Wednesday, April 9, 1924. Vol. LIX. No. 1527.

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

FROM AN ARCHITECT'S NOTEBOOK.

OF GARDENS.

God Almightie first Planted a Garden. And indeed, it is the Purest of Humane pleasures. It is the Greatest Refreshment to the Spirits of Man; Without which, Buildings and Pallaces are but Grosse Handy-works: And a Man shall ever see, that when Ages grow to Civility and Elegancie, Men come to Build Stately, sooner then to Garden Finely: As if Gardening were the Greater Perfection.

FRANCIS BACON.

27-29 Tothill Street, Westminster, S.W.1.

Warehouses in Amsterdam

The warehouses which line the banks of the canals in Amsterdam yield not in point of the picturesque even to those be-praised ones on our own River Thames. The gables and queer roofs make the same varied outline, and beauty is arrived at through the complete absence of any striving after architectural effect.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, April 9, 1924. Volume LIX. No. 1527

Modern English Architecture*

ALMOST every day brings fresh signs of a growing interest in architecture amongst all classes. The daily Press devotes more space to the discussion of architectural matters and to the criticism of important buildings; the Architecture Club has brought together architects and writers—let us hope to the mutual benefit and satisfaction of both—and now we have Mr. Charles Marriott's reflections upon modern English architecture, in a book packed with the results of deep-thinking, skilful analysis and scholarly understanding.

At no period can architecture be considered as an isolated phenomenon, nor can it be usefully discussed in terms of pure form. It serves one of the most primitive needs of the community, and so is inextricably bound up with the complex organization which has grown up in connection with supplying these needs. The two controlling influences have always been the need, or purpose, of a building and the materials in which it is built. When the former becomes inexact and vague, or when the characteristics of the latter are ignored, it is invariably to the detriment of architecture, and much of the unsatisfactory chaos which exists to-day may be attributed to one or both of these causes. This argument can be, and is, most delightfully developed by Mr. Marriott. He shows how ecclesiastical architecture suffers through the vagueness of Anglican ritual with its "High," "Broad," and "Low" churches, and the consequent indeterminate shifting of the focus between altar and pulpit. As for commercial architecture, here the case is stated so lucidly and so happily, that we are tempted to quote the whole section. We must content ourselves with this fragment: "It is significant of the real reason for the general inferiority in this branch of architecture that the merit improves as the purpose of the building becomes more fundamental. Speaking generally, the shops which serve some single, confessed, and definite human need, butcher's, baker's, and greengrocer's, are better than the department stores and big drapery establishments which trade upon human credulity and exploit the desires rather than the needs of silly women."

The result of neglecting or of ignoring the characteristic of materials is also dealt with. Reinforced concrete affords a typical example. To-day, fortunately, we have proof of the extreme beauty which results when this material is honestly handled with simplicity, sense, and directness, as in the permanent buildings at Wembley, designed by Messrs. Simpson and Ayrton, buildings with which, unfortunately, the author does not deal, although had he done so we feel sure they would have received his fullest approval.

It is perhaps no exaggeration to say that the underlying significance of the battle of styles has never before been so clearly stated. The partisans are separated not by a difference of taste, or even by a difference of opinion, but by a fundamental difference of outlook. We must quote once more: "there are people who delight in order in the abstract, and there are people to whom order means little unless it corresponds closely to the nature of things. . . . There are people who like to arrange things irrespective of what they are, and there are people who prefer to find out how things go . . . the former will incline to the kind of art we call Classic, and the latter to the kind of art we call Gothic. What it amounts to is that the leaning to Classic or Gothic is much more than a preference in style. It is a preference in principles of organization."

There is, in our opinion, one reason for the present chaotic state which Mr. Marriott fails to realize, or realizing, fails sufficiently to emphasize, although it may be implicit in certain of his statements. It is the immense growth of self-consciousness, and this may be regarded as the penalty which we pay, or as the compensating disadvantage, for our conquest of time and space. On our bookshelves there lie records of every known achievement of man in any part of the world; no event of import can take place anywhere without our being acquainted with it almost at the moment of its occurrence, and we make less of visiting the Antipodes than our forefathers would have made of visiting a neighbouring county. One result of all this is that we can no longer create spontaneously, and we try to achieve, deliberately, effects that were once accidental. The Battle of the Styles itself was a manifestation of this tendency. Towards the end of the eighteenth century already new worlds began to open up. As Palladianism died the Greek Revival was born, but no sooner established than challenged by the Gothicists. These developments had a close parallel in the changing conditions in the lives of the people, brought about by the growth of capitalism and industrialism, and the study of architecture cannot intelligently be separated from a study of social and political conditions.

The last century was typified by the immense speed at which changes took place; indeed, this it is rather than the changes themselves which gives the century its marvellous distinction. And mankind has not yet recovered from the great shock which it underwent. It still has not adjusted itself to the new conditions, which its discoveries and researches brought about. The world can show few discoveries which are not at first exploited for the benefit of the few at the expense of the many, and architecture, architects notwithstanding, cannot but reflect this fact. When the modern world has accustomed itself to its resources it may well be that architecture may become spontaneous once more. It is this lack of spontaneity which is surely the most serious charge to be levelled against architecture to-day; all other shortcomings can be more directly attributed to contemporary conditions, which include so many false values and foster a growth of vulgarity.

* Modern English Architecture. By Charles Marriott. London: Chapman and Hall. Price 21s. net.

Mr. Marriott is a kindly critic, with a good word for everyone, and the architectural profession as a whole emerge unscathed, for that which is good is the result of their labour, while that which is bad is the outcome of the conditions under which they are forced to work, and, except as a unit of the public, conditions over which they have no control.

A great number of individual works are cited, the author hoping thereby to stimulate an active interest on the part of every reader in the architecture around him. The buildings are dealt with according to their class: ecclesiastical, civic, commercial, domestic, and the like, and not the least useful part of the book is a list of architects, with a short biographical notice, in many cases taken from "Who's Who in Architecture."

We trust this book may encourage lay criticism in architecture, and where it is based on such a foundation of knowledge, sympathy, observation, and clear-thinking it must sooner or later react to the good of architecture, for just as no condition has a more detrimental effect upon art than neglect, so none has a more stimulating effect than the keen intelligent interest of a well-informed public.

The Building Exhibition

This number of the JOURNAL is the first of the three special issues that we are publishing in connection with the Building Exhibition, which opens at Olympia on Friday next. In these issues we propose to deal thoroughly with the exhibition in all its manifold aspects. This week we give merely a forecast of the scope and character of the exhibition; our heavy artillery is reserved until next week and the week after, when, to preserve the metaphor, we shall have had time to accumulate a reserve of ammunition. We prefer not to disclose our plans in detail at the moment; all we would say is that this year we propose to introduce a number of innovations—both literary and pictorial—in the treatment of the exhibition. Briefly our aim will be to make these special issues not only of the utmost practical value to the architect, but also attractive in the presentation of their contents, which is a very different thing. More than this we shall not say; the issues must speak for themselves.

Waterloo Bridge and the L.C.C. Proposal

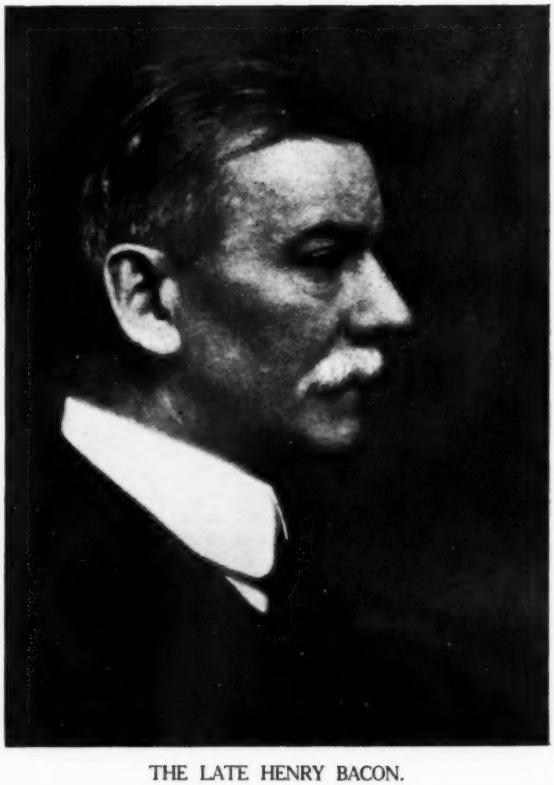
Mr. Andrew Taylor, in a letter to "The Times," makes out a good case for the rebuilding of Waterloo Bridge (the necessity for which is not denied); but his reasons for widening it are not convincing. The bridge as designed by Rennie is admittedly quite inadequate for the volume of traffic that now passes over it, but it is extremely doubtful whether widening will solve the traffic problem. *New* bridges are urgently wanted between Blackfriars and Westminster if present and future traffic requirements are to be properly met. The L.C.C. proposal is to erect a temporary bridge for the use of the public while Waterloo Bridge is being rebuilt. Would it not be better to devote the money that would be spent (and ultimately wasted) upon a temporary bridge, to the building of a new permanent bridge elsewhere—somewhere in the neighbourhood of the Temple Station, for instance, as suggested by Mr. Lanchester? A new bridge, if it were built of reinforced concrete, could be erected very quickly; possibly as quickly as a temporary trestle bridge, such as would probably be put up at Waterloo. With a new bridge erected, Waterloo Bridge could then be entirely closed and rebuilt at leisure. We do not object to widening on principle, especially if the character of the bridge is preserved, and Mr. Andrew Taylor assures us that there need be no misgivings on this point. Every stone, he says, would be numbered for replacement, and the old faces, piers, arches, and soffits preserved. What we would again urge is that widening is no cure for our troubles. The traffic requirements of London demand at least two entirely new bridges.

The Village Blacksmith

Though the village smithy still stands under the spreading chestnut tree, the bellows do not roar as they were wont to do. The dominance of the motor car leaves little work for the smith who hammers out horses' shoes. The village smithy, for the most part, is nearly idle, for the smith, it seems, has no other class of work to fall back on; no longer does he shape those details of domestic equipment—door knockers, casement fittings, lamp brackets, fire-dogs, pot cranes, and so forth—that engaged the attention of his predecessors when the business of shoeing horses fell slack. The trade of the blacksmith languishes, but there are those who will not stand idly by and see it die out. We note that, at the request of the Rural Industries Association, the R.I.B.A. has formed a small committee "whose business it will be to induce architects to give orders to local blacksmiths for ornamental ironwork." Though the demand in these degenerate days may be for cheap stampings turned out in the mass production principle, there is still room for the individualistic craftsmanship of the smith. Carefully fostered as a domestic craft the trade, in its local sense, may again flourish, as it did in the days before mechanism drove the horse from the road.

Henry Bacon

Henry Bacon, whose death is announced in the American magazines, was one of the greatest of modern American architects. He built many buildings, studying all manner of problems. He designed bank buildings and university dormitories, libraries and hospitals, churches and schoolhouses, a railway station and an astronomical observatory, a public bath and a bridge. In collaboration with the leading sculptors—with the late Augustus Saint-Gaudens and with Daniel C. French—he designed perhaps threescore monuments. His greatest work was the Lincoln Monument at Washington. He was a classicist, but in the words of Mr. Royal Cortissoz, he made the classic idiom absolutely his own and gave to his designs a superb individuality. American architecture is infinitely the poorer for his loss.



THE LATE HENRY BACON.

The Town Planning Exhibition at University College

By W. HARDING THOMPSON, A.R.I.B.A.

THE object of this exhibition, now on view in the Bartlett School of Architecture, is to illustrate the work of past and present students of the Department of Town Planning. For ten years, under the able guidance of Professor S. D. Adshead, M.A., F.R.I.B.A., the department has been at work steadily and unostentatiously training students (both architects and engineers) to qualify for any work they may have to carry out under the Housing and Town Planning Act, and many are now employed in this capacity in different parts of the country. When one remembers that for half the period during which the school has been in existence most men were mobilized in His Majesty's forces, it is remarkable that so much has been done since the Department of Town Planning was inaugurated in 1914.

The general impression of visitors to the exhibition is that this is no mere collection of pretty drawings showing "paper plans" on imaginary sites, for every problem worked out by the students is an actual area in or near London, and has been visited by them in order that they may become conversant with the various difficulties to be dealt with in practice; moreover, although mere draughtsmanship has not been considered an end in itself, the method of presentation in some cases has reached a high standard.

The exhibition is roughly divided into sections comprising civic surveys, town improvement schemes, town development schemes, reconstruction of slum areas, estate development schemes, and work executed by past students; in addition, there is an interesting section illustrating the work of present students in the school of architecture.

As co-operation is the basis of all successful town planning, the student here is made conversant with the larger activities of the London society, so that any small problem to be dealt with in the London area will not conflict with the main proposals put forward by the society as shown in their excellent map of Greater London, prepared during the war and here exhibited. Surface utilization maps recently prepared by the society for Stepney, Islington, and Hackney, are to be seen, showing what a great deal of work will be necessary in these districts in order to "zone" successfully, and disentangle the mixture of factories, residences, and commercial buildings. The system of notation on these maps is quite clear in spite of the fact that the choice of colours leaves much to be desired.

Amongst civic surveys prepared in the school those of Uxbridge (by Mr. R. B. Walker), and some of Chertsey are well worth study. It is important that a standardized system of notation should be agreed on for all civic survey work, so that the layman will in time be able to recognize quickly what each colour indicates.

In the section devoted to civic improvements there are several designs submitted for the "Lever Prize." Owing to the generosity of Lord Leverhulme prizes have been offered each year for a town improvement scheme, such as the improvement of the approaches to King's Cross and Victoria stations, and a more ambitious scheme (by Mr. B. F. Brueton, dated 1919) for a new traffic route from the northern to the southern terminal stations. The last named presents an extremely interesting problem, involving the reconstruction of the Seven Dials' area, new bridges near the Temple and at Charing Cross, and the improvement of communications through Bloomsbury; the scheme is pregnant with possibilities. As regards the sketch designs for improving the approaches to King's Cross, it is patent to everyone that a vast improvement could be achieved at this station with very little expenditure. At present a motley collection of low buildings is huddled together on the ground which might be converted into a fine station forecourt, with the result that the traveller departing from that station must inevitably be disposed to doubt the efficiency of any railway system when its main terminal station is so expressive of chaos.

Some interesting schemes are illustrated for the improvement of the approaches to Victoria Station, all prepared some three or more years ago; they represent attempts (with due regard to the rights of individual property owners) to abolish the wretched confusion and provincial mediocrity which meets the eyes of foreign visitors to our capital. In every discussion of this particular civic improvement that has taken place in the last few years, it has been agreed that the island block of buildings facing Victoria Station must be cleared before any reconstruction can be made. Consequently the sanction obtained recently for the erection of a high building which effectively hems in the station approach appears incredibly stupid on the part of those in authority. The possibility of making a fine open space as an approach to Victoria is now beyond the hopes of many generations to come.

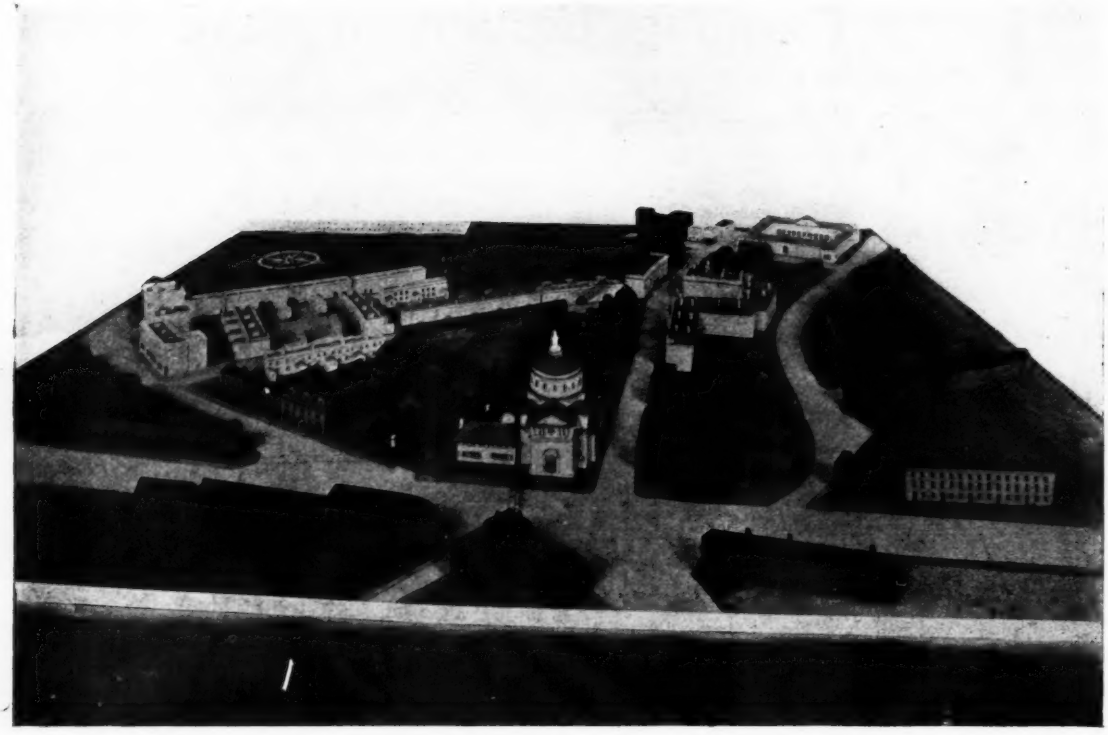
A student's design for improving the approaches to Euston shows how the gardens of Euston Square might also be put to better use than they are at present; here again an apathetic public is in danger of losing another valuable open space, for unless action be taken immediately Londoners will wake up to the fact that bricks and mortar have replaced the trees and grass that now form an oasis in a built-up area.

Perhaps the most convincing section of the exhibition consists of two admirable sketch models illustrating recent important "rehousing" schemes carried out on the Surrey side of the Thames, one in the Tabard Street area, a London County Council scheme, and the other the work of Messrs. Adshead and Ramsey, FF.R.I.B.A., for H.R.H. the Prince of Wales, on his Duchy of Cornwall estate at Kennington. The Tabard Street area was until recently densely covered with slums and dilapidated property, mostly two-storied houses of the kind still to be seen by the thousand in many districts of South-East London. The London County Council have replaced this eyesore by several groups of five-story flats, thus rehousing most of the evacuated tenants, and at the same time providing a most attractive playground for children and a public garden.

The Kennington model illustrates how this object may be achieved with equal success, but in a rather different manner. Messrs. Adshead and Ramsey have provided accommodation for most of the tenants in charming little two-story houses, essentially modern, but possessing all the traditional character of the best eighteenth-century domestic work; some groups of flats were also provided, fit to grace the most aristocratic quarters of the Metropolis, and yet in sympathy with the humblest of cottages in adjoining streets. For the aged tenants of their royal landlord the quadrangle of "Old People's Dwellings" forms a feature of the estate; it will be regarded for some time as an example of how to re-house the very poorest class of city dweller who requires some form of benevolent supervision. The whole estate, when finally reconstructed according to the architects' plan, will possess a unity and character unsurpassed since the ducal schemes of the eighteenth century.

The next section comprising schemes for estate development will interest all those concerned with the ordered growth of London's outer suburbs.

Mr. Hubert Worthington's lay-out of an area near Barking proves the advantage of employing the trained architect



A MODEL OF THE DUCHY OF CORNWALL ESTATE, KENNINGTON.
ADSHEAD AND RAMSEY, FF.R.I.B.A., ARCHITECTS.

on such schemes, and an equally interesting essay is made by another old student in the development of High Barnet, with provision for light factories and a housing scheme to accommodate the workers conveniently adjacent to their work, yet with adequate provision for recreation.

The Dollis Hill estate provides another fine site as the subject for an imaginative lay-out.

It must not be thought that in an industrial country, such as England, factories can be allowed to establish themselves without regard to efficient site planning, and the exhibition contains many examples of industrial areas designed for maximum efficiency as regards wharfage and transport facilities.

To the road engineer the large plan of the Brentford by-pass road (Western Avenue) will undoubtedly be of interest. With a comparatively small amount of demolition to existing property, this road is being constructed through open country, avoiding the congested thoroughfares at Old Brentford and Hounslow; it is typical of the new arterial roads which are being made radiating from the Metropolis to other centres of population, or as ring roads round London linking up the outer suburbs. A sketch model depicts a typical junction of such roads, architecturally treated.

Due regard is paid in the school to the importance of satellite and self-contained towns as a means of drawing off the population from our overgrown cities, and one or two schemes for such towns are shown, which have been worked out by diploma students in recent years.

The value of judicious placing of monuments and other street furnishings is an important, although usually neglected, part of civic design. Such details, although of minor importance in themselves, occur so frequently in city streets that unless the unit of design be of the highest order they are likely to destroy the effect desired in an otherwise fine street and public place.

Mr. Colwyn Foulkes's lay-out of part of the Llandudno sea-front as a war memorial shows a fine and dignified example of an obelisk with surrounding lamp standards; the completed design presents a most impressive ensemble. Among other old students' work we would mention a West of England housing scheme by Mr. B. F. Brueton, where the various groups of houses have a distinction and air of repose which are a credit to his earlier training in the school.

No review of the work done by the students of the Town-Planning Department in University College can be concluded without reference to the School of Architecture under the direction of Professor A. E. Richardson, F.R.I.B.A., and whose students contribute examples of their work to the exhibition.

One should particularly mention the vitality and essentially modern spirit which pervades this portion of the exhibition. Lack of space forbids a criticism of such designs as those for a modern public garage connected with a railway station, obviously of great importance to those interested in civic design; but there are two designs of merit which must be brought to the notice of the visitor. The subject is for a public swimming-bath, and the material employed is ferro-concrete throughout, which demands an architectural treatment very different from the usual traditional manner. The solutions shown are excellent in the logical arrangement of the plans and skilful handling of the elevations.

Finally, one might add that, regarding town planning, the student as well as the lay public can only be taught such a complex art and science by comparisons and suggestion. No definite rules, no dogmatic teaching can ensure success, for town planning deals above everything with the growth of civic organisms; success or failure will seldom be patent until after the lapse of many years, the most one can hope for is that the adherence to fundamental principles will avoid those tragic mistakes made by the uncontrolled development of towns in the last century. We are convinced, however, that the Department of Town Planning at University College has based its teaching on principles essentially sound and broad enough to allow for the lessons the future may have in store for us.

Architecture and the Film

WE have often called attention in these pages to the improvement that has taken place in the design of film settings within recent years. It is not so very long ago that the background of a film was given little, if any, consideration from the architectural point of view. It is only a few years, indeed, since the makers of films were content with painted canvas backgrounds, that carried no conviction of reality. To-day, however, as much attention is often given to the setting as to the play itself.

Full-size three-dimensional "sets," especially for the historical type of play, are now the rule rather than the exception. One of the most notable of recent examples was the "Robin Hood" film, for which an enormous mediæval castle was specially built at Hollywood, complete with banqueting hall, keep, moat, drawbridge, and other necessary addenda. The castle may have had little resemblance to the Norman model, but at least it showed that producers were alive to what may be called historical atmosphere. The "idea" was there, and one gladly forgave the anachronisms.

The practice of building "solid" sets is growing. One of the latest films to substantiate this statement is that of "Sodom and Gomorrah," which has lately been seen in London. The illustrations which we show give a good idea of the character of the setting. We do not know that there is any historical record of the exact architectural character of the Cities of the Plain, which suffered the penalty of extinction for their sad misbehaviour; but it may be guessed that they had something in common architecturally with the other great cities of Western Asia.

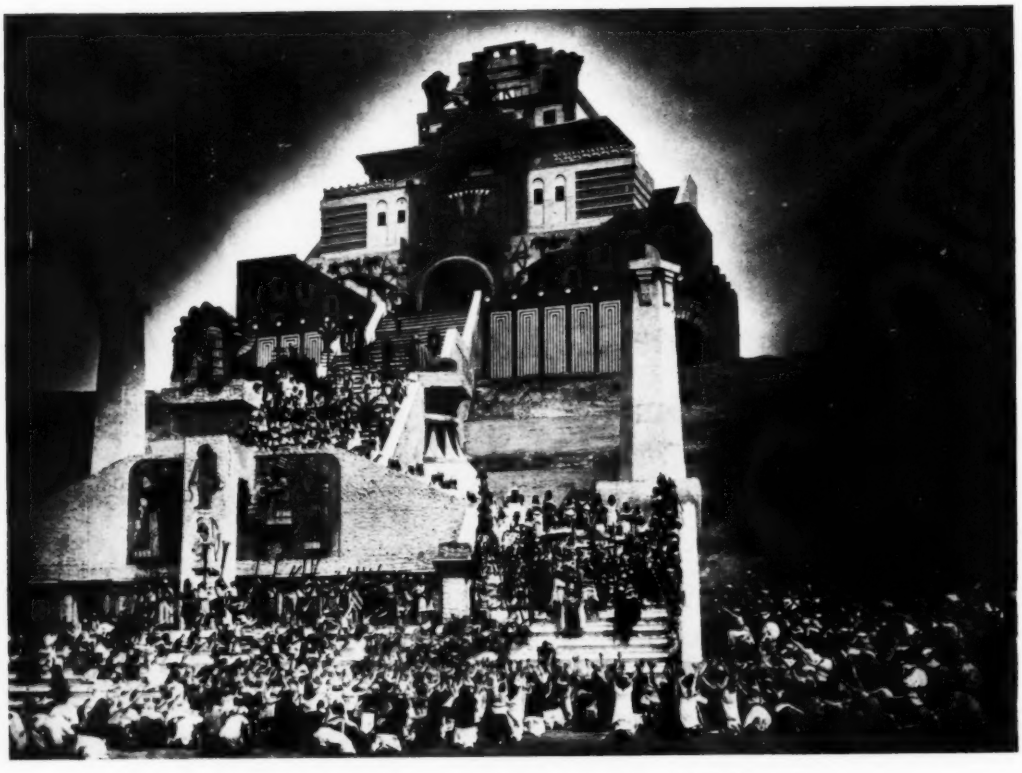
The designer of the palace in the film gives us a composition that, though it shows an acquaintance with the architectural characteristics of Assyria—the striped decoration on the main wall, for example, is reminiscent of the Sargon's Palace at Khorsabad—may yet be put down, on the whole, as an imaginative conception. As a design it has distinct points of interest, and it seems to be well suited to the spectacular display of great crowds. The detail view, with its high lights and heavy shadows, is distinctly impressive.

