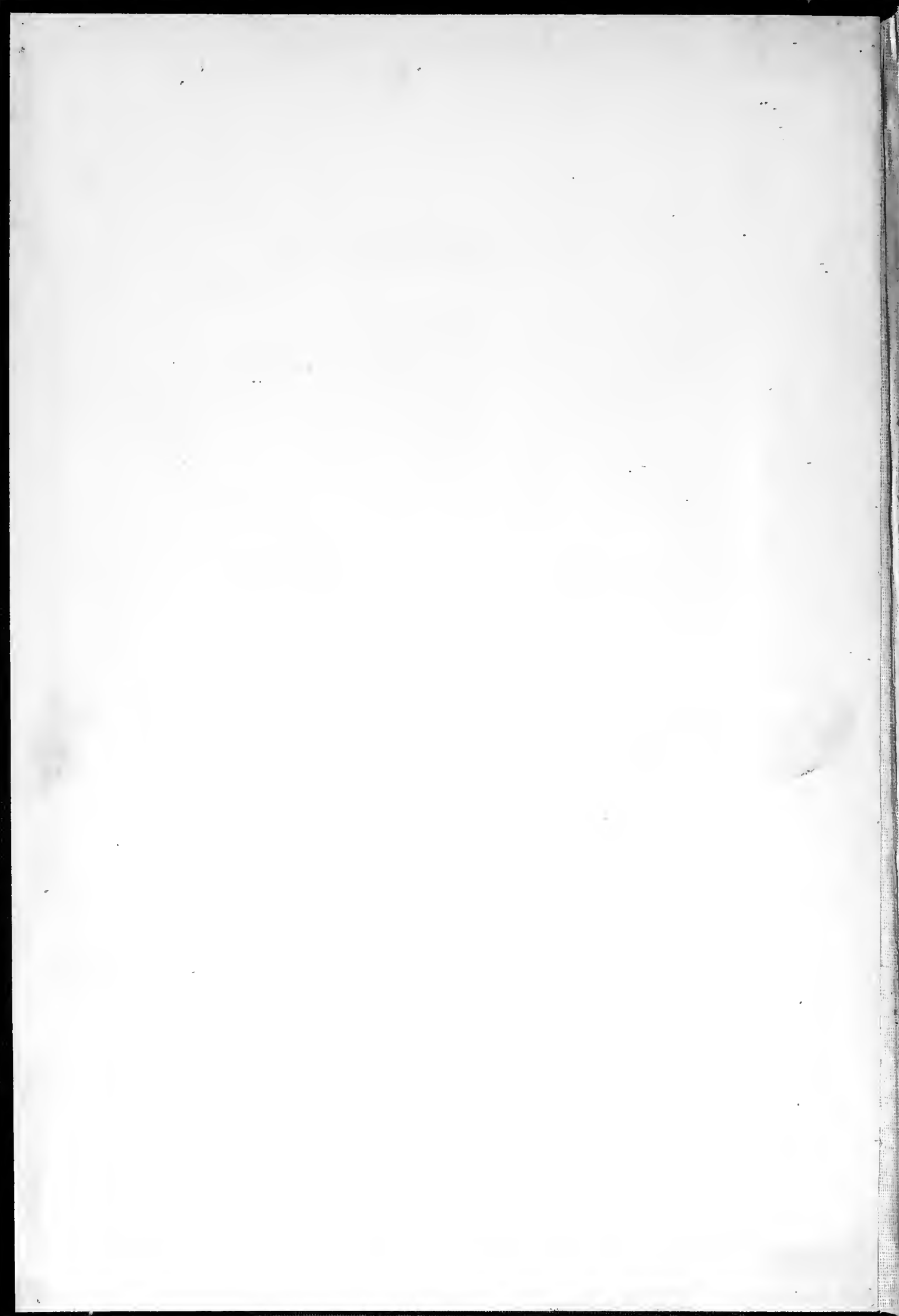


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The New St. Paul's Bridge:
 First Premiated Design. General Drawing, giving Plans and Elevations; also view of one of the Bridge Piers. Mr. George Washington Browne, R.S.A., Architect.

Second Premiated Design. General Drawing, giving Elevations and Details. Mr. Charles E. Barry, A.R.I.B.A., Architect.

Apley Grange, Harrogate, Yorkshire. Mr. T. Elwin Cooper, F.R.I.B.A., Architect.

House, St. George's Hill, Surrey. Messrs. S. E. Castle and G. Warren, Architects.

A VERY GENERAL FORM OF SPECIFICATION.

The perusal of what may be called an elastic building contract brought to our recollection the old conundrum, "When is a door not a door?" But we had to parody it, substituting "architect" for "door," and then we learned when an architect is not one. The "man in the street," of course, fancies an architect requires no qualification of any kind except that vulgarly known as "cheek"—Charter is coming presently, some think, and will be worth about as much—and that anyone may design and superintend the erection of a building just shot out of a "technical school," even though he may never have seen a brick or stone laid, or a piece of carpentry framed, in his life.

Architecture concerns itself with design and construction. The former embraces a knowledge of the Styles or Orders, and the latter that acquaintance with building materials which enables the architect to select the best for his purpose, and to dispose of them to the best advantage. Very little consideration will show that it requires no experience to set up a building in any style on paper; but it is altogether another thing to deal with building materials. That requires not one year's, but several years', close study of the practical application of these materials after the student has received a sound scientific education. Just at present architects all over the world are devoting their energies to the foundation of schools for teaching the pleasant shuffling of architectural forms, while the more important question of the nature of the materials to be used in giving permanency to these forms is practically ignored. Some architects start in life—thanks to trustful friends or relations—with the erection of important public buildings, who frankly admit, privately, that they know nothing about building materials, and very little about construction. They gradually acquire this information at their clients' expense, when they should have picked it up during an apprenticeship in some builders' workshops.

But to return to our specification. We find that wherever the word "architect" is used in the document before us, it may mean any engineer, surveyor, or other official, no matter by what name he is called, so long as he is entrusted by a public body with the laying out of building work and superintending its execution. In this case the "authority" is a district council. This definition of an architect and of his duties should be liberal enough

to satisfy the most daring poacher in architectural preserves, and one is not surprised to find in some country districts that the difference between an architect and a road-mender is not clear. This description of an architect is by an officer of a public board, and it is strange what little respect public bodies have for the profession! Not many years ago we saw at Whitehall an invitation to men to join the Royal Engineers as recruits, "architects, saddle- and harness-makers," being preferred—one of the inducements being a free kit!

We will now proceed to examine the general conditions of this specification; and very strange ones they are. The contractor is required, after at least seven days' written notice, to be at the site on a certain day to take instructions as to working to lines and levels, all of which will be laid out by the architect. And now comes the strangest thing of all. The contractor must satisfy himself that the architect has done his work properly, as he will be held responsible for it, and he must rectify, at his own expense, any errors in dimensions, lines, or levels in carrying out the works! The contractor has apparently two guides to his work—his contract drawings and the lines and levels presumably staked out by the architect. But he has the consolation of knowing that in following either of these, or both, if there is any mistake, he will suffer. We should say to the architect, "Hand the contractor your drawings, and let him lay the work out for himself; but if you do it for him, be man enough to stick to your guns and bear the loss, if any, consequent on your mistake." The laying out of any ordinary building is no great matter, and the work almost checks itself, so that only sheer carelessness can lead to disaster. The longest lines may be traced out absolutely straight with cords and pegs, and the right-angles checked by the 47th proposition of Euclid's first book, taking the triangles with as long sides as possible. For instance, no one would take 3ft., 4ft., and 5ft. if they could get 30ft., 40ft., and 50ft. Right-angles may in the first instance be laid down with squares in the usual way, this being the nailing of three selected flooring-boards together; but the angles should always be checked by calculation as suggested above. Level-lines are usually fixed by means of a straightedge on which a spirit-level about 12in. long is balanced. But readings taken in this way do not always agree, especially when the spirit-level has fallen off a scaffold some half a dozen times; so that where possible an

engineer's level should be used for this purpose. A long level-line can only be run with a bricklayer's level by taking several readings on a straightedge adjusted by pegs driven in the soil; and he would be a clever workman who, after shifting his straightedge half a dozen times, could guarantee the accuracy of his work. We have seen hours wasted with this kind of levelling, when a dumpy level would have done the work accurately in quarter the time.

When the work is started, it must be pressed on, for time is the essence of the contract; and if long-continued frost delays the work, the contractor must inform the architect of it, though one would think the architect would know whether it was freezing or not without being told. It has been suggested that brick- or stone-work may be carried up in frosty weather by using hot slaked lime in the mortar; but it should not be forgotten that hot lime means imperfectly slaked lime, and that as the slaking proceeds the lime swells. Its use may be dangerous under certain conditions. "It is to be distinctly understood" that the work shall be good and sound, and that all horizontal and vertical lines and plane surfaces shall be worked quite true; for it almost implies that other clauses were meant not to be distinctly understood—which shows that it is possible to say too much in a specification as well as too little. A clause here provides that the architect shall have power to open up the work for inspection—of course, at the contractor's expense; but this is unreasonable, for if he cannot visit the work often enough, he should employ a clerk of the works, who could certify as to the nature of the work done in his absence. Again, the architect may demand to see vouchers that the materials and work are as specified; but this is unfair—the architect should be able to judge of the work without such assistance. Vouchers are valueless if they deal with materials only, for these are "first" or best quality, as known to the trade, though they may fall far short of the architect's specification. For example, an architect may specify that certain floors are to be free from sappy wood, and he may find that what he considers sappy the trade will consider as reasonably free from sap; and if he specifies "first quality," or "best," he may find that these words mean something else than what they mean in plain English.

As in other specifications which we have reviewed, so in this, there are to be no extras, and the contractor will have to find everything that may be inferred as

necessary, though not described in the specification or shown on the drawings; and the reason for this is that the contract was for a completely finished building fully adapted to its purpose. It will be seen all through this specification that the architect makes the most elaborate preparations for ridding himself of responsibility for his own shortcomings, and saddling them on the contractor. We have always thought that, if it were possible, part of an architect's training should be taking building contracts under strangers, for in this way only can he be made to feel what the injustices are which builders suffer when they have to carry out works under an architect who enforces unreasonable conditions.

In large cities, of course, builders form a kind of trade-union, and in such cases they are strong enough to insist that the conditions of contract, apart from those of a purely technical kind, shall be equitable. Architects, too, have standard conditions; but as these are generally drawn up in consultation with the builders, there is little friction in carrying out the work. Reasonable people would scarcely imagine the absurdities that some men attempt to enforce under conditions of contract; and the strange thing is this—the responsibility meant to be enforced has no corresponding sum for insurance in the quantities. Several years ago a contract was taken for restoring a church in the Midlands. This church had a tower which was evidently built in two stages at different periods. The lower stage was rubble, with dressings to the door and windows which gave no clue to its date, and the upper stage was wholly of cut stone of 15th-century style. Now, the rubble portion of the tower was pebble-dashed, and through the dashing it could be seen that the walls were fractured from top to bottom. There were two corner buttresses, and these were forced out so far from the wall that an arm could be thrust between them in places, and it was obvious to any practical man that the upper stage was bursting the lower stage asunder. Now, strangely enough, the architect provided for taking down the upper stage and rebuilding it on the bottom one. The builder pointed out that this would be most unwise, for it was the lower stage which was at fault, and if steps were not taken the whole would come to the ground. The architect, however, insisted that the lower stage was quite safe; but the restoration committee thought differently, and they issued an appeal for funds to rebuild the whole tower, which, they said, was in a dangerous condition. During the progress of some works at the west end of the nave the tower was much shaken, and it settled down in a heap of stone and lime rubbish. Although the builder pointed out several times the dangerous condition of the tower, the architect at once disclaimed any responsibility in the matter, and he pointed out a clause in the specification which bound the contractor to make good any failure in the building during the execution of the work. Now there was nothing in the quantities about providing for such a contingency; but the contractor was asked, under threat of law proceedings, to rebuild the tower at his sole cost, and this he refused to do. In the end the restoration committee rebuilt the tower themselves, employing another contractor. But there was perpetual enmity between the architect, the committee, and the man who should not have had any blame attached to him—the contractor.

In many specifications there are money provisions—usually defined by the letters "P.C." (prime cost)—and here we find that

prime cost means actual cost after deduction of all trade discounts, but not bonafide cash discounts. In many contracts there are large sums held over at the architect's disposal, and we think it a pity that this should be so, for we have known the privilege to be much abused. Where sums are fixed to be included in the contract for grates, chimneypieces, locks, etc., it would always be better to inform the employer of that fact, and get him, under the architect's guidance, to select and pay for these things himself. We have found that nothing short of complete abstention from handling money in this secondhand way will protect the architect from a suspicion of taking illicit commissions. Another clause, again, protects the architect, for he provides that where the drawings and specification do not agree he shall have power to order the contractor to carry out the work as he may direct. The contractor shall be responsible for all injuries caused to the work by lightning, frost, or other inclemency of weather, or by fire, and shall make good and reinstate all work so damaged. We never could understand why the building-owner does not insure the building himself against all such risks, for surely it is a roundabout way to get the builder to do it, when the expense falls on the owner in the end. It appears to be absurd when the contract goes so far as to require the builder to insure the buildings against loss by fire for the full amount of his contract for a period of twelve months, and hand the policy over to the building-owner before any payment is made to him on account of the works. The architect makes rather a wise provision in enabling himself to certify for payment for work, even though it is not in accordance with the contract, deducting from the contract the difference in value between the work done and that provided for. We have often been in a fix to know what to do in such cases, for the contractor will sometimes, either intentionally or through default, lower the class of work provided in the specification, and it may not be advisable to pull all such work down. The remedy is, however, provided when the architect makes it a condition of contract that he can certify for inferior work, making a suitable deduction from the contract. Without such a clause he dare not do it.

PROFESSIONAL ALLIED SOCIETIES AND THE R.I.B.A.

The special meeting held on Monday last at Conduit-street was very fully attended. The greater part of the evening was devoted to the question raised by Mr. Sydney Perks's amendment in regard to the proportionate representation of the allied societies on the Council, which he wished to restrict, in order to preclude these architectural provincial bodies from being given a larger representation on the Council than the Associate members of the Institute.

Never before have so many presidents of the allied societies been present at a meeting of the kind convened by the R.I.B.A., and there can be no doubt as to the unanimity of all the speakers in urging the necessity of a more adequate representation on the Council of local architectural centres affiliated with the Institute in the United Kingdom.

Before the proceedings commenced, the President-elect, Mr. Ernest Newton, A.R.A., proposed a vote of thanks to Mr. Reginald Blomfield, R.A., the outgoing President, for his services during his term of office. Sir Aston Webb, R.A., seconded the motion, which was enthusiastically received, and the President, who was in the chair, suitably replied briefly.

Mr. William Woodward opened the debate by opposing the adoption of Mr. Perks's amendment introduced at the previous meet-

ing held on June 8, and given by us on p. 877 of our last issue. Mr. Woodward urged the importance of recognising the necessity of bringing the local practitioner more into touch with headquarters, so as to enable the metropolitan members to appreciate and more fully enter into the difficulties of architectural practice and methods in the country. The allied societies, numbering in all 28, included 19 located in the British Isles, each of which has an accredited centre of a district and an agent of that district in relation with the heart of the system in London. At present six of these societies only sent a representative to the Council, and the Associates were similarly represented.

Speaking on behalf of the Liverpool Architectural Society, Mr. G. Hastwell Grayson, M.A., thought that the 1,942 members of allied societies had not at present a sufficient representation on the Council. They did an enormous amount of "police work" for the central body, and contributed very largely to the success of the Institute, with which the north-country men were only too glad to be associated; but they realised how little they often were understood, and without more close relationship little progress would be possible, and therefore he came specially to the meeting to vote against Mr. Perks's amendment.

Mr. Albert Edward Murray, R.H.A., representing the Royal Institute of Architects in Ireland, strongly pressed the fuller representation of these country bodies at headquarters, and said that although the Irish institute was only two years younger than the R.I.B.A., there was no doubt whatever beyond St. George's Channel as to the importance of the urgent question of more intimate alliance with Conduit-street in the general interest not only of the profession, but of the public as well. He did not sympathise with the dread entertained by those who wished to prevent the augmentation of this representation, and their fear reminded him of the old lady who, when the wind began to blow, went up to the captain to inquire if there need be any fear, and was there any danger. "Madam," said he, "there is plenty of fear, but precious little danger."

An Associate contended that Associate members of allied societies should be sent up if need be to occupy a seat on the Council, and he would be glad to see outsiders even who were members of such a society if elected for the purpose being welcomed on the Institute Council, so strongly did he consider the need of association.

Mr. J. Alfred Gotch, F.S.A., President of the Northamptonshire Association, having served for 27 years as the Father of the Council, insisted on the high importance of this question, because too often he had found that London men knew nothing of the exigencies of provincial work, especially in the matter of quantities and in other methods of practice, which seemed impossible to metropolitans, but which really worked very smoothly in the country. He had always realised the need of more representation, and had urged it on all occasions, so that he was glad that the Council had now decided to increase the direct membership of representatives at the central chamber. There was not the slightest chance of such members ever being able to swamp the Council, and he spoke very warmly in condemnation of the amendment, as he wished to encourage sympathy between London architects and the enormous number of their brethren in the country districts.

Mr. Robert Burns Dick, of Newcastle-on-Tyne, said that two-thirds of the Northern architects whom he came South to represent were members of the Institute, but till a more adequate connection was brought about, the Institute would be dead to the bulk of the profession outside it, and he forcibly advocated the demands which were being made for better representation.

Mr. W. Curtis Green, immediate past President of the Architectural Association, deprecated professional politics and party conflict, saying that they stood for something of a higher order, and apart from selfishness (not even excepting the advancement of very

young architects), so that he should employ his endeavour to further the art of architecture rather than promote a sort of trade union.

The President of the Manchester Society of Architects remarked that the position of his association was assured, and so he could speak quite impartially. He condemned strenuously any such restrictions as Mr. Perks proposed. The payments made by the members of an allied society, like that in Manchester, amounted to a very considerable sum, and if they were precluded from representation, they got very little beyond the "Journal" and the questionable advantage of having assessors sent down from London to judge their local competitions, though he agreed that sometimes these contests were not strictly local, inasmuch as they were open to all comers.

The President of the Bristol Society of Architects spoke of the proportions of fellows, associates, and licentiates in his association and of its loyalty to the Institute, no member of the local body being willing to take pupils who did not agree to submit to the examinations held by the Board of Architectural Education. He contended that direct representation on the Council from the leading allied societies was a vital matter of growing importance.

Mr. F. A. Watson, President of the Sheffield Society, thought it was unfortunate that an allied society should not be represented when the president happened to be an associate, as had occurred for eight or ten years at one time in Sheffield, and some outside members of their body also were extremely capable men of valued experience. He was absolutely opposed to Mr. Perks's proposal, and he thought that the country members were far better represented by men who came from the country towns and knew intimately their peculiar practice in details.

Mr. Sydney Perks, in reply, urged that his amendment did not concern the larger question of Registration, but had relation to by-laws. His figures given on a previous occasion being questioned, he had employed a firm of chartered accountants to verify them. Chartered architects need not necessarily alone be elected as presidents of allied societies, and he pressed his contention that the associates, as time went on, would automatically become under-represented, as they decreased proportionately as compared with other extensions of the franchise. Mr. Perks's amendment being put to the vote, was lost, 84 voting in favour of Mr. Perks, and 163 against.

Mr. Topley then proposed a further amendment to secure that allied societies should not have larger representation than corporate members on the Council, and to refer this clause 10 back for further consideration, because those who had passed examinations ought to have as good representation as those who had not. Prudence, he urged, demanded care. This being seconded by an associate, was lost by an overwhelming majority. Clause 10 then being put to the meeting, was carried by a vote of 168 to 95.

Clause 8, allocating the proportion of the standing committee for registration as a board or court of the first instance, as explained by Mr. Stanley Peach, was agreed to, and so also was clause 9, limiting this committee to 23, ten being Fellows, 7 Associates, and 6 Registered Architects, of whom 3 should be Licentiates until such date as the class of Licentiates shall have expired.

Mr. H. Shepherd previously proposed an amendment to this last clause, Mr. Topley having failed to bring forward his amendment printed in the agenda paper, and instead he seconded Mr. Shepherd's proposal, which comprised a proportion of 8 Fellows, 4 Associates, 5 Licentiates, and 11 outsiders, this being said to give a better representation and cover all men who were qualified. When put to the vote, 72 supported this amendment, and 160 voted against it.

The remaining business included a resolution empowering the Council (which will be the new Council) to employ the Institute solicitors to prepare a draft of the whole scheme ready to be submitted informally to the Privy Council, it being understood that

any clauses dealing with the property of the Institute will be submitted to a general meeting for confirmation. The proceedings closed at a late hour.

Several past presidents and senior members were among those present, including Sir Ernest George, A.R.A., Sir Henry Tanner, C.B., Mr. T. E. Collett, and all the vice-presidents and Council attended, but perhaps not so many Associates as on the last occasion.

QUANTITY SURVEYING.*

By LESLIE H. ALLEN, 8, Beacon-street, Boston, Member Boston Society of Civil Engineers, Member American Society of Engineering Contractors, Member American Institute of Quantity Surveyors, Member British Concrete Institute.

We are living in days of progress. But there is one rut in which we seem to have stuck fast and have made no progress, and that is in our extraordinarily wasteful system of competitive estimating on building contracts. When it comes to building a factory, a house, a theatre, or a church, the contractor is invited not only to guess or calculate how much it will cost before it is built, but also to guess or calculate how much material goes into it; and this work is done not by one builder, but by eight or a dozen, and the labour of all but one is absolutely wasted. It is hard to impress either the architect or the building owner that this waste is unnecessary or can be eliminated. The building owner, if he is engaged in manufacturing, would say it is only selling expense, anyway, and selling expense has to be incurred. But the selling expense of a builder's office is a very different thing to a manufacturer's selling expense. The manufacturer's salesman has to draw the attention of the prospective purchaser to the merits of the goods he is offering, and bring himself before the purchaser's notice. But in the case of the contractor, when all this work has been done, a very heavy expense is incurred by the builder in figuring out how much to offer to sell his work to the building owner for. In the case of the salesman all this is done for him before he ever starts out upon the road, and if every salesman had to figure out the cost on the spot of the articles he was furnishing, and also the quantities of articles he would be required to furnish, his duties would be very much more arduous than they are. The cost of an automobile or a piano is known before it is offered for sale; but the contractor does not know the cost of his building until it is built. I wish I could impress upon the architects and owners present the time that is required to make an accurate schedule of the quantities. If a builder wants to take off a 100,000dol. job properly it requires at least a week of hard work, day and night. So much of the builder's work is unproductive that he does not put in as much time as he should, or would like to, on the estimate for any one building. Owing to the short time that he is allowed he has to take the quantities off very roughly. During the day material-men and sub-contractors are busy with his plans, and he has only the night. Many contractors have to be satisfied if their estimates of quantities are within five or even eight per cent. of accurate, and only take off roughly, with very little detail. Those contractors who wish to estimate accurately and closely have to spend a lot of time on their estimates. It is disheartening to figure week after week and get very little of the work on which so much time and thought has been placed.

This matter used not to be so serious in days gone by, when competition was not so keen and estimates were not made so closely. The estimates of many of the best contractors then were the roughest of guesses. They carried a considerable margin for contingencies. The old books on estimating tell the estimator to add from five to ten per cent. to the estimate, to cover contingencies and unforeseen items. In consequence, esti-

* Notes of an Address given before a joint meeting of the Michigan Chapter, American Institute of Architects, the Detroit Engineering Society, and the Builders' and Traders' Exchange, Detroit. Communicated by the Author.

matings was not a very serious affair, and contractors were very prosperous people. In the present day estimates have to be figured very closely, and to figure them closely they have to be figured accurately, and the time and expense of doing this is very great. Very many builders of the old times still with us, who estimate by rough approximation methods of estimating, are losing their hold on the business situation. In my own city the large builders whose names were names to conjure with fifteen or twenty years ago are bemoaning their lack of work to-day. It is all being gained by the younger men, who are figuring much more closely than they ever dreamed of figuring or knew how to figure. It is assumed by the architect and the building owner that when his plans and specifications are complete the quantities of labour and material required for the erection of a building can be accurately and correctly figured by the contractor's estimator, and so a lump-sum bid is asked for, and the plans are given to the contractors to figure. The fallacy of this assumption lies in the fact that it is not possible for a contractor's estimator, however expert he may be, to understand and read the plans of the architect or engineer, in the short time allowed, so clearly as to be able to scale every item accurately. It stands to reason that a contractor's estimator cannot in one week become as familiar with the plans as the architect or engineer who has spent some months in creating them.

When the plans and specifications are completed it is obvious that a certain quantity, unknown, of labour and material will be required to complete the building. No amount of careful figuring by any contractor can decrease or increase the amount of those quantities in any particular. They are fixed by the plans and specifications. If ten contractors are to figure, each one of these competes with the others in seeing how much or how little brickwork, concrete, plastering, and so on he can figure in his estimate, and yet feel that the job is safe. None of them get exactly the same quantities in their estimates. He first has to compete in accurately figuring quantities before ever he starts to put a price upon his quantities and start the price competition. No figuring will make one brick take the place of two, or will make one hundred barrels of cement mix a thousand yards of concrete. These quantities are fixed and unalterable, and it seems absurd that there should be this unnecessary competition in quantities, and before prices are put on estimates. In 1908 the Illinois Chapter of the American Institute of Architects prepared a report which deals with this subject. Their report states that they investigated the office work of five representative contractors. They found that the average number of contracts estimated by each builder in one year was seventy-two, and the average number of jobs which he obtained from these estimates was ten. The average value of the time spent by the office force of each firm on each estimate was 125dol. The average expense on each estimate, including additions by sub-contractors and material-men, was 378dol., making a total of 503dol. spent by each builder on each estimate. In addition to these expenses, the head of each contracting concern spent 21 per cent. of his total time in estimating or overseeing the work of estimating. I have not time to quote the whole of the report, which is reviewed in the "Engineering Record" of October 24, 1908; but it goes on to point out that the cost of six bids on a building costing between 100,000dol. and 150,000dol., ran to over 3,000dol.—that is, between 2 per cent. and 3 per cent. on the whole cost of the work, and it is further figured that in the City of Chicago the contractors spend in one year one and one-quarter million dollars in the preparation of estimates, of which only 210,000dol. is productive expense which results in getting estimates. The other one million dollars is entirely wasted.

Who pays for all this unproductive expense? It seems obvious that in the long run it is paid by that vague personality the ultimate consumer, who, sooner or later, has to foot the bill without knowing it. Directly or indirectly, all this burden is shifted by the

building trade or building-material trade to the shoulders of the building owner, and not only this burden, but the bad debts caused by contractors' failures, more than half of which are due to estimating on incorrect quantities. The sceptical will think I am presenting an overdrawn picture of the inaccuracies of builders' estimates and the losses consequent thereupon. Ask any credit man what the worst risks are for credit; builders and contractors will be among the number. The percentage of failures is very high, and a very large proportion of the failures is due, not to mismanagement, but to bad estimating, and of those due to mismanagement a lot of loss is due to time being spent on estimating that should have been put in on supervision of work in progress. It seems too bad that the building industry, handling as it does such a large proportion of the trade of the country (the whole of the output of the cement, burnt clay, and cut-stone trades, a large part of the output of the steel, glass, paint, lumber and slate trades) should be thus handicapped. Is there any way in which the existing state of affairs can be improved? I think there is, and it is for that reason that I am before you to-night, to discuss with you the quantity system of estimating. This has been much discussed of late, and it is probable that most of you are familiar with the general outline of what is understood by the term quantity surveying, or the quantity system of estimating. But in order that there may be no misconception on the part of any of my hearers, some of whom may have this put before them for the first time, it will be well to define what I understand by the quantity system of estimating. In brief, then, a bill of quantities is an accurate schedule of the quantities and description of the work (labour and material) required in the erection of a building, in accordance with drawings and specifications supplied by the architect or engineer. A quantity surveyor is an independent party appointed by the owner, architect, or engineer, whose duty it is to prepare the bill of quantities at the owner's expense.

Under the quantity system (as advocated by the American Institute of Quantity Surveyors) bills of quantities will be furnished free of expense, with the drawings and specifications, to all bidders desirous of bidding in competition. Lump sum bids will be based upon the quantities of work scheduled in the bill of quantities, the character of same being ascertained from the plans and specifications. In the event of any errors the cost is adjusted between the owner and the builder by the surveyor, so that the builder takes no liability for the accuracy of the quantities. This is a matter for the owner and the surveyor to settle between them, and this I shall discuss later. The quantity surveyor should be a man who makes it his sole business to take off quantities. He should receive the plans from the architect and compute from them the quantities of material and labour for the building, in the way that the contractor's estimator does now; but as he gives his whole time to the work he is able to work more carefully, and has more time to make a careful and detailed estimate. Also, if he is paid a proper fee for his work, he is able to have all his figures carefully checked. Contractors, as I have said, cannot give their whole time to estimating, and they have to work so quickly that there is no time for any but the most superficial checking of the quantities, except by the square foot or cube foot price of the building—a very unreliable method. The quantity surveyor should take off the whole job, and not confine himself to those trades which will be executed by the general contractor's own force. A bill of quantities should contain separate schedules for mason-work, structural steel, earth work, concrete, structural carpenter work, finished carpentry, hardware, plastering, plumbing, painting, ornamental iron-work, and so on, and the quantity surveyor should be a man of sufficient technical education and training to know enough about all these trades to be able to take off quantities for them in the way in which various contractors and subcontractors measure them, in order to price them correctly. It is the aim of the quantity surveyor to take off and describe the items

in just the way that will be of most service to the contractor, and to give such information in the schedules as will be clear to him. This is a very important matter, and on it largely depends the success of the quantity-surveying movement. We all know that similar work executed under different conditions on the same job will vary in cost. Brickwork in manholes will cost less to build than walls of office buildings; 8in. brick walls cost more per thousand than 12in. work. Concrete formwork is an item of expense that bears no relation to the yardage, and has to be measured separately. Every surveyor should work on the same method, measuring all work net, deducting openings in brick-work, carpenter work, and plastering, etc., measuring forms separately from concrete work, and in general giving items in detail.

If the quantity surveyor gives his whole time to this work it is much easier for him, by consultation with the architect, to straighten out difficulties and points not clear, than it is for the estimator, and he is able to discover and point out inaccuracies in the plans which do occur even in the plans of the most careful architects, and is able to suggest amendments to specifications where they are deficient in description or ambiguous in meaning. He is often able to start work before the plans and specifications are completed, and save some time that way. When he has finished taking off the items of his estimate are collected and sorted and brought into schedule form. A separate schedule or bill is made out for each trade; these are bound up together, and a copy is made for each bidder, and sent out to the general contractors who are invited to tender. The schedules contain sufficient description for the contractor to understand fully what the items are that he has to price, and he does not need to spend much time going over plans and specifications, as all the information he needs is in the quantities. When a contractor receives the schedule of quantities he prices all the items in the trades that he himself proposes to execute, or which he is competent to price, and the schedule of items which he intends to sublet he passes out to subcontractors to price on the same lines that he does. When the pricing is completed and extended the totals of the various schedules are collected, and profits and incidentals—insurance, etc.—added, and the bid is ready to be put in. There are, of course, advantages and disadvantages in the quantity system. One great advantage is that all contractors know what they are bidding on, and are bidding on the same basis. It frequently happens that with the greatest of care yet there are items which are not easily understood on the plans, and things that are indefinite or bear a double construction in the specifications. In such a case, half the contractors bidding will interpret this in the way that looks to them cheapest, the other half will interpret this in the way that looks to them the best, whether it is the cheapest or the more expensive of the two. If the man who has figured on the cheapest way of doing the work gets the job, and finds his guess is wrong, trouble arises at once. The quantity surveyor, having been in much closer touch with the architects than it is possible for half a dozen contractors' estimators to be, would notice and clear up these indefinite points before his quantities were finished, and as the contractors are competing on price only, and not on quantities, the owner feels more sure that he is giving his contract to the man who is able to do his work properly, at the lowest possible remunerative price. He is not giving his contract to the man who is most skilful at drawing off quantities. He does not care whether his contractor is skilful at quantity surveying or not, if he can build a good job for him, and yet under our present system the odds are all in favour of the man with the cleverest estimator getting the job, regardless of whether his building work is good or not. There is also less chance of work being given to an incompetent estimator, who has left out some important item in the estimate through inadvertence. There is no doubt that such a man, working even with the best motives, will strain every nerve to cut corners and save cost of the building, to the ultimate detriment of the fabric and annoyance of the owner.

It is often urged that quantity surveying will add to the number of worthless competitors; but I have also heard many claim for this system that it will eliminate the worthless competitor. I cannot promise that it will do either; but it will reduce the risk of work being let for less than cost to a man who has left some items out because he is not a good estimator. It has been objected that if the quantity system were established that no man would be able to exercise the right of judgment in making up his prices. This objection arises from a misunderstanding of the meaning of a bill of quantities. A bill of quantities would schedule, for instance, the number of fire-doors, with their description, that were required for a building, giving the number of swing-doors and the size of each and the number of sliding-doors and the size of each. But this schedule would not prevent the fire-door contractor from looking at the plans and noticing how many were on the first floor and how many in the pent-houses, and whether there were any difficult conditions in the plans that he would have to contend with. In the same way, the schedule of quantities for plastering work would describe in a different way plastering under different conditions. All ceiling plastering requiring ordinary staging, in two coats, would be classed together, but plastering for a high-studded room requiring a specially-built stage would be put down as a separate item. Plastering on flat wall surfaces, if all three-coat work, would be made in one item. Plastering on metal lath would be separated and put down separately, and plastering in narrow widths or on circular walls would also be measured as separate items. The bill of quantities should contain an intelligent description of each class of work and every variety or item of work in that class. If not, it would not be a proper bill of quantities.

It has been claimed that quantity surveying will reduce the cost of building work. This is doubtful, although logically it should in many cases. I think that it will reduce costs in three ways—first, it is certain that the very large overhead unproductive expense which I have spoken of will be saved; and, second, the men who before spent all, or a lot, of their time in figuring quantities, will be free to devote themselves to effecting economies in the conduct of building operations. Especially the contractor himself will be much freer to supervise his work if he does not have to spend so much time in supervising his estimating work, and this should result in economies in labour costs being effected on the job. Third, it will not be necessary to add a contingency item to the bids to cover possible errors in estimating and unforeseen contingencies. On the other hand, the very low bid put in by the inexperienced or careless contractor is likely to be eliminated. It is fairly certain that bids will be closer than at present, and I believe that the bids of the conservative contractor will be somewhat lower. Whether bids will be lowered or not they will certainly be "closer," and there will not be the same risk of very low figures being put in—figures containing errors that bring the estimated total to less than the actual cost of the work. Mr. G. A. Wright has well said that an architect or engineer who knowingly advises an owner to accept a bid which is lower than a job can be done for is evading a moral issue. In addition to this he is a fool if he thinks he can get something for nothing. No amount of inspection will make a cheap building good or compel a builder who is endeavouring to save money at the expense of the job to put in all that is called for. The owner gets what he pays for. Unfortunately, he often does not realise till too late that the cheap building he has bought is cheap in another sense, and inferior in workmanship and costly in maintenance. This is true of many cases; but many other cases arise where the architect does not know, and has no means of knowing, whether the bids are too low or not. Even if the quantity-surveying system did not lower bids, but raised them, I think it would lower the bids of the more careful contractors and raise the bids of the careless. The owner would have the satisfaction of knowing that he was paying a fair price for his building and that

he was likely to get a fair building for his price.

The subject seems to have been obscured by the suggestion that a reorganisation or a radical improvement in the methods of preparing plans and specifications in architects' offices is a necessary preliminary step to the establishment of a quantity-surveying system. This is not the case. The quantity surveyor's duty is to take plans and specifications as he finds them, and from them compute the quantities of labour and material in the building. It is, of course, desirable that the plans and specifications should be good ones, and the better the plans the better his survey; but even with a poor set of plans he is likely (because of his greater experience and the facilities at his disposal) to make a better survey than half a dozen competing bidders. But there are no grounds for the statement that quantity surveying would of itself improve any architect's plans or require better plans than the contractor now gets. No quantity surveyor would guarantee absolute accuracy from inaccurate plans. In such a case the contract should be let on the basis of quantities as a unit-price job. It has been objected that those who have special ability in scaling quantities will lose their advantage compared with those who have not this ability. Yes, and those who learn arithmetic at school also have an advantage over those that have no education. Let us examine this contention and see whether it holds water. Seriously, how many men have such skill in scaling quantities that they can view with complacency the continuance of present conditions, and are willing to waste time on fruitless estimating. There are very few that feel that they have a decided advantage in this—such an advantage that they don't care to forego it, and how much of an advantage is it? Does it get them a large proportion of jobs, or is it a fact that, owing to their skill in scaling and their care, their estimates are higher than those of their less fortunate rivals, who discover too late that they have "left out something." The true competition is in judgment as to pricing, and the real contest, even to-day, among the better class of estimators, is, and should be, in the ability to foretell what a difficult piece of work will cost and how it will be performed. The architect and owner think that Brown and Jones both know exactly what each item in the building will cost, and if Brown bids lower than Jones it is because Brown can work cheaper than Jones. This is very far from being true—the reverse of this is often the case: that although Jones bids higher than Brown, his work is actually cheaper in execution; but he knows costs, and Brown doesn't, and Brown guesses too low, and makes no profit. I am often asked how many of the unit prices in my estimates turn out accurate, and people are incredulous when I say that none ever are accurate. The estimator can only hope to get somewhere near the truth, and the better the estimator the nearer the facts he gets.

