Wednesday, March 11, 1925 Vol. LXI. No. 1575.

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

FROM AN ARCHITECT'S NOTEBOOK.

King Alphonsus, about to lay the foundation of a castle at Naples, called for Vitruvius his book of architecture; the book was brought in very bad case, all dusty and without covers; which the king observing said, 'He that must cover us all, must not go uncovered himself'; then commanded the book to be fairly bound and brought unto him.

H. PEACHAM:
"The Compleat Gentleman."

9 Queen Anne's Gate. Westminster.

Hampton Court Palace : A Detail of the Side Elevation

Sir Christopher Wren, Architect

(From a photograph by Basil Ionides.)

THE

ARCHITECTS' JOURNAL

9 Queen Anne's Gate, Westminster.

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Competitions

ARCHITECTURE, because of its intimate relation with the lives of the people, must be constantly undergoing change, and this process applies not only to architecture itself, but also to architectural practice. There have been, for some time, symptoms of a dissatisfaction among architects with the competition system, and despite laudable attempts to improve competition conditions this dissatisfaction tends to increase rather than to diminish. It is not merely the complaint of unsuccessful competitors to which we allude, but a general tendency to question the efficacy of the competition system as conducted to-day.

In the first place, does the modern competition elicit the result that it sets out to achieve, which is, presumably, to secure, ultimately, the best possible building meeting certain definite requirements and within certain limitations? We very much doubt whether this result can be achieved by the modern competitive system with certain classes of buildings.

During the last few decades there has been an immense increase in the tendency to apply scientific knowledge to the planning of buildings, so much so that there are to-day a number of buildings the planning of which requires specialized knowledge; such buildings as theatres, hospitals, museums, railway stations, art galleries, dock buildings, special factories, and the like. But if the matter ended there it might still be possible to apply the competitive system with some success by inviting only those architects to compete who had, by their previous work, shown a marked aptitude for designing the particular class of building for which new designs were required, although such a method would exclude untried talent. But the matter does not end there, for the ideas concerning the planning of these buildings are undergoing a constant process of change, so that every building is in the nature of an experiment, and this experimental work is going on in every country whose conditions approximate to our own. Wherever, therefore, the expenditure of a large sum of money upon some highly-specialized building, such, let us say, as a hospital to accommodate patients requiring some particular treatment, is contemplated, it behoves those who are responsible for the outlay of the money to ensure that both they and their technical advisers have taken every advantage of all the available data on the subject before setting to work. In the case of a highly complex building, nothing short of a tour to examine existing buildings devoted to the same and similar purposes will suffice; a tour on which every scrap of available data, the result of personal observation, and conversation with those whose business it has been to work in these particular buildings and who have thus been able to note defects and to suggest improvements, has been collected. The present competitive system does not admit of such extensive preliminaries. In connection with the Boston Museum of Fine Arts is to be found an example of preliminaries which spread themselves over many years, and included a two-months' tour in Europe, both of the architect and of members of the committee, and the erection and maintenance for two years of an experimental building.

Yet even in buildings of this kind some sort of a competition is possible, but it must be a very different affair from that to which we are nowadays accustomed. What is wanted is not so much countless strainers and exquisite draughtsmanship, but rather a thesis amplified by sketches; what is wanted is a competition in ideas. Let us suppose that some public body has decided to build a large sanatorium for tubercular patients. Instead of an open or even a limited competition, in which some hundreds of strainers are submitted, representing collectively many thousands of hours' work and many hundreds of pounds outlay, we would suggest a procedure on these lines: let the committee, in the first place, retain the services of some eminent architect famed for work of this kind, this architect to be paid an agreed salary so long as his services are retained. The committee, with his advice, would then prepare conditions for an open competition; these conditions would set forth particulars as to the site, the sum to be expended, the number of patients to be accommodated, any special apparatus which it was proposed to instal, and the like, but only the barest predetermined essentials should be included. The competitors should be invited to submit their ideas in the form of notes and sketches. The committee would thus have the benefit of any new ideas concerning sanatorium planning, construction, and equipment. The submissions would then be considered by the committee, assisted by their technical advisers, medical and architectural. A further and more detailed competition might then be arranged among half-a-dozen selected competitors, or a final selection might be made from the first competition. After the final selection had been made, the services of the advisory architect would probably be dispensed with, and the selected architect would collaborate with the committee and members of the medical staff; perhaps, as a preliminary, making an inspection and report of all the leading sanatoria in Europe. By some such methods we think the very best results might be obtained with the minimum wastage energy and the minimum of disappointment.

We are not suggesting, let it be understood, that this method is applicable for every class of building; it would be practical neither for a cathedral nor a housing scheme, but even in competitions for what we may term the less scientific type of building the present arrangements are far from satisfactory and give rise to much discontent. For the most part grievances are due to a disregard on the part of the successful competitors of the conditions laid down. It seems to be grossly unfair that a man who deliberately disregards the conditions of a competition should be selected in preference to others who have scrupulously adhered to them, and but natural that some resentment should be felt; yet, on the other hand, it is more than possible that by disregarding certain conditions

a better design has been secured, and the object of the promoters is, of course, to secure the best possible building. What is the remedy?

In the first place the conditions must be drawn up with the utmost care, and as far as possible they should deal only with absolutely predetermined matters. We say as far as possible advisedly, for the promoters may think that certain matters are essential and yet be open to contrary conviction. It would therefore seem that there should be two sets of conditions, those which are inviolable and those which may be observed or disregarded at the discretion of the competitors, and that in issuing conditions a definite distinction should be made between the two, so that a disregard of the first set would be cause for complete disqualification.

Yet another source of frequent complaint arises through the method of dealing with questions raised by competitors. The period during which questions may be asked should be no longer than is reasonably required to enable competitors to study the conditions and requirements. The questions and answers should invariably be circulated to all competitors as soon after the expiration of the period as is practicable.

Finally, all promoters of competitions should bear this in mind: to enter for a competition necessitates the expenditure of time and money. It should therefore be the invariable aim of promoters to require the least possible amount of work compatible with achieving the desired results. Thousands of pounds are spent annually by architects in competitions; we are convinced that much of this expenditure is altogether unnecessary, more drawings are asked for than are needful, and the elaborate medium of representation demands superfluous labour.

Unfortunately, it is architects themselves alone who can bring about the needful change. We believe it would be in the interest of the whole country if the R.I.B.A. endeavoured, not merely to patch up the existing system, but to bring about a complete change on the lines above indicated.

The Fate of St. Paul's

The final report of the Commission has now been adopted by the newly-formed Representative Committee for the Preservation of St. Paul's Cathedral. Saint Paul's has outlived many former patching schemes, but, like the pitcher that goes often to the well, its ultimate fate is certain. During two hundred years, defects that have been concealed by former patchings have revealed themselves anew, only to be diligently concealed afresh by more patching. But a moment will come when, as at St. Mark's Campanile, some trifling concluding act of repair—it was the raking of a chase for the insertion of a lead flashing at Venice—will precipitate that terrible trickling stream of fine dust, which, issuing from the fissures in the masonry, preludes the last irrevocable movement. This is, perhaps the warning awaited by the optimists, but it is not a warning for the conservator; it is a warning to be responded to by immediate flight. The Commission's final report, though less optimistic than its second interim report, is still optimistic; but this lighthearted attitude will subside before the proposed works upon the piers are well begun. It is now proposed to strengthen each pier under treatment "with steel and timber casing," and although this is at least a measure of precaution and an advance upon the extraordinarily ineffective practice that has prevailed hitherto, the use of a similar device on a smaller building had results that were the reverse of encouraging. The building is exhibiting serious warnings in that its main outer walls overhang, and its main piers are bent, cracked, and leaning. Movements are still proceeding and will continue to do so. During the last two months the Commission has also moved—under pressure of Mr. Harvey's criticism published in our pages—and it also will continue to move, speedily we hope, towards fuller recognition of the hazardous nature of its undertaking. The way of advance has been indicated, and since "having adopted the report, the committee do not propose to ask other experts to give independent advice," it will be a matter of extreme interest to see how much further it will profit by the assistance it publicly affects to ignore.

Preserving National Monuments

The threat to Waterloo Bridge raises the question as to whether great national monuments should be in the hands of local authorities to do with as they wish. In defence of the custom, it is said that since these authorities are responsible for the upkeep of said monuments it is only fair that they should be allowed some voice in determining their fate. Perhaps so, but—if the point is admitted—the voice should be a still, small one. We do not admit the point, for, after all, these authorities are transient bodies, appointed to do the will of the public and nothing more. The London County Council never had a mandate from the people of London to demolish Waterloo Bridge, nor is it likely that they would ever receive one. Even if they did, we should still hold that there would be no justification for demolition. Waterloo Bridge, like St. Paul's Cathedral and Westminster Abbey, is more than a London building—it is a national monument, and, as such, should be beyond the sphere of parish pump politics. Not so very long ago there was established in this country, with much blowing of trumpets, a Fine Arts Commission. There went up a great sigh of relief from the noble company of men who have any regard for the civic decencies. Now, it was thought, our troubles are at an end. No more shall monstrosities be inflicted upon us, neither shall vandalism be perpetrated. But it was an idle dream. The views of the Commission of Fine Arts seem to be as little heeded as those of any other body, though, obviously, if the Commission is to be of any use at all, its decisions should be accepted as final. Really, all national monuments should be the special charge of the Commission; it ought not to be possible for a town council to decree the destruction of a national monument without any guarantee of effective appeal against the decision. Such a thing could never happen in France nor, indeed, in any country (other than England) that professes to be civilized. The opponents of destruction, in the case of Waterloo Bridge, must, if necessary, carry their case before Parliament.

The Parthenon

Should the Parthenon be restored? The stones, the drums of the columns, were long ago gathered together by the archæologists with the idea of replacing them, so far as possible, in their original positions. Restoration work has, of course, been already carried out on the Acropolis on a fairly extensive scale, yet one would rather that the Parthenon were left as it is. No matter how reverently, how carefully, the work be done; no matter how closely the rebuilding resemble the original, it cannot be the same; it must be modern work, lacking the inspiration of the first building. Never is it possible to recapture the first, fine, careless rapture. The vandalism of blowing the Parthenon down is only to be equalled by the vandalism of building it up again.

> Let what is broken so remain.
> The Gods are hard to reconcile;
> 'Tis hard to settle order once again.

But we suppose it will be restored. Those stones that have lain scattered around so long will be raised aloft once more. But still the Parthenon will be a lamentable ruin. Many of the original stones have disappeared, and it would be sacrilege to replace them with new ones. Then there is the delicate question of the Elgin Marbles. Shall we be any longer justified in keeping them immured in the British Museum? If we condone the restoration of the fabric of Ictinus then we must return the sculptures of Phidias. A very awkward dilemma!

A MONTHLY CAUSERIE

Joking Apart

Reactions

I HOPE I am not going to be a bore, but I am feeling unusually vocal, and want to finish the song I began last month. I have been tuned up to pitch by a talk I had with a village blacksmith a week ago. The village blacksmith, in his pure state, is now rarely met with, and so, too, his forge with its majestic leather bellows and quenching tank cut from a block of stone. Where you find a motor-driven centrifugal fan, there you will usually also find a broken w.c. flush tank to douse the irons in, and I don't call that a forge at all. You will also probably find there a decent window, and that again is quite the wrong thing. Why the true village blacksmith always works in a furtive gloom and hedged in with debris of all the work ever done in the stithy by his predecessors as well as by himself, so that if he wants to find anything he has to turn about and scratch for it, I do not know. Such, however, is the case, and I have no doubt that eternal twilight and systematized disorder are conditions of the craft, for there is nothing amiss with the village blacksmith. I have a feeling that the tradition of the artist still hangs about the age-long craft, and that the village blacksmith would not feel at home if he and his surroundings ceased to be picturesque. What a delightful object, for instance, is his apron; a hide of merit (devil take our advertisers who are emasculating good English phrases by association with their disingenuous slosh) written over with the intricate history of its working life. The anvil, too, remembers. One can imagine the blacksmith refreshing his recollections of the past by contemplating its scars and chipped angles and burnished irregularities. No man can be more intimately related to a tool than the blacksmith to his anvil. I know an anvil the point of whose horn has been knocked off; its owner makes use of the jagged angle as he might of a special dexterity of his hand or fertility of his mind. Most of us, in fact, miss much in our understanding of the human spirit undefiled by our remoteness from tools; the best we can do is to imagine a sentimental relationship between the violinist and his violin, but anyone who would get an inkling of the indomitable idealism inherent in human nature may do so by listening to the fisherman on his gear in the pages of Stephen Reynolds's "A Poor Man's Home," and to the Surrey labourer on his shovel in George Bourne's "Bettesworth Book."

The village where this stithy stands is on a secondary high road, important enough to be tar-macadamed, and its native beauty is sicklied o'er with the callous squalor of industrial enterprise—mean new buildings and shoddy deformations of old, derelict gardens, enamelled signs promulgating rancid falsehoods, barbed wire, corrugated iron, broken hedges, borax and sulphite-doped foods holding out enticing hopes of intestinal cancer to the village children, and all those marks of soulless poverty which accompany the thriftless, wasteful governance of commerce and which was lately, with great effort, held up to admiration at Wembley at a cost of two million sterling to the guarantors, and of another million or two, it is to be supposed, to the exhibitors, whose sheep-like intelligences hurried them within the fold. Round this village was a raw-sprouting suburb of the meanest exploits in "private enterprise" it has yet been my misery to behold. Inside the stithy, however, all was well; a muscular Englishman was doing a man's right work with the self-respecting independence and wisdom which belongs to such employment. I did not address the blacksmith as "My good man," and he did not call me "Sir." His manners were far better than mine, for he was not in the least self-conscious or doubtful of himself, and I, in degree, was both. I do not mention this disparity as odd or even unusual; one who lives close to reality and stands by the merit of his work, independent of any man's favour, discovers a modest firmness of character rare in him who battles amid the artificial complexities of modern life, and I recall that the occasion when I was made most painfully aware of my inferiority was when I was given tea by the wife and daughter of a shepherd in a primitive cottage hidden away in the remote wilds of mid-Wales.

I learned from the blacksmith that he chiefly employed himself shoeing, and he told me he had little time for "fancy work," but he showed me a basket dog-grate which he had recently been commissioned to make. He knew how such things used to be, and he had designed and fashioned this one to satisfy his ideas on the subject. It was entirely excellent, and if it lacked the slick finish of the experienced craftsman's shop, it was none the worse for that, for the shaping of its many parts delightfully displayed their purposes and the qualities of iron wrought on an anvil. The work was an astonishing achievement for a man not practised in the making of such things. When he had shown me this he quietly laid before me another bit of work with a modest retiring air which showed that he had rather his skill should be judged from this exploit than from the other. As I had been frank in my admiration of the grate I was able to let him invite me to say what I thought of the spring tongs, and I told him that I did not think he would have so fashioned the tongs had he not been familiar with the machine-made bulk productions sold in shops. He was surprised at this, and then thoughtfully admitted it might be so, but did not see, as he put it, what was wrong with the tongs. He thought they were pretty; he had not worked to any pattern, but had followed an idea of his own. I told him that I thought they failed because they were "pretty," and because the elaboration upon which the prettiness depended was not expressive of their purpose as tongs nor of the characteristics of the metal of which they were made; that things of that kind were rendered beautiful by refined emphasis of the form in which the material most perfectly satisfied the requirements of spring tongs, and that any decoration should enforce that emphasis. I called his attention to the elegance of the working tongs that lay on the forge, which had not occurred to him although they had been beautifully fashioned by himself; and pointed out the way the form and thickness of the metal in the several parts expressed its quality and the needs of strength and lightness in the tool. I called his attention also to the way he had finished the hand-hold of the poker and ash rake by forking the end of the shaft into two tapered prongs and twisting them upon one another. The smooth, bulbous, cabled shapes could not have been bettered as a grip, and so expressed themselves, for they had been wrought with a devotion a man might be expected to lavish on his tools. The blacksmith was interested in these ideas; he understood; he mused and evidently found pleasure in his musing. It was as though he had been made conscious of something he already knew, but which he did not know that he knew. Nothing would be further from my intention than to saddle the instincts of any craftsman with a critical philosophy which never produced a craftsman; but the blacksmith was certainly going astray, and as he told me that the organizers of the Maidstone Agricultural Show are this year offering prizes for examples of craftsmanship from village forges, I hope that I may have warned him from following a false track. As I say, he understood me perfectly, but I wonder what the effect of such talk as mine would be upon one of those Princes of Industry, who, setting aside all scruples in their purpose of making money, have drenched the world with shoddy forgeries in malleable iron of the blacksmith's craft. For how long is the low,

coarse, ignorant brigand-man to be allowed to enervate the community by fattening on it like the gross, soulless parasite he is, and cheat humanity of that sacred birthright which subsists in the making well and beautifully in honest material its personal belongings and the furnishings of its homes? How long is the power and privilege of making the things that men crave to possess to be entrusted to precisely the one class that cares not a dump about them; and for how long are the men who crave to make such things to be harnessed like slaves to dolt machinery spewing out ignoble forgeries in substituted materials of those self-same things?