We have not had the pleasure of seeing the film, so we cannot explain the presence of the pseudo-Neo-Grec setting which is reproduced on this page. This is unduly pseudo. We fear it would evoke professorial wrath in some of the schools of architecture.

These prodigious sets, upon which many thousands of pounds are frequently spent, at least show that producers are alive to the importance of the setting of the films they create. They are not yet alive, however, for the most part, to the necessity for architectural accuracy in the sets. The film has become a great force for good or evil. If it is to be for good, then it is essential that architectural settings should be designed with a careful regard for accuracy of character, form, and detail. Obviously advantage will have to be taken more and more of the services of architects. If producers are willing to spend large sums of money on the creation of these great sets they owe it to themselves to see that what they get is true to type. No matter how good the acting or the stage management, a picture must inevitably fail if its setting is out of keeping with the period of the play.

For permission to reproduce the accompanying photographs we are indebted to the Film Booking Offices (1919) Ltd., of 22 Soho Square, London, W.1.

"SODOM AND GOMORRAH": A NEO-GREC SETTING.



ARCHITECTURE ON THE FILM—"SODOM AND GOMORRAH."

The Principles of Architectural Composition.–8

Proportions in Detail

By HOWARD ROBERTSON, S.A.D.G., Principal A.A. School of Architecture

OF proportion in the various smaller architectural elements of a building we may say that exactly the same principles hold good as for the general massing, and the same desiderata are to be aimed at. Difficulties which arise in the main grouping are, however, encountered in a more insidious form when we come to the details of design, for here we are obliged to be extremely precise, and the obtaining of correct proportions requires in addition an architectural vocabulary, a knowledge of what are called "motifs," of great range and flexibility. To the student of composition it is probable that greater obstacles will be met with in the design of a single monumental doorway than in the massing of a large block of buildings. The latter constitutes a broad general essay in form, the former requires definition, precision, and a very practised knowledge of effect. The design of a simple arched or rectangular opening may be fairly easily encompassed, but the introduction of mouldings, cornices, brackets, pilasters, etc., the familiar classical accompaniment, demands an acquaintance with the correct proportions of these details, which have been so tried and tested throughout different great historical styles that their proportions in any period have become almost stereotyped, with the result that errors in their setting-out are readily detected. To design such details in a fresh and modern way demands not only a knowledge of classical handling of the same problem, but a great deal of creative imagination besides.

The fact that certain proportions have been found so generally satisfactory and acceptable has naturally raised the question of the method by which they have been arrived at, and opens up the controversial subject of proportion ratios and their relation to the science of geometry and mathematics generally.

It is held by many persons that there is a definite arithmetic of beauty, and that it should be possible to discover some relationship of mathematical values, some curves or geometrical forms, through the use of which it would be feasible to synthesize beauty with mathematical accuracy.

Other theorists have held that there is an arithmetic or geometry of beauty based on number or forms which have a religious or mystical significance, and there is no doubt that in support of all these theories there occur some very curious phenomena or coincidences which lend weight to their claims for consideration. It is outside our scope to treat of this question in detail, but the subject is one which has a bearing on any attempt to lay down guiding principles in proportion. It has been ascertained that certain well-known buildings or ornaments, of undisputed architectural beauty, bear in the setting-out of their proportions an evident relationship to geometrical figures, such as, for example, the square, the circle, the equilateral triangle, or the parabola. The cardinal points of their contours or silhouette are found to be contained within such figures, or the perimeter of the figures coincides with certain focal points of the design. Amongst the examples illustrated (Figs. 81–87, 94, 96) are those used by M. François Bénoit and Mr. Claude Bragdon in treating of this subject, and they are typical of a large number of similar cases.

Certainly it has occurred that successful designers have worked on such a geometrical basis, but whether scientifically or empirically it is difficult to establish. There is, however, a fairly simple explanation for the satisfaction which arises from compliance with certain geometrical forms and relationships, and that is the stability and power, already alluded to, of shapes which are definite and unhesitating, such as those which we have cited. We recognize the qualities of these figures, and if we base the forms of our designs upon them, it is not too much to expect that the resultant building will enjoy similar characteristics, at least to a certain degree.

The successful design of an interior, the satisfactory setting-out of a pilastered wall treatment, may reveal a repetition of the Triangle form in the determination of their proportions. But this satisfaction may be explained by the rhythm set up by a series of dimensions all determined on the same basis, and does not necessarily arise because the triangle as a figure has any special mystical significance in the creation of beauty.

It may be asserted that the graphic plotting of certain mathematical calculations results in a beautiful curve, or that the silhouette of a building contained within a parabola will convey an effect combined of power and elegance. One is prepared to admit both claims, with the remark that there are in all probability a hundred other curves and silhouettes which may be equally beautiful and yet determined on a totally different basis.

To the influence on proportion of religious or mystical beliefs we can only allude in passing. It is an established fact that certain geometrical figures held a symbolic significance during past periods of the world's history, as they do, indeed, to-day, and that the use of these figures influenced the proportions of buildings. The "vesica pescis," for example, a figure formed by the developing arcs of two equilateral triangles having a common base (Fig. 93), may certainly have been used in the setting-out of the plans of mediæval cathedrals (Fig. 88), in the same way as the figure of the square occurs in the plotting of Norman or Italian Renaissance work (Fig. 98). The rectangle formed by the length and breadth of the "vesica pescis" has peculiar properties, of interesting creative possibilities, and by using it as a unit it is held that the "design of the largest building, with the minutest detail, could be drafted with absolute accuracy" (*cf.* "Science and the Infinite," by Sydney T. Klein).

The interest of the theory of such a system of proportion lies in the undoubted truth that the use of a definite figure as a basis of proportion throughout the design, results in the establishment of a certain harmonic relationship between all the elements so proportioned, due to the repetition of the figure, which becomes, as it were, the common denominator of the design.

We find ourselves at this point touching on the similarity between the structure of musical phrasing and architecture, insomuch as both involve laws of harmony, intervals, and rhythm. An interesting study of this analogy is made by Claude Bragdon in "The Beautiful Necessity," tending to show, amongst other points of resemblance, the presence in music of intervals which are more important or perfect than others, and which correspond numerically with ratios giving satisfactory proportions in architectural design. From the architect's point of view, the question resolves itself into assuming a definite unit of size and using this unit throughout the design, even as the musician will adopt a unit of tempo. A design built up by the use of squared paper (Figs. 95, 97), or of which the main proportions are dictated by utilizing for each dimension a certain relationship of squares (Figs. 90, 91), would result in the establishment of a certain rhythmic harmony, in the same way as has been suggested in the case of the use of geometrical figures. The result is more than likely to endow the design with a certain stability of proportion, and the method of designing on squared paper, used in all probability largely as a "check" on the designer's proportions, has been

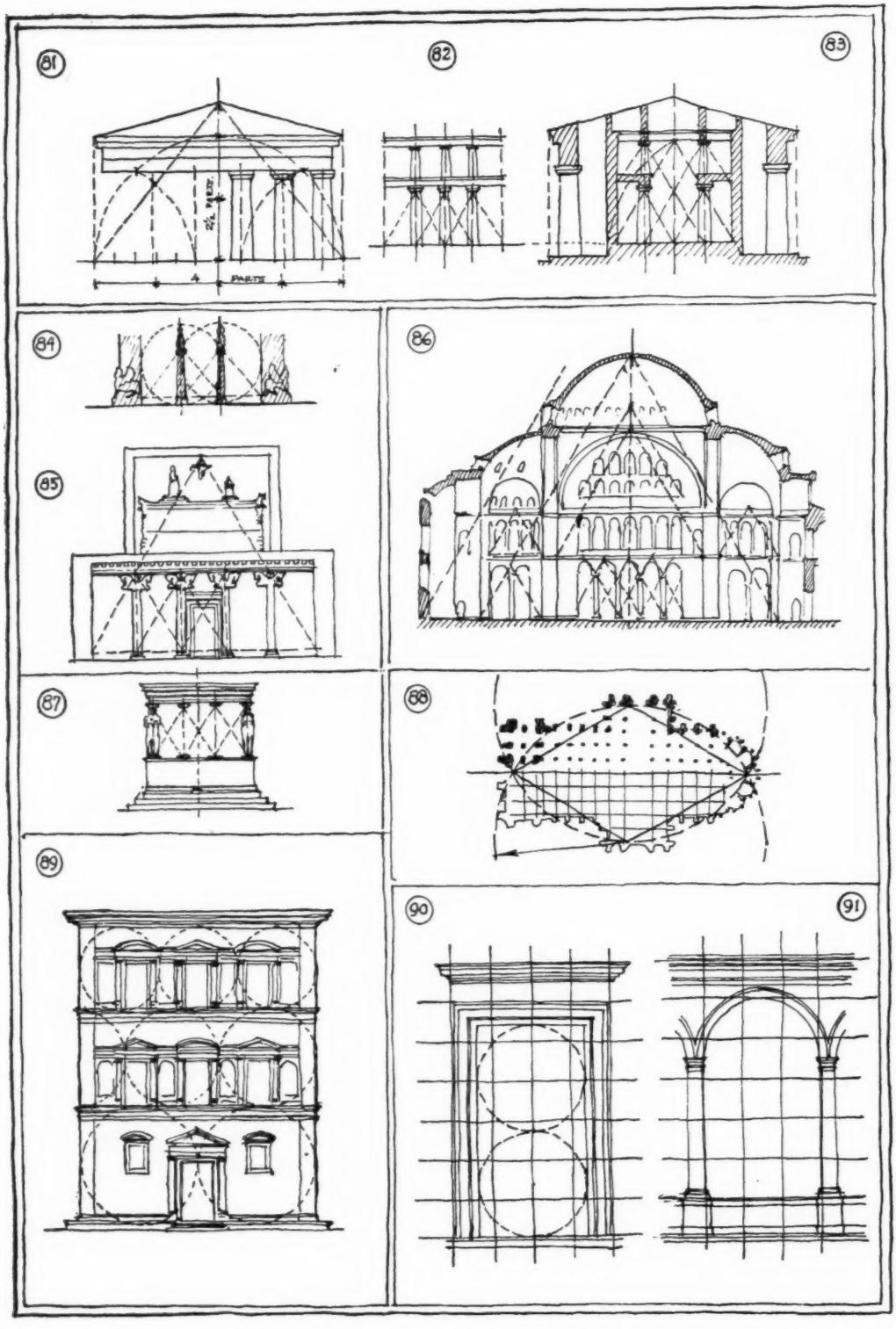


FIG. 81.—The presence of the triangle in Greek proportions. Façade of the Temple of Poseidon at Pæstum (after Bénoit).

FIGS. 82 and 83.—Longitudinal and transverse sections of the same.

FIGS. 84 and 85.—Geometrical proportions in Persian buildings. Gate of Honour of the Royal City of Persepolis, and façade of the Tomb of Darius (after Bénoit).

FIG. 86.—The presence also in Byzantine proportions of the equilateral triangle. Santa Sophia in Constantinople (after Bénoit).

FIG. 87.—Triangular setting-out in the Caryatide Pach of the Erechtheion (after Bénoit).

FIG. 88.—The plan of Beauvais Cathedral and the relation of its proportions to the "vesica pescis."

FIG. 89.—Geometrical proportions in the Palazzo Bartoloni in Florence. Note the diminishing ratios of the stories.

FIGS. 90 and 91.—Geometrical relationships in details. Window and arcade from Italian palaces.

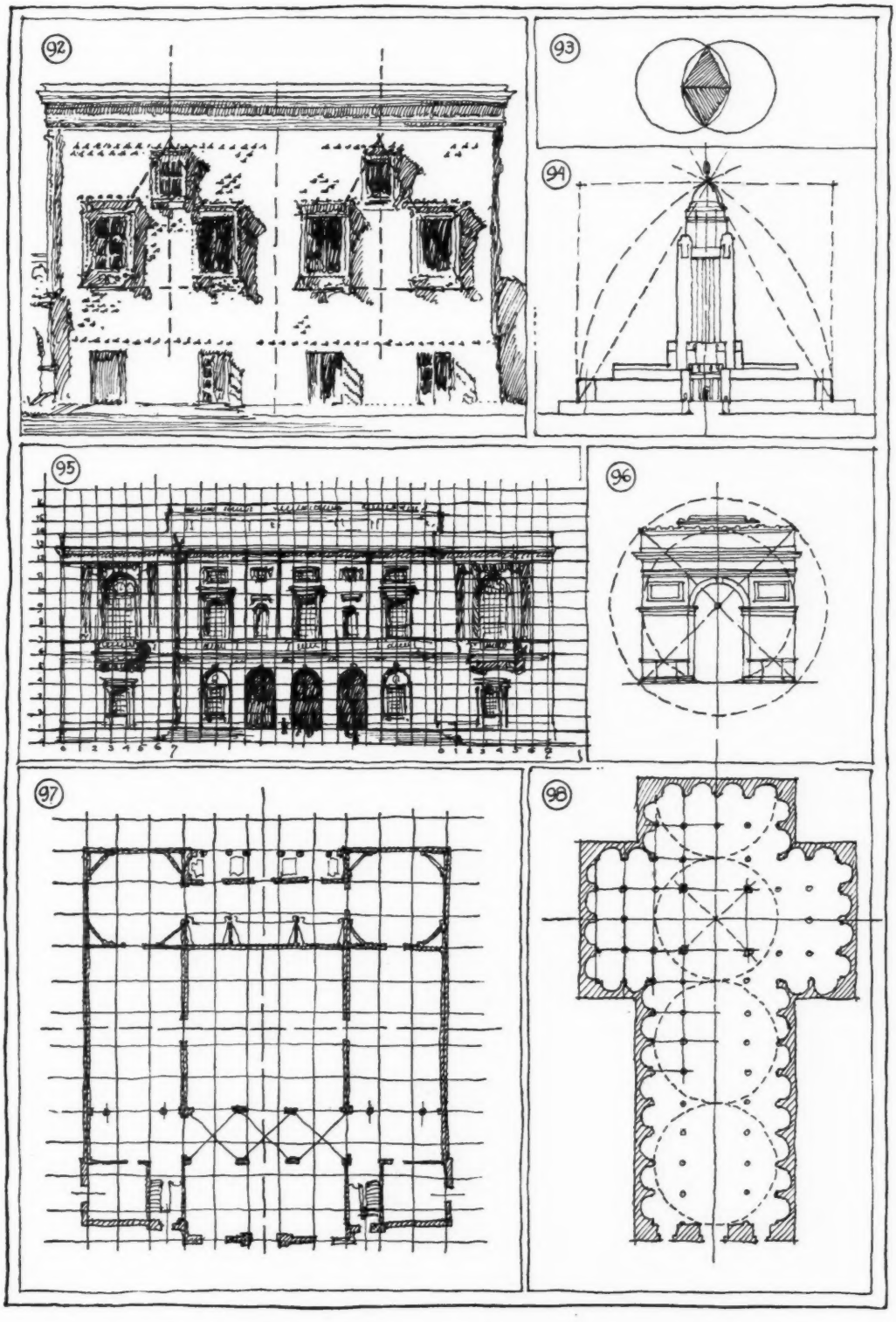


FIG. 92.—Misplaced triangulation resulting in the effect of creating a duality. The faceted palace in Moscow.

FIG. 93.—The formation of the "vesica pescis."

FIG. 94.—The equilateral triangle in modern work. Bertram Goodhue's Nebraska Capitol.

FIGS. 95 and 97.—Illustrating the use of squared paper in determining the general proportions of an elevation and a plan.

FIG. 96.—Geometrical basis of the Arc de Triomphe, Paris. Stability by use of the square and circle.

FIG. 98.—Brunelleschi's church of San Spirito in Florence. Analysis of geometrical proportions and presence of the square as a basis for setting-out.

employed with advantage by Renaissance architects and modern designers. An analysis, into units, of various well-proportioned details, such as doors and windows, in classic work, will enable the student to become familiar with the numerical ratios involved, and the knowledge of these will undoubtedly serve as a guide and check in original composition. There are, however, no mathematical rules, and as, in literature, a phrase robbed of its context may mislead, so is it necessary in architectural design constantly to consider the part in its relation to the whole. The trained eye must remain the final judge of proportion.

(*To be continued.*)

[The previous articles in this series appeared in our issues for January 9, 16, and 30; February 13 and 27; and March 12 and 26.]

Modern West-End Flats

A Block of Residences in Park Street

WIMPERIS and SIMPSON, FF.R.I.B.A., Architects

A LARGE block of residential flats has recently been erected from the design of Messrs. Wimperis and Simpson, FF.R.I.B.A., at the corner of Park Street and Upper Brook Street, London, W. The flats—of which there are fifteen in the block—contain rooms of unusual dimensions, the dining-rooms and living-rooms measuring, in some instances, 28 ft. by 18 ft. respectively.

The domestic offices are equally spacious, and maids' bedrooms are provided for each flat. In addition to the maids' bedrooms in the flats themselves, additional bedrooms have been provided in the mansard roof, the whole of the roof space being given up to these. While these latter rooms have not been apportioned to any of the flats in particular, they can be rented or not as required. Accommodation for a caretaker is in the basement.

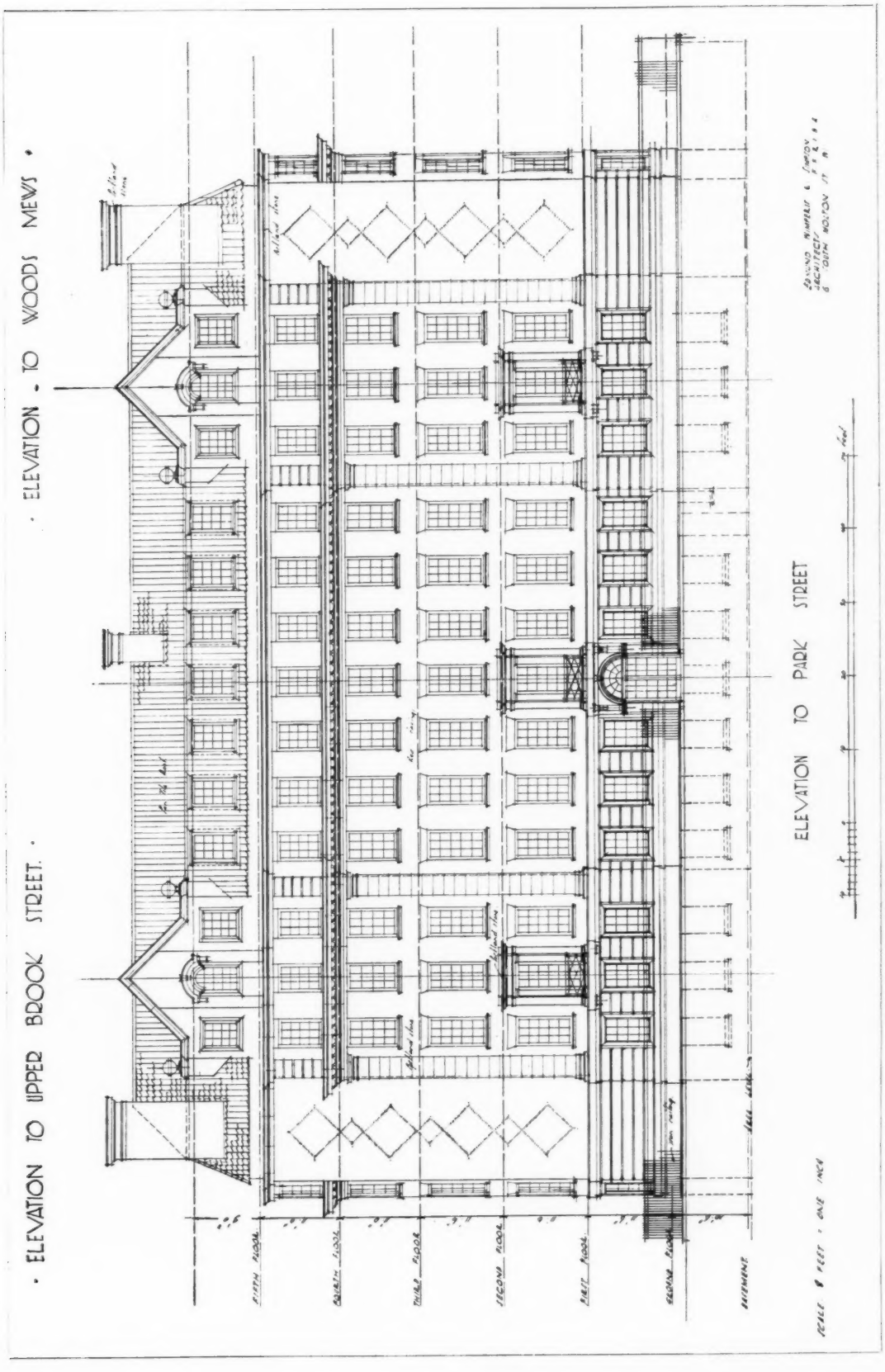
Central heating is installed for the whole block, but coal fires have also been constructed in the best bedroom and reception rooms, and electric or gas fires in the other

(*Continued on page* 610.)

A DETAIL OF THE PRINCIPAL ENTRANCE.

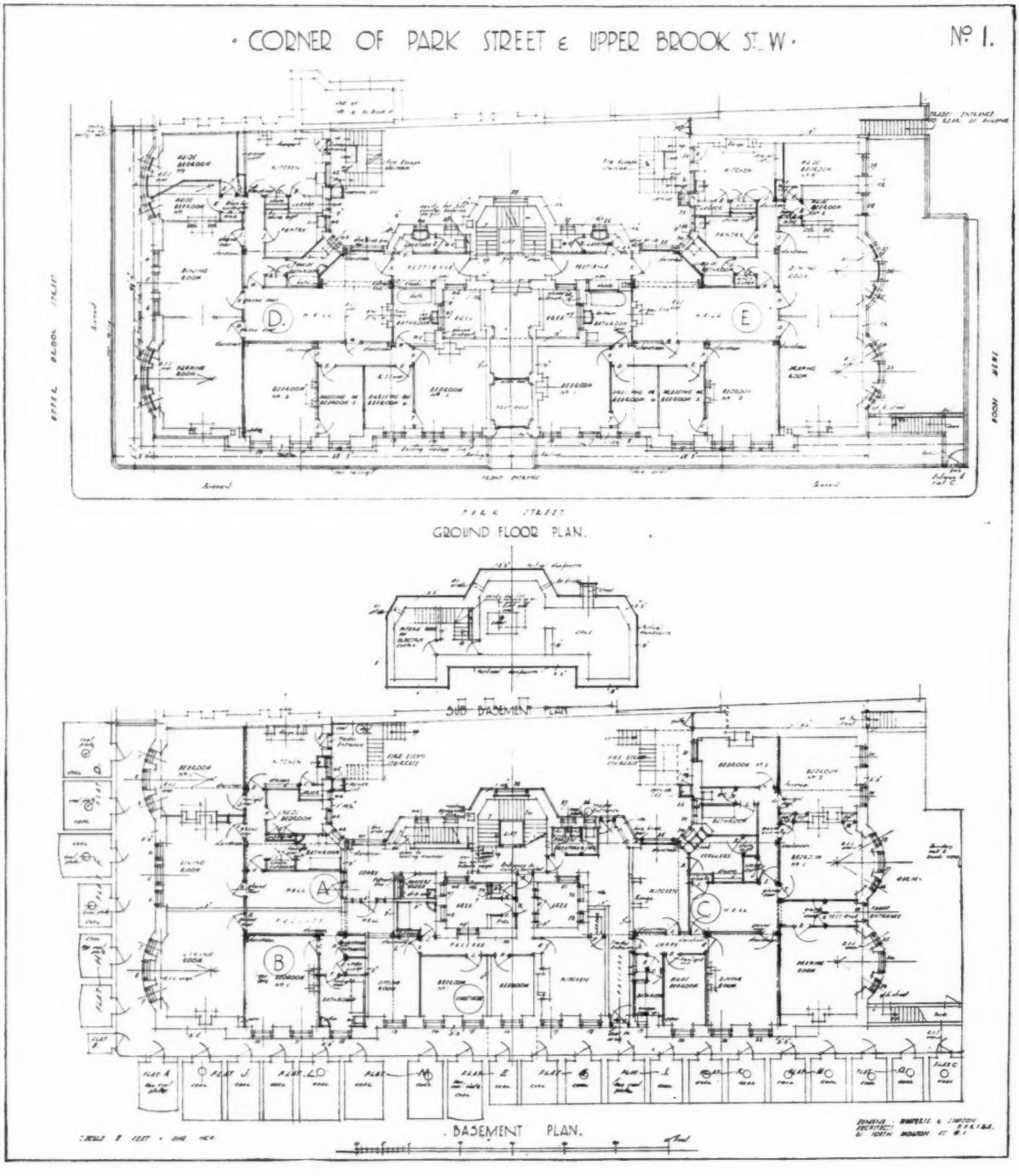
NEW RESIDENTIAL FLATS IN PARK STREET AND UPPER BROOK STREET, LONDON, W.
WIMPERIS AND SIMPSON, FF.R.I.B.A., ARCHITECTS.

NEW RESIDENTIAL FLATS IN PARK STREET AND UPPER BROOK STREET LONDON, W
WIMPERIS AND SIMPSON, FF.R.I.B.A. ARCHITECTS.



NEW RESIDENTIAL FLATS IN PARK STREET AND UPPER BROOK STREET, LONDON, W.

