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CHRISTIAN BARMAN, *Editor*

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

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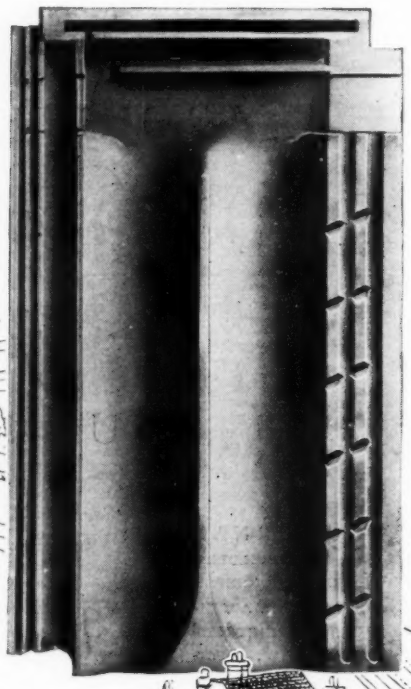

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[A working detail of this entrance porch appears on the following page]

THE ENTRANCE PORCH AT
RIDGE HOUSE, ESHER

BY IMRIE AND ANGELL

THE WEEK'S DETAIL

[BY IMRIE AND ANGELL]

The illustration shows the entrance porch to Ridge House, and the window above it lighting the staircase. The woodwork is deal, painted white, except the doors themselves, which are blue-green with bronze furniture. The lead-glazed fanlight over the doors lights a small lobby.

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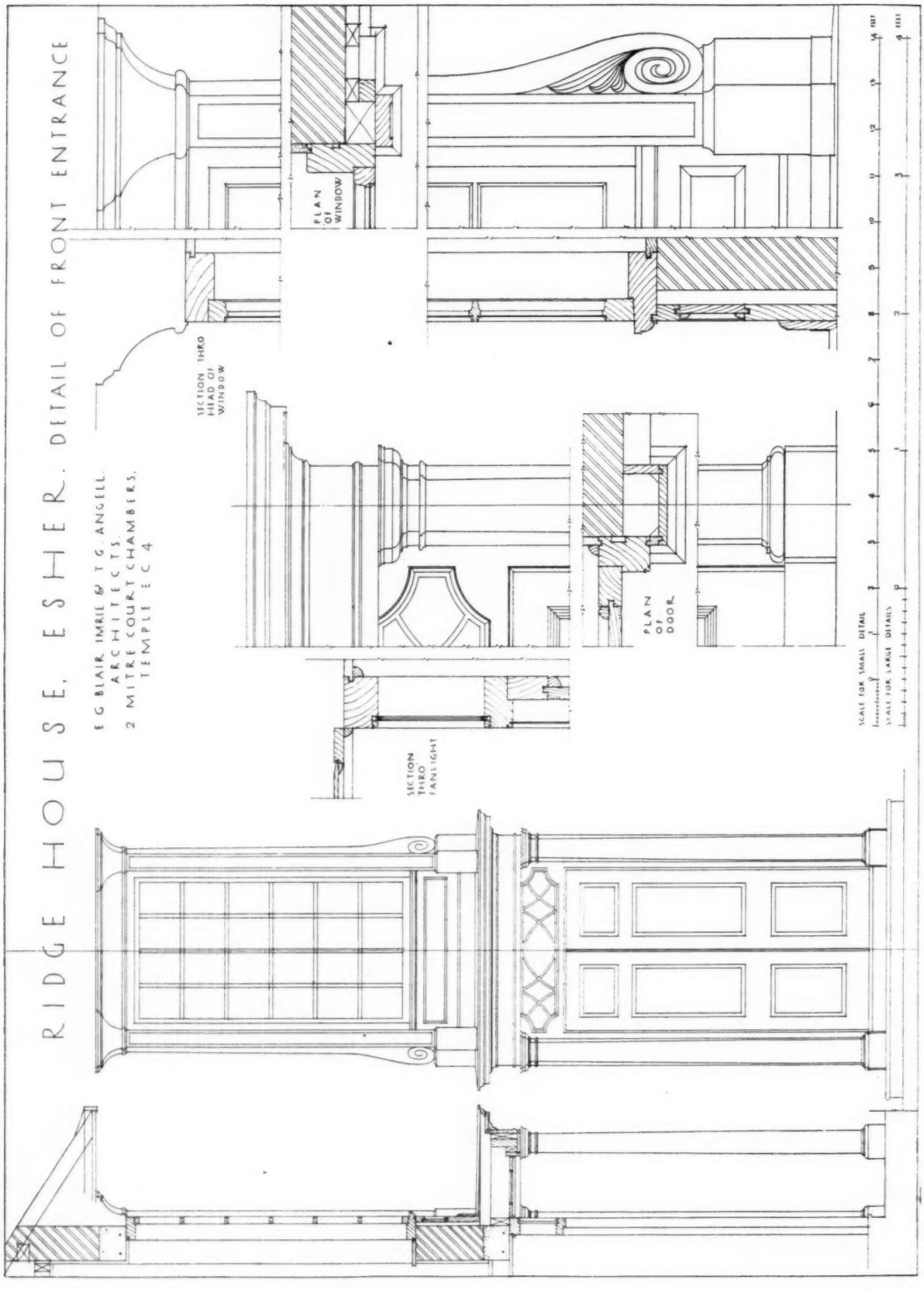


A photograph of this detail is given on the preceding page.

THE ARCHITECTS' JOURNAL

Wednesday, June 8, 1927

THE BUILDING INDUSTRY

THAT all is not well in the building industry is a platitude that scarcely needs emphasis today, nevertheless, we hold the opinion that a symposium of diverse views might be helpful to those who, intimately connected with building in any of its manifold aspects, are desirous of endeavouring to improve the present state of affairs.

Our series of seven articles is now concluded, and it is possible to see what salient features emerge from the diverse views expressed. Only upon one matter does there seem to be any sort of unanimity, and that is in connection with the casual conditions of employment, and the long-standing grievance over "wet time." These are matters which are holding men back from entering the industry. Yet, although the writers deal with various aspects of the subject, examining it, as it were, from different angles, it will be found that the views expressed are all to some extent interdependent. Wet time is, perhaps, a matter which stands by itself and which could be and must be tackled. Mr. Graham dealt with the subject and showed the possibility of an insurance scheme worked on the principle of the National Health Insurance. It is in the interests of the whole nation that some such scheme be inaugurated throughout the industry, and it is a reflection upon the enterprise of its leading members that this has not yet been done.

An almost graver menace to proper recruiting to the industry are the utterly false notions with regard to the indignity of manual labour as compared with other forms of work, and when these notions are fostered by the men's leaders then indeed the outlook is bad. Mr. Hicks even goes so far as to suggest that the building operative is subjected to indignity because he returns home from his work physically tired, having to board his bus or train and sit beside a black-coated worker who is mentally tired. If dignity is to become the criterion of the desirability of employment, then we suggest that the employment which is conducted in healthy open-air conditions and which leads at the end of a day's work to physical tiredness has about it a far greater dignity than the employment which is sedentary, indoors, perhaps in vitiated atmosphere, and which leads at the end of a day's work to mental exhaustion emphasized by an insufficiently exercised body.

Instead of inculcating such doctrines of false pride and petty snobbishness, surely the men's leaders would be acting more wisely if they drew attention to the facts that the work involved in building is fundamental; that to assist in the building of houses is to assist in supplying one of the first essential needs of the community; that it is an occupation free from monotony and full of variation and interest; that it is healthy and comparatively free from danger; that much of it is carried on in the open air, and little of it in unhealthy atmospheres; that it is essentially constructive and of a more or less permanent character, so that those engaged upon it have the satisfaction of knowing that the result of their labour is not ephemeral.

Yet, granting all this, the conditions of labour in the building industry are sorely in need of improvement. Employers must endeavour to ameliorate the conditions of craftsmen by providing them with those decencies and amenities during their working-day which are now regarded as essentials. This aspect of the matter was dealt with in Major Barnes's article. But if such improvements are looked for from the employers, what is the contribution expected from the operatives? Surely it is increased and unrestricted output. As Sir Henry Tanner points out in the letter which we publish in this issue, "What is needed to encourage building is reduction of costs, which are now twice what they were before the war."

It is the custom just now to look across the Atlantic for guidance in all industrial troubles. We ourselves are not convinced that it is an altogether good custom. However, if we look at building conditions in America, what do we find? That craftsmen are earning up to £16 a week; that building costs are no higher than in England. How is this to be accounted for? As Sir Henry says: "It looks as if the craftsman turned out from three to four times the amount of work in a given time in America than is the case here." And we know, in fact, that this is so, and we know, too, that a great many English craftsmen go to America, thereby showing that to them, at least, higher wages and more work are more attractive than lower wages and less work.

In America, too, the artisan has not been corrupted with ideas of false gentility, and if any comparisons are made between him and the black-coated sedentary worker, the favours are on his side. The artisan is a respected person, as, indeed, he should be, in the social organization.

And for our own part we can see no inherent reason why these conditions, so favourable alike to employer, employee, and the general community, should not maintain in this country. Foresight and statesmanship are requisite qualities on both sides; a display of these rather than the uttering of pleasant platitudes about peace and goodwill in industry is likely to bring the building industry into line with modern needs and modern ideas.

NEWS AND TOPICS

PROSPECTS OF THE REGISTRATION BILL—FLOWER PAINTINGS AS DECORATION—KEBLE'S "CHRISTIAN YEAR"—THE LATE DR. MACPHERSON—AN INFORMATIVE POST.

BEFORE the Select Committee which is dealing with the Architects (Registration) Bill, on all hands it is recognized that Major Barnes has handled a difficult case with his customary tact and ability. His willingness to meet objections and to facilitate the introduction of amendments to the Bill have disarmed any criticisms of the attitude of the R.I.B.A., and he has had no difficulty in replying to a number of searching questions put to him by two members of the committee, Sir F. Rice and Major Tasker. It is apparent to all that the committee is making excellent progress, and the prospects of an "agreed" Bill emerging as a result of the deliberations are distinctly bright. But at this advanced stage of the session it is doubtful if even a non-contentious Bill has much likelihood of reaching the Statute Book. A more probable course is that the present Bill will not make further progress this session, but that a new Bill, embodying the amendments suggested to the committee, as well as any recommendations the committee may make, will be introduced early next session. In that case, there should be few obstacles to such a measure passing rapidly into law.

* * *

The value of flower paintings as decoration can be nicely estimated at the present exhibition at Knoedlers' Galleries, where there are some seventy examples of European work dating from 1568 to the present day. The old pieces by Cornelize de Heem, Jan van Huysum, and others are delightfully stilted portraits of quaint particularity, not observable in contemporary work. Observable, though, in the needlework which was contemporary with them, and producing a similar decorative effect. Their technique is different from that of the moderns—the paint laid on in a thin but rich lucent film which gives a satisfying quality lacking in a good deal of the later pieces, in which only thin paint is employed, hardly securing the disguise of the canvas. But great decorative effect is achieved by Van Gogh on a brilliant canvas, a shining opulent study which, contrasted with a companion picture by the same artist, dry and hard, indicates that treatment is of the first importance in decorative effect. Hardly less important, however, is the composition of these flower pieces. Without it they are not decorative, but mere naturalism. Some of the modern things shown seem but the amusement of an idle hour, often bad in colour and poor in form. I am quite sure that a flower piece may be as good naturalistically as decoratively, if quality and composition are not lost sight of. There are several good examples by the quite young men which illustrate the point: "Pivoines," by Georges Braque, with its attractive, heavy liquid running pigments; the two examples by Charles Dufresne, with heavy impasto worked up with the palette-knife into a vivid reflecting surface. Of such work as this the Monticelli is the most striking, with heaped masses of pure paint, the surface of the picture suggesting the appearance of a palette upon which the primary colours have been successfully organized. It is in technical effects such as these that true flower decoration is achieved.

* * *

It was good to commemorate the centenary of Keble's *Christian Year*. So that book of exquisite poetry is not yet entirely consigned to oblivion! It would be a strange and sad fate if it had been utterly forgotten, for in times not so very remote after all, it ranked indubitably among "best sellers." John Keble was able to rebuild his church at Hursley out of the profits of repeated editions. Without touching for a moment on controversial points, one may venture to declare that church architecture is immeasurably indebted to John Keble for the purity and correctness in building and furnishing that he preached and practised as if they were an article of faith. His rebuilt little church at Hursley used to be extolled, perhaps rather extravagantly, as a model, and has served as norm for much excellent church building elsewhere. As for Keble College, Oxford, which was opened in 1870 by the Marquess of Salisbury, I see no sufficient reason for counselling young architects to make trips to it; except that it stands for a curious example of variegated brickwork, as well as for a pious memorial to a prolific author of spiritual poems that, recalling the simplicity and piety of George Wither, have charmed Arnold of Rugby and multitudes of less fastidious critics. And Keble himself, I must reiterate, stands for a great reform in church architecture.

* * *

Eventually there should be found room in St. Paul's Cathedral for some memorial to Dr. C. Macpherson, who fell dead in the street near Victoria Station, London. As memorials to Arthur Sullivan and Dr. Stainer are already commemorated in the cathedral, Dr. Macpherson would complete a triad of men who have made music within its walls. All three, I think, were choristers there; and I like to note that Macpherson, although he came to London as a boy, was the son of the burgh architect of Edinburgh. It is recorded that the closing of St. Paul's choir was an incident fraught with poignant grief for him, and that, standing under the dismantled dome, he expressed to a friend his belief that restoration would take longer than was generally anticipated. He added, with prophetic foreboding: "I don't suppose I shall ever sit up there again." His supervision of the reinstatement of the organ would have been invaluable. He was often consulted in such matters; and, for example, his untimely death broke off the expert advice he was giving about the organ of the parish church of Lee, in Kent.

* * *

On Hastings promenade, near the new pavilion, has been erected an information post, such as was recommended for villages by the Duke of York some years ago. A local correspondent supplies me with a photograph and the following notes about it. The information post carries five arms surmounted by a composition of three shields bearing the heraldry of Hastings, St. Leonards, and the County of Sussex, the charges being lightly carved to preserve the drawing. Upon each of the arms a silhouette cut from forged steel is designed to show two different scenes within the one outline, for instance, Hastings Castle, with Pelham Crescent on one side, and the Central Cricket Ground (with a match in progress), and the West Hill,

surmounted by the castle, as seen from the opposite side. These silhouettes, which are ten in number, are painted in colours, and illustrate the principal places of interest, parks, tennis grounds, bowling-greens, and so on, together with the famous Glens and picturesque spots in the neighbourhood. Attached to each arm is a hanging board which describes the position of, and the best way of getting to each of the spots which are illustrated above, describing tram and bus routes, walks, and all relevant information. The post (pentagonal on plan) and boards are coloured yellow, with the lions upon the brackets supporting the arms in gold. A rich blue border is used to surround the boards and arms. All the lettering is in black and is in a good clear Roman type. All the painting, carving, and writing was carried out by the students of the Hastings Municipal School of Art, and it is remarkable that with so many different hands the work should be so extremely uniform in finish and style. The cost of the information post has worked out at about £120.

* * *

In a daily paper's account of the building of its own new premises, the following appeared describing the demolition of the old edifice: "Masses of solid concrete and steel had to be dislodged by means of oxy-acetylene apparatus. When the engineers had succeeded in cutting away the steel they knocked away the concrete and brickwork by means of a 'monkey'—a block of metal weighing 5 cwt., which was lifted on a tripod and then dropped from a great height with a resounding thud. The 'monkey' became extremely unpopular in the district. Residents complained that the crash of the descending weight was like the bursting of a shell. But the engineers persisted, and after many 'bombardments' the 'monkey' crushed in the concrete and cleared the way for an army of labourers, who attacked the soil with pick and shovel."

And from Paris, a correspondent sends me the following: "No longer is it necessary that the wrecking of masonry structures should proceed in the manner of the earthquake, with crashing and smashing of masses, avalanches of stone and mortar, clouds of dust and danger to all concerned. Heavy walls can now be cut into blocks as quietly and precisely as a wedding cake, and removed with no more disturbance. Two years ago, when the four huge towers of the Exposition of Decorative Arts were built at Paris, expert builders considered it a daring thing to construct such great masses, destined to be removed at so early a date. How would it be possible to break up these veritable fortresses of reinforced concrete? By bits or by one violent shock? With hammer or dynamite? And all sorts of contradictory rumours went about, even one that the towers, being immovable, were destined to remain to all eternity! However, one fine day, it was found that the fortresses had been dismantled; next day a whole storey had disappeared, and in less than a fortnight, piece by piece, the dissected towers had been carried away. Of course, exposition buildings, whose days are numbered, constitute a special case; they are generally easy to destroy because their disappearance, foreseen in advance, can be effected without loss of valuable material, without trouble of any sort, and usually without delay. The case is not the same with industrial structures. Here demolition must take place with the maximum of speed and the minimum of vibration, shock, and dust.

* * *

"Water under pressure is used as a destructive force. The apparatus, of great simplicity, is a sort of hydraulic jack which operates in the mass to be demolished by a series of pistons connected to a high-pressure pump. The operation is carried out as follows: Holes adapted in size to the diameter of the jack are made in the mass to be destroyed, by drills, run either by compressed air or steam. These holes precisely mark off the portion to be broken off. During the operation, the projection of fragments and dust is kept down by the injection of water. The device is introduced into each hole in succession. Through the controls of the pump, the pressure exerted by the pistons is gradually increased above 400 tons, so that almost always the material, of whatever kind it may be, splits into blocks without shock, and it remains only to remove them with a crane. The process is so swift that the speed is limited only by the possibility of removal of the debris. According to circumstances 8 to 40 cubic yards daily can be handled. It should be noted that this kind of demolition is systematic. Parts beyond the zone to be removed are in no way damaged, and the masonry is lifted out with a degree of force that in no way interferes with precision of action. It is especially important to adopt processes of this kind in an epoch where all should be precise and definite, especially in constructional matters." Certainly they do these things better in France.

* * *

As I finish the writing of these notes, just before the holidays, comes the announcement of a knighthood conferred upon Mr. R. J. Allison, chief architect since 1920 in H.M. Office of Works. I have pleasure, great pleasure, in congratulating an old friend. Born in 1869, Mr. Allison entered the Office of Works at the age of twenty. His hand is to be seen in many Government jobs—the Science Museum, South Kensington, the new Stationery Office, and latterly he has had control of much of the Post Office work.

ASTRAGAL

CONTEMPORARY FRENCH PRINTS

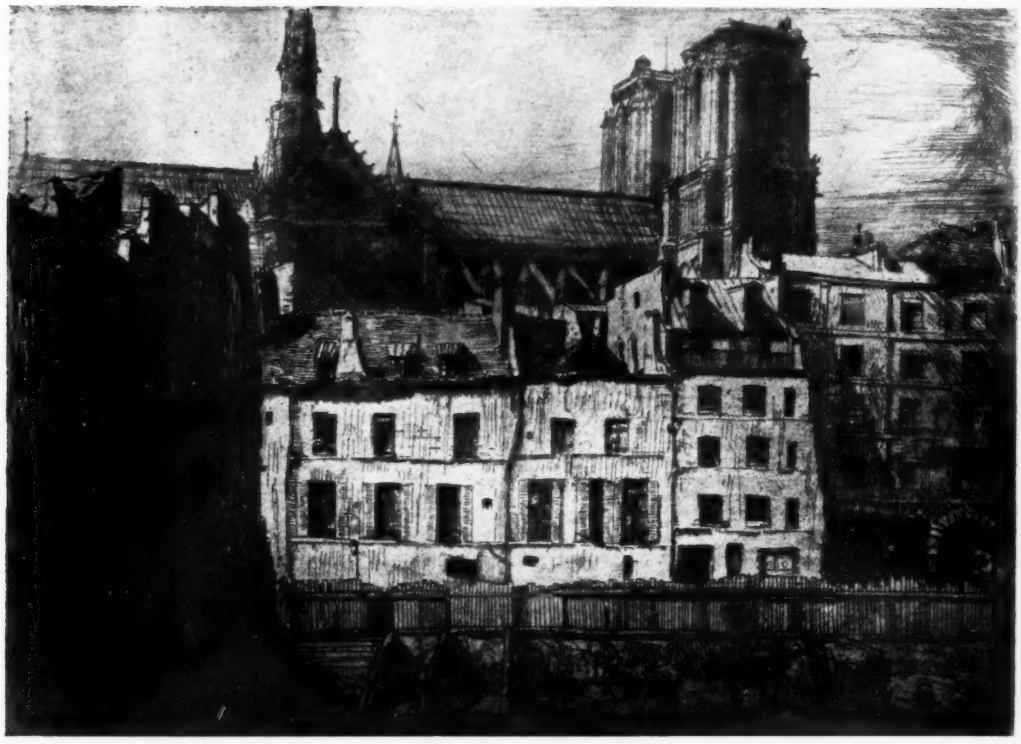
[BY KINETON PARKES]

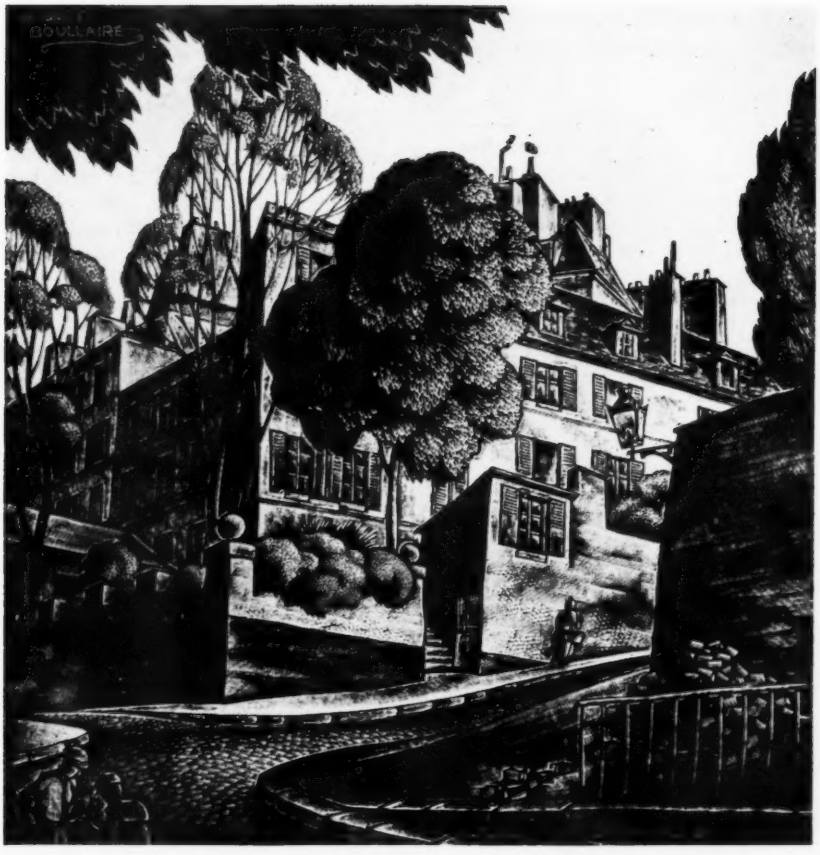
FIVE hundred etchings, engravings, and lithographs are now being shown at the Victoria and Albert Museum. They are representative of French activities in print-making since the death of Meryon in 1868. There is nothing exhibited comparable with the work of that great master, and this is particularly observable in the domain of architectural expression. Perhaps Meryon said the last word in French so far as this is concerned. Meryon died too soon, but at his death Bracquemond was at work, and Lepère was engraving on wood, continuing the traditions which he had acquired from H. D. Linton, whose greater brother, W. J. Linton, was the finest wood-engraver since Bewick. Of the print-makers proper of that period Bracquemond and Lepère provide the best representation.

