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LONDON'S LUNGS

As most men speak so well of the report of the Royal Commission on London's Squares, issued last week, and as the daily papers enthusiastically support the recommendations, we may well hope that the necessary legislation will shortly be introduced into Parliament and be passed as an unopposed measure.

Lord Londonderry, the chairman, and Mr. I. F. Armer, of the Ministry of Health, the secretary, upon whom has fallen much of the burden of arranging for the fifteen meetings held by the Commission and of preparing the report, deserve to be very heartily congratulated on their success. It shows great skill and tact for a chairman to obtain a unanimous agreement on the main recommendations from members who represent very different schools of thought. The Commission is unanimously in favour of all London's squares, 461 in all, with the exception of five, being permanently preserved as open spaces. Of these five, one is Torrington Square, which is part of the area that is now being planned by London University, and in any case it is intended to reserve this as an open space.

There is good reason to hope that at least 460 lungs for London will be preserved unbuilt upon, centres of fresh air among congested streets and affording many amenities, both for those who inhabit the surrounding houses and for passers-by. Although the Commission are not in favour of compulsory acquisition of any of the enclosures, they recommend that the local authorities concerned should make every effort to secure voluntary arrangements for children to be admitted for play.

The number of London squares and enclosures has surprised many. We all knew of St. James's Square and Leicester Square, but few were aware until the report was published that there were twenty squares in Camberwell, twelve in Finsbury, fourteen in Holborn, thirty-four in Islington, fifty-six in Paddington, thirty-nine in St. Pancras, and thirty-six in Westminster. Kensington has the top score of seventy-nine squares.

The most contentious question faced by the committee was that of compensation. Mr. A. G. Prichard and Mr. Harry Snell, M.P., though they are in agreement with the main recommendations, sign a reservation to the effect that they are unable to agree to that part of the report which admits that any just claim for compensation exists.

It is important to recognize on this point that London's squares may be divided into two classes. There are 234 which are owned by borough councils, by committees of inhabitants, by the Crown, or are subject to special Acts of Parliament. These are well protected, and no compensation will be needed to prevent them being built over. The difficulties arise over some 223 squares that are subject to leases. It would certainly cause a general outcry from property owners, and would wreck any chance of legislation passing the present House of Commons, if it were proposed to forbid the owners of these squares to build upon them under any circumstances, or erect garages underneath. The evidence given in the report, especially in the appendices, shows that the owners generally are reasonable, and are quite willing to co-operate in the preservation of the squares. In some cases they have offered to make a bargain, suggesting that, if they are allowed to retain the right to build on a portion, they will be prepared to agree to the remainder becoming an open space for ever without claiming compensation. In other cases owners have stated that they have no intention at all of building, but do not wish to be made subject to any permanent reservation of the enclosures as open spaces.

It is clear that there will have to be considerable negotiation if all the enclosures are to be preserved, and the proposed methods of allowing compensation may lead to expensive and protracted arbitration proceedings. The force of public opinion, that has so cordially welcomed the recommendations, may do something, but a far more powerful weapon against the few landowners, who may be inclined to be grasping, will be the fact that the provisions of the London Building Acts and other legislation are wide and may be used to compel them to "sterilize"—to use the extremely awkward word of the Commission—their land. It is probable that in many cases the expert agents of London landlords will advise them to maintain the squares as open spaces in order that they may obtain higher rents from the houses around in view of the increased amenities. In short, in an ideal world it might be possible to pay no compensation, but confiscation of the squares is not practical politics in the present state of opinion in this country. There appears to be no reason for taking violent measures when quiet reason is likely to prevail.

There is, however, a danger that, in the matter of London squares, as with London's bridges, the report may be temporarily pigeon-holed, and then forgotten. The only hope, indeed, of the recommendations becoming law within the next few months is that all parties should agree that the Bill shall not be opposed.

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

NEWS AND TOPICS

It was Sir Lawrence Weaver's sly thought of holding in Grosvenor House the Architecture Club's dinner and discussion on the subject of tall buildings last Thursday. Sir Lawrence himself usually says all too little on such occasions, but at this dinner he opened the question whimsically enough by quoting from the First Book of Kings at that part of chapter 9 which reads: "And at this house, which is high, everyone that passeth by it shall be astonished, and shall hiss. . . ." From this it may appear that Sir Lawrence is all against high buildings, but in actual fact he preserved throughout the evening an extraordinary equilibrium, and surpassed himself in keeping the discussion flowing by suggesting possible contradictions of every successive speaker's assertions. Mr. Milne, who has just returned from Venice, showed a keen preference for the high building and, as first speaker, gave ample opportunity for those who disagreed with him to express their disapproval. But Mr. Milne emphasized also his point that he does not wish to make London anything like New York. He also said that he thought that the question of traffic congestion on pavements, which is always deemed to arise from the erection of high buildings, would be adequately dealt with by Mr. Frank Pick, who was, unfortunately, not present to enter into the discussion.

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Perhaps the two most interesting points of the evening were raised by women. Miss Heald pointed out that the "mere male" persists in looking always at the *outside* of the building and seems unable to bring himself to the point of considering what goes on *inside* when he himself is at the office. She spoke at some length upon the horrors of the tall building from the point of view of those who have to spend the greater part of their lives in them, and raised various other valuable points. The other point of note came from Mrs. Lanchester, who has just returned from New York and is not entirely without admiration for the skyscraper, although she does not definitely advocate its adoption for London. She pointed out, in reply to Mr. Howard Robertson, that in New York the question of pavement congestion hardly arises throughout the day, for the reason that every skyscraper is adequately provided with its own "drug store" at which all the inhabitants eat, so that at meal times there is no appreciable efflux on to the streets. In addition to this (although Mrs. Lanchester was the first to suggest that it might not be practicable in London), practically every skyscraper has its own subway to the underground railways.

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I have attended most of the Architecture Club dinners since they first started, but I must say, without hesitation, that this one was by far the most entertaining and by far the most instructive there has yet been. Mr. Ewart G. Culpin, who is, of course, one of the greatest authorities on Building Acts, spoke at some length and effectively demolished everything that had been said earlier in the evening. His remarks may have erred on the technical side, and much of their value was, perhaps, lost upon the lay members present; on the whole, however, he showed amazing skill in resolving technicalities down to terms of every-day speech, and really struck at the root of matters.

The A.A. excursion this year was to Northern Italy. This was a change from some of the recent annual excursions which have been in countries where chief interest was found in the modern buildings. The party, which totalled thirty members, contented itself by taking a rather leisurely view of Verona, where the first week was spent, and Venice, which occupied the second week. Excursions were made from Verona to Vicenza and Mantua, while some members made a special trip to Lake Garda and spent most of their time bathing in the lake. From Venice, Padua was visited, and various groups made short excursions to some of the places around Venice, such as Torcello. The full story of the excursion will be told at the A.A. general meeting on November 26, when Messrs. Winton Newman and Oswald Milne will give their impressions with the aid of lantern slides made from photographs taken on the trip.

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Never nowadays in London do we see a big building pulled down and a little building put up. Bigger and bigger, richer and richer everything grows, so that as I walk along jingling my bunch of keys I get quite optimistic. There seem no bankruptcies nowadays, no closing-downs. A coffee-stall is snapped up for a house by a millionaire wanting a foot in Piccadilly; when he goes, it is converted into a club. Then it becomes a bank; then a cinema—and then, of course, everybody lives happy ever after. I was always surprised that those little A.B.C. tea-shops remained little for so long. What growing pains they must have had. And now at last they are growing up. Last week I went to the opening lunch of the EMPIRE RESTAURANT which was once the little old A.B.C. place outside Victoria.

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Norwegian painting and sculpture have a definite place in modern European art, and the Anglo-Norse Society has done well in showing to London art lovers what the place of its painting is. Unfortunately, there is no sculpture—which is a pity, for Norway has living sculptors of high rank. In both painting and sculpture Norwegian art has three phases, one derived from Paris and one from Munich, but Norway is its spiritual as well as its natural home, as it has always been since the time when I. C. Dahl founded the modern school on Nature in Norway. All three phases are well illustrated in the exhibition at the galleries of the Royal Society of British Artists in Suffolk Street, Pall Mall. There are a number of pictures conveying the Norwegian spirituality which are definitely mystic in character, such as Aage Storstein's "Lake of Gennesareth," the boat rowed by the gaunt, nude figure, a number in which the feeling for national life is strongly expressed like "The 17th of May," by the late Christian Krohg. National landscape is portrayed on many fine canvases, examples of which are Hugo Lous Mohr's "Mountain"; the dark farm at "Skagen, Denmark" by Eiliff Peterssen, and Fritz Thaulow's "Scene at Asker, in May"; a more rigorous presentation being the snow and wind of Edvard Diriks called "It Snows." The Munich influence is seen plainly in Edvard Munch's group, which has the place of honour both in the two men's portraits and the crude, powerful "Woman Weeping," a good example of the modern German method as translated into Scandinavian. The French influence is less apparent; it is a mere generalization of the research which has occupied Paris for half a century. There is no direct imitation.

The advantages of street façades to domestic and commercial buildings are obvious. In an old and crowded city they may be overrated. In the United States the difficulty is met by verticality; in the European zone it has not been felt so acutely, as the courtyard has always been an institution. It would seem that a development of these lines will be the solution in the near future of the pressure of street space. In more than one instance the new commercial buildings of the Scandinavian capitals are constructed on the courtyard system. Tengbom has adopted it in his splendid building for the Swedish match combine at Stockholm. A pair of very fine wrought-iron gates is the principal feature of the small, but not insignificant street elevation. Looking through these from the outside a vista is revealed which consists of the archway to the circular courtyard, in the centre of which is the Diana Fountain by Carl Milles in green bronze, so designed that the vision is not blocked but rather intrigued by the pattern of the tree-like base which supports the bronze crowning figure. Through the tracery of the bronze work and the water display the vista is continued into the well-lighted main entrance of the building—another archway from which lateral entrances are obtained to the lift. The circular effect is very fine and not so elongated as to become tubular.

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The development of Ashridge Park is to be carried out on the advice of Mr. E. Prentice Mawson, who has been appointed as consultant. Already the famous house and 80 acres of land, including the gardens, have been saved from any form of building development, and the mansion is to be used as a training school by the Conservative Party. Three hundred acres of the park to the north, including the famous Queen Elizabeth Drive, have been handed over by the present owner to the National Trust, for a nominal sum. An eighteen-hole golf course is now being constructed. I am told that very stringent building regulations are being drawn up so as to ensure that all the buildings shall be of a very high standard.

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Parliament this autumn will have to give a considerable amount of time to consideration of the Rating and Valuation (Apportionment) Bill. This has a closer relation to the work of architects and town planners than is generally realized. For one result of a Bill will undoubtedly be a call for the revision of local government. We may, indeed, in a hundred years time, find this country divided up into regional areas on the lines put forward in a prophetic survey that was published in *Housing*, the Ministry of Health journal, and for which, I believe, Mr. Montague Harris, the present secretary of the Greater London Regional Planning Committee, was responsible. The work now being done by the fifty-six regional planning committees, that have already been set up, is preparing the way for such a development. Already one-fifth of England and Wales is subject to regional planning. About one-fourth of the total number of local authorities in this country are engaged on town-planning schemes. Thus, town planning may well help us to form the new regional areas of the future which will supersede the present agglomeration of small, and sometimes pitifully parochial, local authorities.

In the year 1875 there was closed one of the most beautiful and notable of those old galleried inns which once studded London, particularly in Southwark, where a portion of the last remaining of them still happily exists. The inn I refer to as being shut up was the Oxford Arms, in Warwick Lane, from which thoroughfare it was approached by a passage from Amen Corner. The original building appears to have been destroyed in the Great Fire,

The Oxford Arms.

but to have been rebuilt a few years after that event. A contemporary advertisement shows that at that time mine host was one Edward Bartlet, who, after his premises had been burnt down, migrated for a time to the Swan at Holborn Bridge, but returned to Warwick Lane when the place had been reconstructed. He did a large business as a carrier, and is careful to tell intending clients that he possesses "a hearse and all things convenient to carry a corpse to any part of England"; so that alive or dead you found him your humble and useful servant. As an inn the Oxford Arms ceased to do business after 1868, but the carrier's trade, although whether or no a hearse continued to form a feature of it is not stated, was carried on till the demolition of the beautiful old relic of bygone times, of which I am able to give here a picture from a photograph taken in the sixties of the last century.

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Work is shortly to be started on the building of a new library for China. This is the Metropolitan Library of Peiping, and is to be paid for by Boxer indemnity money, remitted by the United States. The architect designed a series of houses, arranged round a courtyard in the style of a Chinese palace, but within there are to be the latest modern library conveniences. Unfortunately, the blue prints have remained unused, for the soldiers of the army of Chang-Tso-Lin were encamped on the site, and the books which were to fill the new shelves have been stored between the altars of Buddhist idols in the private temple of Tsu-Hsi, the former Empress Dowager of China. But now the site is vacant, and building work is about to start.

ASTRAGAL

ON THE CLOSING OF "PRESSA"

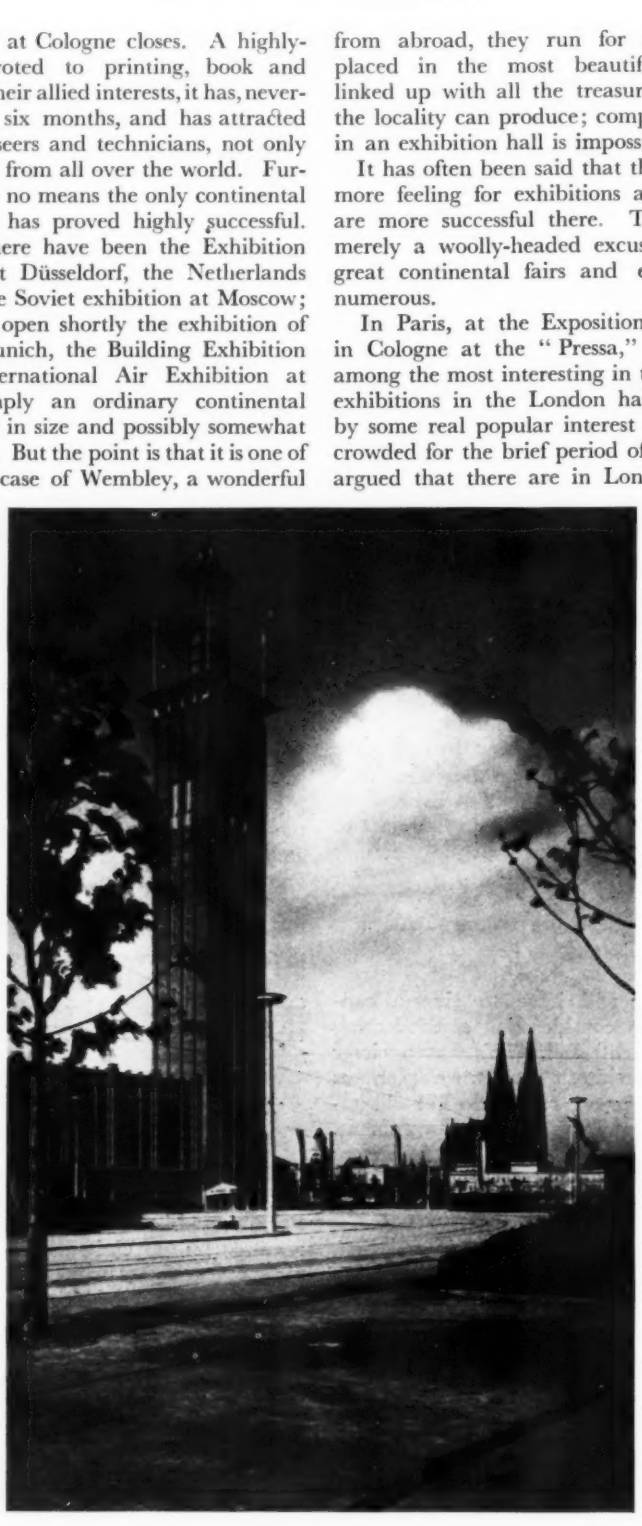
[BY L. F. EDWARDS]

THIS month the "Pressa" at Cologne closes. A highly-specialized exhibition, devoted to printing, book and newspaper production and their allied interests, it has, nevertheless, run successfully for six months, and has attracted thousands of visitors, sightseers and technicians, not only from all over Germany, but from all over the world. Furthermore, "Pressa" was by no means the only continental exhibition this year which has proved highly successful. Speaking from memory, there have been the Exhibition of Modern German Art at Düsseldorf, the Netherlands exhibition at Rotterdam, the Soviet exhibition at Moscow; and now in progress or to open shortly the exhibition of Home and Technics at Munich, the Building Exhibition at Dresden, and the International Air Exhibition at Berlin. "Pressa" is simply an ordinary continental exhibition, somewhat larger in size and possibly somewhat better organized than others. But the point is that it is one of a series and not, as in the case of Wembley, a wonderful and isolated phenomenon. The result is that continental, particularly German, arts and sciences, including architecture, can count upon having their best and most up-to-date developments continually before the public eye in an attractive form. There is consequently, in Germany, a knowledge and appreciation of technical processes that is absolutely astonishing to an Englishman, and this appreciation has been quickened and intensified by these great trade exhibitions.

These great trade fairs are different from the periodic trade exhibitions which take place in halls. They appeal to a far wider public, including trade visitors and tourists from abroad, they run for months on end, they are placed in the most beautiful surroundings, and are linked up with all the treasures of art and Nature that the locality can produce; comparison with a week's show in an exhibition hall is impossible.

It has often been said that the continental nations have more feeling for exhibitions and that consequently they are more successful there. This is not an explanation, merely a woolly-headed excuse. English visitors at the great continental fairs and exhibitions are exceedingly numerous.

In Paris, at the Exposition des Arts Decoratifs, and in Cologne at the "Pressa," the English sections were among the most interesting in the grounds, and even those exhibitions in the London halls which are distinguished by some real popular interest or clever showmanship are crowded for the brief period of their existence. It will be argued that there are in London no great showgrounds such as exist in the continental cities. This is not so. The French authorities set aside the central avenue of Paris for the Decorative Art Exhibition, the German authorities cleared the left bank of the Rhine for the "Pressa." What better site for a truly national exhibition-ground than parts of Hyde Park? There is no call for the inevitable cries of "Vandal." Central Paris looks no worse now that the transient buildings of the exhibition have gone; it is even possible that the Rhine stream at Cologne is much improved by them.



Tower of the "Pressa" Exhibition, with the Cathedral in the distance.

For one reason or another, however, the fact remains that an international and specialized Press exhibition has proved a great attraction at Cologne. What are the reasons for this attraction?