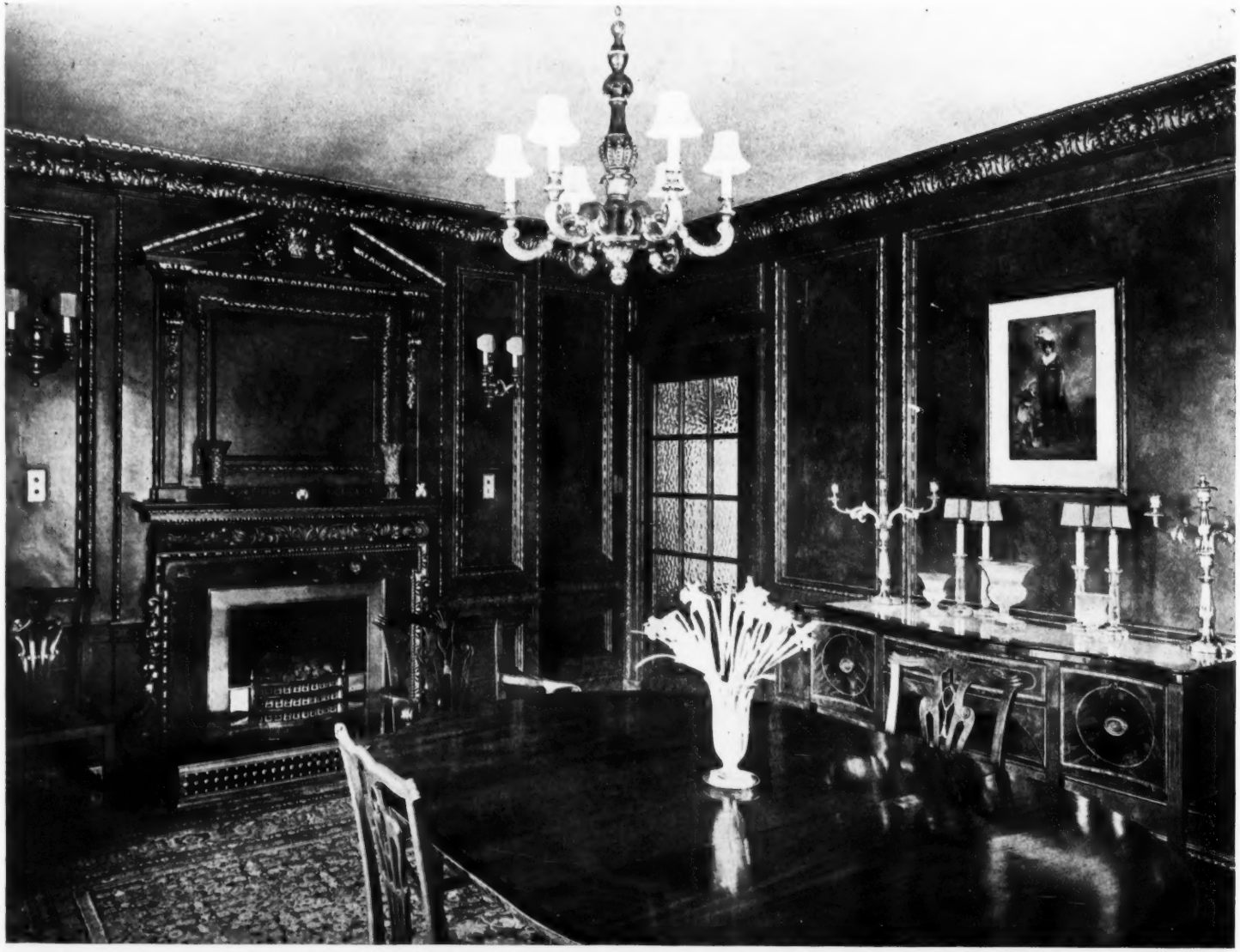
WIMPERIS AND SIMPSON, FF.R.I.B.A., ARCHITECTS.



NEW RESIDENTIAL FLATS IN PARK STREET AND UPPER BROOK STREET, LONDON, W.
WIMPERIS AND SIMPSON, FF.R.I.B.A., ARCHITECTS.

Modern Domestic Architecture. 79.—New Residential Flats in Park Street and Upper Brook Street, London, W.: A Dining Room

Wimperis and Simpson, FF.R.I.B.A., Architects



The panelling in this dining-room is painted in imitation of walnut.

Modern Domestic Architecture. 80.—New Residential Flats in Park Street and Upper Brook Street, London, W. : A Drawing-room

Wimperis and Simpson, FF.R.I.B.A., Architects

The decorations in this room, as in most instances, have been carried out to the tenant's instructions.

Modern Domestic Architecture. 81.—New Residential Flats in Park Street and Upper

Modern Domestic Architecture. 81.—New Residential Flats in Park Street and Upper Brook Street, London, W.: A Bedroom

Wimperis and Simpson, FF.R.I.B.A., Architects

In this room, too, as in the drawing-room shown on the previous plate, the decorations were carried out to the client's instructions.

NEW RESIDENTIAL FLATS IN PARK STREET AND UPPER BROOK STREET, LONDON, W.: A TYPICAL HALL
WIMPERIS AND SIMPSON, FF.R.I.B.A., ARCHITECTS.

NEW RESIDENTIAL FLATS: A BATH-ROOM.

(*Continued from page* 598.)

bedrooms. There are six floors above ground, and a basement floor, access to all being gained by a central staircase and passenger lift. In addition, there are two service-passenger lifts.

The three elevations—fronting respectively Upper Brook Street, Park Street, and Woods Mews—are in Daneshill red facing bricks, with the ground floor in Portland stone. The pilasters, cornice, and window dressings are also in Portland stone. To these elevations the windows are deal sashes, metal casements being inserted in kitchens and other rooms overlooking areas. The roof is tiled with red pantiles. The entrance vestibule and hall have walls in stuc, with a groined ceiling, and marble floor. The staircase is reinforced concrete faced with marble.

The flats are floored either with parquet or composition. Mahogany is used for the doors. The decorations of the flats differ, having been carried out from the orders of the various tenants. In one instance, a dining-room (illustrated on page 603), a remarkably effective imitation of walnut panelling, has been executed under the direction of the architect.

The general contractors for the work were Messrs. Higgs and Hill, who also supplied the stonework and carried out the plasterwork. Other materials or work were supplied by: Roberts Adlard & Co. (roof tiling); the Crittall Manufacturing Company (metal casements); John Bolding & Sons, Ltd. (sanitary fittings); the Express Lift Company (lifts); J. W. Singer and Sons, Ltd. (lift enclosures); the Safety Tread Syndicate, Ltd. (fire-escape stairs); the Kleine Flooring Company, Ltd. (floors); Messrs. Mcreland Co., Ltd. (steelwork); Messrs. Haden and Sons, Ltd. (heating).

The Town Planning Exhibition

PRINCE ARTHUR OF CONNAUGHT last week opened the town-planning conference and exhibition at University College, London. The conference, arranged by Professor S. D. Adshead, who is in charge of the town-planning department of the School of Architecture, remained open until Friday. At the opening ceremony, Sir John Bradford (vice-chairman of the College Committee) presided.

Declaring the exhibition open, Prince Arthur of Connaught said: "I do not come among you as a complete stranger, as I have been connected for some years now with the University College as president of the endowment funds which helped in the building of the chemical laboratories and the School of Engineering. Just before the war it was my privilege to open the School of Architecture, and I would like to pay my tribute to the memory of the late Sir Herbert Bartlett, to whose generosity and far-sightedness this college owes the School of Architecture, including accommodation for the department of town planning." The movement in favour of town planning, he continued, began in the latter part of the nineteenth century as a revolt against the unsightly and ugly buildings springing up everywhere, according to the passing whim of the time or the enterprising but not very artistic conception of the jerry-builder. The Public Health Act of 1875 had no doubt made our towns probably the healthiest in the world, but the standardization which the universal by-laws created produced an ugliness and monotony little short of appalling. The Town Planning Act of 1909 gave local authorities power to prepare plans, the success of which depended on the imagination and foresight of officials, and therefore it was most necessary that those gentlemen should be highly educated in order to secure the greatest efficiency in administration. Town planning was one of the newest subjects taken at universities, and it was obvious that the education of officials in town planning ranked in importance with that of municipal engineering.

Since the war it had been a source of great pride and gratification that Great Britain had led the way in carrying out big housing schemes on town-planning lines, and in spite of all the difficulties which had since arisen in the matter of building, these housing schemes would always remain an example to posterity of what town planning really meant. The advantage of town planning became increasingly evident year by year and almost day by day. The Act of 1919 required that every town with a population of 20,000 persons should be "town planned." Therefore education in so important a subject would no doubt have far-reaching results. He would like to tender his most hearty congratulations to the officials of the Ministry of Health, who had not only set a very high standard of administration, but had taken a striking lead in the matter of public education. He would also draw attention to the services rendered to the town-planning movement by Professor Adshead. He had been the pioneer in this movement and future generations would reap the benefit of his wisdom and foresight in preparing schemes for urban improvement.

Professor Adshead, in a statement on the work of the department, said they held that town planners were about as far ahead of engineers as statesmen were of politicians. There was hardly a local authority in and around London whose area the students had not visited and decided how things ought to be improved. If there were a "fire of London" to-morrow all the plans were ready for the rebuilding. He thought they should seek combination of effort, for architects, engineers, and surveyors were all necessary in the preparation of a widely-considered scheme. He hoped in the future to relate the department more closely to the departments of engineering and hygiene. In view of the increasing importance which was being attached by local authorities to town planning, it should be an important subject in the curriculum of any student who intended to become a municipal engineer.

Book Reviews

Early Architecture in Western Asia

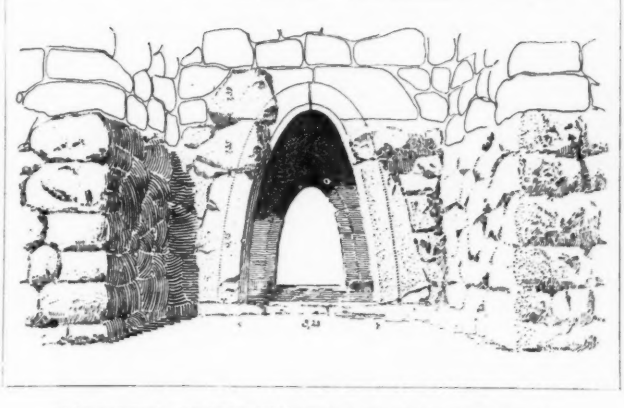
MR. EDWARD BELL'S volume upon the early architecture in Western Asia forms a valuable introduction to a subject upon which too little has been written in a generally comprehensible form. Apart from references, necessarily fragmentary, in the daily Press, to the works of particular excavators, up-to-date information has usually to be gleaned by reference to the journals of learned societies, where the student is liable to find that the description of technical matters of detail obscures the main issue, and makes it a matter of some difficulty to obtain a mental grasp of the larger outlines of history in connection with the arts of different races at different periods. Mr. Bell, however, has succeeded in placing his subject before his readers, both in its larger and in its more detailed aspects, without overstepping the limits of a volume of reasonable dimensions; and shows, in a connected manner, the interaction of racial rivalry and the development of architecture and art.

In the elucidation of the architecture of remote antiquity the researches of archæologists must be relied upon to supply the complement of buildings more than half demolished, and the author acknowledges the important part played by pottery in preserving the historical record as well as contributing to the building material and decoration of the ancient edifices of Mesopotamia. "In some sense this minor art has an advantage over the other, inasmuch as its fictile remains are practically permanent, whereas buildings not only disappear through effects of time and climate, but are also purposely destroyed and superseded by contemporary or succeeding generations of men."

Clay rather than flint expresses the earliest civilization in Chaldæa, where "the character of the soil shows a formation which, in a geological sense, is too recent to afford evidence of a purely stone age, such as is found in the desert borders of the Nile valley." It was to clay that the ancient dwellers in Chaldæa turned for purposes of architecture and many other arts, and though the figures illustrated on page 8 of statuettes dating from 3,000 to 3,400 B.C. are described as being carved in marble and limestone, the technique probably owes much to the imitation of still more primitive works executed in the plastic material. Writings in clay have supplied an account of the importance of this substance in the architecture of Chaldæa.

THE SO-CALLED KING'S GATE: EXTERIOR (PUCHSTEIN)

SINJERLI: RELIEF.
From the gate of the citadel on the outer face of the west wall.



SUGGESTED RECONSTRUCTION OF THE ABOVE BY DR. PUCHSTEIN.

SINJERLI: ONE OF A PAIR OF LIONS, ABOUT 8¼ FT. LONG.
From the gate of the cross wall within the citadel.

COLOSSAL FIGURES FROM KHORSABAD. HEIGHT ABOUT 18 FT. (BRITISH MUSEUM).

King Gudea, in rebuilding the Temple of Ningirsu, the tutelary god of Lagash, is reported to have caused "a consecrated mould to be filled with clay and left in the temple till the following day, when the mould was broken with religious ceremonies, and the brick, after being dried in the sun, was given to the people as a pattern to be followed in the preparation of the myriads of sun-dried bricks which were required for the platform and the walls of the whole structure."

The ornamental use of small cones of coloured clay, inserted with their bases outward in a mortar of mud mixed with chopped straw to form the facing of a wall, is mentioned in connection with a wall examined by W. K. Loftus.

Unlike the Chaldæans, and established in the mountainous districts of Asia Minor, the Hittites developed their art on the rocky surfaces of cliffs, or adorned the exposed faces of large masonry blocks composing the walls of their buildings with sculptures in low relief. These carvings indicate the peculiar characteristics of Hittite symbolism. The employment of dressed polygonal masonry, and of great curving impost blocks, which once apparently formed parts of elliptical arches, suggests a high degree of architectural achievement and of organizing ability in shaping and moving the large and heavy masses of stone.

Certain authorities have recognized a resemblance between remains of Hittite and Cretan art, and, while curiously independent in its representation of costume, headgear, and footwear, it seems that Hittite art takes an intermediate position between that of Europe and Asia at a primitive period.

Assyria, situated upon the upper waters of the Tigris, developed the use of both clay and stone. Walls of immense thickness were built of crude brick, and revetted and adorned with gigantic blocks and slabs of stone. Brick arches with *voussoirs* made in the form of wedges show that the science of construction was not neglected. A vault found at Khorsabad "shows that the successive courses of the vault, instead of being built in vertical planes, were inclined at an angle; and Loftus describes a vaulted tomb at Sinkara (Larsa), in which the courses were inclined at an angle of 45 deg." These devices permit of the vault being built without temporary centering, as Mr. Bell remarks. His introduction of the word "timber" to qualify centering is, perhaps, unnecessary, since centres in the East are generally constructed of earth mounds modelled to shape, and if, as is sometimes the case, wood is used, it is in the form of unshaped boughs and bundles of brushwood, which serve as a basis for the modelled earth. The whole production differs from our framed timber centre in that it is of plastic character, and does not involve calling in a carpenter or spending precious wrought timber.

A note at the foot of page 152 to the effect that the tiles forming a vault constructed without a center "must have been specially moulded with chamfered edges in order to give a smooth surface to the vault," raises a curious point in descriptive geometry. The angle of the chamfer would alter from 0 deg. at the springing to 45 deg. at the crown, and it would be of great interest to learn whether any vault was, in fact, built in this manner of purposely designed pre-cast bricks or tiles. Smoothness of surface could be more readily obtained by chipping off the protruding ridges of the bricks at the crown of the vault, but in a great deal of later work the surface is either simply left rough or dubbed out with mortar to form a continuous curve.

Columns of a decorative order, domes and colour decoration are also described, and in chapter ix, "The Sources of Assyrian Art," the resemblances of Hittite and Assyrian sculpture are brought under review. The chapters dealing with the history of each people greatly facilitate the comprehension of these stylistic comparisons, for it is easy to recognize that the extended campaigns of such a noted warrior-builder as Ashurnazirpal could hardly fail to result in the interchange of ideas, which would affect the art of both the conquering and the conquered peoples.

Late Babylonian architecture, including the vast palace recreated by Nebuchadnezzar, is described in chapter x, where colour decorations by means of platings of gold and silver and glazed tiles are mentioned.

IVORY CARVING OF THE SACRED TREE. (BRITISH MUSEUM.)

The influences of Egyptian and of Hellenistic art combine to modify the persistent Mesopotamian tradition underlying the architecture of Persia, in which conscious eclecticism seems to have played a leading part.

A photograph on page 232 of an ivory carving of the sacred tree, containing volutes placed back to back in the manner of those decorating the capitals of the Persian order of columns, will serve to remind the reader that the Persians did not necessarily have to travel to Greece for this feature as has sometimes been supposed.

WILLIAM HARVEY.

"Early Architecture in Western Asia—Chaldæan, Hittite, Assyrian, Persian: An Historical Outline," by Edward Bell, M.A., F.S.A., author of "The Architecture of Ancient Egypt," "Hellenic Architecture," etc. With 110 illustrations, maps, and plans. London: G. Bell and Sons, Ltd. 1924. Price 10s. net.

About Building Disputes.

A builders' history is at best, alas, a record of recurrent disputes about labour conditions. To work constantly out of doors, as in the nature of things the builder is bound to do, makes a man hardy and pugnacious. Hence it is not surprising to read in this book that a certain union secretary, who has been long since gathered to his fathers, was usually "spoiling for a fight," whether with the employers of labour or with trade union officials or members did not matter to him, to whom the important thing was not so much to assert a principle as to have a row.

That sort of temper is, we would fain hope, rapidly disappearing. This handsome book encourages the belief that building trade workers are becoming more reasonable. In the first place, it has a very different physical aspect from that to which former labour publications had accustomed us. As we have said, it has all the physical properties of a handsome book. Binding, printing, paper, general get-up, are all unexceptionable.

The promise of the elevation is fully maintained in the interior planning and execution. In plain words, the book is well written, and written, moreover, with delightful impartiality. The author is a genuine historian, and writes without fear or favour, so that the book really affords a valuable insight into the tone, temper, personality, and

disinterestedness, or otherwise, of the men who have made the history of building. That the revelation is not invariably edifying proves the historian's fairness, and he has made bright, vivid, and withal charmingly frank, a narrative that in less skilful hands might have become dull and stodgy. As it is, the book is an exceedingly interesting contribution to the real literature of industry. We can confidently recommend it to the attention of all architects, and of all employing builders, who wish to study labour troubles, not merely in their incidents and incidence, but in their psychology. Written in the spirit of the historian, and not in that of the trade unionist labouring to put his opponents in the wrong, this volume possesses real value to the seeker after fundamental factors in labour problems. It seems to mark a new tone and a fairer spirit in the unionists who have caused it to be printed.

"The Builders' History." By R. W. Postgate. Published for the National Federation of Building Trade Operatives by the Labour Publishing Company, Ltd., 38 Great Ormond Street, London, W.C.1. Illustrated with several portraits. Price 12s. 6d.

Quantities.

The present edition of this standard text-book has been revised by Prof. Banister Fletcher's son, Sir Banister Fletcher, who in his preface states: "When this book was going to press the publication was announced of the 'Standard Measurement of Building Works,' authorized by agreement between the Surveyors' Institution, the Quantity Surveyors' Association (now incorporated with the Surveyors' Institution), the National Federation of Building Trades' Employers of Great Britain and Ireland, and the Institute of Builders. In the main the methods advocated in that book will be found to agree with the standard methods laid down in this work; deviations in matters of detail have, as far as possible, been noted in the chapters affected."

While the L.C.C. tables of wages and hours have been replaced by specially compiled notes giving the rates for labour at the end of 1922, the tables of constants given in previous editions have been retained. Of considerable value are the tables showing the variations in rates of wages and prices of materials for the building trades from 1914 to December, 1922. From the table of wages one finds that from August, 1914, to May, 1920, there were ten increases, and that between 1920 and December, 1922, seven reductions took place. The movements in prices of materials are no less interesting; the summit, as in wages, having been reached in 1920, with the single exception of Broseley tiles, which went still higher in 1921. The preservation of these records in a standard book of this description will become increasingly useful for reference in future years, when such comparisons are not otherwise available without considerable search.

As a text-book for architects, surveyors, builders, and students, Banister Fletcher's "Quantities" has been known for many years. It deals with the taking off, squaring, abstracting, and billing of quantities for all branches of the building trades. These subjects are illustrated by very copious examples, wherein the customs and methods peculiar to each trade, both of construction and measurement, are fully set forth. The mode of "taking off" both by trade and "grouping" are well described; the many scores of examples, illustrated by full-page extracts from actual dimension books, leaving little latitude for the reader to go astray. Finally, some 130 pp. with ten folding plates of plans are devoted to fully setting out the whole of the work and measurements required in taking off, squaring, abstracting, and billing the quantities of all trades required for the building of an entrance lodge.

An interesting chapter is devoted to "Cubing," another to "Priced Schedules," one on "Northern Methods of Measuring," and a further deals with the important question of "Repairs."

Not the least valuable to the young architect or surveyor is that section on "The Law," wherein the relationship of both to the owner and the builder, their several professional and legal responsibilities, are set forth, numerous test cases being cited in illustration. "The Surveyor's Decalogue," given on pp. 225–6, might, with profit, be committed to memory.

In view of its importance we would like to see considerably more space devoted to reinforced concrete construction instead of items such as are included in Table XIV (Plumber) as lead D (!) traps, "diaphragm" stopvalves, "Patent valve closets with Hellyer's regulator, and sunk dish with glass handle," which appear to call loudly for revision. It is also surely archaic still to include a whole page descriptive of the work of bellhanging by crank and lever pulls, "bells hung in concealed zinc tubes with best cranks and wire in the best manner, and all to have pendulums and brass labels." Certainly on the next page a mention is made of the now universal electric bell; but one wonders what architect is likely to specify or surveyor to find "ground-floor pushes with *platinum* contacts," platinum, we believe, now being worth £29 per oz. The space given to electric lighting we also consider is totally inadequate; only wiring in wood casing (now practically obsolete) being mentioned, while such matters of importance as electric heating, cooking, ventilating fans, etc., are ignored. We venture to suggest that no work claiming to deal comprehensively with "Quantities" will in future be considered complete unless it embodies information for the valuation of these items, which now find a place in the construction of buildings of almost every description, from palaces to piggeries.

In conclusion we would like to draw attention to the very full index which considerably enhances the book as a work of reference.

E. W. J.

"Quantities," by Banister Fletcher. 9th edition, revised and enlarged, 462 pp. and 10 folding plates. 10s. net. B. T. Batsford & Co.

A Useful Pocket Book.

In this year's issue of "Spons' Architects' and Builders' Pocket Price Book" the prices generally show a substantial reduction compared with those in the last edition, but as the editor, Mr. Clyde Young, F.R.I.B.A., points out, there does not appear to be any likelihood of a further reduction under present conditions. As in previous years, the whole of the prices throughout the book have been carefully revised in strict accordance with costs at the time of going to press. The new arrangement made in the last edition of collating the "Day Work" at the end of the book instead of attaching it to each trade has been found so much more convenient for use that it has been decided to retain it as the standard form in the future. The book has been published for half a century.

"Spons' Architects' and Builders' Pocket Price Book, 1924." Edited by Clyde Young, F.R.I.B.A. Price 5s. net. E. and F. N. Spon, Ltd., 57 Haymarket, London, S.W.1.

Appointments and Careers.

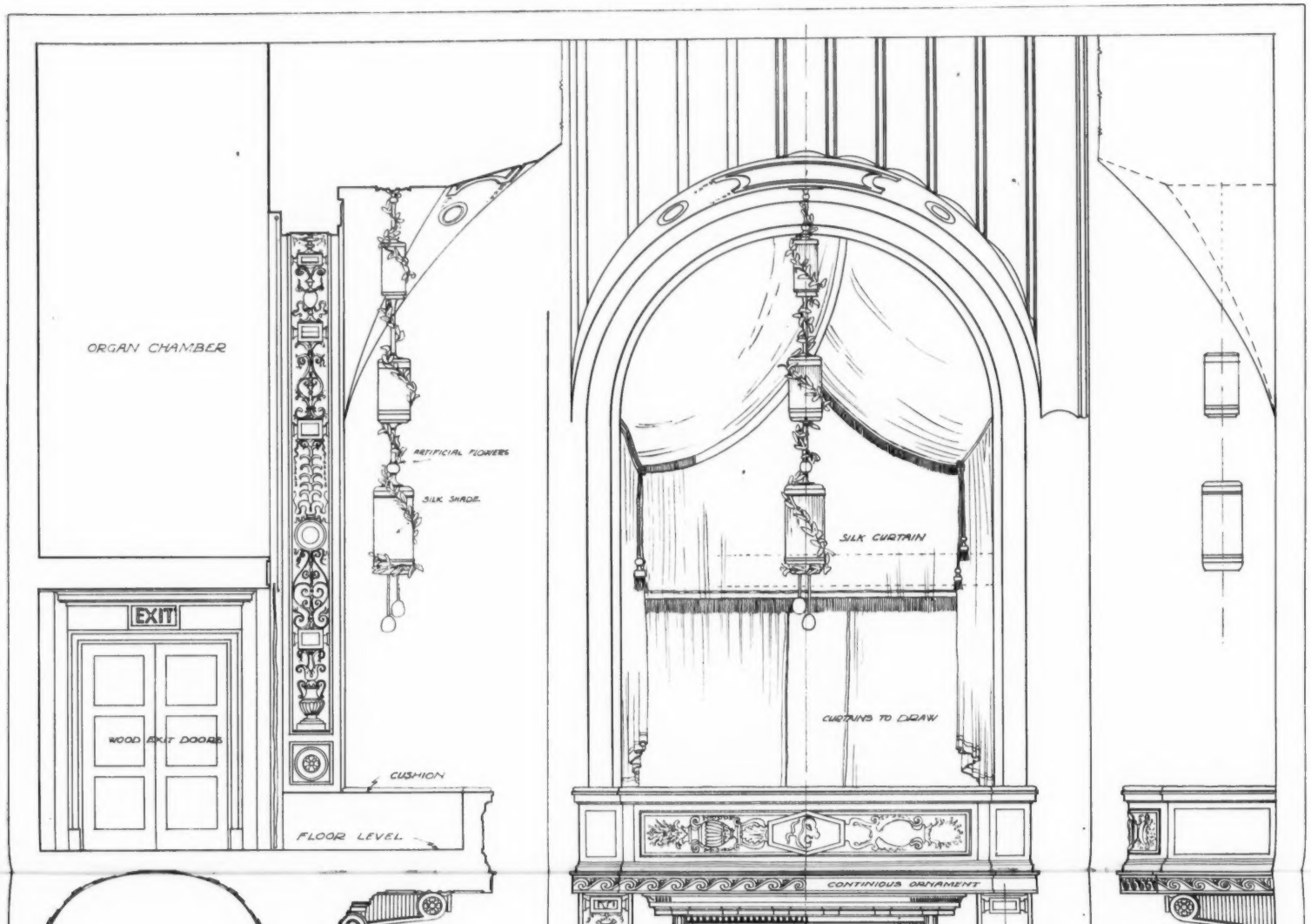
A pamphlet has just been issued by the London University Appointments Board giving information upon appointments and careers for London graduates and students. It includes up-to-date matter and advice upon the various avenues of employment open to them, with some indication of where fuller information may be found.