It is claimed that not only will contractors all be on the same basis, but that many more incompetents would come in and secure quantities which they themselves could not draw off. There are two sorts of incompetents: a man may be a good calculator, but a poor builder; or he may be a good builder, but a poor man at figuring quantities. The first man you have figuring against you already; the architect is the only man who can eliminate him. If you also bring in to compete with him men who do better work, but who are not able to show the same skill in arithmetic, I do not think any further hardship will be suffered. We must not think, however, that all troubles and disputes would be eliminated by the adoption of quantity surveying. As long as human nature remains what it is disputes and troubles will arise. But one class of disputes will be almost abolished, and that is the disputes over ambiguous clauses in the specifications and indefinite work on the plans. The quantity surveyor will make a careful scrutiny of the plans, and many points of doubtful construction will arise which, by his close connection with the architect, he could solve. In any case, his interpretation of the plans is accepted by the builder and guaranteed by the owner, and if it is found that there is any

error the builder does not suffer. If you are all convinced that quantity surveying is the right way to get competitive bids you will, of course, want to know where the quantity surveyor will come from. Will he spring, like Minerva, from the head of Jove, ready for work, or shall we import him or spend some years training him from our ranks? How shall we start him to work? Shall we all refuse from now on to bid unless quantities are furnished, or shall it be a slow development? The logical men to be our first quantity surveyors would be the chief estimators of our large firms of building contractors. These men would find capable assistants from the ranks of engineers' draughtsmen and architects' draughtsmen, especially engineers' draughtsmen, part of whose early training comprises the acquisition of a sound knowledge of the principles of construction. I believe that very efficient assistants can be secured in these directions.

The method of making a start will vary so considerably in different cities that I have thought of three methods in which a quantity system may be organised in a city, and these I want to present to you in order. If the owner of a prospective building is convinced of the advantages of the quantity system the simplest method would be for the architect to appoint a man as quantity surveyor, choosing one from his acquaintance who is qualified to do this, or asking the secretary of the local builders' exchange to appoint a fit man for him. If the owner or architect is still opposed to the quantity system, there is no reason why it should not be put in force without their assistance, if the builders of an exchange have proper confidence in each other. They could meet together and agree that one of their number should prepare a schedule of quantities for the work. If this man was not one of those who were bidding on the job, this would be an added advantage. He could furnish the copies of his schedule to the competing bidders, and they could price them out and bid upon them. In this case, payment would have to be made to the man who had prepared the quantity schedule, either by each builder agreeing to pay in proportion of the cost, or else for each builder to add the whole cost of the schedule to his estimate, and then the successful bidder would pay the whole charge, and the others would be put to no expense whatever. The owner would reap no advantage from such a proceeding except a possible saving of expense by closer bids. I do not consider that there is anything improper in this procedure. The cost of estimating in this way would not be as great as the present cost of estimating, and there is no more impropriety in such a proceeding than there is in half a dozen builders taking bids from the same material man or sub-contractor. The fact that they have paid a fee for the estimate does not render the transaction a wrong one. Not infrequently I am accustomed to pay fees to sub-contractors for the purpose of getting careful estimates from them on work which I wish to be free to let as I wish, if we secure the job. The cost of such fees I always add to my estimates, although, of course, they come out of the pocket of my company in case we do not secure the work. A third method which I have noticed commends itself very highly to me. In the city of Milwaukee, Wisconsin, they are organising a Bureau of Quantity Surveying. This is subscribed to by the chief contracting firms in the local builders' exchange. The organisation will be made up of the chief estimators in the city, who will receive fixed salaries for their work. Every member of the exchange will subscribe a sustaining subscription to the bureau, and, in addition, will pay a small fee for the use of each bill of quantities. He will also add to the amount of each bid he makes on quantities furnished by the bureau a percentage varying from 1 to 2 per cent. for these quantities, and if he is successful in getting the job he will pay this fee to the bureau, unless the owner pays it direct. At the end of the year any surplus will be divided among the contributing builders. A fourth method might be for any party to make a schedule of quantities on "spec," and offer them for sale. This method does not commend itself to me.

In the second and third cases it is contemplated that the builders themselves will make themselves responsible for the payment of the quantity surveyor. I am not at all sure that it will be possible—it may not be easy—to so convince architects and owners of the value of quantities that they will be willing at first to pay for them, and, therefore, it is up to the builders to make a start themselves and install the system, as was done in England many years ago. It was not for a long time that architects or owners realised that there was any advantage to them in the use of the quantity system. When they did they took charge themselves of the appointment of quantity surveyors and the common law established their liability for fees. If builders want quantities furnished they will have to show the way by furnishing them among themselves. The owners' co-operation will come later. If I am right in my surmise that builders will at first have to bear the direct expense of a quantity system, it has been suggested that this will be frowned upon on the ground that the public would feel that there was collusion between the bidders. It is certain that in some quarters there will be suspicion as to the propriety of this procedure. But it does not follow that because there is co-operation there is also collusion between builders. The builders of this city co-operate in maintaining the builders' exchange, and are, we trust, on friendly terms with each other in other ways as well. But this does not imply any collusion between them. We are getting beyond the days of Pickwick, who was so horrified because his counsel, Snubbin, civilly greeted Serjeant Buzfuz just before the beginning of the Bardell trial. But it is just such an attitude as this that prompts the suspicion of collusion if quantities were used. Co-operation is doing so much in other lines of business, in spite of the suspicions of the public, that it ought to be allowed here. Collusion is an ugly word, and usually implies fraud. But there can be no wrong in a band of men agreeing to appoint one to do work to save themselves the trouble of a lot of computation, provided that each estimates his costs independently and prices his estimates himself.

What fee ought to be charged for the services of a quantity surveyor? It is not easy to set a fee right off that will apply in every case. In England, the maximum fee is usually a percentage of the lowest bid, and ranges from 2½ per cent. on dwelling-houses, churches, and other work which contain a very large amount of detail, down to as low as 1 per cent. on large plain, simple factory and warehouse work. Although at first sight this fee of 1 per cent. on a 100,000 dol. factory will look large, yet as I have pointed out, the cost of an estimate on such a factory at the present day is more than this; but the cost is spread around among the community, instead of being concentrated in one payment to one party. The only estimating expense incurred by the builder under the quantity system will be the time spent on pricing the estimate, visiting the site, and making inquiries from the material men. This will take very much less time than any attempt to scale the quantities, so that the contractor's expense of estimating will be practically negligible. It is very important that proper fees should be charged from the start. If fees too low to pay for painstaking, accurate work are established, the work will not be done carefully. It will be extremely difficult to raise them, and the system and the whole movement will suffer.

There will undoubtedly be difficulties to be encountered by the starters of the quantity system. The first point that is sure to be raised will be, What will happen if a mistake is found in the quantities? I do not suppose that any estimate of quantities is perfect in every respect, although I have found that most quantity surveyors' estimates of quantities were surprisingly accurate. Yet I have known of errors of considerable amount being found in bills of quantities, and the point arises at once, How are they to be adjusted? In the first place, it is obvious that if the owner has paid for the bill of

quantities, and has guaranteed to the contractor that the bill of quantities is correct, if any error in quantity or description is found, the cost of making good such error should not fall upon the contractor, who has used the quantities in good faith. It then rests between the owner and the quantity surveyor as to who shall pay. There are some that argue that the owner should pay; others that argue that the surveyor should pay. Taking the first case, the owner does not call upon the architect to pay for mistakes made in the design of a building, or the omission of items from his specification. The architect being engaged by him in a professional capacity to render service, as long as he renders that service to the best of his ability, he is not held liable for errors. Nor does the owner expect any guarantee that the building will not fall down through faulty design. Only in the case of gross, culpable, or criminal negligence will the Courts hold him liable for errors; and if an architect has forgotten to specify the painting, or, through some error, figures the overall dimension of his building incorrectly, the cost of making good such errors falls upon the owner, and it is therefore argued that the surveyor's contract of service should be of the same character.

On the other hand, if the quantity surveyor is to justify his existence at all, the owner will expect that he will offer some guarantee of his work being accurate. I do not see any real objection to his doing this. The men called upon to take off the quantities will at first look upon such a requirement with some fear; yet they will find that, under the different conditions under which they will work, having proper time in which to do the work, and proper opportunities of studying the plans with the architects, their work will be more carefully done and will be more accurate. Then, if a proper fee is paid for the quantities, they will be able to afford to have all their work checked, and thus minimise the liability of error. In an English office, every operation is checked before the next one is made, and mistakes are surprisingly few. In a general way, English quantities are supposed to be correct within one-half of 1 per cent., and I believe they are. Of course, it often happens that one item is slightly in excess, and another item is equally too small, such as different kinds of flooring in the same building; but it is not often that the totals add up incorrectly. The Quantity Surveyors' Association of England makes it a requirement or rule of membership that every member shall guarantee that his quantities are accurate, and shall refund to the owner any expense to which he is put by reason of inaccurate quantities—provided, of course, that correct and properly-drawn plans were furnished him before he started to take off. In an article by a past-president of the Quantity Surveyors' Association in the "American Architect" for March, he states that so far it has not been necessary to call upon a single member to make good under this guarantee, which is evidence enough of the possibility of making accurate estimates of quantities from proper plans. For myself, then, I should have no fear in guaranteeing that my work would be correct, and I believe that other men who started in this line of work would before long feel sure enough of themselves to do so, too. But it will be objected then by the owner that the guarantor is not a man of sufficient financial standing for his guarantee to be worth anything. This difficulty I am not able to suggest a solution for, except in the case of the bureau already mentioned. It is certain that quantity surveyors will not be recruited from the ranks of capitalists, and, however willing they may be to guarantee their work, if they cannot put up collateral for their guarantees, the guarantees will not be worth much to the owner. The question of accuracy and guarantee, however, does not seem to me to be a very important one, owing to the very few cases in which it is actually needed in settlement. It is one that will take care of itself. If a quantity surveyor has to depend for his professional reputation and standing on the accuracy of the work he does

there is no more chance of his doing careless and inaccurate work than there is of the architect or engineer whose standing depends on the quality or permanence of the work he designs, or there is of the contractor whose reputation depends on the quality of the workmanship he furnishes.

I have been asked what will happen if the accuracy of a bill of quantities is questioned, and the surveyor who drew off the quantities is required to check them after the building was completed. Such cases sometimes occur, and I have been challenged on quantities that I have prepared as to the accuracy of some items, or of the whole building. I have always offered to measure up the work in dispute on this condition: that if the party who made the request was found to be in error, he should pay the whole cost and a proper fee for the time spent in measuring. Further, I was not content to measure one small item, but would measure all the work relating to same. For instance, if it was claimed that the maple flooring was short in a building floored partly with maple and partly with marble, I should insist on measuring the whole of the flooring, and should very likely discover that the quantity of marble flooring was less than the estimate, and the quantity of maple flooring more. Other cases have occurred where the building was so changed that the whole building had to be measured up again at the close by reason of changes in plans and requirements of the owner. In this case, of course, the cost of measuring should properly fall upon the owner. If, however, a measurement of a building showed serious errors in a surveyor's work, the cost of making such measurements would certainly fall upon the surveyor, and the cost of adjusting the errors would fall either on the surveyor or owner, according to whether the surveyor had made a guarantee to the owner or not.

I may be asked how the surveyor would deal with items which are uncertain in character at the time the plans were taken off—such as foundations, where it is expected to meet with bad ground. In such a case it is usual for the surveyor to take off quantities for whatever work he considers would be likely to be needed, and he would mark these quantities as being provisional, and insert a note in the schedule of quantities that such work was to be measured and valued when executed. When the work had been put in, he would, therefore, visit the work, measure the actual work done, and deduct or add the cost of it to the items already taken in the estimate. For this, of course, he would be paid a proper fee in proportion to the fee paid on the original quantities.

One feature of the quantity system as used in England would be looked upon with mixed feelings by contractors here, although welcomed by architects, and that is the settlement of extras. It does not follow that because a bill of quantities has been made the basis for estimate, it must therefore be used as a basis for settlement of extras, unless it is so provided in the contract. A contractor may base his bid upon quantities, and may refuse to sign a contract that called for them to be used as a basis for extras. But if he does so agree to use the quantities as a basis of extras, one great bone of contention between architects and builders is removed, and better relations are at once established. There is no more thorny and difficult subject that comes between architect, owner, and builder than the value of extra work. The quantity system provides a method for the measurement and valuation of most items of extra work or omitted work, for if the contractor puts the unit price of each item in his bill of quantities, and deposits same with the architect, a definite basis is laid down for the valuing of extras. Many builders fear that such figures would be used against them, and would refuse on that account to do so. This need not deter them from using the quantity system in making up their bids. As far as my own experience goes, on both sides of the water, I have never found that a builder suffered any real detriment by letting his prices be known. Prices are no longer a trade secret.

We do not keep trade secrets from each other in the way that we used to. As far as I am concerned, I have no hesitation in letting anybody know what prices I am using in pricing an estimate, or how I make them up. As far as the speciality of my own firm goes—reinforced concrete—I recently contributed several chapters to a book on the subject, in which I laid bare the whole of my methods in pricing reinforced concrete work, and have never hesitated to give similar information to anyone that asked for it. This has never resulted in any loss to my company. (See "Reinforced Concrete," Vol. II., by G. A. Hool. McGraw Hill Book Company.)

Of course, the bill of quantities would not provide a basis of settlement for extras which by their nature could not be measured, such as the cutting into and alteration of work already built, and of items which could only be charged as day work. In the English system such items are valued by an examination of the contractor's time-sheets and material records. Some difficulty might arise if nine builders agreed to use the quantities, and the tenth refused. In such a case, either the architect could refuse to consider the bid of the tenth, or else the contractors using the system would have to bid under a certain theoretical disadvantage—that is, the disadvantage of carrying the quantity surveyor's fees in their bids. It is, however, probable that this would be offset by the greater accuracy of the quantities they figured on, and by the fact that it would not be necessary to add any profit for contingencies to cover any unforeseen expense, as a proper bill of quantities would cover all points and guarantee the contractor against errors of quantity.

The relative position of sub-contractors and material-men would not be materially altered. The contractors would each supply to their sub-contractors copies of those portions of the quantities which related to their work. These they would use as a basis for their estimates for the contractor. I believe, however, that, with a little experience and care, any general contractor should be able to price sub-contract work himself. In this case he need not call in his sub-contractors until he gets the job, and this will eliminate all the evils of trading sub-bids, that are such a perplexing problem in our cities to-day. One of the greatest difficulties ahead of the establishment of quantity surveying is the subject of standardisation of measurements. It is an unfortunate fact that in no trade is there any agreement between contractors as to how any items should be measured. Take, for instance, doors and windows. There is no method whatever of measuring a door or door-frame or trim that is universally used. Most carpenters will look at the plan of an opening, and say, "Yes, that will cost you 20dol. an opening," or 30dol., or 15dol., as the case may be. When we come to brick-work, some masons measure the net cubical content of the brick; others will measure all corners double; others will not deduct openings; some will deduct half-openings, and some will not deduct stonework where stonework is embedded in brick, and others will. Then, having found a final quantity of cubic feet, some will multiply this quantity by 19 brick, some will multiply by 22, 23, and up to 25 brick, to arrive at the number of thousands of bricks to value. When you take the case of concrete, some contractors measure their forms, and some do not—simply add so much to the price of the cement and aggregate for the forms; and of those who do measure the forms, some measure the square feet, and some measure the number of board feet used, and so on. When we come to plastering, some plasterers deduct openings, and some do not; and so on, in every trade there are found these wide divergences of opinion and method as to the proper way of valuing their work. These ways cannot all be right, and it will be necessary to determine some definite standard or method in which such an item should be measured before quantity surveyors can get very far with their work. It will be necessary for the contractors in each city who intend to use the quantity system to get together and establish some definite standards of

measurement which shall be adopted by all. As far as concrete is concerned, this has already been done by the American Concrete Institute, who a year ago adopted standards which had been prepared by a special committee of which I was a member. These standards are in use in many parts of the country, and will eventually be adopted, I believe, in all parts of the country. It is to be hoped that national standards of measurement in other trades will also be established.

In drawing up a standard of measurement, I believe that two guiding principles should govern, although these may conflict with existing practice in many cases. The first rule is this—that all work should be measured net as fixed in the building, no allowance being made in the measurements for waste; that is to say, the quantity of brickwork measured should be the net quantity of cubic feet that will be found in the finished building. The quantity of flooring will be the net square feet that can be measured upon the finished floor; the quantity of plastering will be the net area covered by the plasterer, and so on. Then each contractor will add to his price the amount of money he considers necessary to cover the waste. Waste varies with every contractor. One contractor laying a floor will use 5 per cent. more flooring than another; one contractor in laying-up brickwork will, by reason of his better handling, break 2 or 3 per cent. less than a rival; and the same applies to pipe-fitters, plasterers, or any other trades. Therefore, so that there may be one definite, common basis which can be measured without dispute, and on which all can figure, it is necessary that everything be measured net as fixed in the building. And the second rule is that material should in no case be measured to pay for extra labour. If a plumber is measuring 100ft. of 1in. pipe in which there are ten elbows and three tees, it is wrong in principle for him to count each elbow as 2ft. of pipe. The value of each elbow may be the same as 2ft. of pipe; but it is wrong for him to call an elbow 2ft. of pipe, and thus get 150ft. in his quantity when there is actually only 100ft. to be measured in the building. If he wants to, the elbows and bends and tees can be counted and enumerated separately; or if not—if it is not worth while doing this—the net 100ft. should be measured, and the price should be increased to cover the cost of the bends and the tees. In brickwork, in the same way, it is not correct to leave in the brickwork which really is displaced by stone, on the ground that the labour of setting the stone is equal to the cost of the brickwork. The labour of setting the stone is measured as a separate item, and the net quantity of brickwork should appear. In this connection I would remark that it seems to me to be a very bad practice to price brickwork by the thousand bricks. The correct unit for measuring and valuing brickwork is the cubic foot, and a quantity surveyor will have to use this basis, as then every builder, in pricing, can allow the number of bricks that he considers necessary to the cubic foot in his quantities.

In conclusion, it would be well to state that I do not believe that the adoption of the quantity system would prove a panacea for all ills, or would remove all sources of trouble or dispute, but that it would be a real advance, and remove some of the abuses current in the building trades, and would help towards a better understanding all round. It will certainly be a difficult matter to establish a satisfactory system in this country. In doing so, we should not be bound by any customs of other countries, although we should follow them so far as the principles they have adopted are right principles. The subject of standardisation of measurements will be a very important step towards the establishment of a proper system, and, whether a quantity system is ever established or not, there is an urgent need for a proper understanding of the methods of measurement of work in the building and engineering work. This would be a very useful field for the activities of some of our national associations of engineers, contractors, and sub-contractors.

LONDON COUNTY COUNCIL.

In November last the London County Council made by-laws under the London Building Act, section 164, for the regulation of lamps, signs, or other structures overhanging the public way not being within the City. A copy of the by-laws was sent to the Local Government Board for allowance, and one was also sent to each metropolitan borough council, the Ecclesiastical Commissioners, the Royal Institute of British Architects, the Surveyors' Institution, the London Chamber of Commerce, and the Institute of Builders, as required by the London Building Act of 1894.

The Local Government Board has now intimated that the by-laws have been considered in connection with the observations forwarded by local and other authorities concerned. It is suggested that a proviso should be added to by-law No. 1 exempting from the operation of the by-laws cases of re-erection or replacement of any lamp or structure supporting or carrying the same, or the substitution of any lamp or structure supporting or carrying the same for an existing lamp or structure, where the lamp or structure has been fixed or fitted before the date of confirmation of the by-laws; and further, that the local authority should be given seven days' instead of two days' clear notice of intention to fix or fit any lamp, sign, or other structure coming within the scope of the by-laws. The Building Act Committee reported on Tuesday to the County Council recommending that these modifications, together with one or two others of a minor character which have been suggested by the Board should be agreed to, and submitting the by-laws amended accordingly. The Council approves the by-laws as amended, but it will be necessary for them to be confirmed at a subsequent meeting and for the preliminary requirements of section 164 of the London Building Act, 1894, to be complied with anew. The Local Government Board will also be asked to fix a date on which the by-laws, which are not retrospective, will come into force. They are as follow:—

1. A person shall not after the date at which these by-laws come into operation fix or fit any lamp or any structure supporting or carrying the same, nor shall he retain any lamp or structure supporting or carrying the same fixed or fitted after such date so as to overhang the public way in such manner that any part of such lamp or structure respectively shall (i.) be at a less height than 8ft. clear above the surface of the footway immediately under such lamp or structure, or (ii.) be nearer to the carriageway than 2ft. 6in. from the outer edge of the kerb, or (iii.) project more than 3ft. from the wall or shop front of the premises or the post or upright support to which it is attached.

Provided that this by-law shall not apply (a) to the re-erection or replacement of any lamp or structure supporting or carrying the same which has been fixed or fitted before the date of confirmation of these by-laws, if the interval between the removal and the re-erection or replacement does not exceed six months, (b) to any lamp or structure supporting or carrying the same which is substituted for a lamp or structure which has been fixed or fitted before the date of confirmation of these by-laws, if the interval between the removal of the one and its replacement by the other does not exceed six months and the substituted lamp or structure does not exceed that for which it is substituted in weight or dimension and does not in situation contravene this by-law to a greater extent than the lamp or structure for which it is substituted.

2. A person shall not, after the date at which these by-laws come into operation, fix or fit any lamp which, including framework and ornaments, exceeds 3ft. in any part when measured in any direction horizontally, or which, including framework and ornaments, exceeds 5ft. in height, or which weighs more than 30lb., nor shall he retain any such lamp so fixed or fitted after such date so as to overhang the public way. Any lamp which may lawfully be fixed or fitted under this by-law shall be provided with a secondary means of security of sufficient strength to sustain safely the whole weight of the lamp against falling away from its support.

3. A person shall not, after the date at which these by-laws come into operation, fix or fit any sign or any other structure supporting or carrying the same or any other structure nor shall he retain any sign or structure supporting or carrying the same or other structure fixed or fitted after such date so as to overhang the public way in such manner that any part of such sign or the structure supporting or carrying the same or other structure respectively shall (i.) be at a less height than 5ft. clear above the surface of the footway immediately under such sign or structure, or (ii.) be nearer to the carriageway than 2ft. 6in. from the outer edge of the kerb, or (iii.) project more than 3ft. from the wall or shop front of the premises or post or other upright support to which it is attached. Provided, nevertheless, that if any such sign or structure shall extend more than 2ft. (not including stays or supports)

along the face of such wall, shop-front or support, then such sign or structure shall not project more than 2ft.

4. A person shall not, after the date at which these by-laws come into operation, fix or fit any sign or other structure which exceeds 2ft. 6in. in height or extends more than 6ft. in any direction (not including stays or supports) along the face of the wall or shop-front of the premises or post or other upright support to which it is attached nor shall he retain any such sign or other structure so fixed or fitted after such date so as to overhang the public way.

5. A person shall not fix, fit or erect any lamp, sign or other structure coming within the terms and provisions of these by-laws unless and until seven clear days' notice in writing, of intention to fix, fit or erect such lamp, sign or other structure shall have first been given to the local authority.

6. The London County Council, after consultation with the local authority, may in any case in which it may consider it expedient so to do dispense with the observance of any of the foregoing by-laws on such terms and conditions (if any) as it may think proper.

7. Any persons who commits any offence against any of the foregoing by-laws shall be liable for every such offence to a penalty of £5, and a daily penalty of 40s. for every day during which such offence continues after conviction.

8. These by-laws shall not apply to—

(a) Any fascia, balcony, shelter, covered way or other projection overhanging the public way (not being a lamp, sign or other structure within the meaning of these by-laws) which has been or shall at any time hereafter be duly sanctioned by the London County Council under the London Building Acts or any other statute in that behalf.

(b) Any movable sun-blind overhanging the public way, no part of which, or of the stay-bars or other fittings of which, except any valances or side blinds, shall when open be below an imaginary straight line drawn from a point 7ft. above the footway at a distance of 2ft. from the outer edge of the kerb to a point 7ft. 6in. above the footway adjoining the front of the shop or premises to which such blind is fixed or fitted, and which shall not be nearer in any part to the carriageway than 1ft. 6in. from the outer edge of the kerb, or any valance or side blind which does not project more than 2ft. from the front of the shop below the level of 7ft. 6in. above the footway.

(c) Any lamp or structure supporting or carrying the same overhanging the public way which may be fixed or fitted at not less than 7ft. 6in. in the clear above the surface of the footway immediately under such lamp, and so as not to project in any part from the line of the window-frame of the shop more than 3ft. and so as not to be nearer to the carriageway than 2ft. 6in. from the outer edge of the kerb, and which shall be solely for the purpose of illuminating such window from without, the lamp itself not to exceed 36in. in height, 24in. in width parallel to the face of the building, and 24in. in depth from front to back of lamp in clear, including any ornamentation and chimney.

(d) Any gas-rail or pipe overhanging the public way used for the purpose of illuminating shops from the outside which has not a greater projection than 2ft. from the shop front, and which is not less than 7ft. 6in. above the surface of the footway immediately under such rail or pipe.

(e) Any daylight reflector or prismatic light overhanging the public way which has not a greater projection in any part than 2ft. 6in. from the face of the building to which it is attached, and which is not less than 7ft. 6in. above the surface of the footway immediately under such reflector, and which is securely fixed.

(f) Any lamp provided by a local authority for the purpose of lighting a street.

EARLY RENAISSANCE ARCHITECTURE IN ENGLAND.*

In this second edition of a book which at once made its mark when issued thirteen years ago, Mr. Gotch has done well to omit some of the illustrations, and compress the text, thus reducing the bulk of the original volume and reducing the price. Otherwise very few alterations have been necessary, and these simply bring the text into line with results of more recent researches.

To none who know the book is a single word of recommendation of ours necessary. To those who do not, we need only say that it is based on real practical acquaintance with its subject, and written with discriminating appreciation of the charm of the work of the Tudor, Elizabethan, and Jacobean periods.

Very few have had the author's experience and opportunities of obtaining reliable information, and none have surpassed his capacity for imparting a knowledge of his subject. His style is lucid; there is no affectation of professional phraseology; and each illustration is utilised to explain some point in the text, not dragged in, as by the mere bookmaker, to swell the volume.

Not merely to architects will the book commend itself, but to the wider circle of crafts-

* Early Renaissance Architecture in England. By J. ALFRED GOTCH, F.S.A., F.R.I.B.A. London: B. T. Batsford, Ltd. 15s. net.

men, antiquaries, travellers, and, indeed, all cultured people who love the picturesque halls and manor houses which remain as the monuments of the great house-building period covered by the reigns of Elizabeth and her successor. Many such will understand for the first time how the builders of the time obtained their delightful effects, thanks to Mr. Gotch's judicious selection of illustrations—not merely of exteriors and interiors, but elucidated as it is by details of all contributory features.

EXHIBITION AT THE ROYAL ARCHITECTURAL MUSEUM, WESTMINSTER.

The President and Council of the Architectural Association entertained the friends of the Schools on Wednesday last at "a smoking evening," and availed themselves of the opportunity of showing, in the architectural classrooms and galleries, the assemblage of students' drawings from the recent Exhibition of British Architecture in Paris, representing the Schools of the Royal Academy, Royal College of Art, London University, Liverpool University, and the First Atelier of Architecture, besides work done in the Architectural Association Schools, and also a selection of R.I.B.A. prize drawings. The exhibition will remain open till July 18, and will well repay a visit.

Much of the work is individually worthy of unquestioned praise. Mr. L. H. Bucknell, of the Premier Atelier d'Architecture, sends an excellent and large study of a big building, seemingly intended for an art gallery standing by the side of a lake. Next to this is a dashing design for a park entrance, unequal in the scale of the gate piers, by Mr. Robert Lawry. The Glasgow schools turn out very capital executants, and Scotch students have for years furnished the ranks of our leading architects and prize winners. There is a Colonial Parliament House, with an Ionic Order to the colonnaded entrance and sculptured figure groups delicately and charmingly suggested in light lamplack, by Mr. Richard W. M. Gunn's drawing. Mr. Spencer Willmott has a design of merit for an Institute of Architects, and we suppose he is the author of a plan below of an institution with architectural galleries and sculpture courts. The Higher Grade School is represented by Mr. E. S. Wylie, who sends a block of municipal buildings. Mr. A. G. Paton, of the Glasgow School, shows a feelingly-drawn pencil study for an interior doorway, which, however, is overwrought with detail. The other entrance, with rusticated masonry, on the same mount, is much more strong and fit. There is a nice small law-court design by Mr. Alex. T. Scott.

We thought the Clock Monument, inscribed with mural tablets, "Aquarius," "Pisces," and "Aries," on the front face, by Mr. W. E. W. Terrell, an accomplished performance, with a bronze group at top and a figure plinth at the base. One of the most striking studies which we noted was the Lever first prize view of new frontage to the Port of Liverpool, by Mr. H. Chalton Bradshaw, with a pair of campaniles ending up the series of towering capped buildings, cleverly shown with boats and craft, graphically artistic and suggestive. The same hand is responsible for a Bandstand and Sketch for a Picture Palace. The Liverpool School sends a Monument by Mr. F. Jenkins, with a Doric handling of an obelisk like tower, with globe on the summit. Mr. Bernard A. Miller won the first Lever Prize for a group of municipal buildings in the French modern mode, with a vast campanile tower in the midst, beyond a clever courtyard.

Among the Scholarship candidates we saw a monumental obelisk to record the dead, by Mr. E. A. Turner, standing on rocks, with recumbent lions guarding the sepulchre in this Portal of the City of the Dead. The Council Office, by Mr. J. Bernard M. Walsh is of a less severe manner, with adept drawing and good detail.

Among the measured drawings is a set of the Royal Hospital at Chelsea by Sir Christopher Wren, and here finished in colour by Mr. Philip S. Hudson. The Porch of

Linlithgow Church is sketched by Mr. Philip Shaw in good line, spiritedly done. The Hotel de Ville, Beaucaire, by Mr. Archie B. Young, and Melrose Abbey Ritual Choir, faithfully rendered in good scale by Mr. Wm. Cruickshank.

AN OVERLOOKED TENDER.

The discovery of an unopened tender for the building of a new Wallasey Council school in Valkyrie-road, Liscard, after the committee had met and recommended the acceptance of the tender of a Liverpool firm for £18,107, entailed the convening of another meeting of the education committee a few days later, the rescinding of the previous resolution, and the acceptance of the tender of Messrs. Duthie and Son, of Liverpool, for £17,750. Alderman Dr. Oldershaw, who presided, explained that after the committee met another tender was found in the clerk's office, where it had been all the time the committee was sitting. He, therefore, thought it right that the committee should meet again to consider this tender with the others. He might say that the following morning another tender, posted in Liverpool at 9.30 on Monday night, arrived, while two others had been received since. He did not suggest that either of these should now be considered, as they should have been received not later than noon on Monday, and they were probably only sent in order to obtain repayment of the guinea deposited when the specifications were obtained.

The deputy town clerk explained that the tender in question was handed to the town hall-keeper by messenger at 6.10, while the committee was actually sitting, and he placed it in the clerk's office instead of handing it at once to the town clerk. Alderman Swanwick said that as this tender was not handed in before twelve o'clock the conditions had not been complied with.

The deputy town clerk: Some of those considered on Monday evening came during the afternoon.

It was agreed that the minutes of the education committee meeting be rescinded, and that the tenders be considered afresh.

It then transpired that the lowest tender was that of Messrs. Duthie and Son, of Liverpool, for £17,750, this being the particular tender in question. It was mentioned that this tender for schools for 1,200 children worked out at £14 15s. 10d. per head, compared with £15 6s. for the Church-street schools, and about £13 per head for the Poulton, St. George's-road, and Vaughan-road schools. The tender of Messrs. Duthie and Son was then accepted unanimously.

MODERN PLUMBING PRACTICE.*

Messrs. B. T. Batsford, Ltd., are publishing three useful volumes—of which this is the first—on Plumbing Practice. This deals with lead-working and plumbers' materials; the second will describe Modern Sanitary Plumbing; and the third, Lead-working on Roofs. The late Mr. Wright Clarke's former work has been out of print some years, and it is to be regretted he was not spared a little longer to complete this. That it is based on actual personal knowledge is evident. The volume opens with an elementary description of the metals used by plumbers. Chapters are devoted to casting lead into sheets and other forms in which it is used by plumbers. In this section much of the work illustrated may appear to be crude and unfinished. The author's reasons for introducing such work, some of which was done by students attending plumbing classes under his charge, was to show readers that there are higher grades of plumbing than simply repairing water-pipes; also, that if young students were capable of doing such work, surely skilled craftsmen could produce more highly-finished specimens, and execute any class of lead-work, either plain or ornamental, that an architect might design in connection with his buildings.

*Modern Plumbing Practice. By the late J. WRIGHT CLARKE, M.R.S.I., and WALTER SCOTT, A.R.S.I. R.F. Vol. I. London: B. T. Batsford, Ltd. 10s. net.

Lead-casting and lead-burning are treated in a fairly exhaustive section. A section has also been devoted to setting out the lines for and making pipe-bends and elbows with the view to enable the workman to avoid a useless waste of energy in partially preparing a piece of work and then placing it in its position to ascertain if it is being made to the proper shape. The chapters on making soldered joints are carried as far as possible. It is obvious that the skill necessary for the actual execution of such work can only be obtained by practice, and not by studying written descriptions. Lead-light glazing and the subject of siphons are also adequately dealt with.

For the post of professor of architecture at the School of Design and Decorative Art, at Molenbeek, Brussels, after a keen competition, M. Henry Van Montfort has been appointed.

Devon County Council decided on Friday, in spite of much opposition, to expend £800 in carrying out alterations and repairs to Larchmont, Torquay, for the purpose of a tuberculosis hospital and dispensary.

At Dudley Mr. Edgar Dudley held a Local Government Board inquiry on Tuesday into an application by the corporation for sanction to borrow £3,280 for purchase of property required for street improvements.

The fine peal of bells at St. Gregory's Parish Church, Sudbury, Suffolk, which have not been rung for four years, have been taken down and sent to the works of Messrs. J. M. Warner and Sons, Spitalfields, to be retuned. The framework in which they hung is being reconstructed.

A Local Government Board inquiry has been held at Pudsey into the application of the town council for permission to borrow £10,159 for the construction of public swimming-baths, fire-brigade station, the purchase of a motor fire-engine, and the extension of the highways department offices.

At Winnipeg, the contract to erect a new warehouse for the Ames-Holden-McCreedy Company has been let to the Lyall, Mitchell Company, at about 100,000dol. The building will be six stories high, of mill construction, brick and stone. The architect is Mr. J. D. Atchison.

A new Roman Catholic church and priest's house is to be begun shortly at Southwold, East Suffolk. The buildings will be constructed of Weldon stone, from a design by Father Benedict Williamson, C.S.S.R., of Earlsfield. The Bishop of Northampton will lay the foundation-stone next August.

The competition in Belgium for the Grand Prix de Rome d'Architecture has just been decided. M. de Mel, of Antwerp, was placed first with 81 points; for the second and third places M. Bar, of Ghent, and M. Brossen, of Antwerp, were named equal with 76 points each; M. Van Limputtin, of Antwerp, came fourth with 74 points; M. de Bels, of Antwerp, fifth, 70 points; and the sixth and seventh places were equally divided between M. Smekens, of Antwerp, and M. Sterdiau, of the same city, each with 64 points.

At the last meeting of the town council of Cambridge the public health committee reported that as the contract for the additions and alterations at the infectious diseases hospital had been signed, it became necessary that a clerk of the works should be appointed to supervise the erection of the buildings. The committee therefore gave instructions for advertisements to be inserted in the BUILDING NEWS and the local papers inviting applications for the post at a salary of £4 4s. per week. Twenty-four applications were received, and the committee recommend the appointment of Mr. Ingle Garner, of 99, Victoria-road, Cambridge, who would be able to enter on his duties immediately after the appointment.

The foundation-stone was laid last week at Hereford of the first of three groups of municipal houses for working-men now in course of erection at Hereford. At Edge Mill, 16 houses will be erected—three in blocks of four houses, and two of two. The buildings here will consist of living-room and kitchen, stone larder, coal-place, and w.c., on ground floor, and three bedrooms upstairs. Beside the copper bath will be built against the wall, it is provided with a top, which may be used as a table. On the Mostyn-street site 20 houses are to be built, and on the Crozeus site, four houses. The plans have been prepared by Mr. J. Parker, the city surveyor; Mr. George Field, of Birmingham, is the contractor, and Mr. W. Jakeway is the clerk of works.

Currente Calamo.

Monday's meeting at the R.I.B.A. resolved to empower the new Council to employ the solicitors to prepare a draft of the whole Charter by Registration scheme, to be submitted "informally" to the Privy Council—whatever that may mean. In any case, it will come before a general meeting next session, we suppose, for confirmation. We are glad, anyhow, that Mr. Sydney Perks's amendment was defeated by a large majority, and congratulate the presidents of the allied societies on their large attendance and their successful stand against their limited representation on the Council. Every speech was to the point—especially those of the president of the Manchester Society and Mr. J. A. Gotch. The provincial societies will do well to make their presence and influence still more and more felt. They are the majority, as regards membership, and in many respects they may be relied upon to sustain and encourage progress in a greater degree than the London members. They are also, as Mr. Grayson well put it, the "police" of the central body, and without them the Institute could not long exist. It is, therefore, their right to have the fullest share in the control of its policy.

