THE ARCHITECTS' JOURNAL

*Wednesday, April 18, 1928*

# TRANSPORT OF THE FUTURE

"To anyone who wishes to get first-hand evidence as to the comparative conditions of road and rail, the best advice I can give is . . . let him take his stand at the southern end of Vauxhall Bridge. Here is a railway bridge that carries as busy a group of lines as could be found in this country. Let him mark the infrequency of the trains, and mentally compare the movement they represent with the intensity of the road traffic at this point. . . . This state of affairs . . . . is patently illogical and undesirable. For the rail, if it were properly administered, ought to be essentially faster, cheaper, and safer than any other kind of transport." (*The Lure of Speed*, by H. O. D. Segrave; Hutchinson & Co., London, 1928.)

This is not a lamentation from a railway shareholder, but is the deliberate advice given by the first motorist to surpass the 200 miles an hour mark in an official test. Major Segrave's book is so well and modestly written that his moral, contained in the last two chapters, may reach ears that would be deaf to other voices. The wisdom of his observations on transport and speed is not only shrewd and cautious; it is also imaginative. He shows how the quest for speed pursues a definite cycle and eventually exhausts itself, when possible gains in speed become minute in comparison with the increasing danger involved, and he aptly uses the Irishism that "racing cars have a great future behind them." Only a few years ago it paid the leading motor companies to expend vast sums in constructing pace machines. These speed experiments repaid the effort, apart from the advertisement, since weaknesses were thus discovered and design improved. Major Segrave believes that higher speeds than his record will be attained, already, indeed, another Englishman has gone ahead, but he suggests that the rivalry for speed will pass from the surface to the air, not only in record breaking, but in private quick transport.

The history of inland commercial transport has repeated itself curiously. The rail first beat the road on speed, and the rail having attained a maximum was beaten by the road through the convenience of door to door transport. But roads, as we observed from Vauxhall Bridge, are now so much overcrowded that pace is again defeated; with every improvement in surface, width, and vehicle, the congestion thickens, and Major Segrave predicts that the fast touring car will soon give way to the private plane. For short distances the private owner will increasingly prefer the luxurious public coach to the responsibilities of the wheel. The author hints little about the return of passenger traffic to the rail, but already there are signs that the train is winning for long journeys and, given cheaper first-class fares, many people would deliberately choose its warmth and comfort to the dust, turmoil, and perils of the road.

The author is entirely convincing when he demonstrates the national waste and folly of sending heavy goods, as he puts it, by telegram when they should go by post. Economic efficiency cannot be settled only by the time factor. Thus, if one is sending ballast or bricks, time is of little importance, and we can concentrate on the cost per ton-mile, whereas in sending mails we must count in mile-hours. He points out that on a canal a single horse can make three miles an hour with a load that it could hardly move on rails and could certainly never start up on the road. Fitted with its own power the barge can go faster, but the wash on the banks must always limit its pace. Canals, he is convinced, must share a renaissance with trains. While air traffic is likely to become more popular for private transport, we are reminded that "the tractive effort for flying is about equal to that of dragging the same load in a sledge along a dry macadam road," an economic limitation that must curtail its utility.

The simplicity of "door-to-door" goods transit must not induce us to overlook the economic side. Road transit costs still appear cheaper than they are in fact, since roads are themselves the product of past capital. Even the costs of maintenance are borne unevenly among road users. If the highways are to be extended, widened, the bridges strengthened, the danger points cleared or lowered, and the surface reformed of concrete on arterial routes alone, it will be found that road transport for heavy vehicles is a luxury. When one bears in mind that this luxury is enjoyed at the expense of rail capital one is faced with a paradox that must be nationally ruinous. The road, in Major Segrave's view, should again become the domain of personal transport. To conclude in his words: "Great Britain absolutely cannot afford to discard the finest railway system in the world and build roads to take its place. Even if we had all the gold in America it would be a bad proposition."

## NEWS AND TOPICS

THE Building Exhibition of 1928 is strongly characterized by the tendency to get away from the older methods and materials. Not that this is a good sign in itself (I am sufficiently conservative in outlook to find comfort in well-tried ways), but there is distinct evidence that we are striking out a new and characteristic style for our period. I gathered that this was no haphazard trying for new effects, but rather a wise effort to overcome present defects. Concrete, steel, and new surfacing materials to cover them were well to the fore; new and more effective damp proofing, stronger methods of bonding, better methods of covering raw concrete structures, flooring materials to give good footing. Not that there was any falling off of artistic standard, but rather that there was a more vigorous attempt to cope with the practical need of providing buildings that bring comfort alike to body, soul, and pocket. Broad surfaces with plenty of sunlight allowed to enter seemed to be indicated. Steel and concrete give greater latitude in this respect in that they allow of the structure being moulded to the particular needs of the case. Their beauty must rest with the proportioning and in the wise association of materials. Then there were the designs and workmanship shown by the various technical schools. Here was good, sound craftsmanship for the most part, with some designs of exceptional merit. In these days of specialized occupations, such training is invaluable. New materials and new men are coming; there's hope for the future—because the present is alive.

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No architect—or, indeed, anyone to whom beauty appeals—should miss the exhibition, promoted by the British Model Theatre Guild, now being held at the Gallery of the Faculty of Arts. It comprises a number of model stages—most of them electrically connected to show lighting effects—and a very varied collection of stage settings, scenery, costumes, and puppets, all displayed with that regard to contrast which facilitates comparison and at the same time sustains one's interest. Among the model stages which possess distinctive artistic merit, particular mention must be made of Mr. Herbert Bedford's remarkable woodland scene for a cinema ballet; Mr. Conrad Volk's highly romantic Oriental setting; Mr. E. P. B. Musman's cottage interior containing accurate models of period furniture executed by Miss K. M. Still; and Mr. Lucien Myers's futurist scenes from Kapek's Insect Play. There is an undeniable fascination in the comprehensive and delightful exhibition of marionette stages and puppets, in which connection the essentially modern puppet theatre built by Mr. Waldo S. Lanchester is a conspicuous example. This little theatre is in every way complete—even to the traps in the floor for ghost illusions. It has full lighting effects, and a " cast " of over fifty 12-in. string marionettes, made and operated by Mr. Lanchester and Mr. Whanslow.

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Mr. T. C. Howitt, of Nottingham, who is the architect for the new Exchange, has prepared an interesting scheme to convert the great market-place into an open square similar to Bernini's forecourt to St. Peter's at Rome, or the Place de la Concorde in Paris. The market itself, which disfigured the centre of the city twice a week with fish stalls and all the impedimenta of country hawkers, is to be removed to a new home in King Edward's Street. The General Purposes Committee of the City Council have approved the proposal to form a wide processional way leading from the west up to the new Exchange building. Care will be taken to widen the surrounding roads so as to provide sufficient traffic, not only of today, but of the future. The steps at the end of the processional way will blend in the forecourt with the steps in the front of the Exchange. Mr. Howitt has noted the value of the greenery in such a public thoroughfare as Princes Street, Edinburgh, and in his design trees and small lawns are included at the four corners of the square. These will be protected with dwarf stone walls, carried out in Portland stone, to harmonize with the new Exchange. Care also is being taken so that the lamp standards and tram-wire standards may be designed to be in keeping with the architectural details of the whole scheme. If this is approved by the Nottingham City Council, the Midlands will be able to offer a fine example of municipal enterprise in architecture.

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If authority has nothing to say, then I suggest that the nimble mind of youth has still ways and means of bringing a good cause to the light of day. Are there not in Bedford Square some two hundred enthusiastic students of architecture? And is not Bedford Square as much a part of Bloomsbury as the Foundling Hospital? And is it not the privilege of youth to redress wrongs and with joyful shout carry their banner to the market-place? Then let them rise in a body and wait on the chairman of the Shakespeare National Memorial Theatre Committee and tell him that if the Foundling is to die, then here's twice a hundred architects will know the reason why. And should they make a stir enough while they are on their way, then the Press may record the fact, and recognize a popular cause.

ASTRAGAL

## ARRANGEMENTS

WEDNESDAY, APRIL 18

*Royal Society of Arts.* 8.0 p.m. Paper by A. C. Bossom on " American Architecture."

SUNDAY, APRIL 22

*The Guildhouse, Eccleston Square, London, S.W.* 3.30 p.m. P. Morley Horder on " How to Preserve Our Countryside."

MONDAY, APRIL 23

*R.I.B.A.* 8.0 p.m. " The Work of Temple Moore." Paper by H. S. Goodhart-Rendel.

*Royal Society of Arts.* 8 p.m. A. G. Huntley on " Applied Architectural Acoustics." (Second Lecture.)

SUNDAY, APRIL 29

*The Guildhouse, Eccleston Square, London, S.W.* 3.30 p.m. G. K. Chesterton on " Beauty in the Commonplace."

MONDAY, APRIL 30

*Architectural Association.* 7.0 p.m. " Modern German Architecture." Paper by Werner Hegemann.

*Royal Society of Arts.* 8.0 p.m. A. G. Huntley on " Applied Architectural Acoustics." (Concluding Lecture.)

TUESDAY, MAY 8

*Princes', Piccadilly.* 7.15 p.m. The Artists' General Benevolent Institution Annual Dinner. The Rt. Hon. Viscount Lascelles in the chair.

# HEALTH AND RECREATION CENTRES

[BY J. MURRAY EASTON]

My subject deals chiefly with the post-war development of health and recreation centres on the Continent, more particularly in the industrial regions of the Rhine. Public concern for these matters became greatly intensified after the war owing to the lowering of the public health which malnutrition had caused. This was especially marked in the larger towns, where there was an alarming increase in infantile rickets, and widespread anxiety existed lest the standard of physique of a whole generation should be seriously impaired. At such a time the discovery by research workers in Vienna of the curative action of the ultra-violet rays of sunlight on some of the diseases caused by malnutrition created an impression on the public mind. It promised a solution of some of the problems that had most troubled those in charge of the public health, and its practical application became their urgent concern. Another factor contributed to the open-air movement.

During the war period, and just before, much research had been carried out in the investigation of conditions favourable to work. Industrial psychologists and others confirmed what ordinary people had always known—that all work and no play made Jack a dull boy. Having been told this on the best scientific authority, the German peoples decided that they must play more.

Nothing remained but to find, or to create, places in which to play. For this the circumstances were unusually favourable. A Socialist Government held the reins of power in the State and, in most cases, in the city; so that difficulties of finance were brushed aside.

Moreover, the abolition, under the Treaty of Versailles, of fortifications in some of the Rhine towns and of the large spaces formerly devoted to military training, which were to be found in nearly all the towns, provided large open areas.

Added to these, many cities which had been capitals of petty principalities became the possessors of the palaces and gardens of their former rulers. Thus the ground became available, and the national desire to recover in peace what had been lost in war provided the motive force for a campaign in favour of improved health and efficiency.

I began my tour with Düsseldorf because it is the most northerly of the Rhine towns which I visited, and because it was, in 1926, the scene of an exhibition specially related to the subject of this paper. The full and majestic title of this exhibition was "The United Exhibition of Health, Social Service, and Gymnastics." Statistics, diagrams, pictures, and models of every kind of activity were lavishly provided, and a quite remarkable historical survey of sanitation from Egyptian times to the present day was staged. The exhibition did much to increase the already great public interest in the subject.

Of all the places which I visited, Frankfort is pre-eminent in the completeness with which she has provided for the health and recreation of her citizens. This city of nearly half a million inhabitants is finely situated on the River Main. Its activity and prosperity are most apparent, and under the direction of Stadtrat May, Frankfort has, since the war, inaugurated schemes of the most complete nature for the creation of pleasant and healthy conditions. A survey was made of the city and its surroundings with a view to the provision of adequate playing fields, gymnasia, and baths. The municipality obtained the right to acquire, wherever desirable, the space to create such centres, and the city plan shows their incidence. In many cases existing

[Extracts from a paper read at the R.I.B.A., Monday, April 2nd.]

*The Kurhaus, Wiesbaden.*

parks—which were laid out in a decorous fashion, with railings round the grass and frequent "Verboten" notices—have been remodelled, and children's playgrounds, tennis courts, etc., provided, and in others the grounds of private houses have been acquired and turned into such centres.

At the bottom of the map you will see the Stadion, which is the most important single centre that has been created under the plan. The Stadion is on the south side of the river, about twenty minutes' run by tram, and it is also served by a railway station. The country is richly wooded, and the woods, which belong to the town, make an ideal accompaniment to the Stadion. The site is triangular, and is bounded on all sides by roads which allow exit from the various sections; but the whole area is enclosed and under a different control system from that of Cologne. Provision is made for parking cars and for bicycles, which, as usual, are the favourite means of locomotion. The main entrance consists of a number of ticket-box controls, and there are a number of ticket booths outside to deal with large crowds.

The principal stadium, A on the plan, consists of an arena 220 metres long by 130 metres wide, with two semi-circular ends. One of the sides is an ellipse, the other is flat. The covered grandstand occupies the north side, and sitting places adjoin this, while around the remainder of the arena are terraced standing-places.

The whole structure is built of reinforced concrete—naked, but not unadorned. The design is not perhaps in the best tradition of reinforced concrete, but it is a remarkable example of technical skill in its handling. Mouldings, columns, rustication, etc., have all been carried out in this material, the entire surface of which has been bush-hammered and chisel-dressed.

The standing accommodation consists of tiers of terraces, 3 ft. 3 in. wide, with a 14-in. rise. They are of gravel, held in position by precast slabs of concrete, in turn supported by reinforced concrete piles, and they form an inexpensive and satisfactory platform.

The small stadium is devoted to cycle track racing and more intimate sports, such as wrestling, etc. The seating is elliptical in shape, and there is also a covered grandstand. An excellent feature of the bathing-place is the large area of grass on which the bathers may sit about, and there are, in addition, special places reserved to the more modest of either sex for unmixed sun bathing.

The championship swimming bath is kept strictly apart from, and is placed at right angles to, the bathing-place. It has seats along one side and a wide terrace along the front, with a diving-place at the end. It has its own dressing-boxes in another reinforced concrete building.

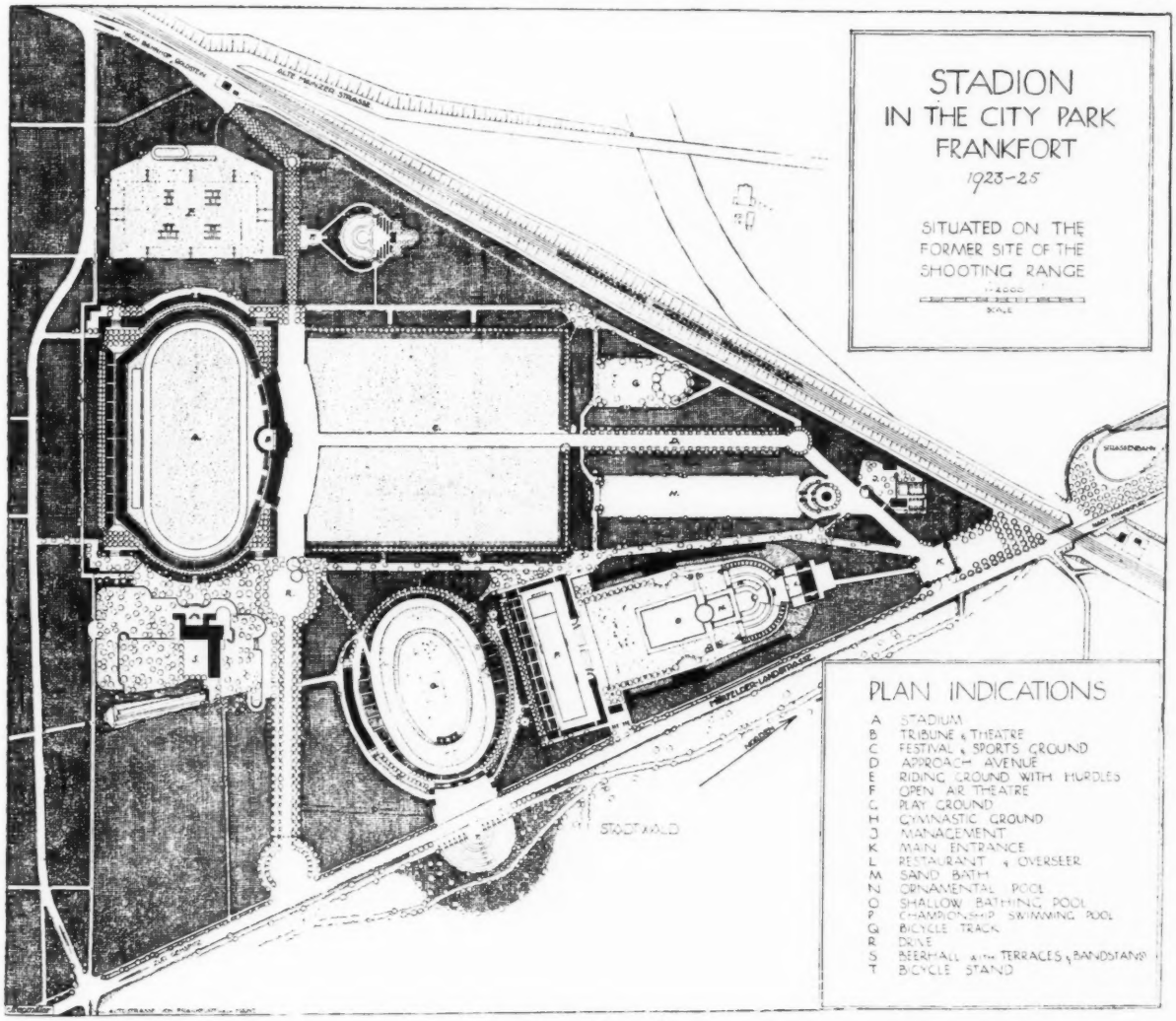
The dressing-boxes for the bathing pool, which are an exceedingly attractive feature of the bathing-place, are of wood, painted in bright colours. The baths have a separate café, not open to non-bathers, and there is an ornamental pool and a sand bath for children. Looking down upon the whole scene is a restaurant where good and inexpensive food and first-class beer may be had. In addition to these the stadium provides a riding-ground with hurdles, an open-air theatre, gymnastic rooms, and a beer-hall with terraces and a bandstand.

It is difficult to exaggerate the attractions of the whole place. The benefit to the community of seeing and participating in games in such surroundings must be very great, and the contrast with most of our gaunt football grounds, wedged between factories and gasworks, is overwhelming.

Nowhere was the effect of the war felt so severely as in Vienna. From various causes its food supply was very deficient, and malnutrition of the industrial population, especially among the children, lowered the general standard of health to a marked degree. The pre-war enthusiasm for recreation of the Viennese has changed slightly rather than diminished, and sport now plays an important part in their life.

Some of the institutions are not dissimilar to English ones, but the Stadion (a group of stadia and recreation grounds) is, as far as I know, peculiar to Germany and has been widely adopted there.

*The Stadium, Lyons.*




*Plan of Frankfort Stadion.*

It has the disadvantage of drawing a great crowd to one locality. We can imagine the congestion that would arise if the Cup-tie, the England *v.* Scotland Rugby match, and the University sports were held in adjoining stadia on the same afternoon. But this concentration of the various sports grounds in one area makes a special appeal to the German mind. It gives a sense of ordered relationships and provides the opportunity for a spectacular and imaginative realization of what a sports centre should be.

Elaborate as they are, it must be remembered that stadia such as those at Cologne, Frankfort, and Düsseldorf are not fully developed structures like the Roman ones or like the Wembley Stadium. The latter is an arena surrounded by stands, which have a complete circulation beneath them. The emphasis there is on the spectacle, and the participants are well provided for in order that this may be efficiently conducted and clearly seen.

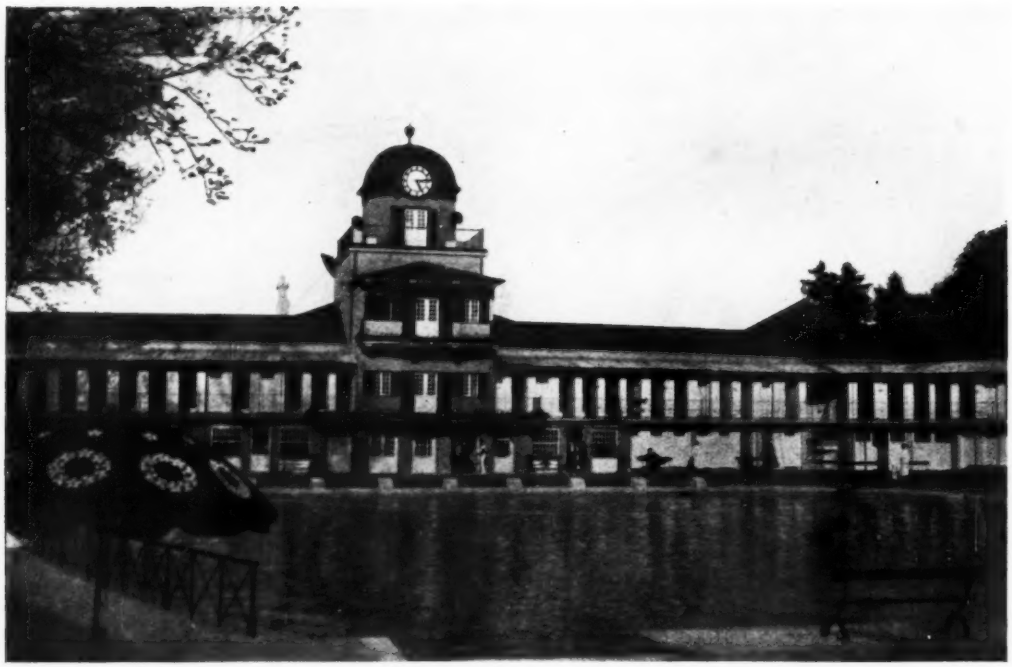
The German stadia are much simpler affairs. In most cases they are constructed by slightly excavating the ground on which the arena is to be placed and terracing the excavated material round it. The grandstand occupies only a small part of the circumference. There is therefore no comparison between the cost of one of the stadia at Cologne and the stadium at Wembley.

Moreover, in Germany the emphasis is placed on the players or athletes using the stadia. They are not often deserted, for you will find on any day of the week runners training on the tracks and teams practising or playing on the grounds. The shape of the stadium is mostly a rectangle with semicircular ends, but in the case of cycle tracks it is frequently an ellipse, which of course provides better visibility. In Germany tennis is almost invariably played on hard courts on the *en-tout-cas* principle. In the case of public courts the courts are divided into two groups, one group let each year to various clubs and another group reserved for casual players.

In the design of open-air bathing pools the problem of catering for swimmers and non-swimmers immediately presents itself. When space is badly restricted it is met by the usual arrangement of a pool with a shallow and a deep end, as at Voslau. This, however, is undesirable, as bathers interfere with the swimmers and non-swimmers are apt to get out of their depth.

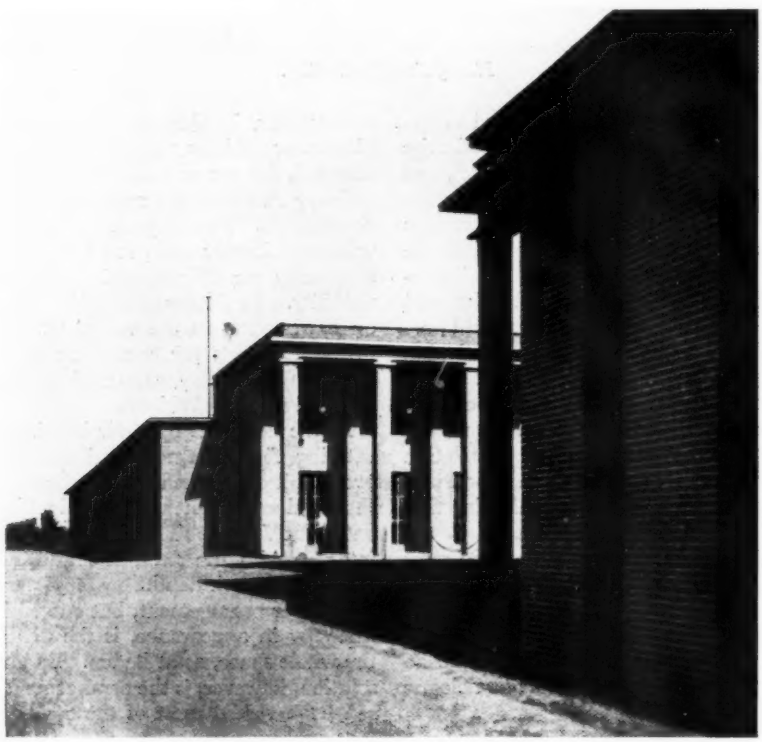
A better arrangement, but one which is rather apt to be unhappy in appearance, is the division into two parts of the whole space, as at Baden. By far the most satisfactory solution, however, is the arrangement at Frankfort.

I have visited most of the open-air swimming pools in



this country, and, excellent as are such ones as Scarborough and Blackpool, they do not compare as a solution of the problem with Frankfort. The complete separation of the championship area from the bathing pool is, I think, very desirable. At Frankfort it is divided by a bridge into the championship area 100 metres long and a shorter portion for diving. The seating accommodation for spectators is arranged fairly close to the pool and has the steep angle required by the fact that the picture plane of water sports is a horizontal one. This separation of championship area enables the bathing pool to be kept quite open with plenty of space round it, since the question of spectators does not arise. In Frankfort they are, in fact, not allowed to enter the enclosure, but must content themselves with distant views from the café terrace.

The bathers have ample space to run about and play games on the grass, and, although this makes the pool more difficult to keep clean, it adds enormously to its value.



*Above, swimming pool at Voslau, Austria. Below, dressing-room blocks, Cologne Stadion.*

# THE NEW SCIENCE MUSEUM

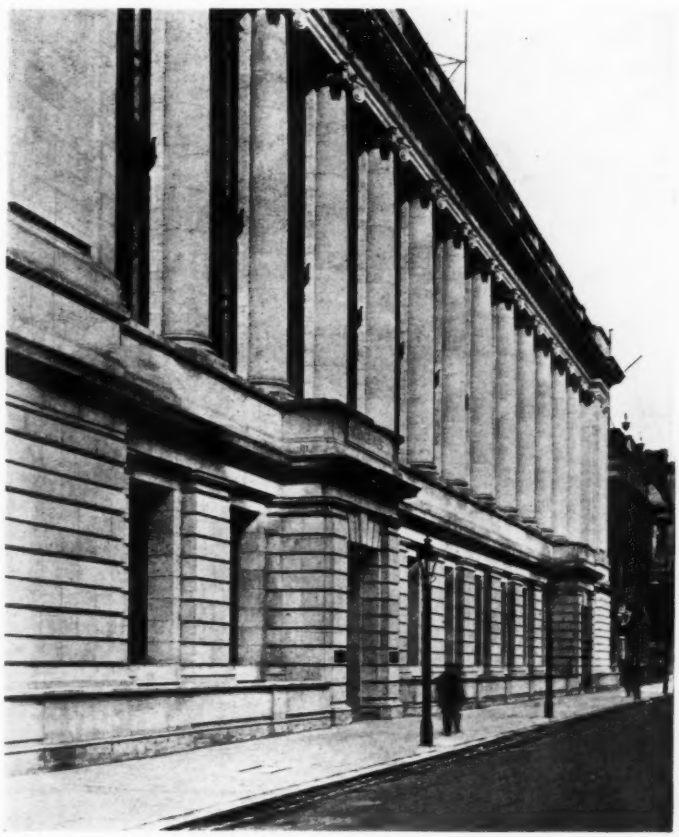
[ BY B. S. TOWNROE ]

To the public mind a museum is usually associated with the idea of a grimy building, designed in the worst possible Victorian style, that is badly lighted, insufficiently ventilated, and thoroughly depressing. Sir Richard Allison, the chief architect of H.M. Office of Works, and his colleagues, have shown in South Kensington what modern architects can do when they are given the opportunity. They have planned a new Science Museum that is a joy to behold both outside and within. It is modern, but soberly British; post-war, but not fantastic; or "cranky" like certain science institutes on the Continent. The completed eastern block of the Science Museum at South Kensington was opened by His Majesty the King on February 20. The site lies between the Natural History Museum on the south, and the Imperial College of Science on the north. Up to the present only the eastern galleries have been completed, providing a total area of exhibition space of 192,700 sq. ft., but it is hoped that in time this will extend to 400,000 sq. ft.