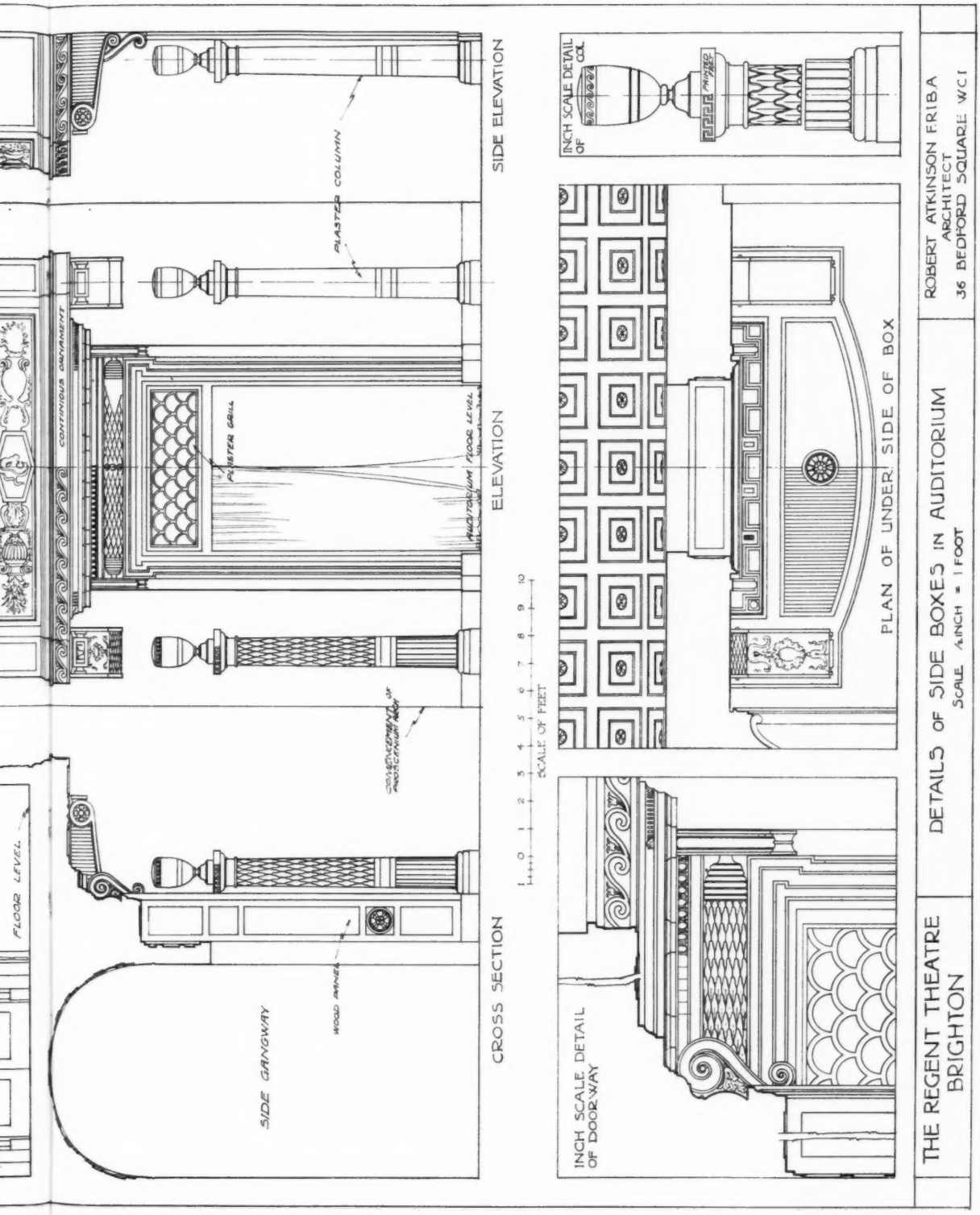
Anyone entering boys for either of the professions to-day must weigh carefully the chances of success. Fewer and fewer students come forward for the Church, and there is a demand not only for more candidates but for an improved standard of general education in all, but the Navy and Army are both drastically cut down, so that fewer are wanted for these professions. The Civil Service is being reduced, and the architectural profession is well recruited at present. In law there are many more cats than catch mice. It is a dismal outlook!

The price of the pamphlet is 1s. (post free). Copies may be had on direct application to the Secretary of the University Appointments Board, 46 Russell Square, W.C.1.

Architects' Working Drawings. 74.—The Regent Cinema Theatre, Brighton: Details of the Side Boxes in the Auditorium

Robert Atkinson, F.R.I.B.A., Architect




FLOOR LEVEL
SIDE GANGWAY
WOOD PANEL
CONTINUOUS ORNAMENT
PLASTER GRILL
PLASTER COLUMN
AUDITORIUM FLOOR LEVEL
CROSS SECTION
SIDE ELEVATION
ELEVATION
SCALE OF FEET
INCH SCALE DETAIL OF DOORWAY
PLAN OF UNDER SIDE OF BOX
INCH SCALE DETAIL OF COL
THE REGENT THEATRE BRIGHTON
DETAILS OF SIDE BOXES IN AUDITORIUM
SCALE ¼INCH = 1 FOOT
ROBERT ATKINSON FRIBA
ARCHITECT
36 BEDFORD SQUARE WC1

Little Things that Matter—27

The Site, Aspect, Subsoil, Excavation and Deposition of Soil, Paths, and Gates

By WILLIAM HARVEY

IN England the selection of the site does not fall within the province of the architect as often as might be desired, nor have we the special facilities for training which Americans enjoy in connection with landscape architecture and the placing of the house on the site. Certain points may be regarded as established, however, which count for much in the building owner's enjoyment of his property. The site should be accessible from other places, such as the city or the neighbouring market town, without necessitating extraordinary measures of transport. If approach by motor-car is to be considered the normal method, the roads must be such as will permit of their use; while if the house is to be gained by walking from a railway station or tram route, it is important that its occupants should be enabled to arrive dry shod under ordinary fair-weather conditions.

These aspects of site selection matter very considerably to the city man who chooses to live beyond the suburban fringe of paved streets—lured, perhaps, by the desire to possess a large garden of his own.

The choice of a site sloping down towards the south and presenting a surface exposed to warmth and sunlight is advisable. Reasons of health as well as economy of fuel point to this course in preference to the selection of a site that is exposed and slopes down towards the north or north-east. Sunlight is obnoxious to certain exceptional temperaments, but while it is comparatively easy to keep it out of a house by means of added fittings, verandas, sunblinds, and shutters, it is impracticable to get more than occasional sidelong gleams of sunlight to enter rooms facing north. The garden, too, seldom suffers from too much sunlight, while it may easily suffer from the want of it.

The nature of the soil and subsoil affects the possibilities of both house and garden, particularly in the case under consideration, where the site is not connected with a system of sewerage. An absorbent subsoil which does not require agricultural drainage to deal with the surface water may be considered as the equivalent of so much increased capital value. A sound white chalk subsoil possesses this advantage, and provides at the same time a secure foundation for building, whereas a foundation of clay is troublesome in both respects, and probably also affects the question mentioned above, of access to the site dry shod. It is, of course, necessary to learn what depth of top soil is available for the roots of vegetation, and if exposure to heavy weather will not negative the other advantages. If old existing trees and plants are only to be found in the more sheltered parts of a neighbourhood, and even there are found to be warped and stunted by a prevailing wind, it will be folly to expect to create a comfortable house and garden cheaply, easily, or speedily on a higher and still more exposed site.

Comparison with existing established houses and gardens is useful, and observation of the profusion or otherwise of natural growth will give a fair indication of the possibilities of a district. In any case house and garden will be considered as a single entity by those who view the finished result, and the architect will be expected to know enough of gardening to avoid the usual proceeding of the speculative builder, who almost invariably buries valuable garden mould under layers of chalk or other sterile subsoil. Fig. 1 shows how naturally this error can be made, but it is nevertheless an unpardonable crime in the eyes of any person interested in making his garden attractive.

So much thought and labour are saved—as far as the builder is concerned!—by depositing the top soil, which has to be handled first, where it will be covered with subsoil, that it becomes the architect's duty to provide other and better arrangements and see that they are carried out.

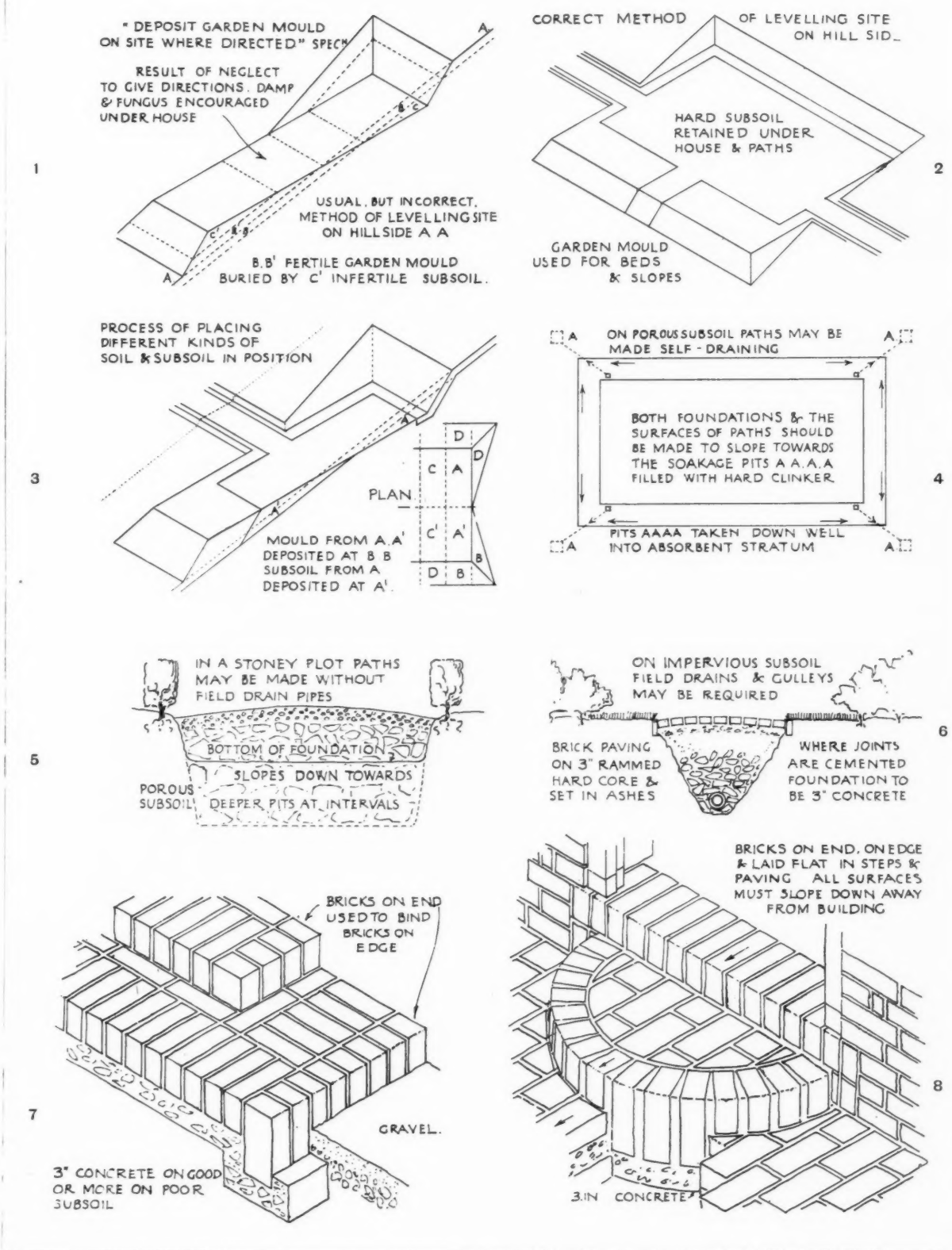
The soil obtained from the operations of levelling the site and digging foundation trenches should be dug out and used in accordance with its value for gardening or for constructional purposes, and should be placed at once in its final position. If this is impracticable in any special case it can at least be stored in heaps where it can be utilized later on. The maximum of economy and efficiency can only be obtained when the garden lay-out is planned in conjunction with the house. The problem of levelling a platform on a hillside is shown again in Figs. 2 and 3, where the gardener's point of view has been considered.

The amount of extra work in keeping different qualities of soil separate is not so great as might be supposed, and may be minimized by dividing up the site in strips. The top soil excavated from A.A′ is wheeled and deposited at B.B. Subsoil from A is next excavated and deposited on A′. The top soil of C.C′ is used to cover the sloping banks of D.D′, etc. Some adjustment is required at the centre of the site, but no second wholesale digging and wheeling of the material is involved.

The position of garden paths and paved spaces should be planned in advance so that garden mould may be removed before it is spoilt by being trodden hard in the processes of handling the building material on the site. Unless a definite agreement is arrived at beforehand it is quite usual for a contractor to run heavy lorries or even traction engines over the garden mould, and to facilitate their progress, when the wheels fail to grip, by shovelling clinkers and brickbats in their path. These undesirable ingredients become inextricably mixed in the soil and result in a compost that is practically unbreakable, and is extremely costly in gardeners' time to remove with pick and shovel. The mixture is practically useless, since the proportion of soil renders it unsuitable for path making, and the bricks and clinkers have to be screened out before it can be used as mould. By including the making of a main carriage drive in the contract, and allowing no other entry, the haulage work done by the contractor for his own purposes all helps to solidify the path.

Path making upon a new undeveloped site may be made an opportunity for additional surface and subsoil drainage. It is only too usual to find paths formed by the addition of a superficial sprinkling of breeze or gravel upon the surface of the ground. This does not make a satisfactory path, since it is liable to break up and easily becomes infested with weeds; nor does it benefit the house, as a well-founded path may be made to do. Water should be kept from draining into the foundations of a house, not only on account of the health of the inmates, which may be affected by the damp, but in order to prevent the ground being softened under the foundation concrete and permitting subsidence in the main walls. Trenches should be cut for the paths around the house, with their bottoms sloping down to points at least 10 ft. distant from the corners of the building, where soakage pits of still greater depth should be formed if the subsoil is sufficiently porous to make this method of water disposal efficient. In clean dry chalk a soakage pit capable of holding 2 cub. yds. and loosely filled with hard, rough lumps of gasworks clinker will dispose of the surface water from several hundred square feet of surface for a very considerable period without needing attention or renewal (Figs. 4 and 5).

In less absorbent subsoil large soakage pits or trenches are required, and in cases of special difficulty, as upon a



"LITTLE THINGS THAT MATTER": DIAGRAMS.

DRAWN BY WILLIAM HARVEY.

subsoil of stiff impervious clay, agricultural drain pipes must be laid to conduct the moisture to some point where it can be either safely stored or dispersed (Fig. 6).

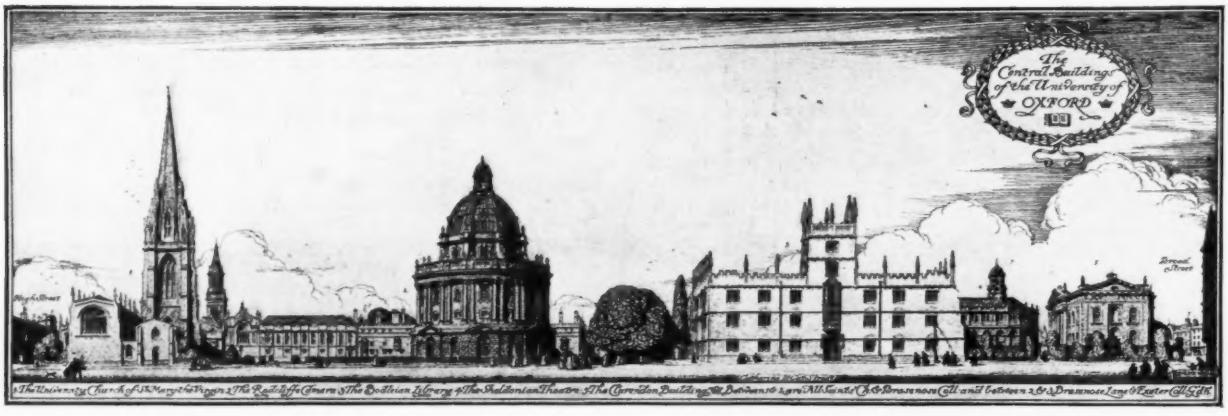
The surface finish of paths and paved spaces must be considered in relation to the purposes they are intended to serve as well as their artistic relationship to the material and colour of the house.

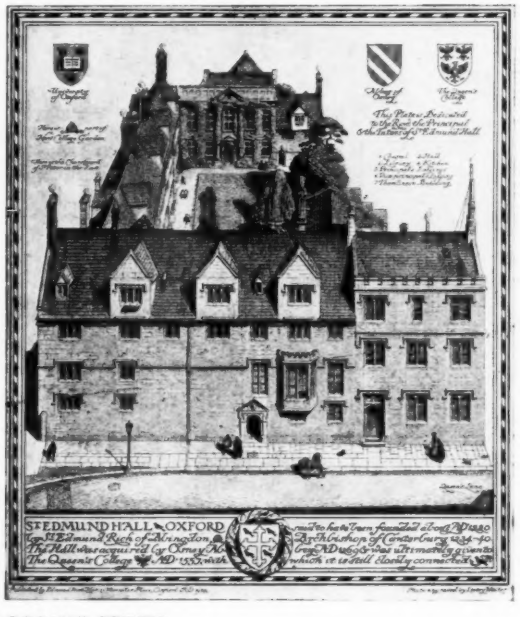
Brick pavings and steps (Figs. 7 and 8) set with flush joints in cement compo mortar can be very attractive, but only certain bricks are suitable for the purpose. Hard well-burned bricks are essential, as they will be required to stand frost on their upper surface, while the remaining portion of the brick is saturated, and few building materials can stand this treatment. The slightly rough surface of such a brick as the Dorking wire-cut stock is an advantage in case of frost, as the usual defect of hard paving is its extremely slippery character when covered with a film of ice.

To obtain scale and contrast the minor paths can be made entirely subordinate and may be formed of isolated stepping stones sunk in the surface of the turf. The stones or masses of brickwork used for this purpose should be kept just low enough to allow of the grass being cut without injury to the mowing machine or scythe.

The arrangement of gates and paths should provide for easy access for house and garden supplies, firewood in bulk, manure, and the like. When ornamental terraces are formed to deal with differences in ground levels a sloping side track for barrows is a great convenience. It is not absolutely necessary, however, for in small gardens it is possible to negotiate the different levels by means of planks placed from one level to the other. Entrances should be contrived in positions where they will not destroy the natural protection of a copse or bank and direct a blast of wintry wind full upon the front door of the house.

In a country district fences and gates should preferably be made vermin proof by the use of close boarding or of fine wire mesh. Rabbits and hares can ruin several pounds' worth of newly-planted fruit trees in the course of a single night by gnawing their bark if they are not adequately protected. The cost of guarding individual trees by separate cylinders of wire soon amounts to a good round sum, such as would go far towards supplying a superior type of fence which will serve to keep out domestic animals as the district becomes more populated; here again it is advisable to think of the possibilities of the garden as well as the requirements of the house, and to build up such fences and walls as will lend themselves to the dual purposes of architectural convenience and effect, and to the protection and encouragement of the growth of plants.





THREE OF MR. EDMUND H. NEW'S "LOGGAN" PRINTS.

(From the recent Exhibition at the R.I.B.A.)

(See page 636.)

Magazines of the Month*

A Literary and Pictorial Digest

THE colossal figures from Khorsabad in the British Museum are used with great effect in a composition, "The Gate of Assyria," by Mr. A. C. Conradé, and which forms the frontispiece to the April issue of THE ARCHITECTURAL REVIEW. The third of "W. G. N.'s" instructive articles upon the "Bases of Criticism" deals with the "Expression of Structure." "There is," says the writer finely, "a world of difference between revelation of structure and expression of structure. The continental locomotive with rods and pistons visibly working, reveals its structure more, but expresses its structure less than a sheer high-shouldered English engine simmering impatiently at the head of the Scotch express. The Scaliger Bridge, leaping across the snow-green Adige at Verona, expresses its structure more than Charing Cross Bridge, which reveals its structure equally. The human body, with its hints of muscle and bone and sinew at nodal points, expresses its structure without revealing it." The war memorials in Provence, by Vernon Blake (an English sculptor long resident abroad, and consequently less known in his native country than on the Continent) are finely illustrated, and the illustration we are able to reproduce well indicates the beauty and strength of his work.

THE AMERICAN ARCHITECT contains an interesting article by Carl A. Ziegler upon "An Architectural Ramble through Maryland," in which we glimpse the architectural gems left to it by the early colonists, who possessed, perhaps unconsciously, "that simple, natural feeling for the beautiful."

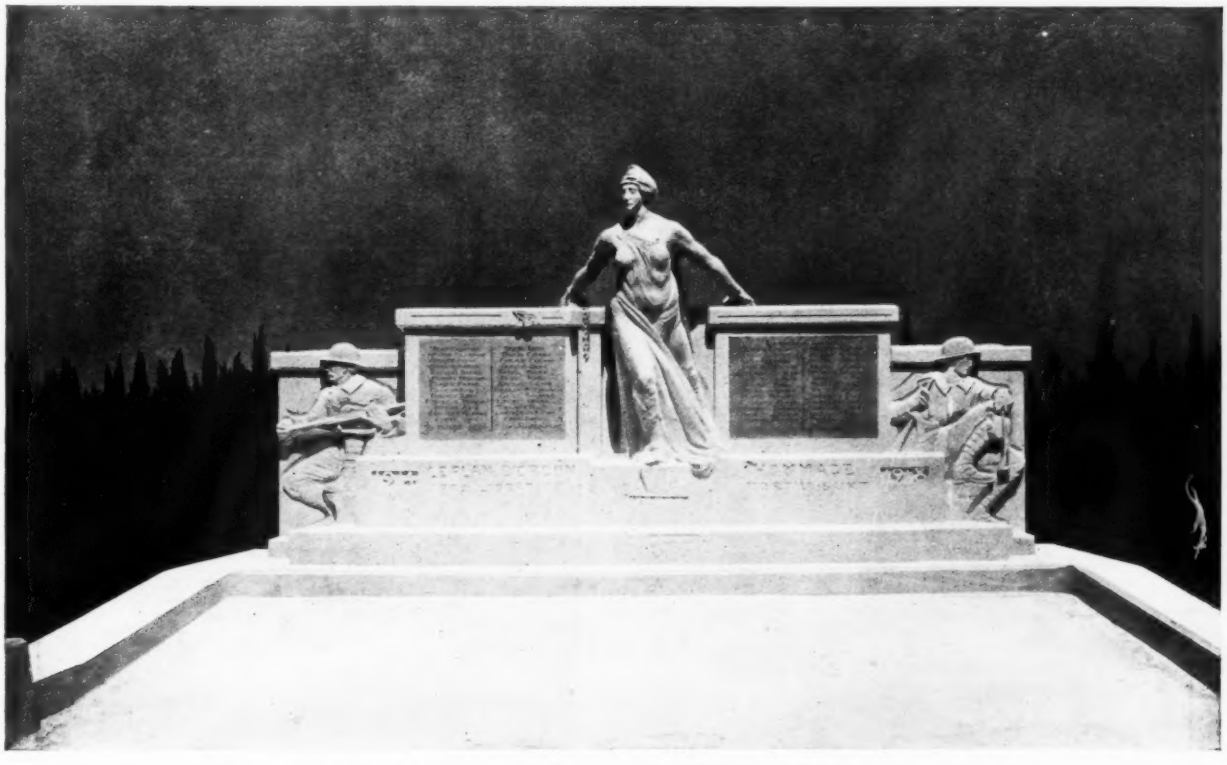
* All the above magazines and many others may be seen in the Reading Room at 29 Tothill Street, Westminster.

The Morgan Library on East Thirty-sixth Street, recently given to New York, by Mr. Morgan, is appropriately illustrated in PENCIL POINTS by a detail of the entrance. The building is believed by many to have been McKim's masterpiece. "Undoubtedly," says THE AMERICAN ARCHITECT, "it is a very beautiful building, and no gift of recent years to any American city approaches it."

In THE ARCHITECTURAL RECORD Mr. Fiske Kimball reviews recent American architecture. We reproduce two examples.