The negotiations for a sectional settlement of the London Building Trade dispute are proceeding. The Stonemasons have met the London Master Builders' Association twice since our last issue, and on Wednesday night decided to agree to the terms arranged, with one small exception, and will return to work early next week. Nine other unions are negotiating terms. The Wood-cutting Machinists, the Engine and Crane-Drivers, and the Painters' unions have applied for interviews, and the representatives of the two first-named societies will meet the London Master Builders' Association to-day. Meanwhile, readers will do well to disregard the obviously untrue and stupid statements by which the mischief-making militants are still seeking to hoodwink the men, on the one hand; and, on the other, to suspend judgement with regard to the appeal made by Mr. W. Willett, the "Daylight-saving" reformer, to the non-federated London Masters to join him in a lock-out to-morrow week, unless a settlement is arrived at before then. Our own present opinion is that no general lock-out should be attempted without the sanction of the National Federation of Building Industries, and that the non-federated masters will do well to hold their hands till that is given. With some of the fabrications just above referred to the Secretary of the London Master Builders' Association deals effectively on another page.

The monumental muddle of the Income-tax does not only affect the Bank of England, the other banks, and the City all round financially, but it also touches up every man of business. For in payment of ground rents, rack rents, and mortgage interest there is going to be a deal of bother about the right amount to deduct. With regard to half-yearly ground rents, due June, one quarter will be at 1s. 2d., and one at 1s. 3d.; so the best way out seems to be to take 1s. 2½d. for the whole half-year. In reference to mortgage interest, where the half-yearly dates must often fall awkwardly, there will have to be complicated calculations, resulting, if worked out exactly, in decimal

fractions that will end in some short compromise. But this is by no means all. For the Bank of England and others will doubtless deduct the full 1s. 4d. from dividends on stocks generally, as this is the only legal figure, leaving the people to get back what they can from Somerset House, where they stand to make a good deal of money on the many small sums that will not be worth the trouble of claiming. All this confusion arises under the Greater Budget because our Chancellor forgot that the landless Radical millionaires, who have made fortunes out of coal-tar and its by-products, would not have their invested incomes cut into just as if they were only dukes or landed proprietors. And this is the Chancellor chosen by a nation of shopkeepers supported by a businesslike people!

Builders, merchants, and contractors are much interested in the legal meaning of the words "extraordinary traffic," as used in the Highways and Locomotives Act, 1878, which have lately been up for construction in the Courts. For if the passage of locomotives and traction engines with trucks of bricks, stone, and the like, upon a road be held to amount to extraordinary traffic, then the persons causing this traffic can be made liable to the local authorities for large sums in the way of repairs for damage done. The difficulty is to decide when and where traffic of this kind becomes "extraordinary." Thus in a recent case (May 11) the owner of a heavy traction engine dragging trucks loaded with stone from a quarry was held not to be liable for the £1,233 claimed for extra repairs because the road used was adapted to such traffic, and also because the quarrying and haulage of stone was a recognised local industry. But in a later case (May 21) the Court of Appeal declined to decide whether the fact as to the road being, or not being, adapted to heavy traffic was conclusive, as the authorities were conflicting, and each case must depend on its own merits! Here the heavy traffic had been taken down a country lane, because of the tramway on the high road. Of course, the use of traction engines on such a road was in itself extraordinary, and the Court held the parties so doing liable for all costs of repair beyond that caused by the ordinary traffic, and declined to accept the excuse that this lane was the only alternative road for use if the main highway was not available.

Some of the daily papers, as usual, commenting on building developments between Highgate and Hampstead have gone tooth and nail for the Ecclesiastical Commissioners and other adjacent landlords, and prophesied the speedy covering of all the vacant ground which still isolates the two pleasant Northern suburbs from the rapidly-filling regions beyond. They are really prematurely pessimistic. Mr. S. E. Downing protests that the Commissioners have no such proposal under their consideration, nor any scheme for the development of the estates that has not already been pursued for many years. One writer talks about three roads piercing the Commissioners' estate, but really the one which may properly be described is Bishop's Avenue, and that road was constructed by the Commissioners twenty-five years ago, and building development along this road, which traverses the Bishop's Wood, has been very slow, mainly, if not wholly, because the Commissioners have insisted upon a standard of house and

grounds which makes it possible to preserve, in some degree, the sylvan character of the place, and prevents wholesale or unnecessary destruction of the wood. The lease of the two golf courses have still some years to run, and nobody yet knows that the lands are "to pass into the hands of the builders" when these leases come to an end. The Commissioners are, of course, reasonably developing their estate; but they are better landlords than most, and it is only fair to remember that they have made substantial sacrifices to the preservation of open spaces in this neighbourhood; and the Highgate Wood (between the Great Northern Railway and the Muswell Hill-road), now under the control of the Corporation of the City of London, were the gifts of the Ecclesiastical Commissioners to the public in 1886.

The *Engineering Record*, discussing the complex duties of the practice of architecture to-day, says: "Before passing hasty judgement upon the architect of our times, think a moment of the evil days upon which he has fallen. In the Medieval times he must perforce know only the technique of masonry—the rest was his art. If he were building a church the fine stimulus of the Gothic was his inspiration, and his medium was craftsmanship in stone. To-day he must know masonry and concrete, structural steel, and sanitary plumbing, lighting and heating, electric wiring and acoustics. His predecessor did not have to plan for buying his stone from one source; his steel from another, and his woodwork from a third; he was not hounded by agents of patented devices, nor hindered by circulars of supplies offering him the usual architect's commission of — per cent." All these things the architect of to-day has to endure, besides being called a slavish copyist if he turns to the best in antiquity, and a commonplace innovator if he does not. His chief hope is in suiting himself as best he may to new conditions, calling in technical advisers on the details which he cannot in the nature of things have time to master, even if he has the ability, standing the more firmly by the interests of his client as he confronts a regiment of sub-contractors, and remembering that he must be artist before being engineer or contractor. Originality and resourcefulness are much more difficult to find than technical or constructional skill, and if the architect is to be more than a master mason or boss concrete mixer, it must be by the possession of these attributes. Art did not die with the Gothic nor perish with the Romanesque. The times have changed, and the architect must change with them."

Liverpool, like other large cities, is beginning to wonder what it will do with its statuary. The plateau in front of St. George's Hall and St. John's Gardens are quite filled with examples of art in stone, and now the Pierhead is suggested as the site of the memorial to King Edward. One correspondent suggests that statues are no longer of value when the generation which knew the men in whose memory they were raised have passed away, and that a good way out of the difficulty would be to remove the obsolete statues to the outskirts. Another thinks they might be re-moulded up from time to time and utilised for the temporary glorification of newer celebrities, as in some of the waxwork shows.

Building Intelligence.

BISHOP'S STORTFORD.—A Territorials' drill-hall has been erected in Old-road, and was opened on Wednesday week. It is of timber, on concrete foundations, with corrugated iron roof and match-lined interior and its total cost, with the purchase of the land, exceeded £1,200. It contains a drill-hall 60ft. by 30ft.; an indoor rifle-range 100ft. by 12ft. 6in.; armoury, 18ft. 6in. by 14ft., fitted with rifle and clothing racks; armourer's bench and cubboards; orderly room, 14ft. by 16ft.; and men's room, 17ft. 6in. by 18ft.; offices, boiler-house, etc. Its construction has been carried out by Messrs. H. Rooke and Sons, of Cambridge.

ROSEBERY AVENUE.—At the meeting of the Metropolitan Water Board on Friday it was decided that Mr. H. Austen Hall, F.R.I.B.A., whose design for the new central offices to be built in Rosebery-avenue, was accepted by the Board a month ago, on the recommendation of the assessor, Mr. E. Guy Dawber, be appointed architect for the building. We illustrated and reviewed all the six designs submitted in this competition in our issue of June 5. The general purposes committee, in submitting this recommendation, stated that they concurred in a suggestion by Mr. Austen Hall that he should be allowed to rebuild the Oak Room, on the western side of the building, where it could be used either as a committee, members', or chairman's room. The committee added: In the original scheme Mr. Hall provided that two sides of the building should be in stone and the remainder stock brick. Mr. Hall has given further consideration to the matter, and proposes that the three sides of the building which will be seen from the existing public roadways should be in red brick with stone dressings, and they agreed to the suggestion. This alteration will not, Mr. Hall believes, affect the estimated cost of the building. In the report which accompanied his design, Mr. Hall stated that the floors of the corridors would be paved in terrazzo or black and white marble, the board room and committee rooms to have oak floors, and the floors of the offices to be finished in cement for linoleum, and wood blocks in the more public offices. The committee were of opinion that it would be more economical in the long run if the floors of all offices were finished in wood blocks, and Mr. Hall informs us that the additional cost will be about £1,800. On the other hand, if the floors were finished in cement, linoleum would have to be provided at a cost of about £900, and this would have to be renewed periodically. In the committee's opinion, the general scheme of arrangement of the offices which Mr. Hall proposes called for little or no modification. They were unable to suggest any possibility of reducing the estimated cost of the building. The committee's recommendations were adopted, and it was further decided to appoint Mr. Hugh Watkins, of Gray's Inn square as quantity surveyor at a fee of 1½ per cent. on the cost of the building, estimated at £91,059, or £100,000, with architect's fees at 5 per cent., and allowances for contingencies.

Mr. H. W. A. Carter, surveyor to the Matlock Bath Urban District Council, has been appointed town surveyor of Bollington, Cheshire.

Mr. H. L. Bottomley, Brighouse, has been appointed surveyor to the Healden Bridge Urban District Council. There were 61 applicants.

The Dublin Corporation have increased the salary of Mr. P. J. Monks, the manager of the municipal workshops, by £100 per annum.

Albert John Dobb, 31, a plasterer, found guilty, at the Old Bailey, of the murder of his two-year-old daughter at Wimbledon, has been declared insane, and ordered to be detained during the King's pleasure. He had been out of work in consequence of the builders' strike, and this had preyed on his mind.

The corporation of Manchester advertises its intention to apply to the Local Government Board for authority to prepare a town-planning scheme for a large area in the south of the city, thus advancing a little further a scheme which has long been under consideration. The preliminary Local Government Board inquiry will be held in August.

PROFESSIONAL AND TRADE SOCIETIES.

BRITISH MASTER BUILDERS' ASSOCIATION.—The annual excursion of this association was held on Thursday in last week, when about eighty members took part in a motor excursion over the Cotswolds. Among the company were Messrs. F. A. R. Woodward (president) and A. J. Pitt (secretary), G. H. Oatley (president Bristol Architects' Society), C. F. W. Dening (hon. secretary Bristol Architects' Society), Councillor T. Sturge Cotterell (Bath), E. W. Wooster (Bath), Councillor H. F. Cotterell, Councillor A. Dowling, Councillor E. L. Neale (hon. treasurer), and W. H. Taylor (Clerks of Works and Builders' Foremen's Association). Leaving the guildhall, Small-street, at nine o'clock a.m., four torpedo char-a-banes conveyed the party by way of the eastern end of the city to Wotton-under-Edge, Nailsworth, Stroud, Painswick, Cranham Woods, to Birdlip. The first halt was made at Painswick, where the fine church was inspected, and lunch was partaken of at an hotel at Birdlip, from which high-lying village, amid almost unrivalled scenery, the motors proceeded to Cirencester and Bibury. Here for a while the cars were left, and members strolled through the streets of the village, at first visiting the well-kept churchyard and entering the splendidly preserved church, which has Saxon work in its doorways, and has Norman arches. Through the village runs, in placid beauty, the River Coln, a stream which passes through the grounds of Bibury Court, a mansion containing Tudor, Elizabethan, and Jacobean architecture. Its interior is notable for the possession of a fine carved staircase. The greater part of the house was built in 1623 by Sir Thomas Sackville, and was recently purchased by the present owner, Lord Sherborne. The position of the mansion, its exquisite gables and grouping of chimneys, and its surrounding grounds and woods, could not be surpassed. From Bibury the party progressed to Fairfield, where the glories of the stained glass in the parish church were concisely explained by the vicar. The church was built between 1486 and 1497 by one Tame, a wool merchant, and the wonderful stained glass represents—in the west window, the Last Judgment; in the body of the church, the History of the Faith; and in the eastern portion, the Gospel Stories. Visits to the churches of Tetbury and Chipping Sodbury concluded a day of great interest.

LONDON ARCHÆOLOGISTS AT COLCHESTER.—The members of the London and Middlesex Archæological Society visited Colchester on Saturday, when they inspected the Roman and other relics of antiquarian interest under the direction of Dr. Henry Laver. After a municipal welcome at the town hall, the members proceeded to the castle, which has a Norman keep larger than that of the Tower of London. Dr. Laver narrated the history of the castle and of its narrow escape from the hands of John Weeley, the Colchester vandal. He then conducted the members to the crypt, which is now used as a museum, and contains the finest collection of Roman remains in existence. After leaving the castle the members inspected St. Botolph's Priory, the ruins of the first establishment of the Augustinian canons in this country; the gateway of St. John's Abbey; the last abbot of which, John Beche by name, was hanged for opposing the wishes of Henry VIII.; Tymperley's, the birthplace and residence of William Gilbert, physician to Queen Elizabeth and James I. and the father of electrical science; Holy Trinity Church, remarkable for its Saxon tower, in which Roman bricks are used; and the Balkeine Gate, the western entrance to the Roman city.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.—The Board of Architectural Education announce that the designs submitted by the following students who are qualifying for the final examination have been approved:—Subject XIV. (a).—Design for Council Offices: Messrs. G. Allen, W. Allison, J. R. Armstrong, J. Blackford, C. J. Brooks, J. M. Brown, W. Allison, C. Ap-Griffyd, H. Battiscombe, R. Bowes,

T. H. Broomhall, C. W. Callender, L. E. Carreras, H. F. Davies, V. Dyson, T. C. Evans, C. A. Foote, L. S. Ford, A. L. Frazier, B. George, H. F. Gosling, H. Gregory, W. Griffiths, A. B. Hamilton, G. L. Head, J. D. Hossack, J. H. Jacob, C. H. James, H. N. Jepson, L. F. Jones, H. Z. Kassem, G. A. Langdell, E. C. Lavender, G. S. Leadam, S. H. Loweth, A. L. Macmillan, R. S. Moore, W. N. Moscrop, C. L. Pace, N. S. Robinson, C. Rowntree, G. Shennstone, P. N. Stedham, K. Takekoshi, W. E. W. Terrell, H. S. Triscott, H. F. Walker, P. G. White, J. F. Wilson, W. C. Young, H. L. Charles, R. A. Duncan, G. M. Eaton, S. Fernyhough, A. S. Forbes, R. Frater, S. G. Garrett, F. E. Gooder, G. H. Gray, C. Grellier, H. V. Hague, E. J. Hart, G. Hemm, G. B. Howcroft, R. Jackson, T. T. Jenkins, A. G. Johnson, W. O. Jones, M. D. N. Koch, F. C. Langrish-Toye, W. V. Lawton, H. A. Lister, D. R. Lyne, J. B. Matthews, A. L. Mortimer, D. G. Mowat, W. F. Pennington, G. A. Rose, C. D. St. Leger, G. P. Stainsby, A. E. Stott, J. A. C. Taylor, L. D. Tomlinson, J. B. M. Walsh, N. B. Weekes, H. M. Whitehead, N. F. Woodroffe. Subject XIV. (b).—Design for Church Spire: Messrs. F. A. Barley, C. W. Craske, J. Dickinson, M. Hendry, A. H. Owen, J. E. P. Toothill, C. C. Cheek, H. E. Crossland, J. S. Fyfe, K. B. Mackenzie, M. Robertson. Designs for other subjects from the following candidates have also been approved:—Messrs. W. B. Binnie, D. C. L. Derry, W. B. Gosling, I. Omar.

THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.—A general meeting of the members of the above body was held at 31, South Frederick-street, Dublin, on Monday evening, June 29. The president, Mr. R. Caulfield Orpen, R.I.A., was in the chair, and there was a good attendance of members. The discussion with reference to the R.I.B.A. proposed new Charter in place of Registration by Bill, was continued, and the following resolution was passed: "In view of the recent attitude of the R.I.B.A. in relation to the proposed Charter, and the subject of representation which the proposals involve, this meeting would urge the council of the R.I.A.I. to take action in obtaining for this institute permanent and adequate representation on the Council of the R.I.B.A., and to consider the propriety of supporting the principle that every member of the R.I.B.A. should be entitled to register his vote on all questions of architectural policy, without personal attendance at the London meetings." The prize drawings of the R.I.B.A. are on view from July 1 to 10 inclusive, at the Rooms of the Architectural Association of Ireland, 15, South Frederick-lane, from 11 a.m. to 2 p.m., and from 3 p.m. to 6 p.m.

THE QUANTITY SURVEYORS' ASSOCIATION (INCORPORATED).—Mr. T. E. Bare (Messrs. Bare, Leaning, and Bare, 115, High Holborn, W.C.) has been elected president of this association for the ensuing year, and Messrs. Henry Vale, F.S.I. (Wolverhampton), and F. W. Harrison, F.S.I., vice-presidents.

A Roman Catholic church is about to be built on the site of four houses in Lorrimore-road, Walworth, from plans by Mr. F. A. Walters, F.S.A., of Westminster.

Mr. H. G. Norris, auctioneer, estate agent, and builder, of Richmond, who is now Mayor of Fulham, a position he has held for five years, has been chosen as one of the Unionist candidates for Stockport. The other Unionist candidate is Dr. Francis Fremantle, medical officer of health for the county of Hertford.

Mr. W. Collin, Local Government Board inspector, held an inquiry on Thursday night in last week into the application of the Rainford Urban District Council to borrow £2,500 for the erection of fourteen workmen's dwellings. It was stated that land for the houses had been offered for 1s. 2½d. per square yard by Earl Derby, and Mr. Baron, St. Helens, the architect who had prepared the plans, said the cottages could be erected at a cost of £150 each. Complaint was made by several property-owners that private builders could not get land from Lord Derby on the same terms as those offered to the council.

COMPETITIONS.

CANBERRA PARLIAMENT HOUSE.—The conditions governing the competition for the designs for the Parliament House in Canberra, to cost £1,000,000, have now been issued. Designs may be delivered to the High Commissioner up to March 31, 1915. Eight premiums are offered, amounting in all to £6,000, the first award being £2,000. The first competitor will be employed on the initial portion of the building, and probably also in the subsequent stages of construction.

GATESHEAD.—Members of the Society of Architects are requested not to take part in the competition for the proposed new school, King Edward-street, Gateshead, without first ascertaining from the Secretary whether the conditions have been so amended that they can be approved by the Society.

MANCHESTER.—At the meeting of the city council on Wednesday, the sanitary committee submitted for approval a proposal to build a number of semi-detached cottages on the Blackley estate, belonging to the corporation. Fifty-five designs for such cottages, sent in by twenty-six competitors, had been considered, and the committee had resolved—“That, subject to its being ascertained by the committee that the probable cost of satisfactorily carrying out the work will not exceed the authors' estimates by 10 per cent., the premiums offered in the advertisement dated April 6, 1914, for competitive plans, specifications, and estimates for semi-detached cottages on the Blackley estate be awarded to the authors of the following designs: First premium, £50, design No. 28; second premium, £25, design No. 20.”

ROME SCHOLARSHIP IN DECORATIVE PAINTING.—The Royal Commissioners for the Exhibition of 1891 have this year awarded the Rome Scholarship in Decorative Painting to Mr. John Miles Bourne Benson, on the recommendation of the Faculty of Painting of the British School at Rome. Mr. Benson is twenty-five years of age, and studied at Dulwich College and the Slade School. The other candidates chosen to compete were Miss G. D. Davison, Mr. T. Derriek, and Mr. S. Woods-Hill. The scholarship is of the value of £200 per annum, and tenable at the British School at Rome for three years. For this competition this year the Faculty selected “The Judgement of Paris” as the subject to be executed in oil or tempera on a panel measuring 7ft. by 5ft. A cartoon done for the decoration had also to be submitted. The Faculty of the British School at Rome, who conduct the competition for the Scholarship in Painting, consists of Mr. George Clausen, Mr. A. S. Cope, Sir Charles Holroyd, Mr. Dermot O'Brien, Sir Edward Poynter (chairman), Sir William Richmond, Mr. Charles Ricketts, Mr. J. S. Sargent, Mr. Charles Sims, Mr. P. Wilson Steer, and Mr. Henry Tonks. The work done in the final competitions in each section will be exhibited at Crosby Hall during the week beginning on Monday next, July 6.

A Select Committee of the House of Commons sanctioned on Wednesday a provisional order under which the Corporation of Deal seek power to construct a pier and marine pavilion at an estimated cost of £8,600.

The Ilkley Town Hall buildings have now been completed by the erection of a winter garden on the west, connected with the King's Hall, which was formally opened last week. The architect of the winter garden is Mr. Henry West, building inspector under the council, and outwardly it is in harmony with the rest of the town-hall. The length of the new portion is 117ft., and the width varies from 53ft. in front to 35ft.

The following appointments by Boards of Faculties have been approved by the General Board of the Faculties and by Convocation of Oxford University:—Guy Dickens, M.A., Fellow of St. John's College, as University Lecturer in Classical Archaeology, in succession to L. R. Farnell, M.A., D.Litt., Rector of Exeter College; John G. C. Anderson, M.A., student of Christ Church, as University Lecturer in Roman Epigraphy; and E. A. Loew, Ph.D. Munich, as University Lecturer in Palæography. The examiners for the Diploma in Classical Archaeology have awarded the Diploma to Stephen A. Wadsworth, B.A., Magdalen College.

Correspondence.

THE LONDON BUILDING TRADE DISPUTE.

To the Editor of the BUILDING NEWS.

SIR,—Certain interested parties seem to have given free rein to their imagination in disseminating, through the Labour Press, detailed descriptions of disputes and antagonisms within the ranks of the London Master Builders' Association.

These statements have hitherto been ignored; but, lest the public, or the workmen in particular, should be misled or deceived, I beg to claim your indulgence to state that all such representations are not only inaccurate, but, I fear, wilfully so, and there is no foundation whatever for such malicious reports.

Both at the meetings of the Council and at the general meetings of this Association, all decisions have been practically unanimous, and there has been no conflict or antagonism whatever—in fact, it is difficult to imagine how any dissensions could arise on the particular points at issue.

Much misconception also apparently exists as to the attitude of the London Master Builders' Association towards trade unionism. It has been represented that the L.M.B.A. desires to secure the advantage of employing non-unionists at lower wages than trade unionists, and that for this, or some other reason, favour or preference is shown to non-unionists, and endeavours are made to check the propagation of trade unionism, which is resented by the trade unions.

In order to remove any such erroneous ideas, a statement of the principles which guide the L.M.B.A. on this subject may be of service at the present juncture.

The L.M.B.A. offers no objection to the fair and peaceful propagation of trade unionism—that is to say, that the unionist workman should be quite at liberty to impress upon his fellow-workmen his arguments and views on trade unionism (and, vice versa, the non-unionist should be at liberty to do the same), provided, of course, that such discussions do not interfere with the progress of work.

The L.M.B.A. objects only to coercion and persecution being exercised on either side, and cannot consent to any of their workmen being driven from employment, or maltreated, because of the attitude they may see fit to adopt on the question of trade unionism.

The L.M.B.A. shows neither favour nor prejudice on either side; both are equally eligible for employment; both are paid the same rate of wages, and work under the same terms and conditions as to hours of labour, overtime, etc.

If, by fair and reasonable argument, the trade unionists can convert all non-unionists to their views, and by such means the non-unionists were eliminated, the L.M.B.A. would accept the situation with equanimity. They stand for “fair play and no favour,” and any representations to the contrary are both unjustifiable and incorrect.—Faithfully yours,
S. B. DEPREE, Secretary.

London Master Builders' Association,
Koh-i-Noor House, Kingsway, W.C.

THE ARCHITECTURAL STAFF OF H.M. OFFICE OF WORKS—THE REPORT OF THE HOLMES COMMITTEE.

SIR,—The recommendations of this committee show all the way through a tinkering with the organisation, such as the reduction of the architectural staff by a branch, and the change from one principal architect to three. There is no real grasp of vital principles, except perhaps the recommendation that the whole of the staff of the Office of Works should be brought together into one building, and to have come to this conclusion should not have required the combined wit of the Chairman of the Board of Works, Dublin, with a salary of £1,500, the Assistant Secretary of the Office of Works, London, with a salary of £1,100 and a first-class clerk

in the Treasury. One recommendation stamps the remainder of the report at its true value—a concoction by an engineer and two laymen bent on cutting down expenses at all costs. It is worth quoting in full.

“Architectural Assistants, Draughtsmen, and Technical Assistants.—All members of these classes, including those engaged upon purely technical work other than drawing, to be brought together, as soon as conditions of accommodation permit, into one central drawing office in charge of a first-class assistant architect and surveyor assisted by qualified architectural assistants.” (Page 29, xviii.)

“With the principle laid down when the scheme was introduced—viz., that in future the Drawing Office should as a rule be manned by young men temporarily serving in the office and discharged at the age of 30, we are in general agreement, though we doubt whether that age is not too advanced.” (Page 19, para. 79.)

So it is proposed that a gentleman with a salary of from £350 to £450 shall be the real principal architect for half a million worth of new work yearly, while there will be three Office of Works principal architects with salaries from £800 to £1,000, and nine architects at salaries from £550 to £750. Whether the designing of new works is to be divorced from the supervision of them is not clearly stated. If it is not, the only work left for the architects will be that of maintenance surveyors in charge of painting, whitewashing, chimney sweeping, and window-cleaning. If it is, the result will be chaos.

One can imagine our foreign visitors being taken, as one of the sights of London, into a magnificent hall some 250ft. by 50ft., to see official architecture being “turned out.” Another step forward to the Ministry of Fine Arts! The process will be somewhat as follows:—The “principal architect” with the salary of £350 to £450 will every morning call on the heads, for the future misnamed architects, of the different branches for orders. Orders by post and telephone will also be promptly attended to. Amid the din and confusion of that vast hall he will then proceed to allocate the work; the plan of a Labour Exchange will be given to a young man of twenty-three, the elevation of a Government office to the neo-Greek expert of twenty-seven, while a new consulate at Timbuctoo will be given to the junior of eighteen years, as the professional papers will not be able to criticise that work of art.

But what understanding of architecture can one expect from an engineer, however eminent, and two lay officials? Point is given, by the memoranda at the end of the report, to this lack of understanding due to the composition of the committee. Where the engineer, as a technical man, really makes a good suggestion—that the technical side should be represented on the board—the two lay officials, with the conceit of their class, unite to crush it; for to their minds a lay board is perfectly capable of appreciating technical differences and of settling difficult technical problems. So with architecture; only here, of course, the lack of understanding is trebly intensified. Later, after another eminent engineer has sat in committee, it will be found more economical to have sheets of stock features from which elevations may be set up mechanically after the different types have been specified by number.

The whole report is wordy and indefinite, and not always grammatical. The employment of the private practitioner on new works is to be decided by the circumstances in each case, the circumstances being the nature and position of the building, the talent at the disposal of the office, and the amount of work in hand. There is, therefore, small hope for the private practitioner. By the time Government officials have acquired enough modesty to decide that they have not sufficient talent, the present generation, at any rate, will have passed away. It is something that it is recognised that it requires talent to design buildings. Who does the designs does not appear. As “the design and supervision of new buildings . . . occupies (sic) a comparatively subordinate place in the work of the Board's

architects" (para. 26) and the assistant architects (paras. 54-61) and technical assistants (para. 70) are not mentioned as performing either of these important functions, while the duties of draughtsmen "are confined to drawing, though some prepare specifications and a few are employed now and then to make minor surveys," it is difficult to see how the architectural work of the office is done. Perhaps, as with the man in the street, the committee (one engineer and two laymen) view an architect's principal work as "drawing."

The present discontent of the temporary staff is admitted and minimised. The cause of it is said to be the fact that the established and unestablished officials in many cases perform the same duties, and the remedy recommended is an increase of twenty-seven posts in the established architectural assistant class. Seeing that this class was only created nine months before the date of the report, and even less time before the investigation of the committee, it may be safely affirmed that the discontent, which, as the report says, "has been serious in the past," does not arise from the fact that the temporary staff perform the same duties as the established architectural assistants. The remedy proposed is therefore no remedy, but only a palliation, or rather a soporific, for once in that class all hope of further promotion has gone. One cause of the discontent is probably the opinion of their status held by the lay governing officials of the office, as illustrated by the travestied account of draughtsmen's duties quoted above. There is an ominous resemblance between the name of this report and another now famous one: Holmes, Holt; Holt, Holmes. As Mr. Ramsay MacDonald said with reference to the other, "It was against the best interests of the country to allow grievances to accumulate until strikes were threatened or until agitation became hot and furious, and unreasonable pressure was exerted." (The Times, June 11, 1914). It would seem as if the Holmes Committee, by their recommendation of a central drawing office, were bent on affording every facility for such courses.—I am, etc., A.R.I.B.A.

WATER SUPPLY AND SANITARY MATTERS.

METROPOLITAN WATER BOARD.—At the meeting on Friday of the Metropolitan Water Board, the Works and Stores Committee reported that tenders would shortly be adjudicated upon for the construction of reservoirs Nos. 6 and 7 at Littleton, and that the chief engineer informed them that it would be necessary to proceed with the following additional works, which will be necessary on or before the completion of the first of the two storage reservoirs, viz.: (a) New pumping main from Kempton to the Horsenden Hill reservoir, with trunk mains to Ealing, Will-shen, Cricklewood, and beyond; (b) new filter-beds at Kempton; (c) all pumping machinery and buildings to contain same; (d) covered service reservoir at Horsenden Hill; and (e) conduit from the Littleton reservoirs to Kempton and Hampton. They recommended that tenders be obtained for carrying out these supplementary, the expenditure upon which is estimated at £806,900, in addition to the anticipated outlay on the two reservoirs at Littleton. These recommendations were adopted. It was reported to the Board that the contract for the engine-houses at Walton on Thames had been completed by Messrs. Dick, Kerr, and Co., Ltd., at a total cost of £77,916 10s. 11d. The Works and Stores Committee further reported, and with regret, that Mr. Sidney Marsland, assistant district engineer, Kent district, who would complete thirty years' service on August 5 next, and had proved a valuable officer to the Kent Waterworks Company and to the Board, was retiring owing to ill-health.

The Devon County Council have appointed Mr. R. M. Stone, of Wells, as county surveyor for the Barnstaple division.

Lord Sydenham opened at Haileybury College on Thursday in last week the new Big School, the foundation-stone of which was laid two years ago by Princess Henry of Battenberg. The additions have been made from plans by Mr. John W. Simpson and Mr. Maxwell Ayrton, and were illustrated in our issues of August 23, 1912 and October 24, 1913.

LEGAL INTELLIGENCE.

IMPORTANT FINANCE ACT APPEAL.—(Walter Morrison, Esq., v. Commissioners of Inland Revenue: Re Pen-y-Ghent Farm, Malham, Yorks).—This case raised important questions as to whether, in arriving at the full site value of agricultural and moorland properties, the land should be deemed to be divested of, inter alia: (a) the grass and heather growing thereon; (b) the stone walls used for the purposes of shelter, as well as for the purposes of boundaries and division; and (c) whether the value for agricultural purposes should include the value of the sporting rights. In the Award, printed below, the referee has decided: (1) That the farm should be treated as divested of grass, heather, and everything growing thereon, and he reduces the official full site value from £7,110 to £1,200; (2) that the land should not be considered as divested of the stone walls (which are about eleven miles in extent); and (3) that the value of the sporting rights should not be included in the value for agricultural purposes. The ultimate result of the Award is that the official assessable site value of the farm is reduced from £6,850 to £940.

DECISION OF REFEREE.

The decision on the appeal in respect of which the annexed notice of appeal has been given is as follows:

1. The item 1 in the provisional valuation (gross value) should be £7,660 instead of £8,060.
2. The total value should be £7,400 instead of £7,800.
3. The items 2 and 12 are insufficient, and should respectively be £6,460 instead of £950.

In arriving at this amount of £6,460 I have included in it (a) the grass and heather and all things growing on the farm, and (b) the farmhouse and farm-buildings, together with the walls enclosing the garden and fold-yard used in connection with the farmhouse and farm-buildings respectively, and also the outlying buildings on the farm, consisting of a shooting-but and a lambing-shed, and a barn and cowshed on the part of the farm called Blishmire; but I have not included the dry stone walls which form the boundary fences of the farm, and the division fences between the various enclosures of the farm. If these walls ought to have been included, the above amount of £6,460 would have been increased by £700. The various buildings and structures referred to by me, or typical parts thereof, are shown on the two sets of photographs signed by me as exhibits at the request of the parties to the appeal as follows—viz.:

- (a) Seven photographs marked "W. M." put in before me on behalf of the appellant;
 - (b) Nine photographs marked "I. R." put in before me on behalf of the respondents.
- The farm is described on the Ordnance map signed by me, and is thereon shown by being coloured round with red.
4. The full site value should be £1,200 instead of £7,110.
 5. The deduction for tithe-rent charge should be £260.
 6. The assessable site value should be £940 instead of £6,850.
 7. The value of the sporting rights is £2,100.
 8. The value of land for agricultural purposes should be £5,300 instead of £5,700.
- Dated this 19th day of June, 1914.

J. M. CLARK.

BUILDER SUED BY BOARD OF TRADE.—(Insurance Deducted: No Cards Stamped).—An Insurance Act case in which the Board of Trade were the plaintiffs was heard at Worthing County-court on Monday. Mr. Pinker, a local builder, was sued for 19s. 2d., contributions paid under the Act. The solicitor who appeared for the Board of Trade said the money was due from the defendant in respect of unemployment insurance. Practically half the amount was deducted by the defendant from the weekly wages of his workmen; but he did not put the stamps on their cards, and had benefited by half the sum mentioned. Two witnesses who gave evidence said they had been employed by the defendant, and had had to complain to the Board of Trade. It was said that the money had been paid into court during the morning, and the judge gave costs against the defendant on the higher scale, holding that the case was one of public interest.

DAMAGES FOR BREACH OF CONTRACT.—In the Manchester County-court on Monday, before his honour Judge Mellor, K.C., Messrs. William Moss and Sons, Ltd., contractors, of Queen's road, Loughborough, sued Messrs. E. Cheve Porteous Ltd., manufacturers, of Market-street, Manchester for £17 5s. as damages for breach of contract. Sir W. Cobbett was solicitor for the plaintiffs, and Mr. Merriman

counsel for the defendants. The plaintiffs' case was that in connection with a contract they had to erect a county asylum at Stannington, Northumberland, at a cost of £80,000. The defendants sub-contracted to supply a quantity of steel strips used for protecting pipes. As they would not be required until the pipes were laid and tested, the date of delivery was postponed, and when a request was sent for them Messrs. Porteous declined to supply them except at current prices, which were higher than at the date of the sub-contract. The defence raised was that the request was so different from the original contract as to constitute a variation of it. Originally, the strips were to be in four widths, whilst the request was for the strips to be cut into eleven different widths. This necessitated additional cost in both material and labour. Mr. Merriman also submitted that, in any event, the rise in prices was only small, and that the claim had been exaggerated. Whilst the defendants were to supply the goods at £13 15s., the plaintiffs actually paid £31 in buying against them.—Judge Mellor, K.C., held that in accepting the lowest price they could get the plaintiffs had done all that could be expected of them, and gave judgment for the amount claimed, and costs.

RESTITUTION SUIT BY ARCHITECT'S WIFE.—In the London Divorce Court on Friday the Hon. Mrs. Eleanor Charlotte Wade Palmer, grand-daughter of the twenty-fourth Baron de Ros of Standford, Co. Down, was granted decree of restitution of conjugal rights against her husband, Mr. Aubrey Nugent Wade Palmer, architect. The suit was undefended. Counsel stated the parties were married eight years ago, there being two children. Last February the husband wrote saying it was impossible to live together again. His wife asked him to return, but he refused.

PARLIAMENTARY NOTES.

LAND VALUATION DEPARTMENT.—On the taking of the vote on Tuesday, of £1,287,320, for the Inland Revenue Department, Earl Winterton asked for an explanation of the increase of £170,000 in respect of the expenses of the Land Valuation Department. He wanted to know on what principle the junior valuers were selected. Mr. Lloyd George said the valuers were now entering on the valuation of hereditaments which were a considerable distance from the central office, and therefore their travelling expenses had naturally increased. He did not think that £11,000 was a very large sum for the cost of appeals, considering that 8,000,000 hereditaments had already been valued. As to the duties of the valuers, he agreed that the valuation of the land of the country was a difficult operation, which required the services of men of skill and experience. The junior valuers did a great deal of reference and clerical work. They had to pass the examination of the Surveyors' Institution or of the Auctioneers' and Estate Agents' Institute. As to the qualifications of valuers, a first-class valuer must be a Fellow of the Surveyors' Institution, and a second-class valuer was normally required to be an Associate of the Surveyors' Institution.—Mr. Royds complained that the Chancellor of the Exchequer had never stated plainly whether drainage reclamations and other similar improvements were to be included in site value. The House was left in ignorance, and the public had to fight costly legal contests to ascertain the law. Another question upon which he desired information was as to the effect which this Valuation Department had had upon estate duty.—Replying to Mr. Rupert Gwynne, Mr. Montagu (Secretary to the Treasury) said it was proposed that all clerks to surveyors of taxes should be put on a permanent and pensionable establishment. It was proposed to discontinue entirely the employment of boy labour, and the existing boy clerks would be absorbed into the new organisation. They also proposed to re-classify the staff on improved scales of pay, and to make further concessions in the matter of counting unestablished service towards superannuation. These things would mean an improvement of something like 60 per cent. on the present conditions of remuneration and pensions combined, and would begin from last April 1. In the end the Vote was agreed to.