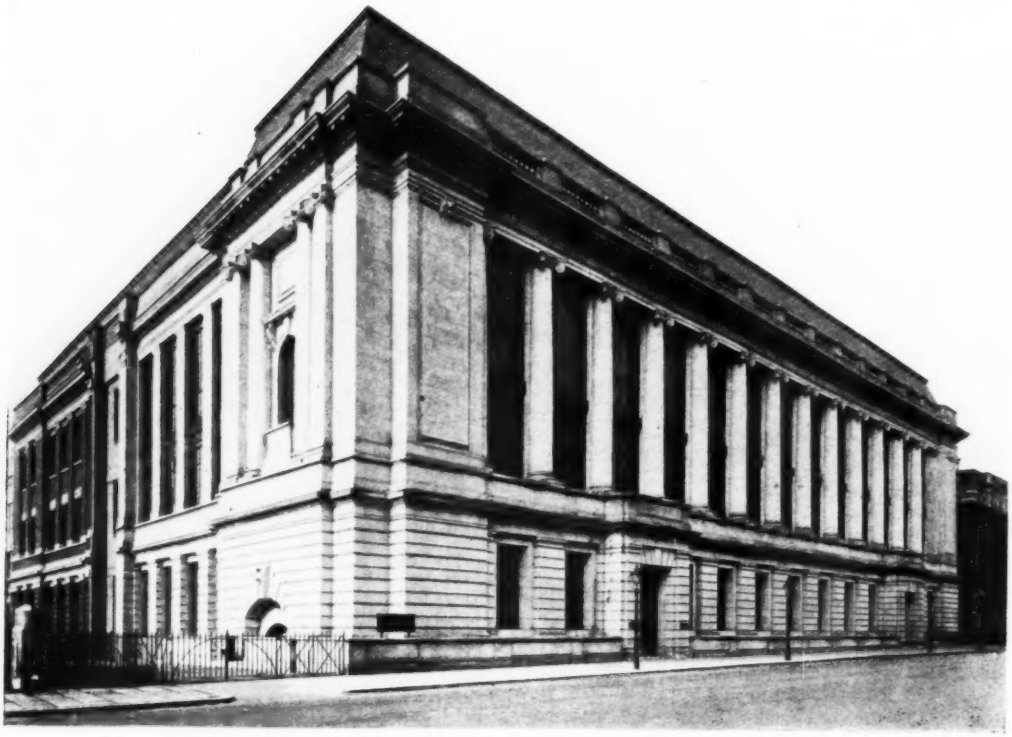
It is interesting to consider the origin of the buildings that have been displaced in order to make room for London's most modern and, in my opinion, our most popular museum. The Great Exhibition of 1851, unlike the British Empire Exhibition of 1922, actually made a substantial profit. The Prince Consort, showing the foresight that has probably not been fully appreciated by succeeding generations, then proposed that part of the money should be expended in buying land in South Kensington. It was good business for the nation and for education. He discussed with the Queen the possibility of founding here a centre for science and for art. His ideas are not yet fulfilled in every detail, although nearly eighty years have elapsed since then, but he would certainly have been very delighted with Sir Richard Allison's magnificent contribution of a home for our national scientific collection. For some fifty years the South Kensington Museum, opened by Queen Victoria in 1857, was the home of a general collection, and only in 1909 was the Science Museum established with a separate title. In its early days this was a queer collection of wooden buildings, almost like a mining camp built in the Far West of America. To reach the galleries it was necessary to traverse a maze of cinder tracks, but it was well worth while making the voyage of discovery, and during the past few years the attendance has been steadily increasing. Last year no less than 710,000 persons visited the Science Museum.

This past history is told because it gives some inkling of the problems set Sir Richard Allison and the architects at the Office of Works. They were told that in the present state of national finance the strictest economy in construction was essential. On both the north and west sides there were difficult questions of lighting owing to the number of surrounding buildings. They had to design lofty galleries to accommodate many cumbersome exhibits, such as aeroplanes and full-sized engines. They had to consider the convenience of a rapidly increasing public, and at the same time to provide for safeguarding the exhibits without employing too large a staff. As well as providing for the normal services of heating, lighting, and ventilation, they had to pay attention to the need to supply compressed air for operating the models.

The success with which so many complicated problems have been solved is not evident at first sight in visiting the museum. The exterior gives an impression of simplicity and dignity. It stands looking over the Exhibition Road, and is covered with Portland stone on this side. Here there is a series of twelve Ionic columns running through the first and second stories. These are 35 ft. high, and are flanked at the ends with wide piers. This stone treatment is extended in a simplified form round the south front to a point where a connecting gallery will be built to the proposed new Geological Museum. This main east front relies upon good proportions for its impressiveness. There is no unnecessary decoration. It suggests to the imagination a well-trained athlete carrying not an ounce of superfluous flesh, perfectly proportioned, and clean-cut in every limb. The way the demand from the Treasury for economy has been met is hidden



*The Science Museum, Exhibition Road, South Kensington. By Sir Richard Allison (His Majesty's Office of Works).*




*The Science Museum, Exhibition Road, South Kensington. By Sir Richard Allison (His Majesty's Office of Works). Above, a general view of the east and south elevations. Below, the main entrance in Exhibition Road.*

from the public gaze, but it will be found on closer examination that the long north and south elevations are finished in red brick with stone dressings, or in plain red brick to where they face surrounding buildings and have no street frontage. Examining the exterior in a little more detail, it will be seen that the mansard slopes to the roof are faced with green Tilbertwaite crowned with a moulded lead cresting. The gallery windows, averaging in size about 11 ft. by 8 ft., are in steel. The sashes are all hung so as to permit of cleaning from within. All the flat roofs are covered with asphalt.

On entering the building through the main entrance in Exhibition Road, the visitor is faced with a spacious view down the long galleries, and feels at once the unexpected air of cheerfulness and popularity. The gay music from some modern opera is being played by an electric gramophone in the second gallery. The whole place is light and airy. There are no signs of dust, and the air is as fresh as outside. Yet a closer view will reveal that there are many hundreds of visitors in the place—crowds of students gathered together around a modern locomotive, or a bevy of boys admiring the exhibits showing the history of flying, or schoolgirls examining the reproduction of James Watts's workshop. Probably not one of these visitors realize that they owe the comfort of their surroundings, the good light, the reasonable warmth, the feeling of happiness, to the skill and forethought of the architects. The care given to the planning of the galleries, and to providing efficient lighting, ventilation and warmth must be one reason for the marked success of the new Science Museum.

To the amateur the whole of the building inside and out seems to be so simple and so natural. Yet very careful investigation had to be given to the proposed layout of the exhibits in order to arrive at the most convenient gallery widths. The heights of the stories were to a large extent governed by the efficient lighting provision for the single and double-width gallery dimensions that were finally agreed upon. The height of the hall gives the impression of spaciousness. This is increased owing to the fact that there is no entrance hall separated from the main building. Broad flights of steps lead directly from the wide and unconfined entrance into a top-lit hall that is 120 ft. long and 40 ft. wide. The eye immediately looks up to the lofty roof on the third-floor level, which is segmental in form and is covered with patent glazing.

*The Science Museum, Exhibition Road, South Kensington. By Sir Richard Allison (His Majesty's Office of Works). An arched window in the south elevation.*

A practical advantage of this form of layout is that the official selling catalogues at the entrance can survey the greater part of the eastern section, and can watch everyone who comes in and goes out. This makes for economy in supervision. There are additional attendants in each hall, several of whom are retired senior N.C.O.'s from the Royal Navy or from the Royal Engineers, who have had a long technical training, and can therefore answer general inquiries.

The collections which illustrate science and its application to industry are shown not only in the main lighting hall, but in the exhibition galleries on the first and second floor. There is also a top-lit gallery on the ground floor with an arched rib glazed roof at first-floor level. The basement is devoted principally to workshop and stores. The administrative offices are situated in the north-west corner, and there are two entrances. Large demonstration rooms are also provided. The columns and column foundation to floors, the roofs, including mansard slopes, and all constructional units are in reinforced concrete carried out in the Coignet system. The sizes of the columns that are exposed to view in the galleries and of the beams over the columns were fixed so as to give reasonable architectural proportions. The spacing of all floor beams was arranged to give a uniform panel treatment in the ceiling. The segmental ribs to the large arched roofs are also constructed in reinforced concrete. The staircases are similarly constructed, and are finished with York stone treads and rises. The treads are 2 in. deep, and are very easy to mount. All the walls and ceilings in the main building are finished with a simple plaster treatment. The floors are constructed of oak boarding on fir batten.

The bountiful supply of light in the museum is due to the amount of space devoted to windows. Indeed, the average ratio of glass to floor area in the eastern section gives a proportion of approximately 1 to 4. This applies to the exhibition galleries only. The glass area includes the two large roofs of the lighted hall and the top-lit gallery on the ground floor. The proportion of glass to floor area in the side galleries, taking into consideration the windows only, is approximately 1 to 5.

The public cannot see the various other skilful arrangements made for their convenience, all of which had to be considered by the architects. For example, a feature of the floor constructions to the galleries is an elaborate system of ducts. These comprise one smaller duct 10 in. wide for heating pipes, and a wider duct 2 ft. 3 in. wide which accommodates the lighting and gas. The compressed air, which is used for operating the models, is supplied by plant situated in the basement, and circulated through pipes by this system. These heating and service ducts considerably complicated the details of the constructional design. The heating is by means of hot-water radiators, which are

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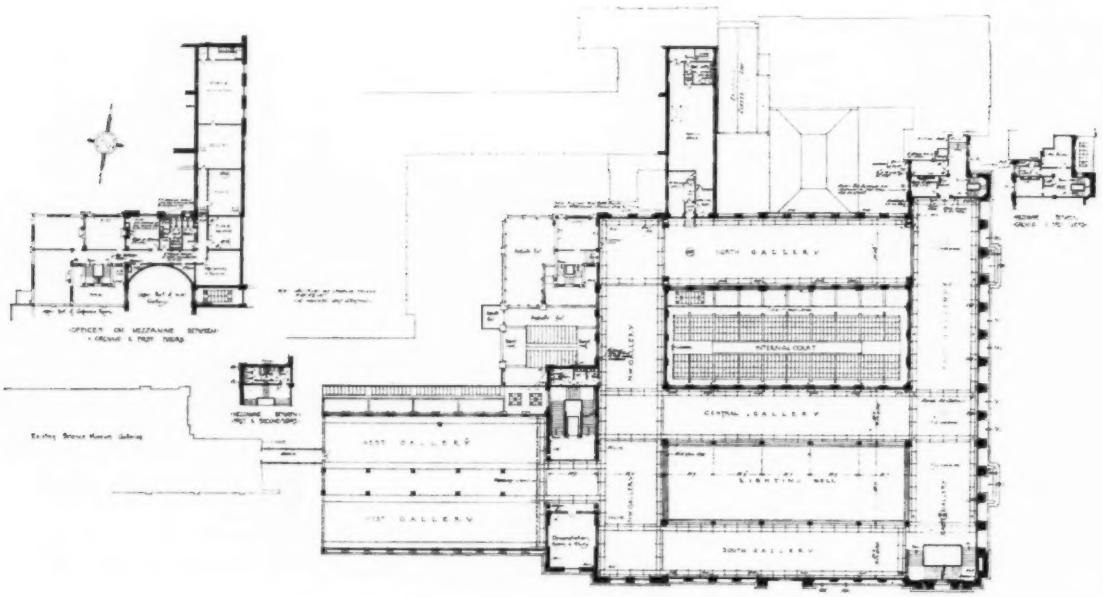
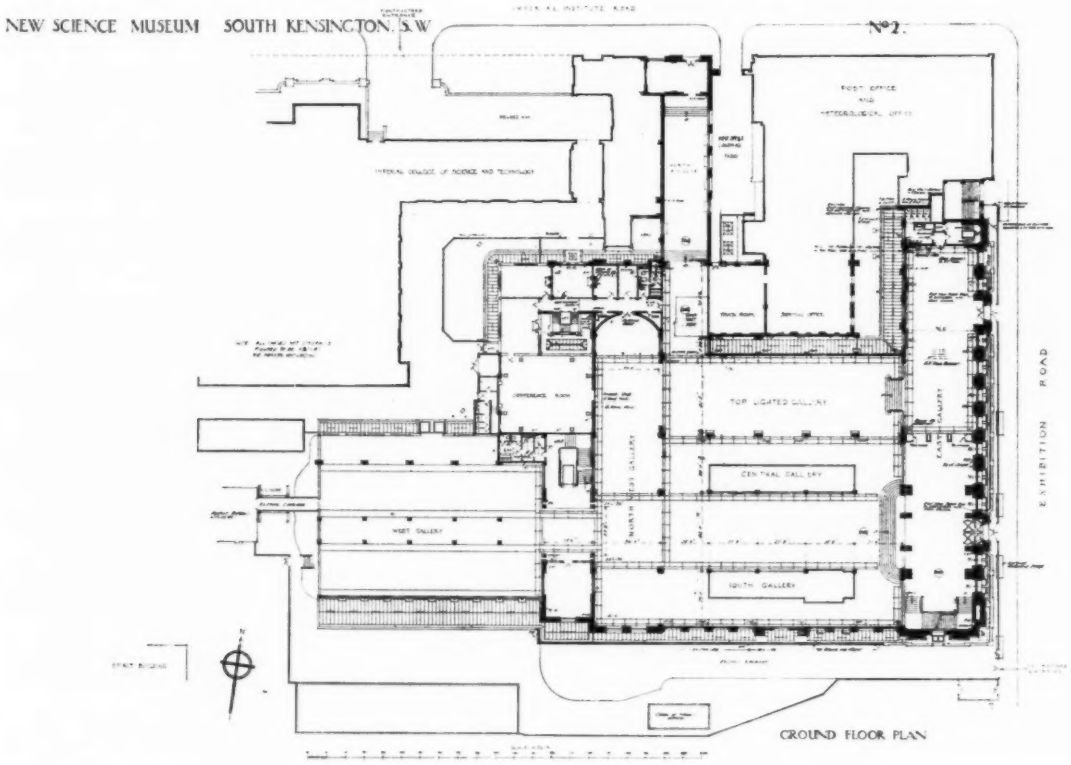
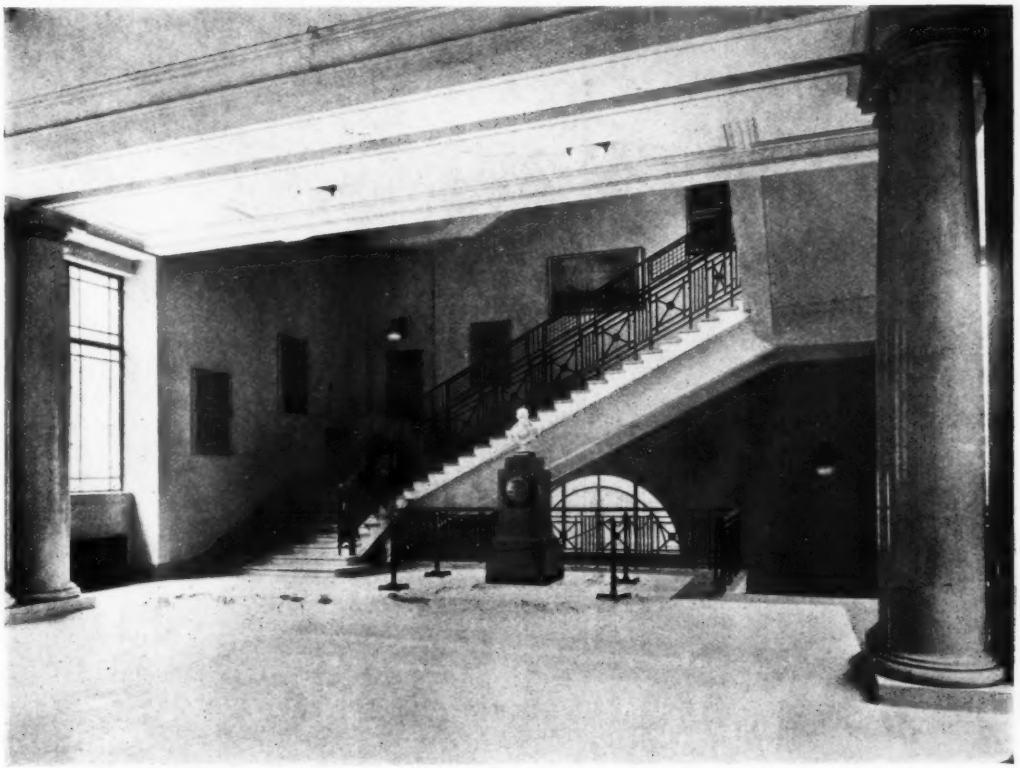


installed mostly below the windows on the various floors. The electricity supply service is brought into the building from the generating station belonging to H.M. Office of Works at the back of the Imperial Institute. It is hoped that enough has been stated to show that Great Britain now possesses a science museum of which architecturally the nation may well be proud. No doubt some of our Continental competitors will shortly be visiting this country in order to learn some lessons from the skill and craft of Sir Richard Allison and our British architects at the Office of Works.




*The Science Museum, Exhibition Road, South Kensington. By Sir Richard Allison (His Majesty's Office of Works). Above, the first floor plan. Below, the ground floor plan.*



*The Science Museum, South Kensington. By Sir Richard Allison (His Majesty's Office of Works). Above, the south-east staircase. Below, the main entrance hall, looking north.*

*The Science Museum, South Kensington. By Sir Richard Allison (His Majesty's Office of Works). Above, large lighting well, looking east from first floor. Below, looking east from central stairs, second floor.*

# IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

In the House of Lords Lord Buckmaster moved: "That it is urgently needed that the Government should take immediate steps to prevent the disfigurement of the countryside by the advertisements of oil companies." He said it was useless to hope to preserve the beauties of our towns. The beauties of architecture and the outlines of the old places were all trampled underfoot, but there still remained some of the villages that spoke with an appeal which it was difficult to put into words. Into those places, however, they now found there had come what he regarded as the very acme of abominable vulgarity, red and yellow petrol pumps of the most hideous kind, desecrating something that was sacred. Why could not the people responsible for these oil advertisements realize that what might be an ornament to the streets of Chicago was out of place among the shadows of the Cotswold Hills?

Lord Hunsdon moved an amendment to bring all advertisements within the terms of the motion. Outside advertisements, he said, ought to be prohibited except under licence.

Lord Desborough, replying for the Home Office, said that with regard to advertisements, the matter at present rested in the hands of the county councils, who had the power of making by-laws and delegating their authority. In regard to petrol, a few years ago the leading oil companies withdrew their roadside advertisements in agreement, but there were still ten companies who were not parties to that agreement. The Government were fully alive to the horrible disfigurement of the countryside by these and other advertisements, and especially by the petrol-filling stations. They had already taken steps to place before Parliament proposals for dealing with the horrors. There was now included in the Petroleum Amendment Bill a provision empowering county councils and borough councils to make by-laws regulating the design and appearance of petrol-filling stations, or prohibiting the establishment of stations. Petrol-filling stations, as defined in the amendment of the Act, included any advertisement in connection with a station. One of the biggest oil companies had under consideration the question of withdrawing all their advertisements at petrol-filling stations, and he was told there was a likelihood of other large companies taking a similar course. As the matter would come before the House in the shape of a Bill, it was perhaps unnecessary to tie their hands now by passing any resolution.

The amendment was negatived, and the motion withdrawn.

In answer to Mr. Wellock, Mr. Chamberlain, the Minister of Health, gave the following statement showing: 1: the number of houses under construction; and 2: the number of houses which had been authorized for erection, but which had not yet been started under the Housing, etc., Act, 1923, and the Housing (Financial Provisions) Act, 1924, at March 1, 1928, and March 1, 1927, respectively:

| | 1st March, 1928 | | 1st March, 1927 | |
|---|---|---|---|---|
| | Number of houses under construction. 1. | Number of houses authorized but not started. 2. | Number of houses under construction. 3. | Number of houses authorized but not started. 4. |
| Housing, etc., Act, 1923 .. .. | 21,313 | 63,985 | 49,833 | 78,576 |
| Housing (Financial Provisions) Act, 1924 .. | 29,993 | 29,201 | 53,031 | 48,035 |
| Total | 51,306 | 93,186 | 102,864 | 126,611 |

Mr. Chamberlain informed Brig.-Gen. Clifton Brown that the number of houses completed by rural district councils in England and Wales up to March 1 last were 92,532 under the Housing Act, 1923, and 24,525 under the Housing Act, 1924. The number of houses not exceeding £26 rateable value erected in rural districts without subsidy during the period from April 1, 1923, to September 30, 1927, the latest date for which figures were available, was 76,387.

Replying to Sir W. Sugden, Mr. Chamberlain said that the whole subject of slum improvement was receiving his personal consideration, but he was not yet in a position to state when it would be possible to bring in legislation.

Mr. R. Morrison asked the Minister of Health whether he would withhold his sanction from the proposal to erect a large block of flats, 97½ ft. high, on the Foundling Hospital estate, in view of the importance of this open space, until the report of the Royal Commission upon Open Spaces had been published?

Mr. Chamberlain said that the site of the Foundling Hospital, which was understood to be the site of the proposed flats, was not considered to come within the terms of reference of the Royal Commission on London Squares. The London County Council under the Town-Planning Act had power to permit the erection of the flats referred to, and if they decided to give the permission he had no authority to interfere.

Mr. Briant asked the Under-Secretary of State for the Home Department, as representing the First Commissioner of Works, if the temporary buildings used as Government offices in Whitehall and the Embankment were erected on property belonging to the State; if not, what rent was paid, and to whom, for the use of the ground occupied; and how long it was estimated the tenancy would be required?

Sir V. Henderson said that the answer to the first part of the question was in the affirmative. The sites on which those buildings stood were vested in the Commissioners of Crown Lands, to whom rentals totalling £2,800 per annum were paid. It was not possible to forecast the date when those temporary buildings could be dispensed with.

# LAW REPORTS

COVENANT IN A LEASE

*Callow* v. *Davies*. *Court of Appeal. Before the Master of the Rolls and Lords Justices Sargant and Lawrence*

The defendant in this case appealed from a judgment of a King's Bench Divisional Court in favour of the plaintiff, who was the landlord of certain factory premises in Collingham Road, Holloway, of which the defendant was tenant. In the Divisional Court the plaintiff appealed from a judgment of an official referee on the defendant's counterclaim. It appeared that there was a fire on the premises and plaintiff started an action for rent. Defendant counterclaimed for an abatement of rent and damages for being deprived of the full and undisturbed occupation of the premises. The question involved an interpretation of the covenant in the lease dated March 22, 1921. The lease stated that in case of destruction or damage to the premises the landlord would with all convenient speed lay out all moneys received in respect of an insurance for £9,000 in rebuilding or reinstating the premises. Until the premises were reinstated the tenant was to have an abatement of rent in satisfaction of any claim for damages he might have. Plaintiff's contention was that defendant could not recover by his counterclaim any greater sum than the equivalent of the rent during the period in respect of which plaintiff was in default. A considerable portion of the premises was destroyed by fire in June 1925. Defendant put a temporary roof over part of the damaged premises and used that part during the rebuilding. Plaintiff asked that that should be taken into consideration in assessing damages to defendant on the counterclaim. The referee found that seven months would be a reasonable period in which to complete the work of reinstatement and that some portions were not reinstated for thirteen months and other portions for some time after the seven months had elapsed, and he entered judgment for defendant on the counterclaim for £900 odd. He decided that on the construction of the provisions of the lease defendant could choose whether he would claim abatement, in which case he could have no claim for damages, or ask for damages, as in

fact he did in the counterclaim. Having given him damages the referee made no abatement of the rent. Plaintiff contended that defendant was not entitled to have his damage assessed on the basis that he was unable to use the premises for business. His proper measure of damages was loss of user and not loss of profit rental. The referee had wrongly construed the convenant in the lease. The damage should be limited to an equivalent amount of rent accruing due during the period of default.

The Divisional Court allowed the appeal on the main contention of the plaintiff, and the case was sent back to the official referee to decide what amount the defendant was entitled to on his counterclaim under the head of "abatement of rent." The referee had given judgment for the plaintiff for £398, and for the defendant on his counterclaim for £906.

The Court of Appeal dismissed the appeal and affirmed the decision of the Divisional Court.

The Master of the Rolls said the defendant held the premises under two separate leases, but the main lease was that of March 22, 1921, and that was the only lease with which they were now concerned. He (the Master of the Rolls) was of opinion that the Divisional Court were right in holding that under the provisions of the lease the tenant's remedy in the circumstances was for abatement of the rent in satisfaction of his claim for damages against his landlord.

### RESTORATION AND DECORATION OF KEDLESTON

*Curzon* v. *Curzon. Chancery Division. Before Mr. Justice Clauson*

This matter came before the Court on a summons. The plaintiff was the Hon. Francis Nathaniel Curzon, one of the executors of the will and codicil, both dated March 8, 1925, of the late Marquess Curzon, who died on March 20, 1925, asked the Court to determine whether the whole of the testator's residuary personal estate was subject to a trust for the application thereof (so far as the same might be required for the purpose) in completing the testator's plans for the restoration and decoration of Kedleston referred to in the will and codicil.

The defendant, the Marchioness Curzon, the widow of the testator, was entitled to the residuary personal estate. The defendant, Viscount Scarsdale, was the present tenant for life of the Kedleston estate under the will of the father of the late Marquess.

Mr. A. H. Droop appeared for the plaintiff; Mr. Greene, K.C., and Mr. Tristram Beresford for the Marchioness Curzon; and Mr. Maugham, K.C., and Mr. M. L. Beebee for Viscount Scarsdale.

After some discussion an offer on behalf of the Marchioness Curzon to expend £4,000 on the restoration and decoration of Kedleston, the money to be paid over from time to time to the trustees of the Kedleston estate against certificates for the work done, was accepted.

His lordship confirmed the compromise, and directed that the first tenant in tail in remainder of the Kedleston estate, who was the infant son of the plaintiff, the brother of the late Marquess, should be represented as a defendant by his guardian.

## R.I.B.A. COUNCIL MEETING

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

Council for the Preservation of Rural England. It was decided to renew the grant of £100 to the Council for the Preservation of Rural England for the year 1928.

New School of Architecture at Belfast. On the recommendation of the Board of Architectural Education it was agreed to make a grant of £50 to the library of the proposed new School of Architecture at Belfast.

The Fourth Annual Conference and Exhibition of Public Lighting Engineers. An account of this conference was received from Mr. J. L. Denman, A.R.I.B.A., the R.I.B.A. delegate, together with reports of the proceedings. These have been placed in the library for the information of members, and the thanks of the Council have been conveyed to Mr. Denman.

Petrol Pumps. Mr. E. Guy Dawber, A.R.A., and Professor S. D. Adshead, were appointed to represent the R.I.B.A. on a committee set up by the C.P.R.E. to consider the question of the control of petrol pumps.

Dorchester House. It was decided to ask the Literature Standing Committee to prepare a monograph of Dorchester House.

Competitions held in Two Stages. The Competitions Committee have been asked to consider and report on the difficulties which often arise in dual competitions, with a view to seeing if it is possible to frame rules for governing such competitions.

R.I.B.A. Model Form of Conditions for Architectural Competitions. The Council approved the recommendation of the Competitions Committee for the modification of clause 8 of the Model Form of Conditions dealing with the 10 per cent. limit of cost.

Ownership of Drawings. The Council approved the recommendation of the Practice Standing Committee that counsel's opinion should be obtained on certain points arising in connection with the ownership and copyright of drawings.

Studentship R.I.B.A. and Unprofessional Conduct. On the recommendation of the Board of Architectural Education, the Council have decided that Students R.I.B.A. shall be brought within the scope of the regulations governing professional conduct to which corporate members are subject.

The Amendment of By-laws 66 and 85. It was reported to the Council that the Privy Council had approved amendments to by-laws 66 and 85 by an Order dated February 3, 1928. The amendments relate to procedure governing the date of the annual general meeting and the payment of contributions to allied societies.