First, perhaps, its magnificent position. As one ascends the Rhine on one of the little river-steamers from Rotterdam or Düsseldorf, the first view of Cologne is that of the fine right bank water front dominated by the cathedral,

probably the finest piece of Gothic in Europe, and the Hohenzollern Bridge, which, however much one may object to its grandiose design in photographs, is extraordinarily impressive in its proper place. Along the front are office and Government buildings, and, finally, on the outskirts of the town that curious modern restaurant the " Bastei," built of reinforced-concrete and with galleries of steel and glass overhanging the Rhine itself. The effect of the mixture of architectural styles ranging from the eleventh century to the twenty-first, so to speak, is extraordinarily interesting, and when, on turning the bend of the river, the buildings of the " Pressa " come into view the whole effect is magnificent. One of the results of the multiple exhibitions in Germany has been to develop a definite school of exhibition architecture, modern in style, light in construction, and admirably adapted to its purpose, the semi-permanent buildings being built of brick and reinforced concrete, the lighter and temporary buildings of glass and steel. Of this style the " Pressa " is a very good example, and the sight of the cathedral across the river, seemingly side by side with the " Pressa " tower, is a piquant contrast. This modernism is in keeping with the idea of an exhibition, which must be progressive, this lightness in keeping with its semi-permanent character.

Secondly, in the realization that all exhibition work primarily appeals to the eye. Whereas in Wembley, for example, many excellent exhibits were arranged in such a way that considerable ingenuity was required to really realize all that they conveyed—the rubber exhibits in Malaya, for example—here everything is painted, so to speak, on a flat canvas. Simplicity of line is evident everywhere, large washes of flat colour and the continual use of large wall maps and lighted diagrams. Every stand is subordinated in general design to the general principle so that there is a force and unity of conception about the whole hall that is exceedingly fine. There is plenty of room for originality in the exhibits themselves without destroying the unity of the building as a whole by bizarre and curious stands. Besides, there are plenty of those outside the main buildings. It proves, in fact, the existence of a controlling committee with considerable powers and excellent taste.

Another item of the " Pressa " architecture that provokes thought is the modernist evangelical church. I do not know if this is the first time that modernist architecture has been applied to a religious building, but at any rate it must be one of very few examples. The aisle and altar are built of highly-polished hardwood in an extremely simple and formal design. The walls consist entirely of stained glass reaching up into a vaulted ceiling, also of stained glass. This glass is richly coloured, but non-representational. Over all towers a huge wooden crucifix set in a cross-beam of wood from which bells are hung. The effect from outside is certainly bizarre rather than beautiful, but inside the colour floating down through the unbroken expanse of the stained glass walls and ceiling provokes a considerable religious feeling, and the whole conception is essentially a reverent one.

It is a pity, nowadays, when church and churchmen din into our ears that the Christian religion is still a living and developing symbol of our everyday life, that some sign of this life and development should not be shown in its architectural setting. Architecturally speaking the Church has been dead at least two hundred years—many would say longer—and this aspect of a religious building in the manner and spirit of the present age is extraordinarily exhilarating. In fact, vigorous and progressive life is the whole burthen of the " Pressa." With the exception of the historical hall which is, appropriately enough, traditional in style, the whole effect is exhilarating. Much of it is, of course, experimental—that, after all, is the first duty of an exhibition—but generally speaking it adequately displays an aspiration and broadness of conception in its architecture and design that proves that its promoters regarded the art of architecture as being as capable of various and original modes of development as is the art of the Press which it was originally designed to exhibit.

The main fair building at the " Pressa " Exhibition.

AN AMERICAN OFFICE BUILDING

[BY ERIC L. BIRD AND P. CUTBUSH]

SAID to be the last word in planning and construction of office buildings, The Royal Building in New York certainly presents new solutions of some old problems in addition to being an epitome of the most recent American practice. In buildings of this class British practice has for some years followed American; therefore one may conclude that there should be much to be learned from an account of it. To begin with, the site is so nearly an ideal one that the customary accidents of planning are practically absent, thereby clearing the result of complications. The plan, in fact, looks as though it were a solution to a problem set in a school of architecture. It is clear, rational, and the site advantages have been well exploited. Construction is on the same level. The apologist for muddle in English construction is apt to say that American work is shoddy to the verge of temporary building, that like their most famous car, their buildings are intended to have a short life and a hectic one. With the Royal Building, one certain thing is that the owners will pull it down long before it can be worn out. For soundness of construction it will

The Royal Building, New York. By Starrett and Van Vleck. A general view.

bear comparison with the best British work. Further, its degree of fire resistance is probably higher than any other office building in the world.

It is occupied solely by insurance companies, mainly British, and is managed by a joint company called "The One Hundred and Fifty William Street Corporation." This practice of grouping similar interests in one building is a growing one in the United States, and might well be copied in England. It is found to have immense advantages, many of which are quite unexpected. Not the least

The Royal Building, New York. By Starrett and Van Vleck. The main entrance.

of these is that identical demands of the tenants simplify the work of the architect. The nature of his problem is exact; he has to provide for one precise type of office accommodation and not, as in England, for anything from a drawing office to that of a theatrical agent. In this building, therefore, the plan requirements are simple, and the architects, Messrs. Starrett and Van Vleck of New York, have not been slow in taking advantage of it.

The site is practically an island one of such a size and shape that they have been enabled to put their "works" comfortably inside, in accordance with American practice, and yet leave just the right width of excellently lit office accommodation all round on the outside. The centre section consists of the two batteries of lifts—six of which go up to the tenth floor, the remainder to the top—the fire-tower, the lavatories with their pipe wells and the "hallways" generally. The fire-tower is the latest version of the old iron fire-escape which, zigzagging over the façades, was such a prominent feature of New York scenery a few years ago. It is a well, open to the sky, and containing the main escape stair running from top to bottom of the building. The staircases are artificially lit, as are the landings, and the whole, including the lavatories, is mechanically ventilated. It is strange that English public authorities are so averse from permitting mechanical ventilation and artificial lighting in the centre portions of buildings of this class, though there are signs that it may come. After all, what are the objections to it? The

ventilation of the lavatories cannot be regarded as inadequate; duplication of both the fan plant and electricity supply makes the risk of failure negligible. Can it be said that the usual London light-well really ventilates the rooms at the bottom when the minimum size allowed is about 10 ft. square, and the maximum height 120 ft.? As to the amount of natural daylight admitted by our light-wells, an eminent architect once sarcastically remarked that it was necessary to burn electric light in the rooms in order to see the glazed bricks outside! The American system likewise places the plumbing where it is readily repaired and safe from frost. Every few years in England there is a heavy frost which does thousands of pounds worth of damage to plumbing. Mechanical ventilation and artificial light to lavatories enable a greater rentable floor area to be obtained, ease the planning, and improve the elevations.

A typical office floor has four entrances from the central portion, and immediately outside the walls of the central portion a row of stanchions. This allows of a passage space which does not encroach on the desks, and the actual offices are not encumbered by stanchions. All desks have a left-hand light. There is throughout the building evidence of care for the needs and convenience of the unit—the individual clerk—as, apart from carefully considered lighting, both artificial and natural, the placing of telephone and other services, the ceilings are covered with a sound-absorbing material. This applies to all desks equally. One thinks at once of London office buildings where some of the rooms may be well lit and arranged, but where others are lit from courts, or the shape of rooms compels the user to sit in a wrong light. The fact is, of course, that the actual purpose of the building—for clerks to write in—is the primary condition of the plan. The building must be designed from the unit outwards as much as from the site shape inwards; this is a platitude, but there is ample evidence that it will bear repetition.

There are eighteen floors, and these are almost wholly given up to offices. The owning corporation has, however, found room for a cafeteria and a fully-equipped hospital

The Royal Building, New York. By Starrett and Van Vleck. The main floor, looking east.

with a resident nurse all for the use of the employés of the various tenants. The ground floor has the usual concentration of decoration in the entrance hall. Here there are a travertine floor, walls of light-coloured Bassville marble and column shafts of Rosso Antico. The basement is taken up with store-rooms and strong-rooms, and the whole building is perched on top of an underground railway station which occupies the sub-basement. We take the feats of our engineers rather calmly these days, but the placing of such an immense weight above a railway is one which should not pass unnoticed. The engineers have been at great pains to insulate their stanchions from the ill-effects of the vibration and noise of the trains. The scheme includes the comparatively small stairs which New Yorkers put up with as entrances to their unduly crowded underground stations.

Reference has been made earlier to the construction. This is such that the building may be regarded as being practically fireproof. There is literally nothing to burn. The structure is, of course, a steel frame with the usual fire-resisting covering and the floors are of reinforced concrete to which linoleum is cemented. All the usual combustible parts, such as doors, skirtings, architraves, and windows, are of metal; so also is the greater part of the office furniture. The directors only are allowed the luxury of wood in their offices. Partitions are of gypsum block. This growing American custom of making the "trim" of metal is beginning to spread to England, and there is a great deal to be said in its favour. The panelled door owes its existence to the peculiarities of wood; and one wishes that the makers of metal doors would realize this and cease producing, as they do, stamped metal doors with moulded panels copied from wooden examples. With metal the plaster butts against skirtings and door linings and stays there without that gap which often will separate wood and plaster. That delight of the housewife, a coved skirting with the top edge flush with the plaster, is a normal practice in metal. In this insurance building all windows are double-hung sashes of metal. These, we notice, are now being made in England.

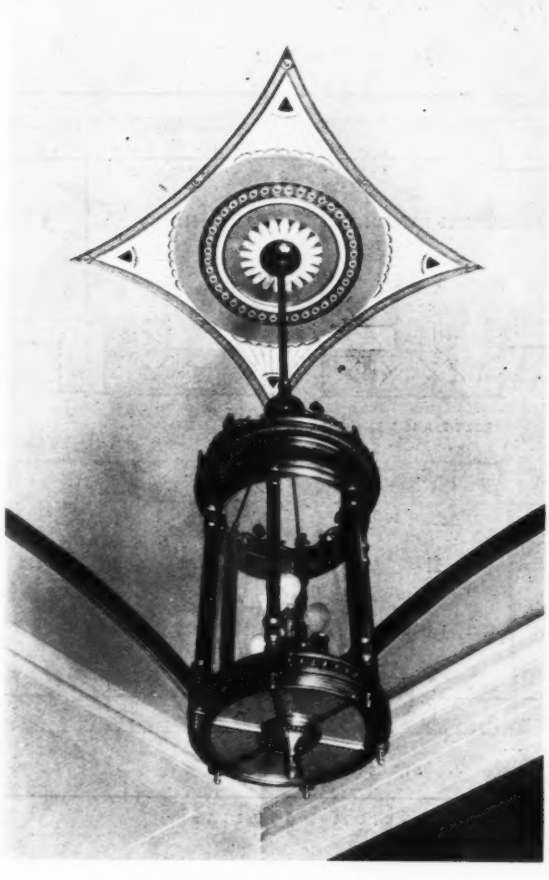
The Royal Building, New York. By Starrett and Van Vleck. The main floor, looking west, towards the entrance.

The method of dealing with the usual array of pipes and wires is very interesting; they have been rightly thought out from the beginning. Along each row of desks is a floor conduit, and under each desk are junction boxes for making a telephone connection above and a ceiling light point below. For heating, radiators are placed under the windows and, as is usual in New York, are steam. The steam is purchased like the electricity from a central station, thereby abolishing at one stroke boiler-room, fuel store, ash-bins, feed tanks, and all the labour of stoking. On the top floor is a refrigerating plant which is used by the cafeteria as well as supplying iced water to drinking fountains in all rooms. Except for this last the building is almost without the service and staff rooms which take up so much floor space in English offices. One would like to see the installation of wholesale steam generating plants in London; they would at least take us one step nearer a smokeless city.

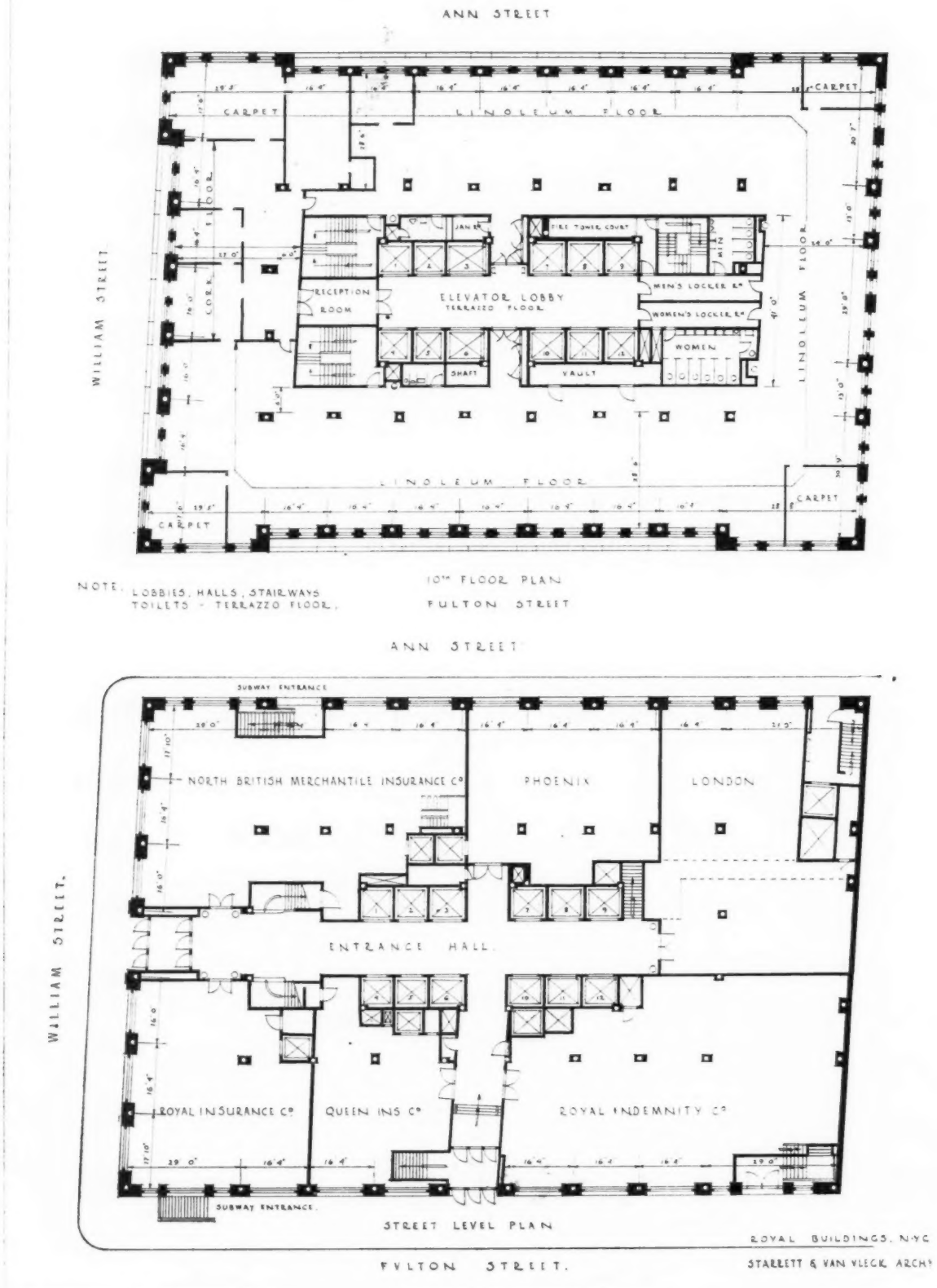
While American building practice is certainly ahead of ours, and probably that of any other nation, their design still remains very largely in the copybook stage. It is now some years since English architects ceased worshipping the god of American architecture; we know too well how the trick is done. One can pick out too easily the reflected work of Michelangelo, Mansard, and the brothers Adam. There are signs, however, that the Americans are themselves beginning to hate this everlasting copying, but as yet really original thought in design is but a puny child.

This insurance building is, however, as good an example of skyscraper design as can be found; it is unusually free from affectations, and has neither an Italian palace nor a Gothic cathedral perched on its summit. It is faced with buff Indiana limestone, a material of beautiful colour and texture, and without being strikingly original it is seemly and dignified. If all American architects lost their books of period trimmings and, forgetting their Hollywood sentimentalities, followed the ideas of straightforward simplicity embodied in this building they might in time achieve a national architecture.

The Royal Building, New York. By Starrett and Van Vleck. Entrance to an office on the main floor.



The Royal Building, New York. By Starrett and Van Vleck. Above, a typical office floor. Below, detail of an electric lamp.



The Royal Building, New York. By Starrett and Van Vleck. Plans of ground and typical office floors.

A RAMP-AND-TWIST BALUSTRADE: ii

[BY J. STIRLING BOYD]

As an example, the developments of the base-stone E are shown in diagrams B and C, figure two (see supplement). An advantage, however, of making a complete development is that the jointing can very conveniently be arranged upon it, and the elevation if required can be directly projected from it and from the plan.

Separate developments of stone E, diagrams A, B, C, figure two: From any convenient point, Z as centre, describe an arc to represent the centre line of the balusters. The radius for this particular stone is about 13 ft. 3 in. Set out on the centre line the width of the balusters and spaces, drawing the sides of the latter to converge to the centre (Z) of the arc. Now draw the width of the base, 1 ft. 3 in., and the two remaining sides of the balusters.

At a suitable point (*a*) on the line X Y make a stretch-out of the arc contained between the points 3*a* 4*a* on the plan diagram I, figure one (see supplement, Sept. 26). This is the width of the winder, as shown by the riser lines produced normal to the curve to cut the convex face. The stretch-out of this arc is shown by the points *a* and a^2 in diagram B, figure two. Set up the rise—6 in.—of the step as at a^3, joining a^3 to *a*, thereby determining the inclination of the base on the convex side.

At right angles to this draw the lower joint, and set off the width of the base 1 ft. 6 in., drawing the upper surface to the slope already determined. Draw a horizontal on which to set off the development of the convex curve, the point I*a* being located by projection from the point *b* on the development. On this line, and from the point I*a*, set out the development of the balusters and spaces as measured on the convex curve in plan, diagram A. At the point b^1 draw the upper joint of the base at right angles to the slope, and at the lower edge of this joint draw a vertical line to meet the bottom bed in the point a^4. Now, from each of the divisions, 1*a*, 2*a*, etc., project down to the upper edge of the base, and at point *b* set up the height—3 in.—of the baluster seats. The upper surface of each of the baluster seats can now be drawn and the convex face mould completed.

Before making a stretch-out of the concave curve, the upper and lower joints should be drawn on the bed mould. The dimension P on the convex development is transferred to the convex curve in plan, and as the joints are to be plane surfaces when completed their lower edges will be drawn parallel to the top edges, giving a dimension on the concave curve indicated by Q. Now make a development of the concave curve, including the divisions Q, and from each of the divisions 1*b*, 2*b*, etc., diagram C, project down to the corresponding heights on the convex development, and so complete the concave face mould.

It will be observed that the joint lines on the concave development are not quite at right angles to the inclination. The advantages of this arrangement have already been explained in describing the complete development on figure one. Flexible zinc face moulds are cut to the two developments, the plan of the stone providing the necessary bed mould.

Base and coping of quadrangle wall, diagrams VI–VII, figure one, and diagrams D, E, F, figure two: As diagrams VI and VII are drawn to a small scale, the development of the base-stones are drawn to a larger scale at D, E, F, figure two. The description will apply to either diagram. The convex curve of the base and coping of this wall is already divided into twelve equal parts. Divide also the concave curve into the same number of equal parts as shown by 1^1 to 13^1.

The concave side of the base being more exposed to view than the convex side, the joints on the former will be made at right angles to the inclination, and by making the joints plane surfaces —as already explained in the development of the balustrade—the joint lines on the opposite or convex side will not be quite at right angles to the slope.