Every once in a while, writes Aymar Embury, under the title "A Forgotten Architectural Motif," some new variant of an old architectural motif comes into being, and if it is really valuable, becomes an accepted and standard part of the architect's vocabulary; otherwise, it dies. So careful have architects been that very little of genuine use to the world has been forgotten, but occasionally some architect or archæologist finds an unfamiliar long-lost motif worthy of preservation both because of its intrinsic beauty and its eminent fitness to its purpose. Such a motif is the Morlaix column.

Morlaix is a little town on the north coast of Brittany, in the fifteenth and sixteenth centuries of importance as a seaport. Much wealth flowed into the town and its houses were of a character somewhat better than those in most of the little Breton cities. While the town never attained the commercial importance of such Flemish cities as Bruges, or the ports of the Hanseatic League or the great Italian commercial cities such as Genoa, Pisa or Venice, it was a flourishing little place, and its merchants built for them-



MEMORIAL AT LE PLAN D'ORGON, BOUCHES-DU-RHÔNE. VERNON BLAKE, SCULPTOR.

(*From "The Architectural Review."*)

selves combinations of shops, dwelling-houses, and warehouses of considerable architectural merit. These, owing to the fact that the town has not greatly increased, still remain as the shops and dwellings of the present city.

In the construction of these Morlaix buildings a system of supporting the upper stories was developed which is unique in architecture. All mediæval and Renaissance towns present many examples of houses with upper stories projecting over the street and lower stories entirely devoted to shop fronts. Enclosed at night by heavy wooden shutters, these were entirely open during the day, and this combination of a very light lower story with solid upper stories is entirely analogous to the small shop front which constitutes so difficult a problem in our present-day design.

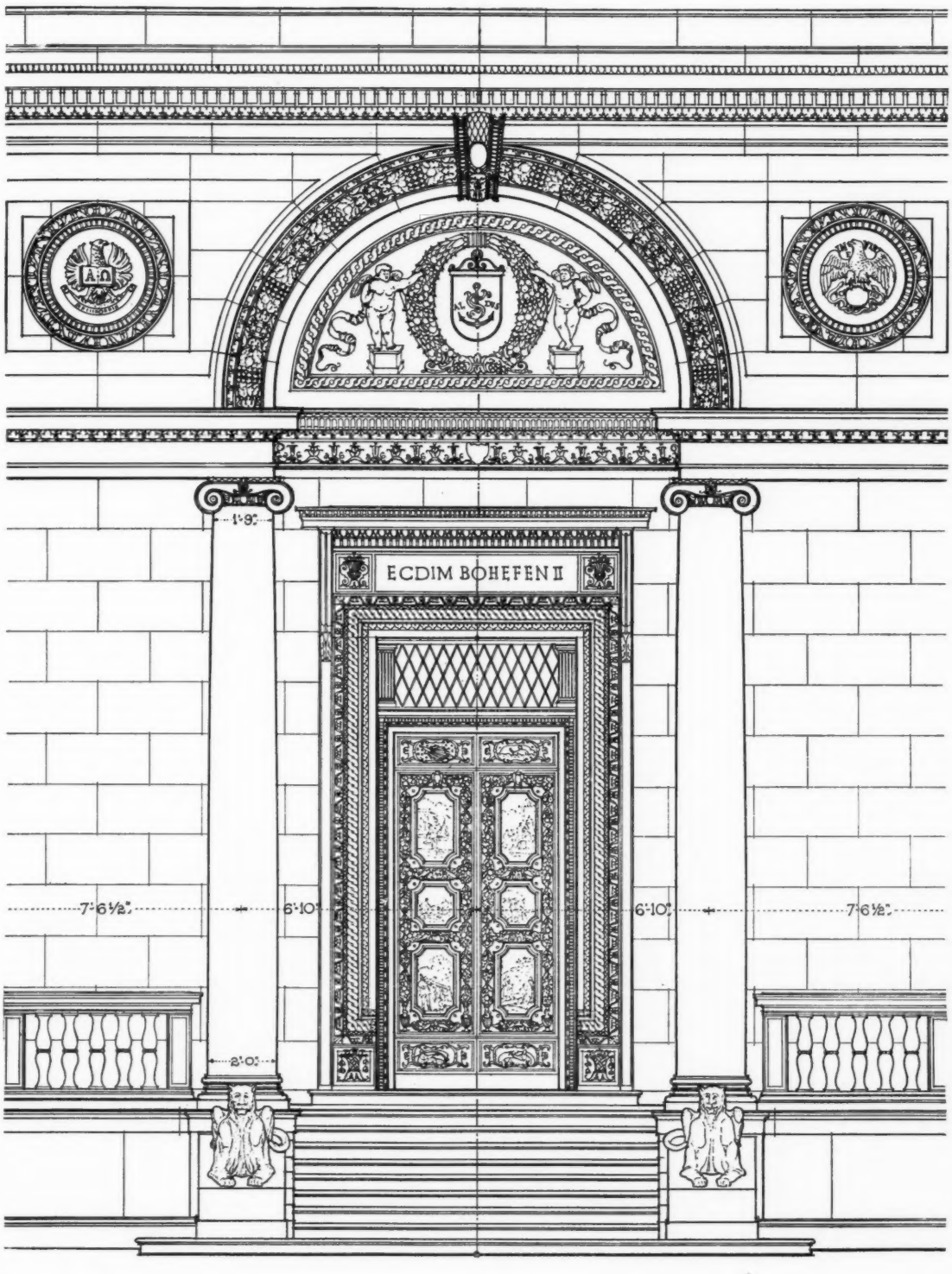
The shop-front design problem was solved by the early architects in many different ways, as by the use of classic columns, or an open arcade, or columns not dissimilar from the Romanesque, or by combining arches and corbels. These methods are found throughout Europe from Hamburg on the north to Sicily on the south, but none of them is a genuinely successful solution of the problem. If the arcade is used and the front is as open as it ought to be commercially, the arches have no abutments and have to depend on the neighbouring houses to support them. If classic columns are widely spaced they appear too light to support the upper structure, and if the Romanesque is used one has a feeling that the sides of the column are employed to support lintels, while the front and back (exactly similar to the sides) have no function.

In Morlaix in almost all cases, the upper stories were carried on what is called in this article the "Morlaix Column," which, in the simplest terms, may be described as a combination of column and corbel in a single motif exactly suitable to its purpose. Beautiful in itself, it offers a variety of treatments which make it adaptable to buildings of any type, and especially to the modern shop front.

CITIZENS' NATIONAL BANK, COVINGTON, VIRGINIA.
ALFRED C. BOSSOM, ARCHITECT.
(*From "The Architectural Record."*)

THE TEXAS COMPANY BUILDING, HOUSTON, TEXAS.
WARREN AND WETMORE, ARCHITECTS.
(*From "The Architectural Record."*)

DEPARTMENTAL STORE FOR L. M. BLUMSTEIN, INC., NEW YORK.
ROBERT D. KOHN AND CHARLES BUTLER, ARCHITECTS.
(*From "The American Architect."*)



THE LIBRARY FOR J. PIERPONT MORGAN, NEW YORK CITY: A DETAIL OF THE ENTRANCE.

McKIM, MEAD, AND WHITE, ARCHITECTS.

(*From "Pencil Points."*)

Two Houses in the Hampstead Garden Suburb

Frank W. Knight, A.R.I.B.A., in association with Paul Badcock, A.R.I.B.A., Architects

IN designing these houses an endeavour has been made to depart from the conventional "semi-detached" style. This has been done by placing an entrance on each of the two road frontages, and by emphasizing that portion of the building which closes a vista with the projecting gable. The ample upper floor accommodation required, which includes two bathrooms in each house, provides the motive for the overhanging tile-hung story. This part of the work is framed in timber, carried on the floor joists, and nogged with 4½ in. partition blocks.

The stacks are economically disposed. Practically the entire cubical content of the group is utilized in essential compartments, six out of the nine rooms in each house being given a directly southern aspect.

Multi-coloured bricks are used for the facings generally,

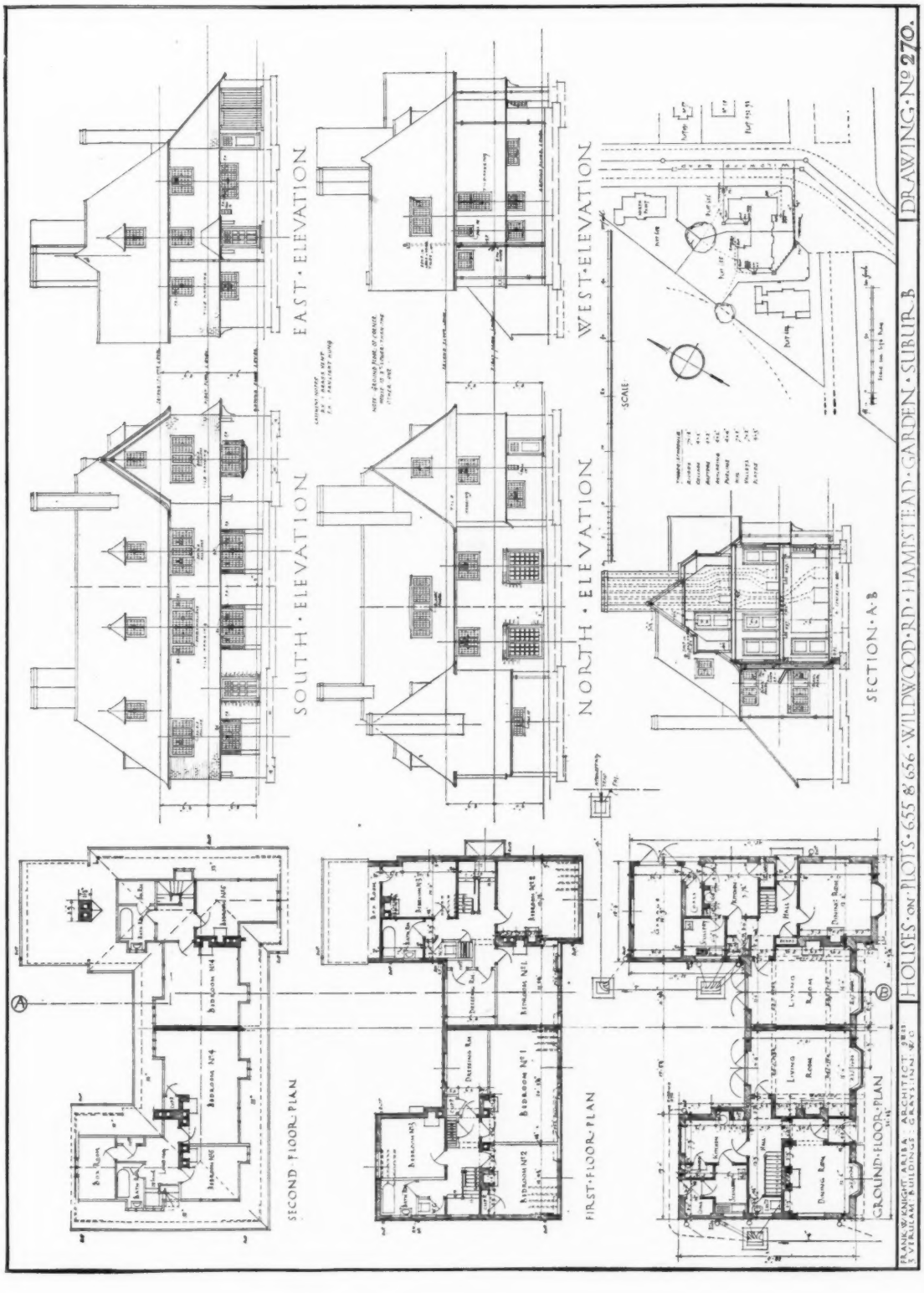
A DETAIL OF THE DOORWAY.

and Warner's hand-made tiles on the roofs and tile-hung walls. The wood window frames are fitted with steel casements, lead glazed, and the barge boards, wall brackets, and oriel mouldings are in oak.

Messrs. Guild Housing, Ltd., were responsible for the constructional work, and the internal joinery finish is by Messrs. Drytone, Ltd.

The timber for the panelling in these houses comes from British Columbia, and has been coloured by a new method, concerning which we print below some specially contributed particulars :—

We have been taught, as a general rule, that for all practical purposes there are only two methods that we can adopt for colouring woodwork. We can paint it or we can stain it. Staining has always been quite successful on the more expensive hardwoods — mahogany, walnut,



FRANK W. KNIGHT, A.R.I.B.A., IN ASSOCIATION WITH PAUL BADCOCK, A.R.I.B.A., ARCHITECTS.

THE LIVING-ROOM, PANELLED IN DOUGLAS FIR.

ANOTHER VIEW OF THE LIVING-ROOM.

A HOUSE IN WILDWOOD ROAD, HAMPSTEAD GARDEN SUBURB.

FRANK W KNIGHT, A.R.I.B.A., IN ASSOCIATION WITH PAUL BADCOCK, A.R.I.B.A., ARCHITECTS.

sycamore, and the like. It has been much less satisfactory on woods with a fairly porous grain, like oak, ash, chestnut, and on woods with very even grain, like poplar and American whitewood. But on all the inexpensive timbers—the resinous woods with strongly-marked hard and soft grain—it is so unsatisfactory that it is rarely used in the best work.

Recent researches, however, have opened up a wonderful vista of possibilities in the treatment of these woods by chemical action without the use of stain at all. Where liquids are used they are colourless—the colours themselves being produced in a dry state by chemical reactions based in every case upon the nature of the wood. The same treatment gives different results on different timbers, thus greatly widening its range of decorative service. A process, for instance, which gives no result on ordinary yellow deal, produces a purple black on sequoia; a delicate lavender grey on western hemlock, and a beautiful cool sepia on red cedar. An Indian hardwood called chuglam—sometimes used as a substitute for oak—when treated by this process gives a fine steel grey of great decorative value, whilst the same treatment applied to oak gives a grey black on the American varieties ranging to deeper tones on the European species. These variations make it possible to use different woods together with excellent effect. Chuglam inlaid or interspaced with bands of oak will give a result in grey and black at one operation with the greatest ease and certainty. British Columbia pine or pitch pine enriched with Indian koko will produce a strong grey brown with a deep chocolate on the enrichments. A combination of western hemlock and sequoia unites the palest silvery grey with the richest of purple blacks, whilst the substitution of red cedar for sequoia will give an olive-tinted sepia in place of the purple black.

These are only a few examples selected from a most alluring range of tested possibilities. In addition to these greys there are the browns. These are obtainable with equal certainty on all woods—ranging from a clear golden brown on mahogany to warm nut browns and grey browns on yellow deal, British Columbia pine, silver spruce, pitch pine, and the like. They are also exceedingly effective on every kind of oak (even including the pinkest of American oak), and on chestnut, ash, Japanese sen, and similar open-grained woods from the Far East.

All these results are not only produced by natural processes without the use of stain—they are totally different in appearance from stained work. The key to this difference is to be found in every case in the behaviour of the hard portions of the grain. When wood is stained—with a liquid colour—the soft parts of the grain become dark, and the hard parts remain almost unchanged—a negative result which always looks unnatural and has hitherto debarred the beautiful pines and firs from all the best work, except where painted. This is what gives these new chemical methods their outstanding value and importance. In every case they give a really natural looking and positive result of wonderful depth and transparency. The soft grain is perfectly clean and free from the undue deposit of pigment—inseparable from staining—and the hard grain takes the full share of the colour. The results are quite harmless, permanent, and fast to light. This achievement places a large number of beautiful and inexpensive timbers in the front rank of decorative materials.

In view of the increased interest in the timbers of Western Canada which will be stimulated by the British Empire Exhibition, it is hardly surprising that the British Columbia authorities have been quick to realize the significance of the recent tests of these new processes on their principal export woods. Successful on all timbers, the new processes have undoubtedly registered their most remarkable achievements on the three chief products of British Columbia—western hemlock, red cedar, and British Columbia pine.

The rapid depletion of the most available softwood supplies of the world is centring attention on those of British Columbia, which province it is estimated possesses more than half of Canada's commercial softwoods. The great lumber-producing centres in Northern America have in the past fifty years moved by successive stages from east to west, until to-day British Columbia possesses, together with the Pacific and North-Western United States, the last great stand of softwoods in America, from which an increasing annual lumber cut is possible. All this brings us to the fact that more should be known in the United Kingdom of our British Columbia timbers. Although we export red cedar and western hemlock to other markets, they are practically unknown here.

Recently mechanical tests were made for H.M. Office of Works by the National Physical Laboratory, for purposes of comparison, on Petersburg fir, Christiania spruce, and English oak. The general conclusion drawn by the Imperial Institute Committee on timbers from the tests was that British Columbia timber may be regarded as equal if not superior to European timbers, and that if the material was representative, when used in building construction, British Columbia timbers may be from 10 to 15 per cent. smaller in size than corresponding European timbers, taking into account the usual factors of seasoning, grain, knots, and general quality.

For interior finish Douglas fir, since it does not contain so much resin, is much superior to southern or pitch pine, as it yields much better results when stained. Douglas fir doors are very largely used in the United Kingdom, and the use of it for general joinery purposes must of necessity increase rapidly as the Pacific Coast of America is becoming the only source from which large supplies of clear softwoods are obtainable. Rift-sawn clear Douglas fir is especially suitable for flooring, and Douglas fir three-ply veneer is becoming very popular for door panels and interior panelling.

The United Kingdom market takes only a small percentage of the output of the Douglas fir region and, unfortunately, the odd sizes especially in width, which are used here, are not required in our other markets. It seems that there would be no loss to the buyer in this market if in a large number of cases he would order even sizes, as, for example, 2 in. by 8 in., or 2 in. by 10 in., instead of 2 in. by 7 in., 2 in. by 9 in., or 2 in. by 11 in.

Presumably a large proportion of the Douglas fir which comes to this market could be ordered to conform with the standard sizes which are employed in British Columbia mills with no loss in the re-manufacture of the timber here and, therefore, with considerable profit both to the manufacturer in British Columbia and the consumer here. Another possibility would seem to be the opening in this market for 1 in. by 3 in., 4 in. by 6 in. clear flooring and partition strips and for various sized moulding strips.

British Columbia hemlock is the western wood most suitable to replace the yellow Canadian or white pine which has been used in such large quantities in this market. It is being adopted by many users in America, who find the price of white pine prohibitive. It is non-resinous, and its uniformity in texture makes it a splendid base for an enamel or paint finish. It is easy to work, and when properly dried does not warp or split. When dry it is without taste or odour, and is used very largely in the manufacture of food containers. Due to its uniformity of texture on account of the fact that there is little difference between the hardness of the spring and summer wood in each annual ring, it takes stain very uniformly, and so yields quiet and dignified grain effects more resembling the results obtainable with hard woods.

British Columbia western red cedar has been used to a considerable extent in decorative ceilings. It is also used in the manufacture of sashes and doors, and for special uses where resistance to decay is important.

The Provincial Government in co-operation with the lumber, shingle, box, and veneer manufacturers is installing an exhibit at the British Empire Exhibition at Wembley, which will display in a finished state all of those products for which it is thought a market can be found, not only in the United Kingdom, but also in other parts of the Empire. A very fine exhibit of these woods is also shown at the Building Exhibition, Olympia, by Messrs. Drytone, Limited, in stand 61, row D.

The Building Exhibition

The Building Trades Exhibition will be opened on Friday morning by the Minister of Health, the Right Hon. John Wheatley, the chair being taken by the President of the R.I.B.A., Mr. J. A. Gotch, at 12 o'clock. In this issue we give a complete list of the events and conferences to be held, together with short notices of the more important exhibits with their Stand and Row numbers. A plan of the Exhibition is reproduced on page 627.

In our next issue we shall publish a series of special articles on various aspects of the Exhibition, together with other features of interest.

A

Acme Ladder Co. (173, J).
Adamite Co. (98, E).
Adams, Robert (58, D).
Aeronautical and Panel Plywood Co., Ltd. (163, H).
Aerostyle, Ltd. (122, F).
Alabastine Co. (138, G).
Alexander & Co., Ltd. (221, L).
Allan Taylor & Co. (268, O).
Allen-Liversidge, Ltd. (292, Q).
Anderson Grice Co., Ltd. (256, 257, O).
Anderson and Sons (118, F).
Anti-waste Appliances, Ltd (235, M).
"The Architect" (103, E).
"The Architects' Journal" (94, E).
Architectural Press (94, E).
"The Architectural Review" (94, E).
Art Metal Equipment Co. (108, F).
Ashley Trading Co. (124, F).
Associated Crafts, Ltd. (274, P).
Australia Concrete Machinery Co. (125, F).

B

Baldwins, Ltd. (306, R).
Banger, Henry (264, O).
Barnett, H., & Co. (73, D).
Bath Artcraft, Ltd., (162, H).
Batsford, B. T., Ltd. (86, E).
Bayley and Halstead (319, S).
Beaver Board Co., Ltd. (307, R).
Bellman, Ivey and Carter (113, F).
Bell's Poilite and Everite Co., Ltd. (279, P).
Birnwell Iron Co. (14, B).
Bland, J. W., & Co. (300, Q).
Blay, George (320, S).
Board, John, & Co. (174, J).
Boby, Wm., & Son (99, E).
Borst Bros. (308, R).
Bowden, Wm. (22A, B).
Bramston, Geo. (288, P).
Brenta, Louis (8, B).
Briggs, Wm., & Sons, Ltd. (34, C).
"British Builder" (84, E).
British Fibrocement Co. (144, G).
British Home and Office Telephone Co. (257A, O).
British Opalograph Co., Ltd. (301, Q).
British Paving Brick Association (237, 238, M).
British Uralite Co., Ltd. (134, G).
British Vacuum Cleaner Co., Ltd. (182, J).
Bruster, O. (220, L).
Bryce, White & Co. (194, J).
"The Builder" (126, F; 245A, N).
Builders' and Contractors' Plant, Ltd. 250, 251, N; 261, O).
"Builders' Merchants' Journal" (216 K).
"Building News" (259, O).
Burlington Slate Quarries (248, N).
Buss and Elston (225, L).
Butters Bros. (317, S).
Byrd, A. A., & Co. (239, N).

C

Cakebread, Robey & Co. (51, C; 209, K).
Callender, G. M., & Co. (67, D).
Camp & Co. (276, P).
Cardon & Co. (54, C).
Carron Company (164, H).
Carson, Walter, & Son (207, K).
Carter & Co. (105, F; 298, Q).
Cayless Bros. (177, J).
Cement Marketing Co., Ltd. (117, F).
Central Chemicals, Ltd. (30, C).
Chadwick and Shapcott (145, G).
Charrier and Marbut Carvings, Ltd. 275, P).
Chemical and Engineers' Products (271, P).
Churchill, Charles, & Co. (291, Q).
Clarkhills, Ltd. (219, L).
Climbing Steel Shuttering (318, S).
Cohen, M., & Son (255B, N).
Collier, S. and E., Ltd. (59, D).
Colthurst, Symons & Co. (191, J).
Compendium Publishing Co. (50, C).
Concrete Utilities Bureau (115, F).
Cooksley, Alfred (88, E).
Cornbrook Rubber Co., Ltd. (244, N).
Cornes and Haighton (232, L).
"Country Life" (169, H).
Courtrai Tile Co. (148, G).
Crittall Manufacturing Co. (153, G).
Croft Granite, Brick and Concrete Co., Ltd. (165, H).
Crosby, Lockwood & Co. (17, B).
Cuirass Products, Ltd. (188, J).

D

Davis Gas Stove Co., Ltd. (154, H).
Dawson & Co. (277, P).
"Decorator," The (21, 22, B).
Dening & Co. (19, B).
Diamond Tread Co. (187, J).
Dominion Machinery Co., Ltd. (75, D).
Dreadnought Fireproof Co. (2, A).
Drew, Clark & Co. (204, K).
Dreyfus, Ltd. (38, C).
Drummond Bros. (42, C).
Drytone, Ltd. (61, D).

E

Eagle Range and Grate Co. (229, L).
"Easilit" Blow Lamp Co. (211A, K).
"Easiwork" (218, L).
Eastwoods, Ltd. (310, R).
Eclipse Rail Track Co. (315, R).
Educational Supply Association, Ltd. (309, R).
Elliott, Samuel, & Son (190, J).
Elsan Manufacturing Co. (79, D).
Evans and Ronald (23, B).
Ewart and Son, Ltd. (198, K).
Expanded Metal Co. (151, G).

F

Falkirk Iron Co. (201, K; 228, L).
Farmiloe, Geo., & Sons (66, D).
Fassio Marble (44, C).
Fawcett Construction Co. (180, J).
Fenlon and Son (29, C).
Fernden Fencing Co. (41, C).
Ferodo, Ltd. (60, D).
Fildes, Thomas (289, Q).
Fleetwood Chemical Co., Ltd. (319, S).
Flexible Drive and Tool Co. (215, K).
Four Oaks Spraying Co. (24, B).
Fowler, John, & Co. (241, N).
France, John, & Sons (289A, Q).
Frawley and Coyle (189, J).
Freeman, Sons & Co. (312, R).
Frys (London), Ltd. (284B, P).

G

Gawthorp & Sons (270, P).
Gay, R., & Co., Ltd. (140, G).
Gelesco Paint Co. (214, K).
Gliksten & Son (91, E).
Greeff, R. W., & Co. (89, E).
Gripwell Staging Co. (212, K).
Guilliet, Sons & Co. (266, O).

H

Haigh (Oldham), Ltd. (208, K).
Haigh, Wilson & Co. (7, B).
Hanrez, A. J. (27, C).
Hart, H. (55, D).
Haskins, S., & Bros. (278, P).
Haunchwood Brick and Tile Co. (62, D).
Heffer, Scott & Co., Ltd. (156, H).
Hemel Hempstead Patent Brick Co. (119, F).
Hildander Employment Specialists (284A, P).
Hill & Co. (284, P).
Hoisting Appliance Co. (56, D).
Hoole, Henry E., & Co., Ltd. (201, K).
Hooley Hill Rubber and Chemical Co. (37, C).
Hopkins, L. (5, B).
Hopton Wood Stone Co. (246, N).
Howell, W. R., & Co. (257B, O).
Hoyle, Robson and Barnett (260, O).
Humphries Hollom, Ltd. (240, N).
Hurry Water Heater Co. (190, K).