The Manchester City Council decided on Wednesday to expend £21,000 on extensions at the Municipal School of Technology.

The town council of Ipswich have adopted a scheme for building workmen's houses at a cost of £1,400, and the public health committee have been authorised to carry out the proposals. The town council have accepted the gift of a site in Northgate-street for the proposed central library.

Our Office Table.

The Local Government Board have given authority for the preparation of five further town-planning schemes under the Housing and Town-Planning Act, 1909. The schemes are authorised to be prepared by the corporations of Huddersfield and Tynemouth and the urban district council of Barnet. In the case of Huddersfield three schemes are authorised to be prepared relating to areas of 1,071, 913, and 310 acres situate within the borough. In that of Tynemouth the scheme is to extend to an area of 945 acres situated partly in the borough and partly in the urban district of Whitley and Monkseaton. In the application on behalf of Barnet the scheme is to apply to an area of 2,213 acres in the urban district.

The office of land steward and surveyor to the corporation of Liverpool, vacant by the retirement of Mr. Shelmerdine, has been, subject to ratification by the city council, filled by the selection of Mr. Albert Jenkins, at present estate agent and valuer to the corporation of Swansea. For this important post, which carries a commencing salary of £1,200 a year, there were some forty applications. These were dealt with by a sub-committee, who reduced the list to three—namely, Mr. Jenkins and two local applicants. Mr. Jenkins is forty-two years of age, and is a fellow of the Surveyors' Institution, a member of the Auctioneers' and Estate Agents' Institution, and of the Royal Sanitary Institution. Formerly in private practice in Swansea, he has had considerable experience of estate development, building, and management, and has had charge of large transactions in all classes of property, ranging in value from £100 to over £10,000. For the past three years he has managed the Swansea Corporation buildings and landed estate, the latter comprising over 1,000 acres, with a rental of about £18,000 a year, besides 645 acres belonging to the education committee. He has advised the corporation in respect to a development scheme for the Town Hill estate, eventually to cost over £300,000, plus a tramway scheme to cost about £50,000, and various housing and drainage projects. Mr. Jenkins is also consulting surveyor to the King Edward VII. Welsh National Memorial, and surveyor to the joint committee of the Swansea and Merthyr Tydfil Asylum and other public institutions. He designed the first open-air school in Wales.

At the last meeting of the Middlesex County Council, the Highways Committee, reporting upon the question of the remuneration of the county engineer and surveyor, pointed out that in connection with the Great West road a large amount of extra work had already been thrown upon that official, and in the event of the Bill now before Parliament becoming law, a great deal of additional work would be cast upon him in connection with the construction of the road, acquisition of property, and other matters incidental to the work. Mr. W. T. Wakelam was appointed in 1898 at a salary of £700, rising to £850, by annual increments of £25. In 1900 and 1902 there were further increases, and the amount of Mr. Wakelam's salary was £1,400. The committee recommended that this should be increased to £1,600, rising by £50 to a maximum of £1,800. The consideration of this matter was referred to the Council sitting in committee after strong protests had been made against the exclusion of the Press and the public. On a vote being taken, 27 voted for and 19 against the exclusion. The committee's recommendation was adopted.

At the same meeting it was decided, after much discussion, by a large majority to sell to Olympia, Limited, West Kensington Gardens, Hammersmith, for £23,000 for the benefit of the Latymer Foundation at Edmonton. The property comprises fifteen houses, and is part of the estate of the Foundation vested in the Middlesex County Council as trustees under the scheme of the Board of Education. The ground rent, which falls in in 1953, amounts to £153 per annum. The Highways Committee reported that in connection with the proposed improvement of Richmond Bridge, they had conferred with

representatives of the Surrey County Council, and as a result it was considered possible to devise a scheme at a moderate cost to widen the bridge and improve the approach on the Surrey side, whilst retaining the artistic beauty of the structure. As a preliminary it will be necessary to put down test pits for the purpose of closely inspecting the foundations of the bridge. This will cost £700, each county authority contributing one-half. The recommendation was carried.

The question of the respective merits of the reciprocating and turbine types of motor fire-pump has caused considerable controversy at Preston, where for some time past the town council has had under consideration the question of purchasing two motor fire engines. Numerous tests have been witnessed with each type of pump, and in the case of the turbine design an outside expert reported on the trials. The matter was finally settled at the council meeting on Thursday last, when it was decided to order two "Hatfield" motor fire-engines, fitted with reciprocating pumps, from Messrs. Merryweather and Sons, of London. The chairman of the streets and buildings committee said that the reciprocating principle in the Merryweather machine gave it a decided preference in the committee's view, and later inquiries, inspections, and demonstrations had confirmed that view. They had not gone for the cheapest machine in price, for the best would prove the cheapest. The new engines will be capable of pumping 450—500 gallons per minute, and will each carry a 60ft. fire-escape and a chemical cylinder for throwing a "first-aid" jet. Of the Lancashire brigades possessing motor fire-engines, the majority have machines of the "Hatfield" design.

Bulletin 71 of the University of Illinois is a valuable record covering 240 pages of tests of bond between concrete and iron, conducted by Mr. Duff A. Abrams. There are 86 illustrations. The issued price is one dollar, and it can be obtained in this country of Messrs. Chapman and Hall, Henrietta-street, Covent Garden. The tests described, it is claimed, have thrown considerable light on the value of bond resistance and the distribution of bond stress for a wide range of conditions in both beam and pull-out tests. It may not be expected that all of the results indicated can be applied without modification to members in which the conditions of stress differ widely from those present in the tests. Most of the discussions and conclusions are based on comparisons involving the load-slip relations. In a few of the tests the bond stress was determined from a study of the variations in the tensile stress in the reinforcing bar. The latter method furnishes a much more direct means of measuring the bond stress, but it has been available only since the recent development of a non-fixed extensometer. Additional tests are planned which are expected to give further information.

Disintegration of concrete and corrosion of reinforcing metal were the subjects of a report of the masonry committee of the American Railway Engineering Association presented at the recent annual meeting. Four conclusions, detailed in the report, are as follows:—(1) That concrete exposed to the action of sea or alkali waters or gases containing sulphur, or in which reinforcing metal is embedded, should be dense and rich in Portland cement, and should be allowed to harden under favourable conditions; (2) that concrete in contact with alkali waters should be made with aggregates inert to the alkalies in the water; (3) that cinders should not be used for concrete in which reinforcing metal is embedded; and (4) that reinforcing metal should not be painted, but should be thoroughly covered and protected with concrete when in place.

In order to preserve buildings which have not originally been properly damp-proofed, a method of insulating them against dampness has been devised by a German engineer. It consists in sawing a slot in the foundation wall just above the ground line and introducing in the slot asphalt-coated lead plates. A special machine has been designed to saw the masonry, producing a kerf

about one inch wide. As the work is done progressively, the plates being introduced as the sawing proceeds, the stability of the building is not endangered. However, to prevent any possible accident, conical iron cramps are introduced in the saw kerf. After the introduction of the insulating plates the slots are closed with temporary wooden forms, and then they are grouted with liquid cement, which completely fills them and any gaps still left open. The cement adds to the insulation, and the wall is thus thoroughly protected against creeping of moisture from the ground upward. To dry out the walls over the insulating plates, a special stove is provided.

There has been invented by a Philadelphia, Pa., mechanic a machine to clean used brick that will cut the cost to half, or even a third, of that of the old-style method of cleaning by hand. The method of operation is to put the brick into the jaws in the front of the machine, which grasp it and move it sideways over the corrugated surface. This cleans the end of the brick, and at the same time the two broad sides at top and bottom are cleaned for about two inches, back of the end. The partially cleaned sides are then inserted between two projecting opposed blades of a four-sided die, and a plunger at the other end of the brick comes forward and pushes the brick through. The upper plate of the die is movable and adjusts itself automatically to the thickness of the brick. The sides, as well as the bottom and top of the brick, are thus cleaned all at the same time. The machine is 4ft. long and weighs 400lb., so that it is readily portable. It is placed upon a platform or truck, so as to be about breast high. It can be operated by either one or two men, and with an engine of 2½ H.P. its capacity is fifteen bricks a minute. It can be adjusted to work slow or fast, as desired.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (To-day).—Institution of Municipal Engineers, Council Meeting, 7 p.m.
Smoking Concert, 8 p.m. Mitre Hotel, Manchester.

SATURDAY (To-morrow).—Institution of Municipal Engineers at Manchester. Visit to Stalybridge and the Filters and Waterworks at Brashes and Ashway Gap, 1.55 p.m.
Edinburgh Architectural Association. Visit to Oxenford Castle.

Mr. Herbert L. Bottomley, assistant borough engineer, Brighouse, has been appointed surveyor and waterworks manager to the Hebden Bridge Urban District Council.

A scheme was suggested at Friday's meeting of the Middlesex County Council for dealing with floods by the construction in the Thames of "by-passes," the removal of shoals, and most of the islands, sharp bends, etc. The total estimated cost was £300,000; but the council disapproved of the scheme.

The statue of King Edward VII., which has been erected in Victoria Park, Leith, will be unveiled to-morrow (Saturday) afternoon. The statue is in bronze, and is 8ft. 9in. in height; it shows the monarch arrayed in the robes of a Knight of the Thistle. It stands on a pedestal of white Kenyan granite, of Classic design. Mr. J. S. Rhind, of Edinburgh, is the sculptor.

At the meeting of the Salford Town Council on Wednesday next, the Finance Committee will bring forward a recommendation that advertisements be issued inviting applications for the position of borough engineer and surveyor at a salary of £900 per annum, rising by biennial advances of £100 to a maximum of £1,100 per annum. A new schedule of duties for the position has been formulated, and the council will be invited to adopt it.

The members of the Leeds Corporation on Monday paid their annual visit of inspection to the Leighton reservoir works, in the Ure Valley, above Masham. The Leighton Reservoir, the construction of which was begun in 1908, is the first of a chain of four reservoirs authorised for Leeds in the Ure Valley. Its completion is expected in about eighteen months' time, and it will provide 4½ million gallons of water daily for Leeds. The works are being carried out from plans by and under the direction of the waterworks engineer, Mr. C. G. Hensell, and his chief assistants, Mr. J. K. Swales and Mr. H. Shortreed, the contractors being Messrs. Arnold and Son.

Trade News.

WAGES MOVEMENTS.

DUNDEE.—At a meeting of Dundee operative plumbers on Saturday, it was intimated that the Master Plumbers' Association had resolved to rescind the by-law which gave rise to the dispute. In terms of this by-law a notice was posted intimating that the federated employers would not engage any operative who after June 22 worked for any employer who was not a member of the Masters' Association. Work was consequently resumed on Monday morning.

EXETER.—The dispute in the building trade of Exeter still continues. The painters and carpenters have accepted the additional 3d. per hour which the employers offered, in place of the penny extra, which was asked for; but the bricklayers and plasterers refused, and held out for their additional penny, making the demand, also, that certain alterations should be made in the rules of working. The notices having expired on Tuesday evening, the bricklayers and plasterers went on strike the next morning. They are willing to accept a 3d. per hour now, if the employers will guarantee them another 3d. in October. They state that 8d. per hour, the present rate, does not average more than £1 a week after deductions have been made for lost time, and that 8d. is low, even for the West of England.

FALKIRK.—Joiners employed in Falkirk district went out on strike on Friday as the result of a dispute on the question of wages. Some time ago the workers, whose present wages are 9d. per hour, requested an increase of 2d. per hour. The employers refused to concede this, and offered 3d. Subsequently the men's demand was reduced to 1d.; but the employers decided to hold to their offer.

The engagement is announced of Lady Bamford-Slack, widow of Sir John Bamford-Slack, formerly Liberal M.P., for Mid-Herts., with Mr. Banister Flight Fletcher, F.R.I.B.A., F.S.I., eldest son of the late Professor Banister Fletcher.

The Lindsay Institute, Lanark, was opened on Thursday in last week. The institute has been built and endowed with money left for the purpose by the late Mr. Charles Lindsay, of Ridge Park, Lanark, and has cost over £5,000. In the building are a lending library, reading-room, museum, reference-room, lecture-room, billiard-room, and librarian's room.

At the meeting of the Council of the East London College (University of London), held recently, it was announced that the Court of the Drapers' Company had resolved to defray the cost of the erection and equipment of the new chemical laboratories of the college. The cost will amount to approximately £15,000, and the laboratories will be available for students' use in October next.

The first sod was cut on Monday on the site of the new church of St. Peter, Goosehill, Stretford, about to be built at a cost of £6,750. The church will be Free Gothic in style, height 36ft., length 110ft., and width 34ft. The plans have been prepared by Mr. Ernest Woodhouse, F.R.I.B.A. (Messrs. Woodhouse and Howard, architects, Manchester), and the tender has been let to Mr. J. F. Moore, Eccles.

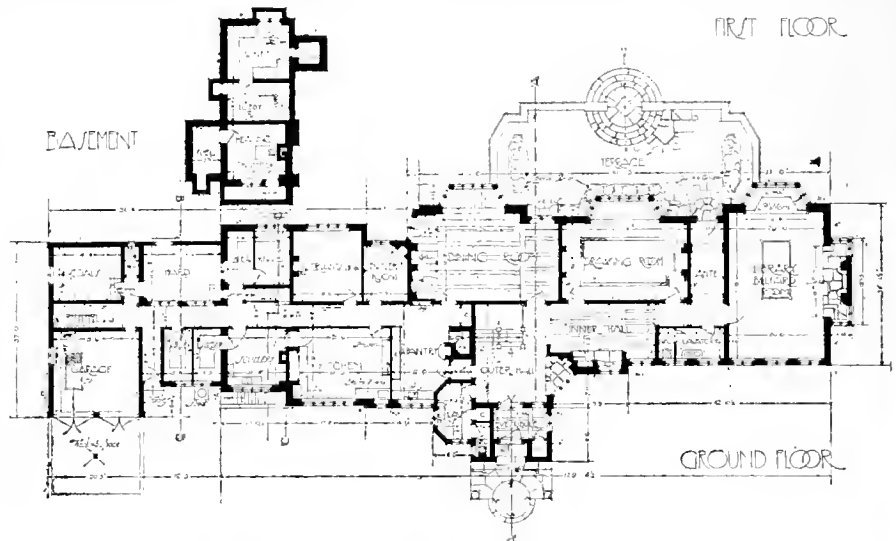
The Lord Mayor of Birmingham on Saturday opened a new suite of cottage baths erected in Lower Dartmouth-street. The building makes the fourth of this type of establishment installed by the City Council. Accommodation is provided in the centre of the block for the attendants in charge, the right wing being provided with eight private baths for women, and the left with sixteen for men. The cost of the site, buildings, and equipment is estimated at £3,005. There is a sufficiency of land for the addition, if necessary, of seven additional baths for men and three for women. Messrs. Webb, of Birmingham, were the builders.

In regard to the proposed motor relief-road between Thornton Heath and Purley, by which through traffic will be able to avoid the narrow main street of Croydon, the Road Board, in addition to the £30,000 originally promised, now offers £19,000 to cover the cost of widenings at each end of the new thoroughfare, which will be nearly four miles long and will average 60ft. in width. The cost to the Croydon ratepayers is estimated at £19,743, and in the event of that amount being exceeded the Road Board will consider favourably any application made for a grant to cover the excess. At the same time, the Ecclesiastical Commissioners have conditionally increased their offer of £5,000 to £7,000.

Our Illustrations.

THE NEW ST. PAUL'S BRIDGE, LONDON.

Last week we gave illustrations of all three of the premiated designs in this competition, and to-day we publish the general drawings of the first prize scheme, by Mr. G. Washington Browne, R.S.A., and those of the second prize design, by Mr. Charles E. Barry, A.R.I.B.A. In our review of all the designs last Friday reference was particularly made to the perspective view of Mr. Washington Browne's bridge piers, and this drawing we have included among our plates to-day. It will be noted by the general drawings how the author has arranged his pylons at the City extremity of the bridge, with the adjacent obelisks forming a befitting composition to mark the "Place" at the termination of the approach from St. Paul's Churchyard, where sculpture occupies the twin niches level with the eye of pedestrians. The stairways on the Surrey side of the bridge, shown by our double-page perspective illustration last week, are seen in geometric elevation and plan to-day, as well as in the sectional drawing set out over that as further illustrating the position of the pylons at the northern end, from whence a view of the river and bridge can be so well obtained. The relative levels of Queen Victoria-street, Lambeth Hill, and Upper Thames-street are given by the section depicted below the



HOUSE AT ST. GEORGE'S HILL, SURREY.

Messrs. CASTLE and WARREN, Architects.

general plan of the bridge, while to the left of the sheet may be seen the shops in the abutment buildings to the iron viaduct over Queen Victoria-street, with the pair of open stairways accommodating the ground lines of these several levels in Queen Victoria-street and Lambeth Hill at the points where the public staircases occur. The plan below the approach level plan explains the situation of these stairs, bridges, and shops. It is only by examining these details carefully that the relative merits of this first premiated scheme can be adequately compared with the other designs. A sweeping generalisation or concise criticism is entirely beside the mark, and, of course, must be more than misleading. Mr. Washington Browne has designed his bridge to be built in granite, the abutments and contiguous details being planned for execution in Portland stone. The skyline of the parapet is slightly cambered, and when built will look, no doubt, perfectly horizontal. Our second double-page illustration is devoted to the further representation of the £200 premium design by Mr. Charles E. Barry, A.R.I.B.A. His general perspective of the bridge was given last Friday. Below the whole length elevation and plan reproduced to-day is a detail of the central span showing more fully the arrangement of the covered-in colonnaded ways for pedestrians on each side of this bridge. The sec-

tion at the side makes the arrangement of these features all the more clear, besides representing the contour of the projecting bastions, which necessarily assert themselves when seen in perspective. The north end abutment building, with the public conveniences on top, is displayed by the general drawing of the façade of the whole bridge, and section A B gives an idea of the projection of the colonnaded approach from the bridge pavements to these lavatory buildings, which flank the entrance to the bridge from Cannon-street and St. Paul's Churchyard. At an early date we shall publish details and views of the third premiated design, by Mr. Edward R. D. Selway, A.R.I.B.A., whose perspective of his piers and arches will be found among our previous illustrations.

APLEY GRANGE, HARROGATE.

This work is now nearing completion. The materials used for house, lodge, stables, and garage are sand-faced bricks and green slates, sash windows, and shutters. The architect is Mr. Edwin Cooper, F.R.I.B.A., 4, Verulam Buildings, Gray's Inn, W.C. Our illustration is reproduced from the drawing now on view at the Royal Academy Exhibition.

HOUSE, ST. GEORGE'S HILL, SURREY.

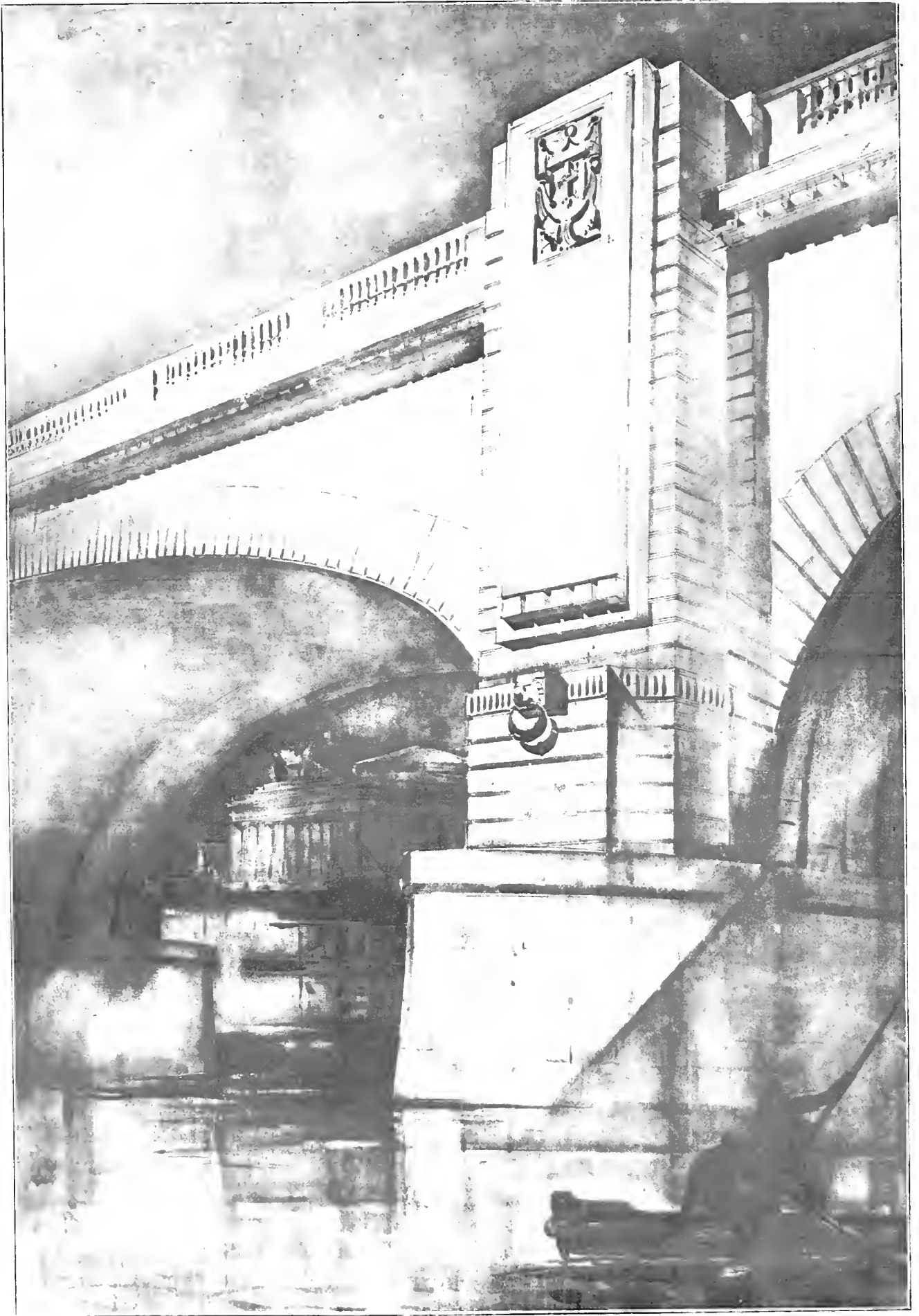
The drawing herewith given is now at the Royal Academy Exhibition, illustrating a country house shortly to be commenced on a fine site overlooking splendid views, mainly obtained from the

garden front. The building will be mostly faced with stone. The aim of the architects has been to reproduce the feeling associated with the simple 16th-century farmhouse type applied to modern requirements, and the interiors have been arranged so that the old furniture may take its place and be in harmony with the house. The work will be carried out from the designs of Messrs. Castle and Warren, architects, Amberley House, Norfolk street, Strand, by Mr. W. G. Tarrant, to whom praise is due for the unique development of the beautiful estate of which the site of this house is part.

The Board of Education announce that on and after Wednesday, July 1, 1914, admission to the Victoria and Albert Museum will be free every day.

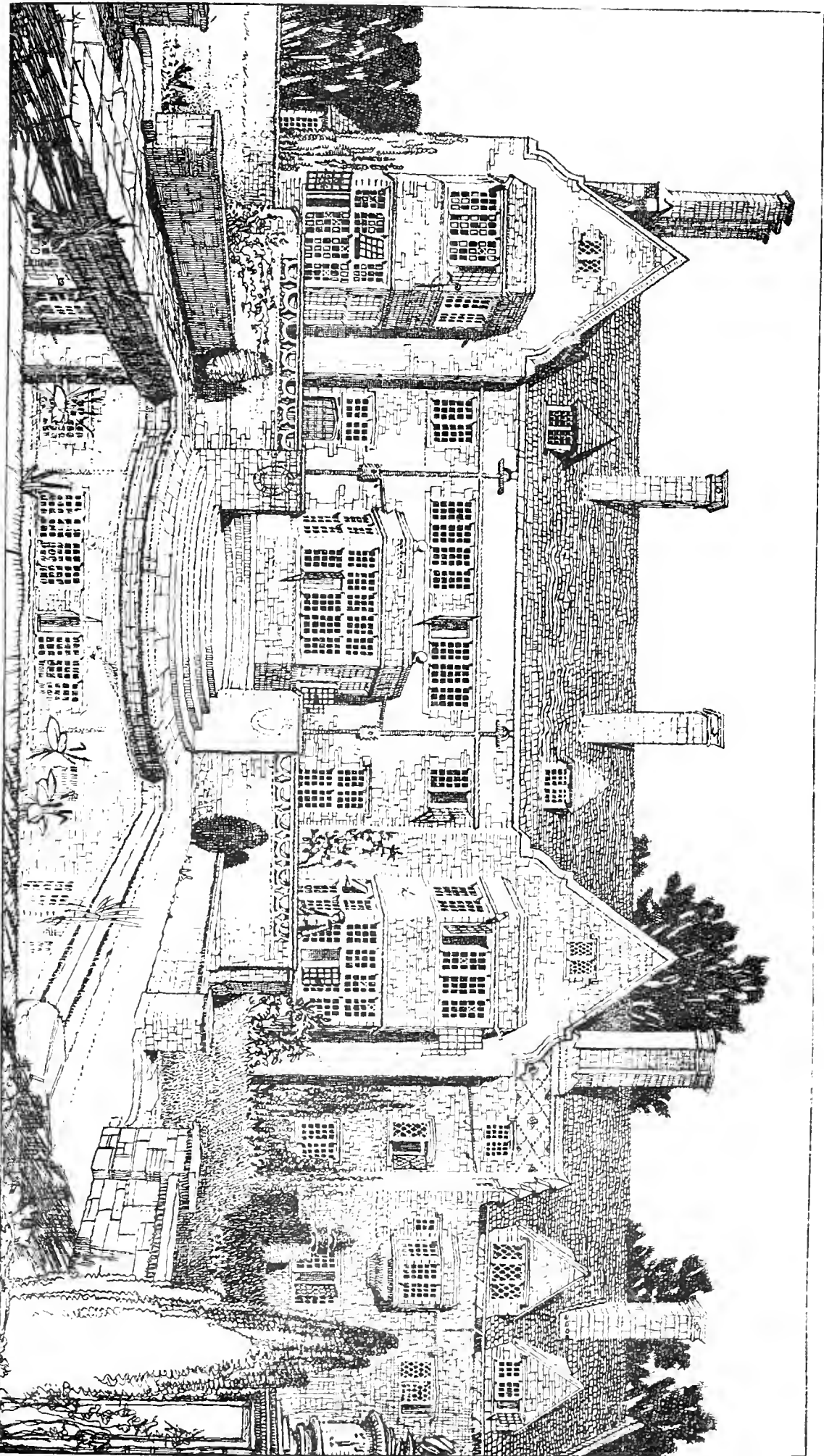
During his visit to Shrewsbury for the Royal Agricultural Show to-day (Friday), the King will lay the foundation-stone by electricity of the new library at Shrewsbury School. The building is Jacobean in style, and one story in height, and is being erected to house the Old School Library and the collection of English water-colours which Mr. E. B. Moser, an Old Salopian, who resigned in 1911, after being a house master for 26 years, has expressed his intention of bequeathing to the school. It will also contain a reading-room for the use of boys below the sixth form. Messrs. Forsyth and Maule, F.R.I.B.A., of Oxford-street, are the architects.





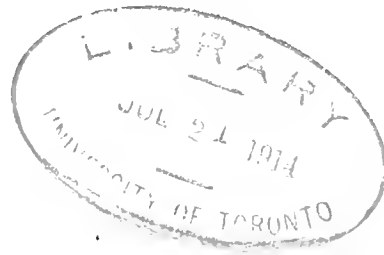
THE NEW ST. PAULS BRIDGE, LONDON: VIEW OF ONE OF THE PIERS.
FIRST PREMATED DESIGN. MR. G. WASHINGTON BROWNE, R.S.A., Architect.

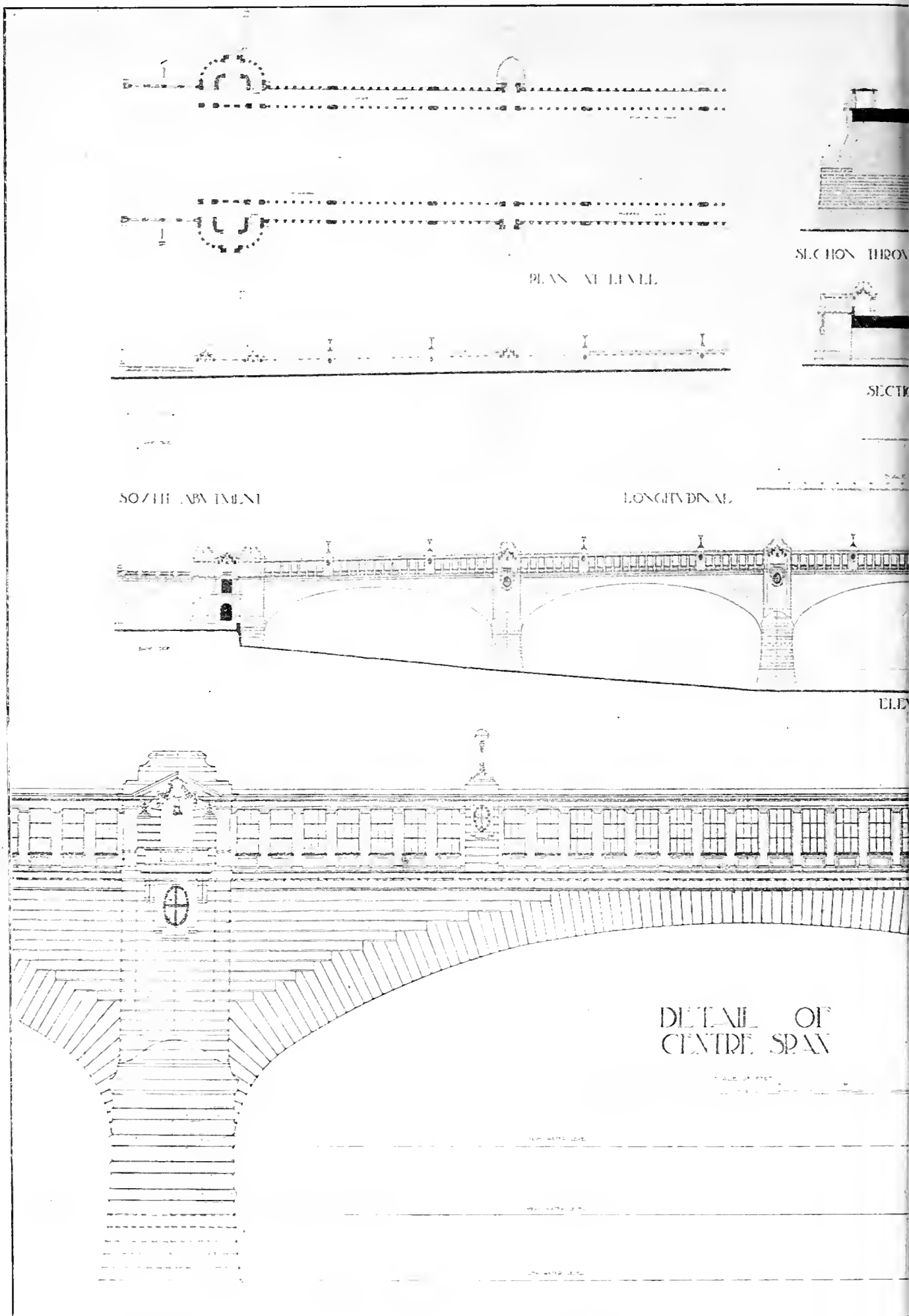
THE BUILDING NEWS, JULY 3, 1914.



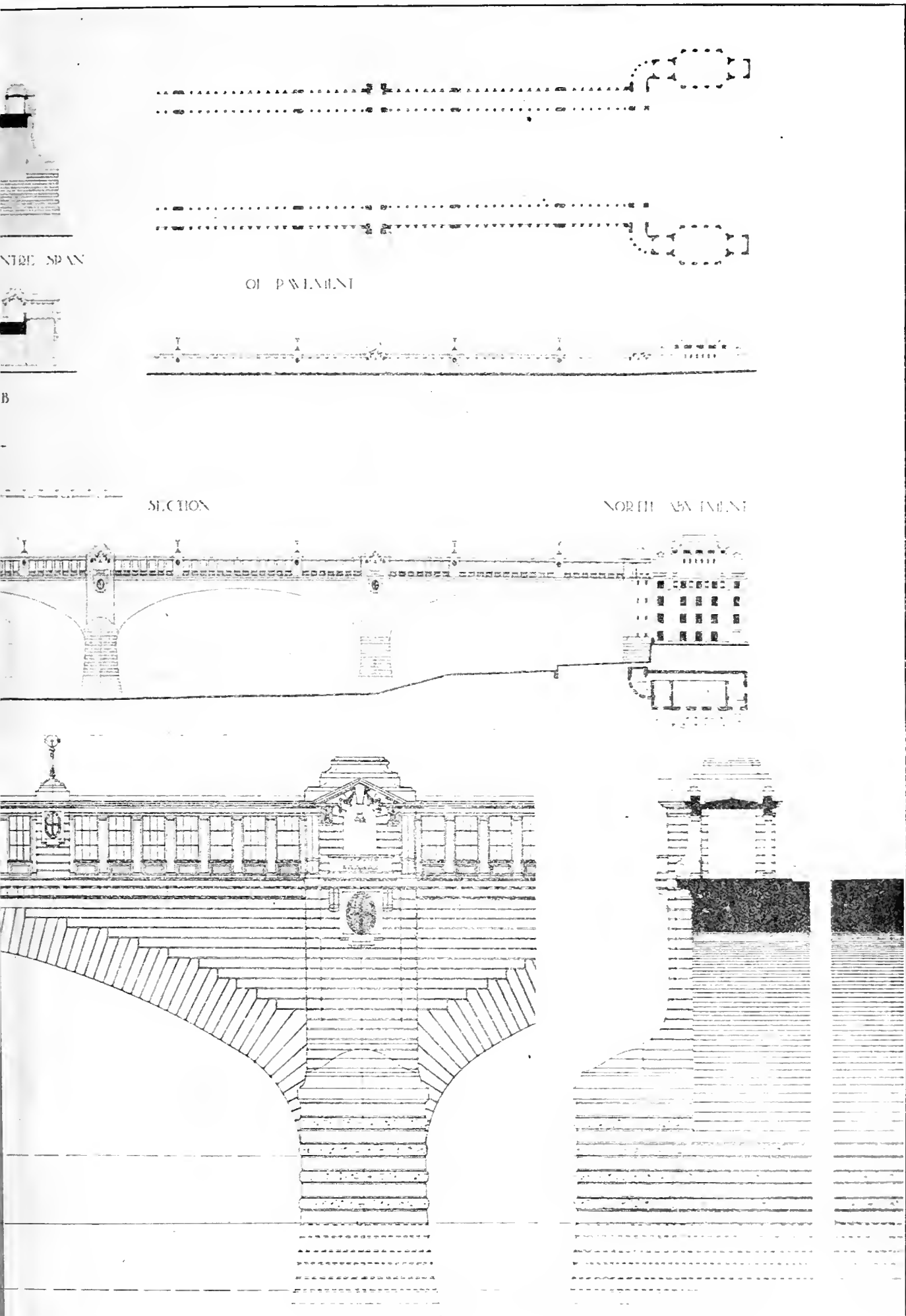
HOUSE, ST. GEORGE'S HILL, SURREY.—Messrs. S. E. CASTLE and G. WARREN, ARCHITECTS.







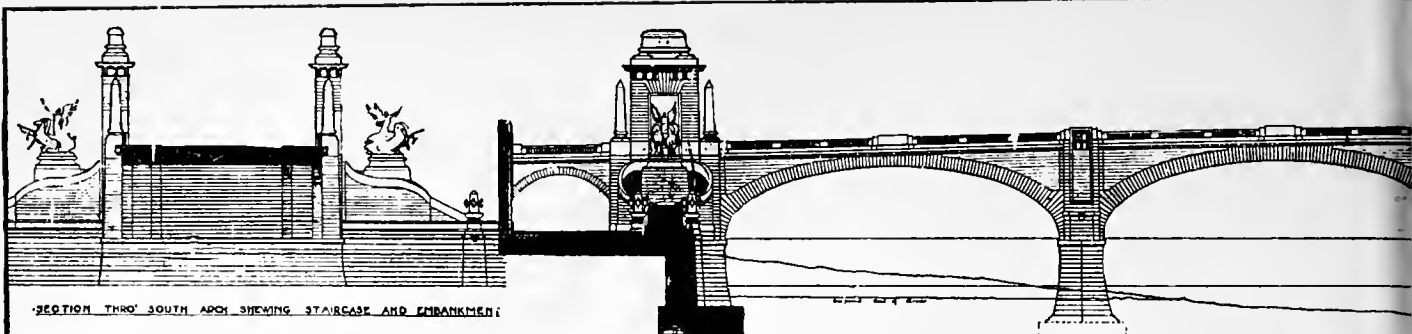
THE NEW ST. PAUL'S BRIDGE: SECOND PREMIATED DESIGN. GENERAL D



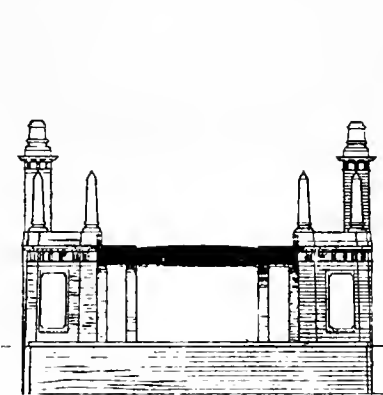
INGS, PLAN, ELEVATION, AND SECTIONS.—Mr. CHAS. E. BARRY, A.R.I.B.A., Architect.