Begin, therefore, by making a stretch-out of the concave curve in plan. This is shown by the divisions 1*f* to 13*f*. Draw vertical lines from each of those divisions to meet projectors from the top of steps 1 and 13. Parallel to the intersections of these lines, and

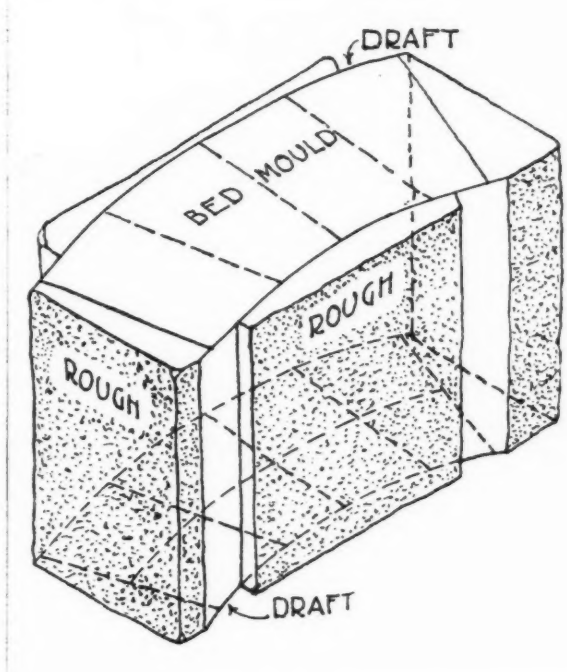


Figure three.

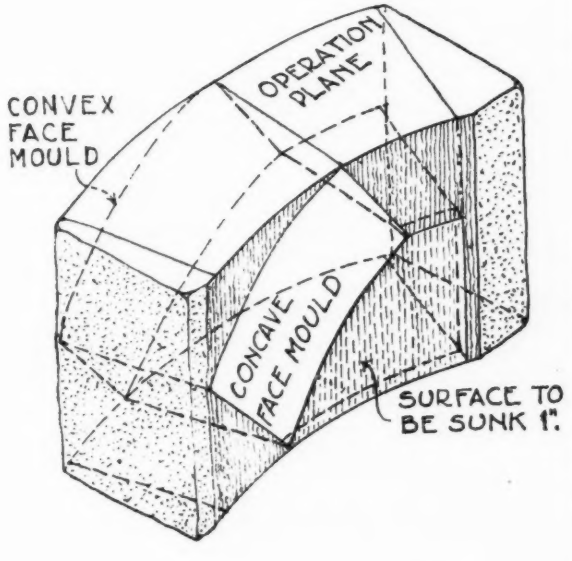


Figure four.

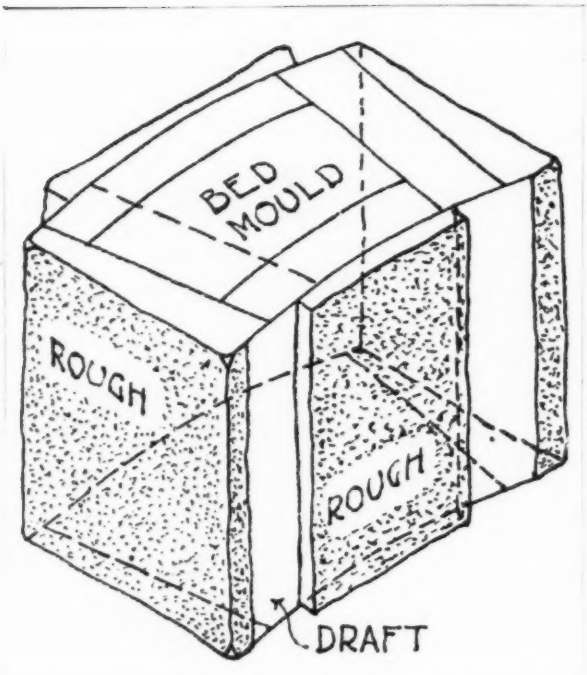


Figure five.

from the point a^1, the top edge of the base is drawn. Now add the moulded and plain parts of the base—6 in. and 12 in. respectively—and at the points where the under edge of the base intersects the beds of ashlar, draw the joint lines of the plain base at right angles to the inclination of the latter. The jointing of the moulded base can now be arranged, the lower joint being a continuation of the lower joint of the plain base. The uppermost joint is drawn at right angles to the inclination from the point where the underside of the moulded base meets the vertical abutment. The other joints are drawn at right angles to the slope at the points where the beds of ashlar intersect the upper surface of the moulded base, e.g. see upper bed of stone B. The base-stone A is made to include part of the wall to ensure proper bonding, and the base-stones on either side of A rest on inclined beds. All the moulded base-stones are made to "square-bond" with the upper ashlar wall.

To draw the convex face development—diagram VII, figure one, or F, figure two—make a stretch-out, 1*g* to 13*g*, of the divisions 1 to 13 in the plan. Draw vertical lines from 1*g* and 13*g* to meet horizontal projectors from the top of steps 1 and 13. From the point a^2 draw the upper surface of the moulded base parallel to these intersections. Now draw the joints of the moulded base at right angles to the inclination at points projected across from the concave development. It will be observed that the joints being at right angles to the inclination on both faces, and the width of the face moulds being the same—6 in.—for either face, the lower arris of each joint will not be horizontal. This is no disadvantage, and it is certainly preferable to having the lower arris level, which would necessitate making the convex face mould narrower than that of the concave face.

The plain base, being partly covered by the ends of the steps, need not have its joints at right angles to the inclination. Its width, however, is made the same on both faces. To draw the joints on the convex side under these conditions, first draw the underside of the plain coping parallel to the upper side, and project across from the bed joints on the concave development.

To draw the "easing" curve of the moulded base on the convex development, first set up the height of the base (1 ft. 6 in.) and draw a horizontal line to meet the upper surface of the inclined base produced in the point G. With radius G J, and with G as centre, determine H, then bisect the angle H G J. Draw the bisector to cut a line produced from the first joint—see K, which will be the centre of the easing curve on this face. The corresponding curve on the concave development is drawn in a similar manner.

The convex development of the coping can now be produced by first drawing from the point X, diagram VII, figure one, a line parallel to the base. Extend this line to meet the top surface of the horizontal coping of the pedestal in the point G^2. Now fix the position of the first joint at j^2 and draw it at right angles to the inclination, producing it to meet the bisector in the point K^2, the centre for the easing curve of the coping on the convex face. The under edge of the coping is now drawn parallel to and 7 in. from the top edge. The joints will be drawn at right angles to the inclination, but not until they have first been determined on the concave development.

The concave development of the coping—diagram VI—is produced by drawing first the upper edge of the face-mould parallel with the inclination of the base, and from the point X. The position of the lower joint is projected across from that on the convex development at j^2, and then drawn at right angles to the inclination. Add the width—7 in.—and draw its lower edge. Where this meets the abutment at the upper end, draw a joint. This (by projecting across) now gives the position of the upper joint for the convex face mould. The intermediate joint can now be drawn on both developments, and by adding the easing curve for the concave face the production of all the face moulds will be completed.

It should be noted that the joints of the coping-stones over the quadrantal wall, and those of the moulded base, are winding surfaces, while the joints of the plain base are plane surfaces.

Separate developments of stones A and B, diagrams VIII and IX, figure one: If it is desired to produce the face moulds separately, first draw the plan of the stone as in diagram VIII, the dimensions and position of joints being obtained from the general plan. Space out with dividers the concave curve in plan and transfer to the development in the points 1*b* to 7*b*. Determine the inclination of the base by setting out the height of the rise—6 in.—and the width of the narrow end of one winder produced to and measured on the concave side of the base in plan—see points 1^1, 2^1, etc., on diagram I, figure one. From the point 7*b* of this concave stretch-out draw the upper edge of the mould to the inclination, and at each end of this line draw the joints at right angles. Now set off the width—12 in.—of the plain base, drawing the lower edge parallel, and drawing also the horizontal lines which correspond with the beds of ashlar. The position of the vertical joint on this mould can be obtained from the plan of the stone in diagram VIII.

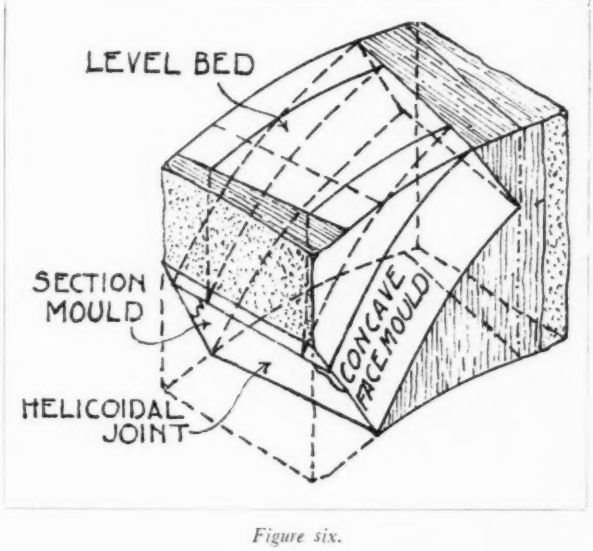
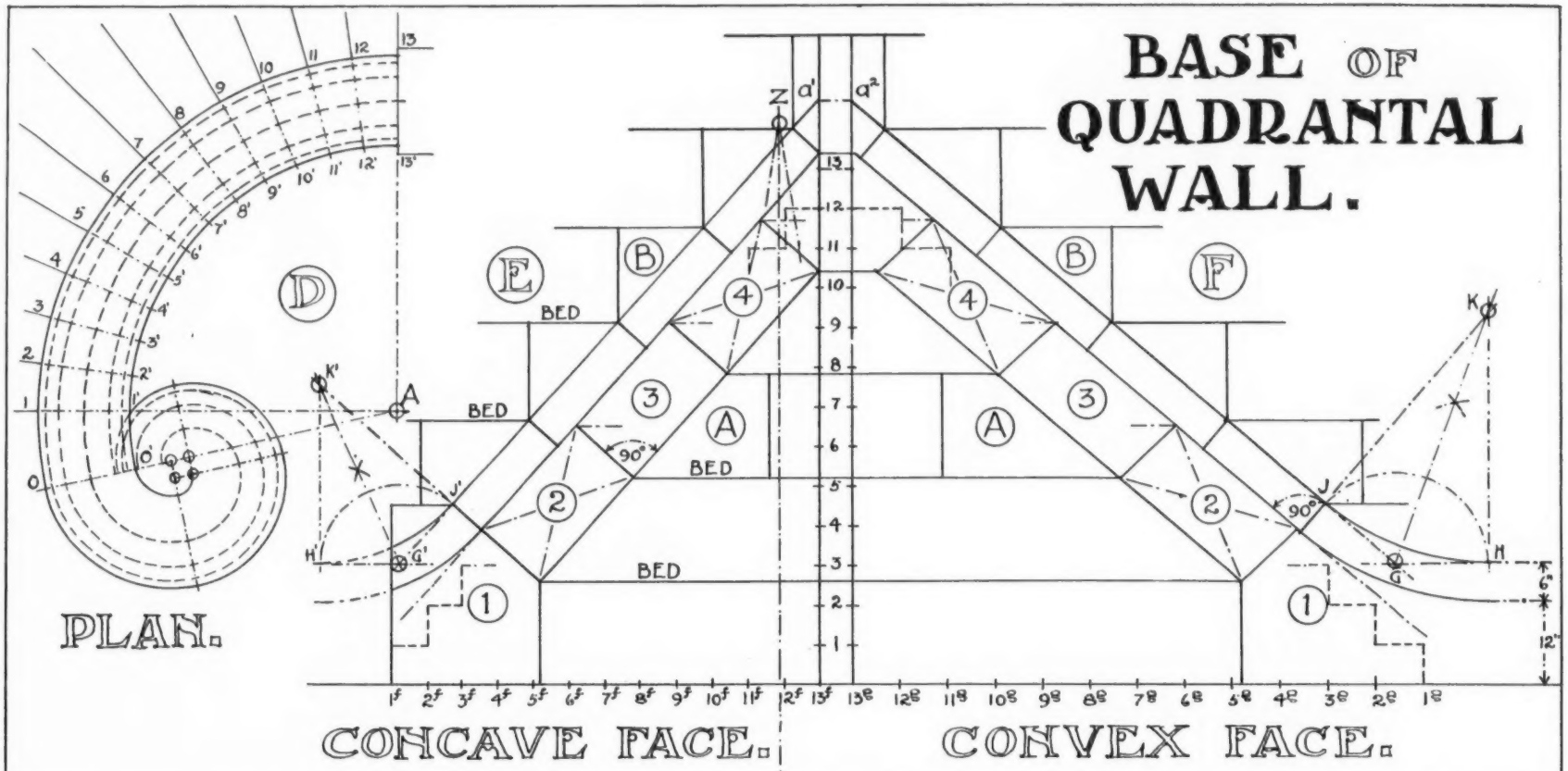


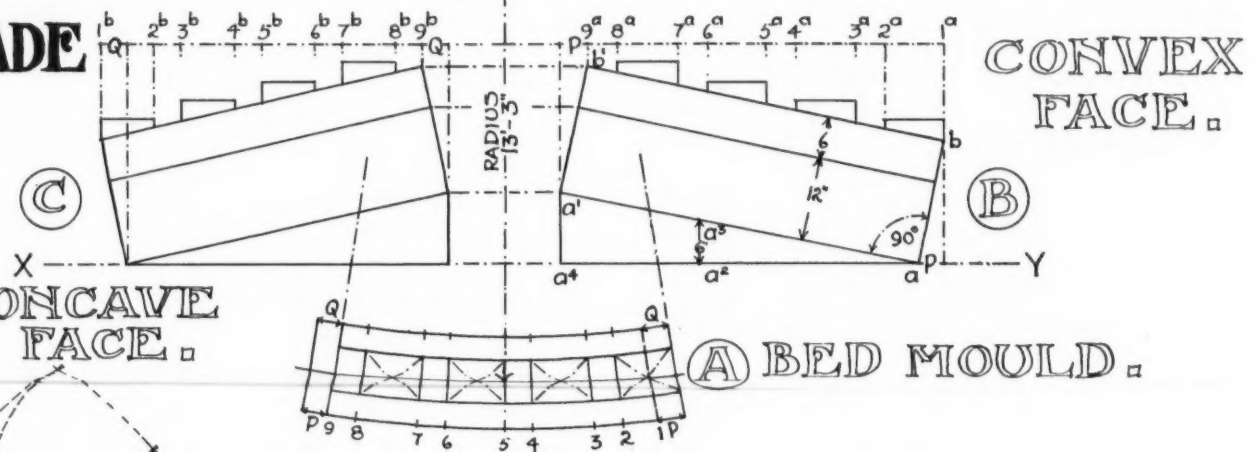
Figure six.

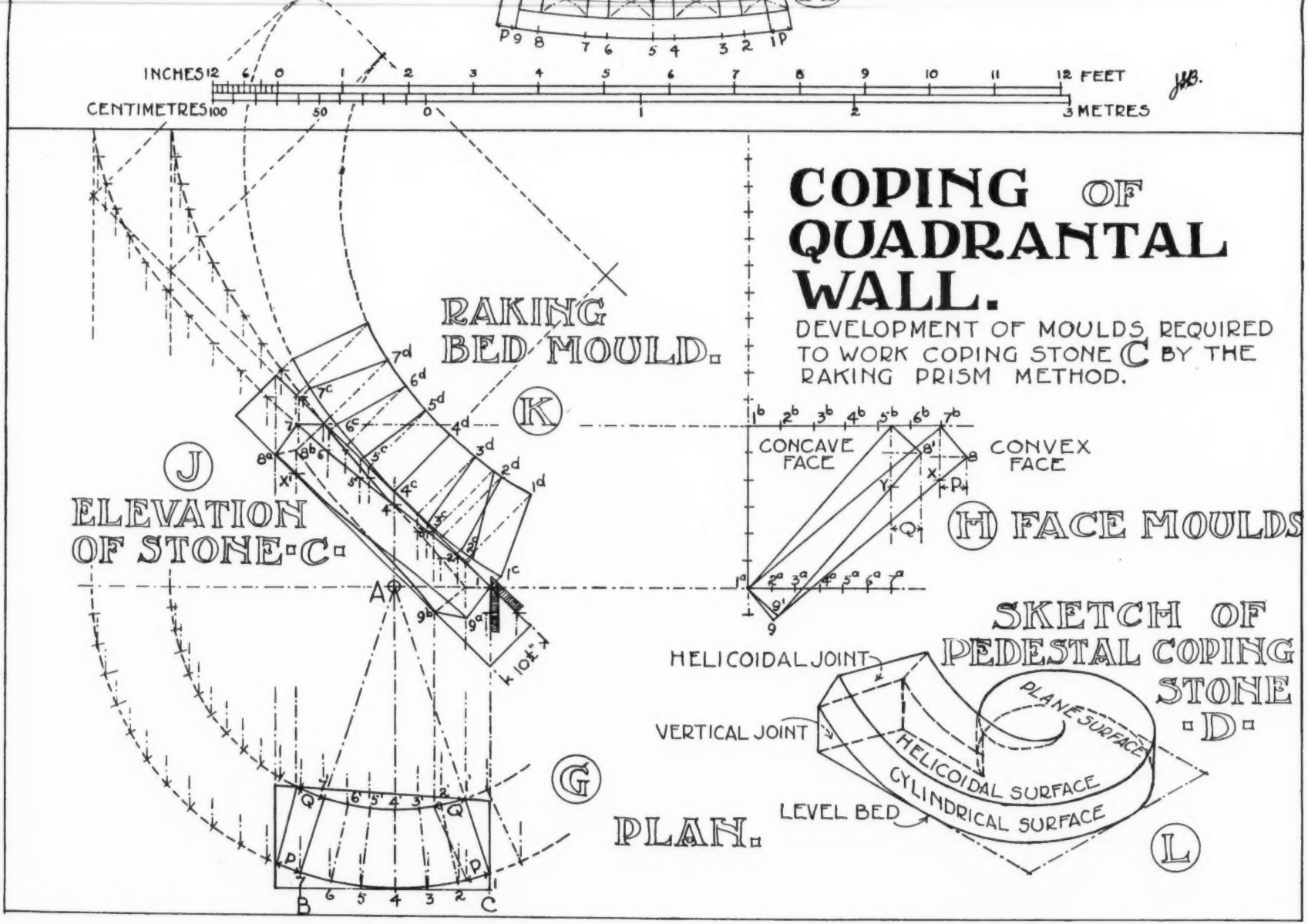
BASE OF QUADRANTAL WALL.



BALUSTRADE BASE.

STONE E. No 2





A RAMP-AND-TWIST BALUSTRADE, FIGURE TWO.
BY J. STIRLING BOYD. [SEE ARTICLE ON PAGE 471.]