The painters, however, make a great demonstration, and the sculptors in the persons of Rodin, Bourdelle, and Maillol add their contribution. Degas, Fantin-Latour, and Camille Pissarro were contemporaries of Bracquemond; and the next generation produced Odilon Redon, Guillaumin, Besnard, Gauguin, Forain, and Willette. This was a formidable band, the product of which was a fine array of work on the copperplate and the lithographic stone, unconventional, and often crude in technique, yet alive, and serving to keep print-making as such from degeneration into commercialism.

Wood-engraving of the old school has always been recognized as a commercial craft, even by Blake and Bewick, and today the craft is not entirely devoted to the isolated print, and is coming more and more to function again as illustration. At the time when Lepère, in Paris, was beginning his career, W. J. Linton, in London, was proving that reproductive engraving can reach great heights of artistry. Lepère proved the same thing in France, but surpassed Linton, not in technique, but as the engraver of his own designs. This was to his credit, but it is a mistake to assume that only the artist-engraver can ever rise to greatness of craftsmanship. There are ten examples of Lepère's work in the exhibition, three of which are woodcuts of large size, and the rest etchings. The wood-engravings are frankly illustrations; one is a view of Paris under snow, another of the English Houses of Parliament at evening. The latter is most representative of the true type of the traditional white-line adapted for publication purposes; the former, as well as the third woodcut of "La Rue de la Montagne-Sainte-Geneviève," exhibit some of the tone effect, quite inadmissible in

Saint-Siméon, Venise. (Drypoint.) By Henry de Waroquier.





Above, Démolitions, Rue Chanoinesse. (Etching.) By Charles Heyman.
Below, La Rue Ravignan. (Woodcut.) By Jacques Boullaire.

wood-engraving, which in France and the United States of America led the art astray. On the whole, however, Lepère's wood-engraving was sound. He had but few *confrères*, and wood-engraving suffered a decline on account of the invention of the zinco-block system of reproducing black-and-white pen drawings for illustration purposes.

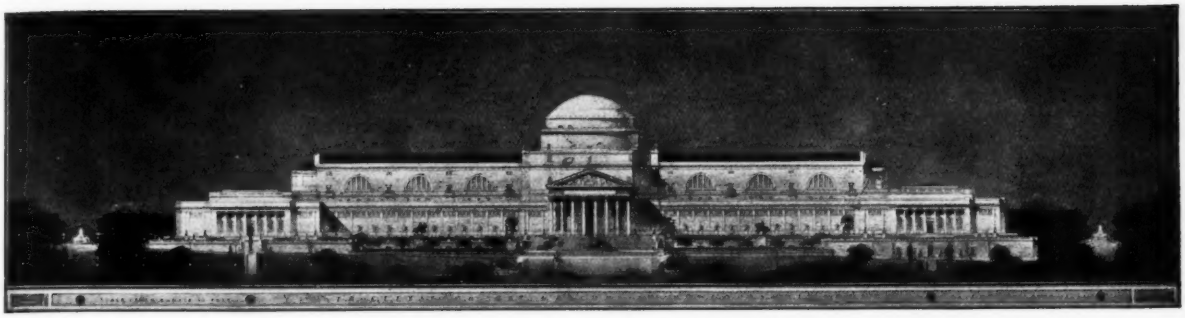
In our own time there is a revival, and the meagre representation of examples would seem to indicate that it has not gone so far in France as it has done in Great Britain. There are but few woodcuts shown, but they include interesting and good work of the right white-line convention. Amédée Joyau, who died young in 1913, specialized in coloured woodcuts. Jacques Beltrand, of the same generation, has specialized in the form of cutting practised in the past by the Italians, known as chiaroscuro engraving. This has something of the effect of restricted colour-engraving, but is not the same process. There are half a dozen of these shown by Jacques Beltrand, and one of them is a very good and definite picture of Notre-Dame from the Seine quays. Architectural woodcuts are also shown by the modernist, Vlaminck, but of the greatest interest, both as engraving and architecture, are the two charming cuts by Jacques Boullaire of "La Rue Ravignan." In these the white-line is used with great effect in the excellent drawing of the streets and houses, the clean, heavy blacks of the masses producing the effect of a silhouette against a pure white background, relieved by fine cross-hatching, which is, in wood-engraving, the legitimate substitute for tone.

The general level of the etchings is more equable than high. There is nothing quite brilliant, but much of great importance, which is as well illustrated in architectural subjects as in landscape, figure, or portrait work. The absence of tone-etching is notable. There are neither mezzotints nor aquatints, though Camille Pissarro combines some aquatint work with his etching. There is, in point of fact, too much mixed etching, and in many cases pure line work is confused by illegitimate attempts at tone which produce either the effect of pencil drawing or lithography, and tend to obscure the real intent of the bitten or dry line. This is observable to some extent in one or two plates of Gustave Leheutre, the most important of the architectural etchers. It is apparent in his "La Maison du Tonnelier, La Rochelle," and the lithographic "La Maison Rouge a Pontrieux," "Le Moulin de Baires," and "Chartres Cathedral"—a graceful drawing. The purest drypoint work is to be seen in this artist's "La Rue Pernelle, La Rochelle."

Lepère's "Rheims Cathedral" is a straight etching, but somewhat woolly; and his "Amiens Cathedral" is interesting. Another architectural etcher is Eugène Béjot, and he, too, is devoted to pure etching; clean, clear examples being the quays (of which he makes a speciality) at Bordeaux, Antwerp, and Saint-Malo. Still another of the older men is Georges Le Meilleur, whose "Rheims Cathedral in 1920" is well etched, with good detail, but somewhat weak drawing; Louis Godefroy's subjects have been found at Venice and in the East; Pierre Moreau has made a number of architectural studies in drypoint, and Henri Deville's Paris subjects are treated variously with biting drypoint, and engraving. These latter bring the art of architectural etching down to the young men of the present generation, the most striking of whom is Henry de Waroquier, whose woolly drypoints afford a new version of Venetian historic buildings. One of the youngest, unfortunately deceased in 1915, is Charles Heyman, a straight etcher with a good understanding of the architectural spirit. One of his half-dozen prints shown is "Démolitions, Rue Chanoinesse," in which salient features are well perceived and rendered with Notre-Dame de Paris as a background.

Pure engraving, like pure tone-etching, is almost conspicuous by its absence. It is now unaccountably out of fashion, so that the three prints of Jean Laboureur, one of which, in its representation of sheds, provides an architectural interest, are all the more welcome.

The collection is well supplied with lithographs of the first order, extending backwards to Jules Chéret, who was born in 1836. Forain, Willette, Carrière (with a superb portrait of Verlaine), Toulouse-Lautrec, Degas, Redon, Renoir, Fantin-Latour, Maillol, Matisse, Rouault, Guérin, Moreau, and Signac are all represented; and in colours Bonnard, Maurice Denis, Vuillard, Rivière and Veber. Among these, however, none has essayed the architectural form. The technical architectural exactitudes do not seem to appeal to the modern French mind any more than architectural objectivity to the French temperament, and rich as the collection is as a representative whole, it is somewhat less than satisfying from this point of view. But from the wider aspect the exhibition affords an exceptional opportunity for the study of the modern French school of engraving which should be seized before it closes on June 20.



MR. CASS GILBERT

[BY F. E. BENNETT]

MR. CASS GILBERT is one of the prominent figures in the development of modern America, and a peculiar product of that nation. His name is a household word in that country. He stands out as the popular architect—a Napoleon of building. Americans are always on the look out for heroes, for great " executives "—men who are capable of daring enterprise, able to shoulder big responsibilities and direct large staffs, and who will attempt something in advance of previous achievements. Such men occur in politics and some other professions, but

Above, Art Museum, Saint Louis, Missouri. By Cass Gilbert. Below, the Woolworth Building, New York. By Cass Gilbert.

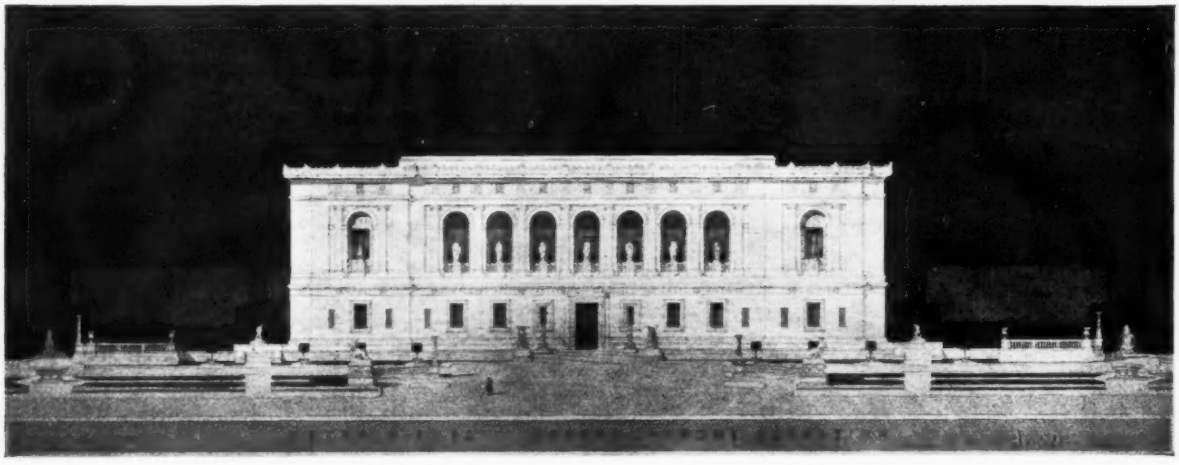
rarely in architecture. In America, where building enterprise has been prolific during the last fifty years, the "architect and executive" has, however, become recognized as a person capable of filling the position of public hero, a man who can design and erect a building of the largest kind, closely directing all the forces of production combined in its making; influencing everybody concerned by the force of his character, and who can advise the owners on the financial matters connected with the work and even possibly control them himself.

Among the small group of men who hold this onerous position, Mr. Cass Gilbert undoubtedly takes his place. If for no other reason he has a direct link with the rank and file of his workers because of the Woolworth Tower. For some years now, this building has stood as an emblem to the American citizen of the power and achievement of his country, and its great height and delicate form appeal to his imagination as something much more than the mere fact of its structural existence. And to the master architect who brought this building into being all homage is paid, for the enormity of the responsibility of such an undertaking inspires him with much awe. Cass Gilbert and his Woolworth Tower stand for the American boy as Wren and St. Paul's do for the English boy. As an "executive" he is recognized as having outstanding qualities, with which he combines a fine artistic temperament. In this country his works are familiar to all architects for their scholarly achievement. The list of buildings of first importance designed by him reveals an extraordinary practice, unique among modern architects in which there is variety, versatility in style, and bold experimenting. They show his achievement as an architect and stand as monuments to his ability.

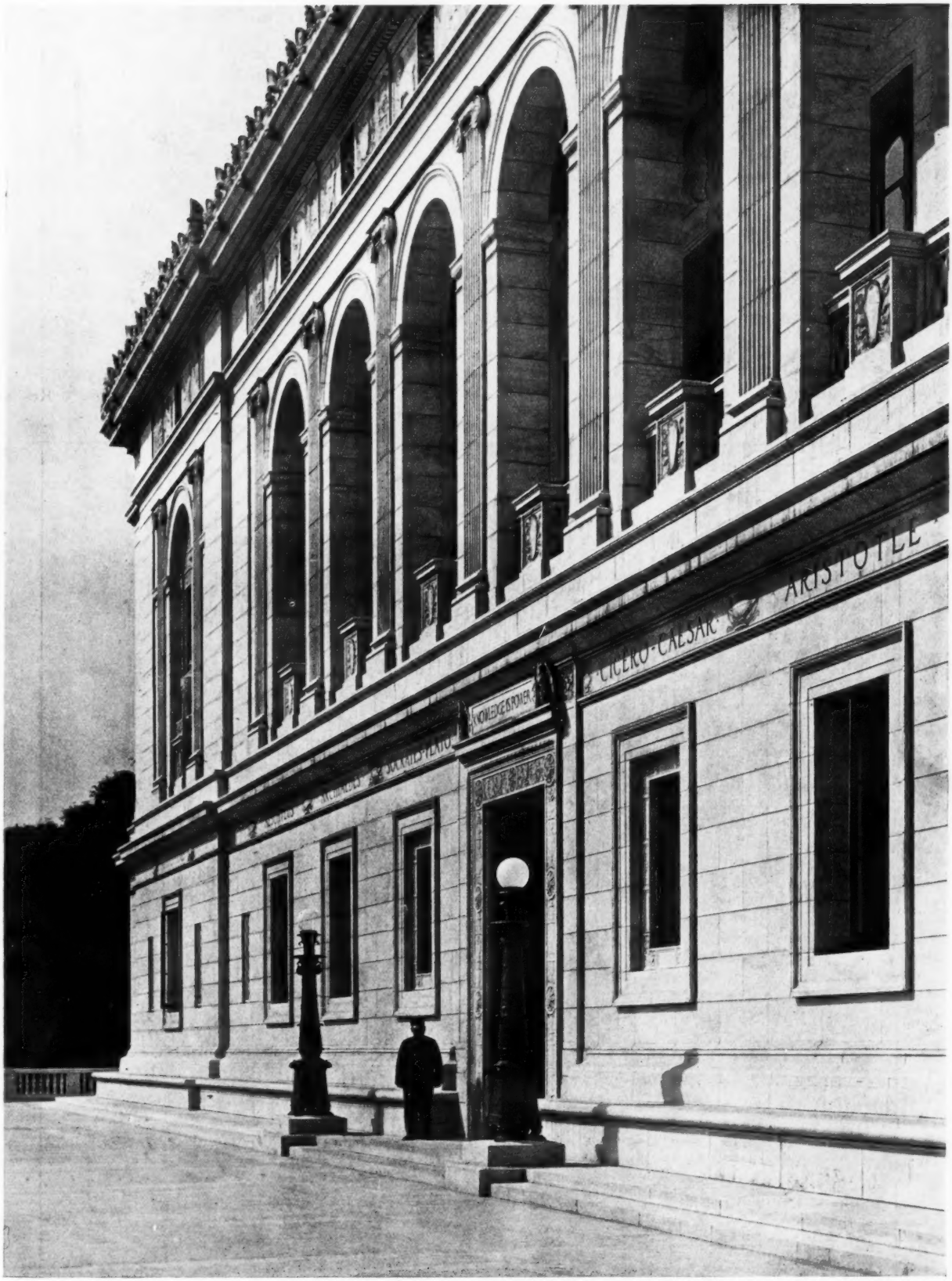
Last year he was elected to the Presidency of the National Academy of Design of America. His ascent to this position comes as a high honour, well crowning a life of hard work and meritorious effort, and he is established as one of the first public men of his country. From the public point of view there is no more fitting man than he to hold this high position. It was said in the American Press at the time that "Seldom does it happen that a man so well qualified is elevated to a position so worthy of his abilities. It comes as the rounding off of a distinguished career, and is merited recognition of distinguished worth." It is recorded that he received his early training at the Institute of Technology, Massachusetts, under the late Professor Eugéne Lètang. He travelled in Europe and Egypt, studying ancient masterpieces, and making many sketches, and he then became an assistant to Stanford White of the firm of McKin, Mead and White. Under White there is no doubt his great ability began to develop, and he rapidly acquired the best principles of his work which the master could teach him. Like most other successful architects he had to commence his own practice in a small way, doing houses, cottages and shops until his continued reliability brought him under the notice of clients with larger work to be done. From his early years onwards his power of design was required in the most varied directions, planning such things as schools, churches, small railway stations, club houses, and tombs.

Among the larger works which occupied succeeding years were the New York Custom House, the State Capitol of St. Paul, the Boston Stock Exchange, a county court house, libraries, exhibition buildings, the Federal Reserve Bank built in 1922, commercial buildings, the town plans of New Haven, Connecticut and St. Paul, Minnesota, and a projected group plan of Minnesota University. So it is that his later work has been in the realm of monumental design—the realm where a man of large ideas has the greater scope. The New Haven Railroad Station, Conn., built about 1922, was a simple and imposing design of brick and stone, and attracted much attention. In the same year he erected the Waterbury National Bank, Connecticut, in a completely different style. This building of four stories above ground, clothed in stonework, incorporated the classical elements with a pilaster order running through the two centre stories. In 1924 the Monument to the 1st Army Division was erected at Washington, and then the Chamber of Commerce and the Treasury Annexe, both in that city.