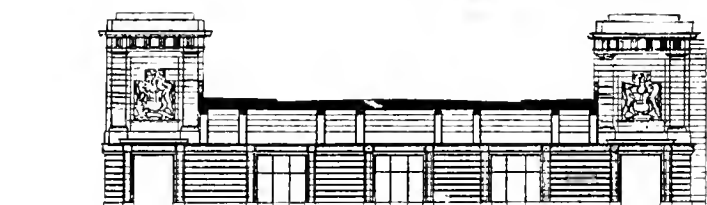
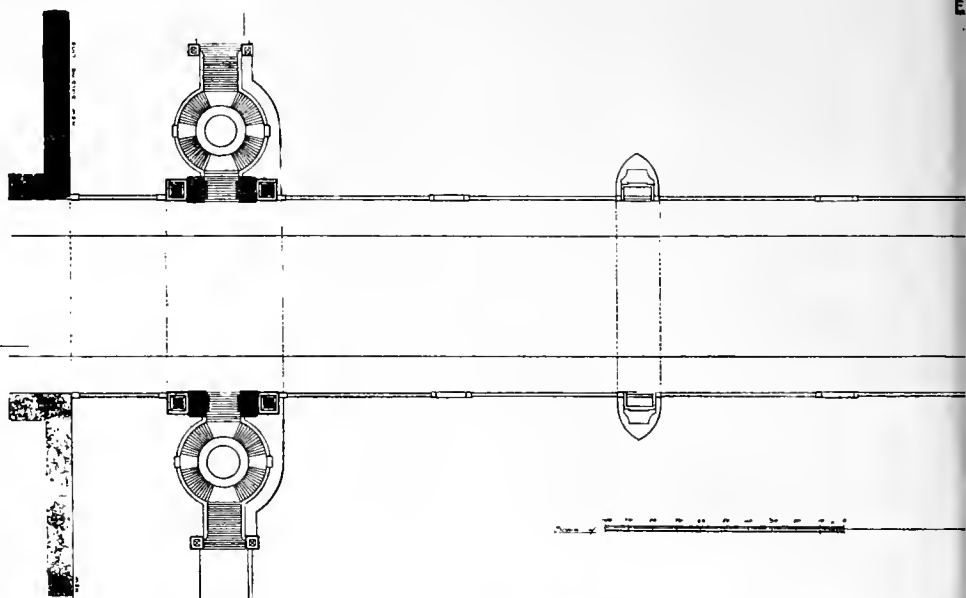
LIBRARY
JUL 21 1914
UNIVERSITY OF TORONTO



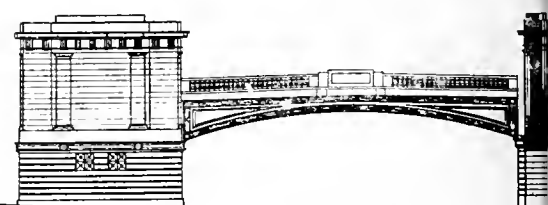
SECTION THRO' SOUTH ARCH SHOWING STAIRCASE AND FRAMING



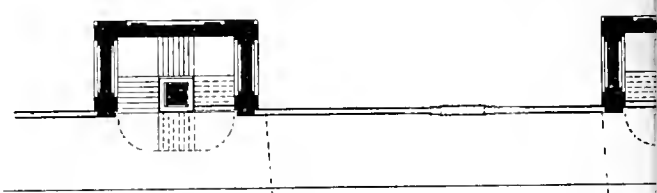
SECTION THRO' NORTH ARCH SHOWING WIND WALLS



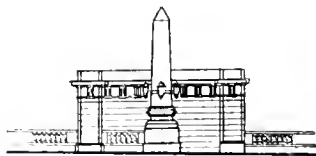
SECTION THRO' APPROACH SHOWING STAIRCASES AND ORNAMENTS TOWARDS QUEEN VICTORIA STREET



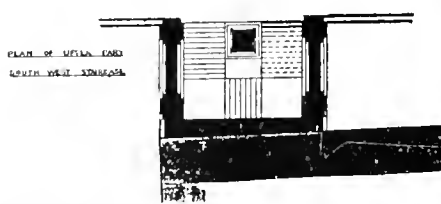
ELEVATION OF STAIRCASE TO NEW ROADWAY



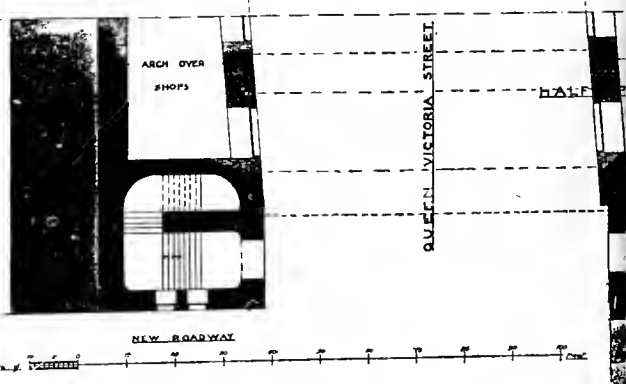
HALF P



ELEVATION OF STAIRCASE AT APPROACH LEVEL



PLAN OF STAIRS AND SOUTH WEST APPROACH

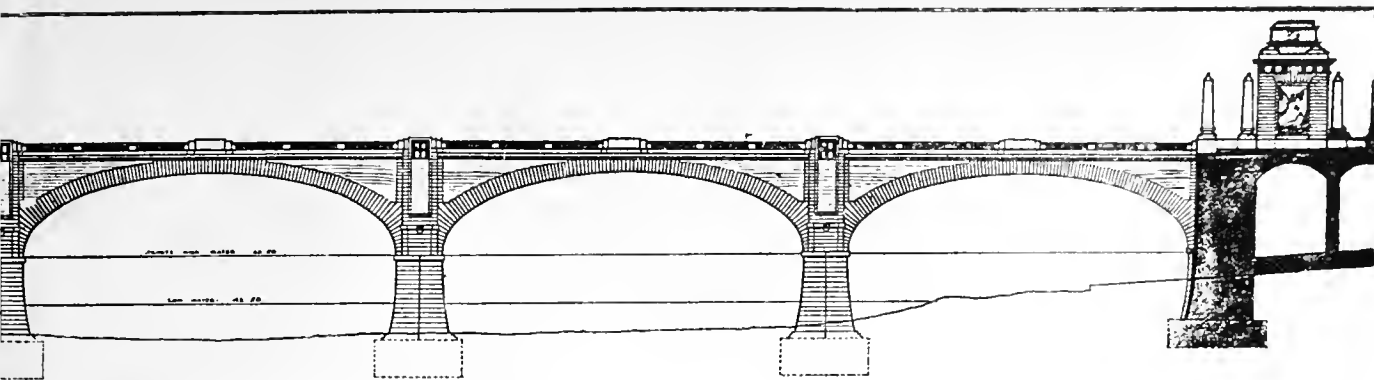


ARCH OVER SHOPS

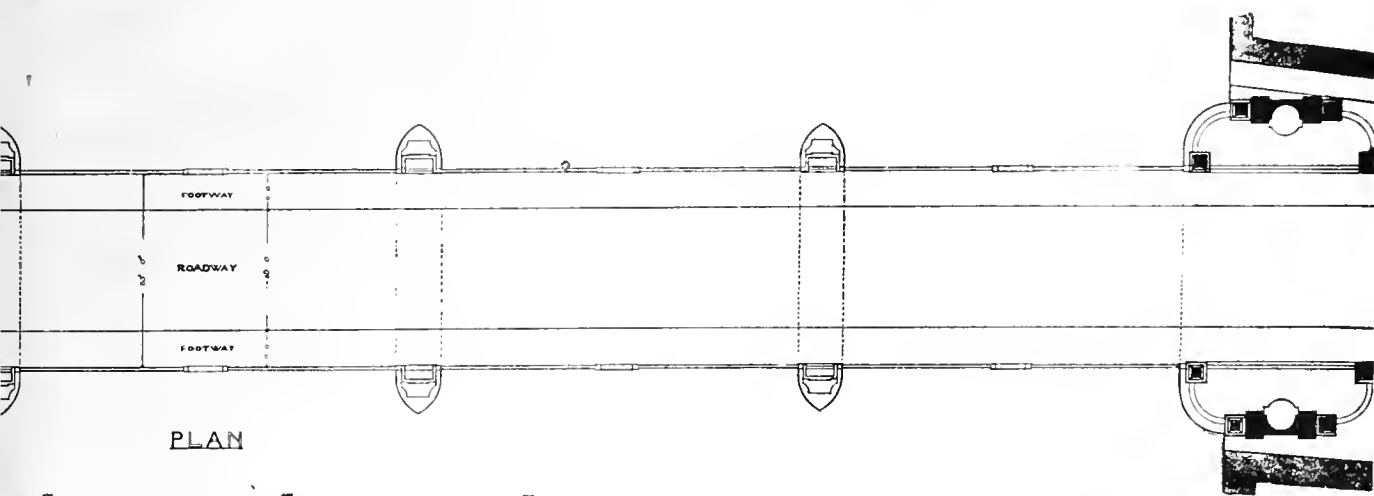
QUEEN VICTORIA STREET

NEW ROADWAY

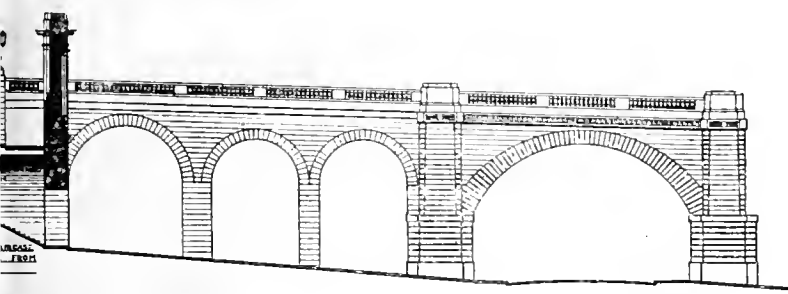
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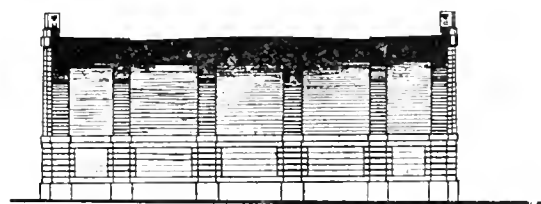
ELEVATION OF BRIDGE OVER THAMES



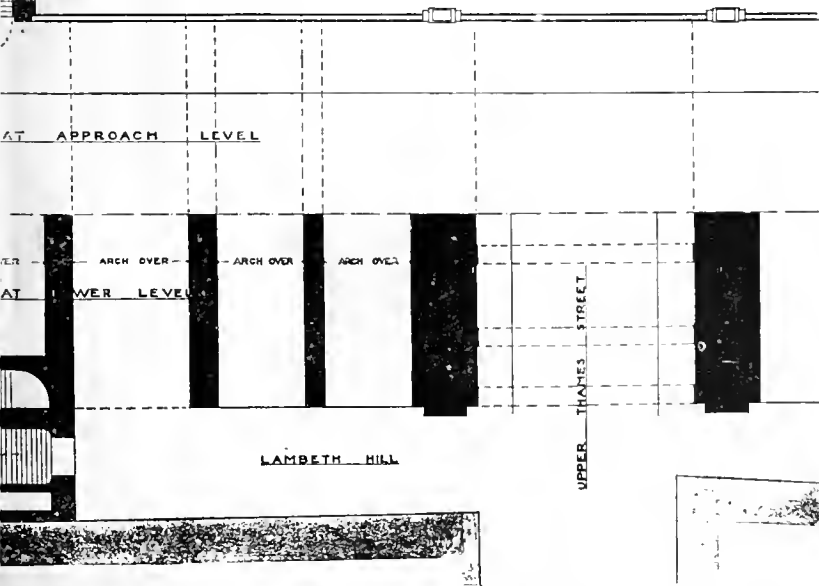
PLAN



ELEVATION TO LAMBETH HILL BRIDGE OVER UPPER THAMES STREET



TRANSVERSE SECTION OF BRIDGE OVER UPPER THAMES STREET



AT APPROACH LEVEL

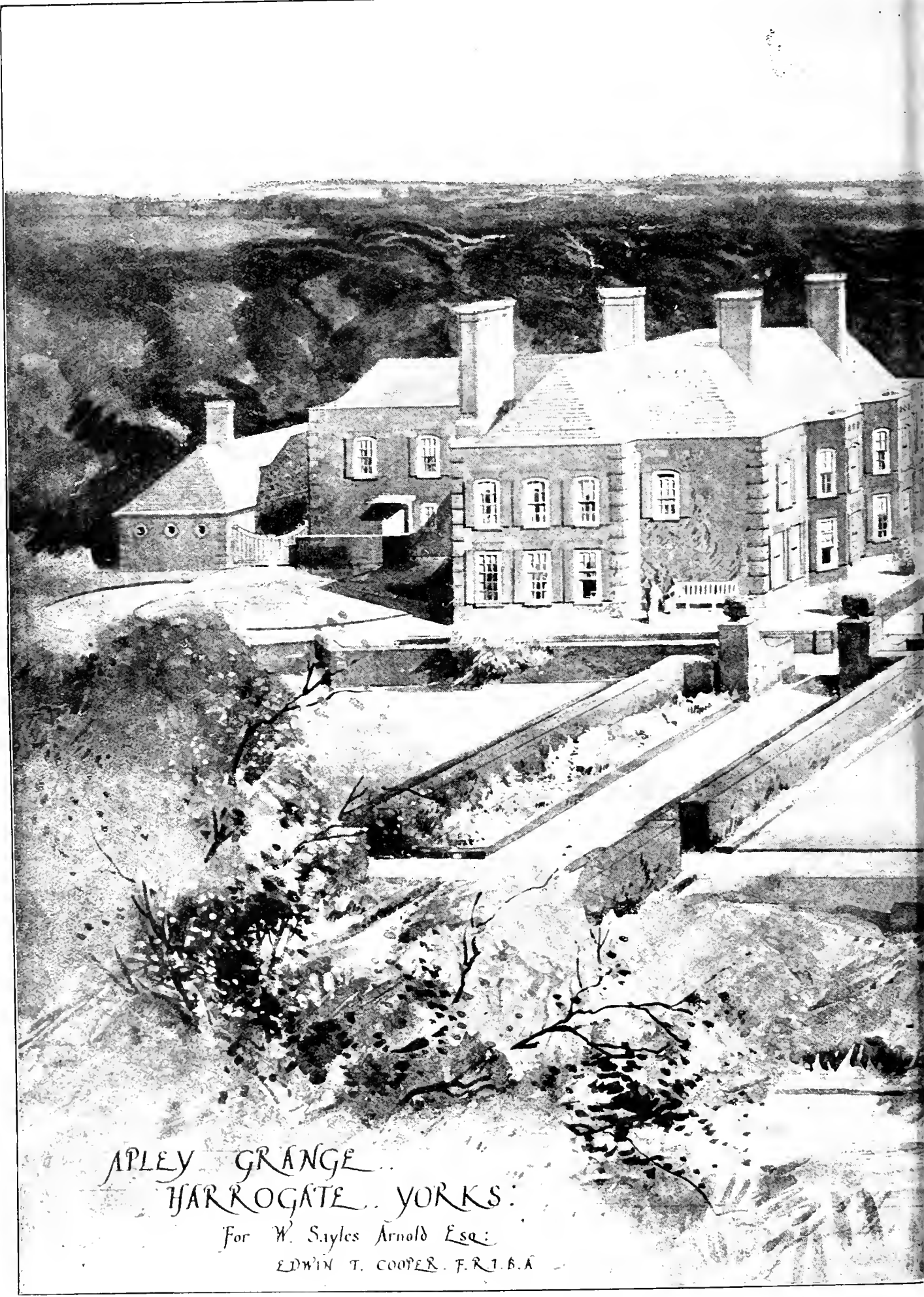
AT ROADWAY LEVEL

LAMBETH HILL

UPPER THAMES STREET

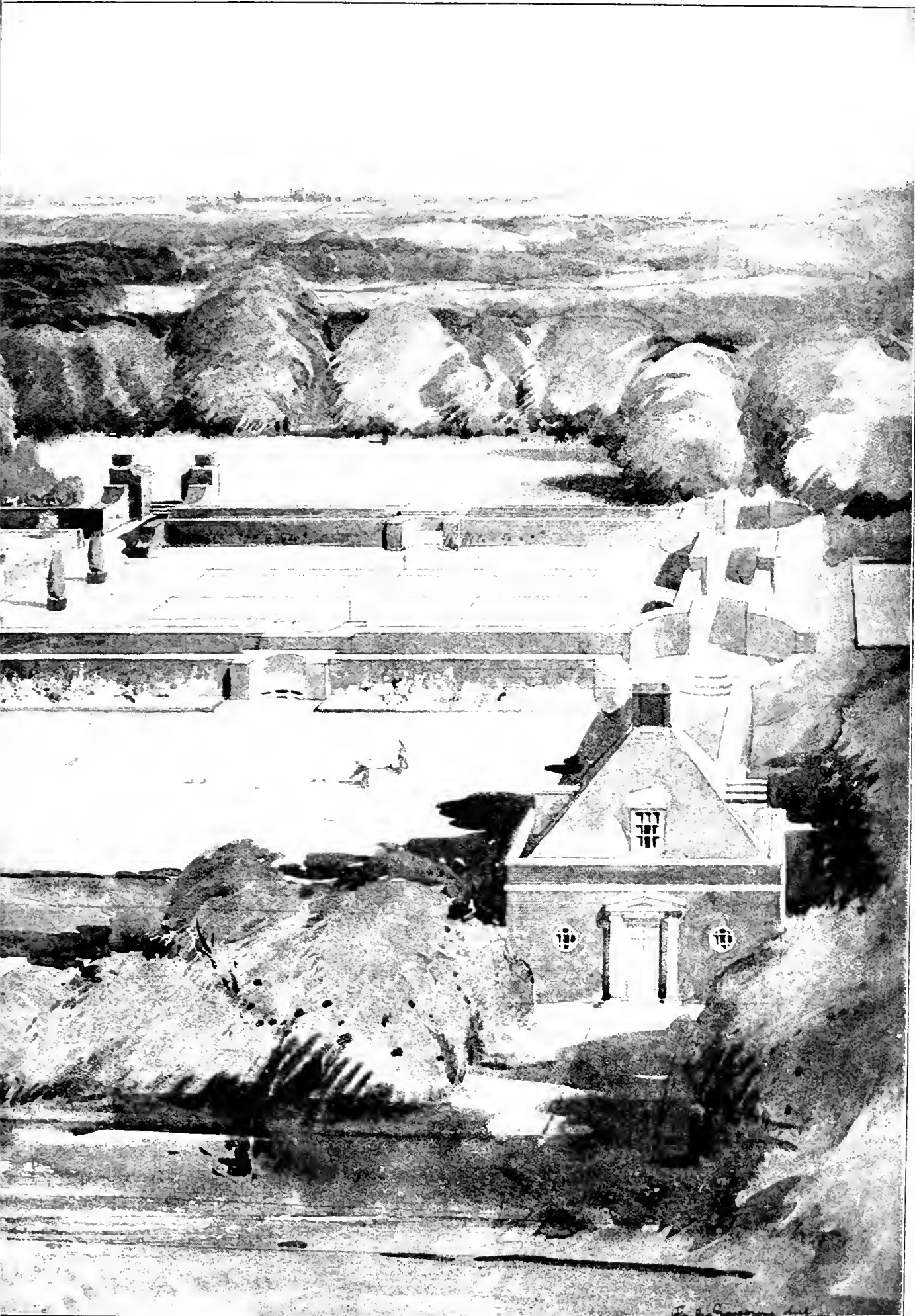






APLEY GRANGE
HARROGATE, YORKS.
For W. Syles Arnold Esq:
EDWIN T. COOPER, F.R.I.B.A.

APLEY GRANGE, HARROGATE, YORKSH



Mr. EDWIN T. COOPER, F.R.I.B.A., Architect.



LATEST PRICES.

IRON.

Table listing prices for various iron products including Steel Joists, Wrought-Iron Girder Plates, and Cast-Iron Columns.

Table listing prices for Galvanised Corrugated Sheet Iron, Wire Nails, and Cast-Iron Socket Pipes.

Table listing prices for Pig-Iron, Wrought-Iron Tubes and Fittings, and Galvanised Steam-Tubes.

OTHER METALS.

Table listing prices for Spelter, Lead Water Pipe, Lead Barrel Pipe, and other metal products.

TIMBER.

Table listing prices for Yellow Pine Deals, Spruce Deals, Red Deals, and other timber products.

FURNITURE AND HARDWOODS.

Table listing prices for Teak, Oak Planks, Birch, and other furniture and hardwood materials.

STONE.

Table listing prices for Red Mansfield, Darley Dale, and other stone products.

* All F.O.R. London.

Table listing prices for Bath Stone, Beer Stone, and Portland Stone.

SLATES.

Table listing prices for Blue Portmadoc, Blue Bangor, and other slate products.

BRICKS.

Table listing prices for First Hard Stocks, Mild Stocks, and other brick products.

GLAZED BRICKS.

Table listing prices for White, Ivory, and other glazed brick products.

MOULDED BRICKS.

Table listing prices for Stretchers and Headers, and other moulded brick products.

TILES.

Table listing prices for Plain red roofing tiles, Hip and Valley tiles, and other tile products.

OILS.

Table listing prices for Rapeseed, Cottonseed, and other oil products.

GLASS (IN CRATES).

Table listing prices for English Sheet Glass, Fourths, and other glass products.

LIST OF COMPETITIONS OPEN.

Table with columns for date, description of competition, and names of participants. Includes entries for July, Sept., Oct., and Dec. such as 'Cheap Cottage Exhibition (250 Designs)', 'Harbour Extension, Helsingborg', and 'Planning Workmen's Settlement, Campino Coastfield'.

LIST OF TENDERS OPEN.

BUILDINGS.

Large table listing tenders for various buildings. Columns include date, building name, location, and the name of the contractor or architect. Includes entries like 'Temporary Building, Rosebery-avenue, E.C.', 'Sanatorium, Leicester', and 'Metropolitan Water Board'.

		BUILDINGS—continued.	
July	15—School, Additions to, Princess-road, Croydon	Education Committee	J. Smyth, Clerk, Education Office, Katharine-street, Croydon.
"	15—Boiler House, Foundations for, Electric Station, Formby	Lancashire and Yorkshire Rly. Co.	The Engineer's Office, Hunt's Bank, Manchester.
"	15—Coal Stove, Aylm, Leavedon	Metropolitan Asylums Board	W. T. Hatch, M.I.C.E., Eng-in-Chief, Embankment, E.C.
"	15—School, Alterations and Additions to, Nocton	Keetevon Education Committee	W. H. Dunn, Archt., Silver-street, Lincoln.
"	15—Electric Sub-station and Battery House, Radcliffe	Lancashire and Yorkshire Rly. Co.	The Engineer's Office, Hunt's Bank, Manchester.
"	16—Laundry, Joint County Asylum, Carmarthen	Visiting Committee	George Morgan and Son, 24, King-street, Carmarthen.
"	15—New Post-Office, Gillingham, Dorset	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
"	15—Exchange Sidings, Goolle	Lancashire and Yorkshire Rly. Co.	The Engineer's Office, Hunt's Bank, Manchester.
"	15—School, Alterations to, Bracebridge	Keetevon Education Committee	W. H. Dunn, Archt., Silver-street, Lincoln.
"	15—Fever Hospital, Repairs at, South Tottenham, N.	Metropolitan Asylums Board	W. T. Hatch, M.I.C.E., Eng-in-Chief, Embankment, E.C.
"	15—Post Office, Extension of, Swansea	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
"	15—Rebuilding Business Premises, Tonypandy	Lindey Education Committee	R. S. Griffiths, M.S.A., Tonypandy.
"	16—School, Additions to, Ropery-road, Gainborough	Corporation	Scorer and Gamble, Archts., Bank-st. Chmbrs., Lincoln.
"	16—Stores and Pumping Station, Weymouth	Lindey Education Committee	H. A. Huxtable, Town Clerk, Municipal Offices, Weymouth.
"	16—School, Additions to, South Killingholme Haven	Guardians	Scorer and Gamble, Archts., Bank-st. Chmbrs., Lincoln.
"	16—Boiler and Engine House, Scarborough	Iale of Ely Education Committee	J. W. Read, Clerk, 14, Dean-road, Scarborough.
"	18—School, Murrow, Wiehech St. Mary	Visiting Committee	H. Farr Simpson, County Snr., Tavistock-road, Wisbech.
"	18—Two Villas at Hull City Asylum, Willerby	Warwickshire County Council	J. A. Hret, City Archt., Guildhall, Hull.
"	18—Police Station, Additional Cells at, Nunneaton	Guardians	J. Millmot, County Snr., 6, Waterloo-street, Birmingham.
"	18—City Lodge, Repairs to, Cardiff	Essex Education Committee	A. J. Harris, Clerk, Union Offices, Queen's Chambers, Cardiff.
"	20—School, Additions to, Lambourne	Metropolitan Asylums Board	G. T. Forrest, County Archt., 73, Duke-street, Chelmsford.
"	20—Reconstructing Children's Hospital, Margate	Metropolitan Asylums Board	T. W. Aldwinckle, F.R.I.B.A., 20, Denman-st., London Bridge, S.E.
"	20—Asylum, Extension of, Tooling Sec, S.W.	Iale of Wight County Council	S. R. Cooke, St Thomas's-street, Ryde.
"	20—Schools, Repairs to, Gatten and Newport	Joint Hospital Board	H. B. Bird, Archt., 10, Union-court, Old-Broad-street, E.C.
"	20—Isolation Hospital, Additions to, Saffron Walden	Joint Burial Committee	U. A. Smith, Archt., South-street, Farnham.
"	20—Cemetery, Caretaker's Lodge at, Farnham	Education Committee	T. A. Smith, County Snr., County Surveyor's Office, Hatfield.
"	20—Council School, Enlarging, Byng-road, Barnet	Guardians	Gibson, Skipworth, and Gordon, Archts., 5, Old Broad-street, W.
"	22—St. James Infirmary, Alterations to, Wandsworth, S.W.	Corporation	E. M. Lacey, M.I.C.E., Con. Eng., 13, Victoria-street, S.W.
"	22—Electric Power Station Buildings, Waleall	Port of London Authority	C. R. S. Kirkpatrick, Chief Eng., 109, Leadenhall-st., E.C.
"	23—Bousing Scheme, West Ham	Morocco Public Works Special Com.	M. le President du Comité, Dar En Niaba, Tangier.
Aug.	6—Stone Lighthouse, Sidi Bou Ab, Mazagan	Corporation	The Borough Surveyor, Guildhall, Grantham.
No. date	6—Seven Cottages at Refuse Destructor, Grantham	Sir Francis Ley, Bart.	C. Macalister, Archt., Whitehall Buildings, Ann-street, Belfast.
do.	—Farmhouse and Cottage, Low Baron Wood	Golf Club	E. R. Ridgway, Archt., Long Eaton, Nottingham.
do.	—Theatre, Torquay	Durham Terr. Force Assoc.	F. G. Moore, Archt., 10, Fleet-street, Torquay.
do.	—Clubhouse, The Waffers, Stratton	Education Committee	J. F. Palsar, Archt., 3, Staple Inn, Holborn, E.C.
do.	—Drill Hall, Alterations to, Snderland	Dr. Ryce	Wright and Chapman, Archts., Newcastle-on-Tyne.
do.	—School, King's-road, Rochdale	Cannock Co-operative Society, Ltd.	The Secretary, Education Office, Ballie-street, Rochdale.
do.	—Residence and Surgery, Pentrebach	Dr. H. F. Blackloe	Johnson and Richards, Archts., Merthyr Tydfil.
do.	—Two Shops, Sankey's Corner, Chase Terrace	W. Roe Black	H. Horton, Archt., Bank Chambers, Cannoek.
do.	—Wesleyan Sunday School, Bangor-street, Cardiff	John Adamson and Co., Ltd.	H. Engden, F.R.I.B.A., 95, St. Mary-street, Cardiff.
do.	—Pair of Cottages, East Fen, Midville		G. E. Clarke, M.I.C.E., Boro' Snr., Boston, Linca.
do.	—Work at C.E. School, Winwick		W. and Segar Owen, Cairo-street Chambers, Warrington.
do.	—School, Repairs to, Nantton		R. S. Phillips, Archt., Shire Hall, Gloucester.
do.	—Residence, Abbey-road, Barrow		J. C. Harvey, A.R.I.B.A., Ramedon-square, Barrow.
do.	—Residence, Elgin		R. B. Pratt, A.R.I.B.A., 110, High-street, Elgin.
do.	—Hospital, Nurses' Block at, Exeter		E. H. Barhottle and Son, Archts., County Chambers, Exeter.
do.	—Mess Room and Storage Shed, Harrow		H. E. Scarborough, Archt., 22, Lowther-street, Carlisle.
July	4—Transformers, Stockholm	ELECTRICAL PLANT.	Regeringsgaten 45, Stockholm.
"	4—Telephone Cables, Antwerp and District, Brussels	Royal Swedish Water-Power Admin	The Administration Centrale des Postes, Rue de Louvain, Brussels.
"	6—Electrical Supply Plant, Extension of, Ballaghaderreen	Electric Lighting Committee	L. J. Lawless, A.I.E.E., Castlewood-av., Rathmines, Dublin.
"	6—Rotary Converter, Melbourne Suburban Railways	Skegness Urban District Council	Merz and McLellan, Con. Engrs., 32, Victoria-street, S.W.
"	6—Telephone (Nine Miles), Skegness to Welton	Urban District Council	W. Frearson, Clerk, Council Offices, Skegness.
"	6—Plant, Ayleshury	H.M. Works Commissioners	P. A. Wright, Clerk, Town Hall, Aylesbury.
"	6—Electric Car-Shed and Crane, Melbourne	Electricity Committee	Merz and McLellan, Con. Engrs., 32, Victoria-street, S.W.
"	7—Switchboards, Melbourne	N.S.W. Government Ry. Dept.	The Deputy Postmaster-General, Melbourne.
"	7—Electrical Accessories (Three Years), London, S.W.		The Secretary, H.M. Office of Works, Storey's Gate, S.W.
"	8—High and Low-Tension Cables, Warrington		F. V. L. Mathias, Boro' Elec. Eng., Howley, Warrington.
"	8—Booster Sets, Sydney		The Electrical Engineer, 61, Hunter-street, Sydney, N.S.W.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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Viaduct over Queen Victoria-street, E.C. The New St. Paul's Bridge Competition. Second and Third Preliminary Designs by Mr. Charles E. Barry, A.R.I.B.A., and Mr. Edward R. D. Selway, A.R.I.B.A.	
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OUR ILLUSTRATIONS.

"Crow Clump" overlooking St. George's Hill Golf Links, Weybridge, Surrey. View, plans, and elevations. Messrs. Tubbs, Messer, and Poulter, Architects.	
The London Quarter Sessions House, Newington Causeway, S.E. Plan of Ground Floor. Mr. W. E. Riley, F.R.I.B.A., Superintending Architect London County Council.	

Houses, Avenue-road, St. John's Wood, and in Waldwood Rise, Hampstead Garden City. Messrs. Horace Field, F.R.I.B.A., and Evelyn Simmons, Licentiate R.I.B.A., Architects.

Hove Parish Church Hall (Ralli Memorial), Sussex. View and plan. Messrs. Read and MacDonald, Architects.

The Playhouse, Berwick on Tweed. Mr. S. H. Lawson, Architect.

TIMBER FOR BUILDING.

Timber, like coal, we are told, is being rapidly exhausted. What with the never-ending and ever-increasing demand for railway-sleepers, and for wood-pulp for our newspapers, we may have in the near future to find some other material from which to manufacture our doors and windows; for though trees are being planted, they do not make wood fast enough to supply the world's needs. Nature needs a hundred years at least to make a tree up to the architect's specification, in pines, or firs; and in some climates the trees would in that time be no more than 9in. in diameter, and the bulk of them half sapwood. We used to wonder, in our younger days, why scaffold-poles decayed so rapidly; but we discovered, of course, that the reason was they had little heartwood. A pole 6in. diameter at the butt, the growth of fifty years, would have 2½in. of sapwood. Out of over 200 Russian poles that we once examined at the Millwall docks, not one had any heartwood, and none were less than 5in. in diameter, and yet some of these were 70 years old. But we need not despair, some say, about this prodigal use of timber, for we are assured by enthusiasts that the time will come when timber will not be used at all in buildings, because steel and concrete will displace it, though, at present, there is little sign of their doing so, except in the monster hotels and warehouses of our great cities.

It is indisputable that steel should take the place of wood for bearers across any span, say above 12ft., even in villas and labourers' cottages; for wood, being elastic, will gradually sink, even under a load of its own weight, when it is used as a girder or purlin. The strongest wood beams that the experience of the practical carpenters of a few centuries ago could suggest as being reliable are now found to have failed under weights they carried with safety for a few years. In pulling down a warehouse in Lime-street a few years ago, we found the main girders of a floor down 2in. in the centre, though they were 14in. square, and the span only 16ft. These floors were framed immediately after the Great Fire, and there was four times more timber in them than any builder would think of putting in a floor of the same span to-day. All these old floors were divided into bays, with joists spanning not more than 8ft.; but with all the timber used in them, they sunk in the centre, and this must have been reckoned on when it is considered how elastic a material timber is.

In many old buildings the roofs will be found hollow between the purlins; for

these have sagged under the weight of the slates and rafters. We have seen cases where the purlins have broken across with the weight, at a knot. Again, the purlin may span too great an opening or the scantling may be too light. In every case, therefore, floors should be stiffened with steel, and purlins may be altogether of that material, even for workmen's cottages. It would be well to bear in mind, when using steel as we suggest, that it is not fire-proof, and that in some cases it may be desirable to protect it with concrete. Many years ago, when surveying a large house in the Midlands for alterations, we were surprised to find all the floors on the second story were finished with some kind of hard, polished cement. This was ordinary lime mortar, carried on laths across the joists, the surface being worked up in putty until it was strong enough to bear the furniture and the usual traffic of bedrooms without breaking up. We were informed that these floors were common in the district. It seems that since the introduction of Portland cement, a better material for the purpose is to hand than any the builders had a century ago, although it is not now used for the purpose. If a fireproof concrete floor is carried out in offices on the first and higher stories, provision is always made for attaching ordinary prepared flooring to the concrete. No one thinks of finishing the surface with cement of any kind. The old floors we refer to were reserved for the servants' apartments.

The thorough seasoning of wood for joiners' work is a matter of the first importance, not so much on account of the risk of failure by shrinkage, as of the strange irregularities of the finished face when drying, after being tried up and polished by the smoothing-plane. This latter failure is not even noticed in any book on building construction. To explain this it will be necessary to consider how the surface of a planed piece of wood is made up, and this is dependent on the structure of the tree itself. In transverse section it shows a number of rings, speaking roughly, from ¼in. to 1.32in. in thickness. Each ring is a hollow cylinder; and the trouble is that a ring being a year's growth, it is built up with two kinds of wood, which shrink unequally. In the early spring the bark of the tree bursts with the rising sap, and pressure is released in this way on the wood of the new ring being formed, so that it is comparatively loose in texture; but the bark knits together again gradually, and the making of the ring is finished up with wood fibre deposited under great pressure, and consequently hard. But for this difference between the spring and summer wood,

it would not be possible to distinguish the annual rings; and some trees are partly deficient of such indications—yellow pine, for instance. Now, when a piece of wood is planed, that is not thoroughly seasoned, no matter how true the surface may be, that surface will, when the wood seasons, be a series of corrugations, owing to the unequal shrinkage in each ring; and if such a surface is varnished, all these irregularities will show up. In the room where we sit there is a matchboarded dado, and opposite to it a large window. When one is seated between the two, the surface of the matched boarding is seen to be wavy and felt to be rough, and as it is certain that no machine could ever have turned out such work, the irresistible conclusion is, therefore, that these surface indentations were produced by the seasoning of the wood. There is another peculiarity about these boards. Though each was turned out of the mill with plane surfaces, none of the surfaces are now planes. They are round or hollow, though they are only 5in. wide. This kind of failure has been noticed in books on building timbers, so it need not be explained here. It will be enough to say that it results from the way the wood is cut from the log—that is, with the greatest dimensions radiating or tangential. It is not of the slightest use for an architect to specify the kind of timber he wants in his building, for the builder does not "manufacture" it. By manufacturing, we mean, of course, converting the log or trunk of a tree into scantlings. Moreover, neither the architect's specification nor his authority reaches the manufacturer. The architect must put up with the best the builder can give him, unless he imports logs of whatever wood he wants, and has them "manufactured" under his own superintendence.

