 6½	1 2
A	Merthyr ..	S. Wales & M.	1 8	1 3½
A	Middlesbrough	N.E. Coast	1 8	1 3½
A₃	Middlewich	N.W. Counties	1 6½	1 2
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
B	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 8	1 3½
A	Nuneaton ..	Mid. Counties	1 8	1 3½
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W. Counties	1 8	1 3½
A₃	Oswestry ..	Mid. Counties	1 6½	1 2
B	Oxford ..	S. Counties	1 6	1 1½
A	PAISLEY ..	Scotland	*1 8	1 3½
C	Pembroke	S. Wales & M.	1 4½	1 0½
A	Perth ..	Scotland	*1 8	1 3
A₃	Peterborough	Mid. Counties	1 6½	1 2
A	Plymouth	S.W. Counties	¶1 8	1 3½
A	Pontefract	Yorkshire	1 8	1 3½
A	Pontypridd	S. Wales & M.	1 8	1 3½
B	Portsmouth	S. Counties	1 6	1 1½
A	Preston ..	N.W. Counties	1 8	1 3½
A	QUEENSFERRY	N.W. Counties	1 8	1 3½
B	READING ..	S. Counties	1 6	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A₃	Retford ..	Mid. Counties	1 6½	1 2
A	Rhondda Valley	S. Wales & M.	1 8	1 3½
A₃	Ripon ..	Yorkshire	1 6½	1 2
A	Rochdale ..	N.W. Counties	1 8	1 3½
B	Rochester	S. Counties	1 5½	1 1½
A₁	Ruabon ..	N.W. Counties	1 7½	1 2½
A₂	Rugby ..	Mid. Counties	1 8	1 3½
A₃	Rugeley ..	Mid. Counties	1 6½	1 2
A	Runcorn ..	N.W. Counties	1 8	1 3½
A₃	ST. ALBANS	E. Counties	1 6½	1 2
A	St. Helens	N.W. Counties	1 8	1 3½
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
B	South'pton	S. Counties	1 6	1 1½
B₁	Southend-on-Sea	E. Counties	1 5½	1 1½
A	Southport ..	N.W. Counties	1 8	1 3½
A	S. Shields ..	N.E. Coast	1 8	1 3½
A₂	Stafford ..	Mid. Counties	1 7	1 2½
A	Stockport ..	N.W. Counties	1 8	1 3½
A	Stockton-on-Tees	N.E. Coast	1 8	1 3½
A	Stoke-on-Trent	Mid. Counties	1 8	1 3½
B	Stroud ..	S.W. Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 8	1 3½
A	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	WAKEFIELD	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	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 8	1 3½
B	Weston-s-Mare	S.W. Counties	1 6	1 1½
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	Wolverhampton	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

* Plasterers, 1s. 9d.
† Carpenters and Painters, 1s. 8½d.
‡ Plumbers, 1s. 9d.
§ Painters, 1s. 6d.
‖ Carpenters and Plasterers, 1s. 8½d.
¶ Painters, 1s. 7d.

PRICES CURRENT

EXCAVATOR AND CONCRETOR

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

Broken brick or stone. 2 in., per yd.	£0	11	6
Thames ballast, per yd.	0	13	0
Pit gravel, per yd.	0	18	0
Pit sand, per yd.	0	14	6
Washed sand	0	15	6
Screened ballast or gravel, add 10 per cent. per yd.			
Clinker, breeze, etc., prices according to locality.			
Portland cement, per ton	£2	19	0
Lias lime, per ton	2	10	0
Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.			
Transport hire per day:			
Cart and horse £1 3 0 *Trailer*	£0	15	0
3-ton motor lorry 3 15 0 *Steam roller*	4	5	0
Steam lorry, 5-ton 4 0 0 *Water cart*	1	5	0

EXCAVATING and throwing out in ordinary earth not exceeding 6 ft. deep, basis price, per yd. cube . 0 3 0

Exceeding 6 ft., but under 12 ft., add 30 per cent.
In stiff clay, add 30 per cent.
In underpinning, add 100 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.

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

STONEWARE DRAINS, jointed in cement, tested pipes, 4 in., per ft.	0	4	3
DO. 6 in., per ft.	0	5	0
DO. 9 in., per ft.	0	7	9
CAST-IRON DRAINS, jointed in lead, 4 in., per ft.	0	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. 1¼ 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:			
Whibed, per ft. cube	£0	4	6
Basebed, per ft. cube	0	4	7
Bath stone, per ft. cube	0	3	0
Usual trade extras for large blocks.			
York paving, av. 2½ in., per yd. super	0	6	6
York templates sawn, per ft. cube	0	6	9
Slate shelves, rubbed, 1 in., per ft. sup.	0	2	6
Cement and sand, see "Excavator," etc., above.			