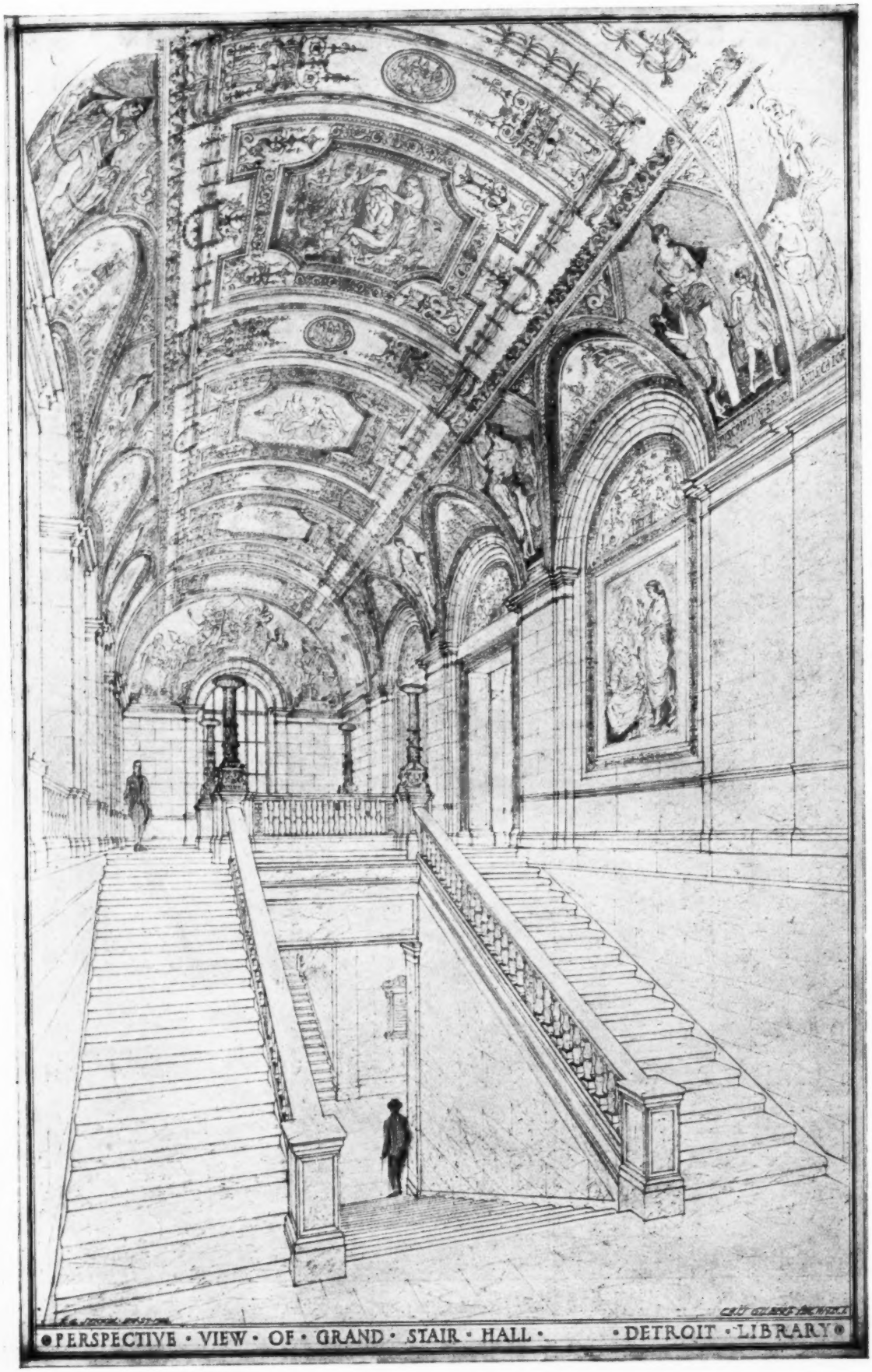
The much-discussed building for the U.S. Army supply base at Brooklyn was completed about 1923. In this design, perhaps more than in any other, does he show his consummate ability in the handling of material. This concrete building, completely simple, a purely utilitarian one, has a strong element of design obtained without any



Winning design in the Detroit Public Library competition. By Cass Gilbert.



Detail of Detroit Public Library. By Cass Gilbert.

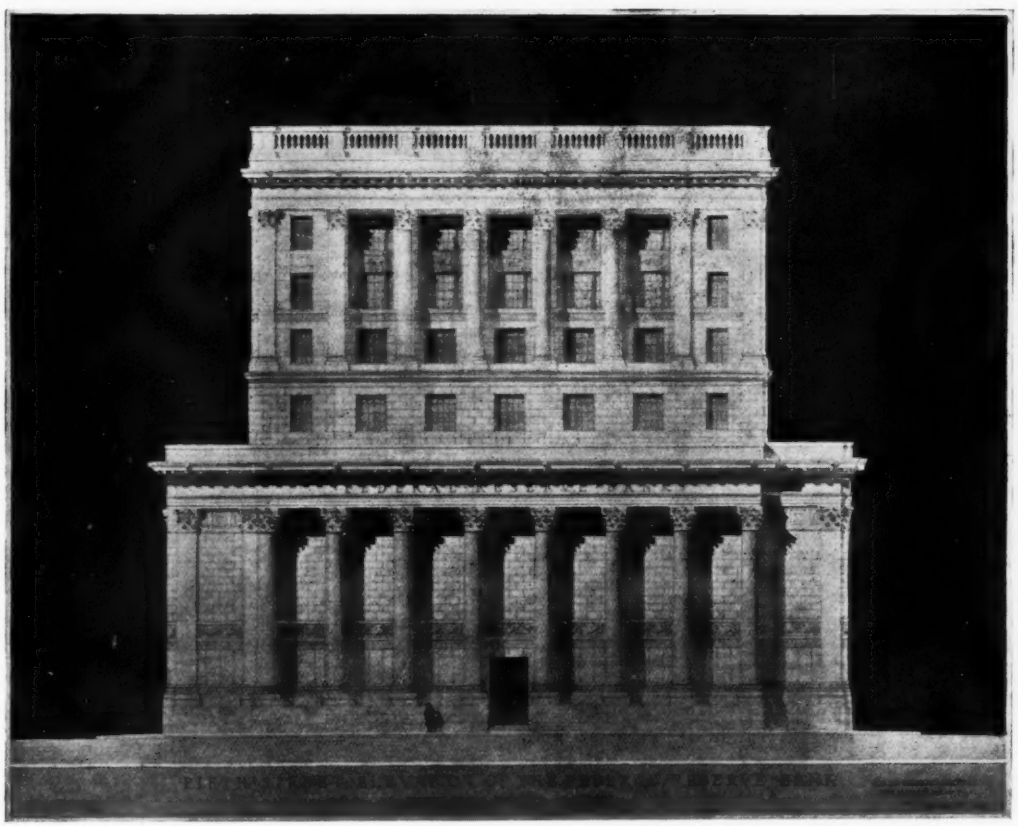


PERSPECTIVE · VIEW · OF · GRAND · STAIR · HALL · · DETROIT · LIBRARY

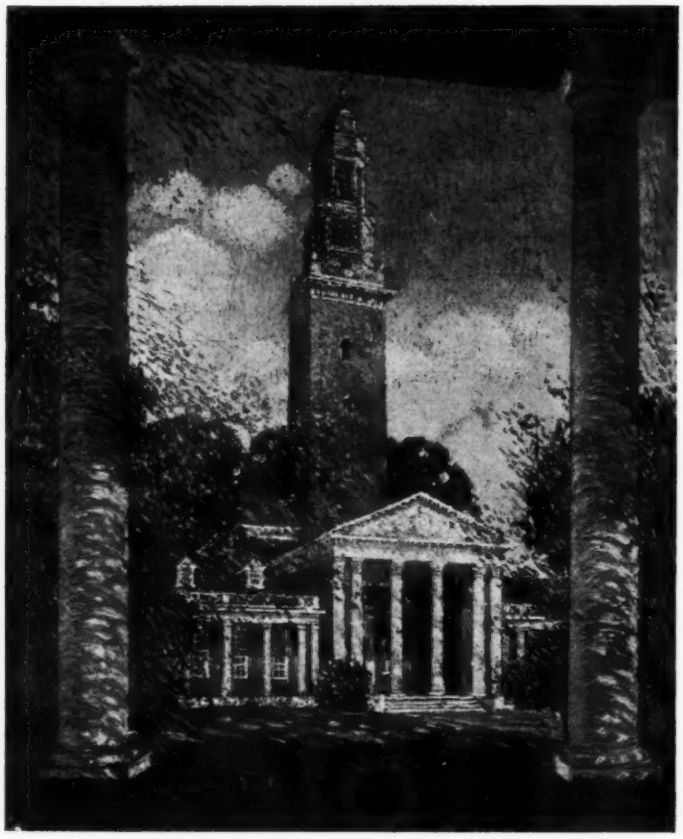
expenditure on ornamentation—not even a strong course—and is a pure study in form and composition. The material dictates the form, and the purpose of the building is excellently expressed. Mr. Gilbert, speaking of this building, said: "If concrete, after full trial, proves to be an economical material for use, it will in time be well designed." In the building he says he aimed at "big simplicity in mass, outline, and surface." Thirteen months ago a design by him was published for one of the huge modern type of buildings, now being erected in New York. With the rapid changes taking place in the forms of design one might have expected to see Mr. Gilbert carried forward in an endeavour to outshine the daring designs of the younger architects now rising. But this was not so. It is seen that for city buildings he still prefers to rely on the established form of pilasters, columns and entablatures to obtain rhythm and richness in the essential places, where another designer might feel himself impelled to try something extraordinary.

All his productions have been stamped with conspicuous talent ever since his student days—he has shown a fullness of conception, a highness of ideas, a sense of practical planning and a knowledge of the fit use of material. Like his old master, Stanford White, he shows no predominant liking for a traditional style. Probably he claims, with other American architects, that the complicated life of these generations, calling for designs of such different natures, leaves no alternative but adaptation of the style most suited to a particular structure. His free treatment of Gothic motives in the Woolworth Tower, apart from its popular success, was sufficiently well received by his contemporaries to inspire the creations of designs on similar lines. English Gothic has been the source of some of his inspirations, often in the preparation of competition designs, notably for the Pittsburg High School, the Union Technology Seminary, N.Y., the Provincial Government Building, Saskatchewan, and the Madison, Wisconsin, High School. In the last named he was the successful competitor. On one occasion he remarked to me that "Englishmen have the impression that all I can turn out is terra-cotta Gothic." It can be claimed for Mr. Cass Gilbert that while he has freely used traditional styles he has rarely allowed them to go far beyond the state of an "influence." Where he has been untraditional and expressed steel and concrete, he has not allowed these materials to be unduly pronounced to the extent of showing the skeleton through the flesh, a practice now common in America.

Testifying to Mr. Gilbert's ability as a man of public affairs it is recorded that when he was President of the American Institute of Architects the finances of the organization were placed by him on much firmer ground than they had been before, and he set afoot many great reforms. He has received honorary degrees from universities; he is a member of the Legion of Honour of France; one of the founders of the Architectural League of New York—a powerful organization for good to the profession in the U.S. At the time when he was President of the American Institute of Arts and Letters, and was being entertained to dinner by the R.I.B.A. Dinner Club at the Café Royal, he said he first came to London as a boy forty years ago with a desire to enter an English architect's office. The times were dull, and there was no opportunity. He well



The Federal Reserve Bank, Minneapolis, Minn. By Cass Gilbert.

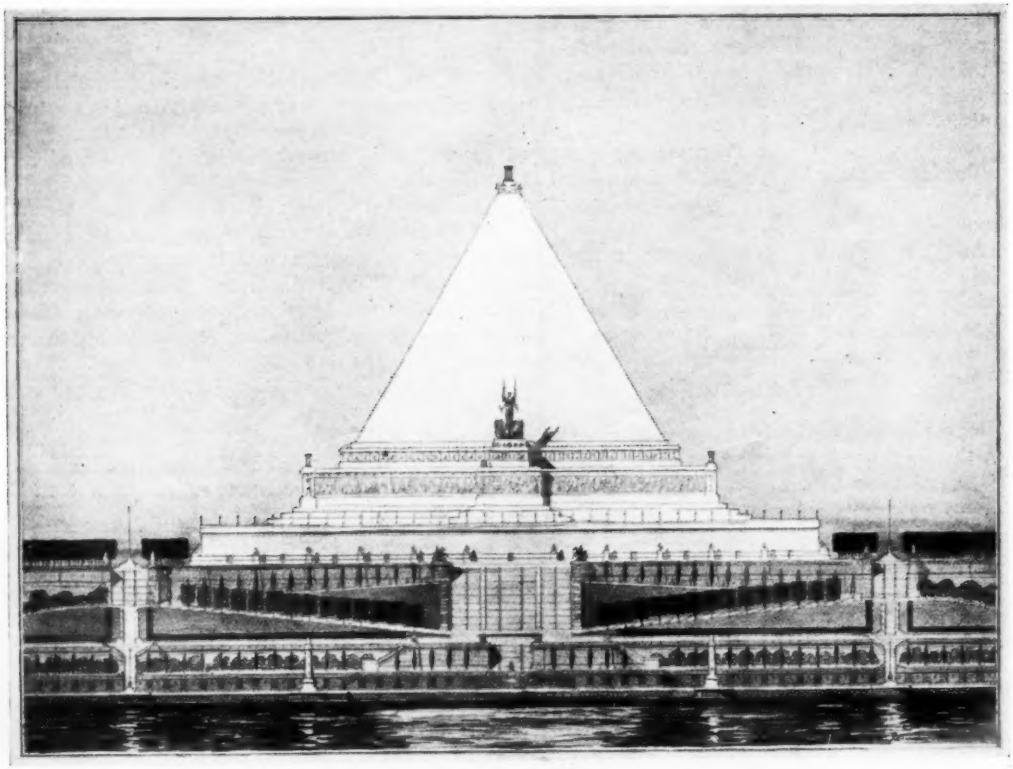


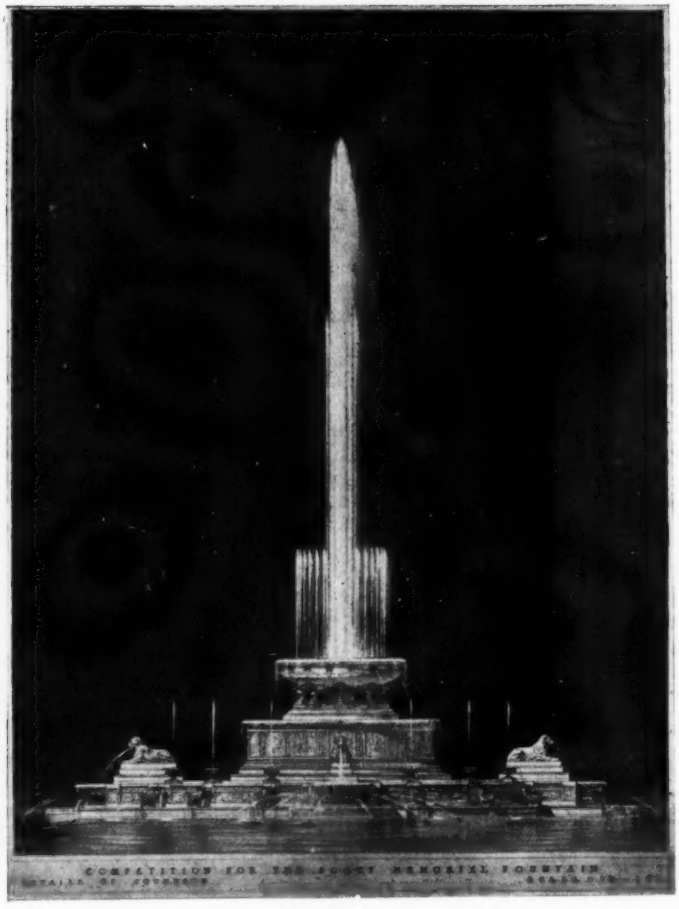
Above, Waterbury City Hall, Waterbury, Conn. By Cass Gilbert. Below, Hotchkiss School Chapel, Lakeville, Conn. By Cass Gilbert.

remembered having a letter of introduction to the great architect, Alfred Waterhouse, whom he visited several times. Phené Spires showed him how he should really draw a Gothic arch. In a way, whenever he came to England he felt he was coming home. Asked on the occasion about professional work, he is reported to have said: "Where a man has ability he will come out on top, although to do this he must have great ability as well as the power to plan and design. He needs courage, too, and I am not sure that the assistant does not have the best time. Assistants make a great mistake in wanting to do big jobs right off. They travel abroad, and with a sketch-book crammed with palaces and temples feel it altogether too hard to have to start with small things. But it was where I started. The principal of a large practice has many difficulties. If I had had the physical and mental ability to make the drawings for the Woolworth building alone it would have taken me ten years." Speaking of the conduct of a job he once said: "When the architect, the engineer, the contractor, and owner all unite in a joint effort, travelling along the same road to the same destination, good design and good building are almost a foregone conclusion. But of all things it is necessary to have a good owner."

He has the reputation of being a cultured, well-bred gentleman, easy of approach, and when I went to see him at his fine offices in New York I found this to be undoubtedly true. He is surrounded by a number of very capable-looking assistants, five of whom he has made his partners. On personal introduction to him one felt at once being in the presence of a man distinguished by a straightforward manner, which, I am told, he never loses even in the height of public affairs. Also one felt he had a great deal to do and many people to see, but was one who faced squarely to his responsibilities, met them half-way where he could, and compassed everything necessary. Like all true Americans, he will spare himself no trouble to be sure that opportunities are not missed. It is only known to his more intimate friends that he is a painter, and one of such rare ability that had he devoted his life to this art he would undoubtedly have made a name for himself.

Minnesota State Capitol, St. Paul, Minnesota. By Cass Gilbert.





Above, design for a Peace and War Memorial. By Cass Gilbert. Below, winning design for the Scott Memorial Fountain. By Cass Gilbert.

SOANE'S BANK OF ENGLAND

vii : THE OLD DIVIDEND OFFICE

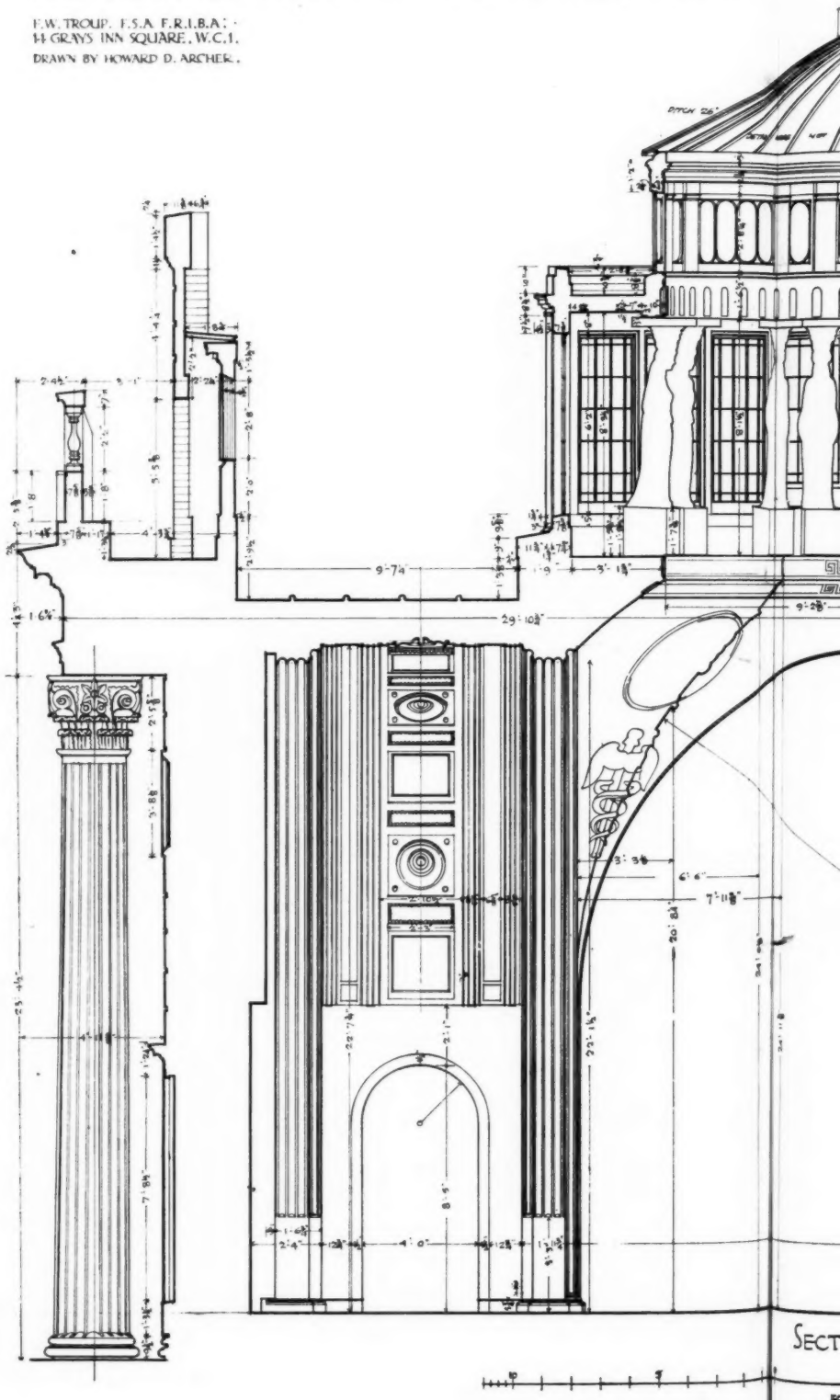
c : Cross Section

The nave barrel vaults with the diagonally set-out coffers were of stone, painted inside and covered externally with heavy lead. The side, or aisle vaults, were constructed largely of the hollow earthenware "pots" which Soane used generally to lighten his arcuated masses, the soffites to the room being plastered and the backs carrying sleeper walls which in turn supported flat-pitched stone slabs or tiles covered with lead. The attic on the left above the colonnade was originally without the balustrade and the high middle screen. Both these features were added by Cockerell at the time of the Chartist Riots of 1848.—[H. ROOKSBY STEELE.]