## A CATALOGUE OF ARCHITECTURAL BOOKS

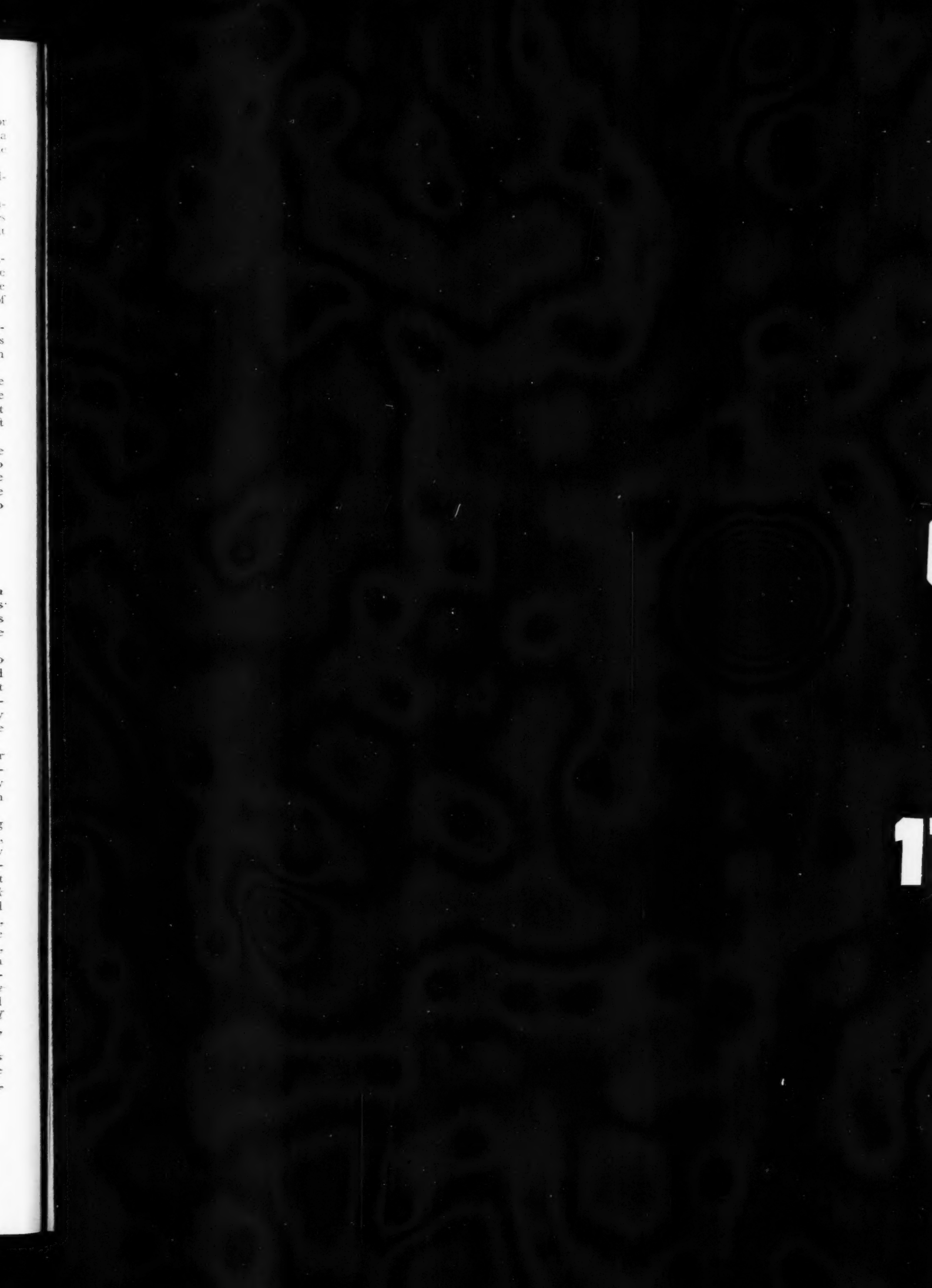
Books last longer than buildings. Very often the description of a building is extant long after the building itself is gone. And books themselves are often outlived by their catalogues, for old books can be newly catalogued, but cannot be made new. That is one good word for catalogues.

Another good word is that as no architect is rich enough to himself possess St. Paul's and the Parthenon (much as he would like to have them on his study mantelpiece), but must content his soul with big books about them, so may those people who cannot afford big books content *their* souls with a catalogue. They then feel that if they have not the treasure itself, at least they have their hands upon the *key* to the treasure.

Publishers' catalogues are often open to the criticism that their descriptions of books are inadequate for the intending book-buyer. Such a criticism cannot, however, be applied to the new catalogue just published by The Architectural Press, in which their books are very fully described.

The most recent works issued by this well-known publishing house cover a wide field of usefulness for architects, craftsmen, students, and all others who are interested in the arts. They include: *Shop Fronts: A Selection of English, American, and Continental Examples; Modern French Decorative Art;* two very important works by Mr. George P. Bankart entitled *Modern Plasterwork Design* and *Modern Plasterwork Construction;* a most interesting and instructive book for draughtsmen by Mr. Harry W. Roberts, called *R's Method of Using the Ordinary Set Squares;* and a volume entitled *Houses, Cottages, and Bungalows*, in which photographs, plans, and building costs are given of examples which have been specially selected for their excellence of design and sensible planning. A seventh volume of *The Practical Exemplar of Architecture* is also ready, and two works of particular interest to artists and collectors are reproductions of Thomas Shotter Boys' *Original Views of London* (in monotone) and *Picturesque Architecture in Paris, Ghent, Antwerp, etc.* (in colour).

In addition to the above, the catalogue contains full descriptions of a large number of other books. Copies will be sent post free on application to The Architectural Press, 9 Queen Anne's Gate, Westminster, S.W.1.



*Design by* FILIPPO JUVARRA

# THE BUILDING EXHIBITION

## SUPPLEMENT THE SECOND

# The Architect Indicted

THE complexity of modern building, the organization demanded when work is carried out on a large scale, and the variety of specialized knowledge required for such work, are factors which may ultimately relieve the architect of power and authority unless he can abandon the strait-laced professionalism which renders him sterile as an organizer. That view is skilfully put forward and very adequately supported in some articles, entitled "The Other Side," the first of which appeared on page 519 of last week's issue. The case against the architect and his professionalism is opened by an equipment engineer, and he is followed this week by an article by a structural engineer.

These articles are not just angry attacks made upon the architectural profession by disgruntled individuals who have gathered and treasured a number of grouses in the course of their work: they reflect a spirit of critical inquiry regarding the whole relationship of the architect to modern building and the special trades it involves. They express a willingness, an eagerness to explore fully every avenue that may lead to real co-operation between the architect and the technical experts who represent these various trades, and in the course of a lucid examination of the present situation some constructive suggestions are made for attaining the smooth, unwasteful working that would have as great a value for buildings of today as the collective inspiration of the master builder, masons, carvers, metalworkers—all the craftsmen—had for the medieval churches.

Let the architect only shed the costive individualism that debars him from calling in the experts in every trade when he is designing his building, and there will be an end of bad organization, and far more support for the controlling influence of the architect. That, in brief, is the essence of the suggested reform. The dangers of ignoring the opportunities for becoming an executive are revealed to the architectural profession. If the architect is to endure, he must become an organizer, a ruler of building in the full, regal sense; designer and inspirer of every structure for which he assumes responsibility. But if his concern is solely with æsthetics; if he degenerates into a mere "art-sharp" (if we may use this Americanism), then his profession will ossify, and his opportunities will shrink, until he is employed only by a few people who think he is capable of making things "look pretty."

The age we live in is infinitely more complex than any historical period of which we have records. Increased knowledge, new needs, a torrent of inventions, and a staggering facility for the manipulation of materials have changed building utterly; but whether correspondingly vast changes have taken place in the mental outlook of architects is sometimes called into question. And the critics outside the profession, subjecting the twentieth-century architect and his methods to a scientific scrutiny, have a way of suggesting that his intense professionalism is merely rendering him remarkable for "ways that are dark and for tricks that are vain. . . ."

At least the critics who express their ideas in "The Other Side" follow up their diagnosis with a prescription. Some form of "pre-contractual" agreement between principals, architects, and subsidiary engineers is the solution advanced by the equipment engineer. But that only covers a specific instance of co-operation between architects and specialists.

Some reference to the United States is inevitable in discussions of this kind. There are still a large number of quite intelligent people who are prepared to consider America as a morning star of hope that will light us to an ultra-progressive sort of salvation, no matter what our problems and difficulties may be.

In this connection the ability of the American architect to organize his work and to produce such things as progress charts and time-tables for men and materials on a job are all swept into service for illustration and argument. All the suggestions emphasize the need for the architect being a capable organizer, a directive mind, a wise master who plans the execution of work with the same skill and care and patience he lavishes upon the design of the structure originating that work.

# Exhibition Arrangements

Following is a list of the principal conferences and visits in connection with the exhibition:

Wednesday, April 18: National Federation of Clay Industries.

*

Thursday, April 19: Institution of Sanitary Engineers; Architecture Club dinner.

*

Friday, April 20: London Master Builders' Association.

*

Saturday, April 21: Incorporated British Institute of Certified Carpenters.

*

Monday, April 23: Institution of Structural Engineers.

*

Tuesday, April 24: Southern Counties Federation of Building Trades Employers.

# Our Little Stand

Designed by Prof. Richardson, the stand of The Architectural Press is a breast-high enclosure having panelled sides; it is mounted on a raised platform, the whole measuring 20 ft. by 16 ft. Sloping counters covered with green baize cloth have been adopted, which afford every convenience for viewing publications.

A very pleasing and efficient lighting is effected by the introduction of six lamps, 18 in. high, mounted on the uppermost ledges of the stand, having opal globular shades. In addition, there are four standard lamps placed at each corner of the platform bearing the firm's titles.

All architects are cordially invited to inspect our publications, many of which have been recently issued from the press.

# *What Struck Me Most*

## AN ARCHITECT'S IMPRESSIONS

THE Building Exhibition is an event which architects will not, and do not, miss, even if they come, as many do, long distances to attend it. Focusing, as it does, the products of all the industries relating to building in one place at one time, it provides an invaluable summary which could be presented in no other way. It is the outcome of friendly co-operation between the management, manufacturers, merchants, architects, and builders, in the same sense in which trade is the result of co-operation between buyer and seller.

Such an exhibition promotes the best interests of trade; and this one those of the building industry in particular. Good workmanship, fair dealing, keenness and alertness, inventiveness, receptiveness to new ideas, and readiness to make new experiments, improved processes of manufacture, new materials, just conditions of labour, up-to-date business methods in selling and delivery—all such are encouraged and advanced.

### A COMMON MEETING GROUND

The commercial side is obvious; but underlying the commercial relationship is the principle of fellowship in industry, shared alike by producer and buyer, who work together for the same result. It embraces the whole widespread brotherhood of the building industry, whether present or not, which includes not only the architect, the builder, and the tradesman, but those who, in their innumerable ways, provide material for the work—in the foundry or the mine, in the workshop or in the far-off timber forests of the tropics. In the products of their labour all these multitudes are represented. Here architects, builders, and merchants meet on common ground, and here is the very romance of trade.

A single concrete instance only may be cited as an example of friendly feeling—the presentation of tickets by the management to architects through the R.I.B.A., which ensures that the entrance-money rescinded shall be devoted to the Architects' Benevolent Fund.

### AN EPITOME OF BUILDING

From a purely practical and business point of view, the Building Exhibition is valuable to the architect in various ways. The friendly relationship already referred to has excellent practical results. The exhibition presents, moreover, an epitome of building as it is today, as far as material goes, which is important at a time when development is proceeding as rapidly as it is from year to year. He can follow the change clearly and note the introduction of new methods and materials.

He learns much from alert, intelligent salesmen, who can not only talk about their goods, but can give the exact information which they are asked for. As an expert buyer he appreciates expert salesmanship. Good firms are keen to submit their goods to expert examination. The architect, on the other hand, as trustee of the client's money, is a careful and responsible buyer, and a critical one. He is pleased to see well-presented goods and well-designed stalls, but he will not be unduly impressed by window-dressing.

*A section of concrete made with grey cement and shingle in the proportion of four to one, and treated with Redalon liquid, which enables the cement skin to be brushed off after the centering has been removed.*

He will see the goods as they are delivered on the job, and keep them under inspection during a certain time, and note any defects they may develop.

### THE INFLUENCE OF THE ARCHITECT

Like the builder, for whose benefit equally the goods are spread out, he is a business man, who will repeat only satisfactory orders. Since the rules of the profession forbid any connection with or profits from trade, he is able the more easily to enter into friendly relations with exhibitors, and is free to criticize or praise. He has power to influence trade, to set a standard of taste and values. He may place orders for purpose-made articles, or create a demand for certain kinds of manufactures, as was done in the case of multi-coloured bricks or the variety of pantiles now on the market. He sets an æsthetic standard which traders are quick to respond to. The vast array of stalls in apparently exhaustless variety and repetition gradually classify themselves. The method will vary with the individual. One will go determined to concentrate on certain exhibits, perhaps with points from current specifications in mind; another will be determined to see as much as is physically possible, with emphasis on certain goods. There are stalls bearing friendly familiar names of firms that have served us well in the past. Their goods may be relied upon as being always up to sample and free from defects. The architect will pause to inspect new patterns and new improvements in quality. Other firms familiar only in name will be visited for purposes of inspection and comparison, perhaps with a view to future orders. Then there are new or unfamiliar firms, and new materials, and groups of firms supplying more or less the same materials, such as the brick manufacturers, the tile-makers, joinery firms, etc., etc. A mere thirst for information or a curiosity which delights in new things may be well satisfied; but these are not what chiefly matter.

What is needed is selective capacity and trained judgment; a mind that analyses and groups and, as it were, files for reference as it proceeds; that thinks broadly and yet allows no detail to escape its notice.

### AN INTERCHANGE OF IDEAS

There is a mass of material to be sorted. There are general tendencies to be estimated—how far they are temporary and the outcome of fashion, and how far they are progressive and lasting. A material like concrete is revolutionizing building; it requires a whole store of information to itself. The use of rubber in building, of terra-cotta, new uses for glass, built-in fittings, lifts, to mention only a few matters; these and many more require the collection of up-to-date information. Building is moving very fast today. The Building Research Station and the new periodical which it issues, containing summaries of information translated from foreign publications all

over the world, provide valuable help. There is an increasing interchange of ideas in building, at home and abroad, and also in architectural design. This is due probably in a considerable measure to the architectural schools, whose students readily receive new impressions from abroad, either at first hand by travelling or indirectly. English building is critically compared with that of the Continent or America, and manufacture is influenced accordingly. The architect must take stock of all these things.

### THE IMPORTANCE OF FITTINGS

The building industry reflects general conditions, as do other industries, and perhaps more especially so as being one of the largest and most important and widespread throughout the country. Such a matter as standardization is of vital importance to it. Whole trades are affected. Conditions have made it necessary to speedy building at low cost. The whole trade in steel windows is comparatively a modern one—and steel windows form an important class in any building exhibition. They are continually being improved upon as to durability, cost of upkeep, and design. How far would it be an exaggeration to say that the design of whole suburbs of houses has been dictated by standard steel window-frames? Manufacturers of standard steel windows have a responsibility and an opportunity for producing an article not only strong and durable, but as well-proportioned and well-designed as possible, in accordance with the best architectural principles. This is important, especially as the elevations of small houses depend in the main upon the proportions of their window openings. The same applies to the making of standard doors. The whole effect of a simple small room may be raised to the level of fine design, or completely marred, by a standard door. Design in the manufacture of building fittings is all-important. It reacts on the quality of the article. It calls for good work and makes it worth while, and gives, consciously or unconsciously, a lasting satisfaction. It is the simple everyday things our ancestors made in wood or iron, and so on, which are now valued as antiques, far above their original cost. Any article that is not well-designed, however simple and severely practical, is not worth duplicating, far less repeating in large quantities and broadcasting over the country. Firms who take thought for these things deserve well of their fellow-men, and not for one generation only. Architects will quickly appreciate their value. The majority of small houses built by mass production, or by building-owners, must rely for effect upon necessary fittings, since lowness of cost is an imperative matter.

Given well-designed fittings, including doors and their furniture, windows, fireplaces, and stairs, the cheapest house may be a very pleasant place to live in, even if its general proportions are restricted to little choice of size or shape. Looking back over the history of house-design we find that in most cases the best results were obtained by the simplest and most limited means, and there is no reason why we should not do better still with our larger resources.

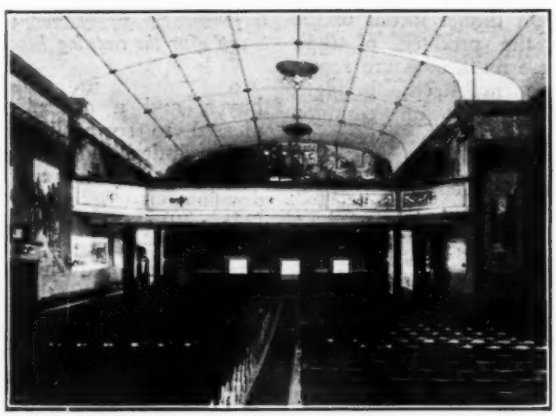
### NEW MATERIALS

Having regard to the trend and development of building, it is specially interesting to note the progress recorded in the newer materials. Taking construction first, there is pre-eminently concrete — from reinforced concrete, through innumerable variations, to mass concrete, concrete for roads, and so on. There are concrete mixers and concrete moulds and shuttering. Most interesting, from the point of view of appearance or artistic value, is colour in concrete, as set forth in the exhibit of the Adamite Company.

This progressive firm have placed on the market the fine results of their experiments in concrete and Portland cement. They have introduced a wonderful range of colour in the material, chiefly for facing, by the use of coloured stones and sands, which retain their natural tone and produce a rich and soft coloured surface. Very good results are obtained by them from the use of crushed Venetian glass as colouring matter. This is used in the bold decorative colour-scheme which has been carried out to the architects' design on the façade of Messrs. Carreras' new factory in Mornington Crescent. The design is broadly conceived in the Egyptian manner, a pair of spreading wings filling the cornice, while the door and columns are also emphasized in colour in an excellent manner. The crushed glass is so fine that while it retains and reflects light the effect in general is soft and rich. Architects will watch this building with interest and observe how the London atmosphere will treat it. All the exhibits of this company deserve careful examination. They afford a solution, or series of solutions, of the problem of facing-concrete and cement so as to give it not only a waterproofing, but a pleasant appearance. This difficulty has not hitherto been properly overcome in this country. The exhibits include Portland cement stucco, white cast concrete stone, terrazzo, coloured surfaces showing the aggregate which provides the colouring matter, and concrete waterproofers, etc. Their "Atlas White" products are well known. With the increasing use of concrete for every class of building, material of this kind assumes great importance, for we are no longer content to use concrete as a hidden material, but are realizing its own inherent possibilities. The Continent and America are well ahead of us in the exploitation of concrete. Other exhibits show innumerable uses for concrete and cement, building blocks, waterproofing, roofing, paving, and road-making—either with reinforcement or without.

### EMPIRE WOODS

A noticeable feature is the use of rubber in many ways, chiefly perhaps for flooring. Its smooth surface and sound-deadening qualities are strong recommendations. It is made in a variety of colours and patterns, and in this way may be made use of as a



*An interior in "Koirah" insulation board. By G. D. Peters & Co.*

valuable adjunct in colour schemes for modern furnishing. In woods there is very much to be seen. There are beautiful examples of foreign figured woods, veneers of every kind, woods for inlay patterns. Particularly attractive are the plain door surfaces treated with figured wood veneer, and the so-called "hospital doors." The decorative possibilities of such plain doors are very promising. It is claimed, too, that they will not warp or shrink, being made on scientific principles. While period decoration is giving way to more original design suited to modern ways of living, the beauty of wood as a material may become more valued for its own inherent qualities, especially as the market is able to draw upon the greatest variety of sources. The tropical parts of the Empire add to the number as they are opened up and transport is improved. Other materials show a high standard of quality. There is the whole group of brick and tile exhibits; of slate and composition roofing. Composition materials of all kinds claim the attention in abundance, chiefly under trade names. Roofing material, flooring, wall-boarding, sound-proofing, etc., also claim attention.

There is the class of machinery exhibits, concrete mixers, etc., which is of great interest in some classes of construction, now very largely mechanized.

### VARIA

Such matters as central-heating methods are of special current interest; as also are electrical installations, wiring, and lighting. The science of lighting is making rapid strides. There are electric cookers and refrigerators. Lifts, too, are among the necessaries of modern life; and though their general use is prohibited by cost in smaller houses, there is a definite demand for them. More general than before is the use of paint for wood furniture, to carry out definite colour-schemes in any shade or tone. This applies, too, to the general replacement to a large extent by built-in fittings of the ordinary movable furniture. Pottery, too, occupies an important place in decorative schemes, a place which will increase in importance. It is easy to fix and clean, and lends itself to colour effects. Pottery and terra-cotta have many possibilities as decorative materials, plaques, etc., for the concentrated points of ornament suitable for use with plain wall-surfaces. These things are a very few among the numerous goods exhibited. They will tax the selective power of the architect to the utmost. He will carry away a store of information which may be filed for reference and for future use.

# *The Other Side*

## ii: A STRUCTURAL ENGINEER SPEAKS UP

### SMARTERLY AND THE ETHICS OF PROFESSIONALISM

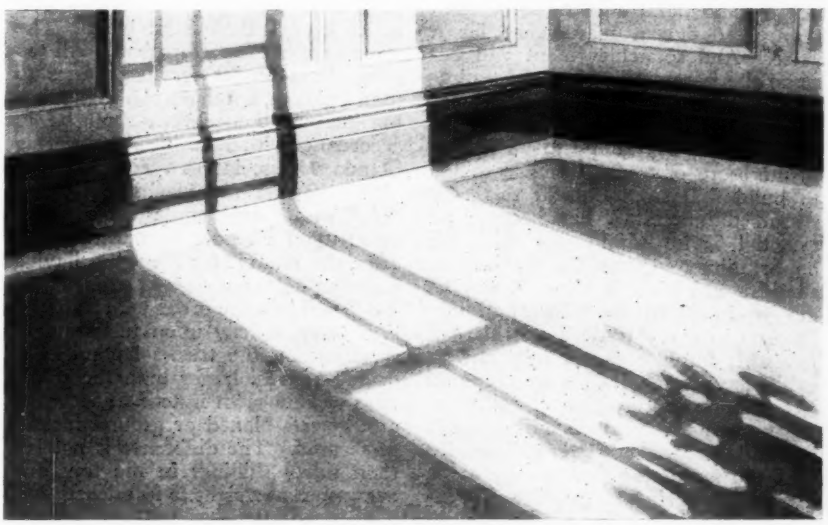
Some few weeks ago there was discussed in these columns the case of one Smarterly, an architect by profession, but by instinct a business man. The various correspondents upon this subject were sharply divided into those who would erase Mr. Smarterly entirely as being a blot upon the professional scutcheon, and those who, hardly daring to approve, yet wistfully envied his acumen and its reward. The correspondence revealed a fundamental divergence of opinion not only upon the ethics, but upon the functions of the architectural profession, and the existence of such a divergence explained to the non-professional reader much that was previously obscure.

If we may believe the authors of our detective fiction, there is in vogue at Scotland Yard a method of entrapping the suspected criminal, which consists of ejaculating in his presence a series of disconnected words. As each word is uttered the victim is to respond with the first word which enters his head, and from a study of his replies some clues are said to result. If, for example, having innocently retorted "Core" to "Apple," "Tail" to "Pig," and so on, for some minutes, he hears the word "Dagger," and instantly makes answer, "Mrs. Agnes Jones," he has clearly done nothing to lessen the suspicion that he is in some way connected with the death of a lady of that name.

### ÆSTHETIC ASPIRATION OR PRACTICAL ACHIEVEMENT?

It would be interesting to apply such a test to a number of the general public, and, after lulling their suspicions by the usual series of innocent expressions, to hurl at them the word "architect." Some few there would be so banal as to answer "house"; but the vast majority would unhesitatingly make reply "art," "Gothic," "beauty," "form"—and there would sit the general public trapped into the truth. For, in the public mind, the architect is still first cousin to the artist, still the man of æsthetic aspiration rather than the man of practical achievement. There was a time when aspiration and achievement walked hand in hand; a time when the architect, himself a master-craftsman, conceived, designed, and supervised his creations with the brain, hand, and eye of an expert. Today the architect, having read of many things but practised none, directs a score of trades from the high rostrum of a profession.

Aspiration is not less lofty, but how does achievement fare? Badly. It fares badly because the general public does not yet believe that an architect can save money and at the same time can achieve something which other men cannot. For this unbelief the architect has himself to blame. It is



*A "Triolin" floor with coved skirting. By F. A. Hughes & Co.*

true that in common with doctors, stockbrokers, and moneylenders he may not advertise as an individual; but to him collectively there remains the higher and subtler propaganda which has smoothed the path of the accountants and the doctors, and may yet place moneylending on a par with stockbroking. Good wine needs no bush; but a score of bushes shall not spoil the wine; and that was where the Smarterly correspondence so obliquely illuminated the architectural stage. Mr. Smarterly achieved something. Three families came to know and value the services of an architect; three good houses came to be where none might have been; three inducements to others to do the same. But to some architects all this was as nothing, for Mr. Smarterly had infringed the spirit (but not the letter) of professional law. Until this changes, the architect will remain where he is—respected by many, but employed by few.

### THE OTHER PROFESSIONS

Several professions have had to undergo this change. The doctors, stimulated by the Insurance Acts, have found that their highest professional interests lie in healing the people rather than in "practising medicine." The accountants, acute by hypothesis, have abandoned the mere audit of accounts and have so mingled in the rough-and-tumble of business life that they constitute a formidable rival to the international Jew.

The moneylenders, guided by the Legislature, have begun to concentrate upon the lending of money rather than upon the ensnarement of the impecunious. And, in time, the architects will fall into step with these honoured professions and will account it more desirable to build a house for a man than to design a mausoleum for a prize. And so achievement will become the paramount aim, and aspiration its willing servant. The science of building has become now so complex that no man may hope to be master of the score of trades which combine to build a house. But for this very reason the architect has become an essential if he would but seize his opportunity and shoulder the responsibilities which await him. Today he designs in detail his whole building. Experts in every trade await his call to assist; but the expert may not be called in until the designs are prepared lest there be a suspicion of collusion. That same pretty medievalism which condemned Mr. Smarterly still ordains that the architect's design may atone by purity of incorruptibility for inefficiency and costliness. In the interests of the architect, no less than those of the client, this professionalism must cease and the experts must be called upon to advise as such.

### THE CASE AGAINST THE EXPERT

Objection will be raised that such experts are not impartial inasmuch as they are themselves manufacturers. Such an objection is not valid, for there can be competition between experts; but in any case it is not too much to expect of an architect that he should have such a knowledge of current prices as will enable him to guard against exorbitant charges by his selected experts. The point is that as things are the client is frequently paying more in open competition for an article designed in detail by the architect than he would pay even without competition if the article were designed by an expert.

### INEXPERIENCE AND RULE OF THUMB

Day after day the structural engineer is asked to quote for roof trusses designed in every detail by an architect who has manifestly pored over works of reference to achieve his object. The trusses are built up of sections which are rarely rolled and seldom held in stock, or they are closely dimensioned as to span and height though a trifling difference of an inch or two would bring stock sizes into use and save a pound or two in the cost of a truss.

And what is true of the little roof truss is not less true of the lofty building. There are a dozen considerations which govern a design beyond the mere computation of strength; and these considerations can never be known to any man who is not engaged in manufacture. Neither is the problem solved by the consulting engineer, the sanctity of whose reputation is numerically expressed by the factor of safety upon which his calculations are based. The same applies to specifications. All too often, in a tender for five trusses to span a garage, is found a clause stipulating that "all steelwork shall be in accordance with the British Engineering Standards Association Specification."

What is the manufacturer to do? "A" with a quiet smile will book the order upon a tender for trusses which are quite suitable for the work, having punched holes and bolted connections. "B" will lose the order with a quotation based strictly upon the required specification, the trusses having holes drilled 1/32 in. larger than the rivets, ends of bars sawn instead of cropped, and gussets planed or ground instead of sheared. The difference is not less than thirty shillings in the ton, and every one has a right to feel dissatisfied. The client has either not got what was specified, or he has paid for a quality of article which his work did not require. "B" has been penalized for observing the architect's instructions; and "A," though he has got the order, knows that at any time the architect may descend upon him and insist upon the supply of a quality for which his estimate did not include, and all because the architect would not admit his ignorance.

### ENGLISH AND AMERICAN ORGANIZATION

As for sins of omission—who has ever heard of an architect who organized the construction of a building? Where is the man who sees that one trade waits upon another and does not have to wait for another. In America such things as progress charts are heard of

*A solid mahogany tallboy. J. D. W. Stark, designer; Stark's (Peter Jones), craftsmen.*

and the architect makes himself responsible for seeing that men and materials arrive on the site when they are wanted—and not before. In this country there is only one reply for the contractor who rashly applies to the architect for information or facilities—"See the builder."

That is why the architectural profession lies today awaiting a painless death with the elixir of life within easy reach. It is because it persists in being a profession when it might arise and become an executive; it glories in being advisory when there is work awaiting it; it aspires after æsthetics so that achievement is delayed. It must bestir itself lest one day the virus of culture and taste infect the building trades and they become their own architects and executive combined.