HOISTING and setting stone, per ft. cube	£0	2	2
DO. for every 10 ft. above 30 ft. add 15 per cent.			
PLAIN face Portland basis, per ft. sup.	£0	2	8
DO. circular, per ft. sup.	0	4	0
SUNK FACE, per ft. sup.	0	3	9
DO. circular, per ft. sup.	0	4	10
JOINTS, arch, per ft. sup.	0	2	6
DO. sunk, per ft. sup.	0	2	7
DO. DO. circular, per ft. sup.	0	4	6
CIRCULAR-CIRCULAR work, per ft. sup.	1	2	0
PLAIN MOULDING, straight, per inch of girth, per ft. run	0	1	1
DO. circular, do., per ft. run	0	1	4

HALF SAWING, per ft. sup.	£0	1	0
Add to the foregoing prices if in York stone 35 per cent.			
DO. Mansfield, 12½ per cent.			
Deduct for Bath, 33⅓ per cent.			
DO. for Chilmark, 5 per cent.			
SETTING 1 in. slate shelving in cement, per ft. sup.	£0	0	6
RUBBED round nosing to do., per ft. lin.	0	0	6
YORK STEPS, rubbed T. & R., ft. cub. fixed	1	9	0
YORK SILLS, W. & T., ft. cub. fixed	1	13	0
ARTIFICIAL stone paving, 2 in. thick, per ft. sup.	0	1	6
DO. 2½ in. thick, per ft. sup.	0	1	9

SLATER AND TILER

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

Slates, 1st quality, per 1,200:

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

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 segmental soffits, 4½ in. wide, per ft. run	0	0	4½
DO. 9 in. wide and over, per ft. sup.	0	1	2

[*continued overleaf*]

CARPENTER AND JOINER: *continued.*

SHUTTERING to face of concrete, per square	£1	10	0
DO. in narrow widths to beams, etc., per ft. sup.	0	0	6
USE and waste of timbers, allow 25 per cent. of above prices.			
SLATE BATTENING, per sq.	£0	12	6
DEAL boarding to flats, 1 in. thick and firrings to falls, per square	2	10	0
STOUT feather-edged tilting fillet to eaves, per ft. run	0	0	6
FEATHER-edged springer to trimmer arches, per ft. run	0	0	4
STOUT herringbone strutting (joists measured in), per ft. run	0	0	6
SOUND boarding, ⅞ in. thick and fillets nailed to sides of joists (joists measured over), per square	2	0	0
RUBEROID or similar quality roofing, one-ply, per yd. sup.	0	2	3
DO., two-ply, per yd. sup.	0	2	6
DO., three-ply, per yd. sup.	0	3	0
TONGUED and grooved flooring, 1¼ in. thick, laid complete with splayed headings, per square	2	5	0
DEAL skirting torus, moulded 1¼ in. thick, including grounds and backings, per ft. sup.	0	1	0
TONGUED and mitred angles to do.	0	0	6
WOOD block flooring standard blocks laid herringbone in mastic :			
Deal 1 in. thick, per yd. sup.	0	10	0
DO. 1¼ in. thick, per yd. sup.	0	12	0
Maple 1¼ in. thick, per yd. sup.	0	15	0
DEAL moulded sashes, 1⅜ 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
1½ 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.	£2	4	6
DO. *drawn pipes, per cwt.*	2	6	0
DO. *soil pipe, per cwt.*	2	8	0
DO. *scrap, per cwt.*	1	9	6
Copper, sheet, per lb.	0	1	0
Solder, plumber's, per lb.	0	1	2
DO. *fine, per lb.*	0	1	5
Cast-iron pipes, etc. :			
L.C.C. soil, 3 in., per yd.	0	4	1
DO. *4 in., per yd.*	0	5	0
R.W.P., 2½ in., per ½d.	0	2	0
DO. *3 in., per yd.*	0	2	5
DO. *4 in., per yd.*	0	3	3
Gutter, 4 in. H.R., per yd.	0	1	5
DO. *4 in. O.G., per yd.*	0	1	9