I

"Industrial Daily News" (18, B).
Ingham, Robert, Clark & Co., Ltd. (140, G).
Interloc Construction Co. (262, O).
Interoven Stove Co. (210, K; 233, L).
"Irish Builder" (205, K).
"Irish Oil and Colour Journal" (23A, B).
"Irish Times" (20, B).
Ironite Co. (106, F).

J

Jennings, Ltd. (137, G).
Johnson Bros. (48, C).
Johnson's Reinforced Concrete Co. (146, G).
Jones and Attwood (68, D).
Jones, T. C., & Co. (249, N).
Joyce, W. N. (213, K).

K

Kelly's Directories, Ltd. (287, P).
Kennedy, W. (52, C).
Kent Building Co., Ltd. (28, C).
Kerner-Greenwood & Co., Ltd. (49, C).
Key Engineering Co. (267, O).
Kilner & Co. (83, E).
King & Co. (109, F).
Kirkwood, Craig & Co., Ltd. (15, B).
Kleine Patent Fire-Resisting Flooring Syndicate (116, F).
Knowles & Co. (76, 77, D).

L

Lafarge Aluminous Cement Co., Ltd. (297, Q).
Lamb, W. J., & Sons (97, E).
Langley, London (157, H).
Latham, James, Ltd. (149, G; 158, H).
Lawrence & Sons (104, E).
Leckhampton Quarries (32, C).
Leeds Fireclay Co. (101, E).
Lewbart Manufacturing Co. (11, B).
Liner Concrete Co. (283, P).
Linolite Composition Flooring Co. (45 C.)
Lips, Ltd. (196, J).
Liverpool Adhesive Paste Co. (302, R).
L.M.S. Rly. Co. (234, M).
London Brick Co. and Forders, Ltd. (128, F).
London Plywood Manufacturing Co., Ltd. (63, D).
London Sand Blast Decorative Glass Works, Ltd. (281, P).
London Warming and Ventilating Co. (227, L).
Luton Tool Co. (80, D).

M

MacAndrews and Forbes (265, O).
Macquire, John (304, R).
Magnolite Syndicate, The (252, 253, 254, 255, N).
Major, H. J. and C. (186, J).
Major & Co. (110, F).
Malkin Tile Works (135, G).
Mallinson, Wm., & Sons, Ltd. (161, H).
Mander Bros. (141, G).
Marble Mosaic Co. (311, R).
Marchant Bros., Ltd. (243, N).
Marx, Edward (74, D).
"Master Builder" (313, R).
Maxwell, Andrew (247, N).
McNeill, F., & Co., Ltd. (184, J).
Mechanical Engineering Co. (81, D).
Melhuish, R., Ltd. (64, D).
Minimax, Ltd. (9, B).
Morton, Francis, Jun. (195, J).
Moule's Patent Earth Closets Co. (39, C).
"Municipal Journal" (269, O).

N

"National Builder" (303, R).
Naylor Bros. (166, H).
Nettlefold & Sons (111, F).
New Geysers, Ltd. (139, G).
Nicholson Clipper Co. (192, J).
Nonplus Buildings, Ltd. (299, Q).

O

Odling, Anselm (107, F).
Oidas Metals (296, Q).
Oliver, W., & Sons (3, 4, A; 6, B).

P

Pantin, W. & C. (321, S).
Paripan, Ltd. (245, N).
Parker, Frederick (167, H).
Parsons, Thos., & Sons (132, G).
Patent Tip-Up Bath (230, L).
Perfect Patent Co. (31, C).
Perkin & Co. (13, B).
Peters, C. A., Ltd. (69, D).
Phœnix Industrial Services, Ltd. (18, B).
Pinchin, Johnson & Co., Ltd. (143, G).
Pollard & Co. (159, H).
Pollard Water Heater Co. (214B, K).
Potterton, Thos. (46, C).

Q

Quicksey Cabinet Co. (179, J).

R

Raines and Porter (280, P).
Ravenhead Sanitary Pipe and Brick Co. (136, G).
Rawlplug Co. (57, D).
Regent Wallpaper Co. (127, F).
Rennie, A. C. (72, D).
Rhodes Chains, Ltd. (290, Q).
Ridgeley Trimmer Co. (300, Q).
Rippers, Ltd. (90, E).
Roanoid, Ltd. (70, D).
Robinson, Thos., & Son (168, H).
Ronuk, Ltd. (114, F).
Ruberoid Co. (155, H).

S

Sagar & Co. (1, A).
Sanders & Co. (255A, N).
Sanderson & Sons (112, F).
Scaffolding (Great Britain), Ltd. (93, E).
Setchell & Sons (294, Q).
Siegwart Fireproof Floor Co., Ltd. (92, E).
Silicate Paint Co. (100, E).
Skylux, Ltd. (175, J).
Slingsby, H. C. (53, C).
Smith, G. H. (310, R).
Smith and Blyth (71, D).
Smith, Samuel, & Sons (226, L).
Smith and Wellstood (222, L).
Smyrk & Sons (285, P).
Somerset Trading Co. (96, E).
Soole & Son (197, J).
South Wales Brattice Cloth Co., Ltd. (178, J).
Speaker & Co. (152, G).
"Specification" (94 E).
Spedol Manufacturing Co. (263, O).
Staines Kitchen Equipment Co. (223, L).
Standard Catalogues (272, P).
Standard Concrete (316, S).
Stanley Bros. (147, G).
Stather, John, & Son (295, Q).
Steingold, J. & M. (185, J).
Stephens and Carter (242, N).
"Stone Trades Journal" (314, R).
Stoneware, Ltd. (181, J).
Stooke and Sparks (176, J).
"Structural Engineer" (286, P).
Sturtevant Engineering Co. (123, F).
Sussex Brick and Estates Co., Ltd. (193, J).
Sutcliffe, Speakman & Co. (236, M).

T

Tann, John, Ltd. (47, C).
Tella Camera Co. (26, B).
Ten Test Fibre Board Co. (87, E).
Thames Board Mills, Ltd. (150, G).
Thomas and Bishop (40, C).
Torrance and Sons (200, K).
Trade Papers Publishing Co. (22, B).
Triangular Construction Co. (35, C).
Triplex Foundry Co. (10, B).
Tuke and Be'l (65, D).
Turner Bros. (160, H).

U

Union Glue and Gelatine Co., Ltd. (12, B).
United Sponge Co. (25, B).
Universal Rubber Paviors' Co., Ltd. (37, C).
Universal Spanner Co. (217, K).
Ure, Allan & Co. (33, C).

V

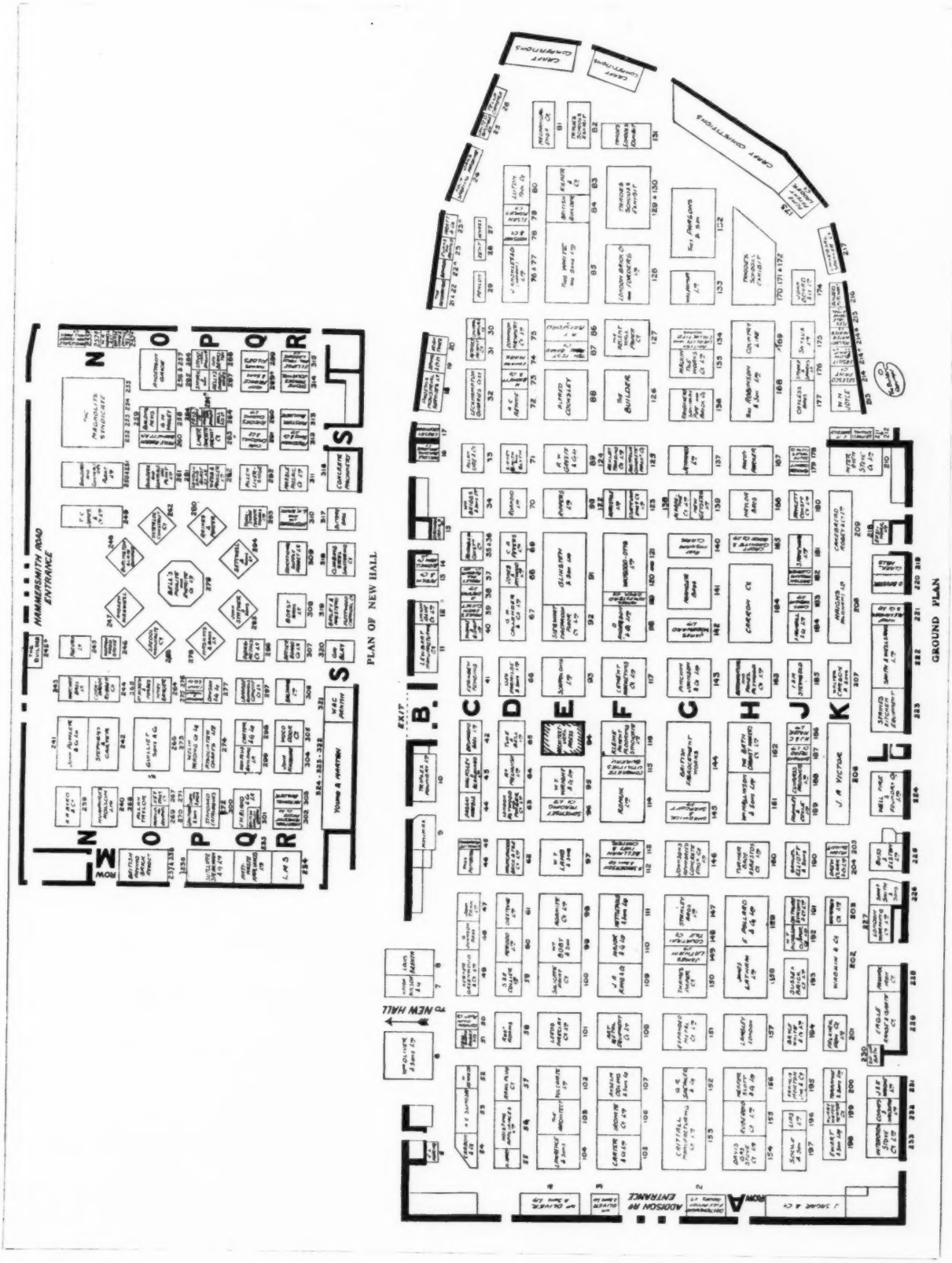
Victor, J. A. (206, K).
Vulcanite, Ltd. (102, E).

W

Wadkin & Co. (202, K).
Wallidge Building Appliances Co. (16, B)
Walmsley and Blanchard (43, C).
Walpamur Co., Ltd. (133, G).
Ward, E. A., & Co. (211, K).
Waterex Co., Ltd. (203, K).
Waygood Otis, Ltd. (121, F).
Webb and Foulger (282, P).
Welin Trading Co. (273, P).
Well Fire and Foundry Co. (224, L).
Whiley, G. M. (258, O).
White, Thos., & Sons (85, E).
Wholesale Non-Combine Wall Paper (255B, N).
Woco Door Co. (305, R).
Woodward, James, Ltd. (142, G).
Worsnop & Co., Ltd. (78, D).
Wright, Charles, Ltd. (183, J).
Wright, J. and E., Ltd. (231, L).
Wright, W. T., & Co. (95, E).

Y

Yorkshire Copper Works, Ltd. (293 Q).
Young and Marten, Ltd. (322, 323, 324, S).



THE BUILDING EXHIBITION, OLYMPIA: GROUND PLAN OF THE MAIN AND THE NEW HALL.

Meetings and Conferences at the Exhibition

Following is a list of the meetings and conferences that will be held in connection with the exhibition :

Friday, April 11, 12 noon.—Official opening.

Saturday, April 12.—Visit of Institution of Sanitary Engineers.

Monday, April 14.—Visit of Devon and Exeter Architectural Society; visit of the South Wales Institute of Architects.

Tuesday, April 15.—10.30 a.m. : Institute of Clayworkers annual meeting; 11.30 a.m. : meeting of the National Federation of the Building and Engineering Brick Trade; 11.30 a.m. : meeting of Employers' National Council for the Clay Industries; 3.0 p.m. : conference on brick paving. Paper to be read by Horace Boot, M.I.Mech.E., president of the British Paving Brick Association, chair to be taken by Sir Henry Maybury, K.C.M.G.; 6.0 p.m. : lecture "Old Westminster," St. Stephen's and the Painted Chamber, by Herbert A. Cox.

Wednesday, April 16.—Visit of Berks, Bucks and Oxon Architectural Society; visit of Royal Sanitary Institute.

Thursday, April 17.—4.0 p.m. : "At Home" to members of the Royal Institute of British Architects, the Architectural Association, and the Society of Architects.

Friday, April 18.—Good Friday. Exhibition closed.

Saturday, April 19.—Congress of Architects' and Surveyors' Assistants' Professional Union; dinner A.S.A.P.U.

Monday, April 21.—Congress A.S.A.P.U. continued; visit of the Society of Estate Clerks of Works.

Tuesday, April 22.—11.0 a.m. : International Cement Congress; 1.30 p.m. : luncheon to delegates.

Thursday, April 24.—11.30 a.m. : Annual meeting of the South Eastern Federation of the Building and Engineering Brick Trade; 4.0 p.m. : Reception by the president and council of the London Master Builders' Association to the members of the Association, and the National Federation of Building Trades Employers; 6.0 p.m. : lecture "Westminster Hall," by Herbert A. Cox.

Saturday, April 26.—Exhibition closes.

Some Preliminary Notices of the Exhibits

Bricks and Tiles

Herbert Alexander & Co., Ltd., of Charmouth Street, Leeds, exhibit some of their brickmaking machinery, with samples of the bricks they produce. Amongst the exhibits are sand-lime bricks, slag-lime bricks, clinker-lime bricks, silica refractory bricks, magnesite refractory bricks, bricks made on the stiff plastic process from shale, and on the plastic wire-cut process from plastic clays.

The British Paving Brick Association, 43 Essex Street, Strand, W.C.2. A portion of the Association's space has been paved with bricks bedded on ½ in. layer of sand, and jointed with bitumen of approved composition. A portion is reserved for occasional demonstrations of the method of laying and jointing. The Standard Rattler Machine, by means of which a very drastic test of bricks for paving is carried out, is shown in action.

Carter & Co., Ltd., Encaustic Tile Works, Poole, Dorset, are showing glazed wall tiling for interior and exterior of every description of building, floor tiles for all purposes and of all kinds, including plain vitreous, and mosaics (Roman, circles, etc.). They are also showing examples of their ceramic constructional materials in ceramic marble (glazed terra-cotta) and faïence.

Dawson & Co., Ltd., Mendip Wharf, York Road, Battersea, London, S.W.11, show sanitary goods, bricks, cement, and plasters, partitions and paints. In the brick section are Kent stocks of various qualities, red and multi-coloured facings, red moulded bricks, Fletton and pressed bricks, sewer bricks, blue Staffordshire bricks, and white and coloured glazed bricks.

Haunchwood Brick and Tile Co., Ltd., Nuneaton, show samples of practically all their manufactures, including numerous kinds of blue and brindle bricks. The firm specialize in 3 in. pressed blue bricks without frog, for L.C.C. sewer contracts, and pressed blue bricks with frog, for bank strongrooms and work of a similar character.

N. S. Kilner & Co. (Engineers), Ltd., of 131A Briggate, Leeds. An important exhibit is the "Victory" press 1924 model for producing highest class bricks from sand, lime, clinker, slag, shale, quarry waste, etc., and also used for the production of the highest grade bricks from refractory materials. This machine is producing bricks at the exhibition.

Thos. Lawrence and Sons, Bracknell, Berks. This pavilion has been specially designed by an architect, to afford an opportunity of exhibiting in contrast the colouring of the numerous ranges of bricks, tiles, T.L.B. rubbers, semi-Roman tiles, brickettes, kerbs, etc. The exhibit presents three sides to the gangways, which admit of the colour effects produced being viewed at a fair distance. The pavilion has been designed with a gateway set in the cross-wall of it. Tucked away in the four corners are fireplaces of brick.

The London Brick Company and Forders, Ltd., of Africa House, Kingsway, London, W.C.2, exhibit a building constructed entirely with Fletton bricks, and samples of all descriptions of Flettons, rustic, white, and other facings. This year the firm are making a feature of their multi-coloured "Ruff" bricks. With this brick they claim to have solved the problem of producing a really cheap facing brick.

Ravenhead Sanitary Pipe and Brick Co., Ltd., Ravenhead, St. Helens. This stand is decorated internally and externally with the firm's "Rus" and sandfaced manufactures. The interior exhibits consists of fire surrounds in both "Rus" and sandfaced, and the exterior of garden ornaments such as vases, sundials, chairs, forms, and "Rus" paving blocks and clinker pavors.

The Sussex Brick and Estates Company, Ltd., of 14 Market Square, Horsham. This stand is again in the form of a brick pavilion. It shows the firm's many Weald clay products, chief amongst which are the Southwater vitrified engineering or pressed facings, and the S.B.E.C. hand-made flared reds and mixed coloured kiln stocks.

Turner Brothers Asbestos Co., Ltd., Rochdale. The Stadium and main buildings of the British Empire Exhibition were covered with Turners' Trafford tiles, samples of which are shown.

W. T. Wright & Co., Ltd., Albion, Phœnix and Barrow End Brick Works, Sileby, near Loughborough, show pressed, moulded, sandstock, and wire cut bricks, and agricultural drain pipes. The specialities of the firm are sand-faced roofing tiles and Dutch sandstock facings.

Builders' Equipment

The Acme Patent Ladder Co., of Earlsfield, London, have a large variety of telescopic extension ladders to extend by ropes, pulleys, and patent springless automatic locks. Steps suitable for the building trade, trestles, builders' handcarts, and the "Guildhall" pattern scaffold trestle are shown.

Drew, Clark & Co., Lea Bridge Road, Leyton, E.10. On this stand are Drew's patent telescopic ladders in two, three, and four sections, and from 9 ft. to 90 ft. Drew's patent decorators' ladders, platform steps, scaffold trestles, and tower ladders are also shown, as well as Higgs's and Drew's patent "Raprig" sectional scaffold for interior decoration work.

The Perfect Patent Co., 195 High Street, Brentford, display the "Rapid" self-adjusting ratchet wrenches, "Limpet" pipe grips, and "Pertect" file handles. Samples are also shown of plating, bronzing, and lacquering. Tools for builders' and plumbers' use are also exhibited.

W. and C. Pantin, of 147 Upper Thames Street, London, E.C.4. A feature of the stand is a portable belt elevator suitable for loading trucks and lorries with builders' material, sand, gravel, breeze, etc., at a rate of about thirty tons per hour. It has a maximum delivery height of 10 ft., and is driven by an electric motor mounted in the base frame.

H. C. Slingsby, 89, 95, and 97 Kingsway, London, W.C.2, have a selection of about sixty from over 1,900 varieties of trucks, etc, which the firm make and catalogue. The exhibits include sliding-wheel trucks, sack trucks, handcarts of all kinds, extension ladders, step ladders, sliding-wheel jacktrucks, etc.

Stephens and Carter, of Paddington Green, W.2, have on show a complete range of ladders, steps, trestles, barrows, tarpaulins, scaffold cords, wire ropes, baskets, and all plant appertaining to the building trade. The firm also show a full-sized Spencer's travelling cradle, and a new form of tubular scaffolding.

Cement, Concrete and Reinforcements

The Cement Marketing Co., Ltd., of 8 Lloyds Avenue, London, E.C.3, the selling organization of the Associated Portland Cement Manufacturers, Ltd., The British Portland Cement Manufacturers, Ltd., Martin, Earle & Co., Ltd., and The Wouldham Cement Co., Ltd., have an office where they will be pleased to receive their friends.

The Concrete Utilities Bureau, of 35 Great St. Helens, London, E.C.3. This is an organization for advocating and encouraging the use of concrete. All who are interested in concrete for any purpose, and who may have any points upon which they wish enlightenment, are invited to seek the assistance of the bureau, whose services will be rendered free of charge.

The Expanded Metal Co., Ltd., York Mansion, Petty France, Westminster, S.W.1. The exhibit consists of samples of the company's products and examples of their uses. Photographs are also shown of works carried out. The exhibits include "Expamet" steel sheet reinforcement for concrete in foundations, walls, floors, roofs, etc., and lathings for interior and exterior plaster work.

Freeman, Sons & Co., Ltd., Wandsworth, S.W.18. This exhibit indicates the possibilities of decorative work in cement, concrete, plaster, and roughcast, by the use of Freeman's "Cementone" products for colouring and colour glazing. Examples are shown in panels of roughcast, tinted in various shades, by the incorporation of No. 1 "Cementone" colours with the roughcasting materials.

Johnson's Reinforced Concrete Engineering Co., Ltd., Manchester, are again displaying their specialities of concrete reinforcements, viz., "Lattice," "Keedon," and "Bricktor." The firm have carried out very extensive works in reinforced concrete, some typical examples of which are to be seen in the photographs exhibited.

The Kent Building Co., Ltd., 34 Victoria Street, London, S.W.1. The exhibit demonstrates the "Kent" system of construction, in which reinforced concrete columns are set up at regular intervals with horizontal bolts projecting inwards, to which the slabs, door frames and window frames forming the panels are secured by unskilled labour.

J. A. King & Co. ("King" Fireproofing), 181 Queen Victoria Street, London, E.C. Among the exhibits are concrete partition blocks, wall blocks for cavity wall or single wall construction, plaster slab partitions, plaster slab ceilings, roof slab construction; puggling slabs, made to suit spacing of joists; and the ferro-concrete glazing bar.

Lafarge Aluminous Cement Company, Limited, of Regent House, 89 Kingsway, London, W.C.2, have followed the advice given by the publicity expert in our issue for February 27, and have arranged with Dr. Oscar Faber, O.B.E., D.Sc., to design them an exhibit. The sides of the stand are cast in the firm's "Ciment Fondu."

Doors and Windows (Wood and Metal)

The Art Metal Equipment Co., Ltd., of 184, 186, and 188 Shaftesbury Avenue, London, W.C.2, show steel doors, steel screens and partitions, and steel furniture and fittings. The company's system in the manufacture of shutters consists of rolling steel doors made of interlocking steel slats, the working parts being fitted with ball-bearings to ensure ease of operation. "Anti-slip" stair treads in cast iron, cast bronze or aluminium, with carborundum grit cast into the surface, are a feature of the stand.

The Crittall Manufacturing Co., Ltd., 246 High Holborn, W.C.1. Metal windows of every description are to be seen on this stand. An outstanding feature is the new zincspra process, which is applied to metal windows to make them permanently rustproof. A new range of standard windows, produced for use in tropical countries, and a new type of hospital window are also shown.

The Croft Granite Brick and Concrete Co., Ltd., Croft, Leicester. A prominent feature is made of the Croft adamant "Acme windows" in standard sizes, with transomes, mullions, and fitted with steel casements and leaded lights. Fireplaces, door hoods and brackets, garden ornaments, flower vases and stands, sundials, and bird baths are also shown.

The Educational Supply Association, Ltd., Stevenage House, 40–44 Holborn Viaduct, London, E.C.1. The exhibit comprises "Esavian" folding and sliding partitions and screens, folding and sliding doors, and "Esavian" folding and sliding windows. Garden furniture, library furniture, and laboratory furniture are also exhibited.

Haskins, Blackhorse Lane, Walthamstow, E.17. The stand has been designed by Mr. Keith Arnold, architect, and takes the form of a rectangular Doric pavilion supported by flat pilasters. The firm's exhibit consists of a "Kalamein," an extruded bronze shop front, and a pair of "Firola" doors for the enclosure of party-wall openings.

E. Pollard & Co., Ltd., of St. John's Square, Clerkenwell, London, E.C.1, have a working exhibit of their fireproof rolling door. There is also a show of drawn, cast, and extruded metal work, sign-writing, joinery, etc., and several of the latest models of "Kwikserving" fixtures and counters.

Rippers, Ltd., of Castle Hedingham, Essex, are showing in their high-class joinery section examples of oak, mahogany, and walnut doors, their patent hospital doors, and examples of decorated mantels and mouldings. In the housing joinery section they exhibit standard doors, windows, dressers, cupboards, and entrance gates.

The Woco Door Company, Dashwood House, London, E.C.2. "Woco" doors are manufactured from Columbian pine seasoned by a special process to ensure their durability and to prevent warping, twisting or shrinking, while the 3-ply panels used are of rotary-cut veneers from Columbian pine selected logs, prepared with a special damp-proof cement.

Door and Window Furniture

Robert Adams, 3 and 5 Emerald Street, Holborn, London, W.C.1. The exhibit includes working models of all the new patterns of "Victor" door springs, "X-It" panic bolts, an extensive range of fanlight openers, closers, and fasteners, and new models of casement bolts, stays, and fasteners, metal windows, and accessories.

Camp & Co., Ltd., of 41b Blenheim Crescent, Ladbroke Grove, London, W.11, display the "Sollink" sash chain. Each link is a solid stamping, and forms a separate unit so that the length of chain required is easily obtained, and there is no wastage. It is easy to fit, and needs no special tools and fittings.

Evans and Ronald, Ltd., 7 Denman Street, London Bridge, London, S.E.1. The exhibit includes the "Evron" patent bullet catch and bolt combined, which does away with the necessity for lock and key; the "Riddick" patent door furniture, the "Cubitt" electric light bulb director, and the "Eddoll" gate latch, which ensures a gate being always shut.

Lips Limited, of Kingsway House, Kingsway, W.C., are exhibiting a collection of various types of high-class security locks, both in the lever action and in the cylinder. Most of the locks are made with all the internal parts drop forged. Models of floor springs and of overhead door checks are also shown.

Nettlefold and Sons, Ltd., 54 High Holborn, W.C.1. This year, in addition to a wide range of locks, hinges, and door furniture, including a number of patterns specially suitable for housing schemes, several new lines in door and window fittings are being shown.