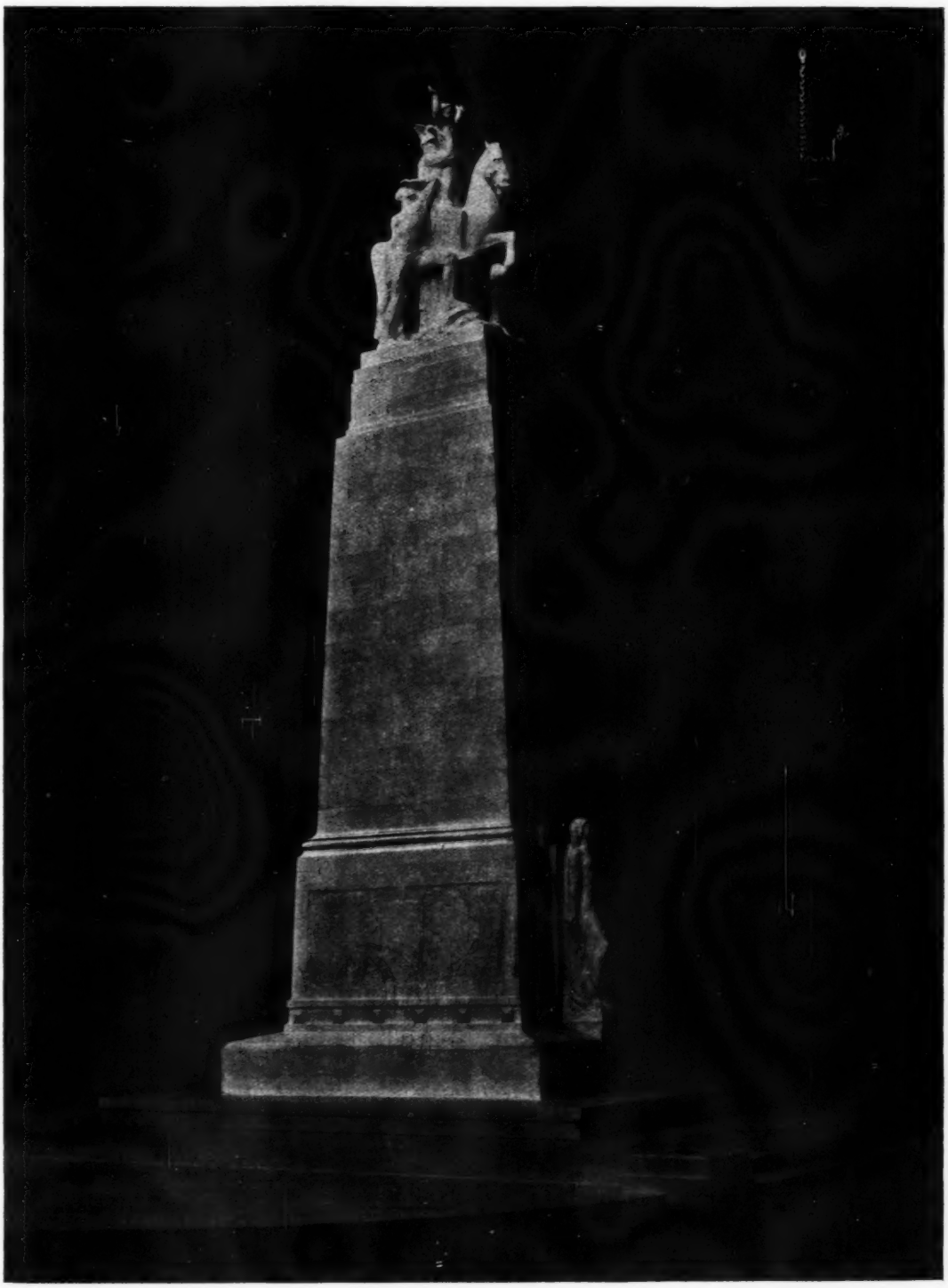
As I said when writing of the renaissance of the true shop, reaction is with us. The public is beginning to understand that it has been lead astray by the lavish accessibility and variety of plausible machine-made rubbish, and is learning that delight in a treasured possession cannot attach to a thing which has no individuality and whose exact counterpart is common property. It is realizing that there is no intrinsic merit in a machine-made thing which is merely the expression the manufacturer finds it profitable to give to a shovelful of coals, and that the salesman's plea that because he is selling a particular stamping or rolling in large numbers it is an envious possession, is, like most other statements of His Greasiness, entirely untrue. It is becoming aware that the merit of eighteenth-century snuffboxes might, and should, belong to twentieth-century cigarette cases, and that men can make, and are ready to make beautifully, all things that the public will allow them to make, and that tea-caddies and workboxes fit to be treasured through a lifetime and valued by following generations can be made now as of yore. It is beginning to feel, too, that the price of the commercially produced thing is no measure of its value, and that a real thing honestly made by competent hands is always worth the cost of the material and of the labour that produced it, and that even a copper kettle that serves for fifty years and passes to other kitchens is cheaper than the dozens of tinned ones usually substituted for it, which exist a few months and then are thrown into the hedges. KARSHISH.

Sketch Model submitted for the Welsh National War Memorial

DESIGNED BY GILBERT LEDWARD, SCULPTOR, IN COLLABORATION WITH H. CHALTON BRADSHAW, A.R.I.B.A.

War Memorials. 49.—Sketch Model submitted for the Welsh National War Memorial

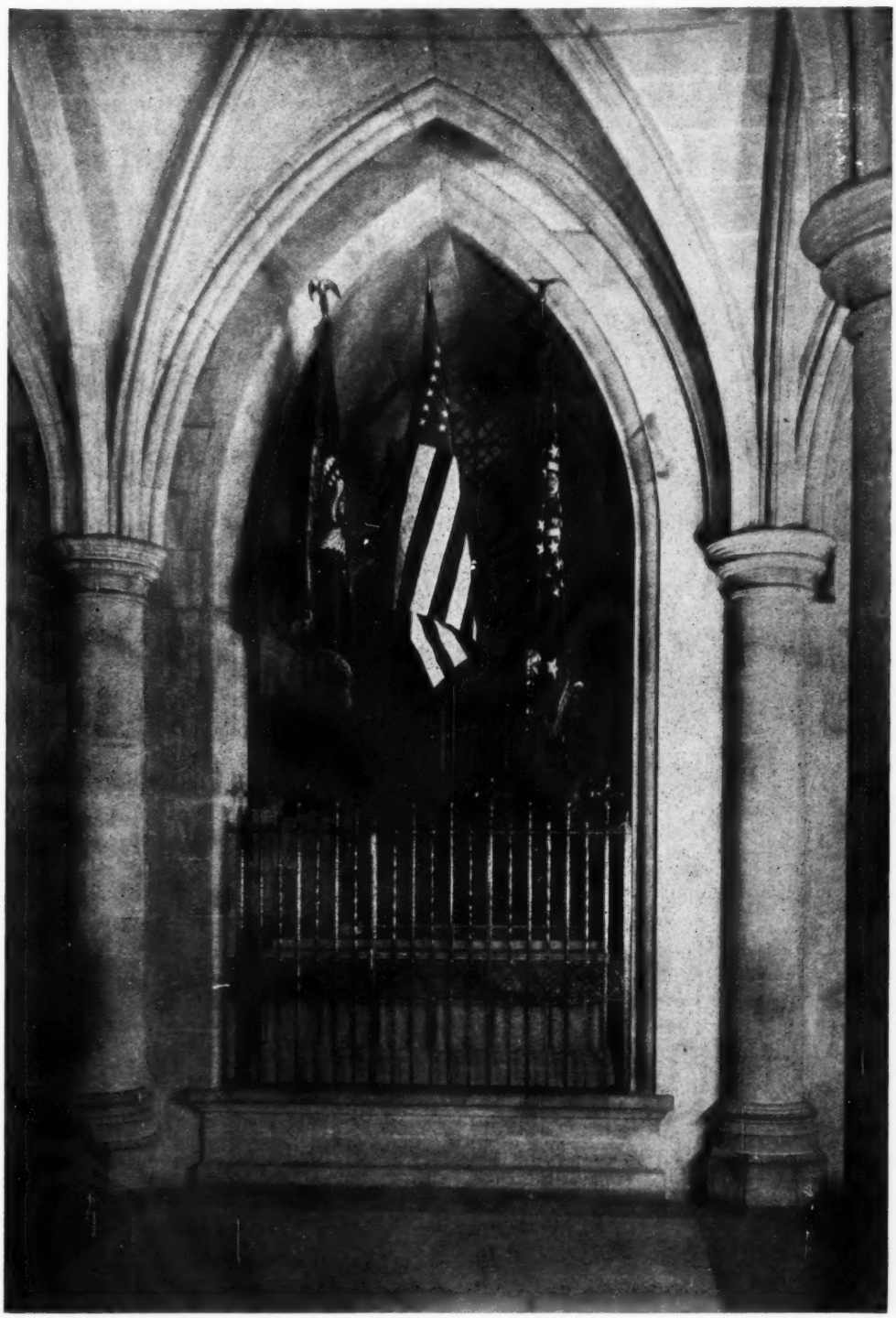
Designed by Gilbert Ledward, Sculptor, in collaboration with H. Chalton Bradshaw, A.R.I.B.A.



The monument consists of a simple pylon surmounted by a sculptured group, and measures 52 ft. in height (37 ft. 6 in. to the base of the group). The sculpture group is intended to express something more than the triumph of arms, and in the figure of the child with upraised hands is symbolized the hopes of the future for which men died.

The late President Woodrow Wilson's Tomb, Washington Cathedral

Cram and Ferguson, Architects



The sarcophagus is recessed in the south wall of Bethlehem Chapel, Washington Cathedral, in a space 8 ft. wide and 18 ft. 6 ins. high, with massive arches meeting above and a leaded glass interior window behind. The space is filled with sarcophagus, grill, canopy, and flags. The sarcophagus itself is warm cream-coloured limestone, having almost a golden gleam. The crusader's cross is its only decoration. In front of the crusader's cross are inscribed the words "Woodrow Wilson," and the dates of his birth and death—1856 and 1924.

Harehills Branch Library Competition

The Winning Design

FOLLOWING are the awards in the Harehills (Leeds) Branch Library Competition.

First—Mr. Arthur W. Kenyon, F.R.I.B.A., Sheffield.

Second—Messrs. Charlton and Allison, Leeds.

Third—Mr. Joseph Addison, Leeds.

The erection of the library will be carried out under the direction of the author of the first premiated design, subject to his design being approved by the Carnegie United Kingdom Trustees, who have made a grant to the Council in respect of the library.

General Planning.

The winner, in his report, states: The position, as indicated on the plan, has been adopted as the site for the new building. The main entrance has been planned so as to be accessible from the garden, the subsidiary entrance being approached from Harehills Lane. The library and the reading-room occupy the whole of the ground floor, and the rooms for the staff, filing, and store have been placed in the basement, as it was felt that to encumber the main floor with these rooms would materially increase the area of the building and take off a considerable portion of direct light to the principal rooms, and impede the supervision. Furthermore, these rooms being collected together will be convenient for the staff to work, and they are quiet and are remote from the general public. They are approached from the lending library by a staircase. Considering the width of the area in front of these rooms they would be well lighted. A direct entrance has been provided from the area for the use of the staff and the attendant.

The Lending Library.

The lending library has been arranged with radiating cases, so that each gangway is in view of the librarian. The position for the librarian in attendance is so situated that he will be able to supervise the entrance, the reading-room, and the juvenile room, and at the same time attend to the turnstiles and the inquiry window. The number of books in the lending library is 9,728 in independent cases, and 3,584 in wall cases, a total of 13,312. The book accommodation is calculated on eight books per foot run and eight shelves high.

The Reading-Room and Juvenile Room.

The reading-room and the juvenile room are approached directly from the entrance hall. But the latter room can be approached separately by the subsidiary entrance, making this room available after the library is closed, should it be required. Accommodation has been arranged on the counter for bookcases for 200 books, and this will afford a screen to the staff enclosure and the lending library.

The type of entrance doors was carefully considered, and in preference to putting two pairs of entrance doors, it was considered that the "Van Kannel" door would be more readily manipulated by the public and would keep the entrance hall free from draught. Double doors have been shown to the subsidiary entrance, as this entrance does not open so directly into the building.

Lecture-Room Extension.

Extension of a lecture-room has been shown by dotted lines continuing from the reading-room. The present reading-room could be used as a lecture-room, as this can be approached directly from the entrance without interfering with the other parts of the building.

Natural and Artificial Lighting.

Natural light has been obtained on all available sides of the building, and long windows have been introduced to ensure obtaining the maximum of light to the lower shelves. The juvenile room will be amply lighted by windows on three sides, but in the reading-room and lending library, the wall lighting will require augmenting by skylights, as shown on the drawings. This will ensure ample light to these rooms.

Artificial lighting will be by electricity, and it is suggested that flood lighting should be adopted, projected from a point in each room. This method, from experience, gives an even light free from shadows, and all parts of the room are equally and amply lighted.

Constructional Materials.

The external brick walls would be in two thicknesses, 4½ in. for the outer face, and 9 in. for the inner wall. The outside walling would be of selected facing bricks, relieved by a stone dressing or matt surface terra-cotta.

The floors would be of concrete covered with wood blocks. The portion over the heating chamber and staff rooms being of fire-proof construction. The staircase leading from the basement to the ground floor would be of fire-proof construction. The ceilings would be constructed of fibrous slabs supported from the roof trusses, the internal finish of the walls would be of hard plaster. The roof would be boarded and covered with selected slates, and the external roof lights would be of metal with patent glazing bars.

The fittings in the lending library would be of the Tonks type in plain enamelled metal, and the wall cases would be similarly made. An amount has been included for other furniture and fittings.

Heating.

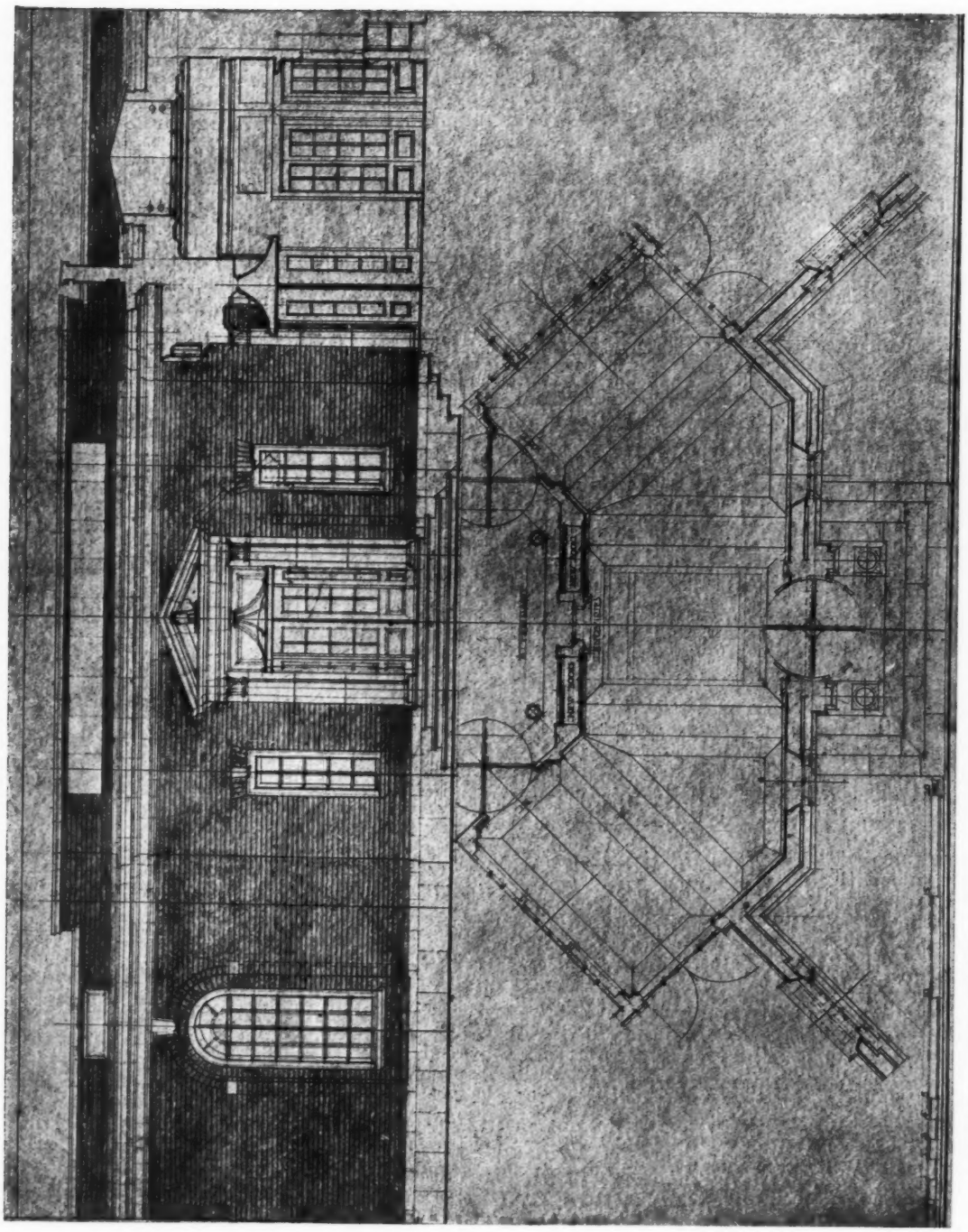
The heating chamber is situated in the basement, and consists of boiler-room and fuel store. One sectional low-pressure boiler would be installed capable of heating the whole building. Radiators would be provided in the positions indicated on the plan in front of the windows, and there would be a ventilating grating, 14 by 9 in., for incoming air, with hit-and-miss louvre front. There would be a perforated zinc screen behind the radiators to prevent draught. In addition to the radiators, a double row of pipes would be run round the ceiling lights to prevent down draughts descending into the rooms. The apparatus would be capable of maintaining a temperature of 60° Fah. The pipes where these would have to cross the floors would be laid in a trench with traps at intervals for inspection purposes.

Ventilation.

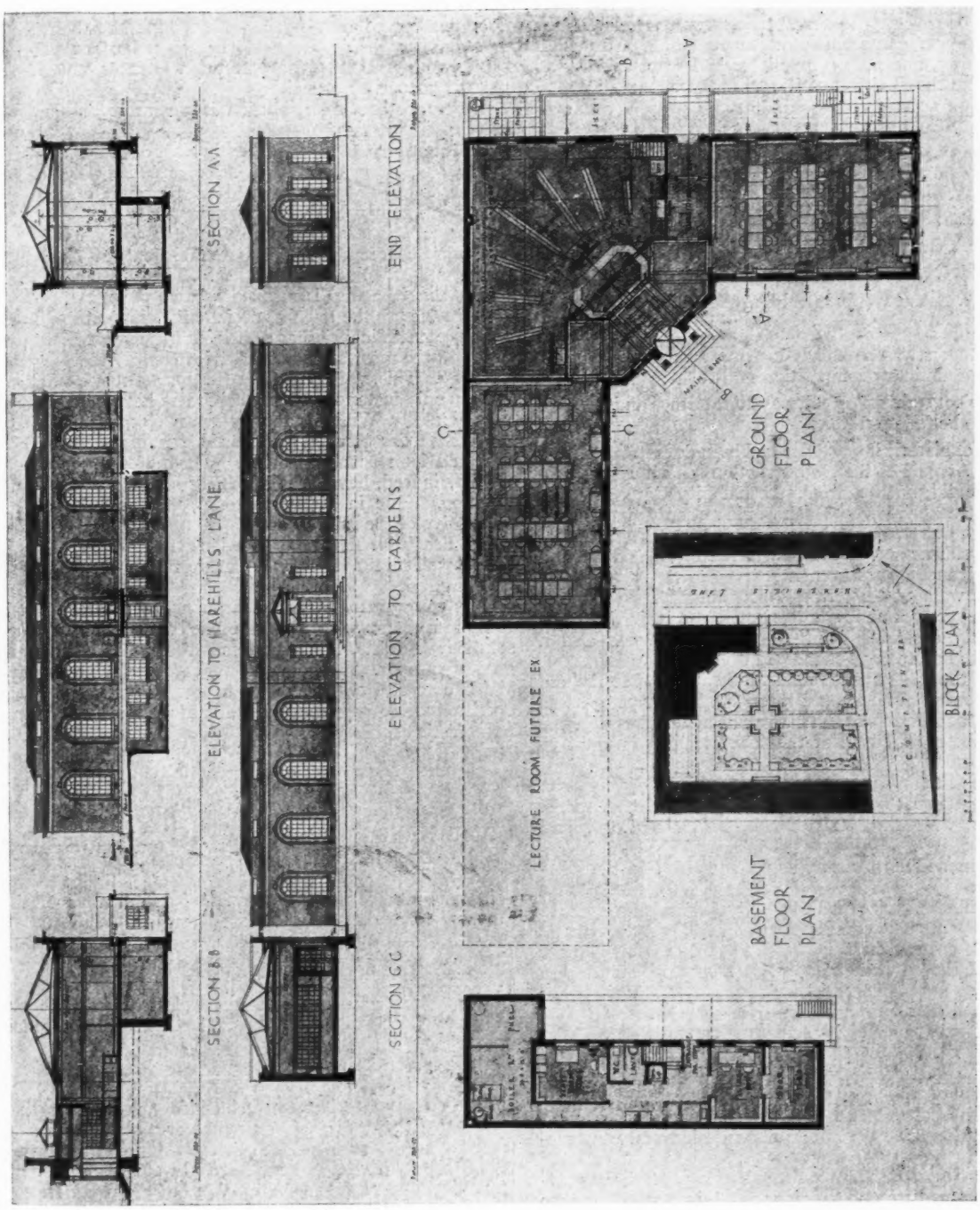
It is considered that natural ventilation is the most suitable for a building of this description. Air would enter through the gratings behind the radiators and pass through the zinc screen as before described. This would ensure the incoming air being heated as it enters the building. The extractor would be by means of hopper windows opening in, and in this way the change of temperature would occur twice in an hour. Hot water would be provided to the lavatory and cleaners' sink from a small domestic boiler placed in the boiler-room.