# *Notable Exhibits : ii*

MESSRS. THOS. PARSONS AND SONS (Row G, Stand 130) exhibit H.M.S. Endelline, showing some practical applied examples of Parsons' enamels, varnishes, and paints, including the following: Endelline enamel for interior or exterior use, producing, it is claimed, a porcelain-like finish that may be repeatedly washed without deterioration. Endelflat enamel (flat) for interior use, which, it is claimed, produces a delightfully soft, almost dead flat finish of a perfectly hygienic and washable character. Lacreite enamel: when work will not bear the expense of a higher quality enamel like Endelline, it is claimed that a satisfactory substitute will be found in Lacreite, which affords excellent results either for inside or outside work. Unicote flat finish: this is claimed to be not a distemper, but a distinct innovation in wall-decorative material, the surface of which can be repeatedly washed without deterioration. Parsons' gloss paint, a varnish paint claimed to be of exceptional body and working qualities for general exterior and interior work. Parsons' undercoating body white, a ready-mixed undercoating paint, with a surface particularly adapted to take the finishing coat of gloss or flat enamel. It can be tinted to suit the finishing colour.

*

The exhibit of THE RUBBER GROWERS' ASSOCIATION (INC.), (Row E, Stand 79), has been assembled to introduce the actual and potential uses of rubber to those engaged in the building and allied trades. The mechanical and physical properties of rubber are demonstrated. Builders and constructional contractors are able to study rubber at first hand, and ascertain how the resilience, durability, elasticity, and abrasion-resisting properties of the commodity can be utilized. Actual samples demonstrate the insulating and damp-resisting qualities of the product and its possibilities as a medium of artistic decoration. A complete collection of accessories, fittings, and constructional implements and tools, wholly or partially composed of rubber, are also on view, from which the builder can select those best calculated to fill special requirements or carry out a particular job. A special feature is the comprehensive range of the latest patterns of rubber flooring and tiling, which, it is claimed, by reason of its qualities of silence, durability, and resiliency, make it a suitable material with which to cover large floor spaces in public buildings, hospitals, and similar institutions, or in private dwellings. Specimens of the new sponge-rubber carpeting and rubber crazy paving are also shown. The new sound-proof room is an exhibit of exceptional interest to demonstrate the sound-resisting properties of rubber.

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MESSRS. WILLIAM BRIGGS AND SONS, LTD. (Row C, Stand 33), are displaying their roofing felt in three grades : " Challenge," for all permanent buildings; " Bituflex," for semi-permanent buildings; and " Utex," for sheds, garages, and light work. Damp-course is also exhibited in the three grades, viz.: " Aqualite," " Plastique," and " Challenge." The firm's bituminous solutions are also displayed. They are as follow : " Tenax " and " Viaduct " black bituminous solutions, and " Briggsol " coloured anti-corrosive composition.

*

THE INTEROVEN STOVE CO. LTD. are exhibiting on Stand 219, Row L. The new 22 in. width Super-Interoven, which is exhibited, created a vast amount of interest at the Ideal Home Exhibition. These stoves are a great improvement upon the original Interoven. They are much heavier and more simple in construction. Good facilities are provided for cleaning the flues, and the construction of the fire-grate itself in unique. The stove is erected on a heavy cast-iron base plate, upon which rests firebricks 2 in. thick, forming the side cheeks of the fire, and the brick at the back is 3 in. thick. The fire rests on a heavy stool grating. The hot plate of the stove is over ½ in. thick, and the oven is very strongly constructed. There is no need to remove the oven for cleaning the flues. The firm consider this stove quite capable of cooking for a family of eight or nine persons. Wrought-steel boilers are supplied, but copper or cast iron can be supplied when necessary. These boilers will work a 30-gallon tank or cylinder. The hot closet underneath the stove will attain sufficient heat for baking, and therefore forms a useful oven. The stove can be built into an opening 14 in. deep by 20 in. wide, and the chimney breast need be only 4 ft.

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Mild steel bars to British standard specification, bent to the most intricate designs as required in modern reinforced-concrete practice, are an attraction on the stand of THE HELICAL BAR AND ENGINEERING CO., LTD. (Row Q, Stand 264). The cranking of the bars is done in one operation, ensuring the utmost degree of accuracy. The fixing of the bars in position ready for concreting is carried out by highly skilled workmen, the whole being done under the supervision of experienced engineers. The firm's " Cannon Brand " cement is claimed to be greatly in excess of the requirements of the new British standard specification, and can be supplied packed in jute sacks ten, eleven, or twelve to the ton, or in non-returnable paper sacks, twenty to the ton. Quartzite, granite, macadam, and chippings are supplied by the firm in all the usual gauges for road making and concrete work; the crushing strain of the chippings is claimed to exceed 40,000 lb. per sq. in. Stainless steel for builders' ironmongery is also shown.

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The " Securex " fittings manufactured by MESSRS. JAS. H. LAMONT AND CO., LTD., are being exhibited along with the Yorkshire Copper Works Tubes. It is claimed that copper tubes and " Securex " fittings are cheap, and that there are no maintenance or upkeep costs involved. Such an installation, it is claimed, will outlast the building and ensure a clean, healthy water service. " Securex " fittings were installed in all the model houses at the recent Ideal Home Exhibition at Olympia. They have been installed in housing schemes in London representing 12,000 houses, and in the May Fair Hotel. Many important contracts have also been completed throughout the country and abroad.

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The stand of MESSRS. VENESTA, LTD. (Row F, Stand 115), announces and demonstrates, for the first time, the new Venesta policy of grading and branding plywood in a way that enables architects and builders to specify with safety the grade of Venesta plywood best fitted for any particular job. The stand is built of Venesta birch plywood and of Plymax, the metal-faced plywood. Interesting examples of the various use of each grade of Venesta plywood are displayed.


*The Venesta stand.*

The STARK DEPARTMENT OF MODERN FURNITURE (Peter Jones, Ltd.) (Row G, Stand 72), show a bedroom suite in walnut and burr walnut, consisting of six pieces: 3 ft. 6 in. by 6 ft. wardrobe, burr walnut front; 3 ft. 6 in. dressing-table with five drawers, the centre one shaped, burr front and top, and gallery round top; triple mirror to stand on the above (or on top of the chest of drawers if for a man's room and the dressing-table is dispensed with)—the frame of this is half-round and veneered with cross-banded walnut; a chest of drawers 3 ft. wide, 3 ft. 3 in. high, four drawers, burr walnut fronts and top, gallery round top; 3 ft. bed, top panel recessed, bottom panel bombé, both panels burr walnut, frame of bed plain solid walnut, legs slightly shaped; chair in walnut. A "Weathered" oak dining-room suit is also shown. It comprises the following: Draw-out dining-table to seat six; four small and two arm lattice-back chairs, drop-in upholstered seats; 4 ft. 3 in. "Weathered" oak dresser, with semicircular under-framing; dinner wagon on wheels, to match; carving table with drawers; floor standard. A tallboy made by the department is illustrated on page 560.

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MESSRS. JONES AND ATTWOOD, LTD. (Row J, Stand 177), show open-fire boilers for domestic hot-water supply, the "Bath-eater" combined boiler and cylinder, boilers for central heating, greenhouse and garage heating apparatus, and hot-water pipes and connections.

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The stand of MESSRS. DUNSTABLE PORTLAND CEMENT CO., LTD., SMEED, DEAN & CO., LTD., and YOUNG AND SON, LTD., is constructed of stock bricks and red facing-bricks in such a way as to illustrate their architectural and artistic values. The Sittingbourne works show the raw materials and intermediate products for the manufacture of bricks and Portland cement. The Dunstable works also display raw materials and intermediate products of their manufactures. There is an instructive display of British standard specification tests for Portland cement, showing just what is implied by the various tests required. A briquette-breaking machine on the stand enables the interested visitor to see for himself the tests for tensile strength of the firms' products, and various certified tests are available showing how "Dunstable" and "S.D." brands of Portland cement surpass in every way the specification requirements. The tests of "Supercrete" and "Rapard" give convincing proof of the superior qualities of these "rapid hardening" cements. In addition to the firms' manufactures, Messrs. Young and Son, who are the sales organization for the above firms, show special lines of building materials, of which they are suppliers.

*

MESSRS. ELECTROLUX, LTD. (Row G, Stand 77), show cleaners, refrigerators, water-softeners, and floor polishers. Without a single mechanical moving part to call for attention and entirely without noise or vibration the Electrolux refrigerator is claimed to perform in the home the full duty of an elaborate mechanical ice-plant for the preservation of foodstuffs, beverages, and for the making of ice for the table of the sick-room. Once installed with an attachment to the gas or electric main and the water supply it is claimed to function indefinitely without adjustment and at a trifling cost per day. The new Electrolux water-softener is the latest and a simple method of employing the well-known base-exchange method of softening water for domestic purposes. It can be fitted in a moment to any water tap in the house. It is attached as easily as a garden hose, and it is claimed will deliver pure soft water indefinitely, subject to simple "regenerating" periodically with pure kitchen salt. The Electrolux cleaner yields high suction efficiency, is portable, and makes the minimum call for physical effort on the part of the user in the course of work. It is simplicity itself.

*

Willcox's "Penberthy" automatic electric cellar and sump drainer, shown by MESSRS. W. H. WILLCOX & CO., LTD. (Row G, Stand 32), is a new type of the well-known "Penberthy" drainers which have been on the market for so many years. This new type, as its name denotes, is operated automatically by electricity. It operates only when water accumulates, causing the

*The Domestikaton. By Jones and Attwood, Ltd.*

float to rise and make contact, and immediately ceases action when the water has been disposed of and the float falls. This electric type is claimed to be particularly suitable: *a*: Where town water pressure is unavailable or at least is very low; *b*: where excessive quantities of seepage water have to be handled; *c*: where discharge heads are up to 20 ft.; *d*: where low cost of operation is an important factor. There are no projecting arms or delicate parts to require special supports or protection, either during transit, installation, or in operation. The entire unit is so simple in design and construction as to require no previous experience for installation. Among the more common instances where the drainer is used are the cellars of buildings where no sewers exist, or where the sewer line is above the basement floor level, or deep cellars of buildings, boiler-rooms, settling-basins, flywheel and elevator sumps, tunnels and scale pits. While ordinarily this seepage may amount to only a small trickle, its flow is continuous, and if neglected the accumulated water soon becomes a menace to health and property.

MESSRS. F. A. HUGHES & CO., LTD. (Row R, Stand 266), exhibit Triolin, a permanent flooring which combines many practical advantages. Among the claims made for Triolin are the following: "For durability, Triolin leaves little to be desired. It is extremely tough and outlasts hard and continuous wear. It contains no magnesite. Proof against water, oil and grease, it also protects the surface over which it is laid. Triolin is permanent flooring in its most adaptable form. It is laid from the roll just like linoleum, and can be fitted to any area. It can also be inlaid in a great variety of patterns suitable to any kind of interior. Modern hygienic standards are completely satisfied by Triolin. When in use it has a smooth, jointless surface, easily cleaned with soap and water, while the neatly coved skirting leaves no crannies in which dust and dirt can lodge. Comfort underfoot is a special feature. It is non-slippery, and the pleasantly resilient surface is restful to the tread. Triolin is made in a great variety of pleasing shades and attractive patterns. It tones with any colour scheme, and never becomes wearisome to the eye. The application of Triolin can be extended equally usefully to the wall. Its damp-proof qualities make it particularly effective as a dado in the hospital, surgery, bathroom, or kitchen. For the office or the shop it is distinctive and durable. In the factory or the warehouse it is hard-wearing and serviceable. For the school or the hospital no flooring is more hygienic. It is excellent for any public building, whether town hall, hotel, restaurant, or cinema." A Triolin floor is illustrated on page 559.

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MESSRS. G. A. HARVEY & CO. (LONDON), LTD. (Row P, Stand 248), show ventilators, ventilating piping, zinc roofing, and a selection of steel equipment suitable for the office, works, and modern homes. There are steel cupboards, steel tables, shelving, adjustable and fixed storage bins, steel works offices, filing cabinets, steel clothes lockers for works and staff, and steel lavatory partitions. Perforated metals are represented by screens and screen plates suitable for gravel, sand, and ballast. Wire window guards of every design are produced by this firm, and representative designs are exhibited on model factory and church windows. Visitors seeking information on ornamental perforated metal work suitable for use in ships, hotels, mansions, offices, etc., should procure a copy of catalogue No. 355 and examine the examples of craftsmanship displayed on this stand. Mild-steel tanks, cisterns, and cylinders are shown in fine array, also gutters from 18-gauge material to $\frac{3}{8}$ in. plate, with a choice of designs to suit the most exceptional requirements.

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The stand of MESSRS. RONUK, LTD. (Row F, Stand 107), is an oak structure having at its back French windows, through which a view of a garden is obtained. All the woodwork has been treated with their own materials by the trained men of the company's polishing contract department, and visitors are cordially invited to ask for particulars. The floor of the stand is of ordinary deal boards, which have been tinted with special stains.

THE TRIANGULAR CONSTRUCTION CO., LTD., exhibit in Row B, Stand 8. Since the triangular system of construction was first introduced, about eight years ago, considerable developments have taken place. Perhaps one of the most interesting is in connection with the various facings to the blocks for both exterior and interior effects for high-class buildings. These range from stone and granite to polished marble. The facings are, of course, erected with the blocks, producing a considerable economy. Special attention should be given to the patent lintel blocks. For the first time a demonstration of these is given. These units are assembled in position to build lintels of various lengths, by inserting steel ties and grouting. The lintel thus formed can be loaded within ten minutes of erection. The advantages of this are obvious. For the builder and contractor interested in making his own blocks, slabs, and tiles, the various "Trianco" machines will have a special appeal. For the larger block and slab machine (which also makes kerbing, channelling, and paving) a new unloading apparatus has been designed, working on an hydraulic principle. This enables the operators to discharge heavy units without effort, within a considerable radius of the machine. The "Trianco" tile machine is compact and easily operated. "Trianco" Broseley pattern tiles, and all the necessary ridges, hips, valleys, etc., it is claimed, can be produced by a lad with facility and economy. The machine is easily transported and tiles can be produced right on the building site.

★

On the stand of MESSRS. WINGET (1924), LTD. (Row N, Stand 232), is a thoroughly representative selection of "Winget" open drum mixers with the Burn-Lancaster drum—the complete range of which now extends to twenty-six models—from the hand-operated, 5/3½ type, with its output of 15 to 20 cu. yd. per day, to the 14/10 model complete with elevating hopper and automatic water tank, and maintaining an output of 120 to 150 cu. yd. per day. Two of the models are shown equipped with the "Winget" hoist, which has proved an invaluable feature in *in situ* concrete work. Another model is what is known as the 8½/6 "Roadmaker," equipped not only with turntable, so that it can be changed immediately from side to end loading and discharge and steered in either direction, but also with adjustable delivery chute for placing concrete within a radius of 8 ft. A new model is also shown of the chain-spade mixer, specially designed for asphalt mixing, as well as for producing the semi-wet concrete necessary for the manufacture of concrete blocks and slabs for building purposes. The new pan equipment is so arranged as to create an enormous eruption, which is claimed to ensure an absolutely perfect mix. The discharge is instantaneous—by means of a hinged door operated by the hand lever. It is said that remarkable outputs are being obtained from these machines—40/50 cu. yd. per day in the case of the 4 cu. ft., according to the consistency of the mix required; and 100 cu. yd. per day in the case of the similar model of 10 cu. ft. capacity. In addition to mixers, Messrs. Winget are exhibiting various types of their concrete block- and slab-making machines, including the No. 2A pressure machine, the well-known hand-power press, which has been used in housing schemes in all parts of the country.

★

MESSRS. CAXTON FLOORS, LTD., are exhibiting on Stand 257, Row Q. Caxton floors are constructed solely by the patentees. Effective insulation of heat and noise is claimed to be one of their most predominant and satisfactory features. Another is their immunity from cracking. In order to instance how little Caxton floors that have been laid for some years are subject to deflection, the makers subjected to a test by Messrs. David Kirkaldy and Son, the testing and experimental authorities, a Caxton floor at the Miller General Hospital, Greenwich. The selected area of floor was 26 ft. 1½ in. by 7 ft. 6 in., or 196 sq. ft. The test showed that the central deflection under a floor load of 42 lb. per ft. was but ·01 in., whilst when the floor load was increased to 130 lb. per ft., being a 50 per cent. overload, the central deflection increased only to ·03 in. After removal of the load the floor returned to its original level, and no cracks on the underside were observed. The technical features of Caxton floors, which are laid *in situ*, are of interest. Their principal feature is parallel rows of hollow burnt clay tiles with reinforced concrete ribs in between; specially designed, not only to eliminate useless materials, but, still more important, to place the steel and concrete in scientifically correct positions where they function fully. The hollow tiles are of octagonal (irregular, but symmetrical) cross-section, the upper splays being larger than the lower. The result of this arrangement is that every concrete rib in the floor is of "T" section within the depth of the tiles, and the lower splays ensure that the steel reinforcement is adequately surrounded by concrete. By merely inverting the hollow tiles the mass of concrete is placed above or below the neutral axis, as required to oppose compressional stresses. Messrs. Caxton Floors, Ltd., draw attention to the fact that the design of this floor embodies the principle and theory of the rolled steel joist, which are here applied to reinforced concrete. It is also emphasized that maximum strength is maintained, despite the great reduction of the dead weight. The system has been approved by the Admiralty, War Office, Office of Works, and other authorities; as also by the London County Council, the Southern Railway Company, and other public bodies.

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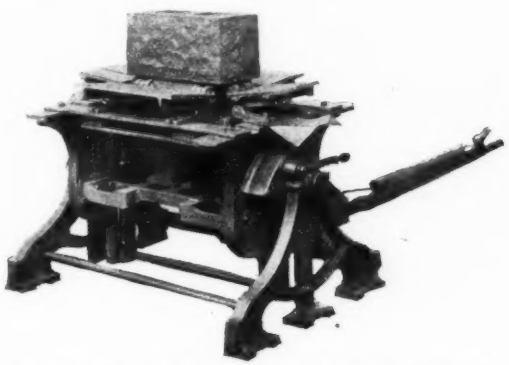
The exhibit of THE EXPANDED METAL CO., LTD. (Row G, Stand 139), consists of samples of the company's products and examples of their uses; also photographs of various works carried out on its systems. The exhibits are: 1: "Expamet" expanded steel, which has been in successful and ever-increasing use all over the world for more than thirty-five years as reinforcement for concrete in foundations, walls, floors, roofs, bridges, and culverts: 2: "RR" 6 in. mesh and treble-layer "Expamet" reinforcement for concrete roadways and pavings; 3: "BB" and "Expamet" lathings for interior and exterior plasterwork; also "Ribmet" for concrete and plasterwork; 4: "Exmet" reinforcement for brickwork, concrete-block work, partition slabs, asphalt, etc.; and 5: mild-steel wall-ties for cavity walls.

★

The exhibit of the UNITED STONE FIRMS (1926) LTD. (Row P, Stand 246), is built entirely of natural stone. One elevation shows a bridge with stone arch, pilasters, and parapet. Another elevation shows a building front in various classes of stone. In the exhibit Portland stone, Blue Forest of Dean stone, Grey Forest of Dean stone, Bristol Pennant stone and Red Wilderness stone have been used. In addition to the building stones, samples of granite and limestone chippings for concrete work, also broken stone and tarred material for roads, and stone kerbs, and paving slabs are being exhibited.

★

The exhibit of THE LONDON WARMING CO., LTD. (Stand 120, ground floor, main hall) consists of a model labour-saving kitchen fitted with the "Kooksjoie" range, complete with hot-water connections for sink, bath, and lavatory fittings. This continuous burning anthracite range is demonstrated daily. There are also shown the new open fire stove, the "Osobrite" (British made) in armour bright, ceramic enamel and black finishes; the "Florence" open fire boiler grate; the "Lococo" combination grate, and examples of the firm's recent designs in Deville anthracite continuous-burning stoves. In addition, there is a large display of all sizes of anthracite smokeless coal, showing the purposes for which the different sizes are intended.



*The Standard "Junior Winget" 18 in. concrete block-maker.*

MESSRS. COOKERS AND GEYSERS, LTD. (Row P, Stand 252), exhibit "Ascot" geysers, which supply instantaneous hot water day and night. The automatic geysers, type "WA," are in all sizes, giving 1½, 3½, 4½, and 7 gallons of hot water per minute. The geysers will supply hot water all over the house. They can be fixed anywhere, and can be connected to main or storage tank. The patent automatic valve incorporates many features designed to give maximum safety. The bath geyser, type "W," is a high-quality bath geyser at a moderate price. It is supplied in 3½, 4½, and 7 gallon sizes, and the construction is the same as for "WA" type. The storage water heaters, types "A" and "E," which are worked by gas and electricity respectively, are fitted with mixing valves and thermostatic control. These are especially useful where very hot water (up to 195 deg. Fahr.) is required. One each of the above types is shown in operation. The bath stove, type "K-E," is a bathroom water heater for solid fuel. It will burn coal, coke, wood, or briquettes, and is suited to houses where gas is not available. A comprehensive range of domestic gas cooking stoves of all sizes is also shown. Among them is the "Aristo" No. 100, a cooker for the large modern kitchen, incorporating two ovens, one for baking, roasting, etc., and the other for grilling. There is a hot closet under the hot plate, which is fitted with four boiling rings. The ovens are at the side of the hot plate, and the whole is mounted on a stand. The cooker is compact and labour saving.

★

MESSRS. NAYLOR BROS. (LONDON), LTD. (Row S, Stand 280), show the complete range of Nobel-Naylor finishes for every purpose, including varnishes, paints, enamels, distempers, stains, wallpapers, leather wall finishes and brushes. Amongst the specialities shown are "Suwidec" One-Coat Oak and Red-Label oak varnishes, "S.E.G." and "Supermatt" paints, "Nayrodec" water paint, "Petrumite" imitation stone paint, Scumble paint, coloured enamels and brushing Belco. The firm also exhibit specimens of Rexine and "P.V." leather cloth wallpapers, the Colin McArthur, Stauntons' Semi-trimmed, boxer 30 in. "Maximur" and "Windsor" wallpapers, the Boechk British-made brushes, and Melanoid bituminous paints and Tectal wood preservative. The Naylor stand is a mahogany structure which forms a suitable frame for the Nobel-Naylor products. A special item of interest consists in the two kiosks showing different decorative designs carried out with the firm's materials, such designs including the painting of landscapes with "Supermatt" flat oil paint and "Nayrodec" water paint, besides many Scumble designs, coloured enamel tinting, etc.

★

MESSRS. BRYCE, WHITE & CO. LTD. (Row H, Stand 141) exhibit a large variety of doors, mouldings, kitchen dressers, chimney-pieces, turnery, trellis, planed timber, floorings, matchings, and joinery of every description, manufactured at their works. They also show a variety of "Castle Brand" doors, for which they have been sole importers for nearly a quarter of a century. "Castle Brand" doors are made of thoroughly well-seasoned Swedish redwood, mortised, tenoned, and wedged, and are available in a wide range of patterns for both interior and exterior use. "Red Cone Brand" western pine doors are also shown. They are made of western pine specially selected for the beauty of its grain and freedom from knots and defects. The rails and stiles are solid, with panels of rotary-cut figured plywood. "Red Cone Brand" doors are widely used where stained or polished doors are required. A comprehensive stock of mouldings is exhibited, including many attractive suites. "Brycite" mouldings are manufactured from White Sea and first-class Swedish timber, but can be supplied in hardwoods where desired.

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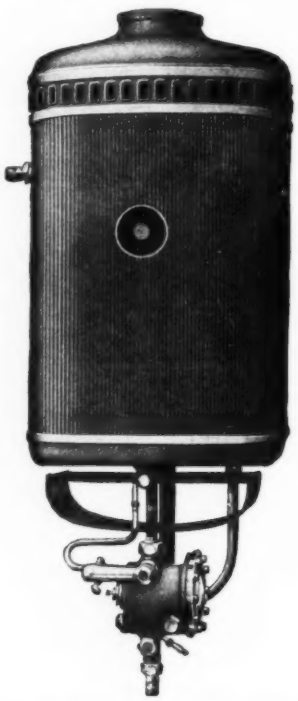


*Ascot Automatic Geyser, Model WA 32. By Cookers and Geysers, Ltd.*

MESSRS. BELL'S POILITE AND EVERITE CO., LTD., occupy their usual octagonal space in the centre of the New Hall. The octagon is divided into four main divisions, each of which shows a separate interior treatment with Bell's decorated Poilite. The bathroom interior illustrates the application of type B of these decorated sheets for walls and bath surrounds. The floor is formed of Bell's asbestos rigid rubber floor tiles. The entrance hall interior provides a good example of Bell's decorated Poilite again, for walling, and this time for the floor also, and the other two interiors show yet different schemes for the lining and panelling out of a shop window and a bar. The remainder of the floor space is utilized for displaying the wide range of Poilite and Everite asbestos cement products for roofing and many other purposes, and the visitor is able to handle and investigate as much as he wishes the actual full-sized samples of these products, which are now so extensively used in all parts of the world. The exhibit is surmounted with a roof, the different portions of which show Bell's Poilite and Everite roofing products in actual application.

★

MESSRS. TUKE AND BELL, LTD. (Row D, Stand 60), show a full range of sewerage and sewage purification apparatus. The central feature is an architectural model of a country house and grounds, showing the Tuke and Bell semi-septic system of sewage purification installed. The purified effluent which is guaranteed by the firm to be comparable with rain-water, passes to the stream at the lower part of the estate. In conjunction with country-house drainage, the firm show two special manhole covers and frames, one with rounded corners and deep seal, and the other with a sunk cover, which could be filled with gravel, paving bricks or turf, so as to render the cover less noticeable. The firm also show a special cast-iron interceptor trap for use with their sewage purification plants, and a large cast-iron grease trap, for use at country houses and institutions where a sewage purification scheme is in operation, and for hotels and institutions where the drainage connects to a sewer. Cast-iron inlet and outlet dip pipes, with inspection openings, are shown for fixing in septic tanks, and a 2-in. double-acting plunger pump capable of lifting 30 gals. per minute is shown for raising sludge from cesspools or septic tanks. A chain pump also for similar purposes is exhibited. For public works sewerage and sewage disposal, the firm show the well-known "Grip" road cover, which holds the road metal up to the frame, and, if wear takes place, an inclined plane without a sharp edge is presented to the traffic.

★

The stand of MESSRS. G. D. PETERS & CO. LTD. (Row S, Stand 282) is in the form of an entire room, having the walls and ceilings panelled in the waterproof "Sundeala" board. The panelling is executed in a colour-scheme of buff and oak, with a dado of brown embossed leather panels. Examples of "Koirah" insulation board are also shown. The various embossed and decorative types of "Sundeala" are also exhibited in many special decorative finishes. The marble effects obtainable by the use of a cellulose paint process are especially worthy of note. "Sundeala" is claimed to be homogeneous, and to possess great rigidity and strength. It requires few battens, thus reducing labour and material costs. Moreover, "Sundeala" is claimed not to warp, blister, or split under changing temperatures, and to be unaffected by heat, damp or cold. The process of manufacture is said to give the finished product the ability to reject moisture instead of absorb it. "Sundeala" is easily cut and is supplied bent to shape, if required. An interior in "Koirah" is illustrated on page 558.

MESSRS. RANSOMES AND RAPIER, LTD., exhibit (Row C, Stand 38) the "Ransome" mixer, for all purposes. The firm's tilting drum-type mixer—two models of which will be found on the stand—is worthy of attention. The "Ransome" featherweight mixer is specially designed to meet the requirements of the average small builder, and has a capacity of $4\frac{1}{2}/3\frac{1}{2}$ cu. ft., and an average output per eight-hour day of 24/30 cu. yd. When designing this mixer considerable thought was given to the question of utility, with the result that it will pass through an average width doorway, and thereby operate inside a building directly on the site. The next larger size, known as the "Ransome" lightweight, has a capacity of 7/5 cu. ft. and an average output of 40/50 cu. yd. per eight-hour day; it is therefore most suitable for dealing with the requirements in connection with medium-sized buildings, housing schemes, roads, etc. A larger size of tilting drum mixer is also made. In addition, Ransomes and Rapier are also manufacturers of rotary drum-type mixers having capacities from $\frac{1}{8}$ to 2 cu. yd. per batch.