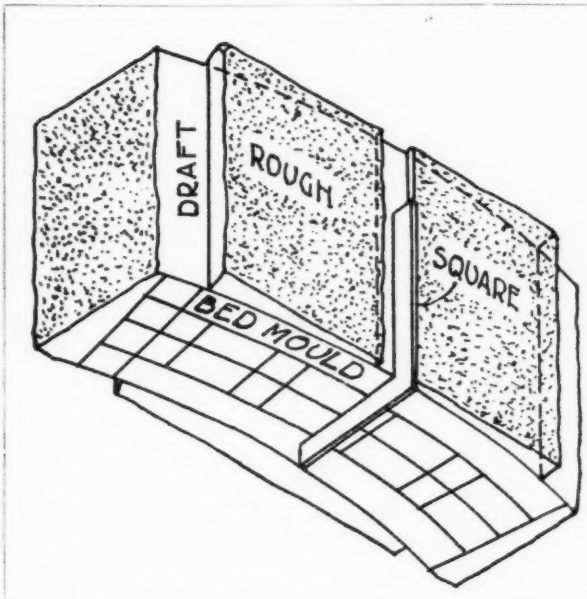


Figure seven.

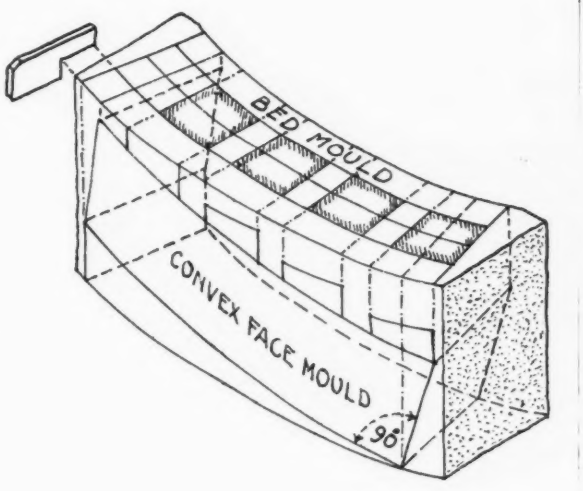


Figure eight.

The inclination of the upper edge of the convex face mould is found by making a stretch-out of the convex curve in plan. The lower edge of the mould is drawn parallel to the upper edge—the width being the same as that of the concave mould—and the joint lines drawn. The position of the bottom corner of the lower joint can be checked by transferring the measurement Y from the plan or bed mould to the development, as shown. Separate moulds for stone B are produced as shown in diagram IX, figure one.

First draw the plan of the stone making the upper arrises of both joints converge to the centre of the plan curve. Divide the concave and convex curves into, say, six equal parts, as shown. Now make a stretch-out of the concave curve as indicated by the divisions *1b*—*7b*. From the point *7b* draw the upper edge of the face mould to the inclination already determined in diagram VIII. The joint lines are now drawn at right angles to the inclination, the width of the mould—6 in.—being added to complete the concave development. Now make a stretch-out of the convex, as shown by the figures *1c*—*7c*, and from the point *7c* draw the top edge of the mould to meet a vertical line from *1c* in a point which corresponds horizontally with the upper corner of the lower joint on the concave face mould. Now draw the joint lines at right angles, and complete the mould by drawing the lower edge at a parallel width of 6 in. The lower arrises of the two joints may now be added to the bed mould by measuring off the dimensions X and Y on the concave and convex sides respectively.

Stonecutting: The usual method by which the stones are cut in work of this description is to prepare each block as a segment of a hollow cylinder, the height being exactly the height of the stone as shown in the elevation. On the convex and concave surfaces, flexible moulds produced from developments are applied.

[*To be continued*]

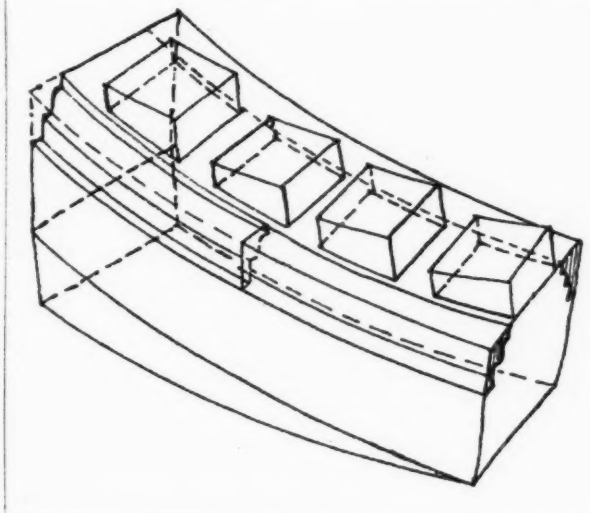


Figure nine.

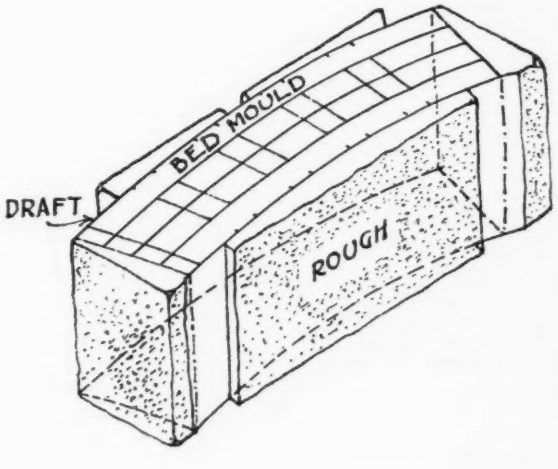


Figure ten.

LAW REPORTS

ALLEGED POLLUTION BY PETROL

Price and another v. *London General Omnibus Co., Ltd. King's Bench Division. Before Mr. Justice Salter*

This was an action to recover damages for injury to the plaintiffs' well, the plaintiffs saying that the well on their premises had been polluted by petrol from the defendants' premises.

The plaintiffs were Messrs. Joshua Price and Wm. Price, carrying on business as dairymen at Goldhawk Road, Shepherd's Bush, and the defendants were the London General Omnibus Company.

Mr. James Whitehead, K.C. (with him Mr. J. Eales), for the plaintiffs, said his clients sunk the well in 1924, and when they came to pump the water from it the water was found to be contaminated with petrol. Plaintiffs alleged that the petrol came from defendants' garage in Wells Road, which was a turning off Goldhawk Road, where plaintiffs' premises were.

Sir Duncan Kerly, K.C. (with him Mr. Malcolm Hilbery, K.C.), for the defendants, who denied plaintiffs' allegation, said his evidence would show that the garage was properly kept and that it was in such a condition as to prevent any petrol reaching the earth from it.

His lordship, in the course of his reserved judgment, said he had to decide whether it was proved that the petrol in plaintiffs' well came from defendants' garage, and, incidentally, to consider the defendants' theory that an old sump at other garage premises was the source of the pollution. It was not suggested that the petrol soaked down from any point on plaintiffs' premises, but had soaked down from some point outside them and had been carried there by the lateral movement of the water in the ground. He had examined the premises and had heard the evidence, and he was not satisfied that the sump was the source of the nuisance alleged. He was not satisfied that any petrol, which was found in the plaintiffs' well, soaked from any point on defendants' premises or came from their premises, and the action therefore failed and would be dismissed with costs.

REBUILDING: ALLEGED DAMAGE

Lawrence v. *Luxemburg. King's Bench Division. Before Mr. Justice Shearman*

This action arose out of damage done during the rebuilding of adjoining premises, the plaintiff, Mr. Philip A. Lawrence, of Charing Cross Road, alleging that in October 1927, about three months after he had been in the premises, the defendant, Mr. Victor Luxemburg, who let plaintiff the premises, commenced rebuilding the adjoining premises, and for this purpose he knocked down lath and plaster walls, placed quantities of building materials on the plaintiff's premises, and projected large beams through holes made in the boundary walls. This caused considerable quantities of mortar dust to fly about and settle on plaintiff's furniture and interfered with the carrying on of his business. Under these circumstances the plaintiff claimed damages from the defendant for alleged trespass.

Mr. Gilbert Beyfus, for the defendant, said it was well known to both parties when plaintiff took possession that defendant intended to rebuild the adjoining premises, and if plaintiff suffered any inconvenience it was within their contemplation. Plaintiff, after the commencement of the building operations, elected to continue the tenancy, and defendant counterclaimed for eight weeks' rent at £30 per week up to December 2 when the tenancy expired upon notice given by him.

Mr. A. Cairns, for the plaintiff, argued that the plaintiff was entitled to judgment, as the defendant well knew that the premises would be used by the plaintiff to store furniture and as a sale-room.

His lordship, in giving judgment, said, in his opinion, the rebuilding work was carefully done and the actual rubbish made at the time was carefully cleared away. The builders, however, made two holes in the wall in order to do some excavation work, and this was probably the cause of the trouble between the parties.

He thought there had been a trespass leading to a breach of the covenant of quiet enjoyment by dirt and dust finding their way in, and that what was done made the premises impossible to make a profit in. It was asked why in those circumstances the plaintiff went on; but he probably thought the trouble would be only temporary and eventually he would get a longer tenancy. He came to the conclusion that, although rather overstated, the case for the plaintiff was a substantial one, and he awarded him £250 damages for general injury to his business and furniture, and loss of beneficial use of the premises. With regard to the defendant's counterclaim, he awarded defendant the sum of £240, being of opinion there was no complete dispossession. This would be set off against the plaintiff's damages, and plaintiff would have judgment for the balance.

NEW INVENTIONS

[These 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, London, W.C.2. The price is 1s. each.]

LATEST PATENT APPLICATIONS

16374. Ambrose, J. G., Matthews, C. B., and Concrete, Ltd. Production of concrete, &c., slabs for building. September 14.
26419. California, Regents of the University of. Method of impregnating wood. September 14.
26501. Otto, K. W. Playing-courts. September 15.
26541. Utley, T. Windows, &c. September 15.

SPECIFICATIONS PUBLISHED

296834. Odling, M. Building-blocks.
296906. Stewart, A. W. Ventilating apparatus.
296692. Crittall, R. G., and Musgrave, J. L. Means for positioning the pipes used in connection with the heating and cooling of the floors and ceilings of a building.

ABSTRACT PUBLISHED

294738. Jackson, W., 7 Midland Street, Clarendon Park, Leicester. Roofing-tiles.

OBITUARY

Mr. Edmund James Harrison

We regret to record the death of Mr. Edmund James Harrison, L.R.I.B.A., of Crouch End, N., formerly of Gray's Inn Square. He was a pupil of the late Henry Saxon Snell, with whom he worked until he started practice in 1888. He held the appointment of architect to the Chelsea Board of Guardians for thirty-two years, which he recently relinquished, together with the appointment he had held with the Mile End Board of Guardians for fourteen years, when the latter amalgamated with two others to form the Stepney Union.

The appointment to the Stepney Union Board of Guardians was offered to him, but wishing to lessen his work he did not accept it, though fully appreciating the honour paid to him. He held the appointment of architect to the Islington Board of Guardians to the time of his death, having served that board for eighteen years. Mr. Harrison also carried out a great deal of work for the Wandsworth and Clapham Union Board of Guardians.

Amongst his successes gained in competition was the Rotherham Municipal High School for Girls, carried out in conjunction with Mr. J. T. Holgate.

ENGLISH PRECEDENT

33 *St. Mary Magdalen, Willen, Bucks, 1680. Chancel and apse, 1862. Dr. Busby of Westminster School built this church, and it has long been assumed that Wren gave a sketch for it. I fancy that Professor Richardson has found decisive evidence that Wren* did, *but I cannot remember this for certain. The inside is good. The outside can be seen in the photograph. In reality it has great charm, and suggests a very good type of modern church for a rather proud village.*—[H. S. GOODHART-RENDEL.]

THE ROYAL SOCIETY OF ARTS AND INDUSTRIAL DESIGN

[BY KINETON PARKES]

THE negative value of the fifth annual competition, the results of which are now on view at the Imperial Institute Galleries, is considerable. There is a considerable amount of material there which indicates how the thing ought not to be done. Natural law demands it; the judges deplore it; it cannot be helped. The judges deplore, moreover, the material sent in which was too bad to be exhibited. This is partly the fault of the pupils in the art schools; partly that of the masters thereof; partly that of general human stupidity which will not realize that this admirable competition is not for art-school exercises, but for application to industry. The things are required for commercial purposes and cannot be expected from junior scholars. So far as the schools are concerned, the exhibition only becomes of practical value when the graduate and post-graduate stage in pupildom is arrived at. The positive stage being reached, there is much to be thankful for. The fact that the principles of the competition have been more generally realized is the first point for congratulation. After five years there is a good proportion of usable, and therefore professional, stuff. The more advanced the student, naturally, the more he realizes what is required of him. It is true that the higher prizes are given for further study, which is the right thing; they are not mere rewards for a meritorious effort, but are intended to increase the value of the effort in the future—to render to the winner a wider outlook and a deeper experience. The travelling scholarships are particularly valuable in this direction.

Above and below, two designs by Henry G. Glyde, winner of the Lewis Berger scholarship.

The art training establishments—primary, secondary, and tertiary—are affected in the first place; but a more important factor is the effect on the manufacturing world. That there is a more intelligent outlook on art is abundantly shown by the prizes and general interest afforded by commercial firms. These firms are not necessarily manufacturers of art products; there are those whose only care is that the aid of art shall be sought in appealing to their customers, which is excellent.

The positive aspect comes out most successfully in a review of the principal exhibits. The first point is that they are better than they were; the second, that now that the idea is understood that this is a quasi-professional competition, they will speedily be better still, and the reward of the Society of Arts for its most praiseworthy effort will be increasingly greater. It must be noted that this success is largely due to the confidence which, encouraged by experience, is placed in the admirable selection of the judges who, from a practical as well as theoretical point of view, could hardly be improved on. Their advice and general remarks of previous years have been taken into account over a wide area. There is, however, still occasion for art schools to get a better understanding of the scheme, for 793 of the competitors were derived from this source, and 285 were non-students. It is not desirable to differentiate, in noticing the work. As the complacent old gentleman, while dying, when asked if he would like to go to heaven or hell, remarked: "I don't mind, I've friends in both places."

Of the 3,126 designs submitted, 305 belong to the classes of architectural decoration, and 152 to furniture. Seeing that there were many in the classes of textiles—of which there were 959 exhibits, wallpapers, pottery, and glass all having a greater or less connection with architecture—the exhibition has a wide appeal to all those interested in the Mother of the Arts. For a design for a cinema entrance hall no work was good enough for a prize, and the work commended (by Thomas Mitchell, of Glasgow) is affected by the worst aspects of "cinema art." That the author of it was obsessed by a degraded idea becomes obvious when further designs of his in other subjects are encountered. That this pernicious feature is widespread is seen also in the designs for a wrought-iron canopy for a theatre. Two prizes were awarded: the first, given by Messrs. Bagues, for an irresolute and not well-

constructed needlework-like erection by John Sidebottom, of Leeds; the second to John Howard, whose bold, upstanding lamps drew attention to the good vertical lines of his wrought-iron and green bronze—a more striking work. Thomas Mitchell was commended again. The decorative painting class was not strong, and mostly derivative. The Lewis Berger Scholarship of £60 was won by Henry Glyde, of the Royal College of Art, who well filled a lunette and spandrels with a modern scene and figures, preferable to the Brangwynesque efforts of most of the other competitors. Messrs. Shanks's invitation to design a bath-room in a private mansion was eagerly accepted, and some most elaborate efforts resulted. The two selected for the division of the prize were the most elaborate and certainly the best, the winners being Leonard Dixon and Stanley Smith, who certainly earned their money for the intricacy of their drawings. A good chance for architects was afforded by Mr. A. J. Davis, F.R.I.B.A., in the competition for a fountain, but there was hardly any competition. The prize was divided between John Summerson, of London, and Raymond Walker, of Leeds. Both represented niche fountains; both had figure sculpture and circular arches; both failed at the water-designing, which is the essence of fountain-work. Summerson's consisted of a double basin, composite pillars and pilasters, a portrait medallion placed too high, and a winged figure without much distinction. The figures—a standing and two sitting women—of Raymond Walker's fountain were better in design; there were two Ionic pillars, and the stonework with its mouldings was good. An attempt at water display was made from above by a jar poured by the standing figure; below that from a mask; and below the mask from the basin below its rim, the jets forming a pattern as they discharged into the lowest and largest basin. It is to be hoped that this subject will be entered again in succeeding years. Mr. Murray Adams-Acton's enterprise in proffering a prize for a petrol-filling station was hardly justified by the range of the result, although the two winners deserve some praise. The prize went to Thomas Mitchell, of Glasgow, who also secured the £100 Travelling Scholarship. His design was a simple, plain, rectangular structure comprising garages of one-story, glass-walled, and a two-story main building. An advertisement hoarding was discreetly revealed, but the petrol pumps were hidden away. The pumps appear in an orderly and not unpleasing array in the commended design of Robert Minty, A.R.I.B.A., which, incidentally, is the most business-like of all the competitive works. The subject is the motor-service works for Fox and Nicholl, of Tolworth, Surrey, and consist of a cottage structure with mansard roof, with a canopy over the entrance, which is flanked by the pumps wisely, because symmetrically, placed. The garage is constructed of simple brick pillar supports for a glass roof, with glass walls, and there is an effective advertisement display.

The furniture section is excellent. It is practical and it is artistic. A nice sense of the value of texture and colour is observable. Some of it is suggestive, some bizarre, but most quite practicable. The bedroom furniture is far better than either the dining- or drawing-room; in fact, it is very good indeed. Better prizes were deserved than those offered by the London Cabinet and Upholstery Trades Federation. Frederick de la Mare, of Brixton, who was highly successful two years ago, was awarded first place; his design was fan-shaped, square-set, and somewhat heavy. As a contrast the designs provided by Cyril White, of Nottingham,

who also won an Owen Jones prize, were pretty and light, original in pattern, with zebra, orange, purple-coloured woods, the bases and knobs of lignum vitæ, with turned legs, all highly polished. The dining-room chair designs were not very successful; nor, indeed, was the competition for the *Cabinet Maker* prize for a wireless receiving set container. There was nothing original here; the ideas of the harpsichord and spinet and of the sideboard were badly adapted, and there was no new suggestion. The best designs were William Payne's, of Bath—a simple oblong box on high turned legs, of walnut veneer with figured oyster-shell decoration and pierced brass handles, with cupboards and drawers, and an adaptation of the harpsichord case of amboyna, macassar, ebony, greenwood, mother-of-pearl, and ivory. A

The Royal Society of Arts Industrial Designs Competition. Above, a silver cup, by Edward Spencer. Below, a design, by Alfred Garner.

striking design, but quite old-fashioned, was the sideboard adaptation, ornate, heavy, and elaborate, in ebony and gold (1486).

The most pleasing and most original was No. 2982, of grey sycamore with silvered carving. A word should be said for the silver cup of Edward Spencer, the prize for which was given by the Society. It is a somewhat original treatment of the fluted motive, but on traditional lines, which make it acceptable. Tradition is observed, too, in the glass and pottery section, but tradition debased for the most part to fashion. There is a good deal of improvement required in these sections in order to bring them up to the standard now getting established by these profoundly important exhibitions. One improvement is distinctly noticeable in this as compared with the earlier exhibitions, and this is in the essential of fitting the design to the material.

R.I.B.A. FINAL EXAMINATIONS

ALTERNATIVE PROBLEMS IN DESIGNS

Following is a list of R.I.B.A. problems in design for the year ending December 31, 1929. Additional copies of the list may be obtained free on application at the R.I.B.A.:

1: The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9 Conduit Street, W., on or before the dates specified below.