The building is in close proximity to houses and a garden. The design, therefore, has been kept simple and domestic in character, but at the same time an effort has been made to give it the character of a public building.

The total cost of the building, including furniture, is estimated at £9,000.



HAREHILLS (LEEDS) BRANCH LIBRARY COMPETITION: DETAIL OF MAIN ENTRANCE. ARTHUR W. KENYON, F.R.I.B.A., ARCHITECT.



HAREHILLS (LEEDS) BRANCH LIBRARY COMPETITION: ELEVATIONS, PLANS AND SECTIONS OF WINNING DESIGN.
ARTHUR W. KENYON, F.R.I.B.A., ARCHITECT.

The Rome Scholarship Designs

The Preliminary Competition

THE eighth annual exhibition of works submitted in competition for the Rome scholarships was opened at the Royal Academy on Friday, last week. In architecture nineteen sets of drawings were on view, and nine competitors had been selected to take part in the final competition. They were :—

J. Joanna Macfadyen (Architectural Association).

Walter F. Scarlett (London University).

Richard Ward Briggs (Manchester University).

George A. Butling (Liverpool University).

Hugh G. C. Spenceley (Liverpool University).

Charles A. Minoprio (Liverpool University).

Reginald J. Willis (Manchester University).

Frank N. Astbury (Liverpool University).

Elsie Rogers (Manchester University).

(Miss Rogers was a finalist in 1924, and was exempted from the preliminary competition.)

The subject set was "a gateway to a town," and the programme to be followed was :—

A town of historic importance had been devastated during the war. As part of the reconstruction scheme it was proposed to build, on the site of the old City Gate, a monumental entrance gateway which would not only give dignity to the town but would at the same time serve as a memorial to those soldiers and civilians who fell in its defence and final deliverance from the enemy.

The old walls which formerly surrounded the town had suffered severely, but it was proposed to repair the parts immediately adjoining the gateway. There was also a moat which had to be re-made and bridged.

Outside the walls a great road 150 ft. wide led to the site of the gateway. The ground through which it passed was to be laid out as a park. This road continued within the walls as the main street of the town, leading straight to the cathedral.

In front of the new gateway, outside the town, there was to be an open space out of which would branch two roads. Within the walls there existed a belt road running round the town.

No accommodation of any sort was needed in the gateway itself.

The number and size of the openings in the gateway were not laid down. The competitor was at liberty to arrange these as he thought best, and also to make the open space in front of the gateway of any size and shape suitable to his design.

The drawings required were :—

Plan of gateway and immediate surroundings to $\frac{1}{32}$ in. scale.

Elevations plan, and cross-section of the gateway with a cross-section of wall showing side of gateway to $\frac{1}{8}$ in. scale.

Half-inch scale details of elevation and section with sectional plans, all sufficient to show design and construction.

The sketch done *en loge* had to show a plan of the gateway and immediate surroundings to $\frac{1}{32}$ in. scale, together with an elevation of the gateway to $\frac{1}{16}$ in. scale.

The Designs Reviewed.

In our notes on the drawings on exhibition, we shall confine ourselves to those sent by the competitors selected for the final competition. Owing to the number of drawings submitted, we are unable to publish illustrations at this stage of the competition.

Joanna Macfadyen's solution is over-impressive. It is heavy and prison-like, and through such a gateway many good men may be imagined to have passed to their death. The gateway to any place—whether palace or prison—should be less forbidding, or no one will enter, unless compelled by force.

Walter F. Scarlett's solution is a sombre and massive piece of engineering.

Richard Ward Briggs has sent in a set of drawings which, as they are more modest in scale, are likewise less forbidding than the two former. His gateway, also, is a little feudal in manner, but we like its simplicity.

George A. Butling's design is rather ecclesiastical.

Hugh Spenceley's drawings exhibit one of the sanest and simplest solutions on view. There is no gateway proper, but the way is marked by two pylons which give the entrance to the town a specially inviting appearance.

Charles A. Minoprio has sent in drawings giving what is, perhaps, the most architectural treatment to the suggested gateway. This, with one other (Frank Astbury's solution), are the only instances where the Orders have been applied.

Reginald J. Willis's gateway has a Norman simplicity. He seems to suggest red-brick for his material, but we think it would look better in stone. (The material to be used should, indeed, have been specified on the Faculty's programme.) But in either material, it would be a little suggestive of the railway arch.

Mr. Frank N. Astbury's solution has the character of a screen wall minus its central feature rather than that of a gateway.

As a gateway to be passed through—twice daily or only twice in a lifetime—we think we like best Hugh Spenceley's solution. And he, it will be remembered, has given us no gateway proper. Indeed, we do not care for gates nowadays. We like to feel ourselves free to come and to go. They open to receive one like some dreadful mouth of Acheron (*Acherontis avari*).

* * * * *

The Faculty's Report.

In the course of their report on the designs submitted, the Faculty of Architecture, British School at Rome, say :—

The subject set was a monumental and commemorative gateway to a walled and moated town, which had been devastated during the war. There were two types of solution proposed by the competitors : one was to stop the ends of the ruined walls with piers or pylons, leaving an opening for the great roadway; the second was to build a definite gateway with openings for traffic. Both solutions appeared to be fitting and reasonable.

The Faculty desire to draw attention to a defect which is common to most of the designs :—

Many competitors seemed inclined to rush at their solution without adequate preliminary consideration of the data of the problem, and in their desire to produce a monumental effect they have lost sight of the actual problem and produced designs altogether out of proportion to a town of normal scale. For example, in many instances, they do not appear to have realized that there was a background of buildings about 80 ft. high, at a distance of only 60 ft. from the town wall, and that the town wall drops 20 ft. into the moat, and thus presents a face 40 ft. high in the front elevation.

The Faculty were compelled to disqualify two competitors, whose finished drawings showed a marked departure from the original sketch done *en loge*.

Victoria Station House: A Modern Office Building

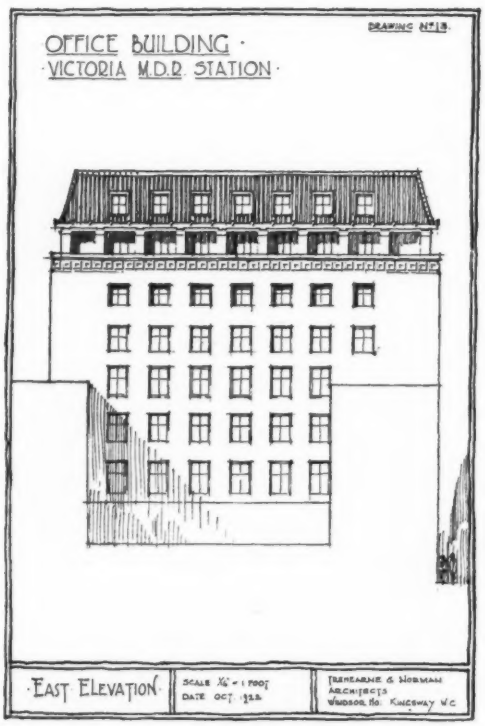
TREHEARNE and NORMAN, Architects

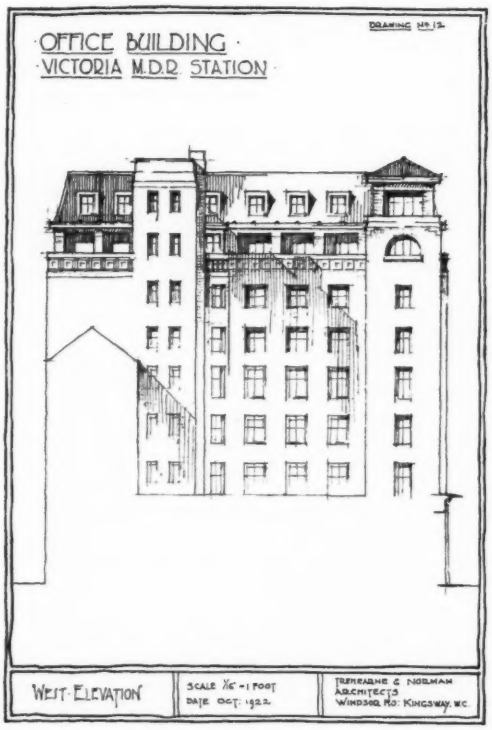
IN designing these new premises the architects were confronted with a problem of an exceptional nature, as the structure had to be built off the huge girders spanning the Underground Railway Station at Victoria. There is, therefore, no basement. The building is erected above the arcade and entrance to the station, and is immediately opposite the main approach to Victoria Southern Railway Station. The substructure, which is in Portland stone, was erected by the District Railway before the war, and could not be removed, and only sufficient space remained on the ground floor to form an entrance vestibule to the staircase and lifts giving access to the upper stories. The building is probably unique, for, although it does not stand on an island site, all four elevations are exposed and the unpleasant features usually associated with the typical back elevation have been eliminated, and even the external fire escape staircase is placed in such a position that its presence is unobserved and does not dominate the prospect.

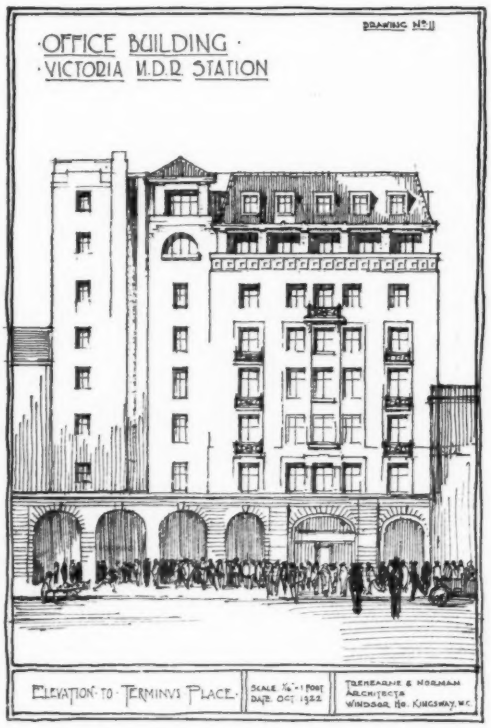
The building is of fire-resisting construction, built under the 1894 Act, faced with multi-coloured, sand-faced Dorking bricks, with Elm Park stone to the first floor and to the windows on the north and south elevations. The sloping roofs are covered with red Roman tiles, and the projecting eaves are of teak with special moulded cast-iron gutters. The entrance hall and staircase up to the first floor are lined with second statuary marble with Cippolino styles and bands, Sienna capping, and Ashburton base. The remainder of the staircase and landings are tiled. Two high-speed electric passenger lifts are provided, and the building is heated by radiators on the low-pressure hot-water system. The whole of the joinery to the main staircase is of Austrian oak. A portion of the building is of one story with a balcony, and is being equipped as a restaurant. Great care had to be taken throughout so to arrange the work as not to interfere with the working of the railway underneath.

[A list of the sub-contractors engaged upon the work is given on page 427.]

VICTORIA STATION HOUSE, FROM THE STATION YARD. TREHEARNE AND NORMAN, ARCHITECTS.







SKETCH ELEVATIONS OF VICTORIA STATION HOUSE. TREHEARNE AND NORMAN, ARCHITECTS.

Current Architecture. 264.—Victoria Station House, London

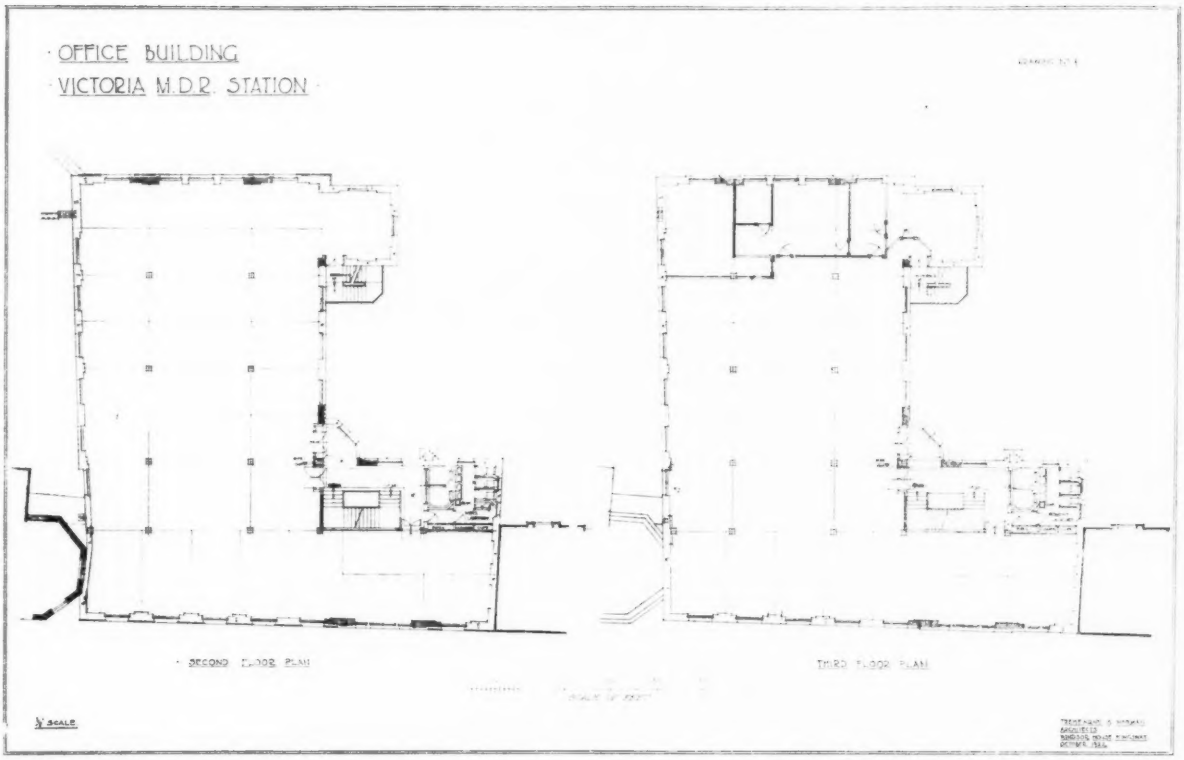
Trehearne and Norman, Architects

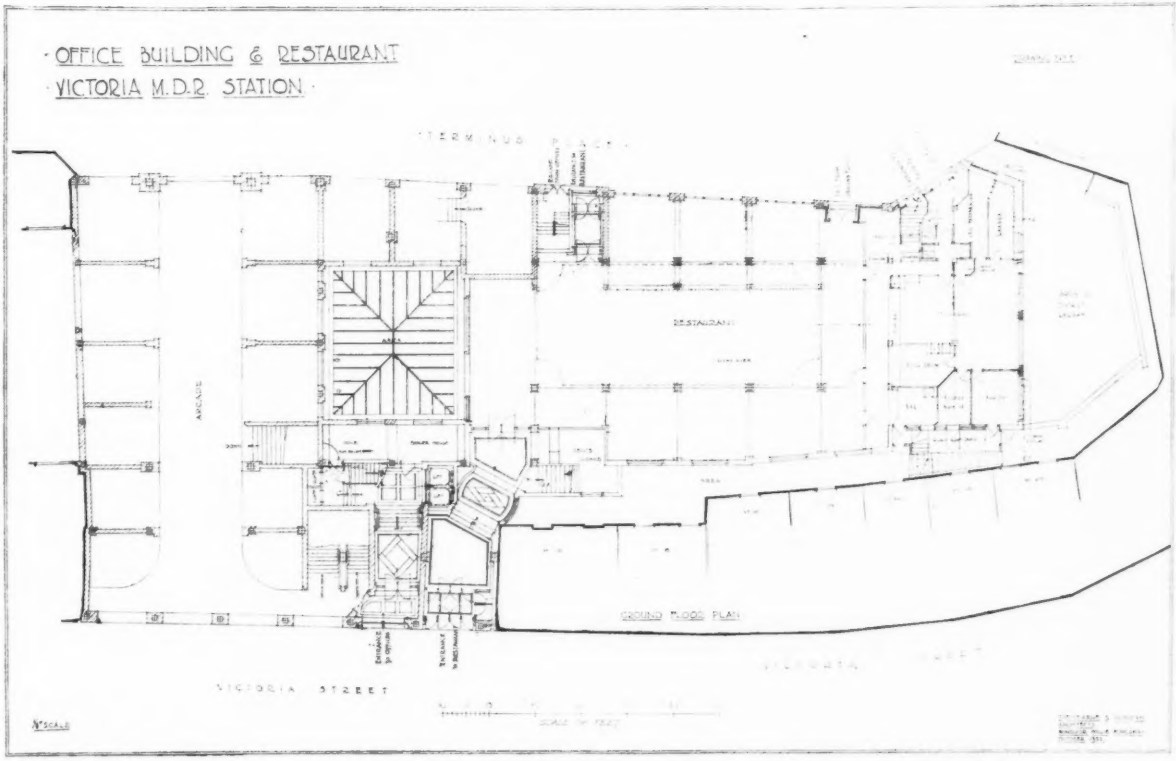
This building is erected above the arcade and entrance to Victoria Station on the Underground Railway. The substructure, which is in Portland stone, was erected by the District Railway before the war, and could not be rebuilt.

Current Architecture. 265.—Victoria Station House, London

Trehearne and Norman, Architects

This façade faces the Victoria Southern Railway Station, just outside which the building is prominently situated. Multi-coloured bricks have been used for facing, and artificial stone for the parapet. The roof tiles are of Roman type.