*

MILLED LEAD and labour in gutters, flashings, etc.	3	12	6
LEAD PIPE, fixed, including running joints, bends and tacks, ½ in. per ft.	0	2	1
DO. ¾ in., per ft.	0	2	5
DO. 1 in., per ft.	0	3	3
DO. 1¼ in., per ft.	0	4	6
LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft.	0	6	0
DO. 3 in., per ft.	0	7	0
DO. 4 in., per ft.	0	9	9
WIPED soldered joint, ½ in., each	0	2	6
DO. ¾ in., each	0	3	2
DO. 1 in., each	0	3	8
BRASS screw-down stop cock and two soldered joints, ½ in., each	0	11	0
DO. ¾ in., each	0	13	6
CAST-IRON rainwater pipe, jointed in red lead, 2½ in., per ft. run	0	1	6
DO. 3 in., per ft. run	0	1	11
DO. 4 in., per ft. run	0	2	9
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.	0	18	0
Sand and cement see "Excavator," etc., above.			
Lime putty, per cwt.	£0	2	9
Hair mortar, per yd.	1	7	0
Fine stuff, per yd.	1	14	0
Sawn laths, per bdl.	0	2	9
Keene's cement, per ton	5	15	0
Sirapite, per ton	3	10	0
DO. *fine, per ton*	3	18	0
Plaster, per ton	3	0	0
DO. *per ton*	3	12	6
DO. *fine, per ton*	5	12	0
Thistle plaster, per ton	3	9	0
Lath nails per lb.	0	0	4

*

LATHING with sawn laths, per yd.	0	1	7
METAL LATHING, per yd.	0	2	3
FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock, ¾ in., per yd.	0	2	4
DO. vertical, per yd.	0	2	7
RENDER, on brickwork, 1 to 3, per yd.	0	2	7
RENDER in Portland and set in fine stuff, per yd.	0	3	3
RENDER, float, and set, trowelled, per yd.	0	2	9
RENDER and set in Sirapite, per yd.	0	2	5
DO. in Thistle plaster, per yd.	0	2	5
EXTRA, if on but not including lathing, any of foregoing, per yd.	0	0	5
EXTRA, if on ceilings, per yd.	0	0	5
ANGLES, rounded Keene's on Portland, per ft. lin.	0	0	6
PLAIN CORNICES, in plaster, per inch girth, including dubbing out, etc., per ft. lin.	0	0	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	5
DO. 26 oz.	0	0	5½
Cathedral white, per ft.	0	0	7½
Polished plate, British ¼ in., up to 2 ft. sup. per ft.	0	1	8
DO. *4 ft. sup.* ,,	0	3	2
DO. *6 ft. sup.* ,,	0	3	4
DO. *20 ft. sup.* ,,	0	3	11
DO. *45 ft. sup.* ,,	0	4	1
DO. *65 ft. sup.* ,,	0	4	3
DO. *100 ft. sup.* ,,	0	4	6
Rough plate, ⅛ in., per ft.	0	0	6½
DO. *¼ in., per ft.*	0	0	7
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.	£3	11	0
Linseed oil, raw, per gall.	0	3	7
DO., *boiled, per gall.*	0	3	10
Turpentine, per gall.	0	6	2
Liquid driers, per gall.	0	9	6
Knotting, per gall.	1	4	0
Distemper, washable, in ordinary colours, per cwt., and up	2	0	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4
Single gold leaf (transferable), per book	0	1	11
Varnish, copal, per gall. and up	0	18	0
DO., *flat, per gall.*	1	2	0
DO., *paper, per gall.*	1	0	0
French polish, per gall.	0	19	0
Ready mixed paints, per gall. and up	0	10	6

*

LIME WHITING, per yd. sup.	0	0	3
WASH, stop, and whiten, per yd. sup.	0	0	6
DO., and 2 coats distemper with proprietary distemper, per yd. sup.	0	0	9
KNOT, stop, and prime, per yd. sup.	0	0	7
PLAIN PAINTING, including mouldings, and on plaster or joinery, 1st coat, per yd. sup.	0	0	10
DO., subsequent coats, per yd. sup.	0	0	9
DO., enamel coat, per yd. sup.	0	1	2½
BRUSH-GRAIN, and 2 coats varnish, per yd. sup.	0	3	8
FIGURED DO., DO., per yd. sup.	0	5	6
FRENCH POLISHING, per ft. sup.	0	1	2
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 3*d.* to	0	0	6
Plaster board, per yd. sup. . from	0	1	7
PLASTER BOARD, fixed as last, per yd. sup. . . . . from	0	2	8
Asbestos sheeting, ⅜ 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, ⅜ 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	3/16 in.			¼ in.			3/8 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 3	—	—
Plain Oak 1 side	6½	6	—	7½	7	—	9½	—	—	1 0	—	—
Oregon Pine	5	4	—	5½	5	—	6	—	—	—	—	—