THE BANK OF ENGLAND

HALF INCH SCALE SECTION OF OLD DIVIDEND OFFICE

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



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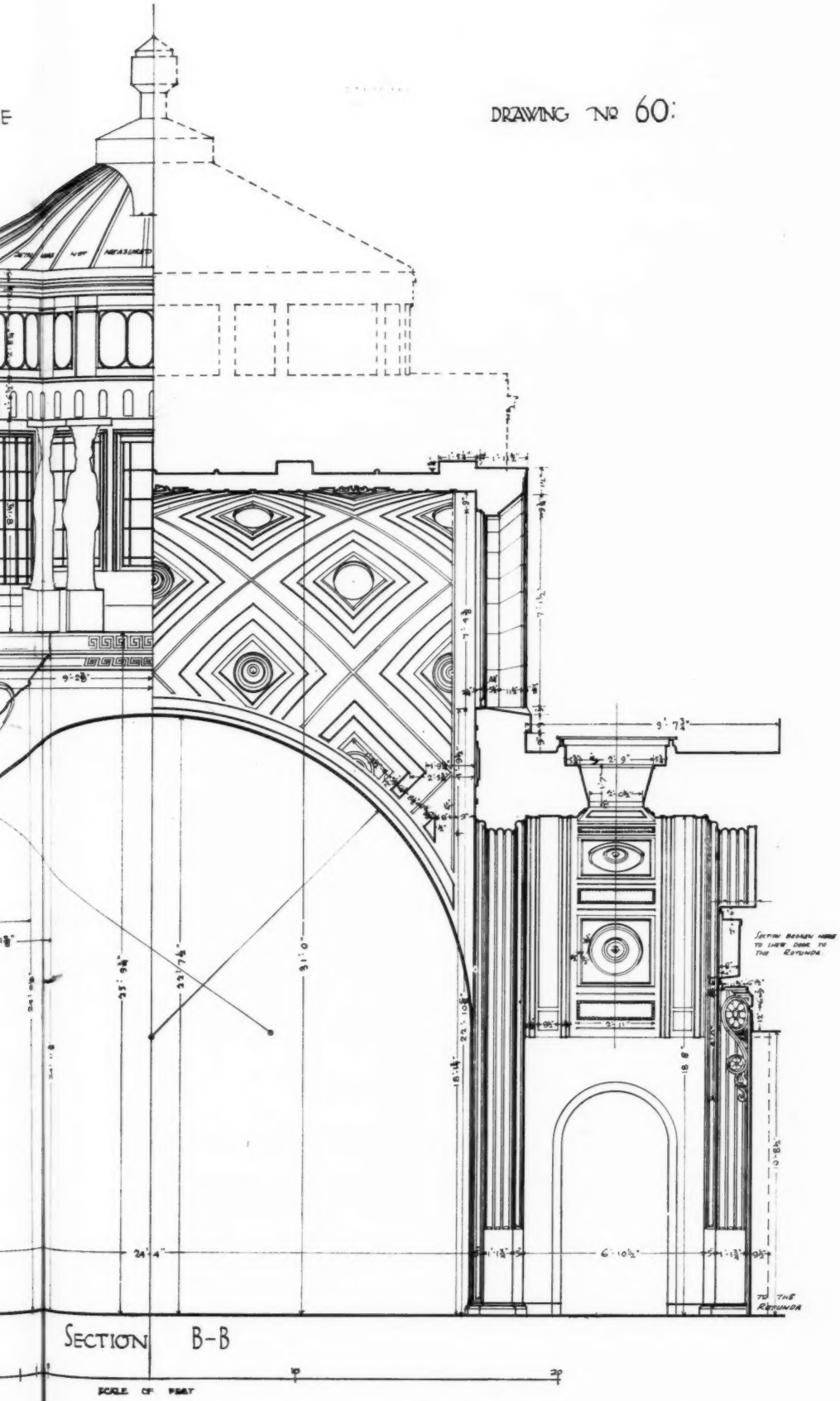


SOANE'S BANK OF ENGLAND. MEASURED DRAWINGS OF THE INTERIORS. (*vii*) THE OLD DIVIDEND OFFICE. (*c*) CROSS SECTION.

PLYWOOD OF TODAY

[BY JOHN C. ROGERS]

I: OLD TRADITIONS AND NEW METHODS

SINCE the war the plywood industry has made very great strides. It has stabilized and established its products to such an extent that we feel no hesitation in making full use of them. Yet how many architects have taken the trouble to acquaint themselves with the true nature of this commodity, its properties, dimensions and qualities; and to use it in the many types of work for which it is eminently suitable? Comparatively few, it seems, have gone so far. To a great number of English architects, plywood is still regarded as a cheap substitute for a proper job; something to use when the price has to be cut, and which must be covered up so that its deceitful nature will not be realized. But that is only our conservative spirit towards things new and, for all we know, untried.

In the short series of articles of which this is the first, I propose to describe the many interesting facts concerning plywood, from the methods of manufacture to its uses, for it is to be regarded rather as a new material of great value to architects if only they will acquaint themselves with its possibilities and the most advantageous methods of application. In order to appreciate the points I shall stress later on, it is necessary first to take a short review of the main characteristics of solid timber in joinery and furniture, frankly to admit the risks inseparable from certain types of construction, and to state the faults consequent upon using timber converted in the usual way.

If we go back to the beginning of the sixteenth century we find the craft of the joiner definitely emerging from the cruder woodwork of the carpenter. The arras hanging is being substituted gradually but surely by an oak framing filled in by small, thin panels, and this panelled construction is superseding the early methods of nailing or pinning boards and planks together in the making of furniture. This was not a matter of design. The panelled frame was the logical outcome of endless attempts to make a structure of wood that should overcome, not by force, but by skill, the natural forces revealed in warping, twisting, and shrinking. Hence the Tudor panelling which I have just described, and which remained in favour until methods of conversion were improved and architectural style had changed. The success of the early panelled structure lay in the fact that large surfaces were covered or enclosed by a framing of *small* units; styles and rails were narrow, panels were thin and split from a short length of quartered oak. The natural forces above-mentioned certainly came into play, but had small effect on such narrow and thin scantlings, with the result that little has happened apart from ravages of the wood worm, and an occasional split. But the style changed. It became the fashion to build tall rooms, and to panel them from floor to ceiling with a totally new type of framing in which panels of great height and width extended without break from dado mould to cornice. The doors also were simplified into a frame with two panels. The joiners were now up against it: clever craftsmen as undoubtedly they were, they could not do the impossible; and in order to provide the wide expanse in the panels, two or three boards were glued together "with rubbed joints," and, due to the perfect workmanship, held sound for generations. In fact, much of the work is still sound; but, on the other hand, many joints have parted, the glue was not waterproof, and the atmospheric changes over a large number of years have had their effect.

The contemporary work in veneered and lacquered furniture has suffered to a greater extent. When Charles II returned from the Continent at his Restoration, he no longer appreciated the sturdy carved oak furniture of his boyhood since he had seen the wonderful walnut veneers in France and Holland. Naturally, it took some time for this new fashion of the English Court to permeate the length and breadth of the shires, but cabinet makers were obliged to learn the art of cutting veneers and laying them on a carcase of flush surfaces entirely devoid of frame and panel forms. The broad surfaces were built up of 1 in. deal or oak boards, as thoroughly well seasoned as it was possible to get, and the veneers glued down; alternatively lacquering proceeded on similar flush surfaces of deal or oak. But these broad, flush surfaces were held at the edges by dovetailing, housing, etc., and were not free to move like the more fortunate panel tongued into grooves in its surrounding rails and styles. The inevitable result was that the superimposed veneer or lacquer has, with rare exceptions, become disfigured by one or more splits or cracks. Moreover, it was discovered, almost at the same time, that even when veneer was laid on a true panel, if it were of large superfices it was very likely to develop a crack. The joiners and cabinet-makers of the seventeenth and eighteenth centuries knew this, but apparently regarded it as inevitable. We find a great improvement in the second half of the eighteenth century, when veneers were laid on a board or panel of Honduras mahogany in which expansion and contraction are very slight; hence its preference by the pattern-maker also.

The wonderful quality of the West Indian mahogany, used extensively by Kent, Chambers, Adam, and Soane during the Georgian period, revolutionized joinery and cabinet-making. It was, indeed, a super wood, and

Display stand in plywood for Messrs. Austin Reed. By P. J. Westwood and Emberton.

marvellous things were accomplished by its use; but it is very interesting and to the point to record that the more delicate Chinese frets so extensively employed by Chippendale and others were only possible in wood by gluing together three layers of mahogany veneers—in fact, a sheet of mahogany three-ply, from which the patterns were fret cut. This probably was the earliest recorded use of plywood, and its sole object was to give strength on the short or cross grain. Not everyone was able to afford the expensive mahogany, and the contemporary country-made joinery and furniture continues to show the defects inseparable from native timber. Veneer cutting was formerly done by sawing, and it was possible to get seven or eight veneers out of the inch. Such saw-cut veneers would be a full $\frac{1}{16}$ in. to $\frac{1}{8}$ in. thick, the rest being wasted in sawdust. Now, by using the knife-cut veneers, there is no waste, which is an important consideration with valuable woods.

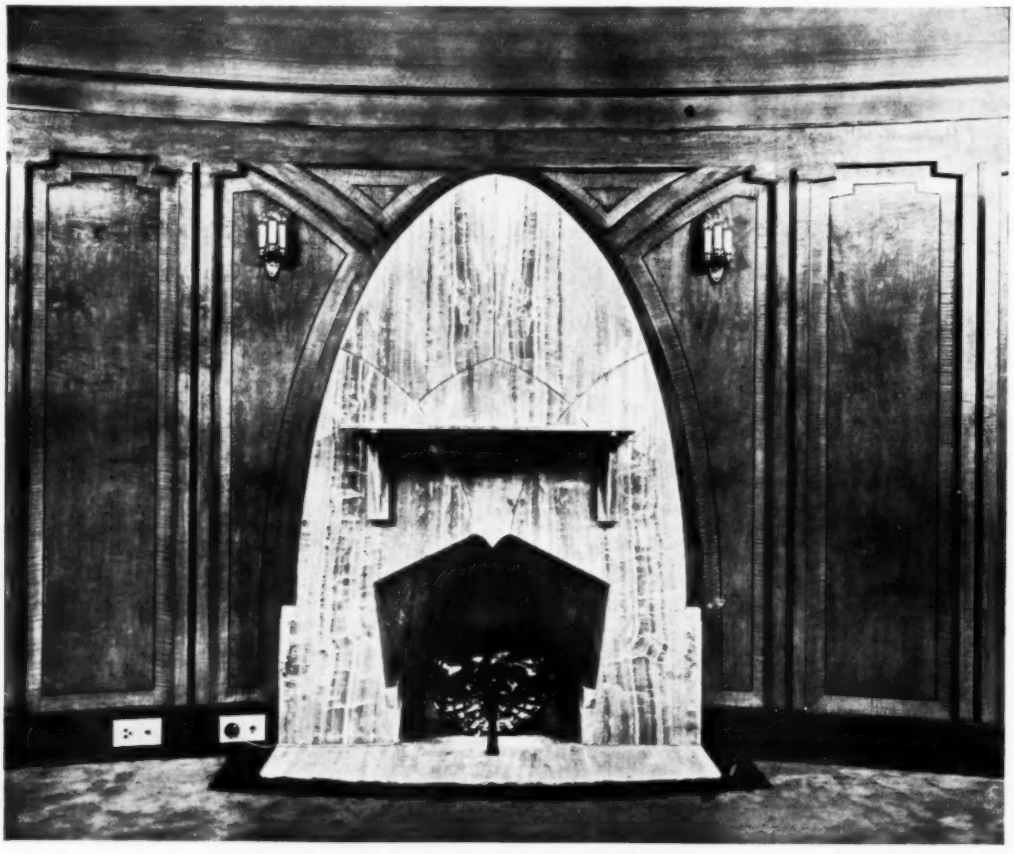
Within recent years the old troubles of the joiner have been examined scientifically, and it is in the endeavour to make use of wood while avoiding the well-known difficulties that plywood has come to the fore. Development has taken place by closely studying the disadvantages inseparable from timber converted by saw, the most serious of which may be stated to be the difference in the tensile strength of timber with the grain and across the grain. This, of course, is well known, but inasmuch as the disparity can often be represented by the ratio of twenty to one, it is important to mention; moreover, it is also proved that the modulus of elasticity along the grain is often from fifteen to twenty times higher than perpendicular to the grain. Then when shear is considered the position is reversed, resistance to this force being very much greater across the grain, which is a point seriously to be borne in mind, for it means that members in tension with fixed ends will probably fail by shear at the fastening before the tensile strength has been fully utilized.

Second in importance is the shrinkage of timber due to changing moisture content with which warping is closely associated. Shrinkage parallel to the grain is practically nil, and has always been ignored; but measured across the grain, between the green and bone-dry states, in flat-sawn boards is 8 per cent. to 10 per cent., while it is interesting to note that in quarter-cut boards it is reduced by about half.

Some careful tests carried out by Professor A. P. Laurie, of the Herriott Watt College, Edinburgh, on thin panels 12 in. square showed the following results: No. 1, of seasoned whitewood, 5 mm. thick, warped 12 mm.; No. 2, of mahogany, seasoned three years, 3 mm. thick, warped 9 mm.; and No. 3, of mahogany, over twenty years old and 3 mm. thick, warped 5·5 mm.; while by comparison, a similar panel of 5 mm. alder three-ply warped $2\frac{1}{2}$ mm. Another experiment was made with a panel of 12 mm. plywood, and another of old mahogany of exactly the same thickness, resulting in a warp of 1 mm. only in the plywood panel, while the mahogany registered a curvature of 2·5 mm.

Next follows consideration of the effect of atmosphere and atmospheric changes which have effect upon timber not only after long seasoning, but on very old specimens also; the skin has only to be removed by planing and sawing and, especially in the case of old oak, it will start to move like new wood.

As regards seasoning, the natural process is best but, as it extends over many years, is costly, and is now largely superseded by drying kilns, which do the job in very much less time, but with attendant disadvantages, such as the risk of producing case-hardening of the boards. On this point alone the value of ply-made boards is considerable; a number of thin boards or sheets are dried easily and with certainty to a definite moisture content in a short time; the natural shrinkage *takes place under control and, in some processes, before the sheets are assembled or glued together to form the ply-board.* The finished product, though of wood, has thus lost



Fireplace with marble surround and plywood panelling for Messrs. Austin Reed. By P. J. Westwood and Emberton.

the natural disadvantages of timber; moreover, it can be said to be almost inert and homogeneous—of wood, yet quite unlike it except in appearance.

Then as to knots, we all know the difficulty of obtaining wide planks free from knots and other defects such as sapwood. Generally speaking, in trees of good size there is a large portion of the outer part of the trunk tolerably free from knots, but near the centre or heart dead knots of early branches are found; therefore the larger the tree the better the timber if not diseased. But even so, in order to minimize shrinking and warping, it should be quarter-cut, notwithstanding the strict limitations of width which this form of conversion imposes. Again, in ordinary timber stock boards run from 6 in. to 9 in. or 10 in. wide, while plywood boards from 2 ft. to 4 ft. wide are common stock sizes, and wider boards can be obtained without difficulty.

We have to admit that in the case of thick pieces of timber it is impossible to resist the forces of expansion and contraction. In floor joists, roof rafters, and other carcase timbers this causes no annoyance beyond the cracking of plaster ceilings—though even here the trade would say, "Use plywood instead of plaster." But the main point is, if only we can find a means of using timber for joinery, furniture, etc., so that we avoid the disadvantages inseparable from thick or wide scantlings and yet retain ample strength, we shall revolutionize many of the accepted and stereotyped methods. In plywood, we have a material that goes a long way to secure this very desirable state of affairs and for many more purposes than are generally realized. Today it is made not only in the well-known three-ply board, but in more than one type and in various excellent woods in very large sheets up to 2 in. in thickness, the properties and application of which will form the subject of future articles.

[To be continued]

GRILLAGE FOUNDATIONS FOR STANCHIONS

[BY PROFESSOR HENRY ADAMS]

GRILLAGE foundations of rolled joists and concrete are used to spread the load from a stanchion over a sufficient area according to the bearing power of the soil and at the same time occupy only the minimum depth. The old style of foundation was as in figure one, involving considerable expenditure in materials and excavation, with the risk of cutting through a good supporting layer of the soil. The first break-away from this method was to put in a simple block of concrete of the required depth and sectional area and spread the base of the stanchion, bedding it on a layer of neat cement. The modern style may best be illustrated by taking an example and working it out. Suppose the load to be 50 tons, the base of the stanchion 2 ft. square, and the soil capable of supporting $1\frac{1}{2}$ tons per square foot. The first thing to determine is the area required at the base of the grillage. Allowing for weight of grillage and concrete, say the total load to provide for is 55 tons, then $\sqrt{55}=7{\cdot}4$, say 7 ft. 6 in. side. The width occupied by the upper tier of joists should not exceed the width of the stanchion by more than 3 to 6 in., say 2 ft. to 2 ft. 6 in., leaving the ends of the joists in the lower tier to project as cantilevers $\frac{7{\cdot}5-2{\cdot}5}{2}=2{\cdot}5$ ft. The upward pressure on the underside of the cantilevers will be a distributed load of $7{\cdot}5\times2{\cdot}5\times1{\cdot}5=28{\cdot}725$, say 30 tons. Suppose this to be divided over eight joists, then the load on each will be $\frac{30}{8}=3{\cdot}75$ tons and the bending moment $\frac{1}{2}$ WL $=\frac{3{\cdot}75}{2}\times2{\cdot}5=4{\cdot}6875$, say 4·7 ton-ft. The tables of safe loads which joists will carry are based upon $\frac{WL}{8}=ZC$, or, in other words, the bending moment will equal the resistance moment. The latter is made up of section modulus (Z)× intensity of stress allowed. If we allow $7\frac{1}{2}$ tons per sq. in. then $\frac{\text{bending moment}}{7\frac{1}{2}}$ in ton-inches = section modulus. In this case $\frac{4{\cdot}7\times12}{7{\cdot}5}=7{\cdot}5$ section modulus. Referring to any of the published tables of the properties of rolled joists we find that 6 in. by 3 in. by 12 lb. British Standard beams have a section modulus of 6·74, while the next stronger, 5 in. by $4\frac{1}{2}$ in. by 18 lb., has a section modulus of 9·08 but weighs and costs 50 per cent. more. Under the circumstances it would probably be quite safe to adopt the 6 in. by 3 in. by 12 lb. joists.

The upper tier of joists will always be larger than the lower because there are fewer of them and in general have to support the same total load. The upward load will be 30 tons as before, and the overhanging portion 2·5 ft. Suppose there to be four joists, then the load on each will be $\frac{30}{4}=7{\cdot}5$ tons and the bending moment $\frac{1}{2}$ WL $=\frac{7{\cdot}5}{2}\times2{\cdot}5=9{\cdot}375$ ton-ft. The section modulus required will then be $\frac{9{\cdot}375\times12}{7{\cdot}5}=15$ and the nearest section giving this will be 6 in. by 5 in. by 25 lb., giving 14·5 in. units,

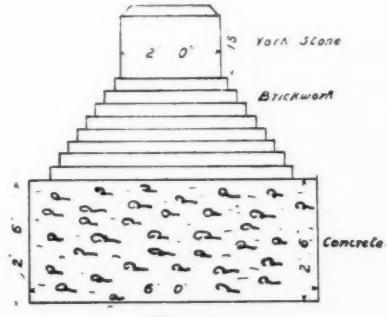


Figure one.

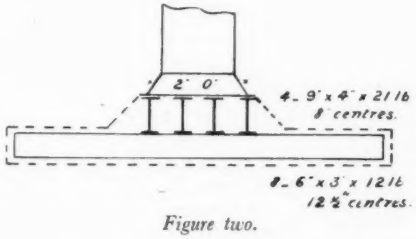


Figure two.

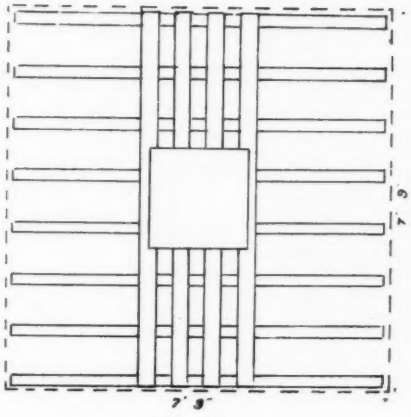


Figure three.

or 9 in. by 4 in. by 21 lb., giving 18 in. units, but the latter section weighs less as well as giving a greater moment of resistance and should be adopted. The plan and section will now be as in figures two and three.

The joists should have a space of not less than 3 in. between the flanges to allow of the concrete being closely packed between them. The concrete should be mixed in the proportion of one part by measure of British Standard slow or medium setting Portland cement, two parts sharp sand and four parts larger aggregate of graded sizes, but not exceeding 1 in. gauge. The materials should be measured separately, 90 lb. of cement being reckoned as 1 cubic ft., and well mixed dry. Then sufficient water should be added through a rose while the materials are again thoroughly mixed. About 8 or 10 per cent. of water will be ample and the concrete should all be used before initial setting takes place, say within one hour. Sometimes, if the load is considerable, there will be three tiers of grillage beams, but the method of working will be the same. The grillage may carefully be surrounded by 1½ to 3 in. of concrete as well as having it packed between, so as to preserve the metal from corrosion.

It is immaterial whether the stanchion be a single rolled joist section, or built up, or solid round steel. In a foundation the question is limited to what is the load, but with very heavy loads a steel casting, larger at the bottom than at the top, is sometimes interposed between the stanchion and the foundation.

Half-inch or five-eighths-in. bolts with gas pipe distance pieces are sometimes put through the webs of the rolled joists to ensure their remaining in the proper position; say through the centre and 6 in. from the ends.