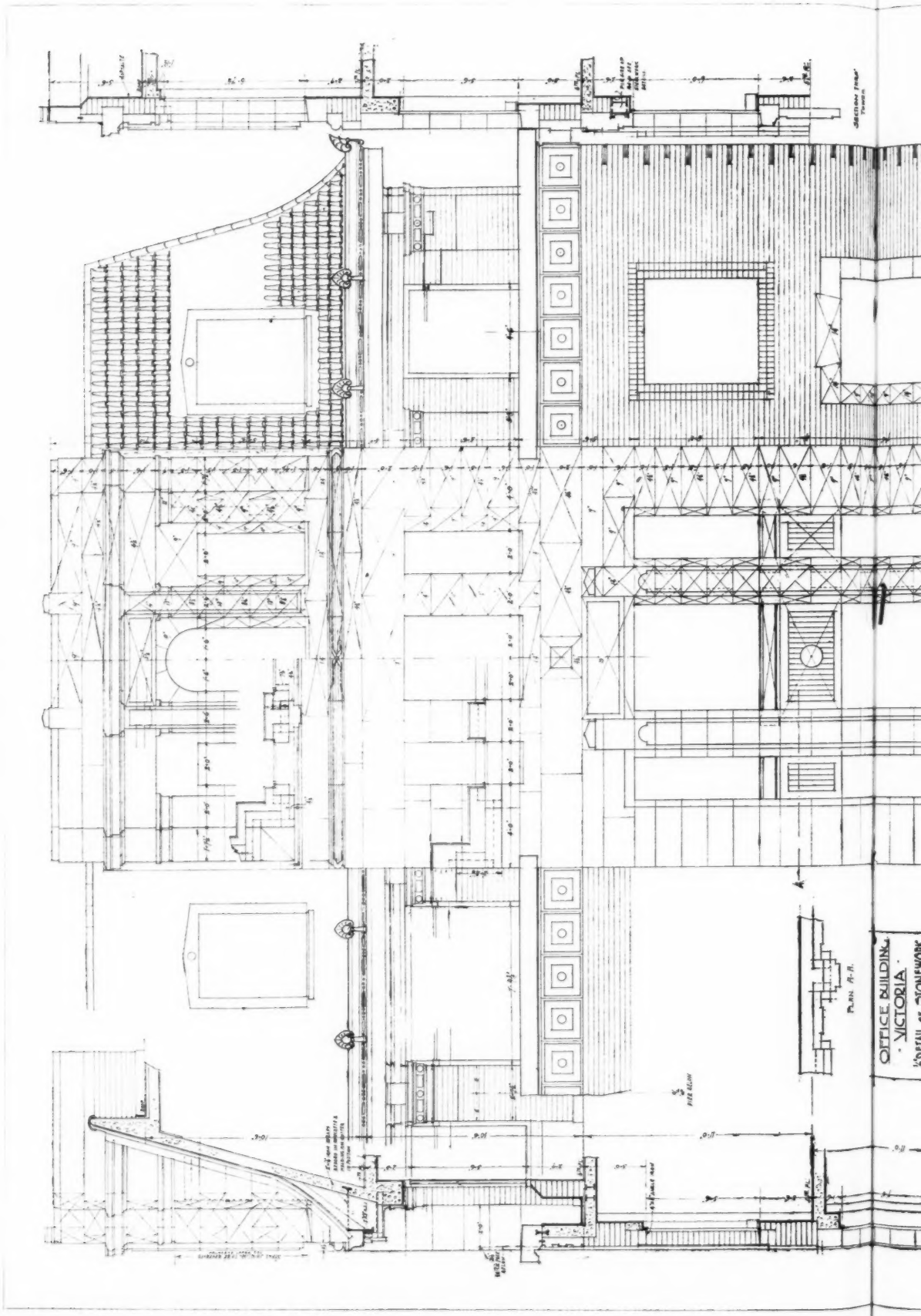


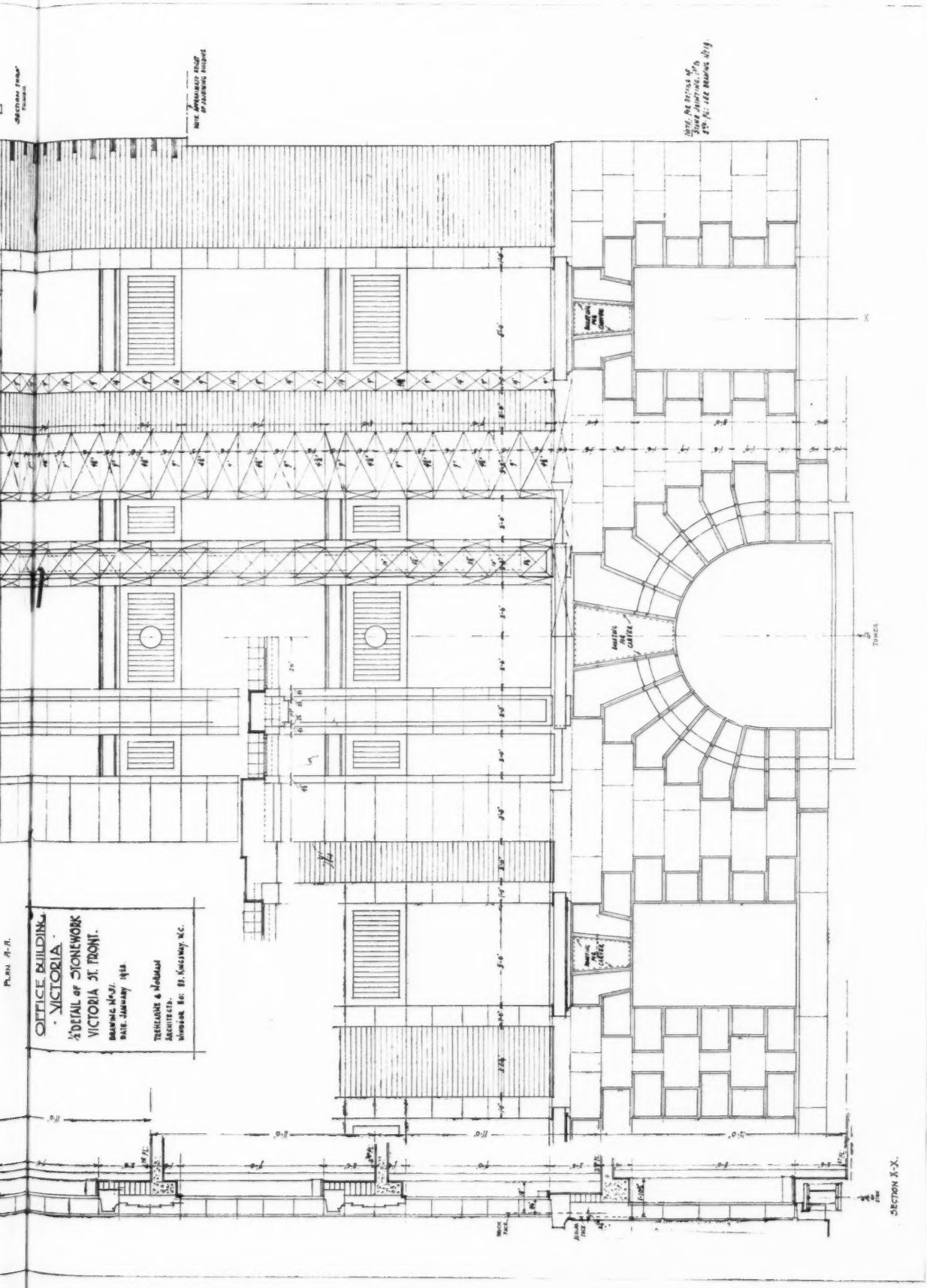


VICTORIA STATION HOUSE, LONDON: GROUND-, SECOND-, AND THIRD-FLOOR PLANS.
TREHEARNE AND NORMAN, ARCHITECTS.

Architects' Working Drawings. 96.—Victoria Station House, London

Trehearne and Norman, Architects





This detail is of part of the main façade in Victoria Street. The substructure, which was erected by the District Railway before the war, is not shown.

Modern Rebuilding Methods

The Foundations of Swan and Edgar's New Premises

MODERN building operations often involve much more than the eye perceives. Down some side street of a big London thoroughfare you may see quantities of building material disappearing through a door or a hole in the wall; while from above, a hidden hoist drops load after load of excavated earth into waiting lorries, which from time to time move off, quickly to be replaced by others.

The building in and about which these mysterious operations are carried on remains outwardly the same. People flock in and out of the premises, and business goes on as usual. Yet out of sight, deep down in the earth, a great number of men are at work on the foundations of a new building. While the crowds of shoppers go eagerly about their purchases on the various floors, they are entirely unconscious of the fact that the ground is being literally taken from under their feet. Perhaps if they knew what was happening they would have less serenity of mind! But they are perfectly safe.

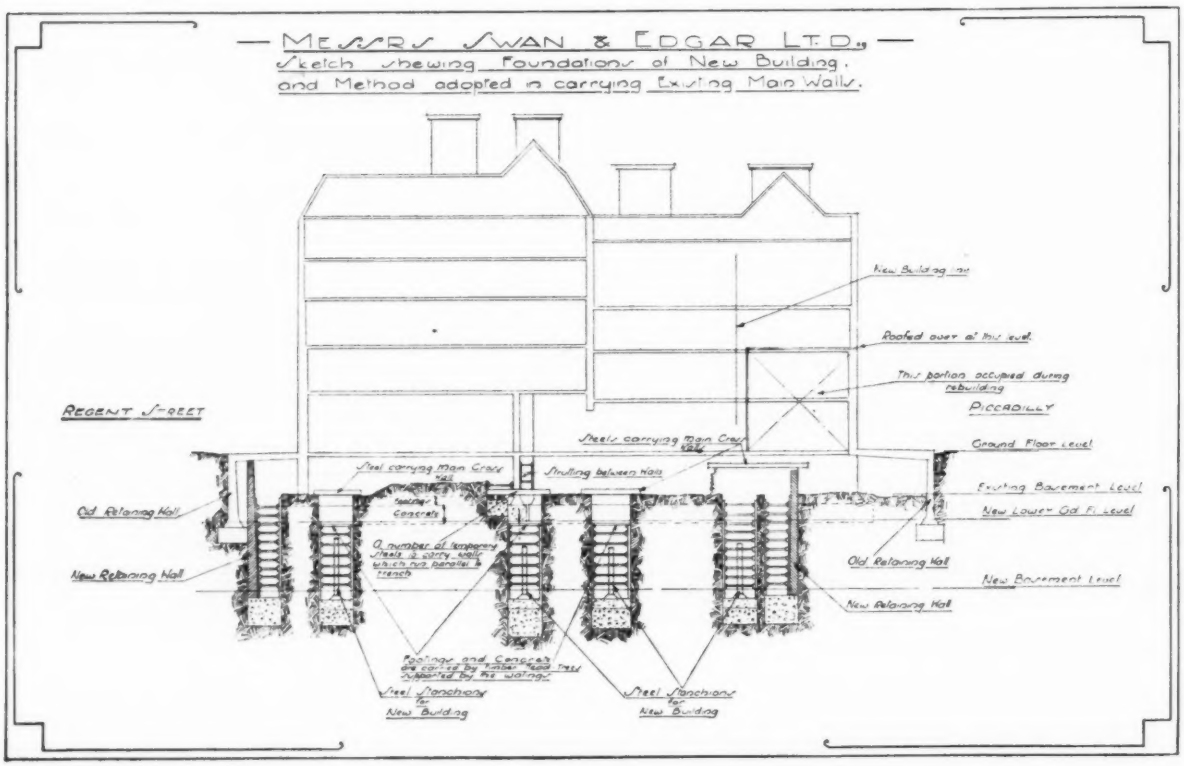
This business of underpinning a building while preparing the foundations of another to be erected on the same site has become a highly specialized branch of building work.

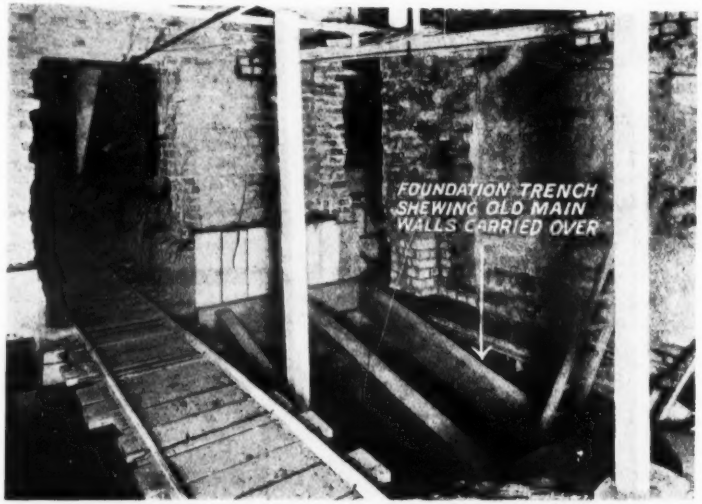
The explanation is not far to seek. In these days of high metropolitan rentals and heavy capital investment, a business concern that has to rebuild its premises must have the work completed in the shortest possible time. It is essential also to make provision for carrying on business effectively during rebuilding operations. The day has passed when concerns were willing to have their business brought almost to a standstill while their old premises were pulled down and new ones erected. To-day the financial loss would be enormous, and no one would think of incurring it. In the West End especially, where shopping values are constantly increasing, it is becoming more and more the custom to carry out the foundation work for new buildings under the old ones before beginning demolition. Thus the building industry finds itself confronted with an entirely new set of conditions—with complications undreamed of by the contractor of a generation or two ago. Indeed, the work is of so complex, not to say delicate, a nature that very few firms care to undertake it.

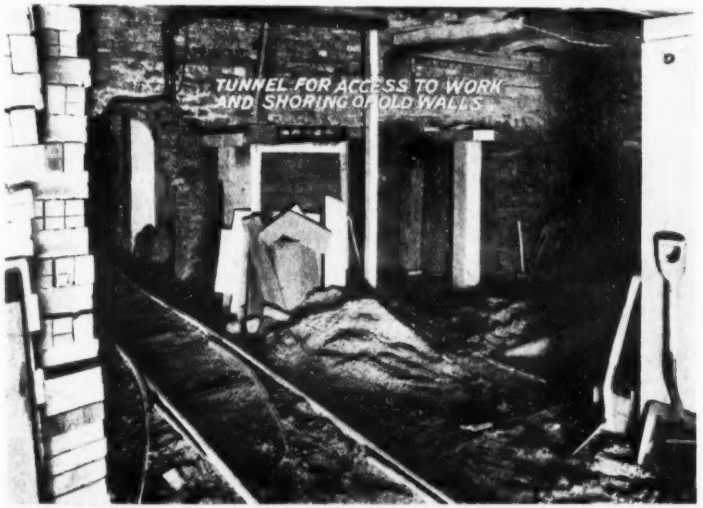
To get some idea of what is involved in operations of this kind, let us suppose that a big West End store decides to rebuild its premises. The contractor is told at least two things: (1) Business must be interfered with as little as possible; and (2) the work of rebuilding must be completed with the utmost speed—two apparently irreconcilable conditions. Not so!

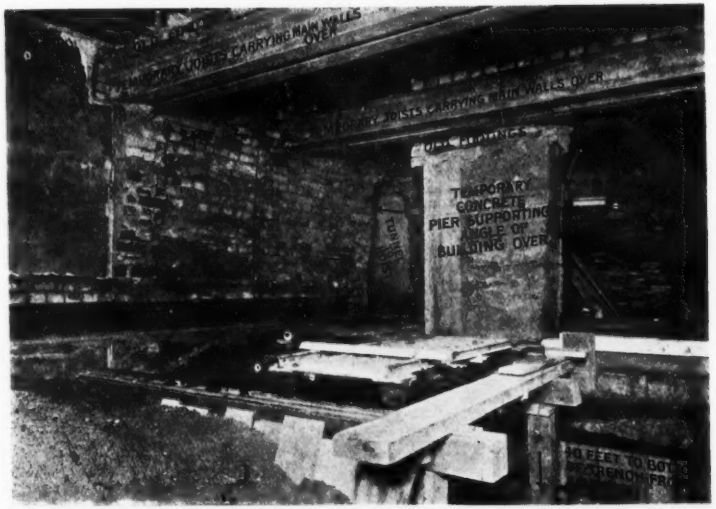
The contractor first obtains entrance to the basement at some convenient spot, and with as little delay as possible inserts new supports under the walls of the building; in some places they may be steel joists, in others wood beams. With the building safely upheld, its old foundations are removed and excavations for the new ones proceeded with. This nearly always involves a good deal of difficult work, requiring much practical skill and inventive ingenuity.

First a hoist has to be contrived for the convenient removal of excavated earth. Then it is necessary to provide means of conveying the earth to the hoist from different parts of the site. Usually it is found best to lay down a system of rails, along which trucks are run, as in a coal mine. To do this it may be necessary to cut holes through party walls and other obstructions. This was so in the case of the installation which is now in operation in the foundations of Swan and Edgar's building in Piccadilly Circus. Here, with a multitude of dark passageways through which rails run in all directions, with junctions and turn-tables at intervals, the illusion of the coal mine is complete.



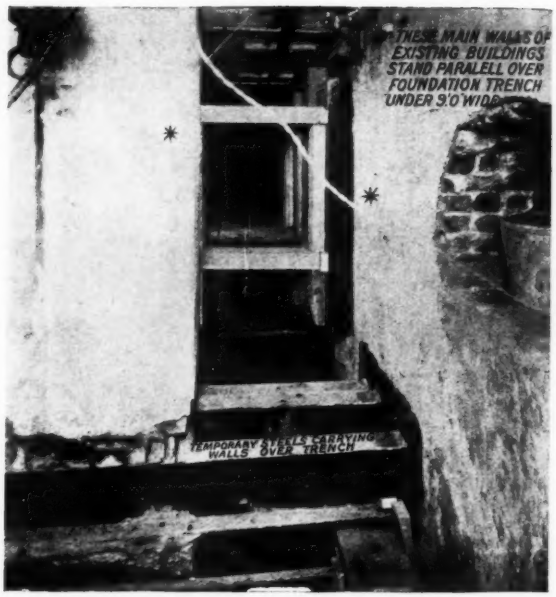






VIEWS SHOWING THE TEMPORARY WORKS INVOLVED IN THE PROVISION OF FOUNDATIONS FOR THE NEW SWAN & EDGAR BUILDING, PICCADILLY CIRCUS.

THE PICCADILLY RETAINING WALL.



STEEL JOISTS AS TEMPORARY SUPPORTS FOR WALLS.

As the work of excavation proceeds the new foundations are put in stage by stage, the building meanwhile resting on its temporary supports over alarming chasms of space!