It is well to bear in mind that all foreign scantling comes to us as "first," or other qualities, and that the nature of these is determined by brackers—men specially licensed for the work by the public authorities of the various wood-growing countries. The qualities are distinguished by the bracker's marks on the ends of the timbers, the Swedish being letters stencilled in red, and the Russian names or letters dry hammer-marked without colour. Some manufacturers send out no less than five qualities, or six, if an unsorted one is included—that is, in some scantlings; but seldom more than three qualities in planed wood, or four, counting an unsorted one, as before. The architect must have seen red letters on the ends of the deal battens and boards being used on his buildings. These are the bracker's marks; and if he could

only discover what these marks mean, he would know what quality the wood was rated at. Unfortunately, every manufacturer has his own marks, so that it would not be possible to recollect them all. The selection of these shipping marks, as they are called, is purely arbitrary; in one case the initials of the shipping port are used, in another that of the manufacturer. It would be a lifelong study for the architect to make himself acquainted with all, and it is a satisfaction to remember that an acquaintance with them is, for the architect, more a matter of curiosity than of value in guiding him to the selection of good timber, and what any bracker may consider good or bad timber need not concern him, and he is in no way bound by it. The important thing to be considered—and it is altogether beyond the architect's control—is the way in which the scantlings necessary for his joinery have been cut from the log, and this can always be seen by examining the end grain of the wood. The danger of irregular shrinkage is always greatest when unseasoned stuff is used, and this shrinkage may be seen illustrated in so many books that we need not attempt it here. A very simple illustration of bad wood conversion may be seen in the prepared flooring with which the market is flooded. This is usually cut tangentially instead of radially, hence the rings splinter up, which they could not do if the edges of the rings were exposed to wear on the face of the board. This point, though one of the first importance, is wholly neglected by manufacturers, and it does not reckon in judging the qualities of the boards. Trees are felled and converted into every conceivable scantling, from 11in. by 4in. to 1½in. by 4in., to pay, and not to satisfy the requirements of an architect's specification.

Formerly, a log 21in. or 22in. square had a cut put down the centre "to see what the log would open like"; and then, on the ends of each of the fitches, suitable pieces for framing and panelling were marked out, the coarser pieces being set aside for carpentry. Now the builder is saved all trouble in this respect, for the logs are converted into scantling abroad—generally 11in. by 4in., or as large as the tree will yield, including the sapwood; all the smaller scantlings, such as 4in. by 2in., being cut from trees about 7in. in diameter; for no millowner would think of cutting a log into 4in. by 2in. scantling that would cut 7in. by 3in. or larger. The big scantlings cost the most, when imported timber is being dealt with; but if we cut up imported logs, then the reverse is true, and the smaller the scantlings into which the log is cut, the more costly they are. The reason for this apparent anomaly is that the foreign manufacturer finds so few trees that will cut 11in. by 4in., he has to charge accordingly; but he has an unlimited number that will cut 4in. by 2in. If, however, the builder buys a log to convert it into small scantlings, he finds the sawing increases the cost, and, consequently, the smaller the scantling the more it will cost him. At the present time, the only possible way that an architect can get Baltic timber free from sapwood is to have it cut from the log; not sticks 6in. and 8in. square, but 20in. or 22in. square, for the former will be nearly all sapwood. For conversion, length is not of so much importance as sectional dimensions, for it is here the sapwood tells. It will be obvious that it would never pay a builder to cut logs into plastering-laths, the smallest dimensions in the trade; they are usually from 4ft. to 4ft. 6in. long, 1in. by 3-16in., the first quality selling for 8½d. per bundle. In old specifications, where floor-joists exceeded 1½in. wide, there was a provision for roughly chamfering the under edges of

the joists where they carried the plastering laths, so as to give a better key for the plastering. This was because the sawn face of the joist was too smooth to hold the rendering; but now acres of this foreign-sawn lathing may be seen, offering a fairly smooth surface, and no key, for the architects do not object to it. We have had an extensive experience of this lathing, and we have no hesitation in saying that laths split by hand from suitable Memel lathwood cannot, for good work, be equalled by any sawn or metal lath on the market. In this country oak was formerly used for plastering-laths, and there was a distinction made between heart laths and sap laths. Baltic lathwood, as imported, is all sapwood, because the timber is of no use for anything else; and these sap laths appear to last a long time if they are kept dry, for the lime appears to preserve them. In surveying old roofs, we have often noticed many rafters wormeaten; but those rafters that were lime-stained—probably because they were used for scaffolding—were free from worms. But there is no reason why foreign lathwood should not be heartwood.

THE ROME SCHOLARSHIPS EXHIBITION.

A more central place for the display of these works would have been more convenient, otherwise, no doubt, Crosby Hall, Chelsea, makes an excellent room in which to display competition designs of large size. The exhibition closes to-morrow. The Architectural Scholarship of £200, to be annually paid for three years, was won by Mr. Philip D. Hepworth, A.R.I.B.A., and the design placed second was given the Jarvis Scholarship of £200 for two years, provided by the Royal Institute of British Architects, and awarded also by the Faculty to Mr. Ernest Cormier. The subject set was "A British School in Rome," the drawings to be made during a period of three weeks at the Imperial College of Science and Technology. Considering the scale and character of the drawings, the winning designs are remarkable.

THE ARCHITECTURAL SCHOLARSHIP.

The Palatial Terraced scheme by Mr. Hepworth is located on an elevated plateau, with the main building linked up to subsidiary ones by open colonnades. Those to the front unite the twin projecting pavilions devoted to the directors' quarters and to the clerical offices. The dominating feature of the central block is the big portico façade, with a colonnade of six Corinthian columns, and behind the vestibule stands the cupola of the squarely-planned library. The problem was in this case dealt with not so much as an exercise of style, its character being reckoned national rather than local, so that the author elected to adapt the vernacular rather than a semi-correct rendering of the Italian. His plan is kept free and very open, no restrictions limiting the site. A deep slope of about the angle of 45deg. occurs at the back, and this correspondingly has influenced the design of the rear frontage buildings, with their ramping inclines, stairways, and terraces. The idea is monumental enough, and aims far beyond a students' hostel for 124 students. This precise accommodation has, however, been adhered to, and provision is made for 12 servants. Each student has a separate studio, and the provisions include three divisions—viz., residential, common, and public rooms. Two of the big studios have open loggias attached. The director is isolated, as those over whom he has to preside are occasionally noisy. Top lighting is considered undesirable in Rome, on

account of the heat, so side or vertical windows are adopted. More space is given to sculptors than painters and architects. The kitchen department is located in a good basement. Hard by the flanks of the central library are two long galleries, one on either hand, for the display of drawings, paintings, and restorations from the antique. The entrance cortile behind the portico extends by attached wings to the whole width of the building, which includes the Dining Hall, with a servery at the far end, and also the Common room, which is furnished with a stage. Both these rooms open into the cloistered colonnades. There is a passage-way round the exterior of the library proper, and this passage has galleries over it above the columned fronts, and opening into the central area by main archways between the pendentives of the dome surmounting the whole. A long exhibition gallery is placed at the rear, corresponding in length with the vestibule before named, and behind this is the amphitheatre, with a rostrum for the professor, who has a top-lit retiring room, with lavatory, etc., and beyond this are colonnades. The studios for architecture, painting, and sculpture range east and west, set at right angles with the main block of the school and the cypress walks beyond. The fourth block, completing the symmetry of the lay-out, is devoted to sculptors' private studios. The dominating tout-ensemble of this scheme comprises the steps and terraces, which are shown by Mr. Hepworth's large pencil perspective, illustrating the water side to the rear of the college. These exigencies of this rampart site, with all the gradient recurrences and recessed alcoves on the terraces, tend necessarily to diminish the scale of the citadel-like grouping of the school. The studios have their windows towards the main approach, and at the ends are attached colonnades, but these studios have the effect of sheds from the pictorial standpoint seen in this perspective. The designs are mostly in pencil, tinted quietly, and show a power of delineation, with spirited sculpture well put in, the whole being handled in a scholarly manner.

THE JARVIS SCHOLARSHIP.

Mr. E. Cormier, the Jarvis prizeman, submits a very restless set of drawings, the effect of the plan being lost by its over-elaboration and by reason of the triple terraces repeated down the ravine before mentioned. In elevation, the great library dominates all else behind the entrance vestibule, and on either hand of the vestibule are T-shaped exhibition galleries ending in each case by oval-planned cortiles, one forming the privy entrance for students, and the other the entrance to the director's house. Next the library are set the lecture hall and dining-room, both being of the same shape of a long parallel in proportions. The common room seems unduly large, extending as it does the whole width of the building, and set out in three sections. Big blocks of studios occur to the back, east, and west, having a set of private rooms grouped round the general studio in each case. The architects have a drawing office. The sculptors are similarly housed. This design is Italian broadly handled and well detailed, also forcibly drawn, though not particularly imaginative or original. In some respects we prefer Mr. Cormier's original sketch to his finished design.

THE OTHER SIX DESIGNS.

The design by T. Braddock is perhaps the best of the remaining six, and we are disposed to place him third in merit; but the conception of his scheme is beyond the scope of such a school, and out of cha-

acter with its limitations and practical needs. This same remark applies to the first two proposals. It is said that when the Academy schools were in hampered quarters at the back of the National Gallery, the students did better and more serious work than they ever have done since. The main block of Mr. Braddock's plan is apsidal-ended, and surrounded by four open courts having cloister colonnades joining up the surrounding keeping rooms for the students, besides the director's quarters in front. The big studios for Painting and Sculpture are set on the radial line at the back, while the Architectural studio comes in the middle of the rear range of inclosing buildings, with its loggia and centre piece repeated cleverly to the pair of studios set on the diagonal. The dining-room and library flank the domed reception room, which is over-elevated and crowned by a vast lantern cupola. The detail is better than the relative scale of this composition as a whole, and its proportions fail.

Mr. W. M. Keesey colours his plans crudely, but his scheme is more compact and reasonable, if it is somewhat ineffective.

Mr. D. S. MacPhail is less playful—indeed, his main front is somewhat prison-like; and Mr. B. A. Miller favours the casino type too much.

The Sculpture Scholarship is taken by Mr. C. S. Jagger for a relief 5ft. by 3ft., for a Private Concert Hall mantelpiece. The model of the chimney-piece is rather good. Stevenlike figures support the overmantel, which has in the frieze the legend, "He who hears music feels his solitude re-peopled." Statuettes occur on either side of the panel, in niches. The allegorical subject of the centrepiece represents satyrs, virgins, and music, rather restless, but managed without attempting symmetrical arrangement. Above are leopards silenced by the minstrel centre figure playing the lyre.

We prefer Mr. Wilcoxson's scheme. His panel is very quiet and charming, the whole being a better-built up design, and more in scale from floor to ceiling. We presume the panel settled the award.

The decorative painting of "The Judgement of Paris" in oils, which won the Scholarship is by Mr. J. M. B. Benson.

THE LONDON COUNTY COUNCIL.

At the meeting of the London County Council on Tuesday, the Establishment Committee reported that the Council, on February 1, 1910, accepted the tenders of Messrs. John Leaning and Sons and Messrs. J. Rider Hunt and Co. to take out quantities for the first section (A) of the substructure and superstructure of the new County Hall, at a remuneration, divisible in equal proportions between the two firms, of seven-eighths per cent. of the cost of the works, and on February 20 and July 30, 1912, accepted the offers of those firms to prepare the quantities for the second and third sections (B and C respectively) of the substructure and superstructure of the new building, at the same rate of remuneration. It is now desirable, the committee reported, to obtain quantities for section D, which is to be erected on the portion of the site now occupied by Holloway Brothers (London), Ltd., and the two firms referred to have offered to take out these quantities at the same rate of remuneration as that for which they prepared the other quantities, and to complete the work within ten weeks from the date of receiving the drawings. The committee recommended that this offer should be accepted. The cost of the work is estimated not to exceed £2,350.

The Local Government Committee recommended the acceptance of the tender of Messrs. W. E. Blake and Co., Fulham, amounting to £98,980, for the erection, within a period of twenty-one months, of the

new Sessions House at Newington. The new Sessions House, designed by Mr. W. E. Riley, F.R.I.B.A., architect to the London County Council, was illustrated in our issue of January 30 last. The recommendation was received.

It is reported that in response to a suggestion by the Council, the Great Western Railway Company have agreed to procure a halt on their new line from Ealing to Shepherd's Bush at the point where it will cross Erconwald-street, on the Old Oak Estate.

The Improvements Committee recommended that as part of the widening of Lambeth-road, near Lambeth Palace and the Albert Embankment, authorised in March last, and estimated to cost £41,000, three houses, Nos. 129, 131, and 133, Lambeth-road, be demolished, at a cost of £500. The effect will be to widen the road for a distance of 40ft., from a present width of from 41ft. to 38ft., to a minimum width of 63ft.

The Main Drainage Committee reported that the Council, on December 14, 1909, accepted the tender, amounting to £481,553 9s. 11d., of Griffiths and Co., Ltd., contractors, for the construction of the Southern low-level sewer No. 2 from Battersea to Deptford. The work has now been completed and the chief engineer has issued the final certificate. The actual cost of the construction of the sewer has amounted to £424,847 4s. 5d., and the total net cost of the work, including the provision of penstocks, etc., will amount to £445,040 8s. 3d., showing an ultimate saving in the gross amount of the contract of £36,513 1s. 8d.

Trailer cars, the design of which has been approved by the Board of Trade, are to be placed on certain additional tramway routes in South London, and a recommendation from the Highways Committee was submitted for the acceptance of a tender from the British Electrical Engineering Co., Ltd., of £74,200 for the supply of 150 trailer cars and equipment. The committee estimate that a trailer car can be operated for about £338 a car a year less than an ordinary electric car.

FROST RESISTANCE OF BUILDING STONE.

The most reliable sources whence practical results of resistance have been obtained are the signs of weathering in stones under actual building conditions. Where and when circumstances permit, it is best to submit the stone that is to be tested for several years to all the influences of weathering and then decide on the strength of the extent of exfoliation, cracks, and rifts exhibited.

The methods of saturating a little cube with a solution of glauber salt and then freezing it is all very well in theory, but in practice there are several objections. In the first instance, the resistance which stone offers to the solution is very different to that offered to water. It is well known that water when freezing expands, and exerts an enormous pressure. Now, through the addition of the glauber salt this very tendency of the water is obviated and in fact reversed, for salt of any kind is conducive to contraction. Water, therefore, remains the only reliable means for testing the resistance of stone, but the cubes must not be entirely covered by water, as in that case the air contained in them has no means of escape; they must be slowly immersed, so that the air can gradually escape as it is being replaced by water. The water is warmed to a temperature of 16 to 20deg. C., and to ascertain the maximum saturation coefficient of the sample, is weighed before and after saturation. If finally, after repeated weighing, the weight remains the same, it is assumed that the maximum point of saturation has been reached. The samples so saturated are frozen for five hours in a temperature of 12 to 15deg. C., and then thawed again in distilled water under a temperature of + 15deg. C. This is repeated from 20 to 30 times. To obtain the necessary cold broken ice and freezing salt is used, and the samples are then, without being dried, submitted to pressure in order to ascertain their crushing strength when frozen, which is com-

pared with the stone when not frozen, serving as a basis for the resistance offered by calculating the relative frost resistance.

The lower the difference of the crushing strength before and after freezing, the smaller the exfoliation and the cracks, the greater the frost resistance. At first sight it seems plausible enough that the frost resistance should increase correspondingly with the decrease in capacity of absorption, and that frost resistance is in an inverse ratio to the porosity of stone. Practical experience, however, proves the opposite. Soft and porous stone is held to be particularly frost-resisting, and hard and brittle stone with few and small pores of but small resistance. The reason, of course, is that with the softer stone the pores give way to the freezing pressure more easily, whereas in the harder ones the constant compact resistance offered conduces to exfoliation, cracks, and rifts. The knowledge of the mineralogical components of a stone helps us to ascertain its weather-resisting qualities. Very harmful additions are principally carbonate of lime, pyrites of iron, and gypsum, and most desirable are consequently the most silicious stones.

The great importance attaching to whether or not there is any addition to the water is shown by the fact that basalt, under the influence of water, loses 2 per cent. of its dry crushing strength, whilst granite loses 8 per cent. It is proved that stone showing a high frost resistance will endure against water, but naturally it must not be assumed that the addition of salt and other materials is superfluous, nor must we overlook the necessity of experimenting with the inclusion of various materials of different stone and their composition. The different methods of testing should not replace, but supplement and complete each other.—*Stone Trades Journal.*

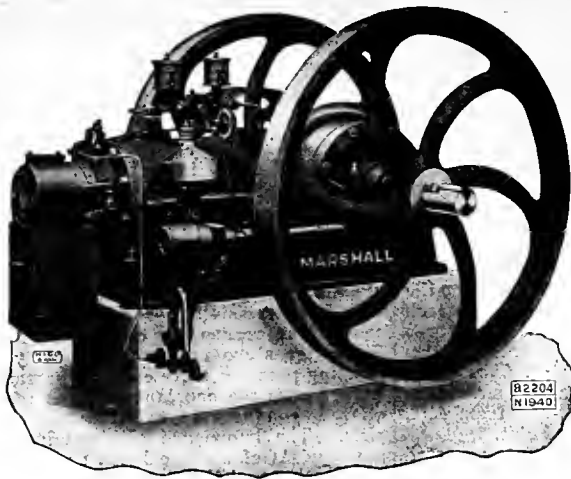
AN OVERLOOKED TENDER AT WALLASEY.

We reported last week, on p. 8, that the Education Committee of the Wallasey Corporation had rescinded their resolution to accept for building a new council school in Valkyrie-road, Liscard, the tender from Messrs. W. Thornton and Sons, Liverpool, for £18,107, it having transpired that a still lower tender from another Liverpool firm (Messrs. Duthie and Son) for £17,750, had been left unopened and forgotten in the clerks' office. The committee accepted Messrs. Duthie's tender. When, however, the matter came before the town council itself, that body unanimously decided to adhere to the original resolution and to accept Messrs. Thornton's tender, as at first proposed.

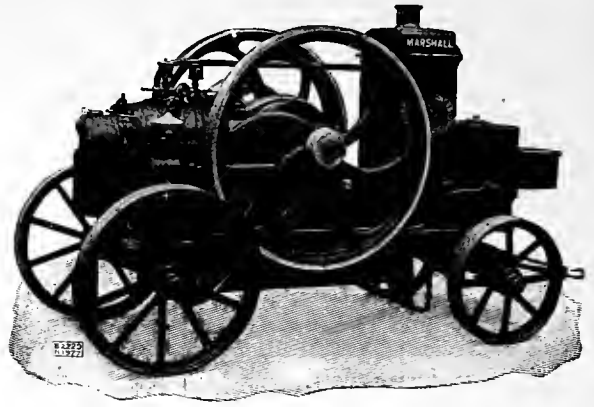
Alderman Dawson, on the consideration of the minutes of the education committee, proposed that the resolution in regard to the acceptance of a tender for £17,750 for the erection of a new council school in Valkyrie-road, Liscard, be rescinded, and that the previous resolution, accepting the tender of Messrs. W. Thornton and Sons, Liverpool, for the sum of £18,107 be confirmed. There had, he said, been a technical error, which perhaps need not be discussed. It was, perhaps, unfortunate that a slightly larger amount had to be paid, but he thought, under the circumstances, that what he proposed was the best course to be adopted.—Alderman Peace seconded, and the motion was unanimously carried without further comment.

A Local Government Board inquiry has been held at Mountain Ash into an application of the urban district council for sanction to a loan of £40,000 for water-supply works. Messrs. Fox, Moore, Bateman, and Fox, Victoria-street, Westminster, are the engineers.

The foundation-stone of the new church of St. Luke was laid on Monday at West Hartlepool. The site is at the corner of Hart lane and Tunstall-avenue, and the new church, which will be of stone, will be Early English in style and cruciform in plan. The entire scheme will cost £7,662; but at present it is only intended to erect the nave, aisles, transepts, and tower. Accommodation for 500 persons will be provided.



E 2204. Fixed Oil-engine.



E 2229. Portable Oil-engine.

OIL-ENGINES.

Many of our readers will be interested in a new catalogue just published by Messrs. Marshall, Sons, and Co., Ltd., Britannia Ironworks, Gainsborough, of their different types of fixed and portable crude-oil engines made on the semi-Diesel system.

Comparatively few readers seem alive to the advantages of the oil-engine, thanks probably to want of enterprise on the part of makers. Messrs. Marshall, Sons, and Co. not only manifest the ability to produce a most successful engine, but the ability and disposition to bring its advantages to the knowledge of users, and the result is daily increasing additions at home and abroad to the numerous users who, without exception, testify to the economy and convenience of their engines.

Engines of the internal-combustion type are invariably operated by means of an explosive mixture of oil-vapour, or gas, with the correct proportion of air, exploded under compression. The primary difference between the oil-engine and the gas-engine lies in the fact that the former generates its own vapour from the oil which is injected into it. In the semi-Diesel type of oil-engine, a charge of air is first drawn into the cylinder and compressed, and at the correct moment, oil is injected in the form of fine spray. The temperature of the vaporiser due to the heating-lamp, or previous explosions, suffices to fire the new mixture.

The "Marshall" crude-oil engine successfully combines, as far as possible, the economy of high-compression oil-engines with the advantages pertaining to the reduced working pressure of low-compression engines. At the same time, it possesses a marked superiority over both types as regards its simplicity. Where oil is obtainable, the oil-engine provides the easiest means of generating power, as it is readily started, requires a minimum of attention, and needs very little cleaning. The "Marshall" oil-engine compares very favourably with the steam-engine in smoothness of running, reliability, and capability of making long continuous runs. The engine is designed to work on the well-known two-cycle principle. No air- or exhaust-valves are required in the cylinder-head, and by the elimination of such valves and their complicated operating-gear, the chief trouble with oil-engines has been overcome. With the two-cycle design, a regular turning effort is obtained. The fly-wheels receive an impulse every revolution, and as the explosion-pressure is not greatly in excess of the compression-pressure in the cylinder, impulses are given without shock, and, consequently, very smooth-running results. The "Marshall" engine operates on the semi-Diesel system, and will work with crude, refined, and residual oils. The compression-pressure in the cylinder (approximately 175 lb. per square inch) is sufficiently high to insure the maximum economy in working, but it is not great enough to render starting difficult.

The "Marshall" oil-engines are designed for universal service. The series of fixed engines are especially well adapted for driving all classes of stationary machinery where small powers are required and they are also readily adaptable for electric-lighting installations. The portable series are thoroughly suited for agricultural purposes, such as the driving of threshing-machines, cotton-gins, pumps, and other machinery on farm or estate, at home or abroad. The portable engines will also make a strong appeal to contractors. They can be employed equally as well as an ordinary steam portable engine as a source of motive power, they have the advantage of being always ready for work at

a few minutes' notice, and stand-by losses are almost entirely eliminated.

We give herewith illustrations of two types of engine. One, E 2229, is a portable engine, which will commend itself well where requirements demand the easy transfer of power. The other, E 2204, shows a fixed engine, the permanent installation of which will prove infinitely more advantageous to many than a steam- or gas-engine, rendering the user independent of coal and gas. We are sure hundreds of our readers will find one or the other save them money and give complete satisfaction.

PROFESSIONAL AND TRADE SOCIETIES.

THE EDINBURGH ARCHITECTURAL ASSOCIATION.—A large party of members of this association visited Oxenford Castle on Saturday afternoon, by permission of the Earl of Stair. Mr. Hippolyte Blanc, R.S.A., F.R.I.B.A., acted as leader, and a number of old plans and prints of the castle, showing the alterations made at various periods, were exhibited, these all being in Lord Stair's possession. Mr. Blanc read an interesting description of the castle, which comprises a groups of buildings erected at various periods from the middle of the 16th century. It was enlarged in 1780 by Robert Adam, and again in 1840 by William Burn, of the firm of Burn and Bryce, who added the present library, billiard-room, boudoir, and business room. The castle was originally founded by David MacGill, son of Sir James MacGill, Lord Provost of Edinburgh in the time of James V., and was King's Advocate in 1582. King James II. and VII. and his daughter (afterwards Queen Anne) were frequent guests at the castle, which contains a library of books and MSS., and many valuable paintings by famous artists.

THE ROYAL ARCHÆOLOGICAL INSTITUTE'S SUMMER MEETING AT DERBY.—In anticipation of the summer meeting of the Royal Archæological Institute, to be held at Derby from Tuesday in next week, the 14th inst., until Wednesday in the following week, the 22nd inst., a comprehensive and carefully compiled programme has been prepared by the secretary, Mr. G. D. Hardinge-Tyler, and is issued in attractive green cover as a handbook. Each of the two-and-twenty principal buildings to be visited is described concisely and in detail, and is illustrated by a plan. Among these is Haddon Hall, reproduced by permission from our pages. The proceedings are arranged as follows:—

Tuesday, July 14.—Rail to Lichfield. Roman Station of Wall, to be described by Mr. Charles Lyman, F.S.A. Lichfield Cathedral Church (Mr. John Bilson, F.S.A.) Rail to Derby. Evening Meeting. Lecture in French on "Roman Sculpture in France," by Professor Eugene Lefèvre-Pontalis.

Wednesday, July 15.—Rail to Tutbury Castle and Church (Mr. Lyman). Rail to Derby. Rail to Wingfield Manor House (Sir W. H. St. John Hope, Litt.D.) Rail to Derby. Annual General Meeting.

Thursday, July 16.—Motor to Sawley Church (Mr. A. Hamilton Thompson, F.S.A.), Little Wilne Church (Sir W. H. St. John Hope), and Claddesden Church (Mr. A. Hamilton Thompson). Motor to Derby. Motor to Dale Abbey and Morley Church (Sir W. H. St. John Hope). Motor to Bradwell Church (Mr. Hamilton Thompson). Motor to Derby. Evening Meeting.

Lintern lectures on "Excavations at Margidunum, near East Retford," by Messrs. F. Oswald and T. Davies Pryce.

Friday, July 17.—Rail to Rochester. Motor to Croxden Abbey (Mr. Harold Brakspear, F.S.A.), and Wootton Lodge (Mr. Hamilton Thompson). Motor to Norbury Old Hall and Norbury Church (Sir W. H. St. John Hope). Motor to Ashbourne. Ashbourne Church (Mr. Hamilton Thompson). Motor to Derby. Evening Meeting. "Fourteenth-Century Chancels in the Midlands," by Mr. Hamilton Thompson.

Saturday, July 18.—Motor to Repton Church and Repton Priory (Mr. Brakspear). Motor to Melbourne Church, to Bredon Church (Mr. P. B. Cuatwin, F.R.I.B.A.), and Staunton Harold (the Earl Ferrers, F.S.A.) Motor to Malbourne. Motor to Derby over Swarkeston Bridge (Mr. W. Smithard).

Monday, July 20.—Rail to Bakewell. Motor to Youlgrave Church (Mr. P. H. Currey, F.R.I.B.A.), and Arbor Low (Professor W. Boyd Dawkins, F.R.S.) Motor to Bakewell. Bakewell Church (Mr. Brakspear). Motor to Haddon Hall (Sir W. H. St. John Hope). Motor to Rowsley. Rail to Derby. Evening Meeting, "Tombstone Inscriptions at Bardney Abbey," by the Rev. C. E. Laing.

Tuesday, July 21.—Rail to Bakewell. Motor to Tideswell Church (Canon Fletcher) and Eyam Hall and Church (Rev. F. L. Shaw). Motor to Chatsworth (Mr. J. P. Main, Librarian of the Hall). Motor to Bakewell. Rail to Derby. Evening Meeting, "Derbyshire Church Screens," by Aymer Vallance, F.S.A.

Wednesday, July 22.—Rail to Chesterfield. Motor to Barborough Hall and Bolsover Castle (Mr. J. A. Gotch, F.S.A.) Motor to Hardwick Hall (Mr. Gotch). Motor to Chesterfield. Rail to Derby.

Mr. F. R. Gibbins, of the city surveyor's office, Manchester, has been appointed engineer and surveyor to the Cheadle and Gatley Urban District Council.

A branch co-operative store in Gainsborough-road, Crewe, built at a cost of £2,000, was opened last week. It was designed by Mr. G. E. Bolshaw, architect, of Crewe, and the builders were Messrs. Mickelwright and Sons, of Crewe.

After some years of negotiation, the Gwyrfai Rural District Council on Saturday decided to proceed with the erection of a number of workmen's dwellings in the Ebenezer district on sites to be acquired from the Vaynol and Codd Helen estates on advantageous terms.

The new Church of the Annunciation in Bryanston-street, W., occupies the site of the well-known Quebec Chapel, which was originally a riding-school for troops, and was adapted for purposes of worship in 1759. The new church has cost £30,000, and contains a rood, with figures above, also of oak. The architect is Mr. Walter Tapper, F.R.I.B.A., of St. John's Wood.

The foundation-stone of a parish hall for King Charles the Martyr Church, Tunbridge Wells, has been laid. The building will include a hall with seating accommodation for 250 people, rooms for men's institute, boys' club, girls' club, Sunday-school teachers, cloakrooms, kitchen accommodation, and caretaker's residence. Mr. Stanley Philpot, L.R.I.B.A., is the architect, and the contract has been taken by Mr. Thomas Bates, a local builder, at £2,930.

Construction has commenced on the walls of the Manitoba Parliament Buildings now being erected at Winnipeg at a cost of 2,000,000 dol. The architect is Mr. F. W. Simon, F.R.I.B.A., of East Grinstead, Sussex, and Winnipeg, and the general contractors are Messrs. Thos. Kelly and Sons, of Winnipeg. We illustrated Mr. Simon's design—which was selected in competition by the assessor, Mr. Leonard Stokes—by plans and elevations in our issue of Sept. 27, 1912.

Corrente Calamo.

The sectional settlements in the London Building Trade Dispute are proceeding. The crane-drivers have followed the stonemasons back to work, and activity is restored thereby on quite a number of large buildings. The plasterers, the carpenters and joiners, and the general labourers have met the London Master Builders' Association during the week, but at the time of our going to press no final settlement with either was announced. At a conference on Tuesday of several leading London master builders who are not members of the London Master Builders' Association, it was announced that letters had been received from 225 firms, employing about 10,000 men, in which a willingness to assist the London Master Builders' Association to bring about a termination of the present position was expressed. It was unanimously resolved to hold a meeting of all the London master builders not being members of the London Master Builders' Association, on Tuesday next, and the London Master Builders' Association were invited to send representatives to the meeting. By that time we trust it will have been made manifest that anything like a general lock-out is unnecessary and inadvisable.

We have remarked more than once during the past six months that probably few realise how trouble in our own trades breeds trouble throughout the whole realm of industry, and causes loss and suffering in hundreds of instances not apparent to the ordinary observer. The strike at Woolwich Arsenal is a case in point. One of the engineers at the Arsenal was called upon to lay down a machine on a concrete foundation built by a non-unionist worker. The firm who had the contract for the construction of this foundation was an outside one, and the dispute in the London building trade compelled this firm to employ non-unionist labour. The Woolwich engineer refused to do his part of the work because of this employment of non-unionist labour. He was dismissed, and his dismissal led to a strike of all his co-workers, "in sympathy." The strikers at Woolwich contend that the outside builders temporarily employed on the foundation job were "strike breakers"—"blacklegs," they call them—and protest that the employment of ordinary non-unionist labour would not have led them to strike. Thus a Government Department of the first importance has been thrown out of gear by a one-man dispute, originating in a quibble. Fortunately, common-sense quickly prevailed on both sides, and the men returned to work yesterday, "as they were," pending an inquiry by a special committee of five appointed by Mr. Asquith.

Some of the daily papers are commenting on the apparent intention of the City Streets Committee, which, it is said, intends some dummy railings set up at the south-west angle of the space in front of St. Paul's Cathedral to mark the fence of a proposed underground lavatory. We are sure our gentle remonstrance will effect a change of site. We do not suggest that any danger to the foundations of the Cathedral is likely to result! But, really, considerations of decency alone should prompt the selection of another site. It is a little remarkable that contiguity to a church seems not infrequently to recommend the establishment there of conveniences of the kind to our

municipal authorities. A peculiarly flagrant, and frequently flagrant, instance at the eastern end of the Church of St. Mary-le-Strand, now happily abolished, was long tolerated by the old Strand Board of Works, and the City of Westminster apparently could find no more suitable location for its less obtrusive successor, at the east end of St. Clement Danes.

Sir Joseph Beecham has purchased from the Duke of Bedford the Covent Garden Estate. The price paid has not been disclosed, but it was understood that when Mr. Mallaby-Deeley entered into a contract of purchase from the Duke last December the figure was £2,750,000. The gross rentals appear to amount to about a quarter of a million yearly. Messrs. Goddard and Smith, Piccadilly, were the estate agents connected with the re-sale of the property, which has been disposed of en bloc. It seems, according to a statement published by Messrs. Freshfields, that in the early part of this year a dispute wholly unconnected with the financial aspect of the contract, but turning upon boundaries, arose between the Duke as vendor and Mr. Mallaby-Deeley as the intending purchaser. Legal proceedings were commenced for specific performance of the contract, after which an original offer by Sir Joseph Beecham was largely increased, and with Mr. Mallaby-Deeley's consent, an agreement for purchase from the Duke has now been signed. The extensive property is situated in no fewer than twenty-six streets, and includes, approximately, 750 buildings, with over 1,000 tenants.

We trust that a really national memorial to Mr. Joseph Chamberlain will fittingly mark the nation's regard for a man whom men of all politics will always admire for his powers of concentration and disregard of obstacles—qualities none too manifest in our present-day politicians. As a matter of course his statue will in due time find its place within the precincts of the Palace of Westminster. Mr. Gladstone, "Lord John" Russell, Lord Granville and Lord Iddesleigh are thus commemorated in the central hall, and Mr. Bright in the lower waiting-hall, while a statue of Sir William Harcourt is the only one in the members' lobby, where several pedestals remain unfilled, and this seems the most fitting place for one to Mr. Chamberlain. A worthy memorial might be set up outside Westminster, as in the case of Mr. Gladstone, at the eastern Strand entrance to Aldwych and Kingsway. There is also a proposal to mark specially in the Guildhall the City's appreciation of one who, descended from a family of its freemen, and a freeman himself, was welcomed enthusiastically there after his return from South Africa, and made in that historic hall the last great speech he ever delivered in London. An idea also is heard that there should be a memorial in Wiltshire to perpetuate the connection of his family with that county, it having been a son of Daniel Chamberlain, of the village of Laycock, who migrated to the Metropolis in the 18th century, and established the business of which Mr. Chamberlain's father was ultimately the head. All these are good in their way; but something more is wanted. The needs of the many activities which marked Mr. Chamberlain's career suggest the opportunity for a great architectural memorial of his fame, taking shape in a structure devoted to the enforcement of the Imperial needs ever present to his mind, and we hope

to see its character discussed at an early date, and that an adequate response will follow.

The failure of a contractor or a builder is, unfortunately, nothing new nowadays, though less frequent lately. But one recently reported in the Court of Bankruptcy (*Times*, July 4) may be worth a note, as pointing several morals. The liabilities were £13,165, and no assets had either been disclosed or realised. In the end the Registrar, upon statutory grounds—i.e., as required by the Act—suspended the bankrupt's order of discharge for three years. It is the causes of the failure that may interest others. In the first place he seems to have built flats in London, and their depreciation in value was one main reason for his catastrophe. The failure of flats in many parts of the West-End has certainly been colossal, and the fact should be full of financial warning to the unwary. Then he got into a big contract with a corporation to build a masonry dam. This is often a risky business over the estimate, quantities, and excavation. But this unlucky debtor did worse, for he also got into litigation over the job, in which way we have little doubt that he lost more money than he could ever have made out of the contract price. Beyond this there was a sort of speculation in building a theatre, etc., at Margate, that, no doubt, looked like a goldmine of the good period, but seems also to have turned out a frost and a financial failure. But, after all, a builder to live must build something.

The Port of London Authority issues an interesting volume dealing with the past and present history of the Thames and its docks. The letterpress is by Mr. Douglas Owen, and the illustrations, which are numerous and artistic, are by Mr. Charles J. De Lacy. The book briefly traces the rise of the Port of London, from its earliest days, and relates the circumstances which eventually led up to the creation of the Port of London Authority. The first enclosed dock area was the Howland Dock at Rotherhithe, which flourished as early as 1703. Its site now forms part of the Surrey Commercial Docks. It was, however, nearly a century later that the value of enclosed docks for the handling and protection of cargo came to be appreciated, and the West India Dock, the precursor of many others, was opened, with the active support of the great William Pitt. Besides dealing with the many-sided activities of the Port Authority, the book details fully their great scheme of improvements now in course of execution, and in particular indicates, by pen and picture, the general character and importance of the fine new deep-water dock now being constructed between the Royal Albert Dock and the river. Several of the illustrations of the new dock are in colours, and effectively suggest the great part which the enterprise is likely to play in the future commercial history of London.

In a pleasant lane at Woolton, leading from Woolton Hall into the country and contracting into a path which terminates at Halewood, is a wall in which are many worked stones, portions of fluted pillars, ornamental bosses, bits of arches, window carved work, etc. The wall is on the north side of the lane, and belongs to Mr. Shawfield, a former surveyor of Woolton. When examining the stones in the wall (writes a correspondent of the *Liverpool Daily Post*) I saw two masons' marks, but they were of

unusual pattern, and quite different from other mason marks found in South-West Lancashire. A couple of the best specimens from the wall have been given to Canon Howson, rector of Woolton, who has placed them in the rectory garden. One, a rose, is beautifully worked, and is as clear as when newly sculptured. The difficulty of ascertaining the age is real in this case, for Woolton stone is famous for its durability (it was chosen from sixty-two samples as the best and most suitable for special work at the Liverpool Cathedral). Query: From what building have these worked stones been taken? Did they come out of the Camera of the Knights of St. John of Jerusalem when it was demolished, or from the chapel or priory which the Benedictines had, also at Woolton?

CHIPS.