LITERATURE

HISTORY OF HOME LIFE

The authors of this book were possessed of a very brilliant idea, nothing less, in fact, than tracing in outline the evolution of a single family from the second century B.C. until the present day. Not only was it a brilliant idea, but it was an extremely ambitious one. And it has suffered from its immense compression. To cover so much ground in some 250 pages was an impossible task, and the reader feels himself rushed through the centuries at a bewildering speed, when he would fain linger here and there to observe with greater care the landscape across which he is hurried. But the idea which the authors have so generously presented to the world will without doubt be taken up and developed by someone else, unless they themselves hasten forward with another and a far ampler work of the same kind.

Methods of presenting knowledge have undergone stupendous improvements in late years, but in no subject has the improvement been greater than in history, and this book is typical of the new outlook. History is not, as it was once imagined, a matter of kings and queens and battles, but of the lives, hopes, deeds, thoughts, and habits of the people and their reactions to circumstances.

This book gives us a series of pictures of intimate home life through two thousand years; the surroundings, the habits, the thoughts and conversation of the family are portrayed with surety and skill. It is books of this sort that are doing so much to develop our already over-developed historical sense, and are making for that eclecticism and self-consciousness that is responsible for the present-day predilection for "period decorations," for the fictitious value of antiques, and for the perilous position of present-day furniture designing and similar crafts. The present demand for historical books of all kinds is quite insatiable.

There would seem to be at the moment considerable divergence of opinion as to the legacy of Rome to Great Britain. Haverfield says: "From the Romans who once ruled Britain, we Britons have inherited practically nothing." (*History of England.* G. N. Trevelyan.) Messrs. Gloag and Walker would seem to agree with this statement, for despite the very advanced state of civilization which the Romans brought to this country generally, and in particular to the family with which this work is concerned, on the withdrawal of the Roman legions it drops back to comparative barbarity, from which the cynic may say with some justification it has never since emerged.

The book is illustrated with pen-and-ink drawings by Mr. A. B. Read. Those who know Mr. Gloag's books on furniture and decoration will be familiar with the high quality of Mr. Read's work in connection with them. Most of us, however, have our limitations, and Mr. Read certainly has his. As an illustrator of furniture and architectural interiors he is excellent, but his drawings of figures and of scenes of home life leave much to be desired.

We hope that Messrs. Gloag and Walker will before long embark upon an enlarged work, and also that they give more meticulous attention to looseness of phrasing and grammar. The writing is uneven in quality.

Home Life in History. By John Gloag and C. Thompson Walker. London: Ernest Benn, Ltd. Price 12s. 6d. net.

LANCASTER AND MORECAMBE

"Few counties," writes Professor Abercrombie in his foreword to this publication, "exhibit more variety, natural and human, than Lancashire. To pass from Manchester and Salford in the south to the sides of Coniston Old Man in the north is to experience the contrast of some of Mankind's most ambitious attempts with some of Nature's grandest efforts. It can hardly be suggested that Manchester as a work of art rivals The Old Man as a work of Nature. Between these contrasts lies the prophetic county, which is expected to show England what it will do tomorrow."

If, indeed, Lancashire has still retained the gift of prophecy, then this report should be examined with particular care. Certainly industrialism early laid a hand on Manchester and the surrounding district and violated it, and set an example which has been followed in a lesser degree throughout the land. Can she now make amends? Can she evolve some sort of order from the chaos; some sort of pleasantness from all the sordidness; some sort of cleanliness from all the dirt? And can she so arrange her affairs for the future so as to preserve what little beauty still remains, and so as to direct the tendencies of the day into definite channels instead of allowing them to flow in an uncontrolled flood?

This is a tentative report as all such reports must be, but it points the way. It does not merely inveigh against the inevitable, but indicates rather how the pressure of present development and the likely needs of the future are to be met intelligently and sympathetically. In this respect it is a worthy addition to the list of reports already published by the Liverpool University Press.

The matter now rests with those in authority; let them not think that having prepared this report their labour is over. What they have so far done is but a means to an end. "And it is to be hoped," concludes the foreword already quoted, "that as much thought and care will be given to its carrying into execution as has been expended upon its production."

H. J. B.

Lancaster and Morecambe Regional Planning Scheme. By J. H. Forshaw, M.A., B.ARCH. The University Press of Liverpool, Ltd. Hodder and Stoughton, Ltd., London.

CEMENT-MAKING WITHOUT TEARS

The man who first invented the story of Alfred and the cakes must undoubtedly have been a schoolmaster. He well knew the dogged reluctance of everybody to accept dates and hard facts without a foundation of interest. Canute's wet feet have been the groundwork of many a sound historical knowledge, and more historians have grown out of a study of *Humours of History* than of all the children's books ever written on the subject.

One hears a great deal about the psychology of advertising, and we must suppose that most methods of educating an appropriate

public have been tried. Messrs. G. and T. Earle, Ltd., have taken their courage in both hands and are pleased to jest about their cement. By enlisting the services of Mr. W. Heath Robinson to do all in his power to make its manufacture appear ridiculous, they have shown a full confidence, not only in their methods of production and in the material itself, but also in their public. The ordinary man cannot well come to any definite conclusions as to how far Mr. Heath Robinson has actually revolutionized the cement industry, but his machines are, as usual, supremely ingenious; in one case at least he has designed an incredible "engine" for testing the setting time, and most of the rest of the "plant" bears unmistakable traces of his inventive genius. On the whole, considering the intricacy of the processes, and Mr. Heath Robinson's fertile brain in the matter of finding ways for people to hurt themselves, the toll of accidents seems to be very small !

The appearance, at the New Year, of this series of advertisements for Earle's cement aroused considerable interest among readers of THE ARCHITECTS' JOURNAL and of other papers, and now Messrs. Earle have published all the five in book form. For some years past it has been interesting to watch the steadily growing appreciation of a high standard of draughtsmanship and of the value of simplicity in advertising; but until now (at least in so far as the building trade is concerned) there has been no very definite attempt to captivate the public mind by the introduction of an element of humour. The reason is far to seek, because there can be no doubt that, well presented, a touch of laughter is an admirable salesman.

M. L. A.

The Wonders of Wilmington. Depicted by W. Heath Robinson. Published by G. and T. Earle, Ltd., Hull.

THE BEATTY BARN BOOK

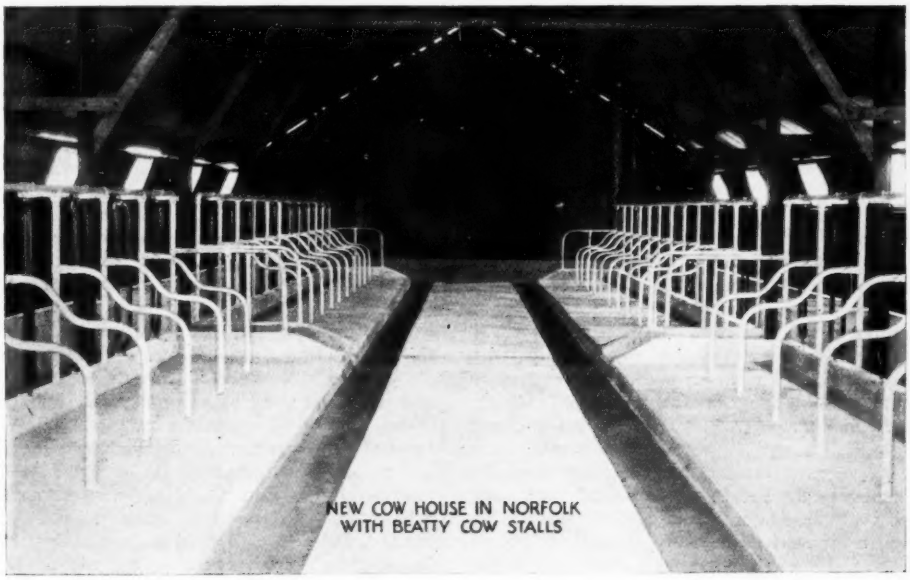
In a recent article on Farm Buildings mention was made of the wonderful Canadian trade list of Messrs. Beatty Bros. and the vast "cow cathedrals" therein illustrated. An English edition has now been produced called "*Beatty Barn Book, No. 5*," shorn of most of its cathedrals, but illustrating a notable collection of modern English cowhouses and pig pens, and containing very useful general information on the planning, construction, and equipment of cowhouses in particular and farm buildings in general.

Though primarily a trade list produced with the avowed object of pushing the sale of the firm's specialities, it forms an excellent manual of cowhouse design in relation to the production of clean milk and the requirements of the Milk and Dairies Order, 1926.

As the introduction states, the book "comes at an opportune time. The different sanitary authorities are more active than ever before, and are working with farmers more and more with a view to improving the conditions under which milk is produced." Not every farmer would express it quite in this way; there is, in fact, a feeling of apprehension afoot—a dread lest expensive rebuildings and remodellings of existing buildings are to be demanded and enforced at the whim of meticulous and unsympathetic officials unversed in the conditions and methods of dairying. In the vast majority of cases these fears should be quite unfounded, and there should be comfort in the succeeding paragraph, which says very truly that "Perhaps the most fortunate element in the problem lies in the fact that it is possible to build a cowhouse which will be healthier and more comfortable for the cow, and save time, labour, and expense for the owner, for less money than is generally spent in the erection of a cowhouse. The attention to fundamental principles which makes the building sanitary, convenient, and profitable at the same time reduces the cost of its construction." It does not, however, noticeably tend to increase the architectural quality of the work, and such an interior as that of the cowhouse at Basildon Park, though a model of clean efficiency, will induce sighs for the cosy rusticity of the old-time byre, which might, and often did, tempt the artist.

It is, however, possible to derive some hope from such an example of a modern farm building as Asylum Farm, Ponoka, Alberta. While employing every mechanical aid, such as slung runways, hay grapples, trunk ventilators, and so on, this weatherboarded building is yet on the verge of attaining to that subtly architectural quality attaching to many old waterside mills, which certainly made as little concession to conscious design as in this case. The catalogue is admirably produced, embodying blue prints of typical plans for cowhouses, dairies, and general farm arrangements, as well as illustrations of Messrs. Beatty's version of every type of fitting and equipment for the modern farm. Even the end papers and chapter headings make a definite effort to increase the attractiveness of the subject, supplementing the photographs of recent farm buildings by charming groups of cattle in natural surroundings.

E. G.



A new cow house in Norfolk with Beatty cow stalls. [*From* The Beatty Barn Book.]

THE REGISTRATION BILL

SUGGESTED INDEPENDENT STATUTORY BOARD

AT the last meeting of the Select Committee held under the chairmanship of Sir Clement Kinloch-Cooke, the witness was Mr. W. Forbes Campbell, President of the Association of Architects and Surveyors.

Mr. Campbell said that before submitting to the committee his Association's objections and amendments to the Bill, he desired their permission to say something in regard to the evidence given before the committee by Major Barnes, the official witness for the promoters of the Bill, the R.I.B.A. In common with his (Mr. Campbell's) executive officers he felt that the statements made by Major Barnes, unless they were controverted, might very seriously prejudice his Association. At any rate, Major Barnes's answers to the chairman's questions might prejudice the Association's case in the eyes of the committee. Major Barnes had been good enough to say a few kind words in regard to himself (Mr. Campbell) and the officials of the Association. He had said they were all persons it had been a pleasure to meet. He would place the most charitable interpretation on Major Barnes's evidence relating to the Association and suggest that he was speaking without knowledge of the true facts.

He (Mr. Campbell) appeared for the second largest architectural association in this country. Major Barnes, in his evidence, admitted that the Association was as devoted to the cause of registration as the Institute and its allied societies, and witness entirely agreed with that expression of opinion. In fact, he trusted that when his evidence was completed the committee would agree that the Association was even more devoted to the cause of registration than the august body represented by Major Barnes. In answer to the chairman's questions inquiring whether there had been any real attempt on the Institute's part to co-operate with the Association or to allow them to co-operate with the Institute regarding the promotion of the Bill, Major Barnes had replied: "Yes, there had been very real negotiations carried on." To that reply witness would have something more to say later in his evidence. He might say at once that these negotiations were somewhat belated. The onus, as he would prove, lay with the Institute and not with the body he represented. The Bill was published on February 11. The negotiations between the Institute and the Association began on the 29th of that month and ended on April 6, so it would be appreciated that the Institute had fully made up its mind on the terms of the measure before entering into negotiations with the Association. Major Barnes stated that, as far as the administration of the Bill was concerned, he understood that the Association was satisfied with its inclusion on the Admission Committee and on the Board of Architectural Education. They were not satisfied, and they had all along insisted upon an independent statutory Board or Council. He would deny Major Barnes's statement that there was only one architectural body in this country which had tradition behind it, or which had an appreciable number of the architectural profession behind it. In another part of his evidence Major Barnes stated that the Association was an off-split from another body. This was not in keeping with the facts, nor were they connected with any body known as the Faculty of Architects. In another paragraph of his evidence Major Barnes said his Institute was quite willing to give the Association every possible opportunity of safeguarding the rights of their members. The very reason that brought them before the committee that day was to endeavour to obtain guarantees that the rights of the Association and its members would be safeguarded.

The Chairman: We are not here to give guarantees.

The witness said they wanted to endeavour to obtain them. In reply to the chairman Major Barnes had said in regard to the status of the Association that "in a certain sort of way," whatever that might mean, the Association occupied a kind of intermediate position between the Royal Institute and the Surveyors' Institution. He followed on by saying that the Association was a kind of composite body which took in both architects and surveyors, and that again, in itself, was another reason why the Association should not be regarded as a member of a general architectural body. To these statements he (Mr. Campbell) would reply that his Association was made up of architects pure and simple, surveyors pure and simple, and quantity surveyors pure and simple. The percentage of membership was as follows: Architects, 70 per cent.; surveyors, i.e. persons who practised as surveyors only, and not as architects, 25 per cent.; and quantity surveyors, about 5 per cent. Of course, some of their architect members practised as surveyors also, but the same applied to the R.I.B.A., for many of their members practised as architects and surveyors. It would be further appreciated from the figures given that the Association was mainly if not purely an architectural body, and in this respect it did not differ from the R.I.B.A. except that by the rules of the Association quantity surveyors were not allowed to practise as architects, whereas the R.I.B.A. allowed their members to act as quantity surveyors. This, he might say, was a bone of contention in the profession that only the Association had endeavoured to solve.

Proceeding, witness said that to show the belated manner in which the Institute had carried on their negotiations he would draw the attention of the committee to a part of Major Barnes's evidence, in which he admitted that it was only last week the situation with regard to Northern Ireland was decided and a conclusion reached.

The Chairman: In order to save your time I may say we have officially received from the North of Ireland people an intimation that they desire to be within the Bill.

The witness then referred to the matter of examinations. He said he was not altogether pleased with the trend of the questions and answers relating thereto. These questions and answers, to his mind, would convey the idea that only the Institute's examinations were to be accepted in the future as a preliminary to registration.

Coming to the amendments to the Bill suggested by the Association, the witness said there had been little time for their executive officers to prepare a précis of evidence and the schedule of amendments having regard to the fact that the witness for the promoters had but a few days previously introduced many amendments. The Bill was materially changed from the Bill before them at the time of the second reading. He was pleased to say, however, that they had been able to simplify somewhat their schedule of amendments without materially affecting the issues.

The first amendment had reference to the constitution of the Council or supreme authority. Under the Bill as it had reached the Select Committee this was to be vested solely in the Royal Institute. The witness submitted that such a proposal was contrary to the tendency of modern legislation, which, as a rule, constituted independent statutory Boards, such as the Dental Board. The present Bill did not contain any provision for the constitution and procedure of such a Board. They had, therefore, drawn up a third schedule to the Bill containing suggestions in regard to the composition of the Board. It would be observed that representation had been given to all professional societies whose members might be affected by the measure. A large representation had been given to the Royal Institute, including its allied societies, and as the second architectural body the Association submitted they should have the second largest representation, and certainly a larger representation than other societies whose interests were not so directly concerned. In this respect the Association, although its membership was numerically less than the Royal Institute, was rapidly growing. Its membership was already a substantial one, and as such was entitled to adequate representation on any permanent Council that might be set up.

Another argument in favour of such a proposal was that by a slight alteration to clause 10 a person refused admission to the register could be empowered to appeal against the decision to the Council, who should hear him. Such a plan would provide an intermediate court which might render an appeal to the High Court unnecessary, except in exceptional cases. As at present proposed the financial cost of an appeal might prove an unjust deterrent to an aggrieved appellant. As an example of an independent Board he would like to cite South Africa. In the Union of South Africa an architects' registration authority had been set up, and was composed of representatives from each of the architectural societies in the Union. Furthermore, when the Bill for the registration of architects in South Africa was drafted, each architectural society was invited to co-operate in its drafting. Major Barnes had not made out a good case for his contention that the Royal Institute should be the supreme authority or governing body. The Institute recognized other professional bodies in schedule 2 of the Bill, and included in these were several old and highly-respected institutions whose status was equal to that of the R.I.B.A. There was, for instance, the Institution of Civil Engineers, the Surveyors' Institution, the Society of Engineers, the Institution of Municipal and County Engineers, and the Institution of Structural Engineers, all with very large memberships. All these bodies possessed members who claimed the right to use the title "architect," and many of them no doubt were justified in doing so. The promoters of the Bill were apparently anxious to obtain their assistance on the Admissions Committee, and why should not these bodies have representation on the supreme Council?

Then there was his Association. The promoters agreed that they were entitled not only to representation on the Admissions Committee, but that they were worthy of inclusion among the learned societies sitting on the Board of Architectural Education. He submitted, therefore, that they were worthy to be included on the Council to be set up under the Bill. If they were not worthy they ought not to function on any committee. They had special objection to the R.I.B.A. being the supreme body. He had in mind the attitude of splendid isolation displayed by the Institute in their correspondence with the Association relative to the Bill. Six months before the Bill was presented to Parliament the Association made an offer to the Institute to co-operate with and assist them in the preparation of a Bill. The Institute did not accept the offer, and gave the Association no opportunity to express their views before them. It was not until nearly four months after their first application that the Association received a copy of the proposed Bill. The Bill was a flagrant example of an attempt on behalf of the Institute to exercise a monopolistic and dictatorial control over the profession. Several people thought the Bill was a Government measure. When the first draft Bill was circulated strong objections to its terms were raised, not only by his Society, but by other Societies, and a second draft Bill appeared. Pressure must have been brought to bear on the promoters, for a third Bill was prepared, and this was the Bill presented to Parliament. Up to the time of the issue of the second draft Bill his Association had been ignored, and it was not until his Council intimated that they would resolutely oppose the measure as it stood that the promoters met them in conference. But it was then too late to effect any material change in the Bill. The Association's request that the Council should be an independent statutory body was a fair request, and it should be granted in the interests not only of the professional bodies concerned but of the general public.

Mr. Campbell then came to the second amendment suggested by the Association, namely, "Persons entitled to be registered without examination" (clause 5). He said his Association considered that present members of the Institute, including, of course, its allied societies and architect members of his Association, should be included in this clause. If the Bill became law the duties of the registrar would undoubtedly be very heavy, at any rate during the first year of office. At one of the conferences held between the Royal Institute and the Association he (witness) suggested to Major Barnes that a tremendous amount of the registrar's work could be saved if their respective bodies forwarded lists of members who were qualified for registration to be registered *en bloc*. Major Barnes agreed that this suggestion was a sound one, and witness now submitted that provision should be made in the Bill to carry this into effect. After all, it only affected practitioners who had already satisfied their respective societies that they were bona fide architects. If the registrar objected to an individual he had power under the Act to refer the matter to the Admissions Committee. To avoid the necessity of a practitioner having to pass an examination for entrance to the Association and then having to pass another for registration, or vice versa, it was submitted that the passing of the Association's examination (or the Institute's, or any other approved body), provided such examination was approved by the Board of Architectural Education, should qualify a person for registration.

With regard to the Admissions Committee (clause 3), as at present provided this committee was given a limited life. The Association considered it should be a permanent committee, more especially as it would undoubtedly function as an inexpensive appeal tribunal for persons who had been refused registration by the registrar. Another of their amendments provided for extra representation of the Association and the Association of Architects, Surveyors, and Technical Assistants.

In regard to the fee payable for registration, his Association was and always had been in favour of the payment of a nominal fee for registration by the person registered. Later on in his evidence he would state that the Association desired registration to be compulsory and not optional. If the suggestion for an independent Council were adopted, the annual fee for registration could be decided by agreement between the various bodies represented. He thought it safe to reckon that with so many professional bodies represented the fee would be kept as low as possible. So far as the Association was concerned they were prepared to pay the fees for registration of their members, and he thought their example would be followed by other societies. Persons practising other professions had to pay annually for a licence. The auctioneer paid £10, an appraiser and house agent £2, and even a pedlar had to take out a licence. If these considerations were borne in mind he saw no reason why an architect should object to the payment of a nominal annual fee for registration.