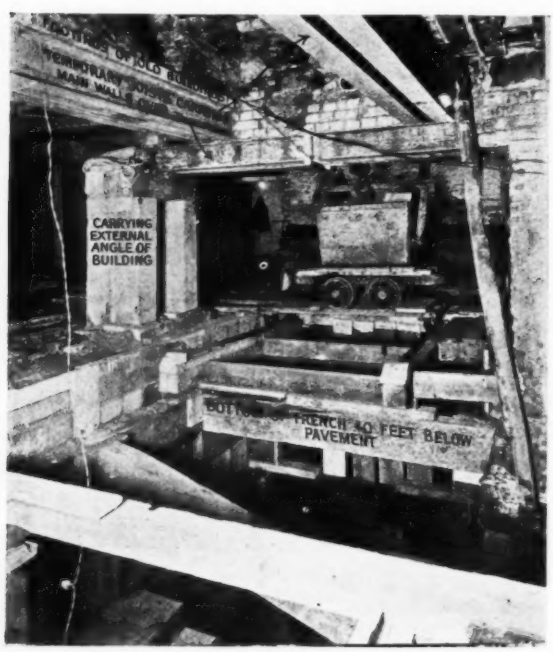
With the foundations ready to receive the steel stanchions which are to support the new superstructure, a part of the old building is then demolished, and the new work proceeded with, business still being carried on in the old part of the building. As soon as this new section is ready—which will be in a comparatively short space of time, for work goes on night and day—business is transferred to it from the old part, which is then demolished, rebuilding operations following on as before. A building may have to be handled in this way in three or four sections. Thus do modern building contractors out-Phœnix the Phœnix.

In the case of a building having only one basement the saving in time effected is not so marked, but in the case of two basements there is a very considerable saving, for the reason that before any work on the building can be put in hand the retaining walls must first be trenched, as it is obviously impossible to take out the excavation of the site leaving a face exposed next to the street some 30 to 40 ft. deep strutted.

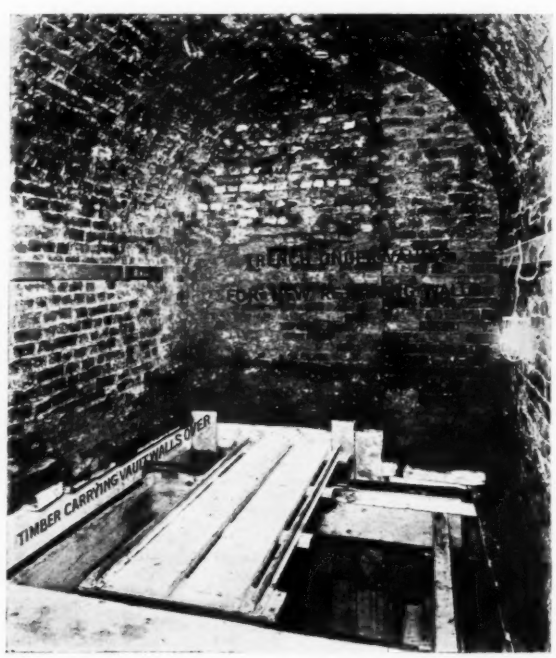
The two-story retaining wall must be put in a trench; that is to say, after the excavation has been completed the concrete is put in and the wall brought up, one strut at a time being removed, and the dumpling is strutted to the new brick wall as it rises.

As generally the retaining wall is not designed to be entirely self-supporting, the basement floor girders have to be inserted before the dumpling can be entirely taken out.

In the case of the Swan and Edgar building the first



TRENCH FOR NEW FOUNDATIONS.



TRENCH UNDER VAULTS FOR NEW RETAINING WALLS.

intention was to deal only with the retaining wall of the first section, i.e., half of the site abutting on Air Street. The only access that could be handed over to the builder was one shop, with house over, in Air Street, which had a frontage of 24 ft., and a depth of 16 ft. This was demolished to the ground-floor level and a shaft sunk to the basement. A gantry was erected to first-floor level over the entire site, upon which it was proposed to fix a crane. It was found, however, that the area was too restricted to swing a crane picking up from the basement and discharging into the lorry in the street, so an electric hoist was installed with a joist runway at second-floor level, so that the skips could be picked out of the basement, travel along the runway joist, and tip into the lorry without double handling.

This work was put in hand in October, but as those sections under Messrs. Spink's premises in Piccadilly and the corner site of Air Street and Regent Street were not available until some months later, the retaining wall up to these points was completed earlier than anticipated, and it was considered desirable to proceed with the general foundations for the stanchions over the site.

When the scheme was considered with the usual pier holes it was found that owing to the size of these there was insufficient ground left between them upon which to support the old buildings over. The architect and engineer therefore reconsidered the matter and redesigned the stanchion foundations to come in trench formation, which enabled long trenches through the site to be sunk under the buildings running in a line with Regent Street and Piccadilly. Before these foundations were proceeded with it was necessary to insert joists under the existing walls over trenches. A considerable amount of timber shoring was also required.

In view of the absence of any concrete foundations under many of the old walls, and the general state of the old buildings, it was decided to pull down the upper stories of the old work and to restrict the use of buildings under which the foundation work was proceeding to the ground floor shops, the shops being temporarily roofed over at second-floor cill level.

The site was finally cleared on February 26, so that occupation of the ground-floor shops was enjoyed six months longer than would have been possible under normal procedure. The foundation work was executed in eighteen weeks, work going on day and night.

The following particulars will give some idea of the extent of the operations: 11,000 ft. cube timber used in shoring; 40 tons steel in temporary work; 8,000 yards cube excavation removed, 160,000 bricks; 1,100 yards concrete.

The architect is Mr. J. J. Joass, F.R.I.B.A.; the engineer, Sir E. O. Williams, K.B.E.; the clerk of works, Mr. Camp; and the builders, Messrs. Higgs and Hill, Ltd.

Little Things that Matter—45

Leaky Windows and Doors

By WILLIAM HARVEY

LEAKY windows are the bane of the unfortunate householder, and also add very considerably to the labours of the architect by causing him to pay extra visits to the building during the maintenance period. Leaks are quite difficult enough to avoid at any time, and particularly so in these days of high prices, when materials of a class that would have been rejected in pre-war days have perforce to be used in building construction. Imperfectly seasoned timber will shrink, and wooden windows have now to be designed with special reference to a much greater margin of movement after construction than would have been necessary twelve years ago.

Shrinkage of material, which affects all joinery works to some extent, affects windows and doors exposed to the sun and weather in a most serious and obvious way, and has rendered obsolete some of the finest devices of the ordinary text-books of construction. Dainty hook joints and round and hollow joints are quite out of the question in anything but the best of joinery stuff in a bone-dry condition, and modern detailing of doors and windows may have to be of a somewhat primitive character, an improvisation to meet the special conditions now existing.

The disposal of water on a window should be worked out from start to finish, for it is a modified blessing to have prevented the entry of water at the jamb or the meeting rail only to have it well up over the stop of the cill. In an exposed situation every detail of the window will be severely tested. Rain has even been known to blow in through minute cracks and bubbles of rough glass used for its ornamental appearance. Leakage through the putty joints is a comparatively ordinary trouble that sometimes takes place in spite of careful back-puttying.

If the glass pane is pressed unequally upon the back putty in the rebate it will be sure to spring slightly out of place when released, and leave a fine crack between the putty and the glass through which rain will drive before a strong wind (Fig. 1).

Leaded lights set in small cames are frequently leaky, either because they have been imperfectly set in the first instance, or because the whole surface of the window has become bulged and distorted with vibration and wind-pressure and the lead no longer holds the glass in a firm grip. Adequate attachment to a sufficient number of stout saddle-bars is a useful precaution against leakage from this cause, but the careful bedding of each piece of glass in the grooves of the cames is also necessary (Fig. 2).

Where the glass and its bedding is sound, leakage can still take place between the sash or casement and its frame, and between the frame and the wall. Unless they are unusually large, projecting eaves, cornices and reveals above windows have only a restricted value in exposed situations, where the rain is blown horizontally against the building, and is driven as a moving wet sheet along its surfaces. In such cases each joint must be watertight, and, in addition, should be disposed so that it will not be tested by the full force of the wind.

On the other hand, certain joints have to be given up as a bad job at the outset. The joint between a wooden frame and the surrounding brickwork, concrete, or rendering will not stay close for the best architect in the world.

The system of recessing window and door frames within reveals was developed as a precaution against fire spreading from building to building, but reveals are sometimes used in an attempt to minimize the width and the exposure of the inevitable open joint between the shrinking wood and non-shrinking brick (Fig. 3).

Another way of dealing with this joint is to place the frame flush with the outer wall and resign oneself to the rain blowing in, with the proviso that it shall be arrested in a cavity of the wall before it reaches the interior of the building. This looks more alarming on paper than it is in reality, for it is the function of the outer portion of the cavity wall to be wet, and the rain which soaks in around its edge does not make it very much wetter than it would be in any case (Fig. 4).

Architects sometimes attempt to make a sound job of this joint by keeping the frame away from the brick to the distance of a mortar joint and well flushing the space

up, if the frame is fixed during the progress of the building, or by pointing the space if the frame is fixed after the erection of the brickwork. In either case shrinkage of the timber leaves an open crack, and the more mortar that is put in the more there is to fall out, and this it will do, despite grooves in the frame. In any case, rainwater that will drive in must be stopped at the cavity, and slates or some other impervious substance must be used to prevent the water appearing in the internal reveal.

There are several ways of arranging the slates. One good method is to cement them to the vertical side of the outer portion of the cavity wall with one vertical edge of each slate projecting into a groove in the jamb of the frame (Fig. 5).

Another way, which serves when the woodwork of the frame does not reach back to the cavity, is to use the slates so that they bridge the space between inner and outer thicknesses of wall (Figs. 1 and 4).

Although apparently flimsy, this is a time-honoured arrangement, and stands well when the undercoat for the plastered reveal is made of Portland cement over the slate. Tiles are sometimes used instead of slates, and as long as they are sound and non-absorbent the substitution is of little consequence.

What is of the greatest importance is to see that the water does not get arrested at cill level and carried into the building on the horn of the cill. If the cill is allowed to project at its end, and is built into the brickwork, a clear space must be left for the lowest slate to pass right through it, or the whole of the water that is stopped by this slating arrangement will be collected on the cill, and will keep it wet at its junction with the jamb of the frame, a condition of things highly favourable to the growth of dry rot.

The oak cill may be used to cast rainwater clear of the wall, and in this case a projection of 1¼ in. to 2 in. and a throating is all that is necessary. This simple device is certainly as cheap as it can well be, and is probably more efficient than a whole array of water-bars and over-sailing brick, tile, or stone courses (see Fig. 1).

It is not always artistically suitable to leave the oak cill without apparent support, and where the frame is sunk in a deep reveal the oak may be joined with a water-bar to an over-sailing drip-course of some impervious material.

In the case of cavity walls the water-bar is sometimes dispensed with, but care must be taken that water does not blow straight in through the joint between the oak cill and the work below, and, traversing the horizontal under-surface of the oak cill, obtain a lodgment on the inner portion of the wall. Although this may sound impossible, experience proves that it is very often the case, and the surface below the window-board gets wet despite the cavity. A groove in the cill in the middle of its width prevents this troublesome defect (Fig. 6).

Whether the cill is a single one of oak, or a double one of oak and stone, it is, of course, just as important to arrange for the outlet or disposal of water that has leaked in at the jambs and that has been caught on the projecting horns of the cill or cills.

Water can generally be kept out from above the head of the frame by a projecting drip moulding formed in connection with the lintel, and, in the case of frames hidden behind reveals, the whole thickness of the outer face arch acts as the drip member. Perhaps the popularity of the double-hung sash is due to its remarkably well-developed weather-resisting qualities, and the chief leakage occurs at the junction of jamb and cill, and at the junctions of the stone and wood cills.

Water sometimes lodges on the upper surface of the meeting-rail of the upper sash, where the glass is let into a groove, but this does not penetrate to the interior of the building until the woodwork is in a fairly advanced state of decay. Check-throating the cills and the addition of a high stop on the inside generally suffices to keep water from blowing in under the lower rail of the lower sash, but rebatting the inner lower edge of the rail over a sinking in the cill is often resorted to in exposed positions (Fig. 7).

Bedding the oak cill tightly down over its water-bar and on to the stone cill in a mixture of red and white lead is the orthodox procedure, but there is no guarantee that the oak will stay bedded, and, in fact, it has a perverse way of casting free and allowing water to flow in underneath. More white lead may be packed into the crack, but where once the water has found its way in it is extremely difficult to keep it out by this means, and, in despair, old leaky cills are often covered with sheets of "blue" (metallic) lead dressed right over wood and stone. The lead is fixed under the inner bead of the oak cill and secured by copper nails, and is tucked into raked-out joints in the jambs. It should be dressed down over the front of the old stone cill to form a drip below its front edge as shown in thick lines on Fig. 7.

Double-hung sash windows provided with deep inside beads on their cills possess the great advantage that they permit of the entry of fresh air at the meeting-rails without the sacrifice of their weatherproof quality. The same cannot be said of casements and of the ordinary kinds of transome lights, whether they open in or out. Driving rain finds its way in over the top of a casement which opens outwards, even when it backs the wind, and the triangular space at the side of an open transome light invites the entry of rain unless provided with special solid hopper sides, which are ugly and unmanageable in domestic work, where they interfere with the window hangings. Even when closed the casement often leaks much more than a well-made sash window. The edges of the double-hung sashes are surrounded by the beads, and water has to change its direction twice before it can appear on the inside (see Fig. 3). The joint between the hinged casement and its frame is exposed to the weather, and water has only one corner of the stop to pass before it enters the building.

The second check may be provided by rebatting the edges of the casements so that they overlap the frames, or by screwing on cover fillets for the same purpose. The hinges must be arranged to agree with the altered disposition of parts, and special shutter hinges that permit of both sides of the casement being cleaned from the inside of the building best meet the requirements (see Fig. 8).

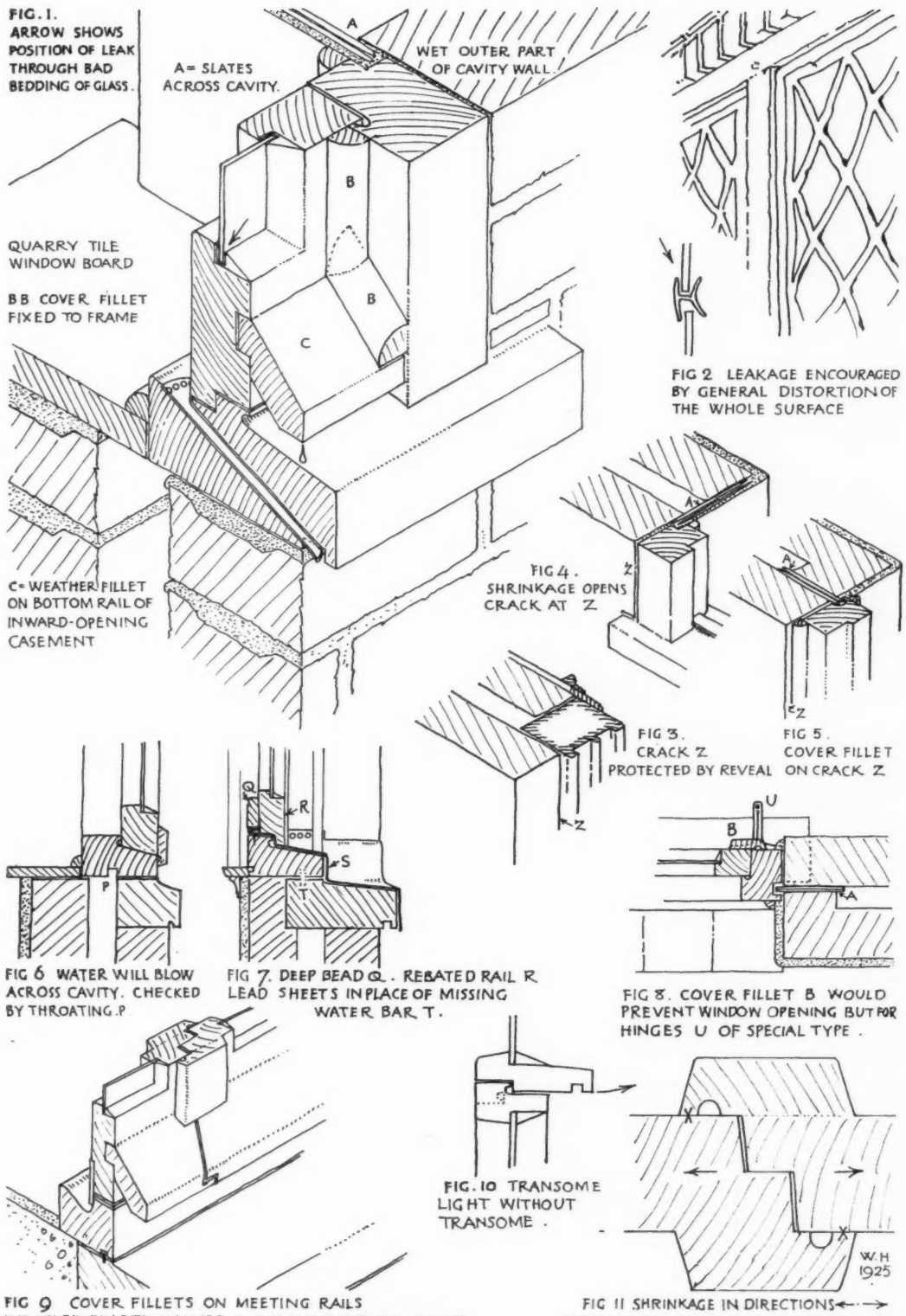
The outward opening casement may have its uprights and lower rail provided with special rebates, or cover-fillets of this kind, but a cover-fillet on its upper rail would merely serve to collect water streaming down the wall-face and conduct it into the building unless the transome or head is projected over it and is throated on its under-side.

The meeting-rails of pairs of casements and of French doors made of shrinkable material are vastly improved by cover-fillets, either screwed on or machined out of the solid wood on one or both of their faces (see Fig. 11). Added to the shrinkage question the sagging of the two leaves doubles the amount of clearance required, and a close joint becomes unworkable in use. What actually happens is that where a single rebate on each leaf is relied upon, the joint at the meeting edges becomes alternately too tight to shut when the wood is swelled with damp, or too open after a dry summer to prevent the ingress of floods of water during the thunderstorm that follows the drought.

The cover-fillet will also shrink and expand, but not in directions that cause any trouble, and when once fixed properly in contact with the wood of the other leaf it will remain so in spite of shrinkage and movement.

The joints between the cover-fillets on the styles of a casement and the weather-fillet on the lower rail must be devised to carry the water from the higher to the lower level without permitting of soakage (see Fig. 9).

Cover-fillets and projecting weather-fillets on the lower rails of casements and doors frequently fail at the meeting-rails. Some clearance has to be allowed, and a special piece of cover-fillet must be used to cover this open joint and take the water safely over it. Or the weather-fillets may be rebated and weather-grooved where they meet (see Fig. 9).



LITTLE THINGS THAT MATTER. DIAGRAMS. DRAWN BY WILLIAM HARVEY

With casements opening inwards the difficulty of keeping out the wet and draughts is even greater, and it is well to prepare for the worst by making a gutter along the cill with outlets to the outside.

The outlets should be lined with little pipes to conduct the water clear of the exterior and also to prevent air and water being freely blown back into the building through the holes (see Fig. 1).

Cover-fillets are just as useful in connection with casements opening inwards as with those that are hinged in the opposite way, and the weather-fillet on the bottom rail assumes the greatest importance.

In the case of doors opening inwards over a flat cill or doorstep the weather-fillet is the only bar to the driving rain, and must be of adequate projection to cast the water clear of the step.