*

British "Aquarep," the sole manufacturers of which are MESSRS. DAMP PROOFING, LTD., is exhibited on Stand 194, Row K. "Aquarep" is a semi-liquid chemical composition, which, mixed with cement mortar or concrete, is claimed to make them absolutely waterproof, even under the heaviest hydrostatic pressure. "Aquarep" is claimed to have no deleterious effects on cement or concrete, and to be non-poisonous. The following two methods of damp-proofing are recommended by the company: "The most efficient, and, at the same time, simple method of damp-proofing consists of the incorporation of 'Aquarep' in the mass concrete. This renders the concrete proof against water penetration whatever may be the amount of pressure. Care should be taken to guard against cracks and fissures in floor and wall angles. Floors should be reinforced to resist upward pressure. Another method is to combine 'Aquarep' with a cement-mortar coating. By this method any item of construction—cellars, flat roofs, walls, drain-pipe joints, manholes, etc.—can be rendered absolutely impervious to dampness. Where damp-proofing has not been coincident with construction, the application of an 'Aquarep' cement-mortar coating is imperative when dampness comes to light. It should be noted that it is necessary to use great care in covering the junction of floor and walls. Only by so doing can leakage be guarded against. In applying this method of damp-proofing a sump should be dug to drain off walls where there is water pressure so that the coating will 'take' at once without trouble."

*

THE SILICATE PAINT COMPANY exhibit (Row E, Stand 95) two rooms treated with Duresco. The exhibit is intended to show how beautiful and pleasing effects may be obtained at moderate cost by well-chosen colours and simple decorations in Duresco. The ceiling of the drawing-room is in "F" straw-colour Duresco, the cornice in parti tint, and the frieze is grounded with No. 515 magenta Duresco, with conventional floral decorations also in Duresco. The wall panels are in No. 522 cornflower blue Duresco, the stiles and mouldings are French grey and No. 72 cement Duresco. The woodwork is in No. 1044 and No. 1062 Silpaco. The ceiling and cornice of the smaller room is No. 421 ivory-white Duresco, the frieze is grounded with No. 94 Caen stone Duresco and No. 408 sea-green, and the walls are in No. 502 olive Duresco. The woodwork and dado is No. 1034 laurel green Silpaco. The Duresco panels shown inside are worthy of attention. They were decorated some thirty years ago, and today provide ample proof of the durability of Duresco and the permanency of the stainers used in its manufacture. An interesting feature of the exhibit is the display of the winning decorative panels executed in Duresco this year and exhibited at Leicester Convention of the National Federation of Master Painters of England and Wales.

*

THE BRITISH MAGNESITE FLOORING CO. exhibit on Stand 41, Row C, samples of "Magbestic" jointless flooring and samples of imitation Terrazzo paving, with "Magbestic" super hard dustless jointless flooring, showing the intermediate system of reinforcement where laid on boards. "Magbestic" jointless flooring is laid in quantities of not less than 100 yds. super. at one visit of the firm's own men. The firm specialize in jointless flooring and do not undertake any work unless they can assure satisfaction; 112 repeat orders from one firm is convincing. The following standard colours are supplied: red, grey, brown, and buff, but other colours can be given if required. "Magbestic" jointless flooring has been used for housing schemes, hospitals, cinemas, showrooms, warehouses, factories, and shops, and many other buildings.

*

MESSRS. WALTER CARSON AND SONS exhibit (Row K, Stand 190), among other specialities, the following: Vitrolite, the greenhouse paint, and for exterior and interior work; Muraline washable water paint; Muraprime priming for all distempers; Japolite super white enamel; Coverine white undercoating; La Belle Enamel in thirty-two shades; Metallic paints for radiators, etc.; Velvarine superfine decorators' enamel; aluminium paint, for ironwork, water and steam pipes; washable paste distemper; and Maurice's Porceleine, in fifty shades.

*

MESSRS. FRIGIDAIRE LTD. (Row V, Stand 317) show several household cabinets of great interest to the architect and builder. They also have on view a battery of sixteen "Frigidaire" cooling coils operated from one 1 h.p. compressor, demonstrating the principles of a multiple installation as applied to a block of flats. Their representative informed us that one 1 h.p. compressor would, under ideal conditions, operate as many as twenty small "Frigidaire" cabinets. It will be seen from this installation what a simple matter it is to equip flats with "Frigidaire" whilst in the course of erection, and also the comparatively small amount of work required to fit an installation into an existing block of flats. Messrs. Frigidaire also show one of their household cabinets of approximately 13 cu. ft. food storage capacity, as well as two self-contained models specially designed for small houses, flats, bungalows, etc., and two standard household models of 5 cu. ft. food storage capacity. "Frigidaire" electrical refrigerators are automatic, self-starting, self-stopping, and self-oiling.

*

THE PATENT TIP-UP BATH CO. (Row L, Stand 281), shows Darby's patent tip-up baths for use where space is limited. They are made in all sizes and metals. The all-sheet copper type (tinned on inside) are specially recommended. They have sprayed aluminium or copper colour on outside. Hot water supply on patented overflow method can be arranged from "Hurry" furnace, or from back boiler system.


*A Ransome concrete mixer.*

THE KLEINE PATENT FIRE-RESISTING FLOORING SYNDICATE, LTD., whose Kleine constructional work is so well known, devote their exhibit (Row F, Stand 108) to their "Duromit" material. "Duromit" is recommended for floors, pavements, platforms, roads, and wherever constant hard wear has to be resisted. It is composed of crystals and crystalloids, which, according to the Mohs scale, approximate the ninth degree of hardness (second only to diamonds), that is, about equal to the hardness of sapphires and corundum. A surface composed of this material, whether laid under cover or in the open, is claimed to withstand the heaviest traffic, to remain free from dust, to remain waterproof, and to remain non-slippery. The binding material is rapid-hardening Portland cement. The "Duromit" surface is either laid *in situ* on a cement and sand screeding, or can be used as a surface by slab makers. "Duromit" can be equally well laid on old work, provided it forms a suitable sound foundation, and sufficient depth is allowed for the cement and sand screeding.

*

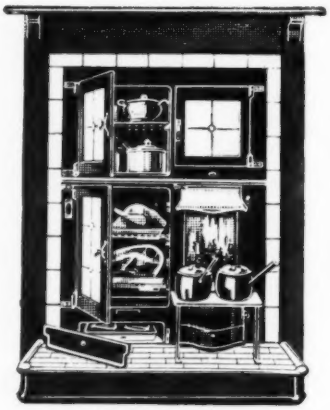
MESSRS. BOULTON AND PAUL, LTD., exhibit (Row F, Stand 104) hard and softwood joinery and specimens of the work they are manufacturing by mass-production. This method of manufacturing standard joinery has been adopted to keep down costs and to meet foreign competition. The joinery consists principally of doors, windows, stairs, gates, mantelpieces, and dressers. The firm also exhibit doors and windows to special detail to show prospective customers.

*

MESSRS. OLIVER AND SONS (Row A, Stand 2, 3, and 4) show as usual about sixty billets of their Austrian wainscot oak and a pile of square-edged boards and planks. This year they also exhibit a little parcel of about ten squares of Austrian oak flooring. A few logs of French walnut are also on view. This timber, the firm state, has come greatly to the front of late for shopfitting work. Square-edged Honduras mahogany is almost too well known to need advertisement; but the quality of the immense stocks held by Messrs. Oliver are revealed by the exhibition of a small stack of boards and planks, while a rack containing half a dozen logs of the same timber demonstrates that if more figury timber is required than ordinary square-edged parcels produce, it can be had in abundance at the yard of this old-established firm. In the English timber section of their exhibit Messrs. Oliver have a small room panelled out in English walnut, which brings before visitors the beauties of this grained timber, of which they hold a good stock. The firm state that English oak is being increasingly used by many of the foremost builders of the day, and the fact that it is proving satisfactory under testing circumstances has lately encouraged architects to specify it in some of the most important jobs. Several sample logs, cut from strictly butt lengths only and thoroughly seasoned are shown, and clients are specially invited to make an inspection of the dry stock held.

*

On the stand of MESSRS. TRIPLEX FOUNDRY, LTD. (Row B, Stand 11), the "Triplex" grate is to be seen actually at work. Its efficiency for every kind of cooking, baking, boiling, and roasting is being demonstrated. An important feature which has been incorporated in all this year's models is a special hearth oven for grilling chops and steaks, warming plates, etc. The method by which the "Triplex" grate provides copious hot water to both scullery and bathroom is also shown. The firm point out that at Olympia the "Triplex" is giving its comprehensive service while consuming only seven pennyworth of fuel, consisting of one scuttle of coal and slack daily. The economy of fuel achieved is due to scientific design to ensure maximum efficiency in combustion. It is stated that



*Model "C" Grate.*
*By Triplex Foundry Ltd.*

even the smoke is burnt, it being drawn down through the fire and converted into flames for oven heating. The "Triplex" has been used by councils and corporations for housing schemes, as well as by many thousands of private householders throughout the country.

*

The production of light-gauge copper tubes has grown to such an extent that deliveries can be given direct from stock, and combined with gun-metal compression joints, such as "Instantor" and "DD" fittings, made by Fyffe & Co., Ltd., of Dundee, are claimed to constitute an efficient installation for hot- and cold-water supply, for housing schemes, hospitals, warehouses, etc. A joint can be made with the "Instantor" fitting in one minute; the insertion of the tube in the fitting, and the turning of the nut with a spanner being all that is necessary. For covering door hoods, window flats, and for flashing valleys, flat copper sheets are now being widely used, on account of the speed with which they can be fixed, and their cheapness. Generally speaking, the sheets can be supplied large enough to dispense with joints. For flush-pipes to w.c. cisterns and traps to lavatories, copper tubes again show an advantage on account of the speed with which they can be fixed, and economy in cost. MESSRS. BROUGHTON COPPER WORKS (1928), LTD. (Row P, Stand 249), have a large plant for the production of copper tubes, and can give prompt delivery of all sizes for housing purposes. These are made to meet the British Standard Specification.

An interesting feature about MESSRS. E. POLLARD & CO.'s stand (Row H, Stand 145) at the Building Exhibition is a large poster executed for this firm by Mr. William Walcot. The poster, which is in colour, is a modification of the artist's known styles, and is admirably suited to its purpose: it retains something of Mr. Walcot's etching technique, but embodies all that is best of his skill in the use of colour.

*

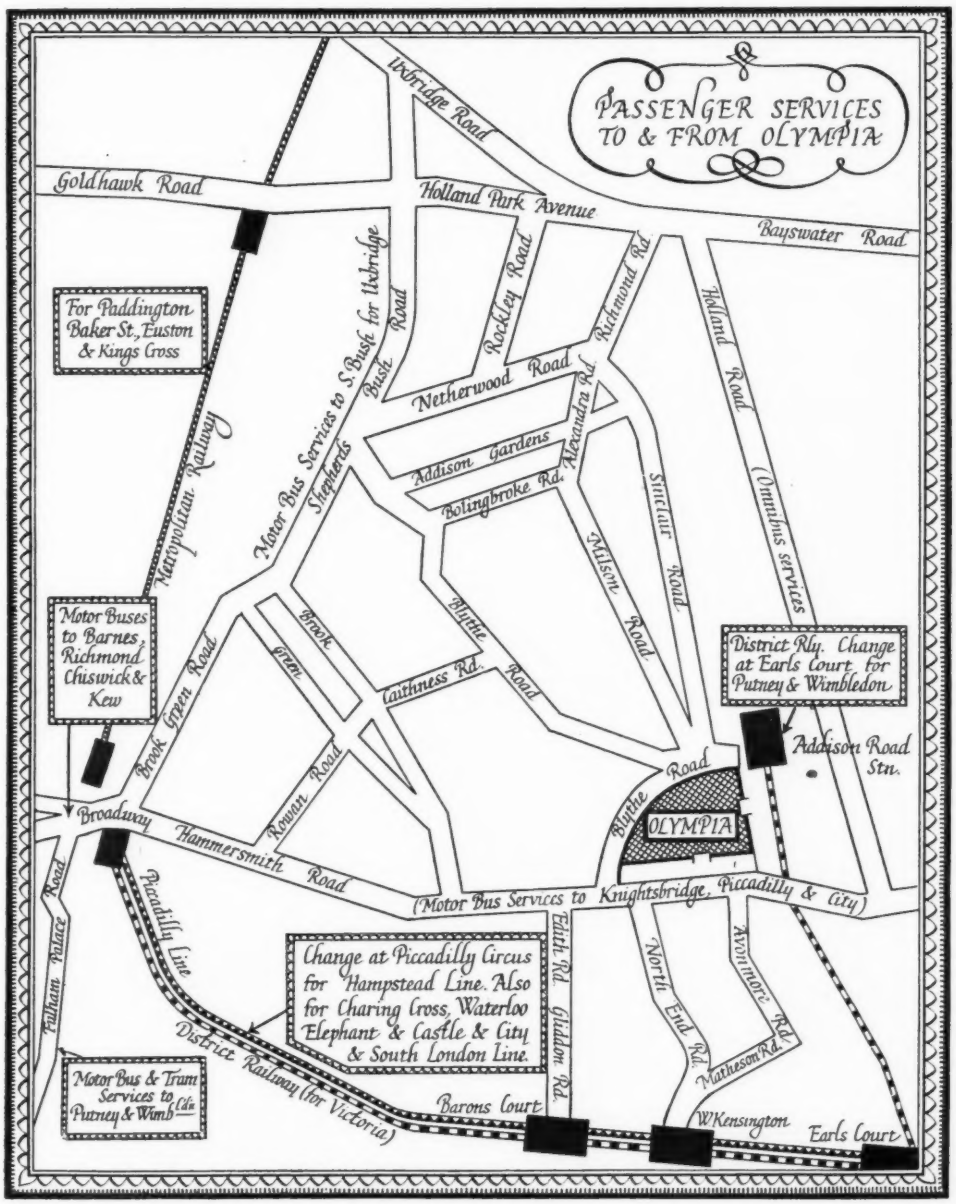
MESSRS. GEORGE M. CALLENDER & CO., LTD. (Row D, Stand 62), show many of their roofing, damp-proof, and other specialities. "Callendrite" sheeting is a waterproofing medium for service and storage reservoirs, filter beds, swimming baths, lakes, and ponds. The exhibit shows a fishpond in brickwork, lined throughout with "Callendrite" sheeting, which is under a practical water test for the duration of the exhibition. In the centre of the pond is a column of loose, porous bricks dampcoursed with "Callendrite." Visitors are requested to note the dry bricks above the dampcourse. A wall shows the application of "Protex." One portion is treated with "Protex" applied directly on to the brick and afterwards rendered with plaster; another portion shows the "Protex" applied to plaster and papered over. The wall is standing in water, with which the brickwork is saturated, and demonstrates in a practical way the effectiveness of "Protex" as a damp-resister. Among other specialities is "Bitusol" paint, for iron and steel work of all descriptions. The iron railing surrounding the fishpond is treated with this preventative of rust. Callender's "Veribest" ready roofing, also to be seen, is a self-finished roofing prepared from pure refined bitumen in one-, two-, and three-ply.

*

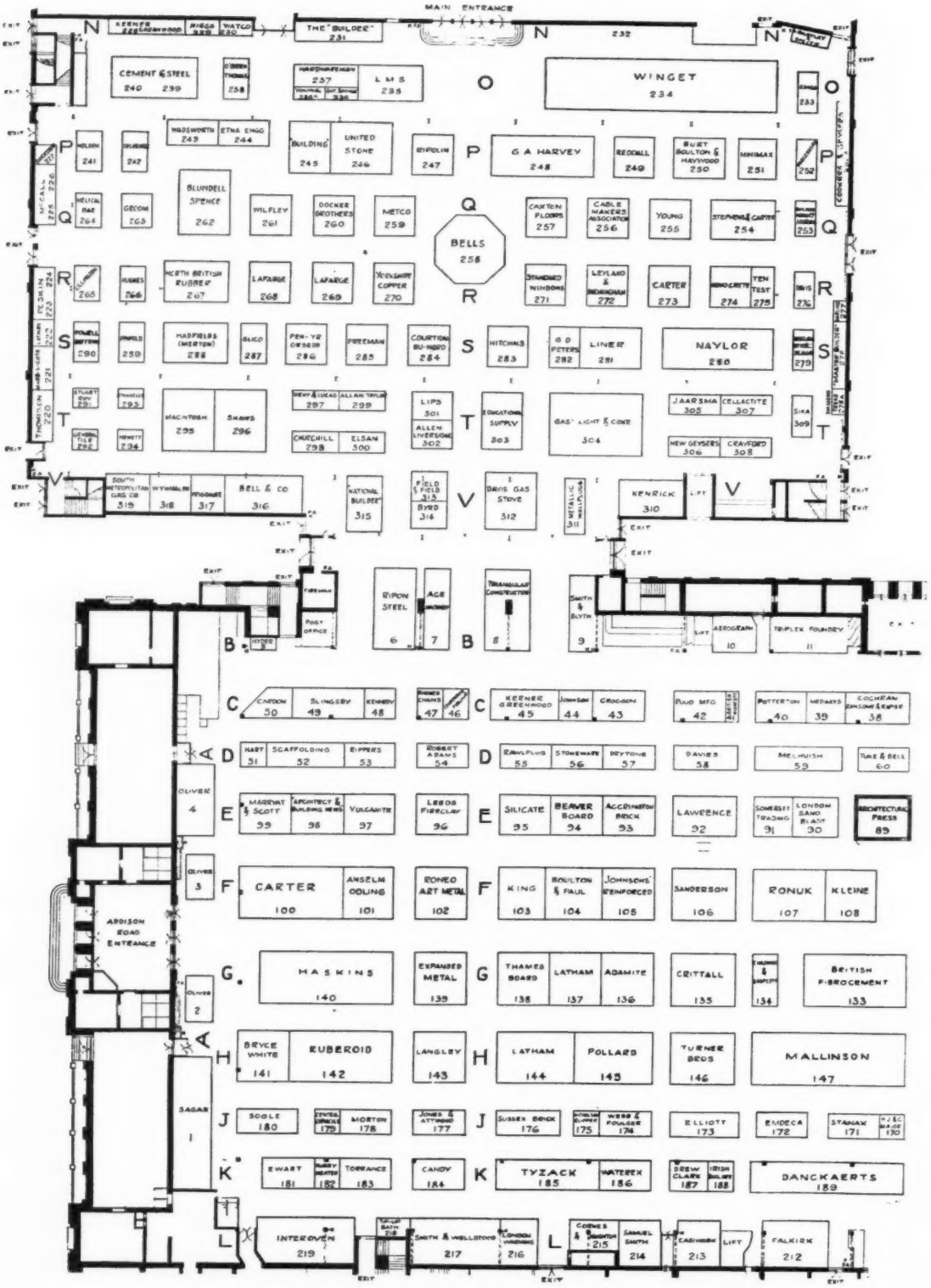
The stand of MESSRS. ARTHUR SANDERSON AND SONS, LTD. (Row F, Stand 106), displays some of the firm's attractive specialities in wallpapers and paints. A large recess some 17 ft. wide on the wallpaper front is hung with an example of scenic decoration, the "Phœnix Bird," in which no repeat appears. This is a hand-printed paper, and over 300 blocks are used in its production. The complete set of sixteen lengths extends 28 ft. Side-panels show this same design treated with the Sanderson antiquing process, which gives an appearance of genuine antiquity. An interior on the stand is decorated with another scenic decoration above "Realwood" panelling. A smaller recess shows a novel treatment of the use of the isolated motif in decoration. Other side-panels suggest new ideas for panelling schemes. On the paint front a large wall surface is decorated with "Sanstonia," the brush-applied stone surface which looks, feels, and wears like stone. This scheme is completed in "Durolave" water paint and "Dersonite" enamel. New suggestions for the decoration of surfaces that have to be varnished are shown, and large panels demonstrating the possibilities of water paint. The "Durolave" paint-spraying machine is also displayed.

MESSRS. RHODES' CHAINS, LTD. (Row C, Stand 40) show their improved chains for sash hanging, together with a large range of pulleys of the round and square-grooved ordinary axle type and cog-wheel pattern, also their ball-bearing pulleys, with cog and square-grooved wheels. A special feature is made of the firm's patent sleeve-bearing pulley, a section of which shows the fixed solid steel sleeve over which the wheel runs. This gives it a large bearing surface and ensures easy running and long life. Its solid brass face and rustproof steel frame make it indestructible. Sash chains specially designed to run over existing pulleys should interest all those who are concerned in maintenance costs. These can be used to take the place of existing sash cords as they break. Windows are shown fitted with pulleys and chains suitable for sashes of various sizes. A wide range of steel, copper, and brass chains for suspending, driving, lifting, and pull-down purposes is also shown.

THE YORKSHIRE COPPER WORKS, LTD. (Row R, Stand 270) exhibit copper tubes for hot and cold water pipes. "Yorkshire" copper housing tubes are produced in a special finish which is claimed to make them particularly suitable for use with all types of compression joints. All tubes are made from new metal, and rigidly tested and inspected to 1,000 lb. per sq. in. water-pressure before dispatch. Copper tubes are shown in standard sections for hot and cold water service pipes, and demonstrations are given showing the ease and facility with which the tubes can be bent, drifted, etc. The copper tubes are manufactured in all sizes from 0·005 in. inside diameter to 24 in. inside diameter, and an interesting display is made of a tube 0·005 in. inside diameter, 266 ft. long (in one length without joint). One end of this tube is connected to a cylinder of oxygen, the oxygen passed throughout the whole length of the tube and bubbled into a beaker of water, thus furnishing proof of the existence of a hole size 0·005 in. throughout the total length of the 266 ft.



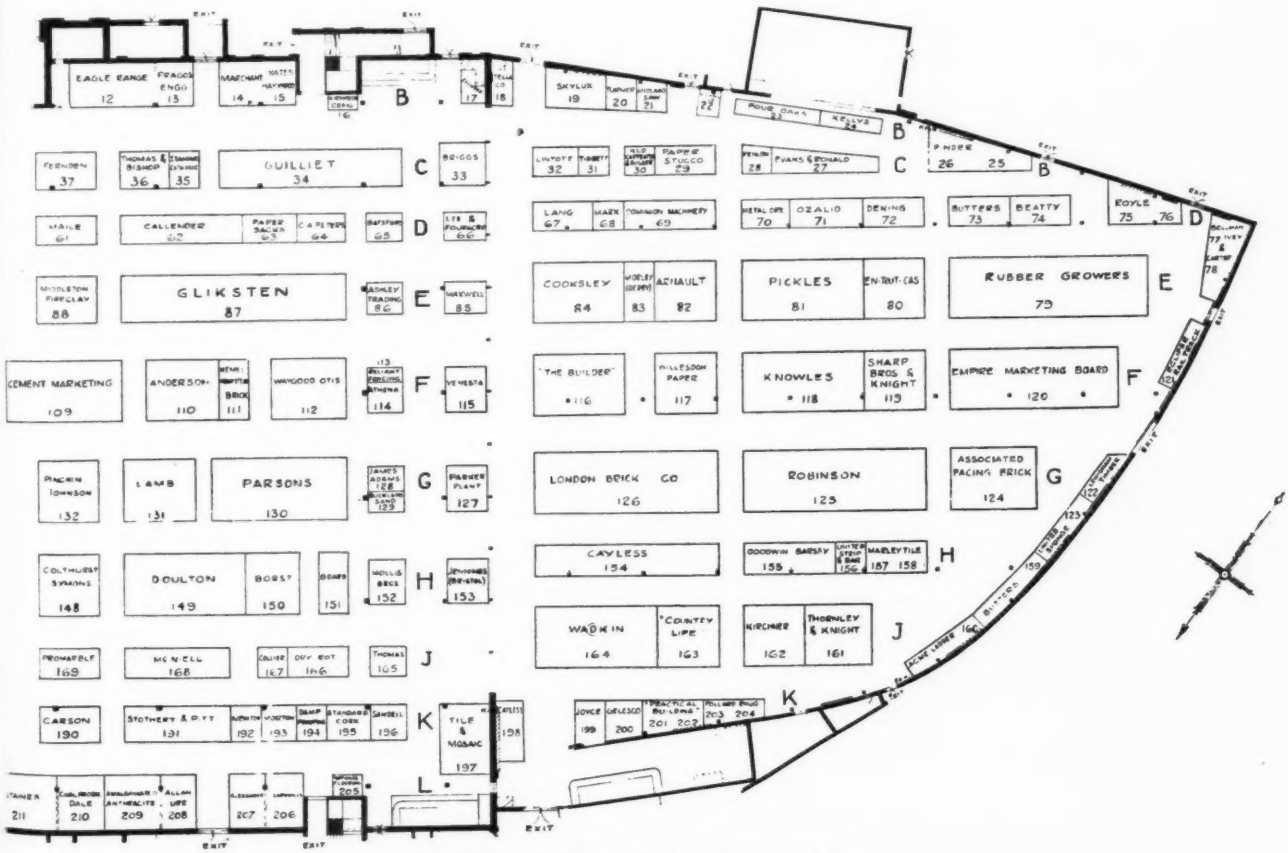

*How to Get to Olympia*



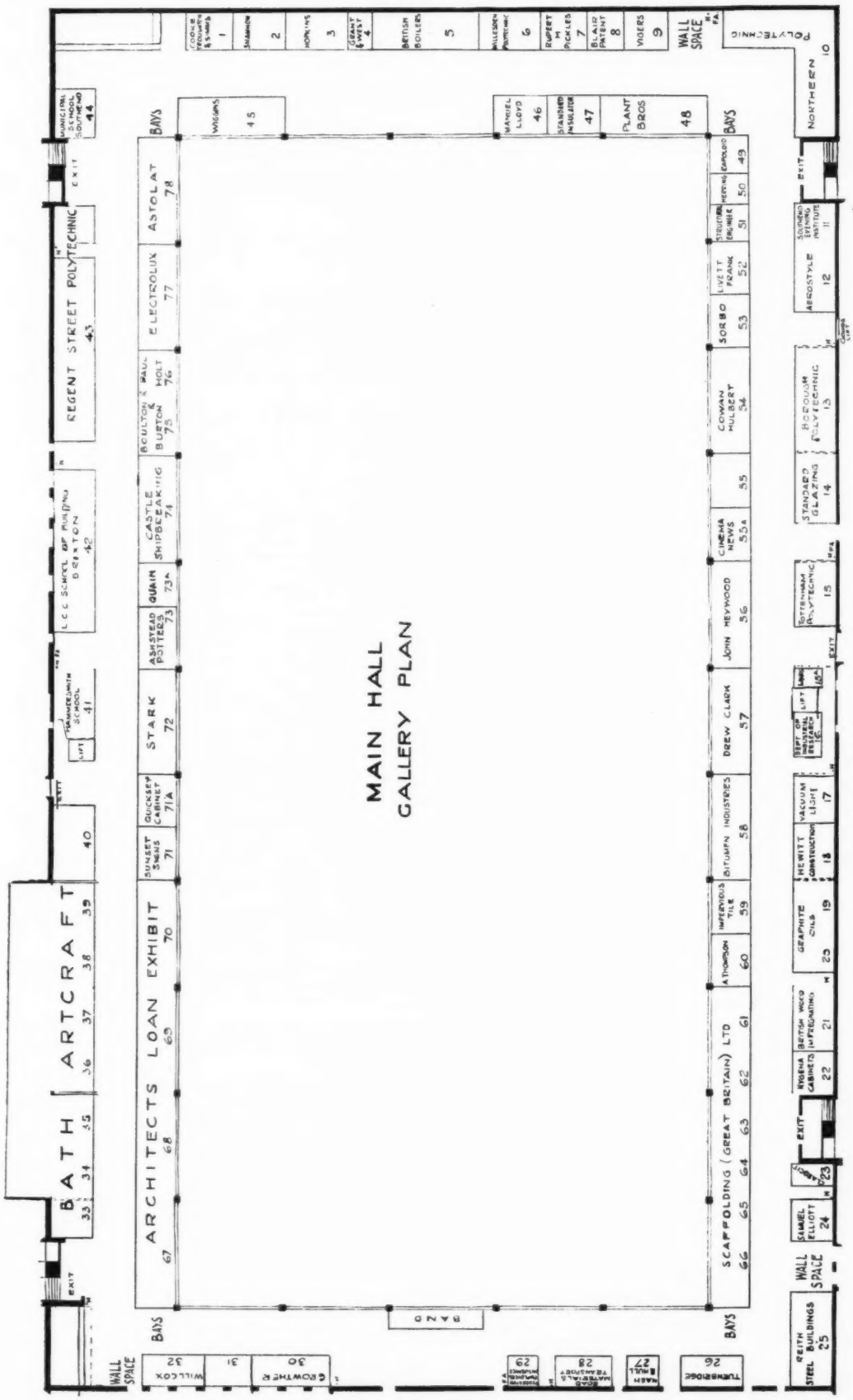

*The Building Exhibition. Ground-floor plan, left half.*

# *The Exhibitors*

| | Row | No. |
|---|---|---|
| ACCRINGTON BRICK AND TILE CO. | E | 93 |
| A.C.E. Machinery | B | 7 |
| Acme Ladder Co. | J | 160 |
| Adamite Co. | G | 136 |
| Adams and Son, J. | G | 128 |
| Adams, R. | D | 54 |
| Adamsez, Ltd. | Gal. | 31 |
| Aerograph Co. | B | 10 |
| Aerostyle, Ltd. | G | 12 |
| Alexander & Co. | L | 207 |
| Allan, Taylor & Co. | T | 299 |
| Allen-Liversidge | T | 302 |
| Amal. Anthracite Collieries | L | 209 |
| Anderson and Son, Ltd. | F | 110 |
| "Architect and Building News" | E | 98 |
| Architects' Loan Exhibits | G | 67-70 |
| Architectural Press | E | 89 |
| "Architecture" | F | 116 |
| Arnault, Ltd. | E | 82 |
| Ashley Trading Co. | E | 86 |
| Ashtead Potters | G | 73 |
| Associated Facing Brick Works | G | 124 |
| Astolat Co. | G | 78 |
| Athena Compo. Flooring Co. | F | 114 |
| BATH ARTCRAFT | G | 33-40 |
| Batsford, Ltd. | D | 65 |
| Beatty Bros. | D | 74 |
| Beaver Board Co. | E | 94 |
| Bell & Co., Ltd. | V | 316 |
| Bell's Poilite and Everite Co. | Q | 258 |
| Bellman, Ivy and Carter | D | 77-78 |
| Bitumen Industries | G | 58 |
| Blair Patents Co. | G | 8 |
| Blundell, Spence & Co. | Q | 262 |
| Board & Co. | H | 151 |
| Boro' Polytechnic | G | 13 |
| Borst, Ltd. | H | 150 |
| Boulton and Paul, Ltd. | F | 104 |
| Boulton and Paul, and Burton and Holt | G | 75-76 |
| Brace and Pilsbury | B | 22 |
| Briggs and Son, Ltd. | C | 33 |
| British Boiler Co. | G | 5 |
| British Fibrocement Works | G | 133 |
| British Magnesite Flooring Co. | C | 41 |
| British Wood Impregnating Co. | G | 21 |
| Brixton School of Building | G | 42 |
| Broughton Copper Co. | P | 249 |
| Bryce, White & Co. | H | 141 |
| Buckland Sand Co. | G | 129 |
| "Builder, The" | F | 116 |
| " " | N | 231 |
| "Builders' Merchants' Journal" | Q | 253 |
| "Building" | P | 245 |
| "Building Research" | G | 16 |
| Burt, Boulton and Hayward | P | 250 |
| Butters Bros. | D | 73 |
| Byrd & Co. | V | 314 |
| CABLE MAKERS' ASSOC. | Q | 256 |
| Callender & Co. | D | 62 |
| Candy & Co. | K | 184 |
| Cardon & Co. | C | 50 |
| Carson and Sons | K | 190 |
| Carter & Co., Ltd. | F | 100 |
| " " " | R | 273 |
| Carter & Co. (London), Ltd. | R | 273 |
| Castles Shipbreaking Co., Ltd. | G | 74 |
| Caxton Floors, Ltd. | Q | 257 |
| Cayless Bros. (Battersea) | K | 198 |
| Cellactite Works, Ltd. | T | 307 |
| Cement Marketing Co. | F | 109 |
| Cement and Steel, Ltd. | O | 239-240 |
| Central Chemicals, Ltd. | J | 179 |
| Chadwick and Shapcott | G | 134 |
| Churchill & Co., Ltd. | T | 298 |
| "Cinema News" | G | 55a |
| Clarkhills, Ltd. | L | 206 |
| Clarocit Co. | G | 23 |
| Coalbrookdale Co., Ltd. | L | 210 |
| Cochran & Co. (Annan), Ltd. | C | 38 |
| Collier, Arthur | J | 167 |
| Colthurst, Symons & Co. | H | 148 |
| Compendium Press | V | 315 |
| Compendium Publishing Co. | C | 46 |
| Cookers and Geysers, Ltd. | P | 252a |
| Cooke, Troughton and Simms | G | 1 |
| Cooksley, A. | E | 84 |
| Cornes and Haighton | L | 215 |
| "Country Life" | J | 163 |
| Courtrai-du-Nord Tile Co. | S | 284 |
| Cowan, Hulbert | G | 54 |