The Association naturally felt that they ought to be represented on the Discipline Committee in view of the fact that some of their members might be affected. If the R.I.B.A. Council became the Council under the Bill there was little doubt that the members of the Discipline Committee appointed by the Council would be Institute members. It was the desire of the Association that clause 11 of the Bill should stand. They were prepared, however, to delete the words "architecture" or "architectural." If clauses 11 and 12 of the Bill were amended as suggested by the promoters of the Bill, the Bill became practically worthless. The effect of the amendment, if adopted, would be to permit any person, however incompetent, to call himself and practise as an architect without let or hindrance. But a class of "registered architects" would be created who, on the contrary, would be subject to the jurisdiction of the registration authority and pay for its upkeep. It seemed obvious that, while "registered architects" would not be able to practise with the same freedom as their unregistered confrères, the only incentive offered to them was the lure of the word "registered." No one troubled nowadays whether a plumber called in to do a job was a "registered plumber" or just a plumber. Was it likely, therefore, that the building owner would concern himself as to which category of architect his proposed consultant belonged? If "registered architect" was soon to be recognized as being superior to "architect," did it not follow that engineers and officials of various bodies, many of them highly competent men, would not content themselves with the inferior designation of plain "architect," but would take the necessary steps to become "registered architects"? The proposed amendment could, therefore, be of no use to competent men, but would allow the unqualified man to mislead the public by representing himself to be and using the designation of "architect."

In concluding his speech the witness referred to the question

of education. The Association, he said, had spent considerable time and thought in evolving a scheme of progressive education, and had kept in mind the necessity of leaving open an avenue whereby working-class boys and girls might attain to the practice of the profession of architecture. He trusted the Bill would be so amended as to afford his Association and other societies the opportunity of carrying into effect a system of examinations which would enable such boys and girls to practise the profession.

The Chairman: I am sure we are very grateful to you for putting your case before us so lucidly.

Col. Moore: Do I understand you to say that you had no actual conference with the Institute until just before the second reading of the Bill?

The Witness: We had one conference prior to the second reading.

Col. Moore: Did the negotiations emanate from you or from the Institute?

The Witness: We had a draft Bill sent to us.

Col. Moore: On obtaining that you communicated with the Institute with a view to discussing it?

The Witness: Yes.

Col. Moore: I gather you met overt obstruction from the Royal Institute on the matter of amending the Bill?

The Witness: Undoubtedly there was an attempt. My point is that from last August right up to this year we were absolutely ignored. We have correspondence to show that we tried to get in touch with the Institute since last August without result.

Col. Moore: There was no explanation from the Institute as to their objection to meeting you?

The Witness: There was a conference but nothing beyond that.

Replying to a series of questions by Mr. Gardner, witness said he contended that the Admissions Committee and the Discipline Committee and the Board of Architectural Studies were sub-committees of the Supreme Council, who were naturally governing the whole of the administration, and the effect in the future of the profession. The Association asked that the Admissions Committee should function permanently. Major Barnes had in mind the difficulty of men who were architects thirty or forty years ago and who wanted to go back to their first love. The Association contended that by a slight amendment of the Bill any man who had a claim could apply to the registrar. The registrar could then refer him to the Admissions Committee. So long as such claimants were likely to come forward the Admissions Committee should be kept in being.

Mr. Gardner: What are the qualifications by which your Association call men architects?

Mr. Campbell: Applicants must prepare full details in a form including particulars of early training. In addition to that we insist upon some of his recent work being shown.

The Chairman: You have no examinations?

The Witness: No.

Mr. Tasker: I understand from you that the Council of the Royal Institute are thinking of controlling the whole of the architects in this country?

The Witness: Very shortly that is the case.

Replying to Capt. Wallace, the witness said he would oppose the Bill if it did not entail compulsory registration.

Capt. Wallace: The regulations under the Bill have to be approved by the Privy Council. Is not that a safeguard?

The Witness: That is not the point. The thing is that we do not want anybody to have absolute control.

The Chairman: You must answer the question put to you.

Capt. Wallace: Would you not regard the necessity of submitting the regulations to the Privy Council as a safeguard?

The Witness: We do not say there would be any abuse.

Sir A. Hopkinson: How long has your Association been in existence?

The Witness: Eighteen months.

How many members were there to start with?

I think there were few to start with.

How were you incorporated?

It would involve my giving you a very lengthy statement.

Perhaps you can tell us what members you had at the beginning? Any who are known in the architectural world?

I would like an opportunity of submitting a statement.

Witness's secretary interposed to say that the Association did not start with such members as Sir Edwin Lutyens or Sir Reginald Blomfield, but they had Frank Brangwyn among their members.

The committee then adjourned.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Mr. Day asked the Prime Minister if he could now make a further statement as to the Government's decision on the Report of the Royal Commission on Cross-River Traffic, especially with reference to the Thames bridges in London?

Colonel Ashley, the Minister of Transport, who replied, said he had nothing to add to the statement that he made in the House on May 10 on his Department's Estimates, except that he understood that the London County Council had approved the arrangements for the expert engineering inquiry into the proposed double-deck bridge at Charing Cross and its estimated cost. This inquiry would commence at once. Pending the receipt of the report of the engineers, Waterloo Bridge would be maintained in its present condition.

Sir Kingsley Wood informed Mr. Day that the London County Council would receive the appropriate Exchequer contribution under the Housing Act, 1923, and the Housing (Financial Provisions) Act, 1924, for each house erected by them and by private enterprise with their assistance, and it was anticipated that about 9,000 such houses would be completed during the financial year. In addition, it was expected that during the year about 900 tenement dwellings for rehousing in connection with improvement schemes under the Housing Act, 1923, would be erected by the Council in respect of which the Exchequer contribution would be one-half of the estimated average annual loss incurred. It was estimated that the total payments to be made to the Council in the financial year 1927-28 on account of all housing schemes undertaken since 1919 (including schemes of the Metropolitan Boroughs under the Housing Act, 1919) would amount approximately to £570,000.

Mr. R. Morrison asked the Under-Secretary of State for the Home Department, as representing the First Commissioner of Works, whether any of the chief architects in the Commissioner's department accepted commissions in their professional capacity from individual persons or private firms; and, if so, whether he would take steps to prevent these civil servants from engaging in private practice in the future?

Capt. Hacking said that the reply to the first part of the question was in the affirmative; in reply to the second part of the question the First Commissioner was not prepared to prohibit such work entirely as he considered that the interests of the department were sufficiently safeguarded by the fact that the acceptance of such commissions was only allowed on the express conditions that:

1. The work must not be undertaken during official hours;

2. Name-plates must not be fixed on outside offices or private residences;

3. The use of official premises in connection with private business was not allowed on any conditions, even after official hours;

and on the clear understanding that they must not interfere with the proper execution of departmental duties.

Sir Basil Peto asked whether the First Commissioner of Works would publish in the form of a White Paper the opinions of the profession of architects and of the builders and masons with regard to the policy of patching the Houses of Parliament with Stancliffe stone or replacing them with Portland stone when he had concluded his inquiries?

Capt. Hacking said that the First Commissioner would consider the possibility of publishing in some form the result of his inquiries. There might be some diffidence on the part of the individuals concerned regarding the publication of their views.

LAW REPORTS

MARKET RIGHTS. NOTICE OF DETERMINATION INVALID

Heywood v. *Newcastle-under-Lyme Corporation. Chancery Division. Before Mr. Justice Astbury*

Plaintiffs, Mr. G. J. Heywood and Mr. G. A. Heywood, trading as Heywood and Son, estate agents, etc., of Newcastle-under-Lyme, sought a declaration from the Court that the lease from the defendant Corporation to them dated April 10, 1916, of the market tolls and stalls at Newcastle-under-Lyme was not determined by a notice on August 25, 1925, and for an injunction to restrain the defendants for interfering with the plaintiffs' rights under the lease.

His lordship, after hearing the evidence, said it appeared that the lease could be determined as from March 25, whereas the notice given by the Corporation determined the lease not on March 25, but on March 31, 1926. The question was whether the notice was binding on the plaintiffs. It was plain that on the decided cases the notice was a bad one. Defendants said that the plaintiffs had accepted the notice as a valid one and that they had waived any defect. The minutes of the Markets and Fairs Committee referred to the lease as being determined on March 31, 1926, and March 25, 1926. There was no doubt that the Corporation as far as this committee was concerned was in a complete state of muddle as to when the lease did or did not expire. His lordship was unable to accept the view that Mr. Heywood consciously stated at an interview that he knew of the mistake and had decided not to take exception to it. There was no evidence of any waiver of Mr. Heywood's rights, and plaintiffs were entitled to the declaration and injunction they sought.

Mr. Owen Thompson, K.C., argued the case for the plaintiffs, and Mr. Jenkins, K.C., for the defendants.

RESTRICTIVE COVENANT. PETROL STATION A BUILDING

Bigland v. *Keeling. Chancery Division. Before Mr. Justice Tomlin*

This case raised a question of interest and importance in regard to the construction of a restrictive covenant on certain land, which prohibited " the erection or building upon the said parcel of land any messuage, dwelling-house, or other building or erection of any description whatsoever." The land in question is at the corner of West Street and Orange Street, Sheffield, and the action was brought by Mrs. F. T. Bigland against Mr. F. Keeling, for an injunction to restrain him from constructing on the land a petrol station in breach of a covenant in the head lease, which was for 500 years from July 1825. The defendant's reply was that tanks constructed below the surface were not buildings " upon " the land, and that a hut upon wheels used as an office was not a " building " or " erection." Defendant also pleaded that as he intended to use portable and not fixed petrol pumps, there would be no breach of the covenant.

Mr. Gavin Simonds, K.C., for the plaintiff, contended that concrete-lined pits for the reception of tanks constituted an erection and that " upon " the land meant " in or upon " it. With regard to the hut on wheels, which was intended for a permanent office, attention must be given to the object for which it was put on wheels, which was to defeat the covenant. Under these circumstances he submitted that his client was entitled to the injunction she sought.

Mr. Errington, for the defendant, said the land had been derelict and used as a rubbish tip for the last twenty years. " Upon " meant on the surface and not in the land. It could not have been intended in 1825 that this land should go to waste for 500 years, but if the plaintiff was right about the hut one could not even put a beehive on it.

His lordship, after reviewing the facts of the case, said it appeared to him to be clear that when the action was started the defendant intended to have fixed pumps, and he had no difficulty in coming to the conclusion that the tanks and fixed pumps together formed a building or erection constituting a breach of the covenant. Whether the hut on wheels would necessarily do so he did not know, but primâ facie his view was that if a hut which, in the ordinary case, was placed on the ground was raised on wheels merely for the purpose of saying it was within the covenant it did not make it any the less a building or erection. It was quite plain to him that the tanks were buildings or erections, and giving the word " upon " its primary meaning, he held that the constructions were buildings or erections within the meaning of the covenant. He ordered the defendant to remove the tanks and fill up the cavities. The plaintiff would have the injunction she sought, with the costs of the action.

CORRESPONDENCE

THE CRAFTSMAN AND THE CRAFT

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—I have read Mr. Hicks's article on " The Craftsman and the Craft," also several of the articles on the same series, with much interest.

I have been connected with building operations for some sixty years, and have seen the great advances which have been made in the condition of the craftsman, from 7d. or 8d. per hour to a nominal 1s. 9½d., and the week's work reduced from fifty-six hours to forty-four, while he is subsidized in many directions. Having the long connection referred to I sympathize strongly with the craftsman's desire to better his position, but is he likely to do so under present conditions? Mr. Hicks portrays him as a man envious of everyone who is better off than himself, but I should doubt whether this view is applicable to the bulk of the men, and if everyone were on a dead level there would be little work. The more ambitious and hard-working would soon again be in advance of his fellows.

I have not observed in either of the articles that I have read, any reference to the circumstance which, in my view, is at the bottom of most of the trouble, and that is the flat rate of wages. What hope has a good and conscientious man of improving himself beyond the fact that his services are more likely to be retained and that he may get promotion, otherwise he gains nothing by putting in a better day's work than one of indifferent capacity, therefore why should he do it? Mr. Hicks would be taking the first step towards removing the conditions of which he complains if he were to advocate grading.

We hear a great deal of the earning powers of men of the same trades in America—bricklayers, to whom Mr. Hicks refers, earning from £16 to £20 per week, and there are many Englishmen among them. How is this accomplished? Yet we are told that the cost of building is not materially different from the cost in this country, where the wages are about a fourth of the American. It seems to me that this difference is capable of easy explanation if those who have first-hand knowledge would let us have the benefit of it. An American architect gave an address at the R.I.B.A., a short time back, on the subject of costs, but he stopped before giving any clear statement. There would not appear to be any great difference in the average costs of materials used, so that it looks as if the craftsman turned out from three to four times the amount of work in a given time in America than is the case here.

While it has been difficult to obtain bricklayers in London there seems to be no dearth of them in the suburbs where, as a rule, they are more free from trade-union control, and no doubt get paid what they earn rather than by the time spent, and at the same time work any hours they please. It would therefore appear that were the trade unions to model themselves more on the American arrangements the craftsman would quickly improve his condition. What is needed to encourage building is reduction of costs, which are now twice what they were before the war, and men might be seen using their own motor-car in going to and from work, as in America.

I regard the position of the building operative as very unsatisfactory owing to its casual character, which applies in the main to those engaged on new buildings. Formerly wages were paid by the week, then by the day, and now an hour's notice is all that is required, and it cannot be pleasant not to be sure whether time or job will be lost during any day. Wet time also causes

discontent, but on most jobs this can be avoided by providing cover or reserving work under cover for wet periods, and even if part wages were paid the cost to the employer would be very slight. The frequent changes in situation of the work upon which a man is engaged is no doubt a matter of inconvenience, but cannot be altered in the present time. However, travelling to and from work is an inconvenience which applies to the bulk of the population, whatever their trade or business.

As Mr. Hicks says, the building business is all important and cannot be wholly done without, but it must pay its way, and this applies to house building as well as commercial buildings. The country cannot afford to bear part of house rents. I feel sure that the improvements desired, and for the most part deserved, lie more with the craftsmen and their leaders than with any outside influences.

HENRY TANNER

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—Mr. Hicks (and THE ARCHITECTS' JOURNAL) is to be congratulated upon the excellent article under the above heading. It is a well-reasoned, succinct, and very fair presentation of the case, which should do a lot of good and which should go far in giving a sympathetic understanding of the lot of craftsmen in general and bricklayers in particular.

In writing the article Mr. Hicks must naturally have felt that he was rather going into the lion's den, and one of his finishing sentences tends to confirm this supposition. As an architect, therefore, I should like to assure him that in addition to exciting our admiration for this emulation of Daniel, he has surely earned the gratitude not only of the men for whom he writes, but also of all impartial and fair-minded architects and employers. For the better the conditions under which a bricklayer works the better his work will be—to the benefit of everybody.

I would ask Mr. Hicks to believe that generally architects and employers are not entirely heartless, and that, once the bricklayers' case has been presented in such a lucid and moderate manner, many of them will, I think, " read, mark, learn, and inwardly digest " to the mutual advantage of all.

F.R.I.B.A., F.S.I.

SOCIETIES AND SCHOOLS

The Royal Institute of the Architects of Ireland

At a Council meeting of the Royal Institute of the Architects of Ireland, held in Dublin, under the presidency of Mr. J. H. Webb, F.R.I.A.I., a discussion took place in regard to the proposed new bridge over the Liffey below the Custom House, and the following resolution was passed: " The Council, without desiring to prejudice the issue to be tried before the Dail Committee now sitting, in view of the necessity of deciding at an early date as to the position of the proposed new bridge adjoining the Custom House, urges the very great importance of pressing forward the preparation of a town plan. It is felt that it would have been better if a new town plan were available before a decision is made in the particular point of issue. In the preparation of this plan a stage would very shortly be reached which would provide such information to be laid before a Commission as would enable it to decide on a recommendation which would take into consideration all the main factors of the question." A report was read from Mr. A. E. Jones, M.R.I.A.I., the hon. convener of the committee set up by the Institute in connection with the Casino at Clontarf in order to endeavour to save this gem of Renaissance architecture from impending ruin. It was decided to send a copy of the following resolution to the Minister of Finance: " The Council of the Royal Institute of the Architects of Ireland desires to press upon the Government the urgent necessity of extending the existing laws dealing with the preservation of the ancient and historic buildings of Ireland. In the opinion of the Council, the laws should be so enlarged as to enable any building of outstanding importance to be brought within the scope of the Act."

The Trades Training Schools

The annual judging of the work done by the students of the Trades Training Schools during the past session took place by the following judges: Mr. G. C. Barnes, Major Gerald F. Bird, Mr. Lewis W. Bristowe, Mr. J. H. Davies, Mr. E. Guy Dawber, A.R.A., P.R.I.B.A., Sir Harry Foster, M.P., Sir George Frampton, R.A., Mr. F. T. W. Goldsmith, F.R.I.B.A., Mr. W. Stewart-Greene, Mr. Alexander L. Howard, J.P., Major E. B. Hunter, M.I.E.E., Sir W. Goscombe John, R.A., Mr. R. J. Johns, Mr. Bertrand Johnson, C.C., Mr. Arthur Keen, V.-P.R.I.B.A., Mr. S. Lovering, Sir Edwin Lutyens, R.A., F.R.I.B.A., Mr. C. J. Newson, Mr. George Parlby, Mr. W. T. Plume, Mr. E. S. Rider, Mr. Frank W. Robson, Mr. S. G. Castle Russell, M.I.E.E., Mr. H. D. Searles-Wood, F.R.I.B.A., Sir John W. Simpson, PP.R.I.B.A., Mr. F. Adams Smith, F.R.I.B.A., Prof. R. Elsey Smith, F.R.I.B.A., Sir Brumwell Thomas, F.R.I.B.A., Mr. T. W. Townend, Prof. W. H. Wagstaff, M.A. Mr. H. Westbury Preston, Master of the Worshipful Company of Carpenters, presided, and the Carpenters' Company were represented by Mr. Frederick Sutton, J.P. (chairman of the schools), Mr. Percy Preston, and Mr. J. Hutton Freeman, the clerk. The classes of carpenters, joiners, handrailers, masons, glaziers, painters and decorators, plasterers, plumbers, metal workers, stone carvers, life modelling, tilers and bricklayers, wheelwrights, woodcarvers, and electricians produced a large amount of work which was most interesting, and showed in a comprehensive manner the value of the training provided at these schools under the directorship of Sir Banister Fletcher, F.S.A., V.-P.R.I.B.A. Prizes and medals as awarded by the judges will be distributed at Carpenters' Hall, Throgmorton Avenue, in the early part of next session, after the reopening of the schools on September 19.

COMPETITION CALENDAR

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

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.

June 30. 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.

July 1. The Reading Corporation invite architects residing or practising in Berkshire, Buckinghamshire, or Oxfordshire, to submit, in open competition, designs for a chapel which it is proposed to erect in a new cemetery. A premium of 50 guineas will be awarded to the author of the design placed first by the assessor, Mr. Charles J. Blomfield, F.R.I.B.A., and twenty-five guineas to the author of the design placed second. Particulars from the Borough Surveyor, Town Hall, Reading. Deposit £2 2s., which will be returned after receipt of a *bona fide* design. Should architects, on receipt of the particulars, not desire to compete, the deposits will be repaid provided the papers are returned within four weeks. Designs in sealed packages, endorsed " Design for Chapel," to Mr. Charles J. Blomfield, F.R.I.B.A., 13 Ashburn Gardens, London, S.W.7.

COMPETITION NEWS

St. John's and Renfield and Hyndland United Free Church

The Deacons' Court invite competitive designs for a new church proposed to be built in Beaconsfield Road, Kelvinside, from architects practising in the province of the Glasgow Institute of Architects. Application for conditions of competition to be made to Mr. Joseph Cousland, 9 Lilybank Gardens, Hillhead, Glasgow, W.2, not later than Saturday, June 11, 1927. Mr. James Kennedy Hunter, F.R.I.B.A., will act as assessor.

TRADE NOTES

The new radio broadcasting station at Cork, constructed by Standard Telephones and Cables, Ltd., for the Ministry of Posts and Telegraphs, was officially opened by Mr. J. J. Walsh, Minister for Posts and Telegraphs. The station comprises the most modern plant, which, together with its specially designed speech input equipment, affords the highest quality reproduction of speech and music, so essential for a modern broadcasting station. This is assisted by the use of one of the latest forms of microphone. Standard Telephones and Cables, Ltd., with its associated companies, has constructed some thirty-eight broadcasting stations of a similar size, but the Cork station is expected to outclass all its predecessors by virtue of the fact that the latest knowledge in the radio art has been embodied in its construction and design.

Among the electrical novelties of the G.E.C. is the "Magnet" two-way adapter, a little device designed for two outlets from one lighting point. It is a device for attaching to any existing lamp-holder to give an extra outlet to permit the use of small electrical appliances, such as fans, irons, kettles, toasters, curling-tong heaters, etc. It is inserted in the usual lamp-holder instead of the lamp. The displaced lamp is plugged into the outlet projecting directly downwards, and the adapter, usually supplied with the electrical appliance it is required to use, is affixed to the outlet protruding diagonally from the side of the two-way adapter. The lamp itself is controlled by a small switch, which is part of the adapter itself, so that when it is dark the lamp can be used at the same time as the appliance; in the daytime the lamp can be switched off what time the appliance is in operation, or, alternatively, the lamp can be left on to serve as an indicator, or tell-tale, that the current is on.