Rhodes Chains, Ltd., 117–119 Stoke Newington Road, London, N.16. The stand is constructed of imitation brickwork, and built in are sliding sash windows fitted with the Rhodes cog-wheel pulleys and chains. Chains constructed of rustproof steel and phosphor bronze for use over any grooved wheel pulleys are also importantly displayed.

Roanoid Ltd., 29 West George Street, Glasgow. "Roanoid" is a new composition manufactured into suitable fittings for domestic use to save labour and enable colour schemes to be executed completely. The material is claimed to be light, strong, non-inflammable, non-corrosive, non-conductive, and hygienic.

Skylux, Limited, 22 Great Saint Andrew Street, Shaftesbury Avenue, W.C.2. The Skylux patent universal window opener and window opening gear is demonstrated on a screen hung with sashes swinging in all directions. The roof lights in the new exhibition hall, Olympia, are operated simultaneously by the Skylux window opening gear in two spans comprising a total length of 268 ft., as well as those in the Pillar hall and post office.

Chas. Wright, Ltd., Edgware, Middlesex, give prominence to their system of sash hangings. Besides holding the War Office contract for sash chains and equipment, the firm supply most of the Government departments, His Majesty's Office of Works, and other large users.

John and Edwin Wright, Ltd., Universe Rope Works, Birmingham, have a display of galvanized flexible wire scaffold lashes, galvanized steel wire cords for window sashes, steel wire rope ladders, steel wire lift ropes, steel wire crane ropes, steel wire slings for lifting purposes, and manila and hemp scaffold lashes.

Floors and Flooring

The Diamond Tread Co., Ltd., of 28 Victoria Street, London, S.W.1, exhibit their patent non-slip treads and tiles. Diamond non-slipping tiles and mosaics are composed of sparkling grit and the firm's own cement, which is of great hardness. Combined with ordinary tiling and mosaic the flooring has the added advantage of a sure foothold.

Fawcett Construction Co., Ltd., 65 Victoria Street, Westminster, S.W.1. The stand demonstrates the uses of "Mon'-lithcrete" (rolled steel) girders for floors, roofs, bridges, etc., the "Edwardian" down draught preventing chimney pot, and Fawcett's tubular flooring.

Hooley Hill Rubber and Chemical Co., Audenshaw, near Manchester. On this stand are all varieties, shades, and thicknesses of rubber flooring and tiling of the Hooley Hill Rubber and Chemical Co., and various illustrations of road paving blocks, showing methods of application of the new patented rubber roadway of the Universal Rubber Paviors (Manchester), Ltd.

Kleine Patent Fire Resisting Flooring Syndicate, Ltd., 133-136 High Holborn, W.C.1. The exhibit deals with fire-resisting floors, roofs, and staircases of reinforced hollow bricks.

Morner & Co., 54a Parliament Street, London, S.W.1. The firm's "P.P.P. Flooring," is supplied in panels measuring about 2 ft. square, the thickness being a full five-sixteenths of an inch. The panels are composed of sections of the best figured prime Austrian oak, ¼ in. thick, arranged in various patterns, glued to a substantial specially constructed double plywood, the whole forming a rigid and non-warping panel.

Francis Morton, Junior, & Co., 22 Laurence Pountney Lane, Cannon Street, London, E.C.4. This exhibit consists of a sample spring floor for dancing and for racquet, badminton, squash, and other similar courts. The floor is carried upon an installation of the firm's "Valtor" system of steel springs and girders, with locking gear for rendering the floor rigid or resilient as required.

Siegwart Fireproof Floor Co., Ltd., Thanet House, 231 Strand, London, W.C.2. The exhibit by this firm, who specialize in a fire-resisting floor which requires no centering whatever, shows the simplicity of this construction. They demonstrate by actual construction the methods employed for obtaining either a finished soffite ready for lime-whiting or their special expanded metal joint which gives a key for plaster work.

Glues and Paste

Central Chemicals, Ltd., 8-10 Little Suffolk Street, London, S.E.1. Demonstrations are given of the strength and the heating and water resisting properties of "Certus" and "Fortil" joinery glues. Several exhibits show the diverse purposes to which the glues can be applied. A variety of other glues are also exhibited, and several qualities of "Caseins," "Rennett" and "Lactic."

Kirkwood, Craig & Co., Ltd., 8th Avenue Works, Manor Park, London, E.12. The stand is devoted to "Tapwata" dry paste to mix in cold water; "Glood" fluid glue; and "Kirkor" liquid glue. The firm also show cake glues, and a paste powder to mix in boiling water.

The Liverpool Adhesive Paste Company, Ltd., 9 Roberts Street, Liverpool. Interesting demonstrations are being given of L.A.P. products. The L.A.P. paste powder is seen in actual use, and the effect upon the most delicate shades of paper seen at a glance. This exhibit supports the makers' claim "that it cannot hurt." This powder was introduced upwards of twenty years ago.

Heating, Cooking, and Hot-Water Appliances

The Birnwell Iron Co., Ltd., 1 Regent Street, S.W.1, show the "Birnwell" boiler, which provides constant hot water and cooking facilities, as well as warming the house, all with the one fire. Each boiler is tested (and bears a certificate of test) to 100 lb. pressure per square inch, and is guaranteed for a period of five years.

O. Bruster and De Launoit, 4 Lloyds Avenue, London, E.C.3. On this stand are the "Baseco," the "Glow-worm," and the "Baby Glow-worm" boilers. The "Glow-worm" is made in two sizes. No. 1 size raises forty-two gallons of water 100 deg. Fahr. per hour, and No. 2 fifty-six gallons 100 deg. Fahr. in the same time. That is to say, that the No. 1 size provides, at any and every minute of the day, hot water sufficient for every domestic purpose, a hot bath every fifteen minutes, towel rail, coil for linen cupboard, and several radiators.

Cakebread, Robey & Co., Ltd., Caroba Works, Wood Green, N.22. Here are the firm's latest and exclusive designs of wood chimneypieces and tiled fireplaces, including their "Caroba" hearth fires. The "Gladwyfe" combination sitting- and living-room grates provide all that is required for cooking and hot-water supply to baths, etc., and keeps the appearance of a sitting-room grate.

The Carron Company, of Carron, Stirlingshire, display ranges, fire grates, baths, electric and gas cooking and heating appliances, all of which are in keeping with the Carron standard. The constructional ironwork of the stand contains a variety of columns, railings, etc., all of which are manufactured by the company and erected by their own men.

The Davis Gas Stove Co., Ltd., of 60 Oxford Street, London, W.1, exhibit the "Sentry" boiler, as well as cookers, fires, and geysers. They also show the "N.H." boiler, the "Garba" heater, the "Blighty" washing machine, the "Rubston" coal and gas surrounds, and the "Nautilus" system of flue block construction.

The Eagle Range and Grate Co. (now John Wright and Eagle Range, Limited), 127 Regent Street, London, W.1, show a new gold medal Premier Eagle range, fitted with patent semi-independent boiler. A selection of other ranges, the new Eagle combination grate, and of hearth grates, and the Eagle cottage range are also shown.

Fenlon and Son (incorporating G. Shrewsbury & Co.), of 8 Tudor Street, London, E.C.4. On this stand are geysers, water heaters, gas boilers, etc., in various patterns.

The "Hurry" Water Heater Co., 39 Broad Street, Birmingham. The ordinary water heaters of the company are of the storage method, and have, it is claimed, been successful in large housing schemes. The "Hurry" geysers for the small villa property, and the "Hurry" furnaces or coppers are also shown. The firm supply gas heated as well as coal furnaces.

The Interoven Stove Co., Ltd., of 156 Charing Cross Road, London, W.C.2, have two stands, one to demonstrate the outstanding points of the new "Super-Interoven" stove, and the other to show the "Super-Interoven" stove actually working, to give cooking demonstrations, and to transact the usual business.

The London Warming Co., Ltd., of 20 Newman Street, Oxford Street, London, W.1, are giving a demonstration of the "Kooksjoie" range in action. This range was awarded the gold medal at the Bakers' and Confectioners' Exhibition. The "Wifesjoie" one-ring gas cooker, which obtained the highest award of the Royal Sanitary Institute, and the "Florence" patent open grate, which burns anthracite, and is capable of warming a whole house, are also shown.

Thomas Potterton, Ravenswood Road, Balham, S.W.12. On this stand are standardized types of "Victor" gas boilers. A small installation for warming purposes, with circulating radiators, heated by gas, controlled automatically, is in operation as an instance of supplementary heating equipment for residence or offices.

Smith and Wellstood, Ltd., of 11 Ludgate Circus, London, E.C.4, have as a centrepiece of their exhibit one of the finest examples of their "Wellstood" range. It is in the sidelight form, intended to fix against the wall of the kitchen. In this respect it is something between the brick-set kitchener and the portable range. At the end of the body of the range there is an independent boiler.

Samuel Smith and Sons, Ltd., Beehive Foundry, Smethwick, exhibit the "Foresight" combination range. In this range the maximum heat is radiated in the room from a special all-brick back, the coal consumption is regulated by an automatic movable canopy and damping regulators, and hot water is guaranteed by a powerful high-pressure boiler. The working parts cannot burn or get out of order as they are away from the fire.

Allan Ure & Co., Springbank Ironworks, Keppochhill, Glasgow, give prominence to their "Back-to-Back" grate, which meets modern requirements by making the living-room into an attractive parlour or sitting-room. The grate can be seen in operation. It is being extensively used in municipal and other housing schemes throughout the country.

Lifts, Staircases, and Escalators

Charles Churchill & Co., Ltd., of 9–15 Leonard Street, Finsbury, London, E.C.2, are exhibiting "Alundum" safety products, including a range of floor and stair nosing tiles, in various colours, plain, and with countersunk screw holes. Aggregates are also shown for treating cement floors, and terrazzo to render them slip-proof.

Ferodo, Ltd., of Chapel-en-le-Frith, Derbyshire, show a full range of samples of their fabric stair treads with several models showing methods of fixing nosings and treads to various types of stairs. Samples are also shown of "Feroleum" nosings and flooring material, which is made from fine Para rubber and "Ferodo" fibre, both corrugated and plain.

Waygood-Otis, Ltd., 54 and 55 Fetter Lane, London, E.C.4. A special exhibit is the high-speed gearless traction lift machine fitted with patent "Micro" drive self-levelling apparatus. A model is also shown of the latest pattern escalator for conveying a large number of passengers in a continuous flow, similar to those which are being built and erected by the firm for the London Underground Railway Company.

Machinery of Various Kinds

The Australia Concrete Machinery and Engineering Co., Ltd., Pordon Road, Brixton, London, S.W.2. The chief exhibits on this stand are the "Tonkin" concrete mixing machine and the "Australia" block-making machine. The "Tonkin" is a batch mixer of the open drum type, designed on the open trough principle, showing the materials in full view during the process of mixing. Twenty revolutions are sufficient for each mix.

A. A. Byrd & Co., of 11 Queen Victoria Street, London, E.C.4, show the "Metaform" interlocking steel forms for moulding any shape or form in concrete *in situ*. There are also samples of the other standard and special types of "Metaforms" for various classes of concrete construction. A sample section of finished wall is also exhibited.

The Dominion Machinery Co., Ltd., of Union Street South, Halifax, the sole manufacturers and distributors of the "Elliott" woodworker, have examples of their labour- and power-saving woodworking machinery.

Drummond Bros., Ltd., of Guildford, exhibit a concrete mixer, diaphragm pump, duplex force pump, drag saw, house electric lighting set, and a paraffin engine. All these appliances are known as the "Willing Worker."

The Flexible Drive and Tool Co., 35 Bloomsbury Square, London, W.C.1. On this stand are "Flexible" drive labour-saving machines for the woodworking trades. The drilling hand-piece with three-jaw self-centering chuck and the sandpapering drum can be used on the same motor and shaft as the polishing hand-piece, thus giving a combined drilling, sandpapering, and polishing machine.

John Fowler & Co. (Leeds), Ltd., Steam Plough and Locomotive Works, Leeds. Two machines of unusual interest are displayed: the Fowler concrete mixer, and the Fowler stone and rock crusher. In addition to the above the firm supply concrete chutes and placing equipment, screens and elevators, portable steam engines, etc.

Haighs (Oldham) Limited, of Globe Iron Works, Oldham, show saw benches, high-speed tenoning machines, fret-sawing machines, surface planers, panel planer and thicknessing machines, combined over and under planer, three and four cutter planer, chain mortising machines, universal woodworker, automatic dovetailing machine, and grinding machines.

The Liner Concrete Machinery Co., Newcastle-upon-Tyne. Demonstrations are being given on the "Liner" concrete stone-moulding machines, several types of which are shown. The company also exhibit samples of two different freestone grits, quarried at their own quarries in the Matlock District, Derbyshire.

The Mechanical Engineering Co. (Manchester), Ltd., 5 Nicholas Croft, High Street, Manchester. On this stand is a large variety of woodworking machinery. The 32 in. roller feed saw bench exhibited has a telescopic arm, which is quickly adjustable; the "Diploma" spindle moulder has tables 36 in. square, fences of the screw adjustable type, and reversing countershaft.

Richd. Melhuish, Ltd., 50 and 51 Fetter Lane, London, E.C.4. The exhibits include the "Improved" mitre trimmer, the "Maco" template, which takes an accurate template of any moulding in a few seconds, the "Stanley" bench and other planes in wood and iron, quick-acting screwdrivers in great variety, "Miller's Falls" and "Stanley" mitre machines, and bench and flooring cramps.

W. T. Nicholson and Clipper Co., Ltd., of King Street, Salford, Manchester, exhibit the improved "Klincha" lever belt lacing machine, the improved "Klincha" vice tool, the 3 in., 4 in., and 6 in. "Klincha" mallet tools, the "Python" file and tool handle, the "Klincha" belt cutting shears, "Anchor" wall ties, wire wall ties, girder clips, and gate hangers.

Frederick Parker, of Talbot House, Arundel Street, Strand, London, W.C.2, exhibit stone-breaking machines and concrete mixers. The portable 12 in. by 7 in. "Monarch" stone-breaking machine is particularly adaptable for contractors whose work necessitates the taking of a machine from place to place. All the machines are British made from start to finish.

J. Sagar & Co., Ltd., of Halifax, England, exhibit woodwork machines, many of which are electrically driven. Among the exhibits are the "Premier" combined hand and roller-feed planing and thicknessing machine for planing out-of-twist, making glue joints, bevelling and chamfering, rebating, tongueing, grooving, and moulding, and a band-sawing machine for sawing straight or curved work.

Sidney Smith and Blyth, Ltd., 35 Garratt Lane, Wandsworth, London, S.W.18, exhibit machinery for mixing, grinding, and finishing colours, paints, inks, and other substances. The exhibits include "Whirpool" mixers, a ball-bearing triple granite roller mill, and the "Handy" whirlpool mixer for hand-power.

The Standard Concrete Machine Co., Ltd., 317 High Holborn, London, W.C.1. On this stand is displayed a standard concrete machine, together with a few examples of its products. An outstanding feature of this machine is that after the mould box has been assembled any type of plain or ornamental block may be produced without the addition of loose packing pieces or inserts, thus considerably expediting production.

The Triangular Construction Co., Ltd., Imber Court, East Molesey, Surrey. The "Trianco" dual pressure, double toggle, concrete block-making machine is fitted for making partition slabs, concrete blocks, etc., from 2 in. to 4½ in. by 9 in. by 18 in. Attachments can be supplied for making hollow slabs, copings, ornamental faces, mouldings, etc.

J. A. Victor, 77a Queen Victoria Street, London, E.C.4. Mr. J. A. Victor is the sole British representative for the Ateliers de Construction, Ch. Danckaert, of Brussels, and he provides a very complete display of their woodworking machinery.

Wadkin & Co., North Evington, Leicester. This exhibit consists of a selection of high-speed woodworking machines, all of which are fitted with the latest improvements for giving high and continuous output. A number of machines are shown in operation.

Marble, Stone, and Mosaic

Anselm Odling and Sons, Ltd., Crown Wharf, 132 New North Road, London, N.1, exhibit a variety of coloured marbles and onyx, and some fine examples of marble masonry for the internal and external decoration of buildings. Amongst other exhibits are chimneypieces, columns, pilasters and pedestals, balusters, vases, etc., and some sculptured figures.

Bellman, Ivey and Carter, Ltd., Linhope Street, Dorset Square, London, N.W., exhibit Scagliola marble. This marble is made by an old Italian process which was revived in the early part of the sixteenth century. It can be applied to all forms of interior decoration where marble would be used, and it can be turned, moulded, or cast to any shape or design.

The Burlington Slate Quarries, Kirkby-in-Furness, North Lancashire. The pavilion is constructed of slate and stone from the Burlington slate quarries, to demonstrate the application of these materials in various ways for different purposes. It is floored with slate flags, some of which are rectangular, whilst others of random sizes and irregular contours are arranged in the popular "crazy pattern" paving.

The Hopton-Wood Stone Firms, Ltd., Wirksworth, Derbyshire. The front of the stand has a "Hopton-Wood" stone balustrade and step. The outside portion of the back wall is in "Hopton-Wood" stone, rustic finish. The inner side (right hand) of this wall has a dado, consisting of Derbyshire black bird's-eye marble capping and plinth, grey bird's-eye marble styles, and light "Hopton-Wood" stone panels. The inner side (left side) has a Derbyshire black bird's-eye marble moulded capping and plinth, light "Hopton-Wood" stone bands and styles, and Derbyshire fossil marble panels.

The Leckhampton Quarries Co., Ltd., Sandy Lane, Charlton Kings, near Cheltenham, Glos. The pavilion is built of Cotswold stone and roofed with Eyeford slates, with Cotswold stone ridging. The floor of the stand is paved with slabs of indurated Trigonia (an entirely new artificial stone, of which the firm are the sole manufacturers).

The Marble Mosaic Co., Ltd., of Linmos House, Charles Street, St. James, Bristol, have examples of mosaics in marble and glass, terrazzo, glazed and vitreous wall tiling, "Imperator" (registered) cast marble work for plinths, lavatory divisions, and "Linolith" jointless flooring. Features of the stand are the two types of flooring tiles in plain and ornamental patterns.

Miscellaneous

Baldwins, Ltd., 67 Queen Victoria Street, London, E.C. This exhibit consists of galvanized tanks, cisterns, and cylinders; galvanized black sheets; tinned sheets; paint kegs, drums, and taper neck cans.

The British Vacuum Cleaner and Engineering Company, Ltd., of Parsons Green Lane, London, S.W.6, show their heavy duty portable and stationary vacuum cleaning plants. The company claims that their positive type vacuum cleaning plant is satisfactory for the majority of vacuum cleaning problems. They also supply a turbine or multi-stage fan-type of plant for the removal of dust from very rough floors.

Cardon & Co., Ltd., of Chespale Works, Penshurst Station, Kent, show specimens of the "Chespale" (Regd.) wood and wire fencing, also field and hand gates, tree guards, and tree stakes.

E. L. Hopkins, 169 Felsham Road, Putney, S.W.15. "Clarocit," shown on the stand, is claimed to afford the motorist a perfectly clear view through his wind-screen in the most adverse weather conditions, if applied by simply rubbing a tablet crosswise the wet wind-screen and then allowing the rain to wash off.

The London Sand Blast Decorative Glass Works, Ltd., of Burdett Road, E.3, show every kind of decoration on glass. There are embossed glass mirrors, facias, stallboards and pilasters, illuminated signs, opalite slabs, plate glass, direction plates and street name plates, and interior reflector signs.

The Rawlplug Company, Limited, of Gloucester House, Cromwell Road, London, S.W.7, are giving demonstrations in the use of Rawlplugs and recess screws. The exhibits show that with the aid of Rawlplugs articles of practically any weight can be securely and neatly fixed to material of any kind with a minimum of trouble and expenditure of time.

Sturtevant Engineering Co., Ltd., 147 Queen Victoria Street, London, E.C.4. Turbine vacuum cleaning plants in several sizes are on view, and engineers who are fully conversant with the subject are in attendance to advise on the installation of this system of cleaning. The company have been building suction cleaning plants for over fifty years.

John Tann, Ltd., 117 Newgate Street, London, E.C.1, show all classes of fire and burglar resisting strong-rooms, strong-room doors and safes. The types shown include the most modern types, constructed to resist the oxy-acetylene blow-pipe, high explosives, and other appliances of the scientific burglar.

The Yorkshire Copper Works, Ltd., of Leeds, make a special display of light gauge tubing for use in connection with patent fittings for housing work and pipe work. The patent fittings used enable specially thin gauge tubes to be installed.

Paints, Enamels, Wood Preservatives, and Decoration

Aerostyle, Limited, of 35 St. Bride Street, Ludgate Circus, London, E.C.4, are exhibiting and demonstrating the new model patent Aerostyle portable paint sprayer.

Walter Carson and Sons, of Grove Works, Battersea, London, S.W.11, show a large range of colours and varnishes. Among the exhibits are pure liquid paints for the highest class exterior and interior decoration, "Vitrolite" for general decorative work, conservatories, forcing houses, and all horticultural buildings, and "Muraline," a washable water paint in forty artistic shades.

Chemical and Engineering Products, Ltd., 5 Victoria Street, Westminster, S.W.1. "Wetherite" wood preserving stain shown on the stand possesses certain inherent properties which prepare the surface of the wood on which it is applied for the immediate application of french polish or clear spirit varnish, thus eliminating the use of size or other preparation.

Drytone, Ltd., of 73 Gower Street, W.C., exhibit "Drytone" doors, panelling, and furniture. The Drytone process is a new method for colouring finished woodwork by chemical action without stain. It is applicable to all woods, but gives particularly fine results in oak, sequoia, and British Columbia pine.

George Farmiloe and Sons, Ltd., 34 St. John Street, West Smithfield, E.C.1. The stand is decorated with their "Father Thames" white lead paint, white "Stargloss" enamel paint, and white "Eskimo" leadless paints. Two inside walls are treated with red "Zingessol" washable water-paint, and the panels on the exterior of the stand display many of the tints in which this can be supplied.

R. W. Greeff & Co., Ltd., Thames House, Queen Street Place, E.C.4. A notable exhibit is "Kronos" titanium white—a new paint material made by the Titan Co., Norway. Its harmlessness to human beings is shown by some novel X-ray photographs.

Heffer, Scott & Co., Ltd., 21 and 56 Berners Street, London, W.1. Examples of the firm's best wallpapers are shown. On one side of the stand is a Chinese pilaster decoration, and on the other a stencil fruit pilaster with plain fillings in between. A working demonstration of Keystona flat oil paint is being given.

Hoyle, Robson, Barnett & Co., Ltd., associated with John Smith and Son (Haltwhistle), Ltd. This stand shows the products of the associated firms in actual use. "Saneros," a water paint; "Protecteros," a high gloss-finish, and Hoyle's S.P.P. (semi-prepared paint), are all shown in various ways on the exterior. In the interior are schemes in "Saneros" and "Hoyflat."

Robt. Ingham Clark & Co., Ltd., and R. Gay & Co., Ltd., West Ham Abbey, London E.15. The stand is composed of five columns arranged around a forecourt having two private offices at the back. The columns are decorated with "Pearline" white enamel. The front of the offices is decorated with "Gaymatt" flat oil finish, and the door is finished on one side with "Omnilac," and the reverse side illustrates the use of flat enamel for interior decorative effects.

Major & Co., Ltd., of 205 Borough High Street, London, S.E.1, the sole manufacturers of "Solignum" wood preservative, are exhibiting a two-roomed wooden building and fencing. This exhibit illustrates the uses of their preparation as a preservative as well as a decorative agent for external woodwork, and as a decorative stain for interiors.

Mander Brothers, of Wolverhampton, have a large pavilion decorated with their paint and enamel specialities. For the outside a bold and effective scheme of colouring has been adopted, consisting of columns in black ebony finish, panels in cobalt violet "Vernasca," and stiles in egg-shell gloss white enamel, a large fascia being done in a shade of "Suffield green."

Naylor Brothers (London), Ltd., Slough, Bucks. This stand shows the Naylor finishes in actual use. The stand exhibits four rooms: drawing-room, dining-room, bedroom, and bath-room, the walls, doors, and woodwork of which show the standard of finish obtained with the Naylor products. The decorative scheme of the stand itself is worthy of note.

Thos. Parsons and Sons, 315–317 Oxford Street, London, W.1. This exhibit, H.M.S. "Endelline," shows some practical applied examples of the firm's enamel, varnishes, and paints. Demonstrations of the Parsons' Colourmeter are given on the Stand. Any of the colours shown on the colourmeter can be reproduced in the firm's gloss or flat enamels.

C. A. Peters, Ltd., Stores Road Works, Derby. Samples of different kinds of wood are exhibited, showing the effect and colour of the firm's wood preserver, "Carbolineum," also the finish when varnish is applied. Tests are given to show the efficacy of "Carbolineum" for preventing decay and dry-rot.

Ronuk Limited, Portslade, England. The stand, of oak, has been treated by the company's own improved sanitary methods. The floor is of ordinary deal boards, which have been prepared with "Ronuk" special staining.

Arthur Sanderson and Sons, Ltd., of 52–55 Berners Street, London, W.1, display wall-papers in fast-to-light colours, and modern and period English and foreign designs, oak and mahogany panelling, "Tekko," the silk substitute, "Canotex," the canvas with the waterproof backing, "Durolave," washable water-paint, enamels, "Chromuro" distemper, ready-mixed paints, varnishes, and painters' requisites.

The Silicate Paint Company (J. B. Orr & Co., Ltd.), Charlton, London, S.E.7. The interior of this stand is divided into three compartments. In the gallery front is shown in panels a selection of "Duresco" colours. In the rear are two specimen rooms. The ceiling and corner of one is in white "Duresco," on the frieze is painted in "Duresco" a charming floral design, and the walls are in cream "Duresco."