2: Each set of drawings must be signed by the author, AND HIS FULL NAME AND ADDRESS, and the name of the school, if any, in which the drawings have been prepared, must be attached thereto.

3: All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the student may profit by advice.

4: Drawings for subjects *a :* are to have the shadows projected at an angle of 45 deg. in line, monochrome, or colour. Drawings in subjects *b* are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

CIII—*a :* A design for *The Principal Staircase for a Country House.* The house would contain as reception rooms the following: Hall, drawing-room, dining-room, billiard-room, study. This information is given to indicate the type of house. There would be, of course, the usual service quarters. The house is to be two stories in height, and the height from ground floor to first floor is 10 ft. 6 in. The candidate should show by a key plan the general arrangement of the rooms on the ground floor. The space allotted to the staircase is about 16 ft. by 12 ft. The staircase is to be in hard wood.

Drawings required : ½ in. details sufficient to show the whole design.

b : Working drawings for subject number CI. *A Flight of Steps.* Working drawings required for a portion of the flight of steps showing all construction. The amount shown should be sufficient to cover a double elephant sheet.

CIV—*a :* A design for *A Palm Court for an Hotel.* The hotel is situated in an important city and is to contain in the centre portion a palm court or lounge of about 3,000 ft. super. The palm court will be entered from the main entrance hall through an ante space. It may be surrounded by a raised gallery (on the general level of the hotel's principal rooms), and accessible thereform will be the ballroom, refreshment- and dining-rooms, etc. The hotel is rectangular in plan with four stories above the ground floor, the palm court being in the area formed by the rectangle of bedrooms.

Drawings required : $\frac{1}{32}$ in. key plan of general arrangement of the palm court and surroundings; ½ in. section of the palm court, which may be in colour if desired.

b : Working drawings for subject number CII. *A Garage.* Working drawings are required to ½ in. detail of a portion of the elevation, showing full details of construction with elevation, section, and plans.

CV—*a :* A design for *A Church Tower.* A church is to be erected in a new town with the following conditions of site: A wide avenue runs west to east dividing into two roads at the point where the new church is to be built, thus forming a triangular shaped site, part of which is available for the church. The depth of this part from west to east (on the axis of the avenue) is 200 ft. The point of the triangle is cut giving a front dimension of 80 ft. The width of the back of the site is 180 ft. At the back of the site is a narrow road connecting the two secondary roads. The church is to accommodate 600 persons. A design is required for the west end, which must include a tower.

Drawings required : $\frac{1}{16}$ in. scale key plan of church; ¼ in. scale elevation of tower.

b : Working drawings for subject number CIII. *The Principal Staircase for a Country House.* The design for the principal staircase for a country house may, after it has been approved, be re-submitted with the addition of: ½ in. details such as would be sent to a builder; full-size details of mouldings.

CVI—*a :* A design for *A Pair of Semi-detached Suburban Houses at the Corner of two Roads at Right Angles to each other.* The site for the two houses is 90 ft. by 150 ft., and the building line is 15 ft. back from each road. The gardens between the houses are to be separate for each house. Accommodation required—On the Ground Floor : Entrance hall, dining-room, living-room, kitchen, maid's room, usual offices, small garage. On the First Floor : Four bedrooms, bathroom, etc., servant's bedroom.

Drawings required : Plan of each floor. Two elevations and cross-section to ⅛ in. scale. Details of part of front elevation and section to ½ in. scale.

b : Working drawings for subject number CIV. *A Palm Court for an Hotel.* The design for a palm court for an hotel, may, after it has been approved, be re-submitted with the addition of: ⅛ in. plan of palm court; ½ in. section showing all construction.

CVII—*a :* A design for *A Club Building for Boy Scouts to be run by the Old Boys of a Public School.* The site, situated in a street about 45 ft. wide, is rectangular, 36 ft. wide from centre to centre of party walls, and 70 ft. deep from the frontage line to the centre of the party wall at the back. On either side there are buildings three stories high, and at the back buildings one story high above the ground-floor level. On account of ancient lights the depth of the building from the frontage line at second-floor level adjoining the party walls is not to be more than 45 ft. Generally the accommodation required is as follows—On the Ground Floor: An entrance from the street with staircase leading up and down to the club quarters. The remainder of the space is to be let for shop or other commercial purposes. In the Basement : Heating

The Royal Society of Arts Industrial Designs Competition. A design, by Denis Greenwood.

and storage accommodation for the club, the remainder of the space being let in connection with the ground-floor shop. *On the First Floor :* Large club room with kitchen, living and bedroom for housekeeper, with service in connection with the club rooms. *On the Second Floor :* Two club rooms with three small bedrooms for old boys in residence, with lavatory accommodation and bath. *On the Top Floor :* A gymnasium or playroom with lavatories and shower baths. A portion at least of the main roof to be flat, available as a roof garden, etc. The club premises to be kept separate from the portion to be let for commercial purposes.

Drawings required : Plan of all floors. Elevation to street and longitudinal section to $\frac{1}{8}$ in. scale. Detail of part of the front to $\frac{1}{2}$ in. scale. Strict economy in design is essential.

b : Working drawings for subject number CV. *A Church Tower.* The design for a church tower may, after it has been approved, be re-submitted with the addition of: $\frac{1}{8}$ in. scale plans, elevation and sections of the tower; $\frac{1}{2}$ in. details of the top of the tower.

CVIII—*a :* A design for *A Small Housing Scheme in a Mining District of Kent.* On a country road in the new mining district of Kent, running level and approximately from east to west, there is a rectangular field on the north side of the road, two acres in extent, having frontage to the road of 280 ft. The field rises evenly from the road to the north at a slope of 1 in 12. On this field it is desired to erect—1: Sixteen cottages containing living-room, scullery, bathroom, three bedrooms, etc., suitable for a miner's or labourer's family. The total area measured overall within the containing walls of both floors not to exceed 820 sq. ft.; 2: A group, or groups, containing six aged miners' bungalow homes having living-room, one bedroom, small scullery, etc. The size not to exceed 520 sq. ft., nor to be less than 500 sq. ft. A porch, veranda or balcony may be provided and the area included in the measurement. There may be provided one clubroom or common room in connection with the scheme with an area from 300 to 350 sq. ft. Sewer and water mains are laid in the road, and a village lies about a quarter of a mile to the east. The scheme may include two small village shops attached to two of the cottages.

Drawings required: A complete layout and block plan of the site and buildings showing any road, paths, open spaces, or allotments and the lines of drainage to a scale of 1/500 (41·66 ft. to 1 in.). Outline plan and complete front elevations in their relative positions of all the buildings to a scale of 16 ft. to 1 in. Plans and two elevations of any two of the dwellings to a scale of 8 ft. to 1 in.

b : Working drawings for subject number CVI. *A Pair of Semi-detached Suburban Houses.* The design for a pair of semi-detached suburban houses may, after it has been approved, be re-submitted with the addition of working drawings of a principal portion of front and interior to $\frac{1}{2}$ in. scale. Dates for Submission of Designs in 1929: Subject CIII, February 28; Subject CIV, April 30; Subject CV, June 28; Subject CVI, August 30; Subject CVII, October 31; Subject CVIII, December 31.

THE ARCHITECTURE CLUB DINNER

The Architecture Club held a dinner on Thursday, September 27, followed by a discussion on the subject of "Tall Buildings." The place chosen for this interesting function was, appropriately enough, Grosvenor House.

Sir Lawrence Weaver (the president), who was in the chair, opened the discussion with a quotation from the Old Testament: "And at this house, which is high, everyone that passeth by it shall be astonished and shall hiss. . . ." He also pointed out that when he asked people, as he received them at the entrance, what was their feeling about high buildings they all changed colour—they went either white or purple with rage.

Sir Lawrence called upon Mr. Oswald Milne to speak, and the result was an interesting defence of the high building. Mr. Milne wants anything rather than that London should be made to resemble New York, but he considers that much unnecessary mud has been slung at the skyscraper, from an ethical point of view. The basement which never sees daylight, he pointed out, is the outcome of restricted height.

Mr. Holland-Martin put the view of a layman having wide experience of building and office accommodation in the City. The bases, he said, were too small, so that when one landlord put up a tall building he drained the subsoil from his neighbour's plots, and the whole problem became one of continual underpinning and "under-foundationing." The question of artificial light, he thought, was not the bugbear which it was commonly held to be; with the perfection of the modern system of lighting, he considered that the person who worked permanently in *pure* artificial light suffered less eye-strain than those who had to tolerate a *mixture* of natural and artificial; and the up-to-date methods of ventilation and air-conditioning relieved the basement of much of its old stigma. He also conjured up visions of the position of the city church, debased from its present dominance of the landscape, and foresaw these structures lifted bodily, by the engineer's artifice, to rest upon the tops of the skyscrapers so as still to retain their dignified command of the city.

Mr. Howard Robertson gave a graphic if rapid sketch of New York life, and refuted the statement made by Mr. Milne that Mr. Frank Pick and his Underground Railway would be fully able to disperse the crowds from the pavements outside these tall buildings which were contemplated. The New York tubes should be a sufficiently good warning to us not to impose too much upon our own.

Mr. Trystan Edwards deplored the possibility of the advent of high buildings to London, and pointed out how the possibility of giving due emphasis to civic buildings (such as is at present the case) would disappear. This was, in some measure, countered by Sir Lawrence Weaver, who pointed out the inverse emphasis of the building which is considerably lower than its neighbours.

So far the discussion had been somewhat confined to the æsthetic aspect, but at this point Miss Heald brought it down to pure "domestics." She said that no man seems to consider the inside of a dwelling; they all concern themselves with the "civic" and "æsthetic" viewpoints, and discuss the question in these lights without realizing the tribulations which will be borne by those who have to *live* in the buildings; the resident on, say, the fourth floor, in order to get fresh air and sun, has either to go up to the roof, there to be sickened by the dizziness of the height, or down to the ground floor—to the pavement.

Mrs. Lanchester, who is newly returned from New York, drew attention to the fact that there the skyscraper has little congestive effect upon the street, because each high building is provided with its own restaurant, in which the inhabitants eat (thus eliminating the pavement crowd at meal times) and also each one has its own subway to the underground railway. She realized, however, that this latter state of affairs might not be practicable in London.

Mr. Lanchester, who was one of the last speakers, was bold enough (and, so far as one could see, exceedingly sound) to suggest an "As you like it" freedom of design in tall buildings. He certainly made it quite clear that, with give-and-take between the Building Act and common sense, the tall building could well take up a responsible and effective position in urban architecture.

Mr. Ewart G. Culpin demolished practically every argument, for and against tall buildings, which had been put forward during the evening! He said that it was ridiculous to suggest that there could ever be a *general* building line of 80 ft., because the people could not be found to fill the space so acquired; even now, he said, there was a glut of office accommodation. New York had skyscrapers only because it could not expand laterally; the London problem was consequently entirely different. He recommended that before discussing the problem of tall buildings London should first discuss its own town-planning problem. And, as a Parthian shot, he remarked that the tall building was all right for those who could afford, first to live there, and, second, to get away at will, but that for the artisan class the whole idea was, and had been conclusively proved to be, quite ineffectual.

UNIVERSITY OF SHEFFIELD DEPARTMENT OF ARCHITECTURE

We have received a copy of the prospectus for the ensuing session of the University of Sheffield Department of Architecture. The lecturer in charge of the department is Mr. Stephen Welsh, M.A., B.ARCH., A.R.I.B.A. (Rome Scholar 1922). The department has been recognized since 1911 by the R.I.B.A. for the purpose of exemption from its Intermediate Examination, which is granted to all students who have satisfactorily completed the three years of the school course. It is hoped, in the near future, to obtain from the Board of Architectural Education exemption from the R.I.B.A. Final Examination. Most of the full-time students, after completing the Intermediate course, stay on for two years preparing themselves for the R.I.B.A. Final Examination. All students are encouraged to spend part of their vacation in approved offices. The majority of the students attending the department are at present serving articles in offices in Sheffield and the neighbouring towns of Chesterfield, Doncaster, Rotherham, and Barnsley. The method of teaching is based on the general lines of the important architectural teaching centres. The object and aim of the department is to provide the student with a full professional education of a University standard. Applicants for admission to the department should not be less than seventeen years of age and should have first obtained a sound and liberal general education. They are strongly recommended to have taken the matriculation examination of the Joint Board of the Universities of Manchester, Liverpool, Leeds, Sheffield, and Birmingham, or its equivalent, before entering upon their course of study. This examination must be passed before beginning their course for a degree. Students who have not passed the matriculation examination may be admitted to the Diploma course upon furnishing satisfactory evidence as to their general education. The school certificate or the probationary certificate of the R.I.B.A. will be accepted.

The department provides the following courses of study: *a*: B.A. course with Honours in Architecture; *b*: Diploma course; *c*: Certificate course; *d*: Part-time day course; *e*: Evening course in architectural design.

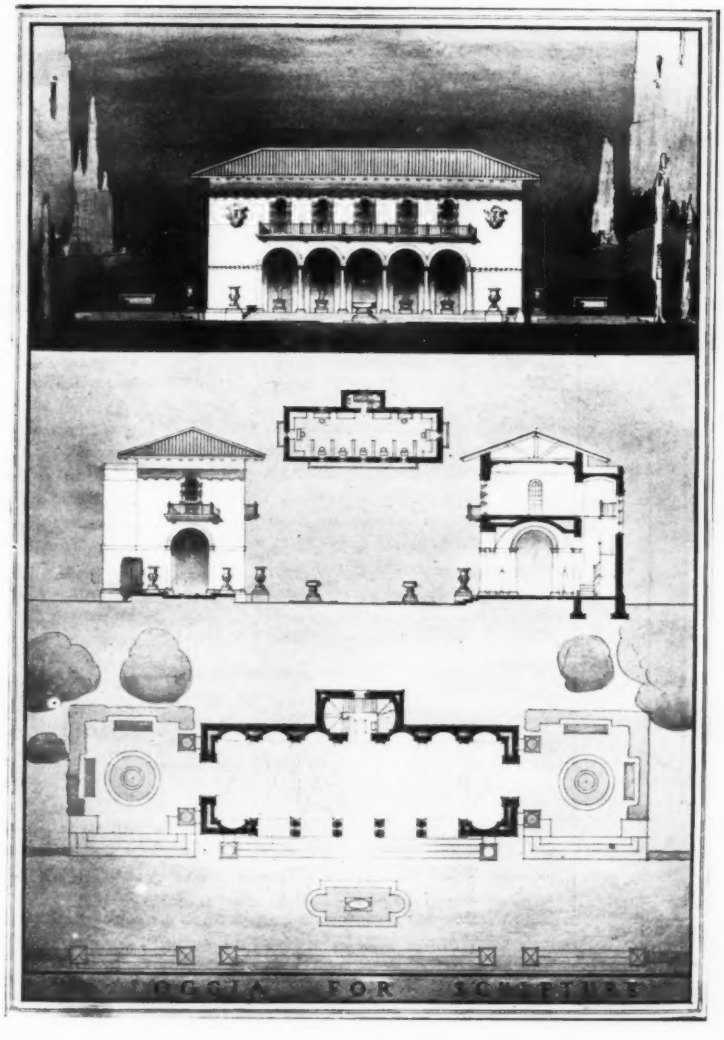
a: B.A. Honours in Architecture is granted to matriculated students who have taken the course of study extending over five academic years and who have passed the examinations of the course.

b: Diploma in Architecture is granted to students who have taken the B.A. course and passed the examinations, but who have not passed the matriculation examination.

c: Certificate in Architecture is granted to all students who have taken the courses of study of the first three years and who have passed the examinations of these years.

d: Part-time day course. This course includes facilities for attending lectures, and the students may either work out the subjects set from time to time by the department or those set by the R.I.B.A. as Testimonies of Study.

e: Evening course in Architectural Design. This course is arranged to encourage the study of architectural design among students engaged in offices during the day.



University of Sheffield Department of Architecture. Fourth year study. An exercise in proportion and detail.

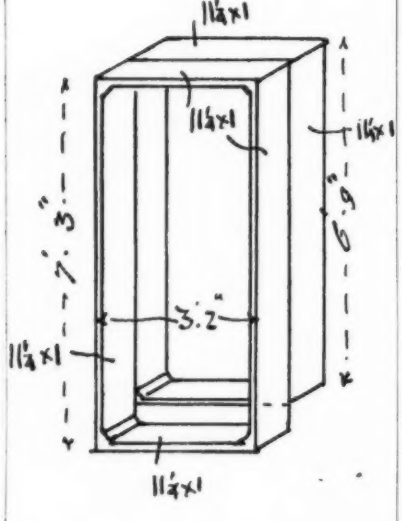
READERS' QUERIES

CAST-IRON FRAMES IN OPENING

W. M. A. writes: "An additional door opening is required through the back wall of a tower 22½ in. thick of stock brick in lime mortar. To compensate for the support of the brickwork removed it is proposed to insert in the opening two cast-iron frames 7 ft. 3 in. and 6 ft. 9 in. high, respectively, by 3 ft. 2 in. wide overall, 11¼ in. × 1 in. thick metal (see sketch), *the frames set one behind the other, the difference of height forming a step in the opening. No lintel will be inserted; the idea being for the two frames to carry the weight above them and convey it to the foundation without throwing the extra load on to the reduced carrying area of the brick walls adjacent to the new opening. What would be the approximate safe distributed carrying capacity of these two frames collectively or separately? Also, what would be the carrying strength of similar frames in wrought iron, or built up of rolled steel plates riveted together and riveted to steel angle plates at the corners?"*

The thickness of metal is insufficient to bring the proportion of length to least thickness within the usual limits either for beams or for columns and struts. All sides would be liable to fail by buckling, and would permit of the application of violently eccentric pressures as the metal bulged under the loading. Supposing, however, that the loads on the sides would be axial, and considering the uprights as slender pillars, the safe unit stress would still be extremely low.

On the shorter upright a crippling stress of about half a ton per square inch might be allowed, and on the longer upright a little less. With factor of safety 10, this would give a safe working stress of something under 1 cwt. per square inch in the section of the metal, or not more than 2 tons 5 cwt. for the whole pair of frames. As the bearing value of the brickwork removed may be estimated at from 18 to 30 tons, or more if it happens to be particularly sound, the insertion of the frames would not be a practical proposition unless they are made of thicker material, or stiffened with wide flanges like architrave fillets surrounding the frames at each face of the wall. Owing to the increase of strength in slender pillars as the proportion of length to radius of gyration is diminished, doubling the thickness of the metal would bring the permissible unit load to about 4 cwt. per square inch, and would also double the number of square inches in the plan of the frame. This would bring the supporting power of the pair of frames up to 18 tons or thereabouts. A substantial flange on the edge of each frame would improve upon this and bring the scheme into line with the work that will be demanded of it.



Cast-iron frames in opening
[See answer to W.M.A.]