The pre-cast nature of the Siegwart fire-resisting floor makes it particularly useful in almost inaccessible positions. Of the many difficult jobs carried out with the system one of the most interesting was at St. John's Wood Station (Metropolitan Rly.), where a motor garage is supported on the floors a few feet above the railway. This floor was laid without interruption to the trains passing underneath every few minutes, and caused no inconvenience to the passengers using the platforms. Many jobs of this nature have been executed with this floor. The Siegwart fire-resisting floor consists of pre-cast reinforced concrete beams. These are claimed to be manufactured under ideal conditions and always to be standard owing to the materials and workmanship being constant. The beams when matured are sufficient to carry the specified load, and are delivered to the job ready for fixing. The beams are manufactured to the spans required up to 20 ft. The fixing consists of laying the beams within about 1 in. of each other side by side, and grouting the joint. It is claimed that three days later the floor is capable of carrying its full load. The absence of centering enables other trades to proceed with the finishings without interruption.

Bearing the title *Evidence*, an interesting booklet has been issued by the Lafarge Aluminous Cement Co., Ltd., manufacturers of "Ciment Fondu" rapid-hardening cement. Practically the whole of the sixty-four-page book is devoted to copies of letters from users. They tell of remarkable concrete work performed with astonishing speed. Judging by some of the letters, the manufacturers' claim is well established that concrete made with "Ciment Fondu" is ready for full load in twenty-four hours. The city engineer of Portsmouth states that a crossing put in at the entrance to the Corporation depot, although not completed until 7 p.m., was hard enough next morning to carry the road-rollers without being damaged. The director of a firm of contractors refers to eighteen-hour-old lintels, made during severe frost, as being more like blocks of cast iron than concrete. Messrs. Bovis Ltd., refer to the use of "Ciment Fondu" in one of their large London contracts, where the party-wall had to be underpinned at a depth of 33 ft. below the pavement level, and where there was constant water. On top of the concrete in the underpinning steel stanchions had to be placed to pin up the work above. The stanchions were fixed on the new "Ciment Fondu" concrete in eight hours, to take a load of about 280 tons in twenty-four hours. The booklet abounds with many similar instances of speedy work.

NEW INVENTIONS

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

LATEST PATENT APPLICATIONS

11325. Adams, W. J. Drawing-tables. April 28.
11555. Barnard, S. B. Flushing-cisterns. April 30.
11366. Churchill, E. G. Spencer. Moulds for production of roofing-tiles. April 28.
11124. Beverley, R. St. L. Ventilators for buildings. April 26.
11367. Simmonis, H. S. Apparatus for distributing foam for fire-extinction. April 28.

SPECIFICATIONS PUBLISHED

269609. Greenwood, T. W. Ventilating skylights.
269630. Hill, H. D., and Hill, A. Device for inducing up-draught and preventing downdraught in chimneys, and for extracting foul air, dust, and the like from buildings and the like.
269673. Downing, A. G., and Downing, H. N. Water-trapped gullies.
269674. Wagg, T. W. Window sash fastener.
269697. Scolz, B. C. Tessaræ for mosaic and tessellated work.
266457. Burge, E. J. Means for supporting apparatus and fitments, such as metal scaffolding, concrete shuttering, and builders' hoists against walls.

ABSTRACTS PUBLISHED

267223. Glover, C. W., Casa Olma, Elm Park, Pinner, Middlesex. Walls, columns.
264254. Gardner, I., Pretoria, Transvaal, South Africa. Attachments to concrete structures.

OBITUARY

The late Mr. G. H. Fellowes Prynne

The death has occurred of Mr. G. Halford Fellowes Prynne, well known in the West of England as a church architect. He built and restored a number of churches in Devon and Cornwall, including the beautiful edifice at Buckland-in-the-Moor, which was thoroughly restored in 1907-8 under his supervision. Mr. Prynne was a son of the late Rev. G. R. Prynne, vicar for many years of St. Peter's Church, Plymouth.

THE WEEK'S BUILDING NEWS

The CHISLEHURST Urban District Council has approved a plan for the construction of a 1,000-gallon petrol tank at premises in Watery Lane, Foots Cray.

*

Sanction has been given for the expenditure of £22,000 for the erection of an electricity generation plant at the BRENTWOOD Mental Hospital, Essex.

*

A trade school and technical institute at ACTON is to cost £50,263.

*

SAFFRON WALDEN Town Council has passed plans for the erection of a Carmelite Convent on Ashdon Road, Saffron Walden. The convent, which will cost £20,000, will occupy one of the most commanding sites in the town.

*

The DERRY Corporation has given the necessary authority for the borrowing of a further £20,000 at 5⅜ per cent. interest, for the purpose of advances under the Small Dwellings Acquisition Act.

*

Among the plans passed by the SOUTHEND Town Council were the following: Thirty-nine houses, thirty garages, eleven bungalows, two flats, one house and flats, one shop, house and garage, one cold storage building, two conservatories, one extension and conversion of house into flats, one office and storeroom, one new shop, one office and oil store, and two conversions of houses into shops.

*

At the request of the IPSWICH Housing Committee, the Minister of Health has sanctioned the construction by private enterprise, under the subsidy scheme, of an additional 100 houses in Ipswich.

*

At a private meeting of the Bridlington Town Council it was decided unanimously to engage the services of Mr. Mawson (of Messrs. Mawson, architects, of Westminster) to prepare a scheme for the development of the sea front and other prospects extending to the north and south of the BRIDLINGTON boundary. It was further decided to empower the firm to prepare a town-planning scheme, and complete the preparation for the necessary survey.

*

Plans for a new cinema theatre at Woodside Grange, Addiscombe, have been prepared by Mr. W. L. Griffiths, architect, and the CROYDON Borough Council has approved them. The proposed building will seat 1,120 people. The cost of the building, with interior fittings, electrified plant, and machines, is estimated at £28,500.

The WORKSOP Urban Council has asked the Ministry of Health for a further advance of £40,000 for the Worksop general housing scheme, and £11,000 for the Gateford Road scheme.

*

The Ministry of Health has given its sanction to TOTNES Town Council building twelve houses in addition to the twenty-two in course of construction on the Fair Field site.

*

The Hendon District Council proposes erecting about 150 houses near the Hampstead F.C. ground in Clutterhouse Lane, CRICKLEWOOD.

*

The STOKE NEWINGTON Council is considering a scheme for the provision of swimming baths.

*

The Renfrewshire C.C. has prepared a scheme for the widening and reconstruction of railway bridges at GIFFNOCK.

*

The Ministry of Health has approved the plans of the ILFORD Corporation for the proposed new ward block on cubicle system at the Ilford isolation hospital, and tenders are to be invited for carrying out the work.

*

The GLASGOW Education Committee has acquired two sites at Knightswood for the erection of schools.

*

The Second Scottish National Housing Company (Housing Trust), Ltd., has received instructions to proceed with the erection of a further 1,000 steel houses to be allocated to different areas in the middle and west of SCOTLAND, and various local authorities are accordingly being approached by the Trust in regard to land and other assistance.

*

Plans passed by the ILFORD Corporation: dairy, 56 Woodford Avenue, for Mr. W. H. Richards; eighteen houses, Wards Road West, for Mr. J. W. Lohden; thirty houses, Clifton Road, for Mr. P. Triplete; research laboratories, Britannia Works, Roden Street, for Ilford, Ltd.; Church Hall, St. Margaret's Church, Balfour Road, for Messrs. C. J. Dawson, Sons and Allardyce; eight houses, Windermere Gardens, for Mr. F. B. Harrison; six houses, Exeter Gardens, for Mr. A. P. Griggs.

*

The GRAVESEND Corporation has obtained sanction to borrow £20,000 for further housing advances.

*

Plan passed by the POPLAR Borough Council: building an addition to 220 Roman Road for Messrs. Andrew and Peascod.

At the Glasgow Cleansing Committee, with reference to the application to be made to the Electricity Commissioners for consent to the establishment of an electricity generating station in connection with the new refuse disposal works at GOVAN, the town clerk of Glasgow reported that he had submitted to the engineer and manager of the electricity department a draft of the statement of the estimated cost, amounting to £326,500, of the establishment of the station. The town clerk was instructed to submit the said statement as it stands to the Electricity Commissioners.

*

The Very Rev. Canon Palmer is to enlarge the ILFORD Catholic school for the purpose of providing additional accommodation for about 150 children.

*

Plans passed by the GRAVESEND Corporation: rebuilding 3-4 New Road for Messrs. Marks and Spencer; alterations, 50 High Street, for Messrs. G. Cavey and Sons; alterations, Wellington Brewery, Wellington Street, for Messrs. Charrington & Co., Ltd.; two houses, Albion Terrace, for Messrs. W. R. Barton and Sons.

*

The Rev. H. C. Montgomery-Campbell, M.A., has submitted to the HORNSEY Education Committee plans and detailed specification for the alteration and improvement of the boys' department and the erection of offices for the infants' department at St. Mary's Schools.

*

The POPLAR Borough Council has appointed a sub-committee to consider the provision of public washhouse accommodation for the Bromley district.

*

At the request of the Board of Education, the Governors of the STRATFORD-ON-AVON Grammar School propose to carry out the first part of an extension of the school and to proceed to erect six classrooms, assembly room, and lavatory and cloakroom accommodation, and to acquire a piece of land forming part of the site of such extension. They anticipate that the cost will be at least £20,000.

*

Warwickshire County Council has asked the County Buildings Committee to consider the erection of new office accommodation at WARWICK for the clerk of the council's and county architect's departments at the Militia Barracks, Warwick (to form part of a scheme for the future accommodation of the remaining departments of the Council if and when necessary), on the lines of the sketch plans submitted by the county architect, and to report thereon, with estimates, to the summer meeting of the Council.

The STOKE-ON-TRENT Corporation is being asked by the Board of Control whether it is now in a position to report to the Board as to the provision of further accommodation for mental defectives.

*

The ILFORD Education Committee is to proceed with the erection of an open-air school in Benton Road, and tenders are now being invited.

*

The SALFORD Corporation has acquired a site at Pendleton of thirty acres for another housing scheme.

*

The governing body of the Regent Street Polytechnic, MARYLEBONE, is to erect a building in Little Titchfield Street. Plans for the extension provide for a nine-story building, including two basement floors, in which provision is made for the following departments: Carriage-building, tailoring, hairdressing, architecture and engineering (preliminary department), women's subjects, matriculation, commerce, school of music, and evening classes (general). Provision is also made for social activities, including a gymnasium, lecture hall, and refreshment room. The new building is estimated to cost £170,500.

*

The Rev. John Skinner is to erect a church at Onslow Village, GUILDFORD.

*

Plans passed by the GUILDFORD Corporation: Alteration to shops, 42 and 43 High Street, for the International Tea Co., Ltd., London; extension, "White Horse," High Street, for the Friary, Holroyd and Healy's Breweries, Ltd.

*

The R.D.C. has prepared a scheme for additions and alterations to Millmead House, GUILDFORD.

*

Mr. H. Worsley has submitted to the Corporation plans for the erection of a palais de danse at Bridge Street and St. George's Road, BOLTON.

*

In view of the fact that new circumstances have arisen with respect to the site decided upon at the western end of North Street, GUILDFORD, the Watts Memorial Committee has agreed that the Watts Memorial should be placed on the site of the old burial ground of the Society of Friends in North Street, opposite the fire brigade station which has been recently given to the town. The committee is to ask Mr. T. R. Clemence, whose sketch plan was adopted by the Council, to prepare the necessary design and plans. The borough surveyor is to confer with Mr. Clemence as to the preparation of the ground for the suitable erection of the memorial.

*

Mr. J. R. Leftley is to erect seventy subsidy houses in Shirley Road, BARKING.

The borough engineer of ILKESTON has prepared a scheme for the erection of eighty houses on the Rutlans estate, and for seventy-six on the Southern estate.

*

Application is being made to the Watch Committee for a provisional licence for a cinema to be erected on the site of the Fern Street Wesleyan Church, BOLTON.

*

Plans passed by the SHEFFIELD Corporation: Four houses, Marlcliffe Road, for Mr. P. H. Slater; six houses, Grove Avenue, for Mr. J. Reed; six houses, Arbourthorne Road, for Messrs. Mason and Robinson; four houses, Firbeck Road, for Mr. J. Enock; eight houses, Worrall Road, for Mr. Thos. Barker; twelve houses, Edale Road, for Mr. J. Ramsden; rebuilding of Queen's Hotel, Scotland Street, for Messrs. S. H. Ward & Co.; rebuilding "Travellers' Rest," City Road, for Messrs. D. Gilmour & Co., Ltd.; four houses, Glebe Road, for Mr. A. Ellis; nine houses and garages, Whirlowdale Road, for Mr. E. Sivil; two houses and three shops, Meadow Head, for Mr. M. J. Gleeson; four houses, Dalewood Road, for Mr. J. T. Redmile; three houses and garages, Brooklands Crescent, for Mr. T. Pye.

*

The Manchester Corporation Tramways Committee is acquiring a site at FAILSWORTH for the erection of tramway offices.

*

The MANCHESTER Corporation Housing Committee has prepared a housing scheme for Ladybarn.

*

The BIRKENHEAD Corporation has obtained sanction to borrow £36,517 for carrying out the scheme of conversion and reconditioning of Queen's Buildings, and the borough surveyor has been authorized to proceed with the scheme and to obtain, where possible, tenders for carrying out portions of the work.

*

Plans passed by the BOLTON Corporation: Four houses, Bromwich Street, and two houses, Strawberry Hill Road, for Mr. F. Morris; purifier-house and retort-house, Gas Street, for the Gas Committee; lay-out plan, Adrian Road, for the executors of Mr. R. H. Ainsworth; store shed and four garages, Dorset Street, for Messrs. Alfred Fletcher, Ltd.; two houses, Ashbourne Avenue, for Mr. J. E. Paiton; eight houses, Adrian Road, for Messrs. Yates and Partington; open-air school, Tempest Road, Lostock, for the Education Committee.

*

Plans passed by the HULL Corporation: Eight houses, Parkfield Drive, for Messrs. J. H. Fenwick and Son, Ltd.; twelve houses, Boothferry Road, for Mr. J. Emmerson; six houses, Parkfield Drive, for Mr. A. J. Waller; five houses, Ormonde Avenue, for Mr. E. Mowforth.

The Education Committee is to proceed with the erection of an elementary school for 1,350 children in Westcott Street, HULL.

*

The BIRMINGHAM Corporation is to divert Pritchatts Road, Edgbaston, at a cost of £14,750, in connection with proposals of the Birmingham University for their extension scheme.

*

Mr. F. W. Wheeldon has obtained land for the erection of twelve shops on the Foxhollies estate, Acocks Green, BIRMINGHAM.

*

The Clyde Valley Electrical Power Co., Ltd., is to erect premises in Dumbarton Road, Yoker, GLASGOW.

*

Plans have been prepared for the extension of the *Sentinel* office buildings in Foundry Street, HANLEY, to extend over Hanley Passage.

*

The Coventry Education Committee is seeking permission to borrow £43,000 for the erection of an elementary school at RADFORD.

*

The COVENTRY Corporation has decided to erect an additional twenty-four houses on the Radford estate at a cost of about £10,000.

*

The RIPON Corporation has arranged to consider a scheme for swimming baths, shelters, café, and stage for theatricals in connection with the Spa undertaking.

*

Messrs. Harper and Smith are to build 110 houses on an estate near Summers Lane, FINCHLEY.

*

The FINCHLEY U.D.C. is to borrow £30,000 for further housing advances.

*

Plans passed by the FINCHLEY U.D.C.: Rebuilding Moss Hall Tavern, Ballards Lane, for the Wenlock Brewery Co.; four houses, Westway, Willow Lodge estate, for Messrs. Burdett and May; eighteen garages and paint shop, The Mall, Ballards Lane, for Messrs. H. Pope and Sons, Ltd.; four houses, Brunner Close, for Mr. G. C. Swanson.

*

The WOOLWICH B.C. is to erect by direct labour fifty-three houses on the Eltham estate at an estimated cost of £30,650.

*

The BARKING TOWN U.D.C. has approved a plan for the development of the Upney estate and the erection of 370 houses.

*

The BARKING TOWN Education Committee has scheduled a site on the Upney estate for the erection of an elementary school.

RATES OF WAGES

			I	II
			s. d.	s. d.
A	ABERDARE	S. Wales & M.	1 8	1 3½
A₁	Abergavenny	S. Wales & M.	1 7½	1 2½
B	Abingdon ..	S. Counties	1 6	1 1½
A	Accrington	N.W. Counties	1 8	1 3½
A₃	Addlestone	S. Counties	1 6½	1 2
A	Adlington ..	N.W. Counties	1 8	1 3½
A	Airdrie ..	Scotland	*1 8	1 3½
C₁	Aldeburgh	E. Counties	1 4	1 0½
A	Altrincham	N.W. Counties	1 8	1 3½
B₃	Appleby ..	N.W. Counties	1 4½	1 0½
A	Ashton-under-Lyne	N.W. Counties	1 8	1 3½
A₃	Atherstone	Mid. Counties	1 6½	1 2
B₃	Aylesbury ..	S. Counties	1 4½	1 0½
B₃	BANBURY	S. Counties	1 4½	1 0½
B₃	Bangor ..	N.W. Counties	1 5	1 1
A	BarnardCastle	N.E. Coast	1 8	1 3½
A	Barnsley ..	Yorkshire	1 8	1 3½
B₁	Barnstaple	S.W. Counties	1 5½	1 1½
A	Barrow ..	N.W. Counties	1 8	1 3½
A	Barry ..	S. Wales & M.	1 8	1 3½
B₃	Basingstoke	S.W. Counties	1 4½	1 0½
B	Bath ..	S.W. Counties	1 6	1 1½
A	Batley ..	Yorkshire	1 8	1 3½
B	Bedford ..	E. Counties	1 6	1 1½
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 10	1 4½
A	Birmingham	Mid. Counties	1 8	1 3½
A	Bishop Auckland	N.E. Coast	1 8	1 3½
A	Blackburn	N.W. Counties	1 8	1 3½
A	Blackpool	N.W. Counties	1 8	1 3½
A	Blyth ..	N.E. Coast	1 8	1 3½
B₃	Bognor ..	S. Counties	1 4½	1 0½
A	Bolton ..	N.W. Counties	1 8	1 3½
A₃	Boston ..	Mid. Counties	1 6½	1 2
B₁	Bournemouth	S. Counties	1 6	1 1½
B₂	Bovey Tracey	S.W. Counties	1 5	1 1
A	Bradford ..	Yorkshire	1 8	1 3½
A₃	Brentwood	E. Counties	1 7	1 2½
A	Bridgend ..	S. Wales & M.	1 8	1 3½
B₂	Bridgwater	S.W. Counties	1 5	1 1
A₁	Bridlington	Yorkshire	1 7½	1 2½
A	Brighouse	Yorkshire	1 8	1 3½
B₁	Brighton ..	S. Counties	1 6	1 1½
A	Bristol ..	S.W. Counties	1 8	1 3½
B₃	Brixham ..	S.W. Counties	1 4½	1 0½
A₃	Bromsgrove	Mid. Counties	1 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
A₂	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury ..	N.W. Counties	1 8	1 3½
A₁	Buxton ..	N.W. Counties	1 7½	1 2½
B	CAMBRIDGE	E. Counties	1 6	1 1½
B₃	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff ..	S. Wales & M.	1 8	1 3½
A	Carlisle ..	N.W. Counties	1 8	1 3½
B	Carmarthen	S. Wales & M.	1 6	1 1½
B₃	Carnarvon	N.W. Counties	1 5	1 1
A₁	Carnforth ..	N.W. Counties	1 7½	1 2½
A	Castleford	Yorkshire	1 8	1 3½
B₁	Chatham ..	S. Counties	1 5½	1 1½
B₁	Chelmsford	E. Counties	1 5½	1 1½
A₃	Cheltenham	S.W. Counties	1 6½	1 2
A	Chester ..	N.W. Counties	1 8	1 3½
A	Chesterfield	Mid. Counties	*1 8	1 3½
B₃	Chichester	S. Counties	1 4½	1 0½
A	Chorley ..	N.W. Counties	1 8	1 3½
B₃	Cirencester	S. Counties	1 5	1 1
A	Clitheroe ..	N.W. Counties	1 8	1 3½
A	Clydebank	Scotland	1 8	1 3½
A	Coalville ..	Mid. Counties	1 8	1 3½
B₁	Colchester ..	E. Counties	1 5½	1 1½
A	Colne ..	N.W. Counties	1 8	1 3½
B₁	Colwyn Bay	N.W. Counties	1 5½	1 1½
A	Consett ..	N.E. Coast	1 8	1 3½
B₁	Conway ..	N.W. Counties	1 5½	1 1½
A	Coventry ..	Mid. Counties	1 8	1 3½
A₃	Crewe ..	N.W. Counties	1 6½	1 2
A₃	Cumberland	.....	1 6½	1 2
A	DARLINGTON	N.E. Coast	1 8	1 3½
A	Darwen ..	N.W. Counties	1 8	1 3½
B₃	Deal ..	S. Counties	1 4½	1 0½
B₁	Denbigh ..	N.W. Counties	1 5½	1 1½
A	Derby ..	Mid. Counties	1 8	1 3½
A	Dewsbury ..	Yorkshire	1 8	1 3½
B	Didcot ..	S. Counties	1 6	1 1½
A	Doncaster ..	Yorkshire	1 8	1 3½
C₁	Dorchester ..	S.W. Counties	1 4	1 0½
A₂	Driffield ..	Yorks	1 6½	1 2
A₃	Droitwich ..	Mid. Counties	1 6½	1 2
A₁	Dudley ..	Mid. Counties	1 7½	1 2½
A	Dundee ..	Scotland	1 8	1 3½
A	Durham ..	N.E. Coast	1 8	1 3½
B₁	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
B₂	Folkestone	S. Counties	1 5	1 1
A	Frodsham ..	N.W. Counties	1 8	1 3½
B₃	Frome ..	S.W. Counties	1 4½	1 0½
A	GATESHEAD	N.E. Coast	1 8	1 3½
B₁	Gillingham	S. Counties	1 5½	1 1½
A₃	Gloucester	S.W. Counties	1 6½	1 2
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
B₃	Harwich ..	E. Counties	1 5	1 1
B₃	Hastings ..	S. Counties	1 4½	1 0½
B₁	Hatfield ..	S. Counties	1 5½	1 1½
B	Hereford ..	S. W. Counties	1 6	1 1½
B	Hertford ..	E. Counties	1 5½	1 1½
A₁	Heysham ..	N.W. Counties	1 7½	1 2½
A	Howden ..	N.E. Coast	1 8	1 3½
A	Huddersfield	Yorkshire	1 8	1 3½
A	Hull ..	Yorkshire	1 8	1 3½