*The Building Exhibition. Ground-floor plan, right half.*




*The Building Exhibition. Main Hall gallery plan.*

# READERS' QUERIES

### COLOURING ROOF THATCH

*P. writes: "A client of mine wishes to have a thatched roof similar to one she has seen in Devonshire. She describes it as being 'smooth dark-brown in tone.' Can you tell me what kind of reed or straw is used to produce this effect?"*

The only way to ensure matching the colour of an existing thatch is to obtain similar material on the spot and to employ similar methods of laying. If possible, consult the local thatcher. Even then, the match will not be exact, since the colour of the straw is not permanent, but goes through successive stages from bright gold to sombre grey as it ages and decays. Generally speaking, reed thatch is darker when first laid than wheat straw, but it is liable to bleach to a light fawn colour as it dries, whereas straw of a rich tint often darkens without bleaching. The maturity and colour of the particular crop of reeds or straw when harvested have an important bearing upon the rate at which the colour alters with time, and only sound, well-grown material should be utilized.

### A LANTERN ON AN OPEN-TIMBER ROOF

*X. writes: "Can you suggest a small timber lantern or fleche, supported on a timber roof, which might help me in designing such a feature about 4 ft. square and 10 ft. high? My need is to see how little I dare put under it in the way of roof principals. Whether it might rest upon three indirectly—or whether it should have two directly under it."*

The new fleche of Westminster Hall should answer your query. The fleche took the place of an older structure of cast iron that had been in existence for several years, but which had neither artistic beauty nor historical associations, except that it stood where one of a pair of the original fumeroles of the Richard II roof had formerly been placed. These louvred lanterns were perched in the middles of bays between principals, and were supported by purlins and by the ridge-beam which conducted their weight to the principals. The horizontal timbers were strutted up with brackets and wind braces.

The new fleche was supported upon purlins inserted for the purpose, with steel girders spanning from truss to truss, and bolted to the new steelwork of the principal rafters. A casing of oak kept the steel out of sight, this composite construction being adopted to avoid disaster if a further attack by the death watch beetle should affect the bearing power of the oak in the event of Professor Maxwell Lefroy's advice concerning periodical renewal of his insecticide being neglected. The trusses of Westminster Hall are approximately 20 ft. apart, and the new fleche has an internal width of 10 ft. 3 in., and is 45 ft. high above the apex of the roof. It is covered with cast lead with chill-cast lead crockets and finials screwed to the wood with copper screws and burned on to the surrounding sheets of lead.

The work was executed from a hemp-lashed pole scaffold which swayed so freely in the winter gales that the plumbers' blow-lamps were held close to their chests at one minute and out almost at arms' length the next. When the scaffold was struck, the crockets were found to be so well fixed that the scaffolders climbed up and over the top of the fleche by means of them as a sort of farewell ceremony.

W. H.

### DAMP IN A CHURCH

*A Country Rector writes: "There is no damp-course in my ancient church, consequently moisture rises, and an unsightly dado efflorescence is the result. I have been successful in dealing with this trouble by making a dado of concrete. Although a concrete dado has effectually dealt with the trouble at the sides of the church, at this time of the year the end walls stream with water. The roof over both the east-end and west-end sections is of wood. The ceilings of the other sections are of plaster. Should I treat the end walls by the altar and by the west end with concrete right up to the roof to remedy the trouble? Or is the dampness likely to be due to lack of ventilation, or have the wooden ceilings anything to do with the matter?"*

It is difficult to give an authoritative reply without first examining the church, but the following suggestions may prove useful if carefully considered on the spot in connection with the defects in the building: If damp is rising from the ground it is better to insert a dampcourse of large, whole slates in cement by cutting through the wall in stages. A length of about 1 ft. 6 in. is undertaken at a time if the wall is reasonably sound. If water is percolating through the wall surface it may be necessary to repoint the joints with sound mortar on the exterior. The work should be carefully done, the defective mortar being raked out, and the new mortar forced home into the joints after they have been well washed clean of ivy rootlets and mould. New joints can be made to harmonize with old ones in adjoining parts of the wall by the simple process of squirting clean water on them just as the cement sets until the sand shows on the surface. It is necessary to use coarse, clean, sharp sand, and to make the mixture rich in cement. A proportion of 1 to 1 is necessary to produce a waterproof mixture under ordinary conditions of labour.

It is a pity to obscure the old wall surfaces by rendering them, or concreting them, either inside or out, as the ancient character is spoilt by the dull uniformity of the new surface. If the walls must be rendered to make them efficient, the builder should be persuaded to study the old work and use a wooden float, or whatever tool is most appropriate to obtain a similar interesting effect. The point is that an old building is bent by time, if not by the indifferent workmanship, or purposely varied handling of its original builders, and every detail must have a slight amount of "play" to keep it in harmony with the rest.

It is quite possible that lack of ventilation is to blame for at least part of the trouble, and a vigorous current of warm, dry air will carry off a great deal of moisture. Heating without extracting the moisture-saturated air only adds, and adds very considerably, to the dampness of the building. The wooden parts of the roof are possibly less absorbent than the parts ceiled with plaster, but that fact should not account for a stream of water down each end wall.

W. H.

### PANELLING ON A STAIRCASE

*R. G. writes: "Which is the correct method of dealing with panelling at the sides of a stair. It is proposed to panel a hall in Tudor panelling, 7 ft. 6 in. high, and to carry the panelling 4 ft. 6 in. up the stairs to first floor. Is it correct practice to run the rails on the rake of the stairs, or should they be kept horizontal? In the latter case, of course, there would have to be irregular triangular panels top and bottom, but it is a question whether this is not better than breaking from the rectangular to the rhomboid panels."*

The Tudor staircase builders generally showed great respect for the raking line of the flight and kept the rails of the dado parallel to the nosing line. They often avoided the comparison of rhombic with rectangular panels by making the dado of panelling at the side of the stair richer than ordinary wainscot on a wall and giving it the pattern of the balusters and handrail on the other side of the flight. The staircase at Lyveden old building, illustrated in *Early Renaissance Architecture in England* (J. A. Gotch), figure one hundred and seventy-two, shows the wall decorated with half newels and a pair of raking mouldings at the levels of string and handrail. Between these mouldings the dado is divided up into vertical strips by half-balusters. The height of the proposed panelling being 4 ft. 6 in., the exact balance of colour masses on either side of the flight would seem to be out of the question, for it is hardly possible that the handrail is that height above the nosing. The exact manner of subdividing the dado will be more or less a question of taste, to be determined by the arrangement of the colour masses. As the Tudor principle of equal height of dark colour on each side of the stair will be departed from, it might be wise to emphasize the departure by giving the somewhat high dado a top rising in steps with horizontal rails, instead of adhering to the raking line at a level which is likely to divide the height of the wall into two monotonously equal portions.

W. H.

# THE WEEK'S BUILDING NEWS

Plans passed by the BARKING TOWN U.D.C.: Store, Broadway, for The British East Light, Ltd.; additions to Electric Theatre, Ripple Road, for Messrs. Rose and Bockner; alterations, 3 East Street, for Mr. J. T. Worricker.

*

The YORK Corporation has granted permission to the Yorkshire Sugar Co., Ltd., to erect a jetty on the bank of the Ouse at Barlby.

*

Mr. Hugh Greswell has a scheme for the erection of buildings on a site abutting on Homerton Row, Fenn Street, and Bannister Street, HACKNEY.

*

Mr. W. H. Ansell has submitted to the B.C. plans for the erection of a hall in Wilton Road, HACKNEY.

*

The CROYDON Corporation has decided to grant another 200 housing subsidies.

*

The CROYDON Corporation has decided to erect eight shops with flats at South End, at an estimated cost of £14,500.

*

Messrs. J. Sainsbury Ltd. are to erect new premises at South End, CROYDON.

*

The BIRMINGHAM Corporation has acquired a site in Shaw Hill Road for the erection of a welfare centre.

*

Plans passed by the PLYMOUTH Corporation: House and shops, Victoria Road, St. Budeaux, for Messrs. A. Searle and Son; alterations and additions, 46 George Street, for Messrs. H. E. Randall, Ltd.; alterations, 175 Union Street, for the General Electric Co., Ltd.; alterations, 118 Tavistock Road, for Mr. B. Butland; alterations and additions, Peverell Park Wesleyan Church, for the Trustees; extension of workshop, Tweedside Place, for Messrs. Blight and White, Ltd.; two bungalows, Southdown Road, for Mr. P. H. Buckley; two bungalows, Southdown Road, for Mr. W. Andrews; amended layout, Swilly estate, for Mr. F. Westcott; five houses, Wolseley Road, St. Budeaux, for Mr. F. Evans.

*

The MANCHESTER Corporation proposes an expenditure of £43,500 for the purchase of land and properties in connection with the Town Hall extension scheme.

*

The ILFORD Corporation has purchased 10 acres of land adjoining the Tomswood Hill estate and directed the borough engineer to prepare a plan showing the layout of the land, together with plans, specification, and estimate of cost of types of non-parlour houses which could be erected thereon.

Plans passed by the ILFORD Corporation: Sixteen bungalows, Chepstow Crescent, for Mr. W. H. Lewis; alterations, 146 High Road, for Messrs. Hammond and Miles, Ltd.; three houses, Aberdour Road, for Mr. W. T. Markham; twenty-three houses, Derwent Gardens, for Mr. T. Anders; extensions, Ship Carbon Co., Grove Road, for Messrs. J. T. Luton and Son, Ltd.; sixteen houses, Church Road, for Mr. T. Anders; ten shops and dwellings, Redbridge Lane, for Mr. A. Smith; fifty-five houses, Ridgeway Gardens, for Mr. T. B. Goodwin; three bungalows, Egerton Gardens, for Messrs. J. W. Moore and Son; ten houses, Church Road, Newbury Road, for Mr. C. Fryatt; six houses, Rochester Gardens, Exeter Gardens, for Mr. A. P. Griggs.

*

Plans passed by the GRAVESEND Corporation: Extension to workshops, 26 Harmer Street, for Messrs. Bridgland and Clay; bungalow, Singlewell Road, for Mr. F. B. Hooper; house, Singlewell Road, for Mr. J. M. Dering; two houses, Ferndale Road, for Messrs. Reid & Co.; reconstruction, Messrs. Jack's Stores, for Messrs. Robert Hopkins and Sons.

*

The GLASGOW Corporation has acquired a site at Ruchill for the erection of a pumping station for the water department.

*

The Kinning Park Co-operative Society, Ltd., is acquiring a site at Paisley Road, Bellahouston, GLASGOW, for the erection of a suite of shops and houses.

*

Messrs. W. Smith, Tair and M'Connell are negotiating with the GLASGOW Corporation for part of the cleared area between Clyde Street and Piccadilly Street.

*

The trustees of the Bardowie Street Mission are obtaining another site from the GLASGOW Corporation for the re-erection of their hall.

*

Plans passed by ILKESTON Corporation: Garage and stores, Longfield Lane, for Mrs. Knighton; two houses, Percy Street, for Messrs. J. E. Marriott; layout plan, building estate between Park Road and Nottingham Road, for Messrs. Evans Bros.; timber store shed, Gordon Street, for Messrs. W. Woodward and Sons.

*

Preliminary plans have been prepared by Mr. W. M. Shennan for the erection of a block of office buildings in Price Street, BIRKENHEAD.

*

The BRADFORD Corporation has obtained sanction to borrow £500,000 in respect of the construction of the Esholt sewage disposal works.

The YORK Corporation Housing Committee has considered the question of the fitting as all-electric houses of the fifty houses on the Tang Hall estate, comprised in the contract let to Mr. T. Sawdon, of Bridlington, and also of the fifty houses to be erected on land adjoining Bad Bargain Lane, and decided to recommend that the latter fifty houses should be fitted as all-electric houses.

*

At a meeting of the YORK Corporation Housing Committee, the city engineer reported that the land available for the erection of houses within the next twelve months would be as follows: Nursaw's land adjoining Hull Road and Tang Hall Lane, about 275 houses. Bad Bargain Lane, fifty houses; adjoining Fifth Avenue, twenty-two houses.

*

The YORK Corporation is to obtain tenders for the erection of the first two blocks on the Hope Street area, and to allocate the sites for fifty houses to be available for occupation this year.

*

The YORK Corporation Housing Committee has obtained sanction to purchase land in the Hope Street unhealthy area.

*

Plans passed by the YORK Corporation: Additions, 53 Micklegate, for Messrs. J. Cross, Ltd.; two houses, Oakland Avenue, Stockton Lane, for Mr. H. C. De Burgh; additions, Trafalgar Bay Inn, Nunnery Lane, for Messrs. Saml. Smith, Ltd.; additions, "Londesbro' Arms," Petergate, for Messrs. J. J. Hunt, Ltd.; two houses, Butcher Terrace, for Mr. W. Johnson; additions, Feasegate Restaurant, for York Coffee House Company; additions, Bilton Street Schools, Bilton Street, for the Managers; premises, Blake Street, for the York Wine and Spirit Co., Ltd.; additions, Bishopshill, for Messrs. Cooke, Troughton and Simms, Ltd.; two houses, Tadcaster Road, for Messrs. J. and W. King, Ltd.; additions, Britannia Inn, Heworth, for Tadcaster Tower Brewery Co., Ltd.; additions, Aldwark, for York Merchant Taylors Company.

*

The YORK Corporation is seeking sanction to borrow £26,360 for the carrying out of extensions to the Fever Hospital.

*

At a meeting of the YORK Corporation Housing Committee the question of the allocation of land for the erection of houses for persons dispossessed in the Hope Street unhealthy area was discussed, and it was decided to allot part of Nursaw's land, and the city engineer was asked to see if it could be arranged to distribute the sites among the Housing Acts sites.

Plans passed by the BERMONDSEY B.C.: Alterations, 65, 67, and 69 Jamaica Road, for Messrs. Fowler Bros.; 2 Channel Row, for Metropolitan Cartage Company; 1 Pages Walk, for Messrs. Lazenby and Sons; "King John's Head," Abbey Road, for Messrs. Watney, Combe and Reid; 242 Rotherhithe New Road, for Mr. B. C. Rendle; 135 Lower Road, for the Port of London Authority; 170-172 Bridge Road, for Mr. G. Jeeves, architect.

*

Plans passed by the BRADFORD Corporation: Four houses, Leeds Road, Idle, for Mr. H. Dickinson; two houses, Highfield Road, Idle, for Mr. T. E. Feather; two houses, Greenfield Lane, for Mr. E. Walker; twelve houses, Oakdale Avenue, for Mr. A. E. Akeroyd.

*

The BRADFORD Education Committee has approved plans prepared by the city architect, showing proposed extensions to the College of Art and Crafts.

*

Plans passed by the SHEFFIELD Corporation: Six houses, Abbey Lane, for Mr. William Samuel; two houses, Handsworth Road, for Messrs. Sadler, Ltd.; six houses, Ansell Road, for Mr. A. J. Belton; two houses, Dalewood Road, for Mr. James Marsh; two houses, Struan Road, for Messrs. Plant Bros.; six houses, Vaionor Road, for Mr. J. Reed; eighteen houses, Ansell Road, for Mr. J. Ramsden; one house, Ecclesall Road, for Mr. W. P. Belk; two houses, Tapton Bank, for Mr. L. J. Samuel; six houses, Sandygate Road, for Messrs. T. W. Knowles and Son; 195 houses, Longley estate, for the Estates Committee of the Corporation; four houses, Langsett Avenue, for Mr. G. Hardwick; two houses, Whiteley Lane, for Mr. Riley Watson; two houses and garage, Tom Lane, for Mr. W. Ward; four houses, Retford Road, for Mr. S. G. Bailey; two houses, Hessle Road, for Mr. B. F. Glossop; six houses, off Little Norton Lane, for Mr. J. H. Dyson; two houses, Richmond Road, for Mr. Alfred Owen; six houses, Greystones Hall Road, for Messrs. W. Malthouse, Ltd.; two houses and garages, Bents Drive, for Mr. T. Davidson; six houses, Donnington Road and Norfolk Park Avenue, for Messrs. Mason and Robinson; two houses and garages, Bents Drive, for Mr. G. M. Taylor; four houses and garages, Hallam Grange Road, for Mr. W. H. Rowan.

*

The premises of the Midland Bank in Princes Street, CITY OF LONDON, are being demolished in connection with a reconstruction scheme.

*

The premises of the National Provincial Bank in Princes Street, CITY OF LONDON, are to be rebuilt.

*

The CITY OF LONDON Corporation has prepared a scheme for a widening in Princes Street at an estimated cost of £250,000.

Plans passed by CAMBERWELL B.C.: Addition, 112 Peckham Rye, for Mr. J. W. S. Burmester; rebuilding, "Norfolk Arms" public-house, 1 Sandison Street, for Mr. W. Stewart; garages, 1 St. Mary's Road, for Messrs. A. C. Brown and Son.

*

Plans passed by the BOLTON Corporation: Extension to carkroom and transformer house, Peakes Place Mill, Halliwell, for Messrs. W. Mather & Co., Ltd.; extension to weaving shed, Cobden Mill, Blackburn Road, for Messrs. Barlow and Jones, Ltd.; layout plan, off Salford Road, Plodder Lane and Smethurst Lane, for the Bridgewater Estates, Ltd.; power pump-house, Bridgeman Street, for the British Petroleum Co., Ltd.; two houses, Seddon Fold, for Mr. J. W. Jones; three houses, Regent Road, for Mr. James Latham; streets and levels, off Knowsley Road and Bennetts Lane, for the exors. of Col. R. H. Ainsworth; forty houses, off Knowsley Road and Bennetts Lane, for Messrs. Yates and Partington; streets and levels, off Clayton Street, for Lord Bradford; eight houses, off Clayton Street, for Mr. Fred Morris; eight houses, Crompton Way, for Messrs. Leigh Bros., Ltd.; ninety-six houses, Quebec Street estate, for the Corporation Finance Committee; six houses, Eldon Street, for Messrs. Turner Bros.; streets and levels, Whittle Grove, for Messrs. Leigh Bros., Ltd.; 212 houses, Castleton Street, for the Housing Committee; extension to tea-room, etc., All Saints' Schools, Union Street, for the Trustees; rebuilding offices, 24 Acresfield, for Mr. L. Haworth; extensions, 276 Derby Street, for Mr. William Heap; eleven houses, Sharples Avenue, for Mr. Arthur H. Price; two houses and garages, Belmont Road, for Mr. Ernest Howarth; seven houses, Gregory Avenue, for Mr. Francis Draper; six houses, Eldon Street, for Messrs. Turner Bros.

*

The Ministry of Health is in communication with the Metropolitan Asylums Board, relative to the proposed provision of additional isolation accommodation at the South-Eastern Hospital, LONDON.

*

The Ministry of Health has agreed to the proposals of the Metropolitan Asylums Board for the erection of a new nurses' block at the Western Hospital, LONDON.

*

The PLYMOUTH Corporation Libraries Committee has considered the question of the appropriation of a site adjoining Wolseley Road for the purpose of a branch library, and deferred the matter pending a report by the librarian.

*

Sir Hamilton J. Hulse is to develop a building estate at Hedgeman's Farm, ILFORD.

*

The BARKING TOWN U.D.C. is seeking sanction for a loan of £100,000 for further housing advances.

Messrs. Berry and Hood are to develop the Chambery Nursery estate, Hanworth Road, HAMPTON.

*

Mr. A. Ford (architect) has re-submitted plans of houses in Dillingburgh and Longland Roads between Broomfield Street and Northiam Street, EASTBOURNE. There is an area between Dillingburgh Road and Longland for an open space.

*

At a meeting of the EASTBOURNE Corporation Highways Committee the borough engineer submitted a plan showing alternative routes for the proposed new coastal road between Eastbourne and the Bexhill Borough boundary, viz. from Friday Street Farm, estimated to cost £230,000; from Hide Hollow, estimated to cost £198,000; and from the Aylesbury Farm through Pevensey Bay, estimated to cost £197,000, and reported his recent interview with the Ministry of Transport. The proposed route from the Aylesbury Farm through Pevensey Bay was approved, and a conference of representatives of the local authorities concerned is to be called at which Col. Richmond, of the Ministry, is to be asked to attend.

## THE NEW SCIENCE MUSEUM

Following is a list of the contractors and chief sub-contractors for the New Science Museum at South Kensington, illustrated on pages 547 to 552: Leslie & Co., Ltd., reinforced concrete structure; Arding and Hobbs, workshops in basement; J. E. Johnson and Sons, Ltd., Leicester, completion work (central portion); Galbraith Bros., Ltd., completion work (eastern portion); The South Western Stone Co., stonework (stone from the quarries of Messrs. F. J. Barnes, Ltd., Portland, Dorset); G. Rome & Co. (London), Ltd., and A. Marton, plastering; A. Higginbotham and Sons, plumbing; The Art Pavement and Decorations, Ltd., marble columns and pavements; Hollis Bros. & Co., Ltd., oak flooring and wood block; The Marble Mosaic Co., terrazzo paving; W. H. Heywood & Co., Ltd., and Helliwell & Co., Ltd., Brighouse, Yorks, patent glazing; The British Luxfer Prism Syndicate, Ltd., pavement lights; F. Bradford & Co., granolithic paving; E. Parkinson (London), Ltd., and J. J. Etridge, Junior, Ltd., slate roofs; H. Hope and Sons, Ltd., and The West Bromwich Casement and Engineering Co., Ltd., steel casements and window glazing; Strode & Co., Ltd., and Humphries, Jackson and Ambler, Ltd., W.I. balustrades; A. W. Elwood, bronze grilles and W.I. gates; T. B. Colman and Sons, Ltd., revolving doors, etc.; J. Clark and Sons, Ltd., window glazing; J. Coombes and Son, Ltd., heating and ventilation; The French Asphalte Co., Ltd., and Val de Travers Asphalte Paving Co., Ltd., asphalte roof.