Special services have been held at St. Mary's Parish Church, Whittlesey, to celebrate the completion of the restoration, without accident of any kind, of the famous tower and spire, which provide a landmark over a wide area of the Fen country.

At Vancouver, B.C., operations are to commence shortly on a new hotel. The building will be eight stories high, and will cost 150,000dol. Messrs. Mitton and Gillingham, Vancouver, are the architects, and Messrs. J. J. Frantz Construction Company, Vancouver, the general contractors.

Mr. Nathaniel Saunders, of Albany Cottage, Dedham, builder, left estate of the gross value of £11,654, of which £8,412 is net personality. He left £250 for the erection of a memorial in Dedham Church to the memory of his seven deceased sisters, unless he shall have erected such memorial in his lifetime.

The urban council of Blackrock, Co. Dublin, have accepted the tender of Mr. Louis Monks, Kingston, for the erection of some 47 houses in Brookfield and Booterstown, at a cost of £11,872, this contractor's tender being the lowest. The same contractor's tender for the erection of washhouses at £2,040 was accepted. Messrs. Sanderson and Taylor were accepted as heating contractors at £520.

Canadian architects are invited to send in competitive plans for a public civic library to be erected at the corner of Sherbrooke and Montebello streets, Montreal. The building will cost 250,000dol. Other libraries are to be erected, and it is understood that the plans for the other libraries are to be of similar design. The premiums will be 1,000dol., 800dol., and 500dol. for the three best plans submitted.

The Provincial Public Works Department of British Columbia have awarded to Messrs. Armstrong, Morrison, and Co., Vancouver, the contract for a steel bridge over the Pitt River at Port Coquitlam to connect that municipality with Pitt Meadows. The estimated cost of the bridge will be about 500,000dol., and the work will be completed within twelve months. The bridge will consist of seven open dredging caisson piers and two pile-bearing piers. The approach on the west end will be 300ft. long, and on the east end 463ft.

At the last meeting of the Washington State Chapter of the American Institute of Architects a committee was appointed to devise a form of notification to manufacturers who send out trade catalogues which do not conform to standard sizes, that such catalogues are consigned to the waste-basket. The secretary was instructed to notify the secretary of the American Institute that such action had been taken with the request that he notify the secretary of each chapter concerning it, the suggestion being made that they take similar action.

At the meeting of the Warwick Rural District Council the other day, the sanitary inspector reported that he had received plans from the architect of a syndicate which had purchased 116 acres of land at Strivichall, near Coventry, for the building of 1,200 houses, and laying out the estate with gas and electricity from Coventry; but the rural district council would be asked to lay on the sewer, a length of 2,300 yards. The rateable value of the property would be £20,000. It was decided that the matter be referred to the general purposes committee, together with the question of whether the Housing and Town-Planning Act should not be adopted.

Building Intelligence.

BRISTOL.—The new wing of the General Hospital, which has been built at a cost of £40,000, will be opened on Monday, the 27th inst. Provision is made for a female medical ward, with sun balcony facing south; a maternity ward, with glass-covered sun-balcony, for the reception of the very poor in difficult cases of childbirth, and a new dental department. The maternity ward contains 12 beds, and the female medical ward 25 beds. The building also includes accommodation for resident medical staff, registrar's room, accommodation for lady students, and additional bedrooms for nurses, as well as dining-halls for nurses and the sisters. There is also a new clinical laboratory. The builders are Messrs. W. Cowlin and Sons, of Bristol, and the architects are Messrs. Oatley and Lawrence, of the same city.

DUNBLANE CATHEDRAL.—Another important part of the scheme for the restoration and redecoration of Dunblane Cathedral has just been completed, and will be inspected by their Majesties on their visit to the town to-morrow (Saturday). The cathedral, situated on high ground overlooking the Allan Water, has had a long history. It occupies the site of an older church erected by the Culdees, and was restored or rebuilt by Bishop Clement in 1240. In the 16th century, after a raid by Perth burgesses, the edifice was allowed to fall into disrepair; the roof of the nave collapsed, and for 300 years this part of the cathedral was roofless. The chancel, however, was continuously used as the parish church. It was partially restored in 1870, and shared also in the general restoration of the cathedral, which, under the direction of Sir Rowand Anderson, begun in 1889 and completed in 1893, converted a ruinous building into one of the finest edifices of the kind in Scotland. The cost of that restoration amounted to £30,000. The main features of the present improvements to the choir are the setting back of the organ, the construction of a new organ-case in place of that erected in 1892, the provision of choir-stalls, and the placing of a canopied screen from the floor to the sill of the east-end stained-glass window. The work, which has taken three years in execution, was entrusted to Sir Robert Lorimer, F.R.I.B.A., of Edinburgh. The whole of the new carved work is in native oak. The two new rows of choir-stalls on the north and south sides of the chancel extend eastward from the chancel arch along three bays, a distance of about 41ft., giving accommodation to about sixty men. The upper range of stalls is finished with a canopied treatment. The canopied oak screen across the east wall is a memorial to Bishop Leighton, Bishop of Dunblane from 1662 to 1671, before he removed to Glasgow as archbishop. This screen contains sculptured panels, representing the Seven Acts of Mercy, the groups in which were designed by Mr. Percy Portsmouth, A.R.S.A., of the Edinburgh College of Art. The whole of the carving was executed by Messrs. Clow, Edinburgh. On the south side of the chancel is a range of six lofty lancet windows, with tracery, and these are to be filled with stained glass at the cost of Mr. Younger, K.C., the artist to be employed being Mr. Louis Davis, London.

GLASGOW.—During their Majesties' visit to this city on Tuesday the King opened the Diamond Jubilee block just added to the Royal Infirmary, when the architect, Mr. James Miller, A.R.S.A., F.R.I.B.A., of Blythswood-square, Glasgow, whose design was selected in a limited competition nearly fourteen years ago, was presented to the King. Later in the day the King laid the foundation-stone of the extension of the City Chambers in George-square, now in course of erection at an outlay of nearly £170,000, from designs by Messrs. Watson and Salmon, F.R.I.B.A., of St. Vincent-street, Glasgow, whose design, chosen in competition by the assessor, Dr. (now Sir) John J. Burnet, was illustrated in our issues of May 2 and 9, 1913; Mr. John Watson was presented to the King. His Majesty also

opened the Hospital for Sick Children at Yorkhill, of which Sir J. J. Burnet, R.S.A., F.R.I.B.A. (who was also presented), is the architect.

LAIRA, PLYMOUTH.—The new Church of St. Mary the Virgin at Laira, a suburb of Plymouth, was consecrated by the Bishop of Exeter on Friday. The church, when complete, will accommodate 750, and the portion now erected 450. This comprises two bays of the nave and the north and south aisles, the chancel, Lady-chapel, and organ-chamber and sacristy. The crypt contains a choir, a vestry, and a clergy vestry, with separate approach to the Lady-chapel. When completed there will be a church room below the south aisle. The sedilia of three compartments has been designed in conjunction with a two-light window in the south wall. The nave roof is barrel-vaulted in oak, and the aisle roofs are open-timbered and in oak. The architect is Mr. T. Rodgers Kitsell, A.R.I.B.A., of Portland-square, Plymouth.

LIVERPOOL.—The good progress of the cathedral scheme was a theme of much congratulation at the annual meeting of the general committee held on Monday at the Church House, under the presidency of the bishop. The sum of £37,000 is still needed to pay for the constructional work on the choir and first transept, which will be finished in two years' time. Another year will be required for the internal work of carving, decorating, and furnishing, the greater part of the cost of which is guaranteed, and it is expected that then, in the early part of the summer of 1917, the first portion of the great edifice will be ready for consecration. Gifts in kind are still coming in, those accepted on Monday including four stained-glass memorial windows, ornaments for the holy table, a lectern and gradine, steps to sanctuary, and choir-gates. The annual report of the executive committee stated that as to the choir, the outer walls, the groined interior roof, and the outer roof were all now complete; the tracery of the great east window and the other windows were in position. The chapter-house was also roofed in. Good progress was being made with the erection of the first transept, and the design and execution of the larger stained-glass windows were in hand. There has been raised for general purposes, or the outer shell of the fabric, £324,000, of which there has been spent £270,000. For various special purposes £113,000 has been received, of which there has been expended, roughly, £47,000. It is ten years since King Edward laid the foundation-stone of the edifice.

At Whitley Bay, on Friday, Mr. A. W. Brightmore, Local Government Board inspector, held an inquiry into the application of the Whitley and Monkseaton Urban District Council for sanction to borrow £1,870 for private street-improvements. Mr. A. J. Rousell, the surveyor, submitted plans of the proposed work.

The Cornwall County Council have accepted the resignation as from September 19 of their county surveyor, Mr. A. E. Brookes, who has been appointed to a similar position under the Durham County Council, and have agreed to advertise for a successor at £600 a year, rising by annual increments of £25 to £700.

The Sheffield City Council have before them the recommendation of the improvement committee that application be made to the Local Government Board for sanction to borrow a further sum of £11,553 in connection with the extension of the town-hall. This amount is the estimated cost over and above the original estimate (prepared in May, 1911), and is due to advances in the cost of wages and materials and alterations and improvements decided upon since the original estimate.

An inquiry has been held at the Courts of Justice with reference to a draft special extension order, under the Unemployment Section of the Insurance Act, relating to sawmilling, including machine woodwork. The Commissioner, Mr. A. A. Hudson, K.C., in giving his decision, said he thought he ought to report to the Board of Trade that the Order should not be made, on the ground that it did not extend the provisions of Part II. of the Act to workmen in any trade other than an insured trade, sawmilling being already included in the list of insured trades, for the purposes of the Act, by Section Seven of the Sixth Schedule.

COMPETITIONS.

R.I.B.A. EXAMINATIONS.—The Final: Alternative Problems in Designs are as below:—Subject XVI.: (a) An island on a river, about 240ft. by 100ft., is the site for an Hotel and Tea Gardens. The usual accommodation for a country hotel, together with ample balconies, having suitable outlook, is to be provided. There should be accommodation for housing boats. The general level of the island is 8ft. above the river, which in flood rises 6ft. Drawings required: Block Plan to 1-16in. scale, with other drawings to 1/2in. scale. (b) A Dairy and Farmstead (sixty cows). Drawings required: Plans to 1-16in. scale. Elevations of portions and sections to 1/2in. scale, with 1/4in. scale details. Subject XVII.—(a) Circular Hall for meetings, concerts, etc., to seat 2,000. An organ, and the usual cloakrooms and retiring-rooms, must be provided. The building to be considered as being on a detached site, and the façades to be in stone. Drawings required: 1/2in. scale and a detail to 1/4in. scale. (b) An Elementary Mixed School for 200 children, for a Rural District. The area of the site not limited, but the school is to be designed on the corridor system. A manual-instruction room and a cookery school are to be included. Drawings required: Block plan to 1-32in. scale. Other drawings to 1/2in. scale, and detail through Hall to 1/4in. scale. Subject XVIII.—(a) The Organ-case in the Circular Hall (see Subject XVII., a). The longest pipe to be 32ft. Drawings required: 1/2in. scale, with some details to not less than quarter full size. (b) A Group of Small Dwellings for twelve aged couples, to be considered from a practical point of view. Each dwelling to consist of at least two rooms. A common dining-hall and kitchen offices to be provided. Site having a frontage of 80ft. looking south-east, on the outskirts of a town. Drawings required: 1/2in. scale, and details of different portions to 1/4in. scale.

Dates for Submission of Designs in 1914—1915.

	Subject XVI.	Subject XVII.	Subject XVIII.
United Kingdom	Aug. 31	Oct. 31	Dec. 31
Johannesburg	Oct. 31	Dec. 31	Feb. 28
Melbourne	Nov. 30	Jan. 31	Mar. 31
Sydney	Nov. 30	Jan. 31	Mar. 31
Toronto	Sept. 30	Nov. 30	Jan. 31

BOLTON - ON - DEARNE HOUSING SCHEME.—The Bolton Urban Council is about to launch out upon a second housing scheme, consisting of 310 houses, or more, at a probable cost of about £70,000. A large plot of land, around which is land so laid out that crowding will not be possible, has been secured, and the council decided, in order to get the best possible schemes, to put the architectural designs out to competition. This was done, and Mr. Charles Hadfield, of Sheffield, was appointed as independent assessor, and made the following awards, which have since been confirmed by the council. First prize, with premium of £50 and appointment, G. F. Pennington, architect, of Carside and Pennington, Pontefract and Castleford; second prize, £50, Matley and Mills, Manchester; third prize, £25, Franklin and Deacon, Luton. Bolton has one of the most successful housing schemes already in operation, and the present proposed scheme will include three classes of house—viz., six-roomed house, with bathroom, etc., four-roomed house, and small-class house. A number of houses with shops are also being erected.

CHICAGO.—Last year, in connection with its Housing Exhibition, the City Club of Chicago held a competition for plans for laying out a typical quarter-section of land in the outskirts of Chicago. Thirty-eight sets of drawings were submitted, the majority of which are now being prepared for publication by the Club. The volume will be ready in the coming autumn. This year the City Club will hold a competition for plans for a neighbourhood centre. The object of the competition is to bring before the public, in graphic form, the practical possibilities of enhancing neighbourhood life in our cities by better, and especially better grouped, buildings and grounds for neighbourhood activities. The drawings submitted in the competition will be shown as the special

feature of an exhibition and a series of conferences on the subject of neighbourhood centres, to be opened at the City Club, Tuesday, February 9, 1915. The club also reserves the right to publish in pamphlet or book form all drawings and theses submitted. This programme for the competition has been prepared with the co-operation of the Illinois Chapter of the American Institute of Architects. One of the past-presidents of the City Club has offered 600dol. for the purposes of the competition, and this amount will be awarded by the jury, as prescribed in paragraph 13, page 4. The preliminary competition is open to all. The competition will be held in two parts, the preliminary and the final. Any individual, group of individuals, firm, or combination between any of these may participate in the preliminary competition. In the preliminary competition each participant will submit one drawing only, a general plan, on the scale of 50ft. to the inch. If, however, a participant desires to show the geographical relation of his proposed centre to its immediate surroundings or to the whole community, he may for that purpose combine a key-plan on a small scale with the main plan of the neighbourhood centre, or may submit such key-plan separately. All persons registered in the competition will be invited to attend a series of meetings at the City Club, the first of which will be held early in July, at which experts on the subject of the competition will speak, and matters connected with the competition will be discussed. Written reports of these meetings will be sent to competitors outside of Chicago. The drawings in the preliminary competition are to be delivered at the office of the City Club, 315, Plymouth-court, Chicago, at or before noon of Monday, November 9, 1914, addressed "Neighbourhood Centre Competition." These drawings will not be made public until the close of the final competition. The drawings in the preliminary competition must not bear the names of their authors, but each must bear a nom de plume. To each drawing, or set of drawings there must be attached an opaque sealed envelope, containing a card bearing the nom de plume and the name and post office address of the author, or of each, if there be several authors. The seals of these envelopes will not be broken, and, therefore, the identity of the authors will remain unknown until the jury has made the awards in the final competition. As soon as practicable after the close of the preliminary competition a jury of five members, to be chosen by a joint committee of the Illinois Chapter of the American Institute of Architects and of the City Club, will select from the plans submitted not less than eight nor more than sixteen which they deem to be the best. The noms de plume of the authors of the winning plans will then be publicly posted in the main lobby of the City Club, and a list of such noms de plume will be mailed to all persons who have registered in the competition. The authors of the plans thus selected shall be eligible to participate in the final competition, and should proceed without further notification with the drawings therefor. The drawings in the final competition are to be delivered at the office of the City Club, 315, Plymouth court, Chicago, at or before noon of Monday, January 25, 1915, addressed "Neighbourhood Centre Competition." Each drawing submitted in the final competition must bear the nom de plume used by the author in the preliminary competition. No further identification of the drawings in the second competition will be necessary. As soon as practicable after the close of the final competition, the jury will award first, second, and third honours to the three sets of drawings which they deem the best among those submitted in the competition. The jury may award honours to more than three if in their judgment special circumstances demand such action. The jury will also select the eight sets of drawings which they deem the best among those submitted in the competition, and the sum of 600dol. will be divided equally among the authors of those eight, to cover in part the expense of preparing the drawings. A set of drawings will comprise a plan submitted in the preliminary competition, and the drawings submitted by the same

author or authors in the final competition. All drawings shall be the property of the authors, subject to the club's right of possession for publication in book form. Inquiries for further information should be addressed in writing to "Neighbourhood Centre Competition," City Club, 315, Plymouth-court, Chicago. The answers will be in writing and will be forwarded, with the questions, to all competitors. Mr. George E. Hooker is the Civic Secretary.

DUDLEY.—The town council of Dudley have decided to invite competitive designs from "qualified" architects practising within 150 miles of the borough for a new town-hall, municipal buildings, and police-station. The designs are to be submitted to an assessor to be appointed on the recommendation of the President of the Royal Institute of British Architects. Three premiums are offered—namely £50, £30, and £20, for the designs which the assessor shall adjudge to be first, second, and third in order of merit, the premium of the author of the design accepted to merge in his commission. The buildings will be erected in sections extending over a course of years, owing to the site being now occupied in part by similar buildings. The work will probably be proceeded with in the following order: Police buildings, municipal buildings, and town-hall. Designs, however, are invited for the whole scheme. All the main frontages will be in Priory-street.

GATESHEAD.—Members and Licentiatees are advised that the conditions of the competition for proposed new school, Sunderland-road, Gateshead, are not in accordance with the R.I.B.A. Regulations for Architectural Competitions, and the competitions committee are in correspondence with the promoters with a view to getting them amended.

HYTHE.—The designs submitted for the Concert Hall and Public Shelter, Hythe, Kent, have been assessed by Mr. C. F. A. Voysey, who was called in by the town council. He has made his award as follows—viz.: First premium, Mr. Arthur Wintle; second premium, Mr. Horace T. Bonner, A.R.I.B.A.; third premium, Mr. W. I. Alcorn. The designs are to be publicly exhibited. The town clerk is Mr. Bernard C. Drake, Town Clerk's Office, Hythe, Kent.

ROME SCHOLARSHIP AND JARVIS STUDENTSHIP IN ARCHITECTURE.—The Royal Commissioners for the Exhibition of 1851 have awarded the Rome Scholarship in Architecture, 1914, to Mr. Philip Dalton Hepworth, on the recommendation of the Faculty of Architecture of the British School at Rome, and on the recommendation of the same body the Royal Institute of British Architects have awarded the Jarvis Studentship to Mr. Ernest Cormier. The Rome Scholarship is of the value of £200 per annum, and is tenable for three years at the British School at Rome. It is open to students of British nationality under thirty years of age. The Jarvis Studentship is offered to the Student or Associate of the Royal Institute of British Architects who is placed next in order of merit to the winner of the Rome Scholarship. The studentship is of the value of £200 per annum, and is tenable at the British School at Rome for two years. Mr. Hepworth, the winner of the Rome Scholarship, is twenty six years of age, and has studied both at the Architectural Association of London and at the Ecole des Beaux Arts, in Paris. He was elected an Associate of the Royal Institute of British Architects in 1912. Mr. Ernest Cormier is a French Canadian. We review the designs on another page. The Faculty of Architecture of the School at Rome has decided that the subject for 1915 in the above examination shall be a "Courts of Justice," on a site 400ft. square, facing a river. The buildings to be flanked by Government offices, connected by open covered ways with the Courts block. There are to be four courts, for civil business, the public access to same being through a large hall; judges and barristers to enter from the back. Four judges' rooms and rooms for barristers, jurors, solicitors, and witnesses, also a Bar library to be provided. Drawings to be sent in to 9, Conduit-

street, not later than noon, January 30, 1915. The Scholarship at Rome is worth £200 a year for three years, and the Jarvis Studentship £200 for two years. The latter is provided by the bequest left to the Royal Institute of British Architects by the late Mr. Henry Jarvis.

Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worth insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

All else being equal, brief replies will stand the best chance. We emphasise this, as some correspondents ignore the fact that queries want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

QUESTIONS.

[13145].—BANANA STORE.—Will some reader, who has had experience of fitting up a banana store, arrangements of hanging fruit, &c., kindly give me a few practical and inexpensive suggestions for same, and oblige—Jamaica.

Mr. W. H. Musselwhite, for the past thirty years surveyor to the Wilton Corporation, has now retired, and is succeeded by Mr. W. R. G. Coles.

The Devon County Council decided on Friday to proceed with the erection of a technical school at Barnstaple at an estimated cost of £30,000.

A new two-tier theatre, to be known as St. Martin's, is to be built in Upper St. Martin's lane, from plans by Mr. G. R. Sprague. It will have a ground area of 6,500 square feet, will seat 750 persons, and will cost about £30,000.

The Lord Provost's Committee of Edinburgh Town Council recommend that no action be taken in connection with a letter from the Edinburgh Architectural Association conveying the desire of that association to be represented directly by a member of the association upon the board of management of the College of Art.

On Saturday afternoon the new miners' hall at Eastington Colliery was formally opened. The building, a hall and institute combined, is close to the main street, and is three stories high, with square tower. The hall has a seating capacity of 1,100. The fabric has cost £5,000, and the furniture £1,000. The contractor was Mr. E. Dyson, of Pelton, and the architect Mr. W. J. Knight, of Eastington.

An inquiry was held by an inspector of the Local Government Board at Boreham Wood on Friday as to the application by the Barnet Rural District Council for authority to raise a loan of £6,000 for the erection of houses for the working classes in Boreham Wood. It is proposed to build twenty-four houses in the first instance to let at rents of 3s. 6d. or 6s. 6d. a week. The district surveyor submitted plans.

The foundation stone of the new parochial buildings of St. Paul's Church, Havelock street, Newcastle-on-Tyne, was laid on Saturday. The buildings are being erected at the east end of the church. There is to be a large hall upstairs, and on the ground floor there are to be reading- and class-rooms. The cost will be £2,500. Mr. Arthur B. Plummer, F.R.I.B.A., is the architect, and the builder is Mr. G. H. Mauchlan also of Newcastle.

A special meeting of Peebles Town Council was held on Thursday evening in last week within the policies of Neilpath Castle for the purpose of formally opening a new reservoir which has been erected on a site granted by the late Earl of Wemyss. The reservoir which has a capacity of 60,000 gallons, and was designed by Mr. S. Cowan, burgh engineer, has been erected, at a cost of £500, as an auxiliary to the Meldon supply.

LEGAL INTELLIGENCE.

WEST-END BUILDING DISPUTE.—In the King's Bench Division, last week, Mr. Justice Shearman heard an action in which Mrs. Louisa Hocker, of 16, Park-lane, W., sought an injunction restraining the defendant, Dr. Douglas A. Shields, of 41, Park-lane, from building at 17, Park-lane, of which he was the tenant, in such a way as to obstruct the light and air of the plaintiff's house, and an order calling upon him to pull down what had been built.—Mr. Charles said Mrs. Hocker held her house under a lease, and it was divided from the defendant's house by Brick-street, which measured 17ft. 6in. at its widest part, and 15ft. 3in. at its narrowest part. The part of the defendant's house facing No. 16 was for a long time hidden by tarpaulin, and for a long time she never suspected that two complete stories were being added to it. But she discovered it in the end, and on May 13 obtained an interim injunction against him; but, in spite of that, the work continued, as it was said that it would not injure the windows at the rear. So the plaintiff on May 14 got the injunction amended, and yet it did not stop the building, the defendant being told by his architect that the work could be finished without interfering with the light and air of No. 16. No. 17 now overtopped No. 16 by 17ft. 9in. Correspondence ensued, and the defendant's answer was that the plaintiff's rooms were darkened by the scaffolding, and that he was going to have the side of his house painted white, which would be much better for the plaintiff. The windows affected were those of the study, pantry, bathroom, and bedrooms—fourteen in all. Mrs. Hocker's son had been obliged to give up the use of the study because it was so dark—in fact, the sky could not be seen at all except by bending down—and in some of the other rooms electric light had to be used except when it was very sunny. It was admitted that the plaintiff was entitled to the light and air, and the defence set up was that it had not been interfered with.—Mr. Pollock said no question of air arose on the pleadings.—Mrs. Hocker gave evidence, and, on her behalf, Mr. Howard Chatterfield Clarke, President of the Surveyors' Institution; Mr. Wm. A. Paul, F.S.I., member of the firm of Messrs. Pilditch; Mr. Havelock Joseph Collins, of the firm of Collins and Collins, surveyors and estate agents, South Audley-street; Mr. Percy J. Waldram, F.S.I., of Buckingham-street, W.C.; and Mr. John B. Thorp, architect and model-maker, who had constructed the model of the plaintiff's house now before the Court, from drawings made by Mr. Lewis.—For the defence evidence was given by George White, head coachman to Mr. Alfred Rothschild; Mr. George Thrale Jell, A.R.I.B.A., of Carlton House, Regent-street; Mr. Howard Martin, past-President of the Surveyors' Institution; Mr. Stephen Chalmers, B.A., an expert on questions of illumination; and Mr. Max Clarke, A.R.I.B.A.—His Lordship gave judgment last Friday morning. His Lordship said he was of the opinion that the additions to the defendant's house had caused substantial interference with the light and air that was admitted to the plaintiff's house, and with its comfortable occupation, and the only question he had to decide was the amount of damages to be awarded. It appeared to him that the true rental value of the house was something like £500 a year. The difference made to it by the additions to the defendant's house he assessed at 10 per cent., or £50, of that rental, and the damage must be estimated at a rental loss of £50 a year for the ten years that the plaintiff's lease had to run. The plaintiff must also have the costs of the action, including the costs of the witnesses and of preparing the model.—Mr. Charles suggested that it would be well to file the plans, so that there might be no mistake, if the question should arise at any time in the future, as to how far the building had gone.—His Lordship said he was assessing the damage for the obstruction by the works already completed, as shown on the defendant's plans. The judgment would be for damages on the basis of £50 a year rental loss, capitalised on the 6 per cent. table—about £700.

ARCHITECTS' ACTION FOR FEES.—In the King's Bench Division, Mr. Justice Bankes heard an action by Messrs. Scott Willey and Webster, architects and surveyors, practising at 161A, Strand, W.C., claiming the sum of £203 18s. for professional services rendered to Harry Robert Wilkinson, of Hotham-road, Putney, and H. W. Lambert, of Holland-road, W., in connection with a scheme for building a picture palace at Fulham. Mr. Lambert denied that they acted for him, and pleaded Mr. Wilkinson had no authority to request them to act for him. Mr. Wilkinson denied that he asked them to incur expenses—that if they did it was conditional upon their raising capital for

the scheme, and that the plans were negligently prepared. Mr. Rowland Thomas appeared for the plaintiffs, Mr. Mulligan for Mr. Wilkinson, and Mr. Tratton for Mr. Lambert.—Mr. Thomas said Mr. Lambert, having obtained the lease of some land at Fulham, applied to Mr. Webster for financial assistance in December, 1912, but did not obtain it. On March 18, 1913, however, he had raised some capital, and, calling at the plaintiffs' offices, gave definite instructions to them to proceed with the plans. He left a rough sketch of the building required, and on June 2 he called at the offices and took the plans away. The connection between the two defendants was shown, said counsel, by a diary kept by Mr. Lambert. From this it appeared that they were seeing each other daily and discussing the picture theatre scheme. There was some difficulty in getting builders to do the work, and the scheme fell through.—Messrs. Scott Willey and F. A. M. Webster gave evidence, stating that they did not agree to accept their fees only after the theatre was opened, or that they would find the capital for the building. The plans were prepared on the instructions Mr. Willey received from Mr. Wilkinson, and the fees charged were on the ordinary R.I.B.A. scale.—Mr. H. R. Wilkinson, one of the defendants, gave evidence that the plaintiffs promised to arrange for the capital for the scheme, and on that understanding they got their instructions to prepare the plans, and agreed to wait until the theatre was open before they would ask for their fees.—The other defendant, Harry William Lambert, said he never understood that he was liable for the plaintiffs' fees, because he believed that Mr. Wilkinson had arranged to obtain the necessary capital before the architects were engaged.—His Lordship said there was clear evidence that the defendants were co-adventurers in the scheme. Mr. Wilkinson got the plaintiffs to act as architects, and they acted, not on the terms he had pleaded, but in the ordinary way. He found that both defendants were equally liable, and awarded judgment to the plaintiffs for the amount claimed, with costs.

IN RE ABRAM KELLETT, OF EALING AND BIRKBECK BUILDING.—An application for an order of discharge has been made to Mr. Registrar Brougham by Abram Kellett, contractor. His unsecured liabilities were estimated at £13,165, and no assets had been disclosed or realised. The bankrupt attributed his failure to loss through an action which he brought against the Stockport Corporation, with whom he had contracted at £300,000 to build a masonry dam, the construction of which was abandoned, to loss incurred in a scheme for building a theatre and a kursaal at Margate, and to depreciation in the value of flats in London. The offences alleged were insufficient assets, contracting debts without the means of paying them, rash and hazardous speculation, and extravagance in living. Mr. Registrar Brougham suspended the discharge for three years.

ARE BUNGALOWS A DANGER TO PUBLIC HEALTH?—WIRRAL R.D.C. v. KERR AND BALL.—Judgment was given in the High Court on Friday by Mr. Justice Lush in the Moreton bungalow case, the trial of which occupied several days at the recent Liverpool Assizes. The action was brought by the Wirral Rural District Council, who sought an injunction to restrain defendants from continuing the bungalows, and from an alleged nuisance and danger to public health. These bungalows were erected without any notice to the council, and without conforming to the by-laws, which, it urged, applied to them as being domestic buildings. They were very small, and cost £15 to £30 to erect, and contained two or three small rooms each. When nineteen had been erected the council called the attention of Farrer to the fact that the by-laws had been contravened; but in the result they permitted the bungalows to remain on an undertaking being given by Farrer to pull them down if the council so required. The lesser proceeded to let out more sites on the same terms, and further tents and bungalows were erected. In his judgment his Lordship held that the bungalows were not a nuisance; no injury to health had been involved, as the bungalows were healthy and fit for occupation during the period for which they were inhabited, and the occupants did not suffer. His Lordship agreed that plaintiffs were well advised in having the matter investigated; but it had been investigated, and the action failed, and he saw no reason for departing from the usual order and saddling the defendants with costs.—Judgment for defendants, with costs, accordingly. The rural council have decided to appeal against this decision.

ARCHITECTS' CLAIM.—M'DONNELL v. O'CONNOR.—At Belfast, last week, Mr. J. M'Donnell, M.R.I.A.I., 27, Chichester-street,

Belfast, sued Mr. John O'Connor, solicitor, Crossmaglen, for £46 8s., for fees at 5 per cent. payable in respect to the building of a house in Crossmaglen. The evidence showed that plaintiff prepared plans for the house, and that the tenders received proved higher than defendant wished to expend, varying from £1,450 to £2,630, and the work was carried out by sub-contractors. Defendant stated that he had told Mr. M'Donnell that he would not spend more than £1,250 on the house, as he was not going to build a house which would cost him £100 a year in rent. Eventually the house was built by sub-contract and direct labour, and the contracts and work with which plaintiff had to do cost £1,215. He alleged carelessness and want of supervision. His Honour, without going into the counterclaim, suggested that defendant should accept a judgment against him for £22 10s. This was agreed to, and judgment was entered accordingly.

SEALE HAYNE COLLEGE CONTRACT.—The award has been given in the arbitration proceedings, conducted on five days in January and February, at the Surveyors' Institution, London, by Mr. John H. Blizard, F.S.I., of Southampton, relative to the claim of Messrs. Pethick Bros., Ltd., contractors, of Plymouth, against the Governors of the Seale Hayne Agricultural College, Newton Abbot, Devon. The claimants, on July 10, 1912, entered into a contract with the governors to erect a new college at Newton Abbot, and agreed to complete, with the exception of the painting, by August 1, 1913, the contract price being £22,000. The governors took possession of the work a short while after the expiry of the contract time, when about £4,000 worth of work had been done, and the contractors claimed £17,000 damages for breach of contract, on the ground that they had been disturbed from their contract illegally. The argument was that the governors had put into force clause 26 of the agreement when they were not empowered to do so, and they complained of unwarranted delays and interference on the part of the governors and officials.—The arbitrator has given his award in favour of the governors, holding they were right in the action they took, and he ordered the claimants to pay the costs of the proceedings.

The name of Mr. J. Thomas Jones, retired architect and surveyor, of Clydach-on-Tawe, has been placed on the Commission of the Peace for Glamorganshire.

Dr. Denison Ross, C.I.E., lately Officer-in-Charge of Records of the Government of India, has been appointed to the staff of the British Museum as Keeper of the Stein collection of Central Asian antiquities.

The air-pollution advisory committee appointed by the city council of Manchester to investigate the smoke nuisance has started an inquiry into the extent of the loss suffered by the people of the city from smoke damage.

The Church of the Sacré Cœur, which constitutes an imposing white mass on the skyline of Montmartre from every part of Paris, is to be consecrated on October 17. It is Byzantine in style, and has been thirty-nine years in building, and has cost £1,600,000 sterling. M. Abadie was the architect.

The foundation-stone of new Y.M.C.A. premises was laid at Yate, Somerset, last week. The hall will be 30ft. by 21ft., and will have a half-timbered roof. The walls are of Pennant stone with Bath-stone facings. The architects are Messrs. La Trobe and Weston, of Bristol, the builders being Messrs. W. J. Powell and Son, of Yate.

The county council of Lancashire have, after prolonged negotiations with the London and North-Western Railway Company, agreed to take over the Sankey Canal bridge on the road between Warrington and Liverpool and reconstruct it. The new structure will be a bascule bridge 40ft. in width, worked electrically, and will be built from plans by the county bridge-master, Mr. Compton Hall. The present structure is on the swing principle, and only 12ft. wide.

At the last meeting of Dumfries Town Council a heated discussion took place with regard to the plans for the additional workmen's houses it is proposed to build. The public health committee recommended that it was impracticable to ask for competitive plans, and that the council should proceed on the plans drawn up by the surveyor. This was in direct antagonism to the open vote of the council at their previous meeting, when they decided to advertise for competitive plans. On a vote being taken, remit was again made to the committee to advertise for competitive plans.

PARLIAMENTARY NOTES.

GOVERNMENT HOUSING BILL. Mr. Runciman, the President of the Board of Agriculture, asked leave on Wednesday to introduce a Bill to give the Board of Agriculture and Fisheries powers with respect to the housing in agricultural districts of persons belonging to the working classes, and to make provision with respect to the housing of persons employed by or on behalf of Government Departments where sufficient dwelling accommodation is not available. He explained that the Bill is not of a highly contentious nature; but there are some directions in which the Departments require power if they are to carry out the declared intention of the Government to proceed with rural housing, not along the lines already authorised by statute, or by depending on private enterprise exercising the powers which the Government think can be properly exercised by the Board of Agriculture, the Local Government Board, and H.M. Board of Works. This Bill is a small measure of some seven clauses. The first clause provides for dealing with rural housing. The Government feel that neither private enterprise, nor the activities of the local authorities, will in any degree meet the pressing case of housing in the country districts. As neither private landowners nor local authorities can provide the houses, the Government have decided that it must be done by the central authority, and so far as the agricultural districts are concerned they have decided to ask for power to the Board of Agriculture to deal with those districts. The other object of the Bill is to provide for the pressing case of Rosyth. Rosyth can best be dealt with by the Government by means either of a public utility company, or, failing that, by a company or association which will be prepared to carry out this work through the Board of Works, and already the necessary practical steps have been set afoot, so that without any unnecessary delay the case of Rosyth may be met and the employees of the Government can be properly housed and have abundance of cottages in which to live. The Government are of opinion that inasmuch as £3,000,000 is to be devoted under this measure for the purposes of rural housing there would be cheap money thereby provided, to be under the control of the Government Department itself, and not of private individuals. It is proposed to provide at least £3,000,000 for the Board of Agriculture and Fisheries for dealing with the rural housing problem, and so far as Rosyth is concerned, a sum not exceeding £2,000,000. The Treasury have undertaken to borrow money by terminable annuities for a term not exceeding thirty years. It is the intention of the Government, while letting the houses on an economic basis, to make the charge nearly approach the actual age of the cottages which the employees will occupy. The motion was agreed to, and the Bill was given a first reading.

A miners' hall was opened at Easington Colliery, Co. Durham, on Saturday. The hall, which has been built by Mr. E. Dyson, of Pelton, from the plans of Mr. W. Knight, of Easington Colliery, has cost about £6,000.

The annual prize-giving and exhibition of works by students in the A.A. School of Architecture will be held on Friday, the 17th inst., at 18, Telford-street, S.W. The awards for the past season and the prizes will be distributed at 2.30 p.m. by Mr. Herbert Baker, F.R.I.B.A., of Johannesburg, Capetown, and Delhi.

A Select Committee of the House of Lords rejected on Monday that portion of the London County Council (Tramways and Improvements) Bill providing for the construction of a double-line of tramway from the terminus at Aldgate through Mansell-street to Tower Hill, and a single loop-line around Trinity-square. A House of Commons Committee had previously passed the scheme. The Committee at their meeting on Tuesday approved the clause of the Bill which authorises the purchase of Nos. 1, 2, and 3, Arlington-street, for widening Piccadilly east of the Ritz Hotel.

It was reported to the Reichlab Corporation that the service reservoir at Boersil is at last approaching completion, and that the cost, which was estimated at £14,000, has exceeded £21,000, in addition to legal charges and the outlay on the site. Considerable and unforeseen difficulties have been encountered. Before the contract for the work was finally given out in the autumn of 1910, one firm after another withdrew their tenders, and in June, 1911, questions arose with the contractor whose tender had been finally accepted as to his obligations. The result was the termination of the contract, and the decision that the manager, Mr. F. H. Brunt, should carry out the work under the consulting engineer, Mr. H. Rofe.