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

			I	II
			s. d.	s. d.
A	ILKLEY ..	Yorkshire	1 8	1 3½
A	Immingham	Mid. Counties	1 8	1 3½
B	Ipswich ..	E. Counties	1 6	1 1½
C₁	Isle of Wight	S. Counties	1 4	1 0½
A	JARROW ..	N.E. Coast	1 8	1 3½
A	KEIGHLEY	Yorkshire	1 8	1 3½
B₁	Kendal ..	N.W. Counties	1 5½	1 1½
B₁	Keswick ..	N.W. Counties	1 5½	1 1½
B	Kettering ..	Mid. Counties	1 6	1 1½
A₂	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
A₂	Middlewich	N.W. Counties	1 6½	1 2
B₂	Minehead ..	S.W. Counties	1 5	1 1
A	Monmouth	S. Wales & M.	1 8	1 3½
A₁	S. and E. Glamorganshire Morecambe	N.W. Counties	1 7½	1 2½
A₃	NANTWICH	N.W. Counties	1 6½	1 2
A	Neath ..	S. Wales & M.	1 8	1 3½
A	Nelson ..	N.W. Counties	1 8	1 3½
A	Newcastle ..	N.E. Coast	1 8	1 3½
A	Newport ..	S. Wales & M.	1 8	1 3½
A	Normanton	Yorkshire	1 8	1 3½
A₂	Northampton	Mid. Counties	1 7	1 2½
A	North Staffs.	Mid. Counties	1 8	1 3½
A	North Shields	N.E. Coast	1 8	1 3½
A₃	Norwich ..	E. Counties	1 6½	1 2
A	Nottingham	Mid. Counties	1 8	1 3½
A	Nuneaton ..	Mid. Counties	1 8	1 3½
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W. Counties	1 8	1 3½
A₃	Oswestry ..	Mid. Counties	1 6½	1 2
B	Oxford ..	S. Counties	1 6	1 1½
A	PAISLEY ..	Scotland	*1 8	1 3½
C	Pembroke	S. Wales & M.	1 4½	1 0½
A	Perth ..	Scotland	*1 8	1 3
A	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
A₂	Retford ..	Mid. Counties	1 6½	1 2
A	Rhondda Valley	S. Wales & M.	1 8	1 3½
A₂	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
A₂	Rugeley ..	Mid. Counties	1 6½	1 2
A	Runcorn ..	N.W. Counties	1 8	1 3½
A₂	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
A	Solihull ..	Mid. Counties	1 7	1 2½
A₃	South'pton	S. Counties	1 6½	1 2
B₁	Southend-on-Sea	E. Counties	1 5½	1 1½
A	Southport ..	N.W. Counties	1 8	1 3½
A	S. Shields ..	N.E. Coast	1 8	1 3½
A₂	Stafford ..	Mid. Counties	1 7	1 2½
A	Stockport ..	N.W. Counties	1 8	1 3½
A	Stockton-on-Tees	N.E. Coast	1 8	1 3½
A	Stoke-on-Trent	Mid. Counties	1 8	1 3½
B	Stroud ..	S.W. Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 8	1 3½
A	Swadlincote	Mid. Counties	1 8	1 3½
A	Swansea ..	S. Wales & M.	1 8	1 3½
B	Swindon ..	S.W. Counties	1 6	1 1½
A₁	TAMWORTH	N.W. Counties	1 7½	1 2½
B₁	Taunton ..	S.W. Counties	1 5½	1 1½
A	Teeside Dist.	N.E. Counties	1 8	1 3½
B	Teignmouth	S.W. Coast	1 6	1 1½
A	Todmorden	Yorkshire	1 8	1 3½
A₂	Torquay ..	S.W. Counties	1 7	1 2½
C	Truro ..	S.W. Counties	1 4	1 0½
B₁	Tunbridge Wells	S. Counties	1 5½	1 1½
A	Tunstall ..	Mid. Counties	1 8	1 3½
A	Tyne District	N.E. Coast	1 8	1 3½
A	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
B₃	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

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

PRICES CURRENT

EXCAVATOR AND CONCRETOR

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

*

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

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

Portland cement, per ton				£2	19	0
Lias lime, per ton				2	10	0

Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.
Transport hire per day:

Cart and horse	£1	3	0	*Trailer*	£0	15	0
3-ton motor lorry	3	15	0	*Steam roller*	4	5	0
Steam lorry, 5-ton	4	0	0	*Water cart*	1	5	0

*

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

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

RETURN, fill, and ram, ordinary earth, per yd.	£0	1	6
SPREAD and level, including wheeling, per yd.	0	1	6
FILLING into carts and carting away to a shoot or deposit, per yd. cube	0	10	6
TRIMMING earth to slopes, per yd. sup.	0	0	6
HACKING up old grano. or similar paving, per yd. sup.	0	1	3
PLANKING to excavations, per ft. sup.	0	0	5
DO. over 10 ft. deep, add for each 5 ft. in depth, 30 per cent.			
IF left in, add to above prices, per ft. cube	0	2	0
HARDCORE, 2 in. ring, filled and rammed, 4 in. thick, per yd. sup.	0	2	1
DO. 6 in. thick, per yd. sup.	0	2	10
PUDDLING, per yd. cube	1	10	0
CEMENT CONCRETE, 4-2-1, per yd. cube	2	3	0
DO. 6-2-1, per yd. cube	1	18	0

DO. in upper floors, add 15 per cent.
DO. in reinforced-concrete work, add 20 per cent.
DO. in underpinning, add 60 per cent.

LIAS-LIME CONCRETE, per yd. cube	£1	16	0
BREEZE CONCRETE, per yd. cube	1	7	0
DO. in lintels, etc., per ft. cube	0	1	6
CEMENT concrete 4–2–1 in lintels packed around reinforcement, per ft. cube	0	3	9
FINE concrete benching to bottom of manholes, per ft. cube	0	2	6
FINISHING surface of concrete spade face, per yd. sup.	0	0	9

DRAINER

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

*

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

*

STONEWARE DRAINS, jointed in cement, tested pipes, 4 in., per ft.	0	4	3
DO. 6 in., per ft.	0	5	0
DO. 9 in., per ft.	0	7	9
CAST-IRON DRAINS, jointed in lead, 4 in., per ft.	0	8	0
DO. 6 in., per ft.	0	10	0

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

BRICKLAYER

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

*

London stocks, per M.	£4	15	0
Flettons, per M.	2	18	0
Staffordshire blue, per M.	9	10	0
Firebricks, 2½ in., per M.	11	3	0
Glazed salt, white, and ivory stretchers, per M.	24	10	0
DO *headers, per M.*	24	0	0
Colours, extra, per M.	5	10	0
Seconds, less, per M.	1	0	0
Cement and sand, see "Excavator" above.			
Lime, grey stone, per ton	2	17	0
Mixed lime mortar, per yd.	1	6	0
Damp course, in rolls of 4½ in., per roll	0	2	6
DO. 9 *in. per roll*	0	4	9
DO. 14 *in. per roll*	0	7	6
DO. 18 *in. per roll*	0	9	6

BRICKWORK in stone lime mortar, Flettons or equal, per rod	£33	0	0
DO. in cement do., per rod	36	0	0

DO. in stocks, add 25 per cent. per rod.
DO. in blues, add 100 per cent. per rod.
DO. circular on plan, add 12½ per cent. per rod.
DO. in backing to masonry, add 12½ per cent. per rod.
DO. in raising on old walls, etc., add 12½ per cent. per rod.
DO. in underpinning, add 20 per cent. per rod.

HALF-BRICK walls in stocks in cement mortar (1–3), per ft. sup.	£0	1	0
BEDDING plates in cement mortar, per ft. run	0	0	3
BEDDING window or door frames, per ft. run	0	0	3
LEAVING chases 2½ in. deep for edges of concrete floors not exceeding 6 in. thick, per ft. run	0	0	2
CUTTING do. in old walls in cement, per ft. run	0	0	4
CUTTING, toothing and bonding new work to old (labour and materials), per ft. sup.	0	0	7
TERRA-COTTA flue pipes 9 in. diameter, jointed in fireclay, including all cuttings, per ft. run	0	3	6
DO. 14 ft. by 9 in. do., per ft. run	0	6	0
FLAUNCHING chimney pots, each	0	2	0
CUTTING and pinning ends of timbers, etc., in cement	0	1	0
FACINGS fair, per ft. sup. extra	0	0	3
DO. picked stocks, per ft. sup. extra	0	0	7
DO. red rubbers gauged and set in putty, per ft. sup. extra	0	4	9
DO. in salt white or ivory glazed, per ft. sup. extra	0	5	6
TUCK pointing, per ft. sup. extra	0	0	10
WEATHER pointing, do. do.	0	0	3
TILE creasing with cement fillet each side per ft. run	0	0	6
GRANOLITHIC PAVING, 1 in., per yd. sup.	0	5	0
DO. 1½ in., per yd. sup	0	6	0
DO. 2 in., per yd. sup.	0	7	0
If coloured with red oxide, per yd. sup.	0	1	0
If finished with carborundum, per yd. sup.	0	0	6
If in small quantities in finishing to steps, etc., per ft. sup.	0	1	4
Jointing new grano. paving to old, per ft. run	0	0	4
Extra for dishing grano, or cement paving around gullies, each	0	1	6
BITUMINOUS DAMP COURSE, ex rolls, per ft. sup.	0	0	7
ASPHALT (MASTIC) DAMP COURSE, ½ in., per yd. sup.	0	8	0
DO. vertical, per yd. sup.	0	11	0
SLATE DAMP COURSE, per ft. sup.	0	0	10
ASPHALT ROOFING (MASTIC) in two thicknesses, ⅜ 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.*

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Portland Stone:			
Whitbed, per ft. cube	£0	4	6
Basebed, per ft. cube	0	4	7
Bath stone, per ft. cube	0	3	0
Usual trade extras for large blocks.			
York paving, av. 2½ in., per yd. super	0	6	6
York templates sawn, per ft. cube	0	6	9
Slate shelves, rubbed, 1 in., per ft. sup.	0	2	6
Cement and sand, see "Excavator," etc., above.			

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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.

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Slates, 1st quality, per 1,200:

Portmadoc Ladies	£14	0	0
Countess	27	0	0
Duchess	32	0	0

Old Delabole	*Med. Grey*	*Med. Green*
24 in. × 12 in.	£42 11 3	£45 1 0
20 in. × 10 in.	31 4 3	33 0 6
16 in. × 10 in.	20 18 0	22 4 9
14 in. × 8 in.	12 1 0	12 16 3

Green Randoms, per ton	8	3	9
Grey-green do., per ton	7	3	9
Green peggies, 12 in. to 8 in. long, per ton	6	3	9

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

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

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

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

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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 18*s.* 0*d.* per square.

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

See "Sundries for Asbestos Tiling."

CARPENTER AND JOINER

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

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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

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FIR fixed in wall plates, lintels, sleepers, etc., per ft. cube	0	5	6
DO. framed in floors, roofs, etc., per ft. cube	0	6	6
DO., framed in trusses, etc., including ironwork, per ft. cube	0	7	6
PITCH PINE, add 33⅓ per cent.			
FIXING only boarding in floors, roofs, etc., per sq.	0	13	6
SARKING FELT laid, 1-ply, per yd.	0	1	6
DO., 3-ply, per yd.	0	1	9
CENTERING for concrete, etc., including horsing and striking, per sq.	2	10	0
TURNING pieces to flat or segmenta soffits, 4½ in. wide, per ft. run	0	0	4½
DO. 9 in. wide and over per ft. sup.	0	1	2

continued overleaf

CARPENTER AND JOINER: *continued.*

SHUTTERING to face of concrete, per square	£1 10 0
DO. in narrow widths to beams, etc., per ft. sup.	0 0 6
USE and waste of timbers, allow 25 per cent. of above prices.	
SLATE BATTENING, per sq.	£0 12 6
DEAL boarding to flats, 1 in. thick and firrings to falls, per square	2 10 0
STOUT feather-edged tilting fillet to eaves, per ft. run	0 0 6
FEATHER-edged springer to trimmer arches, per ft. run	0 0 4
STOUT herringbone strutting (joists measured in), per ft. run	0 0 6
SOUND boarding, ¾ in. thick and fillets nailed to sides of joists (joists measured over), per square	2 0 0
RUBEROID or similar quality roofing, one-ply, per yd. sup.	0 2 3
DO., two-ply, per yd. sup.	0 2 6
DO., three-ply, per yd. sup.	0 3 0
TONGUED and grooved flooring, 1¼ in. thick, laid complete with splayed headings, per square	2 5 0
DEAL skirting torus, moulded 1¼ in. thick, including grounds and backings, per ft. sup.	0 1 0
TONGUED and mitred angles to do.	0 0 6
WOOD block flooring standard blocks laid herringbone in mastic:	
Deal 1 in. thick, per yd. sup.	0 10 0
DO. 1¼ in. thick, per yd. sup.	0 12 0
Maple 1¼ in. thick, per yd. sup.	0 15 0
DEAL moulded sashes, 1¾ in. with moulded bars in small squares, per ft. sup.	0 2 6
DO. 2 in. do., per ft. sup.	0 2 9
DEAL cased frames, oak sills and 2 in. moulded sashes, brass-faced pulleys and iron weights, per ft. sup.	0 4 6
MOULDED horns, extra each	0 0 3
DOORS, 4-panel square both sides, 1½ in. thick, per ft. sup.	0 2 6
DO. moulded both sides, per ft. sup.	0 2 9
DO. 2 in. thick, square both sides, per ft. sup.	0 2 9
DO. moulded both sides, per ft. sup.	0 3 0
DO. in 3 panels, moulded both sides, upper panel with diminished stiles with moulded bars for glass, per ft. sup.	0 3 6
If in oak, mahogany or teak, multiply 3 times.	
DEAL frames, 4 in. × 3 in., rebated and beaded, per ft. cube	£0 15 0
Add for extra labours, per ft. run	0 0 1
STAIRCASE work:	
DEAL treads 1¼ in. and risers 1 in., tongued and grooved including fir carriages, per ft. sup.	0 2 6
DEAL wall strings, 1¼ in. thick, moulded, per ft. run	0 2 6
If ramped, per ft. run	0 5 0
SHORT ramps, extra each	0 7 6
ENDS of treads and risers housed to strings, each	0 1 0
2 in. deal mopstick handrail fixed to brackets, per ft. run	0 1 6
4½ in. × 3 in. oak fully moulded handrail, per ft. run	0 5 6
1¼ in. square deal bar balusters, framed in, per ft. run	0 0 6
FITTINGS:	
SHELVES and bearers, 1 in., cross-tongued, per ft. sup.	0 1 6
1¼ in. beaded cupboard fronts, moulded and square, per ft. sup.	0 2 9
TEAK grooved draining boards, 1¼ in. thick and bedding, per ft. sup.	0 4 6
IRONMONGERY:	
Fixing only (including providing screws):	
TO DEAL—	
Hinges to sashes, per pair	0 1 2
Do. to doors, per pair	0 1 7
Barrel bolts, 9 in., iron, each	0 1 0
Sash fasteners, each	0 1 0
Rim locks, each	0 1 9
Mortice locks, each	0 4 0

SMITH

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

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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

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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.*

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

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MILLED LEAD and labour in gutters, flashings, etc.	3 2 6
LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft.	0 2 0
DO. ¾ in., per ft.	0 2 3
DO. 1 in., per ft.	0 3 0
DO. 1¼ in., per ft.	0 4 0
LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft.	0 6 0
DO. 3 in., per ft.	0 7 0
DO. 4 in., per ft.	0 9 9
WIPED soldered joint, ½ in., each	0 2 6
DO. 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 7
DO. 3 in., per ft. run	0 2 0
DO. 4 in., per ft. run	0 2 10
CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft.	0 2 0
DO. O.G., 4 in., per ft.	0 2 3
CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft.	0 4 6
DO. 3 in., per ft.	0 3 6
Fixing only:	
W.C. PANS and all joints, P. or S., and including joints to water waste preventers, each	2 5 0
BATHS, with all joints	1 3 6
LAVATORY BASINS only, with all joints, on brackets, each	1 10 0

PLASTERER

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

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Chalk lime, per ton	
Hair, per cwt.	£2 17 0
Sand and cement see "Excavator," etc., above.	1 5 0
Lime putty, per cwt.	
Hair mortar, per yd.	£0 2 9
Fine stuff, per yd.	1 7 0
Sawn laths, per bdl.	1 14 0
Keene's cement, per ton	0 2 9
Sirapite, per ton	5 15 0
DO. *fine, per ton*	3 10 0
Plaster, per ton	3 18 0
DO. *per ton*	3 0 0
DO. *fine, per ton*	3 12 6
Thistle plaster, per ton	5 12 0
Lath nails per lb.	3 9 0
	0 0 4

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LATHING with sawn laths, per yd.	0 1 7
METAL LATHING, per yd.	0 2 3
FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock, ¾ in., per yd.	0 2 4
DO. vertical, per yd.	0 2 7
RENDER, on brickwork, 1 to 3, per yd.	0 3 3
RENDER in Portland and set in fine stuff, per yd.	0 2 9
RENDER, float, and set, trowelled, per yd.	0 3 5
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.*

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Glass: 4ths in crates:	
Clear, 21 oz.	£0 0 4½
DO. 26 oz.	0 0 5
Cathedral white, per ft.	0 0 7
Polished plate, British ¼ in., up to 2 ft. sup. per ft.	
DO. 4 *ft. sup.* "	0 1 6
DO. 6 *ft. sup.* "	0 2 9
DO. 20 *ft. sup.* "	0 3 0
DO. 45 *ft. sup.* "	0 3 7
DO. 65 *ft. sup.* "	0 3 9
DO. 100 *ft. sup.* "	0 3 11
Rough plate, ⅛ in., per ft.	0 4 4
DO. *¼ in., per ft.*	0 0 6⅜
Linseed oil putty, per cwt.	0 0 6⅝
	0 17 6

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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.*

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

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

SUNDRIES

Fibre or wood pulp boardings, according to quality and quantity. The measured work price is on the same basis per ft. sup.	£0 0 2½
FIBRE BOARDINGS, including cutting and waste, fixed on, but not including studs or grounds, per ft. sup. from 3d. to	0 0 6
Plaster board, per yd. sup. from	0 1 7
PLASTER BOARD, fixed as last, per yd. sup. from	0 2 8
Asbestos sheeting, 5/32 in., grey flat, per yd. sup.	0 2 3
DO., *corrugated, per yd. sup.*	0 3 3
ASBESTOS SHEETING, fixed as last, flat, per yd. sup.	0 4 0
DO., corrugated, per yd. sup.	0 5 0
ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey	2 15 0
DO., red	3 0 0
Asbestos cement slates or tiles, 3/16 in. punched per M. grey	16 0 0
DO., *red*	18 0 0
ASBESTOS COMPOSITION FLOORING: Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0 7 0
DO., ¼ 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	9½	7	6
Alder	4	3	2	5	4	3	7½	6	4½	9½	7	6
Gaboon	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Mahogany	4	3	3	6½	5½	4	9½	7½	—	1 0½	10	—
Figured Oak												
1 side	8½	7	—	10	8	—	11½	—	—	1 6	—	—
Plain Oak												
1 side	6½	6	—	7½	7	—	9½	—	—	1 0	—	—
Oregon Pine	5	4	—	6½	5	—	9	—	—	—	—	—