# RATES OF WAGES

| | | | I | II |
|---|---|---|---|---|
| | | | s. d. | s. d. |
| A | ABERDARE | S. Wales & M. | 1 7½ | 1 2½ |
| A₁ | Abergavenny | S. Wales & M. | 1 7 | 1 2½ |
| B | Abingdon .. | S. Counties | 1 5½ | 1 1½ |
| A | Accrington | N.W. Counties | 1 7½ | 1 2½ |
| A₂ | Addlestone | S. Counties | 1 6 | 1 1½ |
| A | Adlington .. | N.W. Counties | 1 7½ | 1 2½ |
| A | Airdrie .. | Scotland | *1 7½ | 1 2½ |
| C₁ | Aldeburgh | E. Counties | 1 3 | 11½ |
| A | Altrincham | N.W. Counties | 1 7½ | 1 2½ |
| B₂ | Appleby .. | N.W. Counties | 1 4 | 1 0 |
| A | Ashton-under-Lyne | N.W. Counties | 1 7½ | 1 2½ |
| A₂ | Atherstone | Mid. Counties | 1 6 | 1 1½ |
| B₂ | Aylesbury .. | S. Counties | 1 4 | 1 0 |
| B₂ | BANBURY | S. Counties | 1 4 | 1 0 |
| B₂ | Bangor .. | N.W. Counties | 1 4½ | 1 0½ |
| A | BarnardCastle | N.E. Coast | 1 7½ | 1 2½ |
| A | Barnsley .. | Yorkshire | 1 7½ | 1 2½ |
| B₁ | Barnstaple | S.W. Counties | 1 5 | 1 0½ |
| A | Barrow .. | N.W. Counties | 1 7½ | 1 2½ |
| A | Barry .. | S. Wales & M. | 1 7½ | 1 2½ |
| B₂ | Basingstoke | S.W. Counties | 1 4 | 1 0 |
| B | Bath .. | S.W. Counties | 1 5½ | 1 1½ |
| A | Batley .. | Yorkshire | 1 7½ | 1 2½ |
| 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 |
| B₂ | Bicester .. | Mid. Counties | 1 4 | 1 0 |
| A | Birkenhead | N.W. Counties | *1 7½ | 1 2½ |
| A | Birmingham | Mid. Counties | 1 7½ | 1 2½ |
| A | Bishop Auckland | N.E. Coast | 1 7½ | 1 2½ |
| A | Blackburn | N.W. Counties | 1 7½ | 1 2½ |
| A | Blackpool | N.W. Counties | 1 7½ | 1 2½ |
| A | Blyth .. | N.E. Coast | 1 7½ | 1 2½ |
| B₂ | Bognor .. | S. Counties | 1 4 | 1 0 |
| A | Bolton .. | N.W. Counties | 1 7½ | 1 2½ |
| A₂ | Boston .. | Mid. Counties | 1 6 | 1 1½ |
| B₁ | Bournemouth | S. Counties | 1 5 | 1 0½ |
| B₂ | Bovey Tracey | S.W. Counties | 1 4½ | 1 0½ |
| A | Bradford .. | Yorkshire | 1 7½ | 1 2½ |
| A₂ | Brentwood .. | E. Counties | 1 6½ | 1 2 |
| A | Bridgend .. | S. Wales & M. | 1 7½ | 1 2½ |
| B₂ | Bridgwater | S.W. Counties | 1 4½ | 1 0½ |
| A₁ | Bridlington | Yorkshire | 1 7 | 1 2½ |
| A | Brighouse | Yorkshire | 1 7½ | 1 2½ |
| B₁ | Brighton .. | S. Counties | 1 5 | 1 0½ |
| A | Bristol .. | S.W. Counties | 1 7½ | 1 2½ |
| B₂ | Brixham .. | S.W. Counties | 1 4 | 1 0 |
| A₂ | Bromsgrove | Mid. Counties | 1 6½ | 1 2 |
| C | Bromyard .. | Mid. Counties | 1 3½ | 11½ |
| A | Burnley .. | N.W. Counties | 1 7½ | 1 2½ |
| A | Burslem .. | Mid. Counties | 1 7½ | 1 2½ |
| A₂ | Burton-on-Trent | Mid. Counties | 1 6½ | 1 2 |
| A | Bury .. | N.W. Counties | 1 7½ | 1 2½ |
| A₁ | Buxton .. | N.W. Counties | 1 7 | 1 2½ |
| B | CAMBRIDGE | E. Counties | 1 5½ | 1 1½ |
| B₂ | Canterbury | S. Counties | 1 4 | 1 0 |
| A | Cardiff .. | S. Wales & M. | 1 7½ | 1 2½ |
| A | Carlisle .. | N.W. Counties | 1 7½ | 1 2½ |
| 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 2½ |
| A | Castleford | Yorkshire | 1 7½ | 1 2½ |
| B₁ | Chatham .. | S. Counties | 1 5 | 1 0½ |
| B₁ | Chelmsford | E. Counties | 1 5 | 1 0½ |
| A₂ | Cheltenham | S.W. Counties | 1 6 | 1 1½ |
| A | Chester .. | N.W. Counties | 1 7½ | 1 2½ |
| A | Chesterfield | Mid. Counties | *1 7½ | 1 2½ |
| B₂ | Chichester | S. Counties | 1 4 | 1 0 |
| A | Chorley .. | N.W. Counties | 1 7½ | 1 2½ |
| B₂ | Cirencester | S. Counties | 1 4½ | 1 0½ |
| A | Clitheroe .. | N.W. Counties | 1 7½ | 1 2½ |
| A | Clydebank | Scotland | 1 7½ | 1 2½ |
| A | Coalville .. | Mid. Counties | 1 7½ | 1 2½ |
| B₁ | Colchester .. | E. Counties | 1 5 | 1 0½ |
| A | Colne .. | N.W. Counties | 1 7½ | 1 2½ |
| A₂ | Colwyn Bay | N.W. Counties | 1 6 | 1 1½ |
| A | Consett .. | N.E. Coast | 1 7½ | 1 2½ |
| A₂ | Conway .. | N.W. Counties | 1 6 | 1 1½ |
| A | Coventry .. | Mid. Counties | 1 7½ | 1 2½ |
| A₂ | Crewe .. | N.W. Counties | 1 6 | 1 1½ |
| A₂ | Cumberland | ..... | 1 6 | 1 1½ |
| A | DARLINGTON | N.E. Coast | 1 7½ | 1 2½ |
| A | Darwen .. | N.W. Counties | 1 7½ | 1 2½ |
| B₂ | Deal .. | S. Counties | 1 4 | 1 0 |
| A₂ | Denbigh .. | N.W. Counties | 1 6 | 1 1½ |
| A | Derby .. | Mid. Counties | 1 7½ | 1 2½ |
| A | Dewsbury .. | Yorkshire | 1 7½ | 1 2½ |
| B | Didcot .. | S. Counties | 1 5½ | 1 1½ |
| A | Doncaster .. | Yorkshire | 1 7½ | 1 2½ |
| C₁ | Dorchester .. | S.W. Counties | 1 3 | 11½ |
| A₂ | Driffield .. | Yorks | 1 6 | 1 1½ |
| A₂ | Droitwich .. | Mid. Counties | 1 6 | 1 1½ |
| A₁ | Dudley .. | Mid. Counties | 1 7 | 1 2½ |
| A | Dundee .. | Scotland | 1 7½ | 1 2½ |
| A | Durham .. | N.E. Coast | 1 7½ | 1 2½ |
| B₁ | EASTBOURNE | S. Counties | 1 5 | 1 0½ |
| A | Ebbw Vale | S. Wales & M. | 1 7½ | 1 2½ |
| A | Edinburgh | Scotland | 1 7½ | 1 2½ |
| A | E. Glamorganshire & Monmouthshire | S. Wales & M. | 1 7½ | 1 2½ |
| B | Exeter .. | S.W. Counties | *1 5½ | 1 1½ |
| B₂ | Exmouth .. | S.W. Counties | 1 4½ | 1 0½ |
| B | FELIXSTOWE | E. Counties | 1 5½ | 1 1½ |
| A₂ | Filey .. | Yorks | 1 6 | 1 1½ |
| A | Fleetwood .. | N.W. Counties | 1 7½ | 1 2½ |
| B₂ | Folkestone | S. Counties | 1 4½ | 1 0½ |
| A | Frodsham .. | N.W. Counties | 1 7½ | 1 2½ |
| B₂ | Frome .. | S.W. Counties | 1 4 | 1 0 |
| A | GATESHEAD | N.E. Coast | 1 7½ | 1 2½ |
| B₁ | Gillingham | S. Counties | 1 5 | 1 0½ |
| A₂ | Gloucester | S.W. Counties | 1 6 | 1 1½ |
| A₂ | Goole .. | Yorkshire | 1 6½ | 1 2 |
| B | Gosport .. | S. Counties | 1 5½ | 1 1½ |
| A₂ | Grantham | Mid. Counties | 1 6 | 1 1½ |
| A₁ | Gravesend | S. Counties | 1 7 | 1 2½ |
| A | Greenock .. | Scotland | *1 7½ | 1 2½ |
| A | Grimsby .. | Yorkshire | 1 7½ | 1 2½ |
| B₁ | Guildford .. | S. Counties | 1 5 | 1 0½ |
| A | HALIFAX .. | Yorkshire | 1 7½ | 1 2½ |
| A | Hanley .. | Mid. Counties | 1 7½ | 1 2½ |
| A | Harrogate | Yorkshire | 1 7½ | 1 2½ |
| A | Hartlepools | N.E. Coast | 1 7½ | 1 2½ |
| B₂ | Harwich .. | E. Counties | 1 4½ | 1 0½ |
| B₂ | Hastings .. | S. Counties | 1 4 | 1 0 |
| B₁ | Hatfield .. | S. Counties | 1 5 | 1 0½ |
| 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 2½ |
| A | Howden .. | N.E. Coast | 1 7½ | 1 2½ |
| A | Huddersfield | Yorkshire | 1 7½ | 1 2½ |
| A | Hull .. | Yorkshire | 1 7½ | 1 2½ |

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

| | | | I | II |
|---|---|---|---|---|
| | | | s. d. | s. d. |
| A | ILKLEY .. | Yorkshire | 1 7½ | 1 2½ |
| A | Immingham | Mid. Counties | 1 7½ | 1 2½ |
| B | Ipswich .. | E. Counties | 1 5½ | 1 1½ |
| C₁ | Isle of Wight | S. Counties | 1 3 | 11½ |
| A | JARROW .. | N.E. Coast | 1 7½ | 1 2½ |
| A | KEIGHLEY | Yorkshire | 1 7½ | 1 2½ |
| B₁ | Kendal .. | N.W. Counties | 1 5 | 1 0½ |
| B₁ | Keswick .. | N.W. Counties | 1 5 | 1 0½ |
| B | Kettering .. | Mid. Counties | 1 5½ | 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 2½ |
| A₂ | Leamington | Mid. Counties | 1 6½ | 1 2 |
| A | Leeds .. | Yorkshire | 1 7½ | 1 2½ |
| A | Leek .. | Mid. Counties | 1 7½ | 1 2½ |
| A | Leicester .. | Mid. Counties | 1 7½ | 1 2½ |
| A | Leigh .. | N.W. Counties | 1 7½ | 1 2½ |
| B₂ | Lewes .. | S. Counties | 1 4 | 1 0 |
| A₂ | Lichfield .. | Mid. Counties | 1 6 | 1 1½ |
| A | Lincoln .. | Mid. Counties | 1 7½ | 1 2½ |
| A | Liverpool .. | N.W. Counties | *1 10 | 1 4½ |
| A₂ | Llandudno | N.W. Counties | 1 6 | 1 1½ |
| A | Llanelly .. | S. Wales & M. | 1 7½ | 1 2½ |
| | 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 2½ |
| A | Loughborough | Mid. Counties | 1 7½ | 1 2½ |
| B | Luton .. | E. Counties | 1 5½ | 1 1½ |
| A | Lytham .. | N.W. Counties | 1 7½ | 1 2½ |
| A₁ | MACCLESFIELD | N.W. Counties | 1 7 | 1 2½ |
| B | Maidstone | S. Counties | 1 5½ | 1 1½ |
| A₂ | Malvern .. | Mid. Counties | 1 6 | 1 1½ |
| A | Manchester | N.W. Counties | 1 7½ | 1 2½ |
| A | Mansfield .. | Mid. Counties | 1 7½ | 1 2½ |
| B₂ | Margate .. | S. Counties | 1 4 | 1 0 |
| A₂ | Matlock .. | Mid. Counties | 1 6 | 1 1½ |
| A | Merthyr .. | S. Wales & M. | 1 7½ | 1 2½ |
| A | Middlesbrough | N.E. Coast | 1 7½ | 1 2½ |
| A₂ | Middlewich | N.W. Counties | 1 6 | 1 1½ |
| B₂ | Minehead .. | S.W. Counties | 1 4½ | 1 0½ |
| A | Monmouth | S. Wales & M. | 1 7½ | 1 2½ |
| A₁ | S. and E. Glamorganshire Morecambe | N.W. Counties | 1 7 | 1 2½ |
| A₂ | NANTWICH | N.W. Counties | 1 6 | 1 1½ |
| A | Neath .. | S. Wales & M. | 1 7½ | 1 2½ |
| A | Nelson .. | N.W. Counties | 1 7½ | 1 2½ |
| A | Newcastle .. | N.E. Coast | 1 7½ | 1 2½ |
| A | Newport .. | S. Wales & M. | 1 7½ | 1 2½ |
| A | Normanton | Yorkshire | 1 7½ | 1 2½ |
| A₂ | Northampton | Mid. Counties | 1 6½ | 1 2 |
| A | North Staffs. | Mid. Counties | 1 7½ | 1 2½ |
| A | North Shields | N.E. Coast | 1 7½ | 1 2½ |
| A₂ | Norwich .. | E. Counties | 1 6 | 1 1½ |
| A | Nottingham | Mid. Counties | 1 7½ | 1 2½ |
| A | Nuneaton .. | Mid. Counties | 1 7½ | 1 2½ |
| B | OAKHAM .. | Mid. Counties | 1 5½ | 1 1½ |
| A | Oldham .. | N.W. Counties | 1 7½ | 1 2½ |
| A₂ | Oswestry .. | Mid. Counties | 1 6 | 1 1½ |
| B | Oxford .. | S. Counties | 1 5½ | 1 1½ |
| A | PAISLEY .. | Scotland | *1 7½ | 1 2½ |
| C | Pembroke | S. Wales & M. | 1 3½ | 11½ |
| A | Perth .. | Scotland | *1 7½ | 1 2½ |
| A₂ | Peterborough | Mid. Counties | 1 6 | 1 1½ |
| A | Plymouth | S.W. Counties | *1 7½ | 1 2½ |
| A | Pontefract | Yorkshire | 1 7½ | 1 2½ |
| A | Pontypridd | S. Wales & M. | 1 7½ | 1 2½ |
| B | Portsmouth | S. Counties | 1 5½ | 1 1½ |
| A | Preston .. | N.W. Counties | 1 7½ | 1 2½ |
| A | QUEENSFERRY | N.W. Counties | 1 7½ | 1 2 |
| B | READING .. | S. Counties | 1 5½ | 1 1½ |
| B | Reigate .. | S. Counties | 1 5½ | 1 1½ |
| A₂ | Retford .. | Mid. Counties | 1 6 | 1 1½ |
| A | Rhondda Valley | S. Wales & M. | 1 7½ | 1 2½ |
| A₂ | Ripon .. | Yorkshire | 1 6 | 1 1½ |
| A | Rochdale .. | N.W. Counties | 1 7½ | 1 2½ |
| B | Rochester .. | S. Counties | 1 5½ | 1 1½ |
| A₁ | Ruabon .. | N.W. Counties | 1 7 | 1 2½ |
| A₂ | Rugby .. | Mid. Counties | 1 6½ | 1 2 |
| A₂ | Rugeley .. | Mid. Counties | 1 6 | 1 1½ |
| A | Runcorn .. | N.W. Counties | 1 7½ | 1 2½ |
| A₂ | ST. ALBANS | E. Counties | 1 6 | 1 1½ |
| A | St. Helens | N.W. Counties | 1 7½ | 1 2½ |
| B₂ | Salisbury | S.W. Counties | 1 4 | 1 0 |
| A₁ | Scarborough | Yorkshire | 1 7 | 1 2½ |
| A | Scunthorpe | Mid. Counties | 1 7½ | 1 2½ |
| A | Sheffield .. | Yorkshire | 1 7½ | 1 2½ |
| A | Shipley .. | Yorkshire | 1 7½ | 1 2½ |
| A₂ | Shrewsbury | Mid. Counties | 1 6 | 1 1½ |
| A₂ | Skipton .. | Yorkshire | 1 6½ | 1 2 |
| B | Slough .. | S. Counties | 1 5½ | 1 1½ |
| A₂ | Solihull .. | Mid. Counties | 1 6½ | 1 2 |
| A₂ | South'pton | S. Counties | 1 6 | 1 1½ |
| B₁ | Southend-on-Sea | E. Counties | 1 5 | 1 0½ |
| A | Southport .. | N.W. Counties | 1 7½ | 1 2½ |
| A | S. Shields .. | N.E. Coast | 1 7½ | 1 2½ |
| A | Stafford .. | Mid. Counties | 1 6½ | 1 2 |
| A | Stockport .. | N.W. Counties | 1 7½ | 1 2½ |
| A | Stockton-on-Tees | N.E. Coast | 1 7½ | 1 2½ |
| A | Stoke-on-Trent | Mid. Counties | 1 7½ | 1 2½ |
| B | Stroud .. | S.W. Counties | 1 5½ | 1 1½ |
| A | Sunderland | N.E. Coast | 1 7½ | 1 2½ |
| A | Swadlincote | Mid. Counties | 1 7½ | 1 2½ |
| A | Swansea .. | S. Wales & M. | 1 7½ | 1 2½ |
| B | Swindon .. | S.W. Counties | 1 5½ | 1 1½ |
| A₁ | TAMWORTH | N.W. Counties | 1 7 | 1 2½ |
| B₁ | Taunton .. | S.W. Counties | 1 5 | 1 0½ |
| A | Teeside Dist. | N.E. Counties | 1 7½ | 1 2½ |
| B | Teignmouth | S.W. Coast | 1 5½ | 1 1½ |
| A | Todmorden | Yorkshire | 1 7½ | 1 2½ |
| A₂ | Torquay .. | S.W. Counties | 1 6½ | 1 2 |
| C | Truro .. | S.W. Counties | 1 3½ | 11½ |
| B₁ | Tunbridge Wells | S. Counties | 1 5 | 1 0½ |
| A | Tunstall .. | Mid. Counties | 1 7½ | 1 2½ |
| A | Tyne District | N.E. Counties | 1 7½ | 1 2½ |
| A | WAKEFIELD | Yorkshire | 1 7½ | 1 2½ |
| A₁ | Walsall .. | Mid. Counties | 1 7 | 1 2½ |
| A | Warrington | N.W. Counties | 1 7½ | 1 2½ |
| A₂ | Warwick .. | Mid. Counties | 1 6½ | 1 2 |
| B | Wellingborough | Mid. Counties | 1 5½ | 1 1½ |
| A | West Bromwich | Mid. Counties | 1 7½ | 1 2½ |
| 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 2½ |
| A | Wigan .. | N.W. Counties | 1 7½ | 1 2½ |
| B₂ | Winchester | S. Counties | 1 4½ | 1 0½ |
| B | Windsor .. | S. Counties | 1 5½ | 1 1½ |
| A | Wolverhampton | Mid. Counties | 1 7½ | 1 2½ |
| A₂ | Worcester .. | Mid. Counties | 1 6 | 1 1½ |
| A₂ | Worksop .. | Yorkshire | 1 6 | 1 1½ |
| A₁ | Wrexham .. | N.W. Counties | 1 7 | 1 2½ |
| B | Wycombe .. | S. Counties | 1 5½ | 1 1½ |
| B₁ | YARMOUTH | E. Counties | 1 5 | 1 0½ |
| B₂ | Yeovil .. | S.W. Counties | 1 4½ | 1 0½ |
| A | York .. | Yorkshire | 1 7½ | 1 2 |

* In these areas the rates of wages for certain trades (usually Painters and Plasterers) vary slightly from those given.

The rates for each trade in any given area will be sent on request.

# PRICES CURRENT

## EXCAVATOR AND CONCRETOR

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

*

| | | | |
|---|---|---|---|
| *Broken brick or stone, 2 in., per yd.* | £0 | 11 | 6 |
| *Thames ballast, per yd.* | 0 | 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. 4½d. *per hour*; TIMBERMAN, 1s. 6d. *per hour*; BRICKLAYER, 1s. 9½d. *per hour*; PLUMBER, 1s. 9½d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

*

| | | | |
|---|---|---|---|
| *Stoneware pipes, tested quality, 4 in., per ft.* | £0 | 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. 9½d. *per hour*; LABOURER, 1s. 4½d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour.*

*

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

| | | | |
|---|---|---|---|
| BRICKWORK in stone lime mortar, Flettons or equal, per rod | £33 | 0 | 0 |
| DO. in cement do., per rod | 36 | 0 | 0 |
| DO. in stocks, add 25 per cent. per rod. | | | |
| DO. in blues, add 100 per cent. per rod. | | | |
| DO. circular on plan, add 12½ per cent. per rod. | | | |
| DO. in backing to masonry, add 12½ per cent. per rod. | | | |
| DO. in raising on old walls, etc., add 12½ per cent. per rod. | | | |
| DO. in underpinning, add 20 per cent. per rod. | | | |
| HALF-BRICK walls in stocks in cement mortar (1–3), per ft. sup. | £0 | 1 | 0 |
| BEDDING plates in cement mortar, per ft. run | 0 | 0 | 3 |
| BEDDING window or door frames, per ft. run | 0 | 0 | 3 |
| LEAVING chases 2½ in. deep for edges of concrete floors not exceeding 6 in. thick, per ft. run | 0 | 0 | 2 |
| CUTTING do. in old walls in cement, per ft. run | 0 | 0 | 4 |
| CUTTING, toothing and bonding new work to old (labour and materials), per ft. sup. | 0 | 0 | 7 |
| TERRA-COTTA flue pipes 9 in. diameter, jointed in fireclay, including all cuttings, per ft. run | 0 | 3 | 6 |
| DO. 14 ft. by 9 in. do., per ft. run | 0 | 6 | 0 |
| FLAUNCHING chimney pots, each | 0 | 2 | 0 |
| CUTTING and pinning ends of timbers, etc., in cement | 0 | 1 | 0 |
| FACINGS fair, per ft. sup. extra | 0 | 0 | 3 |
| DO. picked stocks, per ft. sup. extra | 0 | 0 | 7 |
| DO. red rubbers gauged and set in putty, per ft. sup. extra | 0 | 4 | 9 |
| DO. in salt white or ivory glazed, per ft. sup. extra | 0 | 5 | 6 |
| TUCK pointing, per ft. sup. extra | 0 | 0 | 10 |
| WEATHER pointing, do. do. | 0 | 0 | 3 |
| TILE creasing with cement fillet each side per ft. run | 0 | 0 | 6 |
| GRANOLITHIC PAVING, 1 in., per yd. sup. | 0 | 5 | 0 |
| DO. 1½ in., per yd. sup. | 0 | 6 | 0 |
| DO. 2 in., per yd. sup. | 0 | 7 | 0 |
| If coloured with red oxide, per yd. sup. | 0 | 1 | 0 |
| If finished with carborundum, per yd. sup. | 0 | 0 | 6 |
| If in small quantities in finishing to steps, etc., per ft. sup. | 0 | 1 | 4 |
| Jointing new grano, paving to old, per ft. run | 0 | 0 | 4 |
| Extra for dishing grano, or cement paving around gullies, each | 0 | 1 | 6 |
| BITUMINOUS DAMP COURSE, ex rolls, per ft. sup. | 0 | 0 | 7 |
| ASPHALT (MASTIC) DAMP COURSE, ½ in., per yd. sup. | 0 | 8 | 0 |
| DO. vertical, per yd. sup. | 0 | 11 | 0 |
| SLATE DAMP COURSE, per ft. sup. | 0 | 0 | 10 |
| ASPHALT ROOFING (MASTIC) in two thicknesses, ¾ in., per yd. | 0 | 8 | 6 |
| DO. SKIRTING, 6 in. | 0 | 0 | 11 |
| BREEZE PARTITION BLOCKS, set in cement, 1½ in. per yd. sup. | 0 | 5 | 3 |
| DO. DO. 3 in. | 0 | 6 | 6 |
| BREEZE fixing bricks, extra for each | 0 | 0 | 3 |

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

## MASON

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

*

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

*

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

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

## SLATER AND TILER

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

*

| | | | |
|---|---|---|---|
| *Slates, 1st quality, per 1,200:* | | | |
| *Portmadoc Ladies* | £14 | 0 | 0 |
| *Countess* | 27 | 0 | 0 |
| *Duchess* | 32 | 0 | 0 |
| *Old Delabole* *Med. Grey* *Med. Green* | | | |
| 24 in. × 12 in. £42 11 3 | £45 | 1 | 0 |
| 20 in. × 10 in. 31 4 3 | 33 | 0 | 6 |
| 16 in. × 10 in. 20 18 0 | 22 | 4 | 9 |
| 14 in. × 8 in. 12 1 0 | 12 | 16 | 3 |
| *Green Randoms per ton* | 8 | 3 | 9 |
| *Grey-green do., per ton* | 7 | 3 | 9 |
| *Green peggies, 12 in. to 8 in. long, per ton* | 6 | 3 | 9 |
| *In 4-ton truck loads, delivered Nine Elms station.* | | | |
| *Clips, lead, per lb.* | £0 | 0 | 6 |
| *Clips, copper, per lb.* | 0 | 2 | 0 |
| *Nails, compo, per cwt.* | 1 | 6 | 0 |
| *Nails, copper, per lb.* | 0 | 1 | 10 |
| *Cement and sand, see "Excavator," etc., above.* | | | |
| *Hand-made tiles, per M.* | £5 | 18 | 0 |
| *Machine-made tiles, per M.* | 5 | 8 | 0 |
| *Westmorland slates, large, per ton* | 9 | 0 | 0 |
| DO. *Peggies, per ton* | 7 | 5 | 0 |

*

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

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

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

| | | | |
|---|---|---|---|
| TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square | 5 | 6 | 0 |
| DO., machine-made do., per square | 4 | 17 | 0 |
| Vertical Tiling, including pointing, add 18s. 0d. per square. | | | |
| FIXING lead soakers, per dozen | £0 | 0 | 10 |
| STRIPPING old slates and stacking for re-use, and clearing away surplus and rubbish, per square | 0 | 10 | 0 |
| LABOUR only in laying slates, but including nails, per square | 1 | 0 | 0 |

*See* "Sundries for Asbestos Tiling."

## CARPENTER AND JOINER

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

*

| | | | |
|---|---|---|---|
| *Timber, average prices at Docks, London Standard* | | | |
| *Scandinavian, etc. (equal to 2nds):* | | | |
| 7×3, per std. | £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 1in.* | 0 | 1 | 3 |
| DO. *Cuba, per ft. sup. of 1 in.* | 0 | 2 | 3 |
| 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, ¾ in. thick and fillets nailed to sides of joists (joists measured over), per square | 2 | 0 | 0 |
| RUBEROID or similar quality roofing, one-ply, per yd. sup. | 0 | 2 | 3 |
| DO., two-ply, per yd. sup. | 0 | 2 | 6 |
| DO., three-ply, per yd. sup. | 0 | 3 | 0 |
| TONGUED and grooved flooring, 1¼ in. thick, laid complete with splayed headings, per square | 2 | 5 | 0 |
| DEAL skirting torus, moulded 1¼ in. thick, including grounds and backings, per ft. sup. | 0 | 1 | 0 |
| TONGUED and mitred angles to do. | 0 | 0 | 6 |
| WOOD block flooring standard blocks laid herringbone in mastic : | | | |
| Deal 1 in. thick, per yd. sup. | 0 | 10 | 0 |
| DO. 1¼ in. thick, per yd. sup. | 0 | 12 | 0 |
| Maple 1¼ in. thick, per yd. sup. | 0 | 15 | 0 |
| DEAL moulded sashes, 1¾ in. with moulded bars in small squares, per ft. sup. | 0 | 2 | 6 |
| DO. 2 in. do., per ft. sup. | 0 | 2 | 9 |
| DEAL cased frames, oak sills and 2 in. moulded sashes, brass-faced pulleys and iron weights, per ft. sup. | 0 | 4 | 6 |
| MOULDED horns, extra each | 0 | 0 | 3 |
| DOORS, 4-panel square both sides, 1¾ in. thick, per ft. sup. | 0 | 2 | 6 |
| DO. moulded both sides per ft. sup. | 0 | 2 | 9 |
| DO. 2 in. thick, square both sides, per ft. sup. | 0 | 2 | 9 |
| DO. moulded both sides, per ft. sup. | 0 | 3 | 0 |
| DO. in 3 panels, moulded both sides, upper panel with diminished stiles with moulded bars for glass, per ft. sup. | 0 | 3 | 6 |
| If in oak, mahogany or teak, multiply 3 times. | | | |
| DEAL frames, 4 in. × 3 in., rebated and beaded, per ft. cube | £0 | 15 | 0 |
| Add for extra labours, per ft. run | 0 | 0 | 1 |
| STAIRCASE work : | | | |
| DEAL treads 1¼ in. and risers 1 in., tongued and grooved including fir carriages, per ft. sup. | 0 | 2 | 6 |
| DEAL wall strings, 1¼ in. thick, moulded, per ft. run | 0 | 2 | 6 |
| If ramped, per ft. run | 0 | 5 | 0 |
| SHORT ramps, extra each | 0 | 7 | 6 |
| ENDS of treads and risers housed to strings, each | 0 | 1 | 0 |
| 2 in. deal mopstick handrail fixed to brackets, per ft. run | 0 | 1 | 6 |
| 4½ in. × 3 in. oak fully moulded handrail, per ft. run | 0 | 5 | 6 |
| 1¼ in. square deal bar balusters, framed in, per ft. run | 0 | 0 | 6 |
| FITTINGS : | | | |
| SHELVES and bearers, 1 in., cross-tongued, per ft. sup. | 0 | 1 | 6 |
| 1¼ in. beaded cupboard fronts, moulded and square, per ft. sup. | 0 | 2 | 9 |
| TEAK grooved draining boards, 1¼ in. thick and bedding, per ft. sup. | 0 | 4 | 6 |
| IRONMONGERY : | | | |
| Fixing only (including providing screws) : | | | |
| TO DEAL— | | | |
| Hinges to sashes, per pair | 0 | 1 | 2 |
| Do. to doors, per pair | 0 | 1 | 7 |
| Barrel bolts, 9 in., iron, each | 0 | 1 | 0 |
| Sash fasteners, each | 0 | 1 | 0 |
| Rim locks, each | 0 | 1 | 9 |
| Mortice locks, each | 0 | 4 | 0 |