The tendency for water to drive into the jambs and to penetrate to the inside through the clearance of the weather-fillet should be guarded against by scribing a cover-fillet down the door-jamb and out over the weather-fillet at the foot. The cover-fillets are fixed to the door-posts, and are placed in position after the door is shut, and pressed hard against its surface while being screwed on to the frame. A 1 in. by 1 in. quadrant that is flexible enough to bend slightly to fit the curve of the door after it has "cast" is an appropriate section for the purpose (see Fig. 1). The head of a casement opening inwards offers no great difficulty, for the stop on the head or transome of the frame above provides a space for a throating, or even acts as a drip.

The cill of a casement, or pair of casements, is sometimes provided with a metal plate which may be screwed to the cill to prevent wear when the opening is used as a means of entry and exit, or sometimes special hinged plates are fitted which act as baffles to wet and draughts.

In one form of weather-bar for inward opening casements, a strip of brass is screwed to the cill, and to this another strip is attached by means of a long hinge. The upper strip lies flat when the casement is open, but is propped up to an almost vertical position by means of a small striking spur when the casement is closed.

The striking spur is fixed at the foot of the locking style, or of the meeting style of the second casement to be closed in the case of a pair. Though these movable strips are efficient in excluding water blown up the cill, they are rather liable to catch in passing feet, and afford no obstacle to rain that has blown in through the cracks of the jambs and the meeting rails. The internal gutters will be wanted, whether they are used or no, unless the householder is prepared to mop up a little moisture on occasion.

Water is just as liable to blow into the joints of wooden transome lights, and similar means may be taken to keep it out. The great thing is to have tight joints against the weather, and the cover-fillet is the only piece of shrinkable wood that will permit of joints being kept tight.

A certain amount of ingenuity must be shown in adapting them to the different methods of opening either in, or out, or central hung. A transome or loophole light hung on centre pivots is very often found to be leaky through the rain blowing straight in horizontally beside the pivot, and weather-grooves should be formed vertically in the jambs of the frame and of the light to baffle the through draught.

Transome lights are now often made above casements without the intervention of a transome in the frame. It is intensely desirable to keep the transome as slight as possible so as to avoid the ugly dark bar across the window when viewed from inside, and this arrangement possesses the advantage of alternative possibilities of ventilation without emphasizing the heavy horizontal line more than is necessary (see Fig. 10).

In a window consisting of several lights some of the casements and some of the transome lights may be made to open. The top of the fixed casement acts as transome to the opening transome light, and the bottom of the fixed transome light acts as head to the opening casement, and all must be weather-filleted accordingly.

Even in windows not provided with a transome it is possible to open each light provided that they are opened in an appropriate order. Once the top-hinged transome light is opened, its bottom rail is raised high enough for the casement below to move out in spite of the rebate on the underside of the transome light. Where cover-fillets and weather-fillets are planted and screwed on, both the surfaces that will ultimately be in contact should be painted with thick white lead paint just before they are placed in position, and where a large drift of driving rain has to be met the cover-fillet should be grooved and housed into the work or even "stuck" in the solid stuff in manufacture.

The Timber Resources of the British Empire

India and Burma Hardwoods

THE timber resources of the British Empire, and particularly of India and Burma, were the subject of a lecture given by Mr. Alexander L. Howard, of London, before the Edinburgh Architectural Association. He introduced his subject by a reference to the general question of re-afforestation, which, he said, was now becoming a question of the hour. The suggestion had been made that other timbers than larch, Scots pine, Douglas fir—important as they were—should be planted to form a reserve to stand us in good stead against any future need. He thought that every man and woman in this country should realize the importance of a national reserve of afforestation areas, and that if the Government of the day would not take the matter in hand a party should be formed which would say "plant, plant, and plant again," to provide that reserve of forest resources which our country had been so fortunately possessed of in the past. The lecturer gave an account of forest work in British Columbia, and said that timber from the Douglas pines of that country was being sent in enormous quantities to all parts of the world. In describing the forest work in Japan, where the growth of trees is a much slower process than in this country, Mr. Howard said that a great trade in timbers had been built up there. It was not so much owing to the large demand in Japan herself as to the fact that she was selling timber all over the world. The last twenty-five years had witnessed a wonderful development, and in Scotland to-day they had furniture, buildings, beer casks, made out of timber which was brought from Japan. Mr. Howard next gave a description of the forests and forest work on the Himalayas and in Northern India. One wonderful thing about the Empire of India was that while it produced all the timbers which were grown in this country it also produced no less than 2,500 specimens of timber which were not grown in any other part of the world. The lecturer also referred to the conditions on the Andaman Islands, which he described as "One immense gold-mine of timber." In Burma to-day the State possessed 30,000 square miles of reserved forests, and 116,000 square miles of unreserved forests, a total area of forests larger than the whole area of England and Scotland. The lecturer called attention to the imports of timber into the United Kingdom, and said that out of the many millions of pounds we paid per annum for imported timber only a small sum—about £170,000—went to India and Burma, where we possessed a wealth of timber. He emphasized the desirability of the people of this country fostering and cultivating the use of the timber grown within the Empire, of which we had such rich supplies, instead of letting the foreigner get the benefit of our demands. The importance to the British Empire of the development of the forest resources of India and Burma was not sufficiently realized.

Foundation Problems—2

By BURNARD GEEN, M.Inst.C.E.

In the case of light buildings of semi-domestic character, where it is essential to have a concrete floor laid on the ground, it is often possible to reduce the ground pressure to such a small figure that the foundation need not be taken to any appreciable depth below ground, but may be made integral with the ground slab, the whole being lightly reinforced. Fig. 2.

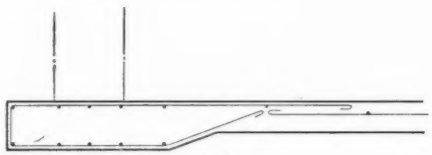


FIG. 2.

Footing courses to the brick walls may then be dispensed with, and the main body of the walls may sit direct on the foundation concrete.

The floor should be lightly reinforced, and the reinforcement run into the top of the wall footings, as shown. The advantage of this is that if the wall footing tends to sink it brings into play at once a larger width of footing to check this action.

On all right angle corners and junctions there should be bars at both top and bottom of the wall footings going round the corners at least 18 in.

The stiffness of beam provided in the deeper concrete under the walls will have the effect of spanning over any ordinary inequality of ground resistance and preventing local subsidence.

Where the loads to be carried from a structure are heavy, and good ground with sufficient carrying capacity cannot be found at a reasonable depth, different methods must be considered; and the correct method to adopt is that one which will give satisfactory results at the least cost. In such a case it is advisable to prepare alternative schemes and compare the costs before deciding the method to follow.

With present-day prices of materials and labour ordinary mass concrete foundations will not generally be economical if the depth necessary is more than 5 ft. or 6 ft., and saving can be effected by sinking piers at intervals and carrying load over the intervening space by reinforced concrete beams.

The comparison will be affected by the cost of excavation, as if this is difficult, requiring close timbering and pumping, the cost of the mass concrete work will rise to a high figure, and the saving by the use of piers will manifest itself at a less depth, and vice versa.

The great objection to deep piers is the large amount of available ground pressure taken up by the weight of the foundation pier itself, as a pier 16 ft. deep is exerting a pressure of 1 ton per square foot from its own dead load.

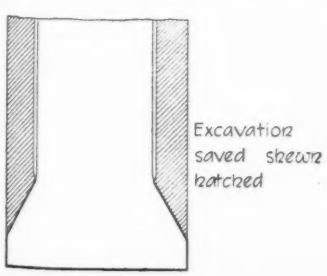


FIG. 3

This effect may be neutralized to some extent, and the cost of the pier somewhat reduced by undercutting the soil at the bottom, below the bottom of the timbering to the hole. Fig. 3.

Thus a pier 4×4 ft. =16 sq. ft., and a footing 5×5 ft.=25 sq. ft., and the pressure per square foot, due to the weight of the pier, is reduced by one-third, as the available area is increased by one-half.

The angle of the projection should be kept not less than 60 deg., and the horizontal projection of the offset must be determined by the actual nature of the soil in which the excavation is carried out.

In such cases as the above, one important point to observe is that the size of the pier hole is not so small as to make the cost of the excavation excessive.

In deep holes it is often possible to save volume of pier by making rectangular piers instead of square ones, thus providing room for stages for handling the excavated material.

Wherever possible it is advisable to arrange for the concrete in piers of this character completely to fill the hole, as by that means skin friction is obtained which will to some extent reduce ground pressure, and stability will be given to the pier.

As an alternative to the foregoing a heavy raft foundation may be considered and compared with the cost of a pile foundation.

The principle underlying the design of a satisfactory raft foundation is not generally understood, and a few notes on such a case may be of interest.

The object in view is to prevent the soil from spreading out under the load, and to make the foundation in the form of a stiff plate in which no part can sink relatively to any other part, but so that it can only sink or tip as a whole.

The two last-mentioned tendencies cannot be prevented, as the first is due to compression of the soil, and the latter may occur through the subsoil yielding or moving, due to extraneous causes beyond control.

An important point to bear in mind in the design of all foundations is that the different portions making up the whole shall subside equally. If, therefore, the bulk of a foundation is only of moderate resistance, and a portion consists of rock or hard soil, it would probably be safer to dress down the rock and then put filling over it in an endeavour to make it more equal in character; rather than to rely upon the rock for one part only, with considerable relative subsidence on the remainder of the foundation.

As the first object of a raft foundation is to ensure equal subsidence, it is quite clear that the soil must be prevented from spreading (under the load) at the outside edges.

It is desirable, therefore, that there should be a deep apron all round the foundation, Fig. 4, which will cover the risk of frost disrupting the soil, and will transfer the pressure at small cost to a lower and safer level as the passive resistance of the surrounding soil is immensely increased.

If a raft foundation is to be made so stiff that no one part

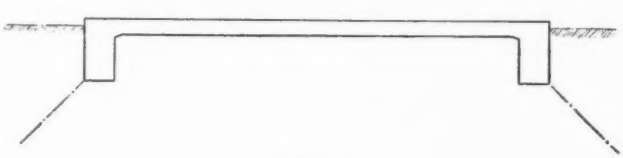


FIG. 4.

can subside relatively to any other part it must be carefully designed, and all the forces acting upon it must be taken into account, under all conditions of loading; and it must not be forgotten that the full maximum load through-

out will not necessarily be the limiting condition guiding the design of all parts of the foundation.

A loading plan giving the extreme maximum loads as occurring over the site will first be required, and such further plans giving the maximum variation due to live loads omitted on parts and included on others must also be prepared.

From the first plan of maximum loads can be derived the extreme limits of varying ground pressure, and this plan will show readily how any of the results can be made worse by the omission of the live load in parts.

The common centre of gravity of all the loads in all directions will first require to be found, and then the varying ground pressures at the four corners can be found.

The algebraic sum of all bending moments at every change of section must then be found, and approximate sections determined.

Fresh calculations are then made, taking into account the dead load of the raft itself, and the final sections designed.

Where the disposition of the loads is such as to give great inequality of ground pressure, it may be advisable to cut the raft into two or more pieces, so arranged that the ground pressure is substantially the same on all pieces, and it must be remembered that the maximum pressure from all causes must not exceed the safe pressure as determined by the test load or precise knowledge of the safe bearing pressure of the soil if such is available.

Having constructed such a raft foundation it is necessary to arrange the building programme in such a way that during construction the actual developed loads shall not vary widely from the proportion assumed, as otherwise dangerous results might be produced.

In the foregoing remarks it is assumed that the ground resistance is absolutely equal throughout the area of the site, and that the soil flows under the load.

Such assumption is not strictly in accordance with facts, and in most dry soils of moderate resisting power, the pressure is at a maximum immediately under a load, and reduces away from the load.

In the event of the local pressure under the load being excessive, the foundation will tend to yield at that point, and the soil will flow until the surrounding soil carries an increased pressure sufficient to bring the movement to rest.

(To be continued.)

[The previous article of this series appeared in our issue for February 25.]

London's Housing

Mr. Topham Forrest's Survey

MR. G. TOPHAM FORREST, F.R.G.S., F.R.I.B.A., superintending architect to the London County Council, lecturing at the Northern Polytechnic, stated that London's housing was not a problem of recent growth, but one which had been accentuated by conditions arising out of the war. In 1911 unoccupied houses were relatively numerous, but between that year and 1918 the number had declined considerably. On the Council's own estates for some time before October, 1918, there had been a long waiting list. In 1919, the L.C.C., with the Government's approval, decided to provide within five years a total of 29,000 new dwellings, exclusive of those to be erected on cleared sites in unhealthy areas. 2,000 of these houses were to be provided on partially developed estates at Old Oak (Hammersmith), Norbury (Croydon), and White Hart Lane (Tottenham), and the remainder on new estates at Roehampton, in the Borough of Wandsworth, Bellingham, in the Borough of Lewisham, and Becontree, between Barking and Ilford; the total estimated expenditure was £24,000,000. At the same time the Council decided to undertake the clearance of the worst of the unhealthy areas, with an estimated population of 40,000, provision being made for the inhabitants who would be displaced.

Mr. Topham Forrest dealt with the subject in two broad divisions: (1) the development of new estates, and (2) the clearance and reconstruction of unhealthy or slum areas.

The huge programme of the L.C.C., he said, brought them face to face with two fundamental difficulties, viz., materials and labour.

1. Materials.—It was estimated that during the five years referred to, 700,000,000 bricks, 75,000 standards of timber, and 300,000 tons of cement would be needed. The total weight of all classes of material required was estimated at 1,000,000 tons per annum.

2. Labour.—Great difficulty was found in obtaining skilled labour. It was estimated that on the Becontree Estate from 8,000 to 10,000 men would be required. This problem of labour was still very prominent, and it was estimated by the L.C.C. that the total number of houses required per year to meet the normal growth of population and to provide for the displacement of people from unhealthy areas was 12,600 houses a year, and the estimated number of skilled mechanics required to carry out this huge programme was over 6,900. The conclusion was drawn that the labour question was the dominant factor in the solution of the housing problem.

In 1921 the L.C.C., in common with other authorities, substantially curtailed its programme, but this programme had been subsequently resumed. At Becontree 2,900 houses had been proceeded with, and in addition 1,450 had been completed, whilst over 1,500 were in course of construction or had been ordered. At Roehampton, 624 houses had been completed and arrangements were being made for the completion of a further 422. It was anticipated that a further extension on the Becontree scheme would finally mean the erection of nearly 11,000 houses on this estate alone.

Slides were shown of the housing estates of the Council at White Hart Lane, Tottenham, Old Oak, Hammersmith, Becontree, Bellingham, and at Roehampton.

Since 1919 the L.C.C. had completed 8,969 cottages on its various estates, these buildings having been erected at the rate of five per working day.

Mr. Topham Forrest stated that the need of people in slum areas was not less urgent than the need of the more fortunate classes which were provided for on the large outlying estates, but the difficulties in meeting their needs were very much greater.

Slides were shown of the Ware Street area in Shoreditch, where a reconstruction scheme was in progress. The Brady Street area was being reconstructed by means of five-story dwellings. When this scheme was complete, 1,600 persons, i.e., 85 per cent. of those displaced, would be rehoused. The remaining people were being accommodated on other sites.

In planning these reconstructions there were two fundamental requirements: the first was that the new buildings should be healthy themselves, and the second that it should not be possible in the future for buildings to become unhealthy owing to alterations in the immediate vicinity. The second requirement presented a great difficulty, as it was almost impossible always to forecast the probable future developments in the neighbourhood.

To avoid the initial difficulty of disturbance in rebuilding slum areas, an effort was being made in East Hill, Wandsworth, to plan a large rehousing scheme giving accommodation for over 3,200 persons in five-story block dwellings. This series of buildings, when completed, would be used as a basis for dealing with the rebuilding of other areas. Reference was also made to the Ossulston Street area, St. Pancras.

Mr. Topham Forrest concluded by referring to the urgency, difficulty and magnitude of the housing problem in London; to the fact that bad housing was a potent cause of bad health and contributed to the failure of the people to play their part in the life and work of the community, and stated that he hoped in this generation or the next it would be possible to say that the housing problem had been solved.

A vote of thanks was proposed by Mr. T. P. Bennett, seconded by Dr. R. S. Clay, and received with acclamation by a large audience.

Book Reviews

Reinforced Concrete and Steel-framed Buildings.

The aim of this handbook, according to the preface, is to assist architects and engineers in the calculations required by the L.C.C. regulations for reinforced concrete, particularly in those cases in which such calculations differ from the usual practice or the meaning of the regulation is not evident. In the new edition the L.C.C. regulations for Steel-frame buildings have been added, but without any notes or worked examples.

The L.C.C. regulations for reinforced concrete were authorized in the second year of the war. Previous draft codes had been submitted to the four professional institutions, as required by the authorizing Act and, upon their representations, considerably altered from time to time. But in 1915 more vital matters were afoot, and the L.C.C. proposals did not receive the same attention which was available for earlier drafts.

Criticisms in the technical Press on the publication of the regulations prophesied that they would render construction in reinforced concrete in London economically impossible. Judging from the relative number of new buildings which one sees under erection at the present time in reinforced concrete and steel-frame respectively within the L.C.C. area and outside it, these gloomy prognostications would appear to be not without foundation.

It is significant that it should be necessary to publish an explanatory handbook on public regulations, and still more significant that such a handbook should run to a second edition. The publishers have, however, found it desirable to add the regulations for steel-frame buildings, which are at least based upon sound, if somewhat conservative, practice, and upon these, explanatory notes are apparently necessary.

Although notes and diagrams occupy only twenty-four pages out of a total of eighty-three the author has packed away in them quite a large amount of useful information. Not sufficient, of course, to meet the requirements of ordinary design, but quite enough to indicate to the young designer the great saving of tedious labour which can be effected by plotting formulæ on squared paper.

The combination of the two official London codes in one small convenient handbook will doubtless prove both useful and popular.

P. J. WALDRAM.

"L.C.C. Regulations Relating to Reinforced Concrete and Steel-frame Buildings," with explanatory notes by E. S. Andrews, B.Sc., A.M.I.C.E. Batsford. 2nd edition. 7½ in. by 5 in. 83 pp.

Estimating for Building and Public Works.

The third and greatly enlarged edition of "The Building Estimator," by W. B. Price Davies, F.S.I., which has recently appeared under the new title "Estimating for Buildings and Public Works," may be heartily commended to all those—surveyors, builders, contractors, merchants, and others—who are concerned in the estimating and pricing of buildings and public works, and the ordering of the necessary materials for carrying them out.

It is interesting to note that the work is the outcome of the necessity which the author experienced of devising for his personal use a new system of estimating, in view of the inadequacy of pre-war methods to meet post-war conditions. Time was when the building estimator's figures largely depended for their accuracy upon the empirical exercise of an intuitive judgment, combined with vast practical experience. With the introduction, however, of exacter methods, the science of estimating has become much more direct and certain in its operation. Even so, it is the common experience that very wide variations often occur in the estimates submitted for constructive works by competing firms.