The substitution of 1 in. plates of wrought iron for cast iron would almost double the bearing power of the pair of frames, bringing it up to about 4½ tons safe load, with factor of safety 10. Steel plates 1 in. thick would show a slight improvement upon this figure, but these totals would not be adequate to replace the bearing value of the brickwork. In actual practice the bearing of the frame would soon be progressively diminished as it began to bulge and to become more and more eccentrically stressed. Flanges would improve matters, both in regard to the radius of gyration and moment of inertia of the verticals and horizontals, and also in respect to the condition of the attachment of the members one to another at their ends. Granted sufficient stiffness in the frame as a whole it would become practicable to regard its members as having ends "fixed" instead of "hinged," and the strength would be again considerably increased, though nothing short of testing to destruction will reveal exactly what the frames will bear.

W. H.

SOUNDPROOFING A WOOLLEN MILL

F. R. B. writes: "I am constructing some offices on the ground floor of a factory (woollen spinning mill). Which is the best means of soundproofing the ceiling, which forms part of the floor of the factory above, in which machinery is running? The floor is of wood."

If the machinery rotates giving vibrations in the same phase as the wood floor described, none of the ordinary commercial soundproofing procedure is of much use. The whole floor merely acts as a resonator. For this reason it may be better at the outset to remove the floor and insert a heavy concrete floor, placing the machinery on a properly balanced and insulated bed. If the machinery is light and not vibratory in character, place under existing floor a new ceiling entirely insulated from the floor by two or three layers of Cabot quilt.

The insulation of the joists of this ceiling to be by machinery cork under each bearing. The lathing to be wood, not expanded metal, since plaster not gypsum plaster is to be used. The quilt to come down the wall about a foot to caulk junctions of wall and ceiling all round the room. Place the machines above on sandwich mats of lead, cork, and rubber; locate the machines either round the walls or immediately over the stanchions in order to load the floor as directly as possible.

H. B.

DAMP BRICKWORK

A. E. O. writes: "Is there a remedy for dampness in brick houses? I suggest repointing, but for a new house it would spoil the appearance, and the expense would be too heavy."

The following devices are sometimes adopted to minimize the penetration of water through the brickwork:

1: Protection by means of wide eaves or verandas on the rainy side of the house, or by arranging minor outbuildings to break the force of the wind on this side. Only partial protection is generally afforded by such measures, which are, however, excellent within limits.

2: The porosity of a brick wall is very considerably reduced by the use of a rich, damp-resisting mortar of cement and sand to which a suitable proportion of waterproofing material has been added. This method applies particularly to walls that are at least one and a half bricks in thickness, so that one mortar joint at least intervenes between a brick that is exposed to the wet and the inside of the wall. Unusually good workmanship is demanded to make this method effective.

3: The arrangement of the brickwork in two parallel walls joined together by metal bonders or ties is one of the most damp-resisting devices if properly carried out, but constant supervision during erection is necessary to keep the central cavity free from mortar droppings, which conduct moisture into the building if allowed to remain. The outer face of the wall should be provided with holes at frequent intervals to permit of accidentally dropped mortar being scraped out, from time to time, before the finish of the work, when the holes are carefully built up. These "hollow" or "cavity" walls are not particularly strong, and should be built in tenacious, quick-setting mortar with metallic reinforcement in the horizontal joints of the inner half of the wall.

4: Another method of confining the wet to the outer half of the wall is to introduce a vertical sheet of asphaltic material between the outer and the inner faces of the wall. This arrangement has the advantage that the wall can be calculated upon to act as a fairly united body.

5: Superficial treatment of brick walls to make them more damp-resisting includes periodical repointing of the mortar joints to prevent water lodging upon the exposed edges of the bricks and soaking into them. If the mortar does not fill the joints, the area of brick effectively exposed to the rain is very considerably increased.

6: Waterproofing solutions are sometimes painted, or sprayed, upon the exposed surfaces of the brickwork. Further coats may be applied from time to time if dampness in the interior shows that the waterproofing action is wearing away. A certain amount of alteration in colour may take place even with nominally "transparent" solutions, and in any case the pointing should be made good before their application.

W. H.

TREATMENT OF WOOD

V. R. writes: "How should teak, outside work, i.e. doors and signboards, be treated. Should it be with oils, or is there any special varnish that can be used?"

Untreated teak bleaches to a not unpleasant greyish brown in this climate, and as this timber is exceptionally durable and repels the attacks of insect pests without further protection, there is no very urgent reason why it should not be left plain. Oiled or wax polished teak generally looks blotchy when exposed to the weather.

Its greying and bleaching may be hastened by the application of one or more coats of caustic soda followed up by a wash of vinegar to neutralize any free alkali, and the effects of colour and texture may be varied by the use of sandblasted surfaces instead of smooth.

Teak is not the best material to use as a backing for paint and varnish, as its natural oil sometimes shows a tendency to blotch the work. Seventeen coats are used on the teak-built coaches of the Midland Railway, the first coat being a mixture of three parts of gold-size with one part turpentine applied in an attempt to deal with the oil in the wood and keep it stabilized. A signboard might be painted in exactly the same manner as the railway coach: One coat gold-size and turpentine; two coats of oil, lead-colour; filling; stopping with white-lead, gold-size and turpentine; filling pumiced off when hard, three coats, the third being given ample time before it is rubbed down; coat of lead-colour, stopped with the finishing colour and stopping covered with the lead. After rubbing this down, an undercoat of preparatory colour is given, with a coat of solid colour following it and with a coat mixed with three parts varnish after that. The surface is then flatted and the lines are put in, varnished and flatted again and lettered, varnished and flatted, and hard varnished two coats.

For finishes in which the grain of the wood is to show through an oil varnish it is important that only thoroughly seasoned wood should be used, that the sizing coats should be well worked into the pores, and that every coat of varnish should be given good time to dry before the next is applied. A dependable coat varnish should be used.

Varnished teak has a hot yellow-brown colour when new which is hardly improved when the natural oil turns the surface grey in patches. It is possible that chemical staining might be successfully combined with the effort to stabilize the natural oil of the wood in order to produce softer colours and more permanent quality in the result. Alternatively, the surface might be treated with cellulose applied by means of a spray.

W. H.

A CRUMBLING WALL

T. H. writes: "In a building erected about six years ago the concrete slabs forming the outer wall panels between the steel stanchions are crumbling on the face slightly. The walls are built with cavity having coke breeze slabs inside and concrete slabs out. Can this slight crumbling be arrested by a solution? Will it be necessary to rub over with a wire brush first to clear away the very loose particles? We have also thought of brushing over with a waterproofed cement slurry. As the area is large we are anxious to use a method that will be effective and not in the nature of an experiment."

The decay of materials by superficial crumbling is a subject which is still under experimental investigation by the Building Research Station at Watford, and the chemical aspects of the decay might be referred to this department. It is not practicable to suggest an infallible treatment without experiment on the actual wall, and as it is naturally undesirable that the experiment should be made on a large scale in the first instance, sample patches of wall surface should be treated by the methods suggested. If specific solutions are used they should be applied in strict accordance with the manufacturer's directions, and the manufacturer may be inclined to advise as to the suitability, or otherwise, of his material to meet the case in hand.

In general, the effect of recent investigation goes to show the great value of periodic cleaning of surfaces with clean water without the use of chemical substances; wire brushing being also beneficial in that it removes the loose particles which retain and apply destructive chemical reagents gathered up from the impure atmosphere.

Wire brushing as a preliminary treatment of the surface before the application of slurry or chemical solutions is almost certain to be advantageous. Slurry should be mixed thin and vigorously brushed into the wall surface, for if it is thick enough to dry as a separate skin, it may be liable to split and curl away from the work. Solutions should generally be applied to walls that are as nearly dry as is practicable in this climate.

In experimenting with different substances the dates of application should be recorded, and notes kept as to weather conditions. The mechanical aspects of the wall should also be examined, for flaking of the surface often takes place in response to excessive pressure as well as to chemical disintegration, and chemical disintegration is often most pronounced at points of maximum stress.

W. H.

OLD PARISH ROAD

V. writes: "With regard to the reply to my inquiry published in a recent issue. 1: A 40 ft. road would certainly be an improvement, but my point is, not the width of the road nor the intrinsic value of the strip proposed to be given up for widening, but the fact that—especially as they have no right to take the strip without compensation—the Council should make the free gift of this strip to them a condition of their approval of the lay-out plan of the estate. This I maintain they have no right to do, and I should think I could ignore this condition in carrying out the development on the lines submitted to them. 3: This is a more difficult question, and I am not quite clear as to the legal position of the parties. The old lane being a public highway maintainable by the Council, a private owner presumably has no right to do anything in it without the Council's permission. Drainage has to be provided for houses built on the road frontage; and cesspools in heavy clay being out of the question, I maintain that the persons—viz. the Council—responsible for the upkeep and maintenance of the road should provide the necessary drainage facilities, especially where an existing sewer is only a few yards from the proposed houses. It seems unreasonable to ask a private owner to take on the duties of an U.D.C. and provide the public with drainage—the sewer would automatically become the property of the Council immediately it was laid. The same argument applies to the making-up of the road. If the Council—the responsible authority—are not obliged to do this, is the public to be deprived of the use of this public highway? I should have thought that, when a building demand has arisen, it was the duty of the Council both to provide drainage facilities and also make the road passable. Otherwise, is the owner's land to lie idle indefinitely pending the carrying out of these things by someone? Who? If your expert can throw any more light on these questions I shall be very much obliged and greatly helped. 4: I note reply to this, but it is surely another instance of the Council not having the power to make the free gift of the land a condition of their approval of the lay-out of the estate, and I think I should be justified in ignoring it."

1: The bargain appears to me to be a very fair one, and I suggest that the "legal rights" aspect of the question would be better ignored in face of the larger issue. 2: The freehold of the old land is the property of the frontages—each to the middle of the road in front of his property—and the Council—as highway authority—have no rights in it, save such as are conferred on them by statute. The public have only the right of passage over the land. It is no business of a Council to provide facilities for the furtherance of private interests.

F. S. I.

THE WEEK'S BUILDING NEWS

The REDDITCH Secondary School governors have asked the Worcestershire Education Committee to proceed without delay with the proposal for the erection of new secondary school buildings at Redditch, and the committee will deal with the matter at the next meeting.

*

The Worcestershire Education Committee is taking steps to secure a site for a new elementary school at RUBERY to relieve the pressure on the Church School, which will be reorganized as a junior school when the new council school is erected.

*

The Worcestershire Education Committee has acquired two acres at EVESHAM for the erection of a senior elementary school.

*

The Worcestershire Education Committee has acquired a site at STOURPORT for the erection of a practical subjects centre and for future school development.

*

The Worcestershire Education Committee is inquiring for a site at BISHAMPTON for the erection of an elementary school.

*

The Worcestershire Education Committee has acquired a site at WYTHALL for the erection of a practical subjects centre.

*

The Worcestershire Education Committee is inquiring for a site at STOURBRIDGE for the erection of an elementary school.

*

The Cornwall Electric Power Company is to erect a sub-station in Albert Road, PENZANCE.

*

The governors of West Cornwall College are to carry out extensions at premises in Chapel Street. PENZANCE.

*

The BRIGHTON Corporation has obtained sanction for a loan for the provision of a crematorium, and appointed Messrs. Waggett and Bradford, of London, to prepare quantities.

*

The GUILDFORD Corporation is considering a draft scheme prepared by the borough engineer for the construction of a by-pass road from Millmead to Quarry Street.

*

The L.C.C. and the HACKNEY B.C. are negotiationg regarding the site for the proposed open-air swimming bath, two being suggested, one at London Fields, where the cost will be £10,000, and the other on Hackney Marshes, which will cost, with filtration plant, about £13,000.

*

The HACKNEY B.C. has purchased a site with frontages to Homerton Row, Banister Street, and Fen Street for the erection of dwellings.

The HACKNEY B.C. Electricity Committee has prepared a scheme for extensions at the power station at a cost of £460,000 for plant and buildings.

*

Plans passed by the TYNEMOUTH Corporation: Alterations, 7 Trevor Terrace, for Mr. F. W. Newby; alterations, National Provincial Bank of England, Bedford Street, North Shields, for Messrs. F. R. N. Haswell and Son; three houses, Shorestone Avenue, for Mr. J. R. Wallace; two houses, Dene Road, for Mr. W. Stockdale; two houses, St. Georges estate, for Messrs. H. D. Burton, Ltd.; eight houses, Hatherton Avenue, for Messrs. J. and J. Robinson; two houses, Ingleside estate, for Mr. A. K. Tasker; six houses, Links Road, for Messrs. A. and E. Brannen; eight houses, Balmoral Gardens, for Mr. Jas. Fraser; garage extension, Tynemouth Road, for Messrs. Gray Bros.; garage extension for Tynemouth and District Traction Company, Norham Terrace, for Messrs. Marshall and Tweedy.

*

The BRIGHTON Corporation has passed plans submitted by the Savoy Cinemas, Ltd., for the erection of a cinema theatre and restaurant at 75-9 East Street.

*

The HOVE Education Committee has purchased a site on the Knoll housing estate for the erection of an elementary school.

*

Mr. H. A. Costerton has submitted to the BRIGHTON Corporation plans of the layout of Patcham Corner for the erection of hotel and restaurant.

*

The LEICESTER Corporation has obtained a site in Southfields Drive on the Park housing estate for the erection of a branch library.

*

The LEICESTER Corporation Parks Committee has now prepared the scheme for the layout and erection of buildings at Leicester Abbey, the total cost being £50,000, of which one-half is in respect of pavilions, etc. The plans have been prepared by Mr. W. K. Bedingfield, who was appointed architect in connection with the renovation of the Abbey, and the city surveyor.

*

Plans passed by the BATTERSEA B.C.: Twenty-two garages, Worfield Street, for Mr. T. W. Weeks; additions, 18 Battersea Rise, for Mr. A. Whitaker; alterations and additions, Prodigal's Return public-house, Battersea Bridge Road, for Messrs. Watney, Combe, Reid & Co., Ltd.; extensions, Ilminster Gardens, for Messrs. Arding and Hobbs, Ltd.; forty-eight garages, rear of 146 Lavender Hill, for Mr. S. R. Smith.

The BATTERSEA B.C. has instructed the borough engineer to prepare plans for an out-patients' department to be erected at the maternity hospital.

*

Plans passed by the LEWISHAM B.C.: Forty-six houses, L.C.C. Downham estate, for Mr. J. G. Stephenson; two houses Stanton Road, for Mr. A. E. Thomas; additions, 122 Lewisham Road, for Mr. F. M. Kirby; school for L.C.C., Pendragon Road, for Mr. J. G. Stephenson.

*

The HERNE BAY U.D.C. is in communication with Herne Bay Estates, Ltd., regarding the construction of roads and sewers on the Burton Downs estate, which is about to be developed.

*

Plans passed by the HERNE BAY U.D.C.: Alterations, 10 Promenade Central, for Mr. J. Wilson; two maisonettes, Station Road, for Mr. J. Wilson; two houses, Fleetwood Avenue, for Messrs. Woolf Bros.; house, Western Esplanade, for Messrs. G. R. Brown and Sons; bungalow, Linden Avenue, for Mr. H. Pettman; two bungalows, Albany Drive, for Mr. W. Hancock; telephone exchange, Victoria Park, for H.M. Office of Works; house, Mickleburgh Hill, for Mr. C. H. H. Kenworthy.

*

The EAST HAM Corporation has instructed the borough engineer to prepare plans for the erection of houses on a site in Lonsdale Avenue.

*

The borough engineer of EAST HAM has prepared draft plans for the erection of an administration block and new wards at the isolation hospital, and these are to be submitted by the B.C. to the Ministry of Health.

*

Plans passed by the EAST HAM B.C.: Pavilion, Vicarage Lane, for Messrs. Pinchin, Johnson & Co., Ltd.; shop, Green Street, for Mr. G. Coles; alterations and additions, 179 High Street, for Mr. J. D. McLachlan; three houses, Central Park Road, for Mr. W. Cooper; extensions, 124 High Street North, for Mr. G. H. Page; two houses, Dersingham Avenue, for Mr. C. Smith; church hall, corner High Street South and Norman Road, for Mr. W. Wilkinson; layout of St. George's on the East site, Green Street, for Messrs. A. Bluston and Sons; workshop, 113 Wellington Road, for Mr. H. Lucas; bread depot, Compton Avenue, for London Co-operative Society, Ltd.; alterations and additions, 100-2 High Street North, for Mr. H. Wilson; eleven houses and one shop, Shaftesbury Road, for Mr. H. W. Binns.

*

The joint managers of the St. Peter's and St. Barnabas Schools, BEXHILL, have decided in favour of the erection of a senior school.

The SHIPLEY U.D.C. has approved plans for the erection of twenty-four houses on the Wrose Brow estate.

*

Plans passed by the SHIPLEY U.D.C.: Sixteen bungalows, Leeds Road, for Mr. A. Davy; four houses, Nab Wood Gardens, for Messrs. Wm. Pitts and Sons; alterations and additions, club, Leeds Road, for Liberal Club trustees; two houses, Thackley Old Road, for Messrs. Mellor and Booth.

*

The Ministry of Health has sanctioned the proposal for the erection of another 100 houses, and the CHELMSFORD Corporation has instructed the borough engineer to prepare the necessary plans.

*

Plans passed by the CHELMSFORD Corporation: Water-tower and cooling-pond, New Street, for Marconi Wireless Telegraph Co., Ltd.: two bungalows, Galleywood Lane, for Mr. A. Burrell; eight houses, Lady Lane, for Mr. A. J. Gozzett; warehouse, Grove Road, for Messrs. H. and T. C. Godfrey; house, St. Fabian's Avenue, for Mr. S. E. Moss; fifty-seven houses, Tennyson Road, for Corporation; workshop and builder's plant store, Park Avenue, for Mr. J. H. Steele.

*

The CROYDON Corporation Baths Committee now proposes to undertake the scheme for the extension of the Thornton Heath swimming baths at an estimated cost of £22,300.

*

The CROYDON Corporation Baths Committee has prepared a new scheme for the reconstruction of the central baths in Scarbrook Road at an estimated cost of £24,000.

*

The CROYDON Corporation Baths Committee has prepared a scheme for the erection of baths and washhouses at Mitcham Road at an estimated cost of £24,000.

*

Messrs. William Hunter, M'Nab and Son, architects, have prepared plans for alterations at Camphill United Free Church Hall, GLASGOW.

*

The GRIMSBY Corporation has approved an expenditure of £26,000 by the committee of the Bracebridge Mental Hospital for the erection of two blocks for chronic cases in connection with a scheme for the provision of new buildings in connection with the institution at a total estimated cost of £100,000.

*

Plans have been prepared for the erection of additions to the Central London Throat, Nose and Ear Hospital, Gray's Inn Road and Wicklow Street, ST. PANCRAS.

*

The PERSHORE R.D.C. is negotiating for land at Wick for the erection of houses.

At a meeting of the Worcestershire Standing Joint Committee, the county architect submitted the detailed plans for the proposed new county offices at WORCESTER, and these were approved with slight amendments.

*

The WORCESTERSHIRE C.C. is considering the provision of isolation hospital accommodation for the county.