## SMITH

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

*

| | | | |
|---|---|---|---|
| *Mild Steel in British standard sections, per ton* | £12 | 10 | 0 |
| *Sheet Steel :* | | | |
| *Flat sheets, black, per ton* | 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 | 9 |
| *Solder, plumber's, per lb.* | 0 | 1 | 3 |
| DO. *fine, per lb.* | 0 | 1 | 9 |
| *Cast-iron pipes, etc. :* | | | |
| *L.C.C. soil, 3 in., per yd.* | 0 | 4 | 0 |
| DO. *4 in. per yd.* | 0 | 4 | 9½ |
| *R.W.P., 2½ in., per yd.* | 0 | 2 | 2 |
| DO. *3 in., per yd.* | 0 | 2 | 7 |
| DO. *4 in., per yd.* | 0 | 3 | 6½ |
| *Gutter, 4 in. H.R., per yd.* | 0 | 1 | 6½ |
| DO. *4 in. O.G., per yd.* | 0 | 1 | 10½ |

*

| | | | |
|---|---|---|---|
| MILLED LEAD and labour in gutters, flashings, etc. per cwt. | 3 | 2 | 6 |
| LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft. | 0 | 2 | 0 |
| DO. ¾ in., per ft. | 0 | 2 | 3 |
| DO. 1 in., per ft. | 0 | 3 | 0 |
| DO. 1½ in., per ft. | 0 | 4 | 0 |
| LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft. | 0 | 6 | 0 |
| DO. 3 in., per ft. | 0 | 7 | 0 |
| DO. 4 in., per ft. | 0 | 9 | 9 |
| WIPED soldered joint, ½ in., each | 0 | 2 | 6 |
| DO. ¾ in., each | 0 | 3 | 2 |
| DO. 1 in., each | 0 | 3 | 8 |
| BRASS screw-down stop cock and two soldered joints, ½ in., each | 0 | 11 | 0 |
| DO. ¾ in., each | 0 | 13 | 6 |
| CAST-IRON rainwater pipe, jointed in red lead, 2½ in., per ft. run. | 0 | 1 | 7 |
| DO. 3 in., per ft. run | 0 | 2 | 0 |
| DO. 4 in., per ft. run | 0 | 2 | 10 |
| CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft. | 0 | 2 | 0 |
| DO. O.G., 4 in., per ft. | 0 | 2 | 3 |
| CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft. | 0 | 4 | 6 |
| DO. 3 in., per ft. | 0 | 3 | 6 |
| Fixing only : | | | |
| W.C. PANS and all joints, P. or S., and including joints to water waste preventers, each | 2 | 5 | 0 |
| BATHS, with all joints | 1 | 3 | 6 |
| LAVATORY BASINS only, with all joints, on brackets, each | 1 | 10 | 0 |

## PLASTERER

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

*

| | | | |
|---|---|---|---|
| *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 |

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| | | | |
|---|---|---|---|
| LATHING with sawn laths, per yd. | 0 | 1 | 7 |
| METAL LATHING, per yd. | 0 | 2 | 3 |
| FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock, ½ in., per yd. | 0 | 2 | 4 |
| DO. vertical, per yd. | 0 | 2 | 7 |
| RENDER, on brickwork, 1 to 3, per yd. | 0 | 2 | 7 |
| RENDER in Portland and set in fine stuff, per yd. | 0 | 3 | 3 |
| RENDER, float, and set, trowelled, per yd. | 0 | 2 | 9 |
| RENDER and set in Sirapite, per yd. | 0 | 2 | 5 |
| DO. in Thistle plaster, per yd. | 0 | 2 | 5 |
| EXTRA, if on but not including lathing, any of foregoing, per yd. | 0 | 0 | 5 |
| EXTRA, if on ceilings, per yd. | 0 | 0 | 5 |
| ANGLES, rounded Keene's on Portland, per ft. lin. | 0 | 0 | 6 |
| PLAIN CORNICES, in plaster, per inch girth, including dubbing out, etc., per ft. lin. | 0 | 0 | 3 |
| WHITE glazed tiling set in Portland and jointed in Parian, per yd., from | 1 | 11 | 6 |
| FIBROUS PLASTER SLABS, per yd. | 0 | 1 | 10 |

## GLAZIER

GLAZIER, 1*s.* 8½*d. per hour.*

*

| | | | |
|---|---|---|---|
| *Glass : 4ths in crates :* | | | |
| *Clear, 21 oz.* | £0 | 0 | 4½ |
| DO. 26 oz. | 0 | 0 | 5 |
| *Cathedral white, per ft.* | 0 | 0 | 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 |

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

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

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

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

## PAINTER AND PAPERHANGER

PAINTER, 1*s.* 8½*d. per hour ;* LABOURER, 1*s.* 4½*d. per hour ;* FRENCH POLISHER, 1*s.* 9*d. per hour ;* PAPERHANGER, 1*s.* 8½*d. per hour.*

*

| | | | |
|---|---|---|---|
| *Genuine white lead, per cwt.* | £2 | 7 | 6 |
| *Linseed oil, raw, per gall.* | 0 | 3 | 6 |
| DO., *boiled, per gall.* | 0 | 3 | 8 |
| *Turpentine, per gall.* | 0 | 4 | 0 |
| *Liquid driers, per gall.* | 0 | 8 | 6 |
| *Knotting, per gall.* | 0 | 18 | 0 |
| *Distemper, washable, in ordinary colours, per cwt., and up* | 2 | 5 | 0 |
| *Double size, per firkin* | 0 | 3 | 6 |
| *Pumice stone, per lb.* | 0 | 0 | 4½ |
| *Single gold leaf (transferable), per book* | 0 | 2 | 0 |
| *Varnish, copal, per gall. and up* | 0 | 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 |

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

## SUNDRIES

| | | | |
|---|---|---|---|
| *Fibre or wood pulp boardings, according to quality and quantity.* | | | |
| *The measured work price is on the same basis . . . per ft. sup.* | £0 | 0 | 2½ |
| FIBRE BOARDINGS, including cutting and waste, fixed on, but not including studs or grounds per ft. sup. . . . from 3d. to | 0 | 0 | 6 |
| *Plaster board, per yd. sup.* . from | 0 | 1 | 7 |
| PLASTER BOARD, fixed as last, per yd. sup. . . . . from | 0 | 2 | 8 |
| *Asbestos sheeting, 5/32 in., grey flat, per yd. sup.* | 0 | 2 | 3 |
| DO., *corrugated, per yd. sup.* | 0 | 3 | 3 |
| ASBESTOS SHEETING, fixed as last, flat, per yd. sup. | 0 | 4 | 0 |
| DO., corrugated, per yd. sup. | 0 | 5 | 0 |
| ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey | 2 | 15 | 0 |
| DO., red | 3 | 0 | 0 |
| *Asbestos cement slates or tiles, 5/32 in. punched per M. grey* | 16 | 0 | 0 |
| DO., *red* | 18 | 0 | 0 |
| ASBESTOS COMPOSITION FLOORING : Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup. | 0 | 7 | 0 |
| DO., ½ in. thick, suitable for domestic work, unpolished, per yd. | 0 | 6 | 6 |
| *Metal casements for wood frames, domestic sizes. per ft. sup.* | 0 | 1 | 6 |
| DO., *in metal frames, per ft. sup.* | 0 | 1 | 9 |
| HANGING only metal casement in, but not including wood frames, each | 0 | 2 | 10 |
| BUILDING in metal casement frames, per ft. sup. | 0 | 0 | 7 |

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

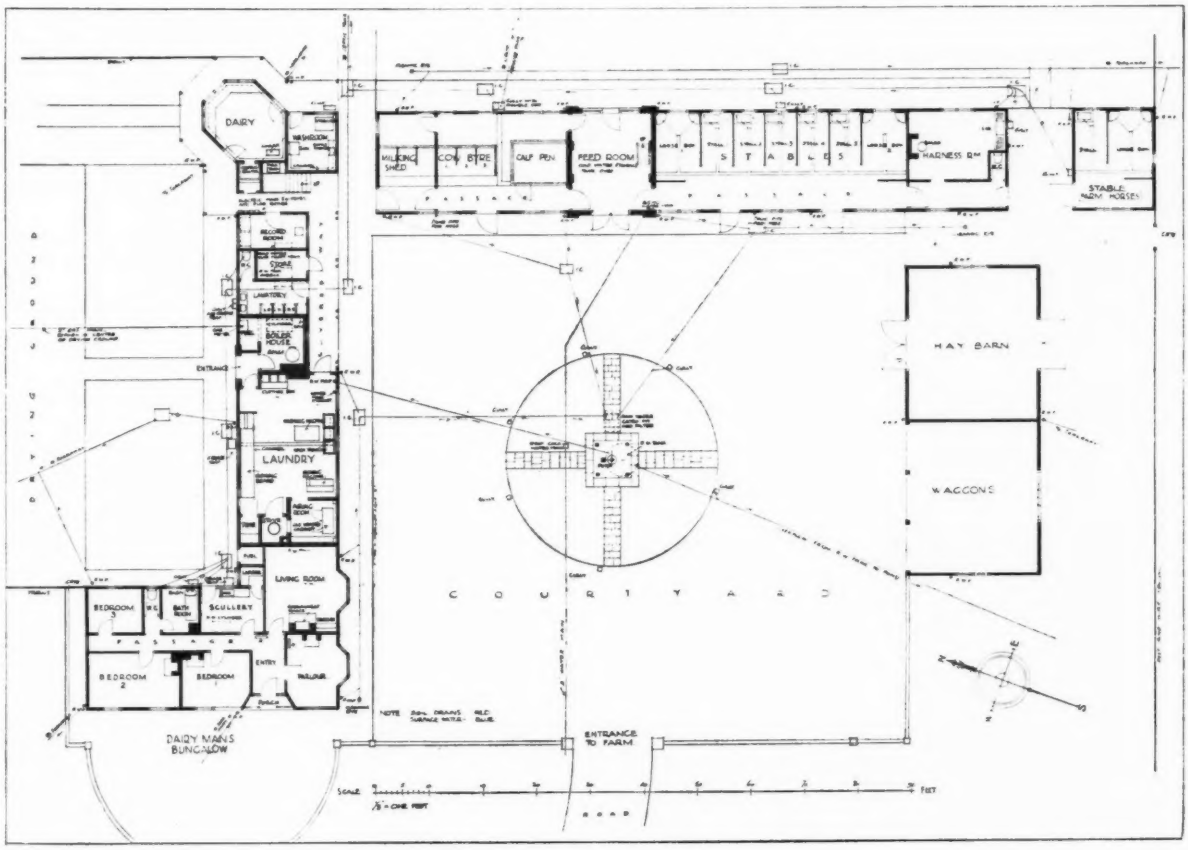
PLYWOOD, per ft. sup.

| Thickness | 3/16 in. | | | ¼ in. | | | 3/8 in. | | | ½ in. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Qualities .. | AA. d. | A. d. | B. d. | AA. d. | A. d. | B. d. | AA. d. | A. d. | B. d. | AA. d. | A. d. | B. d. |
| Birch .. .. | 4 | 3 | 2 | 5 | 4 | 3 | 7½ | 6 | 4½ | 8½ | 7 | 6 |
| Alder .. .. | 3½ | 3 | 2 | 5 | 4 | 3 | 8½ | 6½ | 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 | 4 | — | 7½ | 7 | — | 9½ | — | — | 1 0 | — | — |
| Oregon Pine | 5 | 4 | — | 5½ | 5 | — | 6 | — | — | — | — | — |

*View from the south-west showing central courtyard.*

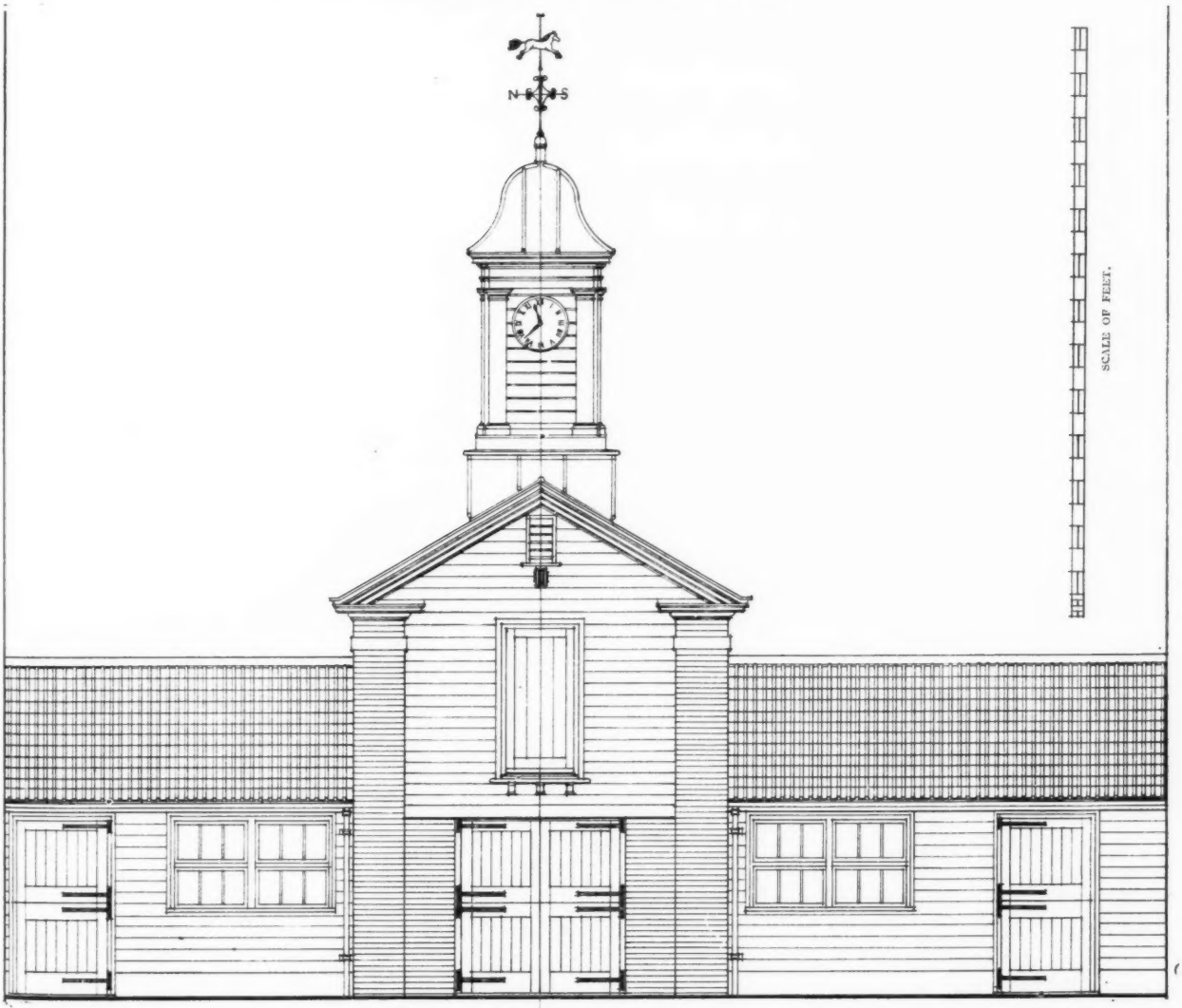
# *Leladene, Dorking*

[ HEATON COMYN, ARCHITECT ]

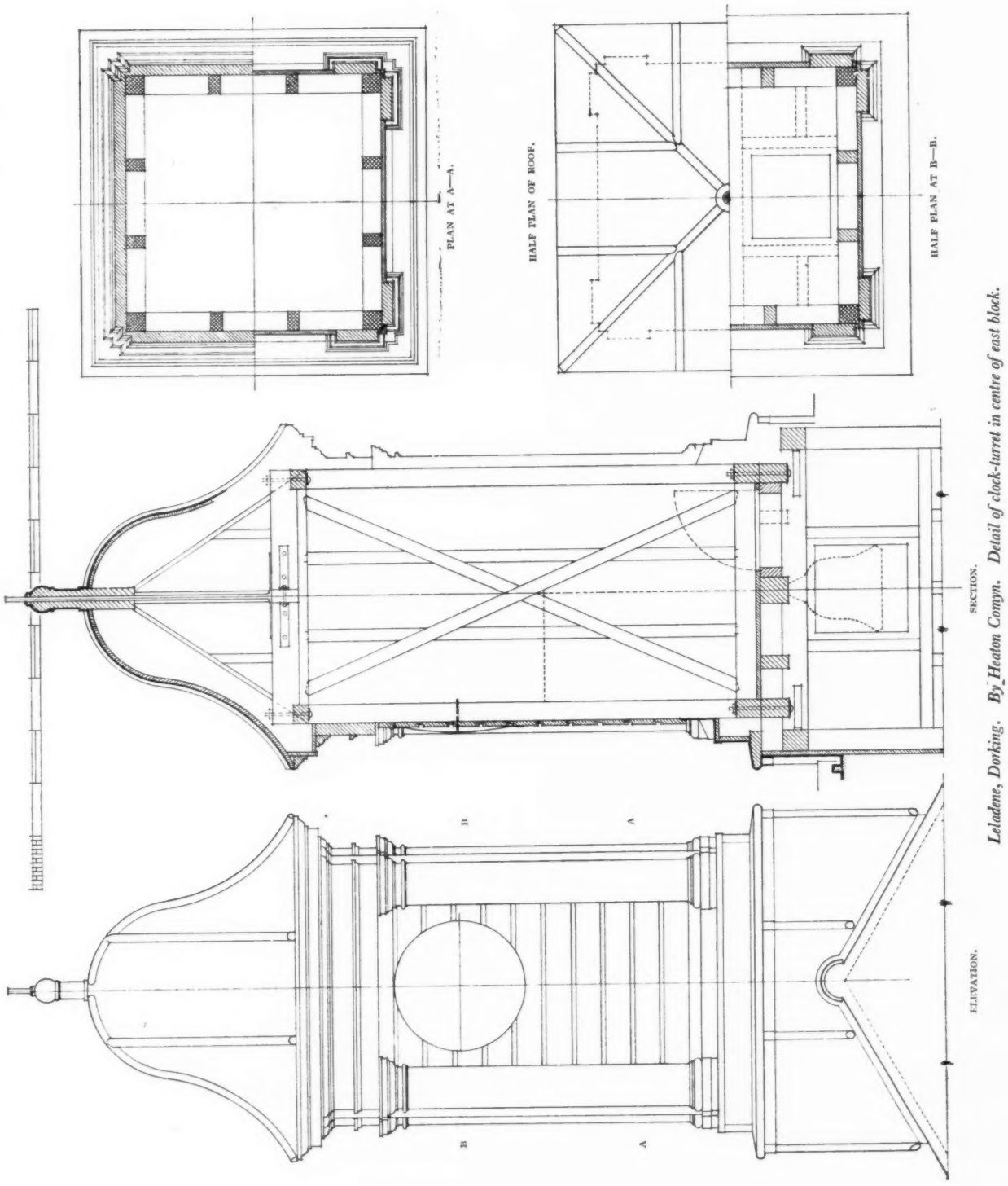



*Plan of farm buildings.*

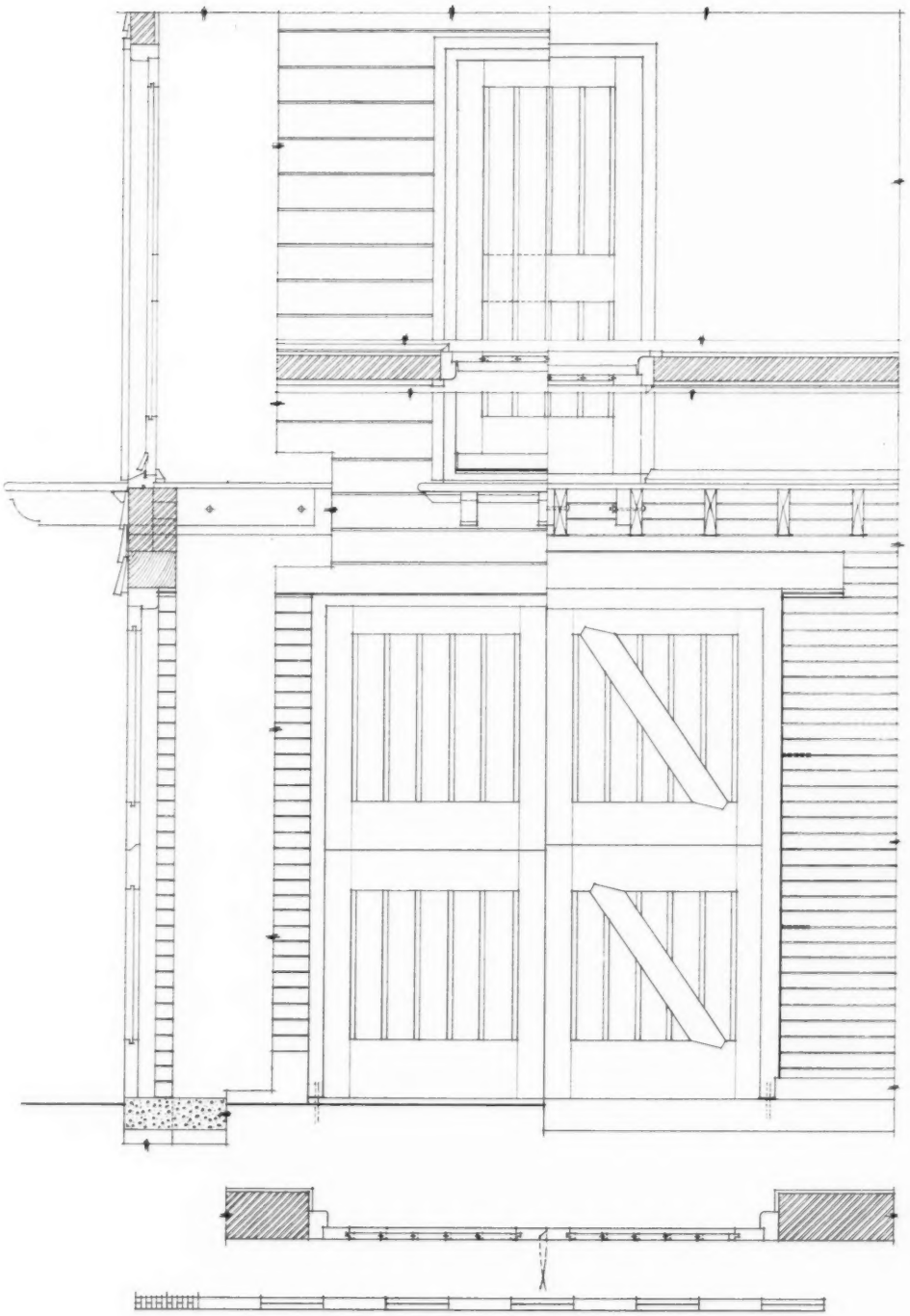
*Pump-head in courtyard and central feature in east block.*



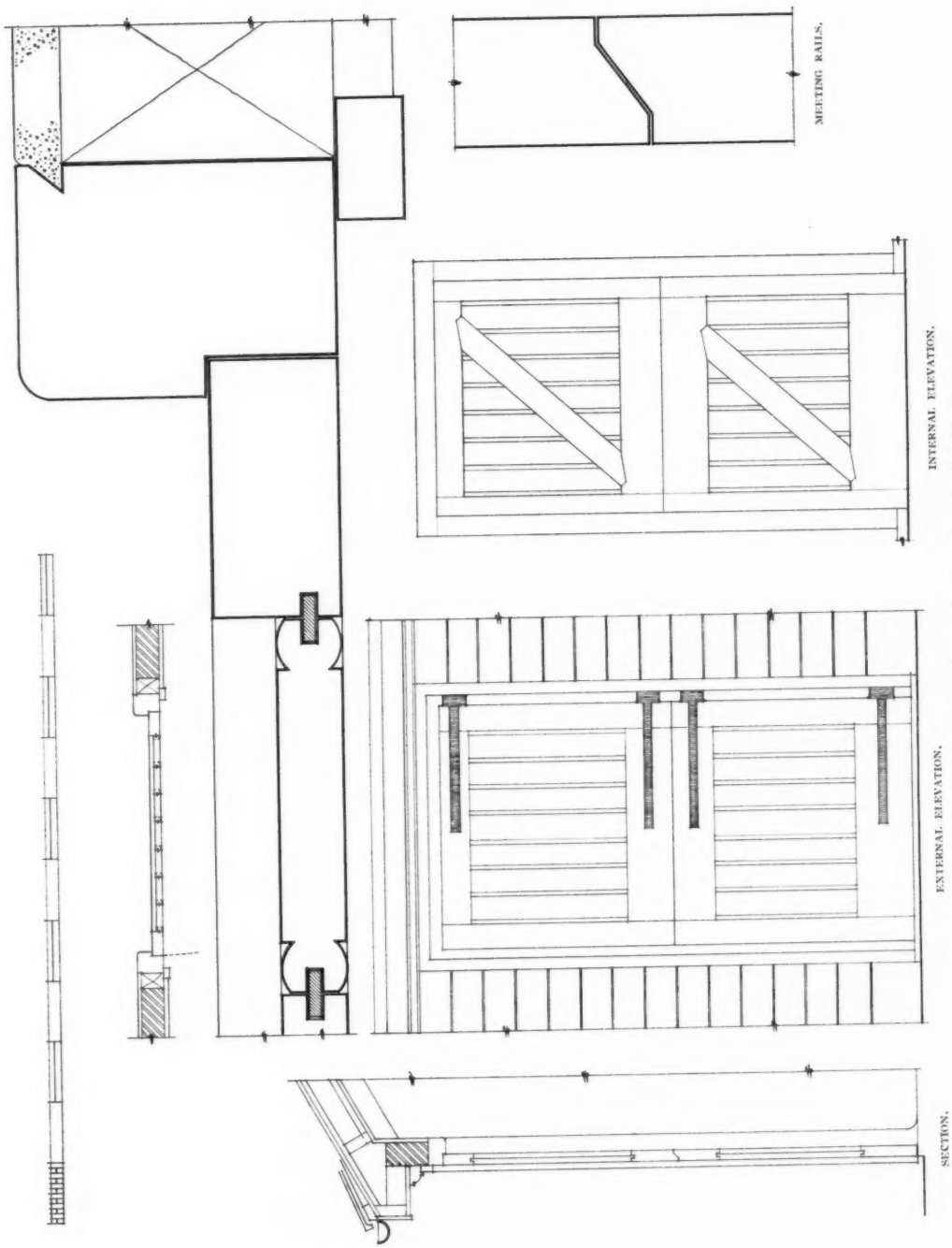

*Leladene, Dorking. By Heaton Comyn. Detail of central feature of east block, containing feed-room and loft over. Stables on the right, and cow byre on the left.*




*Leladene, Dorking. By Heaton Comyn. Detail of clock-turret in centre of east block.*



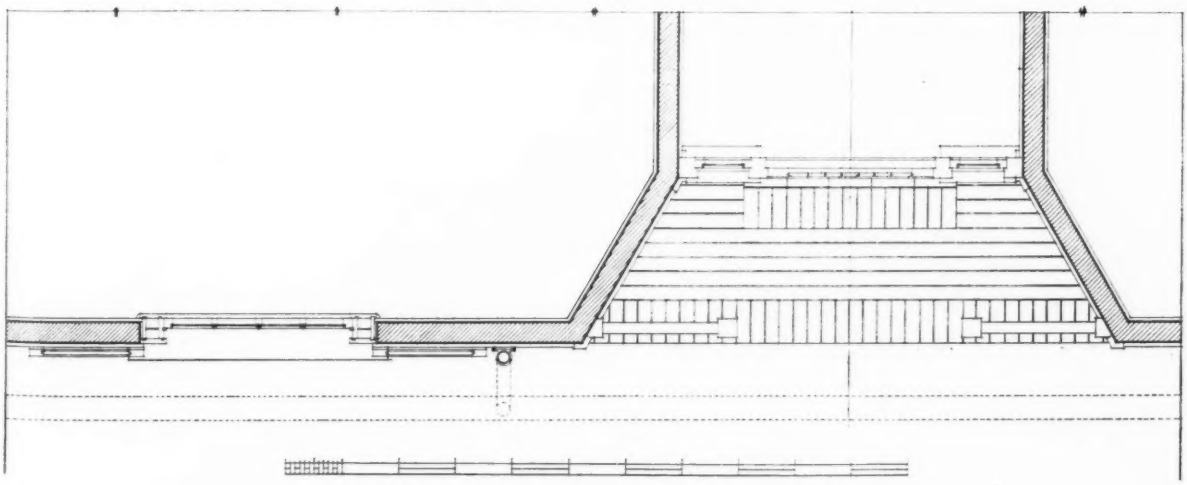
*Leladene, Dorking. By Heaton Comyn. Detail of doors to feed-room and door to loft over.*




*Leladene, Dorking. By Healon Comyn. Details of stable door.*

*View of dairyman's bungalow, laundry, and cow byre on the right.*

ELEVATION.



***Leladene, Dorking. By Heaton Comyn. Details of entrance to dairyman's bungalow facing south-west.***