The book now under review reduces the subject to a complete system, and places before the reader probably the most complete analysis of materials and labour—set forth in numberless tables of constants—which has so far appeared. One has only to glance through the contents of the work to appreciate the compendious character of the data—which runs to close on six hundred pages—and the immense labour the author has bestowed upon it.

The principle of splitting up cost items into constituent parts in the form of constants for material and labour is not a new one, but in no other work within our knowledge has the process been carried out in so exhaustive and searching a manner. The author fully recognizes the limitations which apply to the employment of pre-determined constants, and expressly states that those in his work are such as appear to him as fair averages for general circumstances.

Part I, "Estimating," is planned on the same lines as the previous editions, but on a considerably extended scale. It expresses itself in quantities of materials and labour, which are unaffected by market fluctuations and which also provide the necessary information for the ordering of materials.

Part II, which relates to pricing, gives the separate money values for materials and labour of the data contained in Part I.

Everything possible has been done which could add to the convenience of the reader. In this connection we draw appreciative attention to the special ready-reckoned tables which are provided for aiding in the conversion of the data into money values at local and current rates; the several very useful pages of diagrams; the linen thumb tabs for quickly finding the sectionized contents, and the excellent general index.

F. C.

"Estimating for Buildings and Public Works, 1925." By B. Price Davies, F.S.I., M.R.Sa.I., A.I.Struct.E., A.M.T.P.I. Third edition. Price 21s. post free. Edition de Luxe, 25s. The Educational Publishing Co., Ltd., 9 Southampton Street, Holborn, W.C.1.

The Law Relating to Building and Building Contracts.

A foreword to this work is contributed by Mr. Macmorran, K.C. The design and achievement of the author is clearly summed up by Mr. Macmorran. It is "to convey in popular, though not . . . in loose or inaccurate language the principles of the law relating to building contracts."

The author has, for many years, practised as an architect and surveyor; he now reviews types of difficulty and dispute which are likely to arise during the preparation and carrying out of building contracts. The style is unhampered and simple, and the definitions helpful and clear.

Obligations and liabilities of the employer and his agent in inviting tenders are examined carefully; and the methods and commitments of the contractor in complying with the invitation are clearly stated. It is not prudent for an architect to accept a tender on behalf of his employer without the condition that the contractor shall subsequently sign a contract with the employer. Broadly speaking, the contractor must perform his contract when his tender has been accepted. Mere conduct may make a contract binding, even if only a draft of the agreement, containing the essentials of a contract, has been examined and considered by both parties, although it has not been formally executed by either. But if the acceptance has been conditional, and the conditions named are essentialities, then the contract is not binding until those essential conditions are embodied in a contract subsequently entered into verbally or in writing. Subject to legal considerations remarked upon in the text, neither writing, nor signature, nor any formality would appear to be required in cases which do not come within the Statute of Frauds or the Sale of Goods Act, unless the contract is made with a corporation, which is compelled by statute to make all contracts under seal. Where cases do not fall under these Acts of Parliament, verbal acceptance of the specification for the work, and signature on a tender have been held to form a complete contract.

The contractor must obey the instructions of the archi-

tect or prove that they were unjust. We remember a case in which great loss was inflicted on the builder in observing the directions of the clerk of the works, an official who was believed by the builder to be the direct agent of the architect, but who was not by the written words of the contract entitled to be so regarded. The architect properly refused to allow the cost of the unnecessary work done. The architect has no general authority to waive or vary any of the terms of the contract, nor to alter work and materials as defined in the drawings and specification.

The author lays great stress upon the necessity of a lucid, concise, unambiguous form of contract and complete understanding of its written terms. They should be carefully framed and studied by both parties, that disputes may be avoided. He deals fully and carefully with the necessary or desirable provisions, and discusses the rights and liabilities of architects as well as the scope and extent of the architect's authority.

Nearly one hundred pages of the work contain very useful and important forms of invitations to tender, forms of contracts, notices and certificates, and a draft letter from the architect to the employer as to terms for his services. A chapter is written upon the supervision and approval of works as they proceed, and attention is drawn to the many matters which must be kept before the minds of architects and contractors while the works are in progress. The object of the volume itself, and particularly of this chapter, is to explain the rules of business which should be observed by employer, architect, and contractor. The too familiar question of extras is wisely and carefully discussed in the chapter devoted to variations and deviations. The functions of architects and surveyors in the high importance and responsibility in giving or withholding certificates are analysed and explained with care and lucidity; and the rights and powers of the architect in acting as the agent of the employer are discussed and explained, and all points essential in a final certificate to render it binding are shown. Penalties and liquidated damages to which a contractor may render himself liable are examined and simplified; and the chapter on the rights and liabilities of architects and surveyors is very important.

On looking through the table of cases prefixed to the work we notice with interest that an appeal to the Court of Appeal was heard in March, 1924, from the decision of the late Mr. Justice Bailhache, reported and commented upon in our issue of October 24, 1923. The Court of Appeal agreed with the judgment of the learned judge below, and dismissed the appeal.

We have felt great interest in reading Mr. Creswell's book. The style is explanatory and direct; full but simple guidance is offered in relation to all the rights, obligations, and liabilities of architects, contractors, surveyors, public bodies, and other employers. All contracts and their necessary or desirable provisions are fully considered and explained. It is made clear when such contracts must be in writing and what material factors must be taken into account when they are not. The work is one which should be read by all who may be permanently or only temporarily engaged in building contract tasks.

"The Law Relating to Building and Building Contracts." By W. J. Creswell, Barrister-at-Law; Associate (late Fellow) of the Surveyors' Institution. Sir Isaac Pitman and Sons, Ltd. Price 7s. 6d. net.

Publications Received

"Building Construction Plates." By A. Buchanan and W. H. Hudson. Part I, 5s.; Part II, 5s. 6d. net. B. T. Batsford, Ltd., 94 High Holborn, London.

"The Vanished Cities of Arabia." By Mrs. Steuart Erskine. Illustrated by Major Benton Fletcher. Price 25s. net. Hutchinson & Co., Paternoster Row, E.C.

"Architectural Details." By Louis Rouillion, B.S., M.A., and Charles George Ramsey. Price 15s. net. Chapman and Hall, 11 Henrietta Street, Covent Garden, London, W.C.2.

"An Artist in America." By Maxwell Armfield. Price 15s. net. Methuen & Co., Ltd., 36 Essex Street, London, W.C.2.

Correspondence

"A Fable"

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—The problem raised in Mr. Arthur Welford's "Fable" is of such vital importance that I venture again to emphasize the fallacy underlying Sjimmu's proposal. The issue of a financial credit for the building of houses, the money for which is mainly distributed in the form of wages to persons who immediately spend it, automatically causes inflation, i.e., a rise of prices in the sort of goods the workers want to buy (in accordance with the "law of supply and demand"). This increase of prices amounts, under the said "law," to the total of the credit so distributed. Therefore, to ask the community or any section of it again to repay this sum—whether with or without an additional amount to cover interest is immaterial to the argument—is to compel them to go without the equivalent of consumable goods because they will not have the necessary spending power. Such surplus goods will then either have to be exported, destroyed, sold under cost, or money to their value issued in respect of the production for export of further products. At the present time all these expedients are used; some more, some less, according to circumstances.

The problem may be summarized thus: Under an economic system in which industry is financed by loans ("created" money, as Mr. McKenna has stated, is the basis of our existing system), so long as attempts are made to recover that money (i.e., repay loans) through prices or by any other means, so long are we inescapably bound to produce more than we have the money to buy at so-called economic prices, and so long shall we be faced with the problem of foreign markets and war.

I do not deny for a moment that Sjimmu's scheme would be a palliative which would be better than the ordinary "subsidy." It would; and were credit for the production of "non-consumable" things issued free of interest the next war might be postponed for several years.

W. A. WILLOX, A.M.INST.C.E.

The Principles of Architectural Design

Under the auspices of the Central Branch of the South Wales Institute of Architects and the South Wales Branch of the Institute of Builders, a lecture was given at Cardiff by Mr. W. S. Purchon, M.A., A.R.I.B.A. (head of the Department of Architecture and Civic Design in the Technical College, Cardiff). Mr. T. Alwyn Lloyd, F.R.I.B.A. (chairman of the South Wales Institute of Architects, Central Branch), presided. The lecture was illustrated by lantern slides, and dealt with the principles of architectural design. The object of the lecturer was to put forward in outline a scheme of architectural criticism applicable to the architecture of the past and present, the various points raised being discussed in connection with the views shown on the screen of famous ancient, mediæval, and Renaissance buildings, together with a series of modern examples including the well-known civic buildings in Cardiff. He discussed the importance of the expression of function and of the purpose of the building, the composition of façades, the massing of buildings, their grouping and environment, and showed how, in various ways, unity of design can be achieved or lost. During the course of the lecture emphasis was laid on the importance of a definite grasp of the problem resulting in clear-cut design, and on the value of the art of "leaving-out." With reference to the often raised question of the cost of architecture, the lecturer argued that from given conditions the skilled designer can produce a finer result than the untrained man. Attention was called to the great importance of grouping in housing schemes, and to preservation of a "scale" of scales for buildings of varying types, the unit of design, it was urged, not being the individual building, but the village, the town, or the city.

Enquiries Answered

Enquiries from readers on points of architectural, constructional, and legal interest, etc., are cordially invited. They will be dealt with by a staff of experts, whose services are specially retained for this purpose. If desired, answers will be sent direct through the post. In no case is any charge made for this service. Whenever diagrams accompany an enquiry, they should be clearly drawn and lettered and inked in.

VIBRATION IN A CHURCH.

"C." writes: "I am preparing designs for a church, and have been asked to report on several sites. One of these is partly over a railway tunnel, and close to a steep cutting in which runs the double main line before entering the tunnel. The crown of the tunnel is 40 ft. from the ground level above. There are, on an average weekday, seventy passenger trains through the tunnel, and on Sundays twenty-five to thirty. The majority of these trains stop at the station a quarter of a mile from the entrance to the tunnel. The central space of the church is approximately 60 ft. sq., and it is covered with a dome. (1) Will the building, if erected, be liable to deteriorate on account of vibration? (2) Will vibration be sufficiently acute to interfere with church services?"

—It is not, in my opinion, possible to forecast with any degree of accuracy the effects of vibration in either of the directions asked for, since there are so many varying factors affecting the result.

The more important of these may be broadly classified as follows:—

(*a*) The character and condition of the railway track.
(*b*) The speed and weight of the trains.
(*c*) The nature and condition of the subsoil.
(*d*) The character of the building and the method of construction.

The only way to obtain a satisfactory idea of the magnitude and other properties of the vibrations is to set up a series of stations at selected points on the ground to be built on and make tests, over a sufficient period, with a recording pendulum at each.

Dealing with your specific questions:—

1. This, I think, is mainly a question of the nature of the subsoil. If this were of a loose or sandy nature there might be some risk of its settling or shifting under vibration, in which case damage to the building must result unless suitable precautions were taken. For the vibrations themselves to directly damage the structure they would have to be of considerable magnitude, or to harmonize with the natural period of some part or parts of the building. Neither contingency seems very likely to arise, and I should, consequently, not expect any damage to result from this cause. It would, however, in the circumstances, probably be advisable to increase the area of the footings so as to reduce the unit pressure on the subsoil to a somewhat lower figure than usual. The provision of a reinforced concrete raft would be the most satisfactory way of effecting this.

2. I think the passage of the trains is bound to be more or less perceptible within the building: to what extent depends upon the nature of the subsoil and also upon the degree of resonance possessed by the building itself. Such a building as a church will be, from its nature, fairly resonant, and while I cannot conceive that vibration from a passing train would be loud enough to interrupt the proceedings, it would undoubtedly be perceptible during the quieter portions of the services, and might disturb highly sensitive persons.

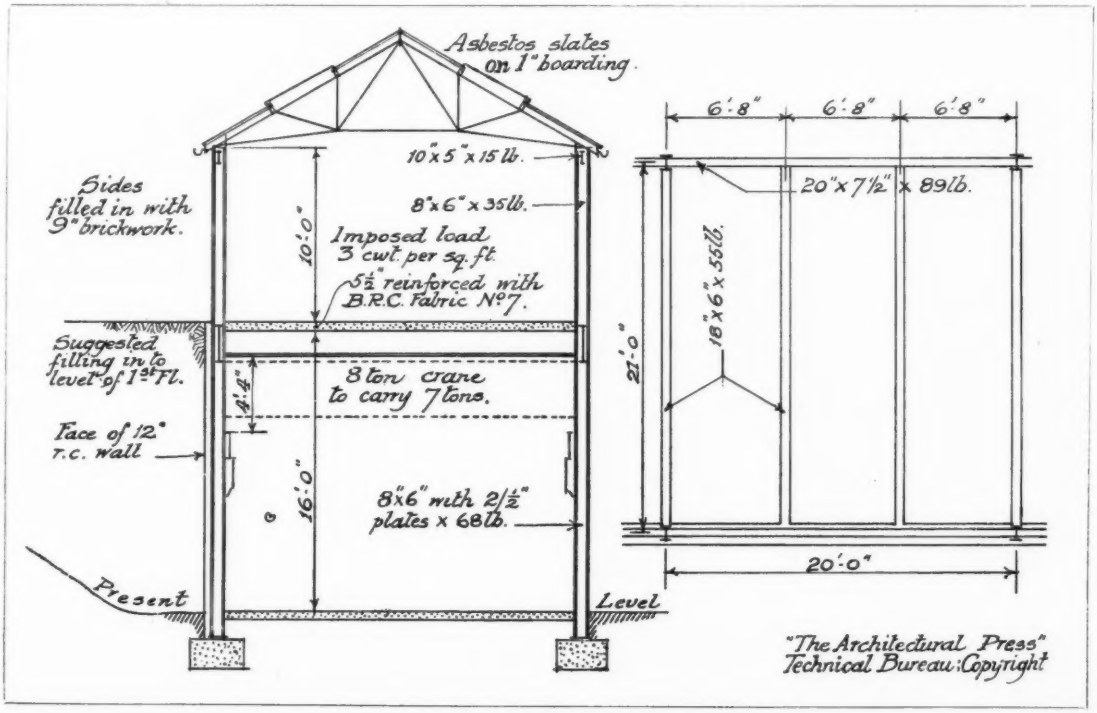
It is not possible to give reliable answers to your questions without a thorough examination and testing of the site. Your best plan would be to take the advice of an expert in subsoils.

H. C.

STABILITY OF A BUILDING.

"Subscriber" writes: "The accompanying sketch shows the structural design for a long workshop. Could you tell me if (1) It is the most economical design; (2) if an eight-ton crane was installed to carry a maximum lead of seven tons, supported on an R.S.J., fixed on brackets attached to the stanchions, what would be the strength of the stanchion necessary, and the type of bracket; (3) It has been suggested that the right-hand side should be filled in to the height of the first floor. Would a 12 in. R.C. wall, designed to transfer the weight on to the stanchions, resist the thrust?"

—This design is wanting in stablility on account of the absence of bracing against wind or any transverse movement. The suggested filling in of earth on one side up to first floor level cannot be permitted unless precautions are taken to



"STABILITY OF A BUILDING"

prevent any thrust whatever from the earth. This may be done by an independent reinforced concrete retaining wall, L-shape, with or without counterforts. An 8-ton overhead travelling crane carrying 7 tons may have the load at one end, so that with the crane and load and half the weight of the traveller there may be 8½ tons on a stanchion, or allowing for a moving load with possible surging, say 10 tons on each bracket. Then there will be the dead load on each stanchion from the first floor with its superimposed load and the weight of the roof, say another 5 tons in all. On the drawing supplied these stanchions are marked 8 in. by 6 in. with two ½ in. plates by 68 lb. The leverage on the brackets cannot be less than 6 in. plus half the depth of the joist section, say, 10½ in. in all. The proposed stanchion would then have a stress of

$$\frac{W}{A} \pm \frac{M}{Z} = \frac{15}{19{\cdot}3} \pm \frac{10 \times 10\frac{1}{2}}{10} = {\cdot}77 \pm 1{\cdot}75 = 2{\cdot}52 \text{ tons sq. in.}$$

compression, which would be quite high enough under the circumstances. The brackets should be designed in the ordinary way with angles and gusset plates to carry the weight and resist the shear. HENRY ADAMS.

Societies and Institutions

A.A. New Members.

At the last meeting of the A.A. the following new members were elected : Messrs. E. Unwin and J. S. Kelsall.

Students' Evening at the R.I.B.A.

A students' evening was held in the galleries of the R.I.B.A., 9 Conduit Street, W.1, where the architects' working drawings of the following buildings were exhibited: Adelaide House, London Bridge; Britannic House, Finsbury Circus; Tetton House, Kingston, Somerset; and Bush House, Aldwych, kindly lent by Sir John Burnet, R.A., and Partners; Sir Edwin Lutyens, R.A.; Mr. H. S. Goodhart-Rendel; and Messrs. Bush House, Ltd., respectively. Mr. H. S. Goodhart-Rendel, F.R.I.B.A., Mr. T. S. Tait, F.R.I.B.A., and Mr. R. H. Houchin were present, and they kindly explained the special points of interest in Tetton House, Adelaide House, and Bush House respectively.

The B.E.S.A. and Building Materials.

The British Engineering Standards Association, as a result of a fully representative conference recently held at the Institution of Civil Engineers, have decided to set up a sectional committee to deal with building materials generally. Certain specific requests to deal immediately with the preparation of British Standard Specifications for asphalt for roofing, asbestos cement sheeting and expanded metal and expanded metal lathing were also considered, together with the manufacturers representing these branches of the industry, and it was unanimously decided to set up sub-committees to deal respectively with these materials. The general request for the setting up of the sectional committee emanated, in the first place, from the Committee of the Privy Council of Scientific and Industrial Research, supported by the Ministry of Health.

Institution of Heating and Ventilating Engineers (Incorporated).

The impurities of water and their effects in both domestic and industrial use were dealt with by Mr. W. B. Lewis, assisted with demonstrations by Mr. G. S. Irving, A.M.I.Chem.E., F.C.S., at a meeting of the Institution of Heating and Ventilating Engineers. After dealing with the peculiar properties of hard and soft waters, he referred to the colloidal treatment for removing their defects. He stated that where hot water was taken direct from a boiler the presence of suspended matter either originally in the water or brought about by reactions taking place in the boiler was objectionable, and the same applied in the case of warm water for public and private baths, especially swimming baths. Filtration of the water before it entered the boiler, or as it came from the boiler, was the best remedy.

The National Sanctuary.

Sir Banister Fletcher, F.R.I.B.A., lecturing at the Central School of Arts and Crafts on English Mediæval Architecture, dealt mainly with that national monument and burial-place, the Abbey Church of St. Peter at Westminster. He gave the history of the Abbey and its monastic buildings, and showed how intimately it was connected with the history of kings, heroes, monks, and people of all sorts and conditions. He described briefly all that could be gleaned about the Confessor's church, the pioneer example of the Norman style in England, and outlined the story of Henry III's monumental choir, the sanctuary and the transepts, which he described as specimens of almost unequalled beauty of the Early English style in its later development, as introduced from France. Sir Banister then sketched a vivid picture of the latest product of the Gothic style, Henry VII's chapel which, with all its richness of panel and pinnacle and its marvellous pendant vault, was like a cobweb in stone. Finally, he described the monastic buildings.