*

Plans passed by the HACKNEY B.C.: Factory, off Belfast Road, for Messrs. Francis Dod & Co.; garages, off Morpeth Road, for Mr. J. W. Codrington; house and other buildings, Clapton Common, for Mr. R. J. W. Newman; alterations, Restall's garage, Lower Clapton Road, for Messrs. T. W. Kingsland and Sons; workshop, 47 Eleanor Road, for Mr. A. W. Noden; extensions, factory, 41a De Beauvoir Road, for Messrs. A. J. King, Ltd.; extensions, Peerless Laundry, Chatham Place, for Messrs. A. E. Symes, Ltd.; alterations, sub-station, Balcorne Street, for Mr. L. L. Robinson; additions, Weymouth Works, De Beauvoir Road, for Messrs. G. Keetch and Sons; billiard-room for Hackney and Clapton Club, Ltd., at Upper Clapton Road, for Mr. H. Montague; building, Wilton Road, for Mr. W. H. Ansell; building at 52 Well Street, for Mr. S. S. Holden.

*

Plans passed by the BRIGHTON Corporation: Two houses, Wincombe Road, for Mr. H. J. Johnston; additions and alterations, Royal Pavilion Hotel, Castle Square, for Pavilion Hotel (Brighton), Ltd.; seven houses, Osborne Road, for Mr. A. G. Lower; two houses, Reigate Road, for Mr. E. B. Hayward; alterations, 68 Middle Street, for Messrs. Wiggs and Sons, Ltd.; alterations, 47-48 St. James's Street, for Messrs. M. E. Collins and Sons; private hotel, South Coast Road, Saltdean, for Mr. A. W. Carr; two houses, Knowle Road, for Mr. H. B. Nixon; additional story, Kemp Town Brewery, Seymour Street, for Kemp Town Brewery; extensions, Oddfellows' Hall, Queen's Road, for Manchester Union Committee; two houses, Hartington Road, for Mr. F. H. Lawrence; two houses, Balfour Road, for Mr. M. Winton; amended elevations, 170 North Street, for Mr. T. Wilkinson; six houses, Dyke Road, for Mr. E. B. Hayward; six houses, Osborne Road, for Mr. A. G. Lower; rebuilding "The Irish House," East Street, for Messrs. Knowland Bros.; alterations, 19-20 London Road, for Boots Cash Chemists, Ltd.; two houses, Carden Avenue, for Mr. Edgar H. Rowe; reconstruction, Carlton Hill, corner of Marine View, for Kemp Town Brewery, Ltd.

*

The BEXHILL Corporation has decided upon the provision of a covered swimming bath, and a site in Egerton Park is suggested. The borough engineer has been asked to prepare plans and estimates for consideration.

Plans passed by the ST. PANCRAS B.C.: Building site of 115-17-19 High Street and Delancy Street; erection of North-West Polytechnic buildings, Prince of Wales Road and Kentish Town Road; additions, premises of Messrs. Maple & Co., Ltd., Grafton Street; building, corner of Park Street and Gloucester Crescent.

*

The OXFORD Corporation has passed plans submitted by Messrs. J. H. Dewrance, Ltd., for alterations to premises in Abingdon Street.

*

Plans passed by the BEXHILL Corporation: Streets and sewers on Pages estate, for Mr. J. E. Maynard; two houses, St. James's Road, for Mr. J. H. Lye; two houses, Turkey Road, for Mr. F. L. French; house, Gunters Lane, for Mr. R. A. Larkin; bungalow, Pebsham Lane, for Hurlington Bungalow Co.; house, Glastonbury Drive, for Mr. A. Jackson; bungalow, Pebsham Lane, for Mr. Bishop; five houses, Barnhorn Road, for Mr. G. E. Matthews; dressing-rooms, gymnasium, Bedford Avenue, for Mr. G. H. Gray; alterations, 4 and 5 Devonshire Square, for Mr. G. Cash; house, Little Common Road, for Mr. B. Stevens.

*

Plans passed by the CROYDON Corporation: Additions, Waldronhurst Hotel, The Waldrons, for Messrs. C. H. Gibson, Ltd.; sixteen garages, Pollards Hill South, for Mr. L. A. Aston; twenty-six houses, Lonsdale Road, for Messrs. Steel and Howes; ten houses, Oakhill Road, for Mr. W. T. Cripps; additions, Oakwood School, Shirley Road, for Messrs. Paish, Tyler and Crump; twelve houses, St. Oswald's Road, for Messrs. Thomas and Sons; twelve houses, Malden Avenue, for London and Suburban Land and Building Co., Ltd.; shops and flats, Purley Way, for Mr. J. P. Oldaker; sixteen garages, Bert Road, for Messrs. Wallace & Co.; 106 houses, Beckford Road and Bert Road, for Mr. P. Richardson; four houses, Springfield Road, for Mr. R. Pierson; six houses, Crest Road, for Messrs. F. S. and A. Woods; six houses, Wrights Road, for Mr. P. Richardson; six houses, Mount Park Avenue, for Messrs. Morgan Baines and Clark; shop and offices, 87 North End, for Mr. C. H. Ridge; extensions, London Road, for Messrs. Bethell, Swannel and Durnford; twenty-two houses, Homer Road, for Mr. P. Richardson; additions and alterations, Oval public-house, Oval Road for Mr. E. Penfold; factory, Lansdowne Road, for Mr. H. V. Emerson; fifty-three houses, Barnfield Avenue, and workshops in Shirley Road, for Messrs. Paish, Tyler and Crump; eight houses, Brian Avenue, for Mr. H. Macintosh; dance hall additions, London Road, for Mrs. A. Clark; eight flats and twenty-six garages, Oakhill Road, for Mr. W. T. Cripps.

*

The Church of England authorities are to erect a central school at STOURBRIDGE.

RATES OF WAGES

			I	II
			s. d.	s. d.
A	ABERDARE	S. Wales & M.	1 7½	1 2¼
A1	Abergavenny	S. Wales & M.	1 7	1 2¼
B	Abingdon ..	S. Counties	1 5½	1 1½
A	Accrington	N.W. Counties	1 7½	1 2¼
A3	Addlestone	S. Counties	1 6	1 1½
A	Adlington ..	N.W. Counties	1 7½	1 2¼
A	Airdrie ..	Scotland	*1 7½	1 2¼
C1	Aldeburgh	E. Counties	1 3	1 1½
A	Altrincham	N.W. Counties	1 7½	1 2¼
B3	Appleby ..	N.W. Counties	1 4	1 0
A	Ashton-under-Lyne	N.W. Counties	1 7½	1 2¼
A3	Atherstone	Mid. Counties	1 6	1 1½
B3	Aylesbury ..	S. Counties	1 4	1 0
B3	BANBURY ..	S. Counties	1 4	1 0
B2	Bangor ..	N.W. Counties	1 4½	1 0½
A	BarnardCastle	N.E. Coast	1 7½	1 2¼
A	Barnsley ..	Yorkshire	1 7½	1 2¼
B1	Barnstaple	S.W. Counties	1 5	1 0¼
A	Barrow ..	N.W. Counties	1 7½	1 2¼
A	Barry ..	S. Wales & M.	1 7½	1 2¼
B3	Basingstoke	S.W. Counties	1 4	1 0
B	Bath ..	S.W. Counties	1 5½	1 1½
A	Batley ..	Yorkshire	1 7½	1 2¼
B	Bedford ..	E. Counties	1 5½	1 1½
A2	Berwick-on-Tweed	N.E. Coast	1 6½	1 2
A2	Bewdley ..	Mid. Counties	1 6½	1 2
B3	Bicester ..	Mid. Counties	1 4	1 0
A	Birkenhead	N.W. Counties	*1 7½	1 2¼
A	Birmingham	Mid. Counties	1 7½	1 2¼
A	Bishop Auckland	N.E. Coast	1 7½	1 2¼
A	Blackburn	N.W. Counties	1 7½	1 2¼
A	Blackpool	N.W. Counties	1 7½	1 2¼
A	Blyth ..	N.E. Coast	1 7½	1 2¼
B3	Bognor ..	S. Counties	1 4	1 0
A	Bolton ..	N.W. Counties	1 7½	1 2¼
A2	Boston ..	Mid. Counties	1 6	1 1½
B1	Bournemouth	S. Counties	1 5	1 0¼
B2	Bovey Tracey	S.W. Counties	1 4½	1 0½
A	Bradford ..	Yorkshire	1 7½	1 2¼
A2	Brentwood	E. Counties	1 6½	1 2
A	Bridgend ..	S. Wales & M.	1 7½	1 2¼
B2	Bridgwater	S.W. Counties	1 4½	1 0½
A1	Bridlington	Yorkshire	1 7	1 2¼
A	Brighouse ..	Yorkshire	1 7½	1 2¼
B1	Brighton ..	S. Counties	1 5	1 0¼
A	Bristol ..	S.W. Counties	1 7½	1 2¼
B3	Brixham ..	S.W. Counties	1 4	1 0
A2	Bromsgrove	Mid. Counties	1 6½	1 2
C	Bromyard ..	Mid. Counties	1 3½	11¾
A	Burnley ..	N.W. Counties	1 7½	1 2¼
A	Burslem ..	Mid. Counties	1 7½	1 2¼
A2	Burton-on-Trent	Mid. Counties	1 6½	1 2
A	Bury ..	N.W. Counties	1 7½	1 2¼
A1	Buxton ..	N.W. Counties	1 7	1 2¼
B	CAMBRIDGE	E. Counties	1 5½	1 1½
B2	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff ..	S. Wales & M.	1 7½	1 2¼
A	Carlisle ..	N.W. Counties	1 7½	1 2¼
B	Carmarthen	S. Wales & M.	1 5½	1 1½
B2	Carnarvon	N.W. Counties	1 4½	1 0½
A1	Carnforth ..	N.W. Counties	1 7	1 2¼
A	Castleford	Yorkshire	1 7½	1 2¼
B1	Chatham ..	S. Counties	1 5	1 0¼
B1	Chelmsford	E. Counties	1 5	1 0¼
A3	Cheltenham	S.W. Counties	1 6	1 1½
A	Chester ..	N.W. Counties	1 7½	1 2¼
A	Chesterfield	Mid. Counties	*1 7½	1 2¼
B3	Chichester	S. Counties	1 4	1 0
A	Chorley ..	N.W. Counties	1 7½	1 2¼
B2	Cirencester	S. Counties	1 4½	1 0½
A	Clitheroe ..	N.W. Counties	1 7½	1 2¼
A	Clydebank	Scotland	1 7½	1 2¼
A	Coalville ..	Mid. Counties	1 7½	1 2¼
B	Colchester ..	E. Counties	1 5½	1 1½
A	Colne ..	N.W. Counties	1 7½	1 2¼
A3	Colwyn Bay	N.W. Counties	1 6	1 1½
A	Consett ..	N.E. Coast	1 7½	1 2¼
A3	Conway ..	N.W. Counties	1 6	1 1½
A	Coventry ..	Mid. Counties	1 7½	1 2¼
A3	Crewe ..	N.W. Counties	1 6	1 1½
A3	Cumberland	.....	1 6	1 1½
A	DARLINGTON	N.E. Coast	1 7½	1 2¼
A	Darwen ..	N.W. Counties	1 7½	1 2¼
B2	Deal ..	S. Counties	1 4½	1 0½
A3	Denbigh ..	N.W. Counties	1 6	1 1½
A	Derby ..	Mid. Counties	1 7½	1 2¼
A	Dewsbury	Yorkshire	1 7½	1 2¼
B	Didcot ..	S. Counties	1 5½	1 1½
A	Doncaster	Yorkshire	1 7½	1 2¼
C1	Dorchester	S.W. Counties	1 3	11¾
A3	Driffield ..	Yorks	1 6	1 1½
A3	Droitwich	Mid. Counties	1 6	1 1½
A1	Dudley ..	Mid. Counties	1 7	1 2¼
A	Dundee ..	Scotland	1 7½	1 2¼
A	Durham ..	N.E. Coast	1 7½	1 2¼
B1	EASTBOURNE	S. Counties	1 5	1 0¼
A	Ebbw Vale	S. Wales & M.	1 7½	1 2¼
A	Edinburgh	Scotland	1 7½	1 2¼
A1	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 7	1 2¼
B	Exeter ..	S.W. Counties	*1 5½	1 1½
B3	Exmouth ..	S.W. Counties	1 4½	1 0½
B	FELIXSTOWE	E. Counties	1 5½	1 1½
A3	Filey ..	Yorks	1 6	1 1½
A	Fleetwood ..	N.W. Counties	1 7½	1 2¼
B2	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham ..	N.W. Counties	1 7½	1 2¼
B3	Frome ..	S.W. Counties	1 4	1 0
A	GATESHEAD	N.E. Coast	1 7½	1 2¼
B1	Gillingham	S. Counties	1 5	1 0¼
A3	Gloucester	S.W. Counties	1 6	1 1½
A2	Goole ..	Yorkshire	1 6½	1 2
B	Gosport ..	S. Counties	1 5½	1 1½
A3	Grantham	Mid. Counties	1 6	1 1½
A1	Gravesend	S. Counties	1 7	1 2¼
A	Greenock ..	Scotland	*1 7½	1 2¼
A	Grimsby ..	Yorkshire	1 7½	1 2¼
B1	Guildford ..	S. Counties	1 5	1 0¼
A	HALIFAX ..	Yorkshire	1 7½	1 2¼
A	Hanley ..	Mid. Counties	1 7½	1 2¼
A	Harrogate	Yorkshire	1 7½	1 2¼
A	Hartlepools	N.E. Coast	1 7½	1 2¼
B1	Harwich ..	E. Counties	1 5	1 0¼
B2	Hastings ..	S. Counties	1 4½	1 0½
A3	Hatfield ..	S. Counties	1 6	1 1½
B	Hereford ..	S. W. Counties	1 5½	1 1½
B	Hertford ..	E. Counties	1 5½	1 1½
A1	Heysham ..	N.W. Counties	1 7	1 2¼
A	Howden ..	N.E. Coast	1 7½	1 2¼
A	Huddersfield	Yorkshire	1 7½	1 2¼
A	Hull ..	Yorkshire	1 7½	1 2¼
A	ILKLEY ..	Yorkshire	1 7½	1 2¼
A	Immingham	Mid. Counties	1 7½	1 2¼
B	Ipswich ..	E. Counties	1 5½	1 1½
C1	Isle of Wight	S. Counties	1 3	11¾
A	JARROW ..	N.E. Coast	1 7½	1 2¼
A	KEIGHLEY	Yorkshire	1 7½	1 2¼
B1	Kendal ..	N.W. Counties	1 5	1 0¼
B1	Keswick ..	N.W. Counties	1 5	1 0¼
A3	Kettering ..	Mid. Counties	1 6	1 1½
A2	Kidderminster	Mid. Counties	1 6½	1 2
B2	King's Lynn	E. Counties	1 4½	1 0½
A	LANCASTER	N.W. Counties	1 7½	1 2¼
A2	Leamington	Mid. Counties	1 6½	1 2
A	Leeds ..	Yorkshire	1 7½	1 2¼
A	Leek ..	Mid. Counties	1 7½	1 2¼
A	Leicester ..	Mid. Counties	1 7½	1 2¼
A	Leigh ..	N.W. Counties	1 7½	1 2¼
B3	Lewes ..	S. Counties	1 4	1 0
A3	Lichfield ..	Mid. Counties	1 6	1 1½
A	Lincoln ..	Mid. Counties	1 7½	1 2¼
A	Liverpool ..	N.W. Counties	*1 10	1 4½
A3	Llandudno	N.W. Counties	1 6	1 1½
A	Llanelly ..	S. Wales & M.	1 7½	1 2¼
	London (12 miles radius)		1 9	1 4
	Do. (12-15 miles radius)		1 8½	1 3½
A	Long Eaton	Mid. Counties	1 7½	1 2¼
A	Loughborough	Mid. Counties	1 7½	1 2¼
A3	Luton ..	E. Counties	1 6	1 1½
A	Lytham ..	N.W. Counties	1 7½	1 2¼
A1	MACCLESFIELD	N.W. Counties	1 7	1 2¼
B	Maidstone	S. Counties	1 5½	1 1½
A3	Malvern ..	Mid. Counties	1 6	1 1½
A	Manchester	N.W. Counties	1 7½	1 2¼
A	Mansfield	Mid. Counties	1 7½	1 2¼
B2	Margate ..	S. Counties	1 4½	1 0½
A3	Matlock ..	Mid. Counties	1 6	1 1½
A1	Merthyr ..	S. Wales & M.	1 7	1 2¼
A	Middlesbrough	N.E. Coast	1 7½	1 2¼
A3	Middlewich	N.W. Counties	1 6	1 1½
B2	Minehead ..	S.W. Counties	1 4½	1 0½
A	Monmouth S. and E. Glamorganshire	S. Wales & M.	1 7½	1 2¼
A1	Morecambe	N.W. Counties	1 7	1 2¼
A3	NANTWICH	N.W. Counties	1 6	1 1½
A	Neath ..	S. Wales & M.	1 7½	1 2¼
A	Nelson ..	N.W. Counties	1 7½	1 2¼
A	Newcastle ..	N.E. Coast	1 7½	1 2¼
A	Newport ..	S. Wales & M.	1 7½	1 2¼
A	Normanton	Yorkshire	1 7½	1 2¼
A1	Northampton	Mid. Counties	1 7	1 2¼
A	North Staffs.	Mid. Counties	1 7½	1 2¼
A	North Shields	N.E. Coast	1 7½	1 2¼
A3	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 7½	1 2¼
A	Nuneaton ..	Mid. Counties	1 7½	1 2¼
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W. Counties	1 7½	1 2¼
A3	Oswestry ..	Mid. Counties	1 6	1 1½
B	Oxford ..	S. Counties	1 6	1 1½
A	PAISLEY ..	Scotland	*1 7½	1 2¼
C	Pembroke	S. Wales & M.	1 3½	11¾
A	Perth ..	Scotland	*1 7½	1 2¼
A3	Peterborough	Mid. Counties	1 6	1 1½
A	Plymouth	S.W. Counties	*1 7½	1 2¼
A	Pontefract	Yorkshire	1 7½	1 2¼
A1	Pontypridd	S. Wales & M.	1 7	1 2¼
B	Portsmouth	S. Counties	1 5½	1 1½
A	Preston ..	N.W. Counties	1 7½	1 2¼
A	QUEENSFERRY	N.W. Counties	1 7½	1 2
A3	READING	S. Counties	1 6	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A3	Retford ..	Mid. Counties	1 6	1 1½
A1	Rhondda Valley	S. Wales & M.	1 7	1 2¼
A3	Ripon ..	Yorkshire	1 6	1 1½
A	Rochdale ..	N.W. Counties	1 7½	1 2¼
B	Rochester ..	S. Counties	1 5½	1 1½
A1	Ruabon ..	N.W. Counties	1 7	1 2¼
A2	Rugby ..	Mid. Counties	1 6½	1 2
A3	Rugeley ..	Mid. Counties	1 6	1 1½
A	Runcorn ..	N.W. Counties	1 7½	1 2¼
A3	ST. ALBANS	E. Counties	1 6	1 1½
A	St. Helens ..	N.W. Counties	1 7½	1 2¼
B3	Salisbury ..	S.W. Counties	1 4	1 0
A1	Scarborough	Yorkshire	1 7	1 2¼
A	Scunthorpe	Mid. Counties	1 7½	1 2¼
A	Sheffield ..	Yorkshire	1 7½	1 2¼
A	Shipley ..	Yorkshire	1 7½	1 2¼
A3	Shrewsbury	Mid. Counties	1 6	1 1½
A2	Skipton ..	Yorkshire	1 6½	1 2
A3	Slough ..	S. Counties	1 6	1 1½
A2	Solihull ..	Mid. Counties	1 6½	1 2
A3	South'pton	S. Counties	1 6	1 1½
A2	Southend-on-Sea	E. Counties	1 6½	1 2
A	Southport ..	N.W. Counties	1 7½	1 2¼
A	S. Shields ..	N.E. Coast	1 7½	1 2¼
A2	Stafford ..	Mid. Counties	1 6½	1 2
A	Stockport ..	N.W. Counties	1 7½	1 2¼
A	Stockton-on-Tees	N.E. Coast	1 7½	1 2¼
A	Stoke-on-Trent	Mid. Counties	1 7½	1 2¼
B	Stroud ..	S.W. Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 7½	1 2¼
A	Swadlincote	Mid. Counties	1 7½	1 2¼
A	Swansea ..	S. Wales & M.	1 7½	1 2¼
B	Swindon ..	S.W. Counties	1 5½	1 1½
A1	TAMWORTH	N.W. Counties	1 7	1 2¼
B1	Taunton ..	S.W. Counties	1 5	1 0¼
A	Teeside Dist.	N.E. Counties	1 7½	1 2¼
B	Teignmouth	S.W. Coast	1 5½	1 1½
A	Todmorden	Yorkshire	1 7½	1 2¼
A2	Torquay ..	S.W. Counties	1 7	1 2¼
C	Truro ..	S.W. Counties	1 3½	11¾
B1	Tunbridge Wells	S. Counties	1 5	1 0¼
A	Tunstall ..	Mid. Counties	1 7½	1 2¼
A	Tyne District	N.E. Coast	1 7½	1 2¼
A	WAKEFIELD	Yorkshire	1 7½	1 2¼
A1	Walsall ..	Mid. Counties	1 7	1 2¼
A	Warrington	N.W. Counties	1 7½	1 2¼
A2	Warwick ..	Mid. Counties	1 6½	1 2
A	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 7½	1 2¼
B	Weston-s-Mare	S.W. Counties	1 5½	1 1½
A2	Whitby ..	Yorkshire	1 6½	1 2
A	Widnes ..	N.W. Counties	1 7½	1 2¼
A	Wigan ..	N.W. Counties	1 7½	1 2¼
B2	Winchester	S. Counties	1 4½	1 0½
A3	Windsor ..	S. Counties	1 6	1 1½
A	Wolverhampton	Mid. Counties	1 7½	1 2¼
A3	Worcester	Mid. Counties	1 6	1 1½
A3	Worksop ..	Yorkshire	1 6	1 1½
A1	Wrexham ..	N.W. Counties	1 7	1 2¼
B	Wycombe	S. Counties	1 5½	1 1½
B1	YARMOUTH	E. Counties	1 5	1 0¼
B2	Yeovil ..	S.W. Counties	1 4½	1 0½
A	York ..	Yorkshire	1 7½	1 2