Spedol Manufacturing Co., Ltd., Brentford, Middlesex. The design of this stand has been carried out by a decorator customer of the firm, and the specimens of work shown have been executed under every-day working conditions. Particular attention is directed to the "Stempeau" and "Spemac" panels, as examples of craftsmanship in distemper and enamel work.

Walpamur Co., Ltd., Darwen, Lancs. The inside of the stand is divided into three rooms, each representing a portion of a decorative scheme for a different type of interior. One half suggests a simple treatment for a cinema theatre, and the remaining half shows schemes for a Chinese café, and a portion of a lady's boudoir. The decoration is carried out with the firm's paints and other specialities.

Roofing and Damp-coursing

D. Anderson and Son Ltd., Park Road Works, Stratford, Manchester. Among the exhibits are "Red Hand" roofing, sarking, lining felts, and damp-courses, also "Rok," "Stoniflex," and "Hippo" roofings. Special exhibits are a section showing the construction of a "Belfast" roof, and a section demonstrating Anderson's flat roofing system. Both these form the roof of the stand.

Bell's Poilite and Everite Co., Ltd., 59½ Southwark Street, London, S.E. On this stand is an aerial tower, 60 ft. high, and octagonal at the base. On the roof of the octagon is demonstrated the application of the "Poilite" russet-brown pantiles, and other forms of "Poilite" tiling and specialities.

The British Fibrocement Works, Ltd., Erith, Kent. The stand is specially designed to illustrate the many "Fibrent" asbestos-cement manufactures. The slopes of the roof illustrate "Fibrent" diagonal and straight pattern slating in grey, blue-black, purple and red, and antique brown. "Fibrent" corrugated sheeting is also shown.

George M. Callender & Co., Ltd., 25 Victoria Street, Westminster, S.W.1. Among other exhibits is a model reservoir constructed of wood with sloping sides, lined throughout with "Callendrite" sheeting, which is under a practical water test for the duration of the exhibition. In the centre of the reservoir is a column of loose porous bricks under the top course of which, just above water level, is inserted a piece of "Callendrite" dampcourse. Visitors should note the dry bricks above the dampcourse.

T. C. Jones & Co., Ltd., Shepherd's Bush, London, W.12. This steel-framed building has been specially designed to indicate five different styles of roof trusses, four different kinds of roof covering, and a fire-escape staircase with guard rail and chequer plate landing. The whole of the steelwork is treated with aluminium paint.

The Key Engineering Co., Ltd., 4 Queen Victoria Street, London, E.C.4, exhibit flexible asbestos roofing. The two back walls of the stand are covered to a height of 5 ft. 6 in. with standard weight smooth grey surface roofing—the joints being lapped and fastened with special strip roofing clamps. Above this are two signboards formed of three-ply white surface flexible asbestos roofing, the lettering being formed of black under slate asbestos lining felt.

Messrs. Langley, of London, are exhibiting "Marseilles," "Du Nord," and "Beauvais" roofing tiles. The "Du Nord" tile is an improved form of pantile. Its interlocking roll gives the effect of the Roman tile. Features of the "Beauvais" roofing tile are its extreme hardness and fine dark red colour.

H. J. and C. Major, Ltd., The Patent Tile Works, Bridgwater, Somerset, show samples of their interlocking Roman tiles, angular, Grecian, Welbeck, and plain tiles; ordinary Roman, treble, and pan tiles, ridges and finials, bricks, and bath bricks for polishing purposes.

Andrew Maxwell, St. Paul's Square, Liverpool. The principal exhibit is the "Rito" roof covering and repairing material, the use of which on various types of roofing is demonstrated on model roofs. Other goods on the stand include "Ritolastic," the liquid form of "Rito," for use on corrugated iron roofs; "Romanite," the preventative of dusting in cement floors; and decorators' "Veevic."

F. McNeill & Co., Ltd., Bunhill Row, London, E.C.1. Here there is a very extensive variety of "Lion" brand roofing and roof lining felts. Particular attention is drawn to McNeill's "Combinite" system of roofing for flat or sloping roofs. The firm are also manufacturers of damp-courses to the Ministry of Health's specifications.

The Ruberoid Co., Ltd., of Lincoln House, 296–302 High Holborn, London, W.C.1, exhibit their roofing dampcourse and bitumen dampcourse, sarking felt, roofing felt, insulator papers, and preservative paints. "Ruberoid" roofing is made in three colours—grey, red, and green—and these colours are permanent. In addition to the smooth finish, "Ruberoid" is also made with a slate surface, formed by rolling natural crushed slate evenly into the surface during manufacture.

Setchell and Sons, Ltd., of Finsbury Court, London, E.C.2, are exhibiting the products of the Old Delabole Slate Quarries, for whom they are the sole distributing agents. Among the slates used for covering the roof of the stand are rustic red and green randoms. On the hip end green-sized slates are used.

Turner Brothers Asbestos Co., Ltd., Rochdale. The stand shows the practical application of Turners' Trafford tiles (asbestos cement), and is in the form of a small steel-framed building. The firm also exhibits the "Endurol" tile for roofing domestic dwellings, "Ægis" brand asbestos cement roofing slates, and building sheets for forming partitions and lining ceilings.

Vulcanite, Ltd., Blackfriars House, New Bridge Street, London, E.C.4. Models are exhibited to show the application of the "Vulcanite" process to flat roofs. "Rexilite," "Ark," and "Pyramid" pure bitumen and "Leatherite" and "Apex" felts for roofing, sarking, and lining are also shown, as well as dampcourses and vulcanite sanded asphalt.

Sanitary Fittings

Ewart and Son, Limited, 346, 348, and 350 Euston Road, London, N.W.1. Geysers, lavatory basins, baths, etc., are to be seen on this stand. The "Emperor" cowl, also shown, is claimed to cure the most obstinate cases of down draught in chimneys. The "Boilo" gas-heated copper, for gas or oil heating, is a recent introduction, and is completely detachable for renewal or repair.

The Patent Tip-up Bath Co., Bath House, Broad Street, Birmingham, have a good display of tip-up baths particularly suitable for non-parlour type houses. During the last ten years the firm have supplied some hundreds of these baths to the Bournville Village Trust.

The Lewbart Manufacturing Co., Ltd., 2 and 3 Norfolk Street, Strand, London, W.C.2. The "Lewbart" disinfector exhibited is a simple and automatic means of disinfecting lavatories. A small lever projects into the flushing pipe, and on this lever the water leaving the cistern falls. By this means the lever is caused to lift the bottom portion of the cone fixture, which measures correctly the required quantity of disinfectant, which is housed in a container fixed above the cone fixture.

Tuke and Bell, Ltd., 27 Lincoln's Inn Fields, London, W.C.2. A prominent exhibit is the country house sewage installation. It comprises a patent semi-septic tank, with its fittings and covers; an aerobic filter with specially designed distributing apparatus, to reduce the amount of attention necessary to the minimum, and a final humus pit. The installation is capable of dealing with the sewage from an eight-person house.

James Woodward, Limited, of Swadlincote, exhibit stoneware pipes and specialities, electric conduits and troughing, white and coloured glazed bricks, glazed sinks, and sanitary appliances.

Terra-cotta Goods

The Hemel Hempstead Patent Brick Co., Ltd., Hemel Hempstead, Herts. On this stand are the firm's terra-cotta partition blocks, hollow floor tiles, and building blocks. They are claimed to be "fireproof, sound and vermin proof, and of exceptional strength and lightness." Nails and screws can be driven into the partition blocks, which can be sawn or tooled as required.

The Leeds Fireclay Company, Ltd., of Wortley, Leeds, have a representative exhibit of their many products. The Burmantofts terra-cottas are displayed in a central architectural feature, the construction of which is carried out in several types and finishes of terra-cotta. This feature clearly shows how terra-cotta lends itself both constructionally and decoratively to buildings of every class.

Wall Boards

Associated Crafts, Ltd., Bridge Works, Cricklewood Broadway, N.W.2. "Dekart" is a material that bears the very closest resemblance to oak or any other hardwood. Its initial cost is considerably less than that of the materials it imitates. "Dekart" plaster sheets, tiles, and mantels are also exhibited.

The Beaver Board Co., Ltd., 133–136 High Holborn, London, W.C.1. The stand occupies an island site, which is divided into four sections. Two sections illustrate the finished panel effect obtained by "Beaver" wallboard for two rooms, and the remaining two sections illustrate the correct methods of applying the wallboard.

Borst Bros., Ltd., 74 Rivington Street, Shoreditch, London, E.C.2. This exhibit includes "Wovenboard" panelling, specimens of the firm's waterproof and other plywood, and a selection of hardwoods. "Wovenboard" is a specially prepared wood fibre wall-board, which is veneered both on the front and the back, so as to produce a firm, strong, tough board which can be either polished or left plain. It is supplied in all the usual woods.

John and Inkley, 7 Triangle Street, Bristol. "Ten-Test" shown on the stand is a permanent material for casing interior walls and partitions, and exterior walls and roofs. It may also be used for constructing hoardings, signs, temporary buildings, such as garages, pavilions, and the like. It consists of selected wood fibre from which all the resin, oils, and other perishable matter has been extracted by boiling. The pure wood fibre is pressed into sheets which may be readily sawn and bent to ordinary radii for casing domes and curved ceilings.

MacAndrews and Forbes, Bush House, Aldwych, W.C.2. The exhibit is a practical demonstration of the manner in which "Fiberlic" wallboard can be used for ceilings and walls. The wallboard can be painted, stained, enamelled or distempered.

G. R. Speaker & Co., Eternit House, Stevenage Road, London, S.W.6. The exhibit is designed to show how "Eternit" asbestos-cement materials can be used in combination with timber framing, to produce artistic and sound effects at a comparatively low cost, yet of a permanent character, with the added advantage of fire resistance.

Thames Board Mills, Ltd., Purfleet, Essex. This stand has been designed by Mr. H. Spencer Stowell, M.S.A., to show the practical advantages of "SX" board, and to illustrate the method of using it in a simple, effective, and economical way. The various ways of applying the board to form panels of different designs are shown in an interesting manner by dividing the stand up into a number of miniature rooms.

Waterproofing Compounds

The Ironite Co., Ltd., 9 and 11 Old Queen Street, Westminster, S.W.1, show their "Ironite" brand cements for flooring and waterproofing. The products are British manufacture from start to finish. A miniature working model of the "Besnard" universal automatic crane is also shown. Samples are also exhibited of surfaces treated with "Ironite" and cement slurry.

Kerner-Greenwood & Co., Ltd., King's Lynn. As at the last exhibition, a prominent position is given to the apparatus by which cylinders of cement and sand are subjected to water pressures up to 300 lb. per square inch. The cylinder of sand and cement—waterproofed with "Pudlo" brand powder under test at that pressure for the whole period of the exhibition—will be broken open on the final day in view of all who care to attend.

The Waterex Co., Ltd., 104 High Holborn, W.C.1, exhibit "Waterex" waterproofing and "Watco" preservative. The chief exhibits are concrete blocks, half of which have been treated with "Watco." Both the treated and untreated portions are subjected to the same severe rubbing action of heavy metal bars to demonstrate the dust-proofing of concrete floors.

Woodwork and Panelling

The Bath Rubber Mills, Ltd., Norfolk Works, Bath. Part of the stand comprises a portion of a dining-room panelled in oak, with Grinling Gibbons' style of carvings in lime tree. Another portion represents part of a room panelled in mahogany. Part of the floor is in oak and parquetry, and part is covered with "Velvuto" rubber flooring, a new special floor material produced by an associated firm.

The Charrier and Marbut Carvings, Ltd., Putney Market, Putney, S.W.15. Machine-carved mouldings are shown, made by the company on their patented machines. Four different grades are exhibited, namely: the Charrier mouldings, all classic models from ancient Greek, Versailles, Jacobean, etc., designs; the Marbut mouldings; embossed mouldings; and plain mouldings.

Samuel Elliott and Sons (Reading), Ltd. This stand has some rather unusual features. On approaching through the entrance one sees a classic portico apparently leading to a temple. This expectation is not justified on approaching the side of the stand where it is perceived that the portico is resting upon the end of a oak half-timbering building. The surface of the oak is treated with a speciality of the firm.

James Latham, Ltd., 124 Curtain Road, London, E.C.2. The firm's hardwood department has a pile of Austrian and Volhynian wainscot oak, plain and figured teak, walnut, and mahogany, etc., one splendid log of mahogany being over 60 in. wide. The moulding department shows specimens of high-class shopfitters' and joiners' mouldings, hardwood floorings and matchings.

William Oliver and Sons, Ltd., 120 Bunhill Row, London, E.C.1. The exhibit this year includes samples of figured Cuba and Spanish mahogany, Austrian wainscot oak, genuinely dry English wainscot oak, English walnut, Honduras and African mahogany, teak, American oak, walnut, and the more usual hardwoods in constant use in the building and allied trades.

Soole and Son, Ltd., of Dunstable Works, Richmond, Surrey, exhibit specimens of their joinery. Among the exhibits are oak panelling, staircase work, teak and oak window frames, glazed with lead lights with steel casement for opening lights, doors, a hospital door, dresser, and chimneypieces.

The Well Fire and Foundry Company, Ltd., 15 Berners Street, London, W.1. The stand is built of solid oak, walnut, mahogany, and whitewood panelling, carried out in period styles. Seven complete fireplaces are exhibited, all designed by architects. Each fireplace is a type of its own, and possesses features many of which are quite new to the fireplace industry.

Building Exhibition Notices.—*continued.*

Too late for Classification.

Mr. H. Banger, of Constitutional Buildings, East Grinstead, is exhibiting his "Combloc" machine, which turns out expeditiously any block a building requires, besides a large number of other products. Mr. Banger is also showing his patent "Non-slip" roofing tile which he has tested for three years in very exposed positions with highly satisfactory results. At present they are made of cement and sand, but they can be of burnt clay also. They have the exact appearance of ordinary plain roofing tiles. They measure $11\frac{1}{2} \times 6\frac{3}{4}$ in., and fit in with ordinary hips and valleys. Mr. Banger has every confidence in bringing this tile to the notice of architects generally, especially those who have to deal with thickly populated districts or very exposed positions. It is claimed to be a tile that cannot possibly blow off or slip down, however severe a gale may be. The tile requires no nailing or second fixing of any kind, and is very quickly laid. It is also claimed to be wind-proof. The Pentewan (Cornwall) sand is also shown. Among the claims made for this sand is that it is "the best aggregate in the country, that it is practically free from salt and other injurious matter, and that it is a very hard and durable granolithic sand well suited for fine concrete finishings, concrete, cast stone, and road sprinkling, as it does not clog or crush up."

Contemporary Art

The Chenil Exhibitions.

A new and distinctly individual artist is revealed at the Alpine Club Gallery. Jan Juta has ignored a good many things in the arts that have gone before, and adopted a sane view of some in the arts that are to be. In his drawings he uses a delicate containing line of great purity : it is well seen in the portrait of Réné Hansard ; in his illustrations, of which four are from a book on "Cannes and the Hills," he resorts to a flat representation admirably suited to the purpose, both in buildings and in landscape ; some other things, little figure subjects and the like, have a naïve wooden-soldier sort of structure which is appealing ; his painted portraits, of which that of his father, Sir H. H. Juta, is the best, are often very accomplished in technique, and the Japanese study, M. Toshi Kornori, is fully realized in character. Juta is versatile in his own domain, and the considerable number of works shown are sufficient indication of the opening of a brilliant career.

Frank Patten's etchings have been favourably known for some time, but there is an architectural one here, "The Demolition of the G.P.O.," which would by itself make a reputation, for its lines, pattern, and workmanship are admirable. A significant and not altogether welcome contrast is provided by the coarse realism of his painted portrait studies. There is realism, too, of a bungling kind in the groups of Horace Brodsky, and there is promise, but he has by no means found his path yet, any more than has Hyam Myer. Quieter and more pleasing work is to be seen in the sanguine and other drawings of Adrian Daintrey.

At the Chenil Gallery in Chelsea there is a startling show by two women, who have made a study of Life and Scenes in the West Indies to admirable purpose. Ganguin has been cited in this case, but there is a truer and more consistent view of Nature and human nature in these works than he displayed, without the transforming touch of genius which made his works phenomenal. V. M. Jones and V. H. Bradshaw are talented and conscientious artists who have done their best to secure a living naturalism in their pictures, and in such as "Black Girl," "Girl Resting," and "Drusilda," and in "Bananas and Mangoes," for example, have succeeded.

India and Kashmir.

Another woman artist, Nora Wright, has gone from home for her subjects, and now exhibits the result at the Brook Street Galleries. She, too, is exceptionally talented, and, like all the artists I have mentioned above, exhibits an original outlook. Despite the large variety of material, she has treated it all in a style that is securely welded. She has two prepossessions, a love of atmosphere and a love of pattern, and these are aided by a fine sense of colour. Her experiments in atmospheric effects lead her to the use of a modified geometry which is used with charming results in the two studies of "Sliema Harbour," and to even a more intriguing degree in "Racing on the Marsa, Malta" : the method is a modification of a cubism which has the convincing property of natural truth. In India she was largely concerned with men, women, and animals, and here again plein air helped her, of a different character, of course, from that of Malta, against which she builds her patterns of humans and animals in what is obviously a convention, and yet as obviously convincing from the point of view of Nature, and the same is the case with her studies, the placing of buildings and mountains.

Walker's Galleries.

Good building drawings are also to be seen amongst the work of both principal exhibitors here, Wilfred R. Wood and Norman Garstin. In these cases the treatment is more in the usual style but quite charming. Wilfred Wood's "Abbazia della Misericordia, Venice," and "The Towers of Assisi," are particularly good, and to his architectural work he adds some fine transcriptions of mountain and meteorological forms in "The Dolomites." Atmosphere again plays an important part in the work of Norman Garstin, in addition to his evident feeling for buildings as subjects. There are some fine expanses of sky with good cloud effects in even the smaller of his drawings.

KINETON PARKES.

Domestic Art at the Birmingham Chamber of Commerce.

The chief exhibits of interest in this little exhibition are the delightful water-colours by E. A. Taylor. They are light and loose in rendering, and yet a fine sense of atmosphere and vitality is conveyed. Charcoal is used to strongly outline the buildings, trees, etc., and also for rendering the heavy shadows, the colour being lightly applied for textural and atmospheric effects. It is a very successful method, although a composite one. Its qualities are demonstrated particularly well in "Kirkcudbright," in which the middle foreground is taken up by a tree completely rendered in charcoal. The composition of these drawings has a very marked personal expression ; one peculiarity is the full elevational views which the artist selects instead of the more usual deep side vistas.

The pastels are not so good ; they have the same marked individuality, but their lack of atmosphere and depth leaves the bright colouring as mere clever surface work. Good atmosphere and vitality, however, are qualities rarely found in the average pastel : a desire for tricky colouring seems to blind the artist to the more essential qualities.

The fairy drawings by J. M. King are happily constructed and very carefully executed, but they have a very thin and uncertain effect at any little distance.

The pottery is good and pleasing, especially the restrained decoration. The silk curtains and hangings are bright but restful designs, with broad surfaces of colour relieved by a small amount of rich detail.

EDGAR LUCAS.

Correspondence

Why are Architects so Seldom Artists ?

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—It was instructive to read the extracts from Mr. George Drysdale's paper, "Why are Architects so seldom Artists ?" published in your issue for March 26.

He emphasizes the fact that architecture is a living and human art, with a range so wide and possibilities so many, that, at the outset, it is necessary to eliminate the superfluous and to reduce each problem to its elements so that it discloses its primary purposes.

As Mr. Drysdale suggests, naught cleanses the mind like work, nor is there anything so conducive to simplicity of thought or so potent to set free the imagination and with it the ability, so essential to the creative artist, to visualize in its several stages the progress of the building with the interplay of human and technical factors.

Will it not bring about with it, too, a certain asceticism of the spirit that will "slang absurdities," that will lead to a more thoughtful study of intrinsically good work ; a study which must ultimately show its influence in a "style" of building proclaiming its "object in being" with simple dignity and restraint ?

F. ERNEST CRUTCHLEY, A.R.I.B.A.

The Week's News

A New Synagogue for Newcastle.

Plans have been passed by the Newcastle Corporation Town Improvement Committee for a new Jewish synagogue.

New Concert Halls for Folkestone.

The Folkestone Council propose to build two concert halls on the sea front.

Housing in London.

The City Corporation of London have spent on its housing scheme £1,287,428 out of the loan of £2,750,000.

The Brighton Bathing Pool.

The Brighton Town Council have appointed a committee to report on the scheme for the construction of a bathing pool near the Aquarium.

Wallsend Housing Schemes.

The Ministry of Health have sanctioned loans of £13,560 for the erection of thirty-six houses at High Farm, £12,776 for street works, and £1,586 for sewers.

The Coalville Memorial.

The Charity Commissioners have given consent to the erection of the proposed memorial clock tower on land near Coalville Market Place.

Selby Housing Scheme.

The Selby Urban District Council have resolved to build twenty additional houses for the working classes. The town-housing scheme already comprises about 250 dwellings.

Fifty Houses for Swinton.

The Swinton Urban District Council have received the sanction of the Ministry of Health to the erection of a further fifty houses.

Instructional Workshops for Coventry.

Property adjoining the Technical Institute is to be acquired and adapted for use as instructional workshops at a cost of £6,300.

Proposed New Pavilion for Worthing.

The Town Council are considering a £60,000 scheme for the erection of a pavilion to seat 1,200 people at the shore end of the pier, and for a new parade band-stand and shelters.

The Need for Houses in Bolsover.

The Bolsover Urban District Council have decided to ask the Ministry of Health for permission to erect fifty houses in the Shuttlewood district.

Sherborne School Buildings.

At Sherborne School new class-rooms and a tower gateway have been built to replace the old gateway on the north side of the Great Court. The architect was Sir Reginald Blomfield, R.A.

The Chelsea Nurses' Home.

The Chelsea Hospital for Women has received for its Nurses' Home (now building) £200 from Lord Glendyne in connection with the fund being raised at the Mansion House by the Lord Mayor.

More Houses for Selston.

The Ministry of Health have sanctioned the borrowing of £22,500 for grants in connection with the Basford Rural Council's housing scheme, approved the provision of 100 additional houses, and the sale of surplus land at Selston.

Mr. Edmund H. New's "Colleges of Oxford."

On page 618 we reproduce, by the courtesy of the artist, three of Mr. New's "Loggan" prints of Oxford Colleges, an exhibition of which was recently held at the R.I.B.A. All the views shown there are published by him at 17 Worcester Place, Oxford.

The Crowding of Drapery Stores.

Complaint of overcrowding at large drapery stores during "sales" was made at the last meeting of the London County Council. It was stated that the Council had no power to make any regulations on the matter, but the Building Act Committee would consider it from the point of view of danger from fire or accident.

Housing at Chelmsford.

The Chelmsford Town Council propose to apply to the Ministry of Health for sanction to the erection of 250 houses on the Boarded Barns Housing estate, the estimated cost of these ranging from £364 to £500.

Housing in Birmingham.

The Birmingham City Council have authorized continuance of the approved house-building programme up to a limit of loss of £60,000. It was explained that the Council had progressed up to the full capacity of the building trade without overtaking the need.

Mr. Adam Sampson.

Mr. Adam Sampson, chief architect and master of works, Education Department, Dumbartonshire County Council, has been appointed architect to the Belfast Education Committee, which was recently constituted under the Ulster Education Act. There were sixty-two applicants for the position.

Changes of Address.

Mr. J. H. Gilbert, architect, has moved to 9 Hay Lane, Coventry.

Mr. Wallace J. Gregory, L.S.A, P.A.S.I., architect, has moved to 7 Carteret Street, Queen Anne's Gate, Westminster, S.W. (telephone: Victoria 4093), at which address he would be glad to receive all traders' communications.

Waterloo Bridge.

The London County Council at their last meeting postponed consideration of the report of the Improvements Committee recommending the reconstruction and widening of Waterloo Bridge, and the construction of a temporary bridge, the chairman, Mr. E. L. Meinertzhagen, asking that it might be held over.

River Widening at Norwich.

Whitefriars Bridge, Norwich, which spans the River Wensum, under the shadow of the cathedral, is being removed stone by stone as part of a scheme of river widening. The original bridge at this spot was built of wood about seven centuries ago. In 1591 it was rebuilt of stone, with one pointed arch, and was thoroughly repaired in 1835.

£20,000 for Plymouth Housing.

Lady Astor, M.P., has written to the Mayor of Plymouth defining the amended offer which she and Lord Astor are making to the town of gifts to form a housing trust. She offers the sum of £10,000 and Lord Astor a like amount. The Town Council is to purchase, if necessary, the land considered most suitable for building (a site is suggested), and is to contribute up to £50 per house for the construction of roads, etc.; it is also to pay the Government subsidy to the trust.

The A. and S.A.P.U. Metropolitan Branch.

About fifty members of the Metropolitan Branch of the Architects' and Surveyors' Assistants' Professional Union paid a visit to Messrs. Liberty's new premises in Argyle Place, now being erected from the designs of Messrs. Edwin T. Hall and E. Stanley Hall, M.A., F.R.I.B.A., architects, by Messrs. Higgs and Hill, builders. Here in Argyle Place were found mediæval art—crestings, pierced tracery staircase panels, niches, Tudor chimneypieces, galleries supported on heavy oak posts with delicately carved angles, hammer-beam roofs, and so on.

The R.I.B.A. Diploma in Town Planning.

The following amended notice has been issued by the R.I.B.A. in connection with the diploma in town planning, the previous notice which was issued by the R.I.B.A., and published in our issue for April 2, page 584, having been cancelled:—The examination for the R.I.B.A. Diploma in Town Planning will be held for the first time on Wednesday, Thursday, and Friday, October 15, 16, and 17, and on Monday, October 20, 1924. Candidates applying for admission must be either Fellows, Associates, or Licentiates of the R.I.B.A., and applications must be made before May 31, 1924. Forms of application for admission containing the regulations and syllabus may be obtained at the R.I.B.A.