Gloucestershire Architectural Association.

The annual general meeting of the Gloucestershire Architectural Association was held in Gloucester. In the unavoidable absence of the president (Mr. G. P. Milnes), Lt.-Colonel N. H. Waller occupied the chair, and a fair number of members attended. The Council's annual report recorded an active year, the chief event being the inaugural meeting of the Wessex Society of Architects, with which the Association is now incorporated. The following were unanimously elected officers for the ensuing year : President, Lt.-Col. N. H. Waller, M.A.; Vice-President, Mr. H. Stratton Davis, M.S.A.; Members of Council, Messrs. G. P. Milnes, A.M.I.C.E., Thos. Falconer, F.S.A., T. Overbury, F.S.A., C. W. Yates, F.S.I., A.R.I.B.A., W. J. Rogers, A.R.I.B.A., F. J. Dolman, Licentiate R.I.B.A., and F. C. Ravenhill; Hon Secretary, Mr. H. T. Rainger, A.R.I.B.A.; Hon. Treasurer, Mr. D. N. London, L.S.A.; Hon. Auditor, Mr. H. F. Trew, M.S.A. Messrs. Falconer and Overbury were elected representatives on the Council of the Wessex Society of Architects. The Council were requested to arrange a programme for the coming year, and to give particular consideration to increasing the scope and activities of the Association.

South Wales Institute of Architects, Western Branch.

At the annual meeting of the South Wales Institute of Architects (Western Branch), held at Swansea, the following officers were elected for the ensuing year : Chairman, Mr. H. C. Portsmouth, F.R.I.B.A.; Treasurer and Librarian, Mr. C. Russell Peacock, F.R.I.B.A.; Hon. Secretary, Mr. J. Herbert Jones, F.R.I.B.A.; Hon. Auditor, Mr. Ernest E. Morgan, A.R.I.B.A. Committee—Messrs. Charles S. Thomas, F.R.I.B.A., Oliver S. Portsmouth, A.R.I.B.A., Edwin Smith, A.R.I.B.A., G. R. Hubert Rogers, Sidney R. Crocker, Licentiate R.I.B.A., and G. L. Crocker and C. W. Geddes, Associates' representatives.

The members elected to serve on the Council of the South Wales Institute of Architects were Messrs. H. C. Portsmouth, F.R.I.B.A., Charles S. Thomas, F.R.I.B.A., J. Herbert Jones, F.R.I.B.A., G. R. H. Rogers, Edwin Smith, A.R.I.B.A., Oliver S. Portsmouth, A.R.I.B.A., S. R. Crocker, Licentiate R.I.B.A., and G. L. Crocker (Associates' representative).

The chairman, in his address, said by the amalgamation of the R.I.B.A. and the Society of Architects he hoped that the South Wales Institute would be greatly strengthened, and that it could look forward to a period of increased usefulness and vitality.

The hon. secretary stated that the membership of the branch had increased during the past twelve months, and now reached a total of seventy.

Some Famous London Bridges.

Two free public lectures, illustrated by lantern slides and sketch diagrams, are to be given on "Some Famous London Bridges" at the Department of Architecture and History at the University of London, University College. The lectures, a synopsis of which is as follows, will be given at 5.30 p.m. in the Botanical Theatre, Gower Street :—

March 16.—"Bridges and Designs for Bridges, *c.* 1702–1862," by Professor A. E. Richardson, F.R.I.B.A. Wren's scheme for remodelling London Bridge. Labelye's Westminster Bridge (opened 1750). Blackfriars Bridge (1769) and the Fleet River. Rennie's Waterloo Bridge (1817), Southwark Bridge (1819), and London Bridge (1831). Hungerford Bridge (1845–60), and Charing Cross Railway Bridge (1864). The new Westminster Bridge (1862). Chairman : Miss E. Jeffries Davis.

March 23.—"Some other Bridges," by Professor Richardson. Putney (1729; rebuilt 1882–6). Battersea (1772; rebuilt 1886–90). Vauxhall (1816; rebuilt 1898–1906). Hammersmith (1827; rebuilt 1883–7). Chelsea (1858). Lambeth (1862). Albert, Chelsea (1873). Wandsworth (1873). The Tower Bridge (1894). The new Southwark Bridge (1921). New Lambeth Bridge. New Waterloo ? New Charing Cross ? Chairman : Miss E. Jeffries Davis.

The Ideal Home Exhibition

The Ideal Home Exhibition at Olympia has become a popular institution. Visitors flock to it in thousands every year to see the latest improvements in domestic building and equipment. Year by year considerable changes are taking place in the domestic sphere; whether or not this means progress, who shall say? Yet, it is interesting to have these changes recorded, and the Ideal Home Exhibition performs this service admirably.

This year, for example, there is much talk of steel houses, and here in the New Hall of the exhibition, in what is romantically described as "The Hamlet of Heart's Desire," you naturally find the all-steel house. You find also the all-concrete house, the "sixteenth-century" house, the Canadian sectional house, bungalows of different types—some built from the designs of architects, others not. Here are houses to suit a variety of tastes and purses.

The most interesting architectural feature of the "Hamlet" is, however, one that is not a house, in the strict sense of the word. This is the pavilion which has been built from the designs of Sir Edwin Lutyens to accommodate the Queen's Dolls' House. It is a delightful little work that provokes vague memories of the Orangery in Kensington Gardens—built in brick, with imitation stone details, and having a pyramidal roof covered with pantiles. It is too good to suffer the fate of extinction when the exhibition closes. Perhaps it may be preserved as a permanent home for the Dolls' House.

The gardens in the annexe are well worth the extra sixpence charged for admission. They include formal, naturalistic, and rock lay-outs, as well as a Japanese tea-garden. A variety of treatments show the capabilities of the modern garden designer and nurseryman.

The main hall follows a simpler lay-out than is customary with such exhibitions, and circulation is therefore better than usual. At the crossing of the major and minor axes there is a circular space which, besides giving the exhibition a pivot, as it were, enables visitors to keep a grip upon their whereabouts. At the end of the hall, on the main axis, there is a rather dignified staircase leading to the gallery. It is of British Columbia timber treated by the Drytone process, a method of colouring woodwork by chemical action without stain. The decorative possibilities of British Columbia timbers are also exemplified in some of the stands. The design of individual stands, it is gratifying to note, shows an all-round improvement, some of them being of an excellent architectural character.

Generally speaking, the exhibition may be said to surpass all its predecessors in variety of interest. Here you will find, in addition to the features already mentioned, sections devoted to furnishing and music, decoration and sanitation, heating and lighting, labour-saving equipment, food and cookery, photography, hobbies and recreations, and so forth.

Victoria Station House

In connection with the above building, illustrated on pages 405-413, the general contractors were Messrs. Ford and Walton, Ltd., and the sub-contracts were carried out by the following firms: Messrs. Archibald D. Dawnay and Sons, Ltd. (constructional steelwork); Messrs. Richard Whittington & Co., Ltd. (central heating and domestic supply); Messrs. Crittall Manufacturing Co., Ltd. (steel windows); Messrs. Ragusa Asphalte Paving Co., Ltd. (asphalte); Messrs. Ford and Walton, Ltd. (hardwood joinery); Messrs. Bostwick Gate and Shutter Co., Ltd. (metal entrance doors); Messrs. Harold Cooper & Co. (balustrading and lift enclosures); Messrs. W. B. Simpson and Sons, Ltd. (wall tiling and terrazzo paving); Messrs. Farmer and Brindley, Ltd. (marble wall linings and paving); Messrs. F. Bradford & Co. (artificial stone staircase); Messrs. Dorking Brick Co. (facing bricks); Messrs. Bath and Portland Stone Firms, Ltd. (stonework); Messrs. Express Lift Co., Ltd. (lifts); Messrs. T. W. Palmer & Co. (fire-escape staircase); Messrs. G. H. Barrett & Co. (copper glazing); Messrs. Roberts Adlard (slates and tiles); Messrs. Mellowes & Co. (patent glazing and fittings); Messrs. Foot, Milne & Co. (electric wiring); Messrs. Carter and Aynesley (door furniture); Messrs. F. Bradford & Co. (artificial stone staircase); Messrs. Malcolm, McLeod & Co. (artificial stone parapet); Building and Insulating Material Co. (partitions); Leyland and Birmingham Rubber Flooring Co. (rubber flooring); B. Finch and Co. (sanitary ware and fittings). For the internal partitions Bimol blocks have been used. Owing to their lightness, fireproofing, and sound-resisting qualities these blocks are particularly suitable for such work.

List of Competitions Open

Date of Delivery.	COMPETITION.
1925 Mar. 28	Competitive designs are invited from qualified architects, being British subjects, for proposed New Railway Offices to be erected in Nairobi, Kenya Colony. Assessor, Mr. William Dunn, F.R.I.B.A. Premiums £200 and £100. Designs must be received at the Offices of the General Manager, Uganda Railway, Nairobi, Kenya Colony, not later than March 28, 1925.
*Mar. 31	Bethune War Memorial. Assessor, Sir Aston Webb, P.R.A.
April 7	Swimming Baths, &c., Stockbridge. To be erected at a cost not exceeding £8,000. Premiums, £25, £15, and £10. Sending-in day, April 7.
*May 1	The United Grand Lodge of England invite designs for rebuilding the Freemasons' Hall in Great Queen Street, Kingsway, London.
*May 15	Technical College for the Middlesbrough Education Committee. Assessor, Mr. Percy Thomas, F.R.I.B.A. Premiums £200, £100, and £50.
May 31	The best and most economical system of shuttering or equivalent suitable for use in connection with poured or *in situ* cottages. First prize £250; £250 may be awarded in additional prizes. Methods which are already in use or for which patent rights had been applied for before January 1 will not be considered. Apply Mr. H. H. George, Ministry of Health, Whitehall, S.W.1, not later than May 24.
*June 30	Lay-out of open spaces and fortifications between Valletta and Floriana and those encircling Floriana. Premiums £1,000 and £500. An indemnity of £100 will be awarded to three other designs showing conspicuous merit. Assessors, Mr. E. P. Warren, F.S.A., and Professor Patrick Abercrombie, A.R.I.B.A.
Sept. 1	High bridge over Copenhagen Harbour. Three prizes to the value of Kroner 35,000. Apply City Engineer's Office, Town Hall, Copenhagen. Deposit of Kroner 100 (returnable).
Dec. 31	The Argentine Government offer prizes of 10,000, 5,000, 4,000, 3,000, and 2,000 Argentine gold pesos for the best architectural designs for a National Institute for the Blind. Apply Enquiry Room, Department of Overseas Trade, 35 Old Queen Street, Westminster, S.W.1.
No date	New Secondary School in Perth Road, Dundee. For the Education Authority. The Competition is limited to architects in practice in Scotland and carrying on business on their own account. Copies of the conditions of the competition and instructions to competing architects, along with a plan of the site, may be obtained on application to Mr. John E. Williams, Executive Officer, Education Offices, Dundee, on payment of a deposit of £1 1s. All questions in regard to the conditions of the competition should be addressed to the above not later than February 18. Mr. J. A. Carfrae, Licentiate R.I.B.A., is the Assessor.
No date	An extension building adjacent to the Shirehouse, Norwich, for the Norfolk County Council. Premiums £150, £100, and £50. Assessor, Mr. Godfrey Pinkerton, F.R.I.B.A., on the whole of the designs submitted, and to make the award. Apply Mr. H. C. Davies, Clerk of the Council, The Shirehouse, Norwich.
No date	Proposed Presbyterian church at Cheam, Surrey. In the first instance rough sketches only will be required and therefrom the committee will select the architects to be paid for the preparation of more finished drawings. Apply Mr. George Tweddle, Jr., Secretary to the Building Committee, "Southdown," Burdon Road, Cheam, Surrey.

* Date of application passed.

Competition News

Coalville Public Baths Competition.

The President of the R.I.B.A. has nominated Mr. Alfred W. S. Cross, F.R.I.B.A., as assessor in this competition.

Barrow Hill Memorial Club.

The design of Mr. W. Thornton, of Dewsbury, has been placed first in the Barrow Hill (Chesterfield) Memorial Club competition.

Stocksbridge Public Swimming Baths Competition.

The following notice has been issued by the R.I.B.A.: "Members and Licentiates of the R.I.B.A. must not take part in the above competition because the conditions are not in accordance with the published regulations of the Royal Institute for architectural competitions."

Canadian War Memorial Competition.

The secretary of the Department of Public Works of Canada has requested the secretary of the R.I.B.A. to distribute to British architects likely to submit designs, copies of the conditions of the competition for the proposed National Commemorative War Monument to be erected at Ottawa. The cost of the monument is to be one hundred thousand dollars. A few copies of the conditions, together with declaration forms, can be obtained by application to the secretary, the R.I.B.A., 9 Conduit Street, W.1.

The Week's News

Housing at Greeford.

The Greeford (Middlesex) Urban District Council are borrowing £21,000 for housing.

Professional Practice.

Mr. Alwyn R. Dent, A.R.I.B.A., has commenced practice at 11 King's Bench Walk, Temple, E.C.

Housing at Bridgwater.

Thirty houses are to be built by the Bridgwater Town Council.

A New Church for Barnoldswick.

The estimated cost of the new church to be erected at Skipton Road, Barnoldswick, is £25,000. It will seat 842 people.

1,000 Houses for Dudley.

The Dudley (Worcs.) Town Council propose to build 1,000 houses in two years.

Concrete Houses for Eastbourne.

Two hundred concrete houses are to be built by the Eastbourne Corporation.

More Houses for Poplar.

The Poplar Borough Council are to build seventy-two houses in Manchester Road.

Road Widening at Wood Green.

High Road, Wood Green's chief shopping thoroughfare, is to be widened at a cost of £35,000.

Hebden Bridge Road-Widening Schemes.

A proposal has been made to carry out road-widening schemes at West End and Bankfoot, Hebden Bridge, at an estimated cost of £16,590.

Torquay Bathing Improvements.

Work in connection with the extension of the bathing platform at Torre Abbey sands, the town's principal bathing station, will begin shortly. The cost is estimated at £30,000.

Bridlington Harbour Improvements.

The Bridlington Town Council have decided to apply to the Board of Agriculture and Fisheries for a grant of £27,500 for harbour improvements.

A New Bridge for Dewsbury.

The new bridge over the Calder and Hebble Canal, Dewsbury, is to cost £7,000. The cost will be shared by the Corporation, the Ministry of Transport, and the Navigation Company.

A New Nurses' Home for Newark.

The Newark Hospital governors have received a subscription from Mr. Harry Coulthy, of Cleveland, U.S.A., of £5,000 towards the erection of a nurses' home. The donor is an old inhabitant of Claypole (a village near Newark).

Mansfield's Housing Schemes.

The Mansfield Corporation have received the sanction of the Ministry of Health to a loan of £47,000 for the erection of 100 houses on the Bull Farm estate. A scheme is under consideration for the building of a further 1,000 houses.

Pisa's Leaning Tower.

Government experts, instructed to examine the stability of the tower, have reported a slight increase in the listing. They state that urgent measures are needed to prevent a crash, owing to the instability underground.

Sir William Emerson's Estate.

Sir William Emerson, F.R.I.B.A., of Shanklin, Isle of Wight, President of the R.I.B.A. from 1899 to 1902, who died in December, left property of the gross value of £31,530, with net personalty £20,484.

Proposed New Art Gallery for Newport.

The Newport Corporation Free Library Committee have decided to recommend the Corporation to apply for powers to borrow £50,000 to build a new art gallery on the site of Belle Vue Court.

Harrogate Improvements.

The Harrogate Town Council have decided to carry out alterations to the Royal Spa room. It is also proposed to erect a covered pavilion with a new pump room, café, and band stand on the west side of the tea-house in the Valley Gardens.

A New Hospital for Nelson.

The Board of Management of the Reedyford Hospital, Nelson, have decided to build a new hospital as a memorial to the 550 Nelson and Barrowford men who lost their lives in the war. The new institution will cost from £40,000 to £50,000.

Scholarships in the University of London School of Architecture.

Two entrance scholarships of the value of £40 a year for three or five years, according to the course taken, are offered for competition to students intending to enter the School of Architecture in October next. Application must be made to the secretary of University College, Gower Street, on or before May 30.

Folkestone Improvements.

The Folkestone Corporation are considering the erection of a concert hall and shelter at a cost of £15,000, the erection of a band pavilion, £55,000; the carrying out of a further housing scheme on the Canterbury Road estate, £37,000; the clearing of the Radnor Street area, £58,000; and the erection of a new elementary school at a cost of £20,000.

Newcastle Hospital Extension Scheme.

The Executive Committee of the Ashington Hospital, Newcastle-upon-Tyne, have formulated a scheme for the erection of a new out-patients' department, a new orthopædic block, a new central block containing administrative offices, caretaker's, and surgeon's residences, and the extension of the two main wards. The cost is estimated at £20,000.

Bournemouth Improvements.

Development of the property near the Pier Approach at Boscombe, known as Overstrand, which was recently purchased by the Council, is to be proceeded with. The Corporation have decided to construct a tea-room and open-air tea gallery on the upper level and a refreshment-room on the lower level near the sea-front.

New School for Mansfield.

The Nottinghamshire County Council have approved of the Education Committee's recommendation for (subject to the approval of the Board of Education) the building of a technical school and mining centre at Mansfield. The cost of the proposed building is estimated at £39,000, to which must be added £5,000 for apparatus.

The Royal Gold Medal for Architecture.

At the last general meeting of the R.I.B.A., Sir Giles Gilbert Scott, R.A., F.R.I.B.A., was elected by the Members, and his name will be submitted to His Majesty the King as a fit recipient of the Royal gold medal for Architecture for the year 1925. In the event of His Majesty graciously signifying his approval of the award, the medal will be presented to Sir Giles Gilbert Scott at a meeting on June 22.

The L.C.C. Hammersmith School of Arts and Crafts.

Among those present at the prize distribution of the L.C.C. Hammersmith School of Arts and Crafts were Messrs. Emery Walker, F.S.A., (chairman of the school advisory sub-committee), and H. G. Dowling, Miss May Morris, Councillor J. Morton, and Messrs. R. Catterson Smith, M.A., and C. Edward Line. The principal, Mr. John Williams, in his report upon the past session, referred to a number of notable successes gained by students in both art and craft work. Mr. Line, after distributing the prizes, gave an address to the students on the relationship between industry and commerce and the arts and crafts.

The Old Architecture of Plymouth.

A vigilance committee has been formed at Plymouth to prevent the destruction of fine old houses and other interesting pieces of architecture. A number of the buildings are threatened with demolition, either by their owners in consequence of closing orders having been served by the authority, or by the Corporation itself, in connection with street improvements. Some of the buildings date from 1400. One of the leaders in the preservation movement is Mr. A. S. Parker, an architect, and a prominent member of the Civic Survey Committee. Through his instrumentality several rare examples of early architecture have already been saved.