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.

* 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. 4d. *per hour*; LABOURER, 1s. 4d. *per hour*; NAVVY, 1s. 4d. *per hour*; TIMBERMAN, 1s. 5½d. *per hour*; SCAFFOLDER, 1s. 5d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

*

Broken brick or stone, 2 in., per yd.	£0	11	6
Thames ballast, per yd.	0	11	0
Pit gravel, per yd.	0	18	0
Pit sand, per yd.	0	14	6
Washed sand	0	15	0
Screened ballast or gravel, add 10 per cent. per yd.			
Clinker, breeze, etc., prices according to locality.			
Portland cement, per ton	£2	15	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. 4d. *per hour*; TIMBERMAN, 1s. 5½d. *per hour*; BRICKLAYER, 1s. 9d. *per hour*; PLUMBER, 1s. 9d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

*

Stoneware pipes, tested quality, 4 in., per ft.	£0	0	10
DO. *6 in., per ft.*	0	1	3
DO. *9 in., per ft.*	0	2	3
Cast-iron pipes, coated, 9 ft. lengths, 4 in., per yd.	0	5	6
DO. *6 in., per yd.*	0	8	6
Portland cement and sand, see "Excavator" above.			
Leadwool per cwt.	£2	0	0
Gaskin, per lb.	0	0	4½

*

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. 9d. *per hour*; LABOURER, 1s. 4d. *per hour*; SCAFFOLDER, 1s. 5d. *per hour.*

*

London stocks, per M.	£4	15	0
Flettons, per M.	3	0	0
Midhurst white facing bricks, per M	5	0	0
T.L.B., multi-coloured facings, per M	7	7	9
DO. *red best facings, per M*	7	7	9
DO. *rubbers 9¾ in., per M*	12	0	6
Staffordshire blue, per M.	9	10	0
Firebricks, 2½ in., per M.	11	3	0
Glazed salt, white, and ivory stretchers, per M.	24	10	0
DO. *headers, per M.*	24	0	0
Colours, extra, per M.	5	10	0
Seconds, less, per M.	1	0	0
Cement and sand, see "Excavator" above.			
Lime, grey stone, per ton	2	17	0
Mixed lime mortar, per yd.	1	6	0
Damp course, in rolls of 4½ in., per roll	0	2	6
DO. *9 in. per roll*	0	4	9
DO. *14 in. per roll*	0	7	6
DO. *18 in. per roll*	0	9	6
BRICKWORK in stone lime mortar, Flettons or equal, per rod	£33	0	0
DO. in cement do., per rod	36	0	0
DO. in stocks, add 25 per cent. per rod.			
DO. in blues, add 100 per cent. per rod.			
DO. circular on plan, add 12½ per cent. per rod.			
DO. in backing to masonry, add 12½ per cent. per rod.			
DO. in raising on old walls, etc., add 12½ per cent. per rod.			
DO. in underpinning, add 20 per cent. per rod.			
HALF-BRICK walls in stocks in cement mortar (1–3), per ft. sup.	£0	1	0
BEDDING plates in cement mortar, per ft. run	0	0	3
BEDDING window or door frames, per ft. run	0	0	3
LEAVING chases 2½ in. deep for edges of concrete floors not exceeding 6 in. thick, per ft. run	0	0	2
CUTTING do. in old walls in cement, per ft. run	0	0	4
CUTTING, toothing and bonding new work to old (labour and materials), per ft. sup.	0	0	7
TERRA-COTTA flue pipes 9 in. diameter, jointed in fireclay, including all cuttings, per ft. run	0	3	6
DO. 14 ft. by 9 in. do., per ft. run	0	6	0
FLAUNCHING chimney pots, each	0	2	0
CUTTING and pinning ends of timbers, etc., in cement	0	1	0
FACINGS fair, per ft. sup. extra	0	0	3
DO. picked stocks, per ft. sup. extra	0	0	7
DO. red rubbers gauged and set in putty, per ft. sup. extra	0	4	9
DO. in salt white or ivory glazed, per ft. sup. extra	0	5	6
TUCK pointing, per ft. sup. extra	0	0	10
WEATHER pointing, do. do.	0	0	3
TILE creasing with cement fillet each side per ft. run	0	0	6
GRANOLITHIC PAVING, 1 in., per yd. sup.	0	5	0
DO. 1½ in., per yd. sup.	0	6	0
DO. 2 in., per yd. sup.	0	7	0
If coloured with red oxide, per yd. sup.	0	1	0
If finished with carborundum, per yd. sup.	0	0	6
If in small quantities in finishing to steps, etc., per ft. sup.	0	1	4
Jointing new grano, paving to old, per ft. run	0	0	4
Extra for dishing grano, or cement paving around gullies, each	0	1	6
BITUMINOUS DAMP COURSE, ex rolls, per ft. sup.	0	0	7
ASPHALT (MASTIC) DAMP COURSE, ½ in., per yd. sup.	0	8	0
DO. vertical, per yd. sup.	0	11	0
SLATE DAMP COURSE, per ft. sup.	0	0	10
ASPHALT ROOFING (MASTIC) in two thicknesses, ¾ in., per yd.	0	8	6
DO. SKIRTING, 6 in.	0	0	11
BREEZE PARTITION BLOCKS, set in cement, 1½ in. per yd. sup.	0	5	3
DO. DO. 3 in.	0	6	6
BREEZE fixing bricks, extra for each	0	0	3

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

MASON

MASON, 1s. 9d. *per hour*; DO. *fixer*, 1s. 10d. *per hour*; LABOURER, 1s. 4d. *per hour*; SCAFFOLDER, 1s. 5d. *per hour.*

*

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

*

HOISTING and setting stone, per ft. cube	£0	2	2
DO. for every 10 ft. above 30 ft. add 15 per cent.			
PLAIN face Portland basis, per ft. sup.	£0	2	8
DO. circular, per ft. sup.	0	4	0
SUNK FACE, per ft. sup.	0	3	9
DO. circular, per ft. sup.	0	4	10
JOINTS, arch, per ft. sup.	0	2	6
DO. sunk, per ft. sup.	0	2	7
DO. DO. circular, per ft. sup.	0	4	6
CIRCULAR-CIRCULAR work, per ft. sup.	1	2	0
PLAIN MOULDING, straight, per inch of girth, per ft. run	0	1	1
Do. circular, do., per ft. run	0	1	4
HALF SAWING, per ft. sup.	£0	1	0
Add to the foregoing prices, if in York stone, 35 per cent.			
DO. Mansfield, 12½ per cent.			
Deduct for Bath, 33⅓ per cent.			
DO. for Chilmark, 5 per cent.			
SETTING 1 in. slate shelving in cement, per ft. sup.	£0	0	
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	3

SLATER AND TILER

SLATER, 1s. 9d. *per hour*; TILER, 1s. 9d. *per hour*; SCAFFOLDER, 1s. 5d. *per hour*; LABOURER, 1s. 4d. *per hour.*

N.B.—Tiling is often executed as piecework.

*

Slates, 1st quality, per 1,200:			
Portmadoc Ladies	£14	0	0
Countess	27	0	0
Duchess	32	0	0

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

Green Randoms, per ton	8	3	9
Grey-green do., per ton	7	3	9
Green peggies, 12 in. to 8 in. long, per ton	6	3	9
In 4-ton truck loads, delivered Nine Elms station			
Clips, lead, per lb.	£0	0	8
Clips, copper, per lb.	0	2	0
Nails, compo, per cwt.	1	6	0
Nails, copper, per lb.	0	1	10
Cement and sand, see "Excavator," etc., above.			
Hand-made tiles, per M.	£5	18	0
Machine-made tiles, per M.	5	8	0
Westmorland slates, large, per ton	9	0	0
DO. *Peggies, per ton*	7	5	0

*

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

	Med. Grey	Med. Green
24 in. × 12 in.	£5 0 0	£5 2 0
20 in. × 10 in.	5 5 0	5 10 0
16 in. × 10 in.	4 15 0	5 1 0
14 in. × 8 in.	4 10 0	4 15 0

Green randoms	6	7	0
Grey-green do.	5	9	0
Green peggies, 12 in. to 8 in. long	4	17	0
TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square	5	6	0
DO., machine-made do., per square	4	17	0
Vertical Tiling, including pointing, add 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. 9d. *per hour*; JOINER, 1s. 9d. *per hour*; LABOURER, 1s. 4d. *per hour.*

*

Timber, average prices at Docks, London Standard Scandinavian, etc. (equal to 2nds):			
7 × 3, per std.	£21	0	0
11 × 4, per std.	33	0	0
Memel or Equal. Slightly less than foregoing.			
Flooring, P.E., 1 in., per sq.	£1	2	6
DO. *T. and G., 1 in., per sq.*	1	2	6
Planed boards, 1 in. × 11 in., per std.	30	0	0
Wainscot oak, per ft. sup. of 1 in.	0	1	4
Mahogany, Honduras, per ft. sup. of 1 in.	0	1	3
DO. *Cuba, per ft. sup. of 1 in.*	0	2	8
DO., *African, per ft. sup.*	0	1	0
Teak, per ft. sup. of 1 in.	0	1	3
DO., *ft. cube*	0	12	6

*

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

continued overleaf

CARPENTER AND JOINER: *continued.*

SHUTTERING to face of concrete, per square	£1	10	0
DO. in narrow widths to beams, etc., per ft. sup.	0	0	6
USE and waste of timbers, allow 25 per cent. of above prices.			
SLATE BATTENING, per sq.	£0	12	6
DEAL boarding to flats, 1 in. thick and firrings to falls, per square	2	10	0
STOUT feather-edged tilting fillet to eaves, per ft. run	0	0	6
FEATHER-edged springer to trimmer arches, per ft. run	0	0	4
STOUT herringbone strutting (joists measured in), per ft. run	0	0	6
SOUND boarding, ⅞ in. thick and fillets nailed to sides of joists (joists measured over), per square	2	0	0
RUBEROID or similar quality roofing, one ply, per yd. sup.	0	2	3
DO., two-ply, per yd. sup.	0	2	6
DO., three-ply, per yd. sup.	0	3	0
TONGUED and grooved flooring, 1½ in. thick, laid complete with splayed headings, per square	2	5	0
DEAL skirting torus, moulded 1½ 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. 1½ in. thick, per yd. sup.	0	12	0
Maple 1½ in. thick, per yd. sup.	0	15	0
DEAL moulded sashes, 1⅛ 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, 1⅛ 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 1⅛ in. and risers 1 in., tongued and grooved including fir carriages, per ft. sup.	0	2	6
DEAL wall strings, 1⅛ in. thick, moulded, per ft. run	0	2	6
If ramped, per ft. run	0	5	0
SHORT ramps, extra each	0	7	6
ENDS of treads and risers housed to strings, each	0	1	0
2 in. deal mopstick handrail fixed to brackets, per ft. run	0	1	6
4½ in. × 3 in. oak fully moulded handrail, per ft. run	0	5	6
1½ in. square deal bar balusters, framed in, per ft. run	0	0	6
FITTINGS :			
SHELVES and bearers, 1 in., cross-tongued, per ft. sup.	0	1	6
1½ in. beaded cupboard fronts, moulded and square, per ft. sup.	0	2	9
TEAK grooved draining boards, 1½ in. thick and bedding, per ft. sup.	0	4	6
IRONMONGERY :			
Fixing only (including providing screws) :			
TO DEAL—			
Hinges to sashes, per pair	0	1	2
Do. to doors, per pair	0	1	7
Barrel bolts, 9 in. iron, each	0	1	0
Sash fasteners, each	0	1	0
Rim locks, each	0	1	9
Mortice locks, each	0	4	0

SMITH

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

*

Mild Steel in British standard sections, per ton	£12	10	0
Sheet Steel :			
Flat sheets, black, per ton	17	0	0
DO., *galvd., per ton*	19	0	0
Corrugated sheets, galvd., per ton	18	10	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.*

*

Lead, milled sheet, per cwt.	£1	9	0
DO. *drawn pipes, per cwt.*	1	10	0
DO. *soil pipe, per cwt.*	1	12	0
DO. *scrap, per cwt.*	1	0	0
Copper, sheet, per lb.	0	1	3
Solder, plumber's, per lb.	0	1	3
DO. *fine, per lb.*	0	1	9
Cast-iron pipes, etc. :			
L.C.C. soil, 3 in., per yd.	0	4	0
DO. *4 in. per yd.*	0	4	9½
R.W.P., 2½ in., per yd.	0	2	2
DO. *3 in., per yd.*	0	2	7
DO. *4 in., per yd.*	0	3	6½
Gutter, 4 in. H.R., per yd.	0	1	6½
DO. *4 in. O.G., per yd.*	0	1	10½

*

MILLED LEAD and labour in gutters, flashings, etc. per cwt.	3	0	0
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.* 4*d. per hour.*

*

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

*

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

GLAZIER

GLAZIER, 1*s.* 8*d. per hour.*

*

Glass : 4ths in crates :			
Clear, 21 oz.	£0	0	4½
DO. 26 oz.	0	0	5
Cathedral white, per ft.	0	0	7½
Polished plate, British ¼ in., up to 2 ft. sup. per ft.	0	1	2
DO. *4 ft. sup.* ,,	0	2	3
DO. *6 ft. sup.* ,,	0	2	6
DO. *20 ft. sup.* ,,	0	3	1
DO. *45 ft. sup.* ,,	0	3	3
DO. *65 ft. sup.* ,,	0	3	5
DO. *100 ft. sup.* ,,	0	3	10
Rough plate, ⅛ in., per ft.	0	0	6½
DO. *¼ in. per ft.*	0	0	6½
Linseed oil putty, per cwt.	0	15	0

*

GLAZING in putty, clear sheet, 21 oz.	0	0	11
DO. 26 oz.	0	1	0
GLAZING in beads, 21 oz., per ft.	£0	1	1
DO. 26 oz., per ft.	0	1	4

Small sizes slightly less (under 3 ft. sup.).
Patent glazing in rough plate, normal span, 1*s.* 6*d.* to 2*s.* per ft.

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

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

PAINTER AND PAPERHANGER

PAINTER, 1*s.* 8*d. per hour ;* LABOURER, 1*s.* 4*d. per hour ;* FRENCH POLISHER, 1*s.* 9*d. per hour ;* PAPERHANGER, 1*s.* 8*d. per hour.*

*

Genuine white lead, per cwt.	£2	7	6
Linseed oil, raw, per gall.	0	3	6
DO., *boiled, per gall.*	0	3	8
Turpentine, per gall.	0	4	0
Liquid driers, per gall.	0	3	6
Knotting, per gall.	0	18	0
Distemper, washable, in ordinary colours, per cwt., and up	2	5	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4½
Single gold leaf (transferable), per book	0	2	0
Varnish, copal, per gall. and up	0	12	6
DO., *flat, per gall.*	1	2	0
DO., *paper, per gall.*	0	16	0
French polish, per gall.	0	17	6
Ready mixed paints, per gall. and up	0	15	0

*

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

SUNDRIES

Fibre or wood pulp boardings, according to quality and quantity.
The measured work price is on the same basis . . . per ft. sup. £0 0 2½

FIBRE BOARDINGS, including cutting and waste, fixed on, but not including studs or grounds per ft. sup. . . . from 3*d.* to	0	0	6

Plaster board, per yd. sup. . from	0	1	7
PLASTER BOARD, fixed as last, per yd. sup. . . . . from	0	2	8
Asbestos sheeting, $\frac{3}{32}$ in., grey flat, per yd. sup.	0	2	3
DO., *corrugated, per yd. sup.*	0	3	3
ASBESTOS SHEETING, fixed as last, flat, per yd. sup.	0	4	0
DO., corrugated, per yd. sup.	0	5	0
ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey	2	15	0
DO., red	3	0	0
Asbestos cement slates or tiles, $\frac{3}{32}$ in. punched per M. grey	16	0	0
DO., *red*	18	0	0
ASBESTOS COMPOSITION FLOORING : Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0	7	0
DO., ½ in. thick, suitable for domestic work, unpolished, per yd.	0	6	6

Metal casements for wood frames, domestic sizes, per ft. sup.	0	1	6
DO., *in metal frames, per ft. sup.*	0	1	9
HANGING only metal casement in, but not including wood frames, each	0	2	10
BUILDING in metal casement frames, per ft. sup.	0	0	7

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

PLYWOOD, per ft. sup.

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