WATER SUPPLY AND SANITARY MATTERS.

YARDLEY WOOD, BIRMINGHAM.—In their report to the Birmingham City Council in March last the water committee stated that they had acquired a site for a balancing reservoir at Highter's Heath, Yardley Wood, at a cost of £1,850 and expenses. The purpose of the reservoir is to provide for the even working of the trunk mains in the system which it will control, such mains comprising not only those at present in course of provision, but also the larger mains towards the source at Frankley, through which the new mains derive their supply. The committee now report that the design for the reservoir has been prepared by the local engineer (Mr. William Gray), and approved by them. The dimensions are 344ft. by 190ft., with a water depth of 10ft., and a total capacity of four million gallons. The estimated cost, including the provision of a keeper's cottage and fencing, is £17,342, and the committee recommend the council to authorise them to advertise for tenders for carrying out the work. The main required to connect the new reservoir with the distribution system comprises a length of 2,928 yards of 30in. cast-iron pipes, the estimated cost of which is £10,912, and this work will be put in hand concurrently with the construction of the reservoir.

The top embattled stage of the fine 15th-century tower of the parish church of St. Mary, Woodbridge, East Suffolk, is now being restored.

A new secondary school for girls, which has been built by the Surrey Education Committee at Guildford at a cost of nearly £18,000, was opened on Wednesday.

Mr. A. E. Smith, surveyor to the Hay Urban District Council, has resigned his position in order to take up a similar appointment under the Petersfield District Council.

At Brierley Hill a Territorial drill-hall built, at an outlay of £1,900, from plans by Mr. C. G. Cowlshaw, of Hanley, has just been opened. The builder was Mr. C. A. Horton, of Brierley Hill.

The Royal Assent was given by Commission on Wednesday to sixty-four measures, including the Port of London Authority Act, the London Electric Railway Act, and the Central London Railway Act.

At the meeting of the Essex County Council held at Chelmsford on Tuesday a general scheme of main road reconstruction, to be carried out in five years, was adopted. The total cost was estimated at £580,057.

Under the efficient supervision of the surveyor to the urban district council of Burgess Hill, Mr. E. Brown, new sewage-disposal works have been installed at the sewage farm in that village at a cost of £1,594.

Mr. Richard Creed, F.R.I.B.A., of Little Bardfield Hall, Essex, and of Verulam Buildings, Gray's Inn, for more than twenty-five years architect-inspector to the Board of Agriculture and Fisheries, who died on May 8, left £14,041.

At a Local Government Board inquiry at Sheffield into an application by the corporation to borrow £19,832 for sewerage works, it was stated that during the last two years the price of pipes had gone up to 50 per cent., labour 10 per cent., and team-work 10 per cent.

The foundation-stone of the new town hall for Marylebone was laid by the Princess Royal on Wednesday. The town hall occupies a site in Marylebone-road, and is being built at an outlay of nearly £100,000, from plans by Mr. Edwin Cooper, F.R.I.B.A., selected in competition, and illustrated in our pages on December 1, 1911, and June 14, 1914.

Drapery and furnishing premises in Devonport have just been reopened after enlargement so as to cover the entire area bounded by Tavistock-street, Market-street, Sidney-street and Cross-street. Mr. G. B. Turpin, of Plymouth, was the builder of the latest extension just completed, and the fittings have been supplied by Messrs. S. Haskings Bros., Ltd. of Old-street, E.C.

During Degree Day proceedings at Manchester University on Saturday the Vice-Chancellor announced that the council had decided upon the erection forthwith of a new building for the Arts Department at an estimated cost of £30,000. We are authoritatively informed, as we are going to press, that the plans for the new department are being prepared by Mr. Percy Scott Worthington, M.A., F.R.I.B.A., of Lombard Chambers, Brown-street, Manchester.

Our Office Table.

At the meeting of the City Corporation yesterday (Thursday) afternoon, the Lord Mayor presiding, Mr. Richard Davies, chairman of the City Lands Committee, again submitted the report of that committee with reference to the Guildhall Improvement scheme prepared by the City Surveyor, Mr. Sydney Perks, F.S.A., F.R.I.B.A., which, as we stated a fortnight ago, was read on the 25th ult., adjourned, and ordered to be printed, with the exception of the plans. Mr. Davies said the committee now asked for authority: (1) To proceed with Section A of the scheme, comprising the block of buildings on the east side of Guildhall Yard (to house the Law Courts, Art Gallery, etc.), at an estimated cost of £68,000; and (2) on completion of Section A, to proceed with Section B, comprising the block of buildings on the west side of Guildhall Yard (Police Court, South Court, etc.), at a cost of £32,000. The adoption of the report was strongly opposed by Mr. John Elkins, chairman of the Corn, Coal, and Finance Committee, chiefly on financial considerations, and in the discussion which ensued he was supported by Messrs. Banister F. Fletcher, Mr. Alphæus C. Morton, M.P., and other architects. The committee's report and recommendations were, however, eventually adopted by a large majority, and authority was given them to proceed with Sections A and B of the scheme.

A North-Western Conference on Arterial Roads in Greater London was held on Friday at the offices of the Local Government Board, Mr. William Regester presiding. A sub-committee reported that replies had been received from twenty authorities, of which nine regarded the roads as inadequate for existing traffic, nine were of the opinion that they were adequate, with certain exceptions, and two regarded them as generally adequate. With two exceptions the authorities agreed that the roads were inadequate for future traffic. There was a general consensus of opinion that the roads proposed by the Traffic Branch of the Board of Trade were desirable, and that the main roads should be wider than was required by the existing by-laws. The sub-committee themselves were of opinion that the existing arterial roads were not adequate for present traffic, and still less for future traffic. The conference adjourned until November 18.

At a meeting of the Cheltenham Town Council on Monday evening consideration was given to the tenders for converting five houses in the Promenade (which have been purchased for £5,500) into municipal offices. The borough surveyor had estimated the work to be carried out for £4,500; but on the specifications (finally prepared by Messrs. Healing and Overbury) the lowest tender was at £7,668 8s. This the sites committee, by striking out various items, reduced to £6,390, and recommended the amended tenders should be accepted, but the chairman (Alderman Margrett) proposed that certain other work should be eliminated, so as to bring the figure down to £5,574. A long discussion followed, in which it was argued that a lift was essential, and if ferro-concrete floors were not provided the scheme would be rejected by the Local Government Board. The mayor moved as an amendment that the tender of £6,390 be accepted.—Alderman Bendall moved a further amendment that only the corridor work be omitted. Both amendments were lost (that moved by the mayor by a majority of one), and Alderman Margrett's proposition for proceeding with so much of the work as could be done for £5,574 was carried. The mayor expressed regret at the decision, and said the council were spoiling the ship for a ha'porth of tar.

A Buff Book just issued by the Board of Agriculture contains the first annual report of the forestry branches recently constituted in the Board of Agriculture and Fisheries and the Office of Works. It shows that, according to the returns of 1913, the total area of woodlands in England and Wales at present is 1,881,100 acres. Over 95 per cent. of this area is privately owned, and it is

stated in the report that it is probably producing not more than one-half of its maximum yield. With regard to the value of the property, it is mentioned that it is not possible to make an accurate estimate; but a conservative estimate would be between 25 and 30 million pounds sterling. Information in the Board's possession shows that there is a very large area in the country which might with advantage be afforested. Steps are proposed to be taken to place the State at relatively small cost in possession of still further information, necessary to decide on the desirability of carrying out a systematic scheme of afforesting the uncultivated land in England and Wales.

Reference is made in the report to a detailed survey made during the summer of 1912, of some 20,000 acres of land on the Birmingham Corporation's Waterworks in the Elan and Claerwen Valleys. The results of this inquiry are interesting, in view of the fact that it has often been assumed that waste land under the 1,500ft. contour-line is all afforestable. It was found that of 12,360 acres under that elevation, 5,990 acres, or 47 per cent., was certainly adapted for economic planting, while a considerable area in addition had to be characterised as doubtful, owing to the absence of any data in the district as to the production capacity of such land.

Mr. Hobhouse, the Postmaster-General, has recently had to place contracts for the supply of upwards of 100,000 wooden poles for telephone wires, in addition to the 65,000 deliverable under the annual contracts placed last autumn for the normal needs of the service. Mr. Hobhouse expresses regret that British forestry has had no share in contributing to this supply. Repeated efforts have been made by the Post Office to encourage British supplies, with very small result. The annual requirements of the Post Office in the matter of wooden poles amount to many thousands; but the yield from British sources has been a few hundreds only. Red fir or Scotch pine and larch are considered the most suitable in respect both of weather-resisting properties and general shapeliness. Both species are easily grown in the United Kingdom, but failure to meet the requirement of length and thickness combined have led to the rejection of much of the British timber offered by growers to the Post Office.

MEETINGS FOR THE ENSUING WEEK.

SATURDAY (TO-MORROW).—Incorporated Clerks of Works Association. Annual Outing by rail and river to Henley-on-Thames and Windsor. Train from Paddington Station 8.50 a.m.

FRIDAY (JULY 17).—Architectural Association. Annual Prize Giving and Exhibition of Work by A.A. Students. Awards for the Past Session Announced, and Prizes Distributed by Herbert Baker, F.R.I.B.A. 2.30 p.m.

SATURDAY (JULY 18).—Edinburgh Annual Excursion to Hamilton Palace, Cuzco Forest, and the Haiging Gardens at Bannockburn.

TRADE NOTES.

Mr. Albert E. Bullock, A.R.I.B.A., architect and surveyor, late of 43, Chancery-lane, W.C., announces his change of address to Brownlow House, 50-51, High Holborn. Telephone Holborn 44.

The directors of the London County and Westminster Bank, Ltd., have declared an interim dividend of 10½ per cent. for the half-year ending June 30. The dividend (10s. 7½d. per share, less Income-tax) will be payable on August 1.

Under the direction of Mr. W. M. Scott, architect, Lindlithgow, the Boyle system of ventilation (natural), embracing Boyle's latest patent "Air-pump" ventilators and air-inlets, has been applied to Blackbrae School.

On Saturday new school premises were opened adjoining Salem United Methodist Church, Sandwell, Bristol. The building is Gothic in style, and is constructed of local Pennant stone with Bath-stone dressings.

A new parochial house three stories in height is to be built in association with City Quay Roman Catholic Church, Dublin, from plans by Messrs. O'Callaghan and Webb. The builder is Mr. James Kiernan, also of Dublin.

Our Illustrations.

VIA DUCT OVER QUEEN VICTORIA STREET, E.C.: THE NEW ST. PAUL'S BRIDGE COMPETITION.

The two perspectives given in further illustration* of the premiated designs represent the proposed approach carried over Queen Victoria-street, with shops below on both sides of that thoroughfare in the abutment buildings. The first drawing is by Mr. Charles E. Barry, A.R.I.B.A., who won the second premium of £200. The pavilions which flank this viaduct contain the public staircases. The second plate shows a view of Mr. Edward R. D. Selway's third (£100) premiated design. In this view St. Paul's Cathedral dome is adroitly and quite fairly introduced, though it is doubtful whether the staircase pavilions gain much advantage or are helped in their relative proportions notwithstanding. Next week we shall give some details of Mr. Selway's obelisk tower, enclosing the staircase from Bankside Embankment.

HOUSE IN AVENUE ROAD, ST. JOHN'S WOOD.

This house is to be built with red-brick facings, orange-red quoins and dressings, including the front porch, painted wood cornice. Roofed with hand-made, sand-faced tiles, and double-hung sash windows. Messrs. Horace Field and Simmons are the architects.

HOUSE IN WILDWOOD RISE, HAMPSTEAD GARDEN SUBURB.

We reproduce the drawing, now at the Royal Academy Exhibition, of this house, which is built with small Dutch hand-made bricks and specially-designed hand-made window-dressings and sills. Hand-made antique roofing-tiles are employed, with swept-circle valleys, bonnet hips, etc. The front porch and bay over is in Chilmark stone. Oak window-frames and front door, iron casements and frames. The external effect is most pleasing and restful. Internally the hall has an open oak gallery and staircase. The general contractors were Messrs. Sabey and Son, of Islington. Messrs. Horace Field, F.R.I.B.A., and Evelyn Simmons, Licentiate R.I.B.A., are the architects.

HOVE PARISH-CHURCH HALL.

This building has been presented fully equipped to the Hove Parish Church by Mrs. Stephen Ralli. It was built as a memorial to her late husband. The walls are of Crowborough stocks, the entrance porch and stonework being in Portland stone. The roofs are covered with stained tiles. The building contractors were Messrs. Chapman, Lowry, and Puttick, Ltd., of Grayshott and Haslemere. The architects are Messrs. Read and MacDonald, of London. The illustration was from a photograph by Mr. E. Pannell, of Hove.

THE NEW SESSIONS HOUSE, NEWINGTON CAUSEWAY.

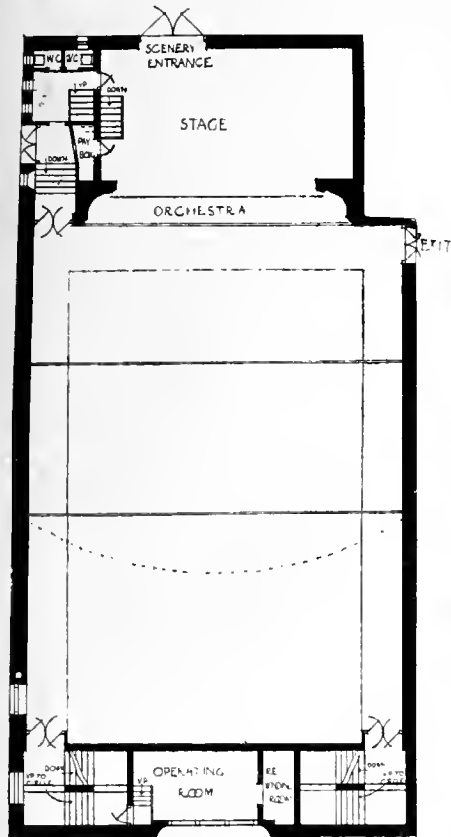
We give here the principal plan of the New Sessions House, Newington Causeway, for which the tender of Messrs. W. E. Blake and Co., Ltd., of Fulham, was accepted at £108,980 by the London County Council last Tuesday. We gave a view of the main front of the building in our issue of January 30 last. The new Court-house is to have four floors. On the lower ground floor will be the cells and other accommodation for the prisoners, the police common-room, the refreshment room for the public, and large rooms for the storage of records. The ground, or principal, floor will be about 6ft. up from the courtyard. The positions of the chambers has been fixed chiefly by the need for quietude in the courts. The court-rooms, therefore, will be at the back part of the building. In the front part will be the public waiting-hall, entered from the main fore-court through a vestibule. At each end of this hall will be a wide staircase. In the

* Views of all the premiated designs for St. Paul's Bridge were given in our issue for June 26, and general drawings last week, July 3.

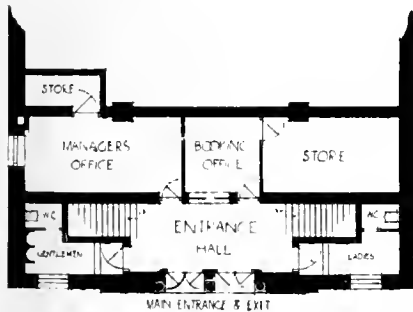
well of one will be a public lift. At the back of the hall, small staircases will give access to the public galleries of the criminal courts. Behind the hall will be the three court-rooms; the middle one for civil business, those right and left for criminal cases. To keep out the noise in the public hall there

Union-road. Along this front, too, will be the offices for assessments business, and at the end nearer to the courts, the room for the clerk of the Standing Joint Committee. Here a private staircase and lift will connect the rooms of the Justices with the committee-room on the first floor, and the common and refreshment-rooms on the second floor. The entrance for the Chairman, the Deputy-Chairman, and the Justices will be through a small courtyard at the northern end of the main forecourt, screened off by wrought-iron railings and gates. In a corresponding small

entrance. The lighting is by electricity, produced by a gas-engine and dynamo placed under the stage, with an auxiliary motor-driven dynamo for emergencies. There is also a secondary gas-lighting installation. The ventilation is by means of an electrically-driven fan in the roof, with tubes carried to various points. The heating is by means of gas-heated steam radiators. The theatre is well equipped with fire hydrants and chemical extinguishers and fireproof curtain. The contractors were Messrs. J. G. Green and Sons, Ltd., of Warkworth. The whole has



GROUND PLAN.



LOWER GROUND PLAN.

THE PLAYHOUSE, BERWICK-ON-TWEED.
Mr. S. H. Lawson, Architect.

will be enclosed lobbies into which only those having business in the courts will be allowed to go. Alongside each of the criminal courts will be the rooms for the witnesses and the juries. About them will be corridors leading to the other parts of the building and connecting all with the public hall. By these corridors the chairman, the justices, barristers, and court officials will be able to pass between their rooms and the courts without touching the parts of the building used by the public. Behind the corridor at the back of the courts will be the rooms for the Chairman and Deputy-Chairman of Quarter Sessions, for the Clerk of the Peace, for court officials, and also the library. The rooms will have an outlook over the Council's land. The wing to the right of the public hall will hold the cloakrooms and robing-rooms for the barristers, and another to the left of the hall the Public Office of the Clerk of the Peace. The Justices' cloakrooms will face

courtyard at the southern end will be the entrance for the barristers. Courts Nos. 1 and 2 will be for criminal cases. Each will have a dais, with seats for a bench of twenty magistrates and a chairman, and also the furniture usual for criminal procedure. In these courts there will be seats for a spare jury, and as the number of cases dealt with day by day will be very great, to lessen the time between one case and the next, each dock will have four separate stairways, two for each sex, one "up" and one "down," with doors to shut them off from the court. The positions for the Chairman, witnesses, counsel, and jury have been kept as close together as may be. Court No. 3 is for civil business. There will be no dock, and the furniture will be movable, so as to lend itself to arrangement to suit either licensing or assessment business. On the first floor will be the room for the grand jury, for the grand jury witnesses, and for the common jury in waiting, also a committee-room and several offices. The second floor will be used for the luncheon and common rooms for the justices, barristers, and solicitors, with the necessary kitchens and offices. The quarters for the resident housekeeper will be on the first and second floors, at the S.E. corner of the building. The parts of the building seen from the forecourts and from Union-road will be faced with Portland stone, the remaining parts with stock brick. The pitched roof will be covered with stout grey slates in diminishing courses, the domed roofs of the courtroom with asphalt. For architectural character the aim has been in the direction of breadth and balance. The architect of the building is Mr. W. E. Riley, F.R.I.B.A., Superintending Architect to the L.C.C., who is to be felicitated on the general arrangements, and his best utilisation possible of the opportunities afforded by the site.

THE PLAYHOUSE, BERWICK-ON-TWEED.

This theatre has been erected on a prominent site situated in Sandgate, Berwick-on-Tweed. It is built of freestone, and the elevations are treated with stucco. Seating accommodates 1,040. A good stage is provided, with dressing-rooms and scenery

been carried out from plans prepared by, and under the supervision of, the architect, Mr. S. H. Lawson, Emerson Chambers, Blackett-street, Newcastle-on-Tyne, for Messrs. Pictoreland (Berwick), Ltd.

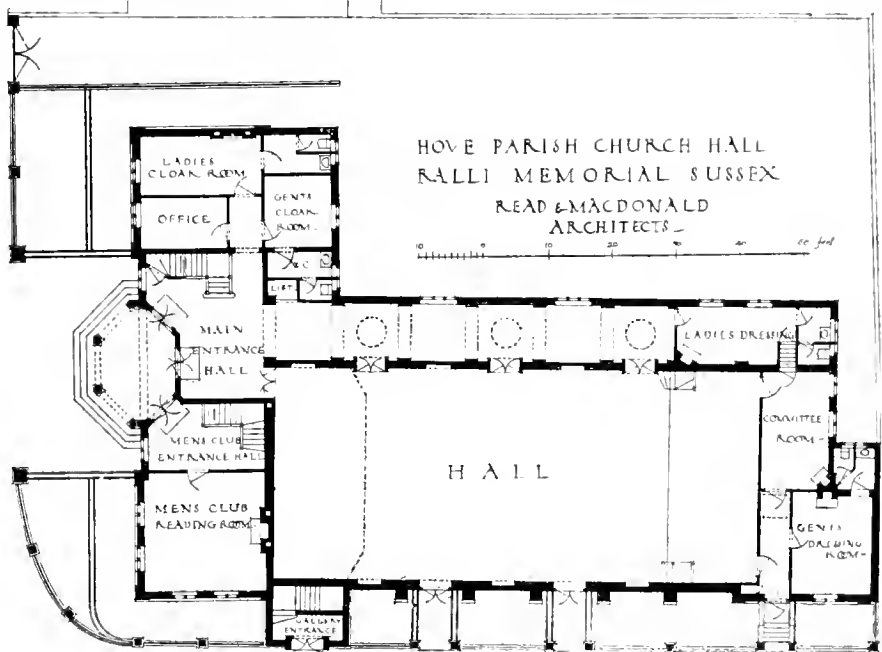
The town council of Oswestry decided on Monday to increase the salary of their borough surveyor from £250 to £300 a year.

At the annual meeting of the New York Society of Architects the following officers were elected:—Mr. Constantine Schubert, president; Mr. J. Riely Gordon, vice-president; Mr. William T. Townner, secretary; and Mr. Louis Berger, treasurer.

The rapid increase in the consumption of water in Birmingham has compelled the water committee to recommend the city council to authorise the construction of a third pipe-line from the Elan Valley to Frankley Reservoir at a probable cost of £700,000, as proposed in a report by Mr. Henry Rofe, M.I.C.E., and endorsed by Messrs. Willeox and Raikes, of Temple row, Birmingham. The water committee recommend that the preparation of the designs and estimates be entrusted to Mr. F. W. Macaulay, at present the Elan resident engineer.

An Imperial Hotel is about to be built at St. John, New Brunswick, at an estimated cost of a million dollars. The plans—which have been prepared by Messrs. Ross and MacDonald, architects, Montreal, who designed the Chateau Laurier, Ottawa, and the Fort Garry, Winnipeg—provide for more than 200 bedrooms, 125 of which will have private bath. The building will be six stories in height, fireproof in construction, and will stand on 30,000 square feet of land on the corner of King-square and Sydney-street, facing on King-square.

New memorial reredos and panelling have recently been dedicated at Staplefield Church. The reredos is divided into three bays, the central being the largest. On a moulded gradine stands the altar cross. The canopy over has a pierced tracery head, with a carved cornice, eusting, and pinnacles. The side canopies are treated somewhat similarly. In the niches are statues of adoring angels. The panelling, which, together with the reredos, extends the full width of the chancel is also of oak; but the detail has been kept somewhat subdued. The work has been executed and fixed in situation by Messrs. Harry Hems and Sons, of Exeter.

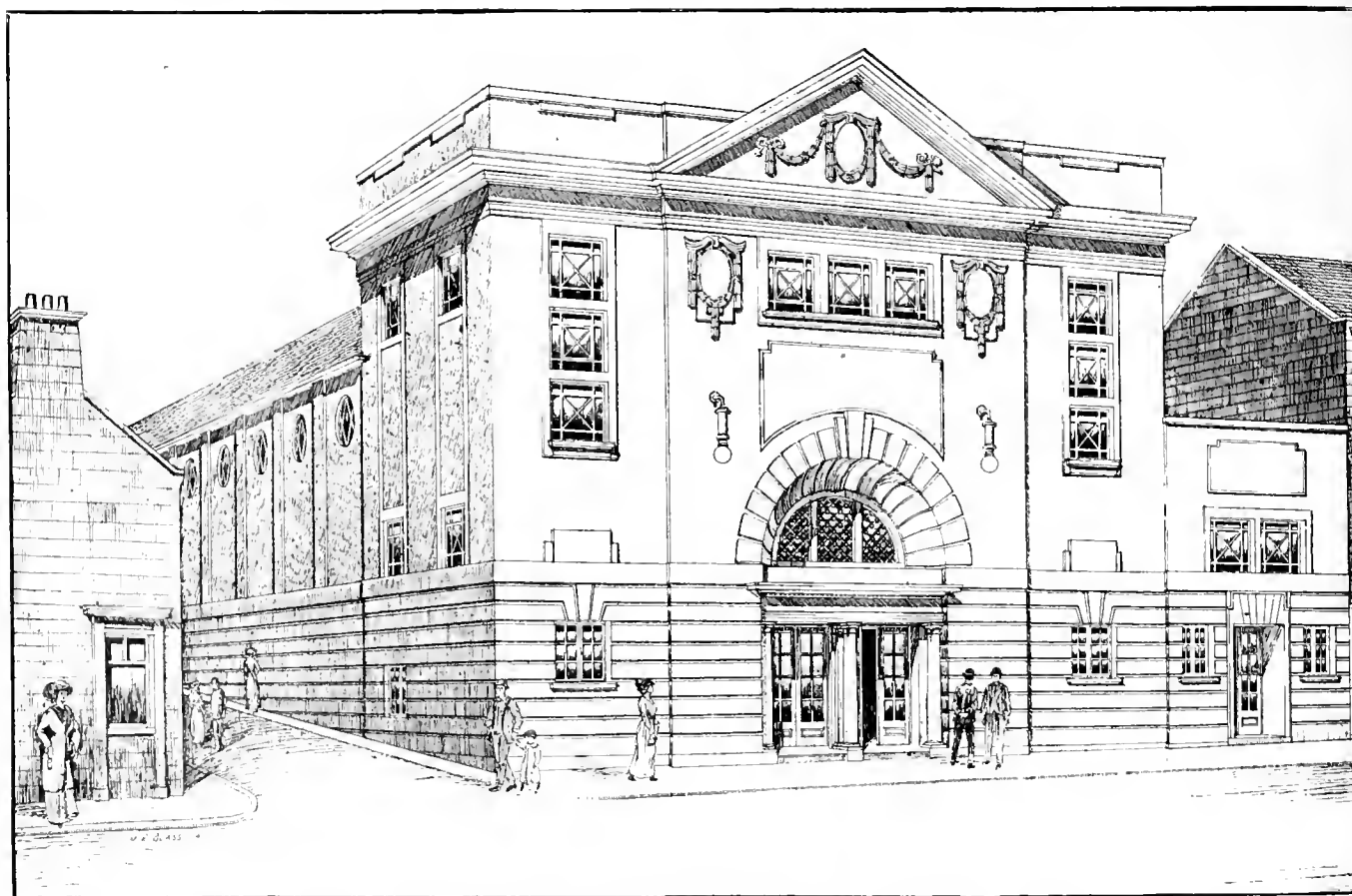


HOVE PARISH CHURCH HALL
RALLI MEMORIAL SUSSEX
READ MACDONALD
ARCHITECTS



SOUTH ELEVATION

"CROW CLUMP," WEYBRIDGE, SURREY.—Messrs. TUBBS, MESSER, and POULTER, Architects.



THE PLAYHOUSE, BERWICK-ON-TWEED.—Mr. S. H. LAWSON, Architect.

"CROW CLUMP," WEYBRIDGE.

This house is being erected for Mr. T. P. Latham on Crow Clump Hill, overlooking St. George's Hill Golf Links at Weybridge. The walls are to be of grey stock bricks and Bargate stone. The whole of the woodwork is to be of English oak, left its natural colour. The roofs are to be covered with hand-made rough sand-faced tiles of dark colour. The house is planned to get as much view as possible both to the south and the west and at the same time to conceal the servants' yard; it has been dug out of the side of the hill, and enclosed with a high brick wall, as shown by the accompanying plans. The interiors of the drawing room and bedrooms will be finished in white

enamel, the dining-room in mahogany, the billiard room, hall, study, and landings in English oak. Mr. W. G. Tarrant, of Byfleet, Surrey, is the contractor. Messrs. Tubbs, Messer, and Poulter, Craig's Court House, Whitehall, are the architects.

Mr. Robert Kerle, of Oakwood-court, Kensington, formerly of Clarefield, Sunningdale, architect, who died on May 26, left £26,005.

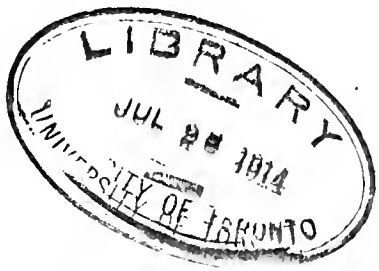
Mr. Francis Ireson, of Wellingborough, builder, who died on May 13 last, left estate of the gross value of £11,268 11s. 10d., of which £914 13s. 10d. is net personalty. Probate of his will has been granted to his sons, Mr. Frank Herbert Ireson, music dealer, and Mr. Charles Arthur Ireson, builder, both of Wellingborough.

The county council of Cardiff are about to widen and strengthen the bridge over the feeder between Bridge-street and Guildford-street, and to reduce the sharpness of the road approaches to the bridge. The improvement is estimated to cost £1,725.

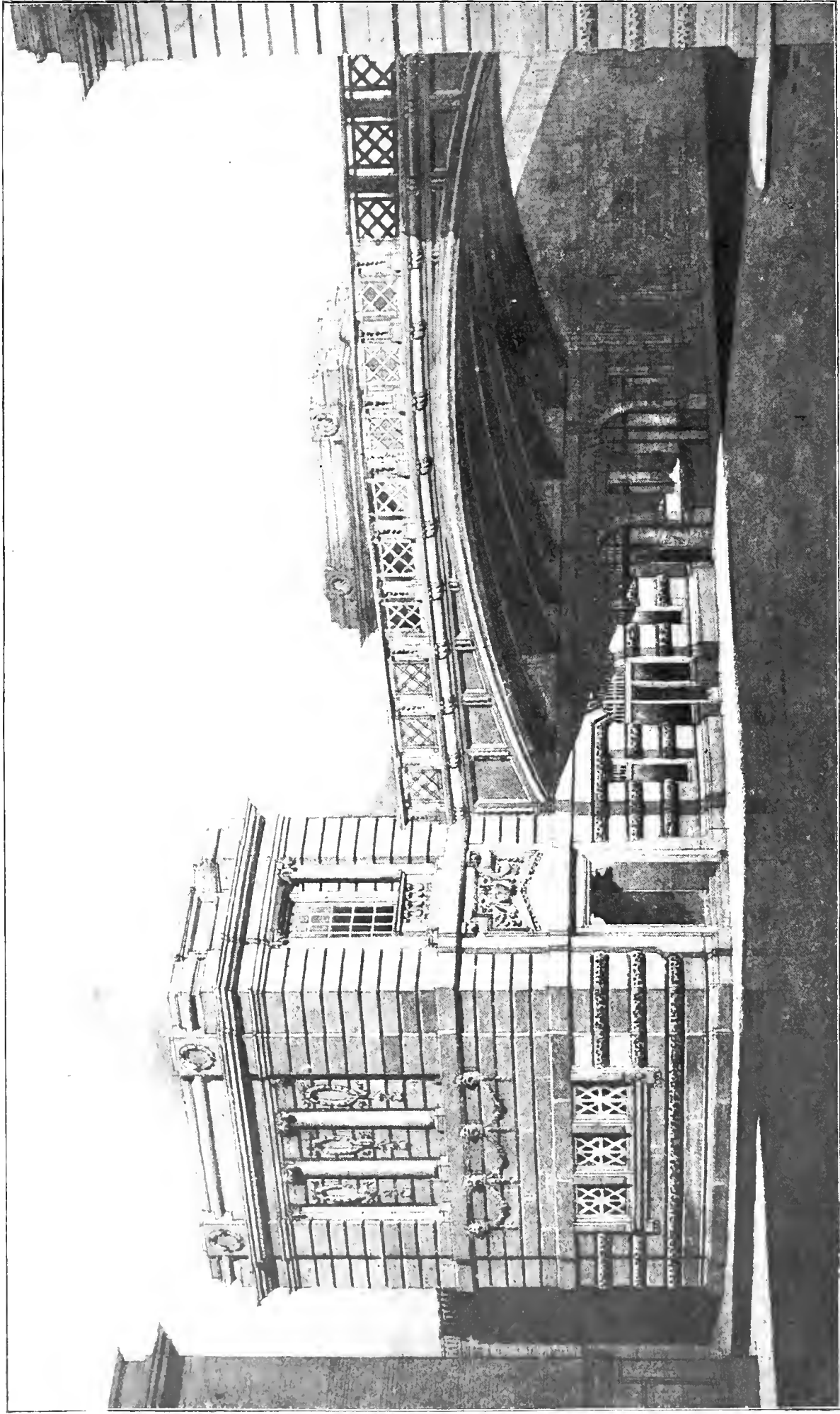
The erection at Falmouth of the corporation cottages behind Berkeley Vale is rapidly progressing, and the first half, twenty-two in number, are nearly all finished and occupied. The houses were designed by the late borough surveyor, Mr. Walters.

The Darent Valley swimming-bath was opened on Wednesday week by Earl Stanhope. The bath, which is situated at Brasted, is 75ft. long, 50ft. wide, and the depth of water varies from 2ft. 6in. to 7ft. The total area of water is approximately 3,750 square feet.

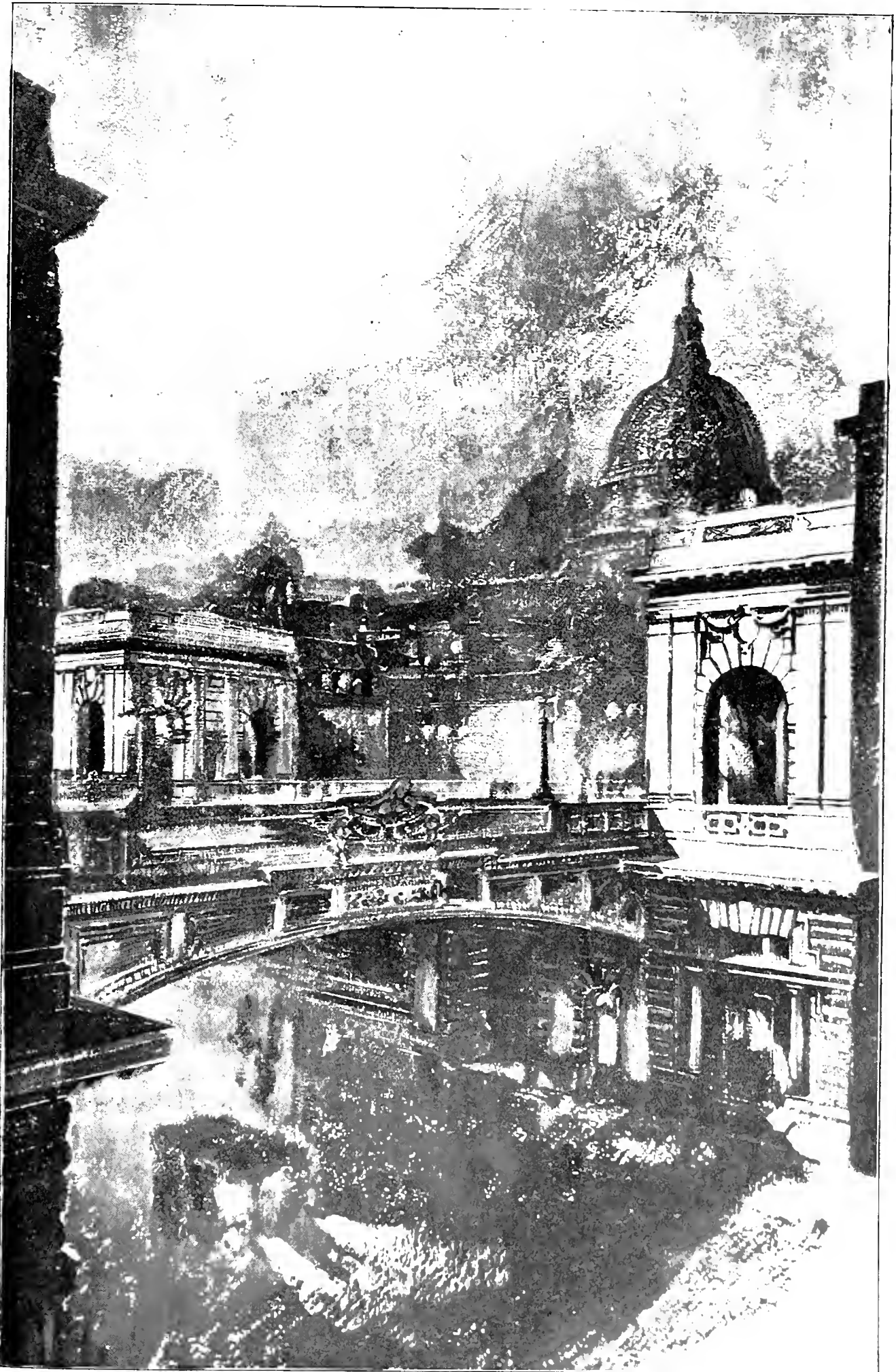
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THE BUILDING NEWS, JULY 10, 1914.

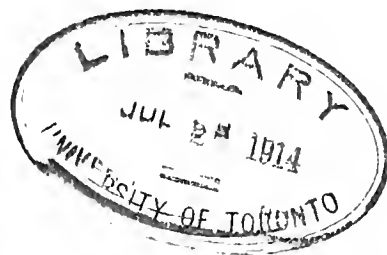


THE NEW ST. PAUL'S BRIDGE: SECOND PREMATED DESIGN. VIADUCT OVER QUEEN VICTORIA STREET, E.C.
Mr. CHARLES E. BARRY, A.R.I.B.A., Architect.



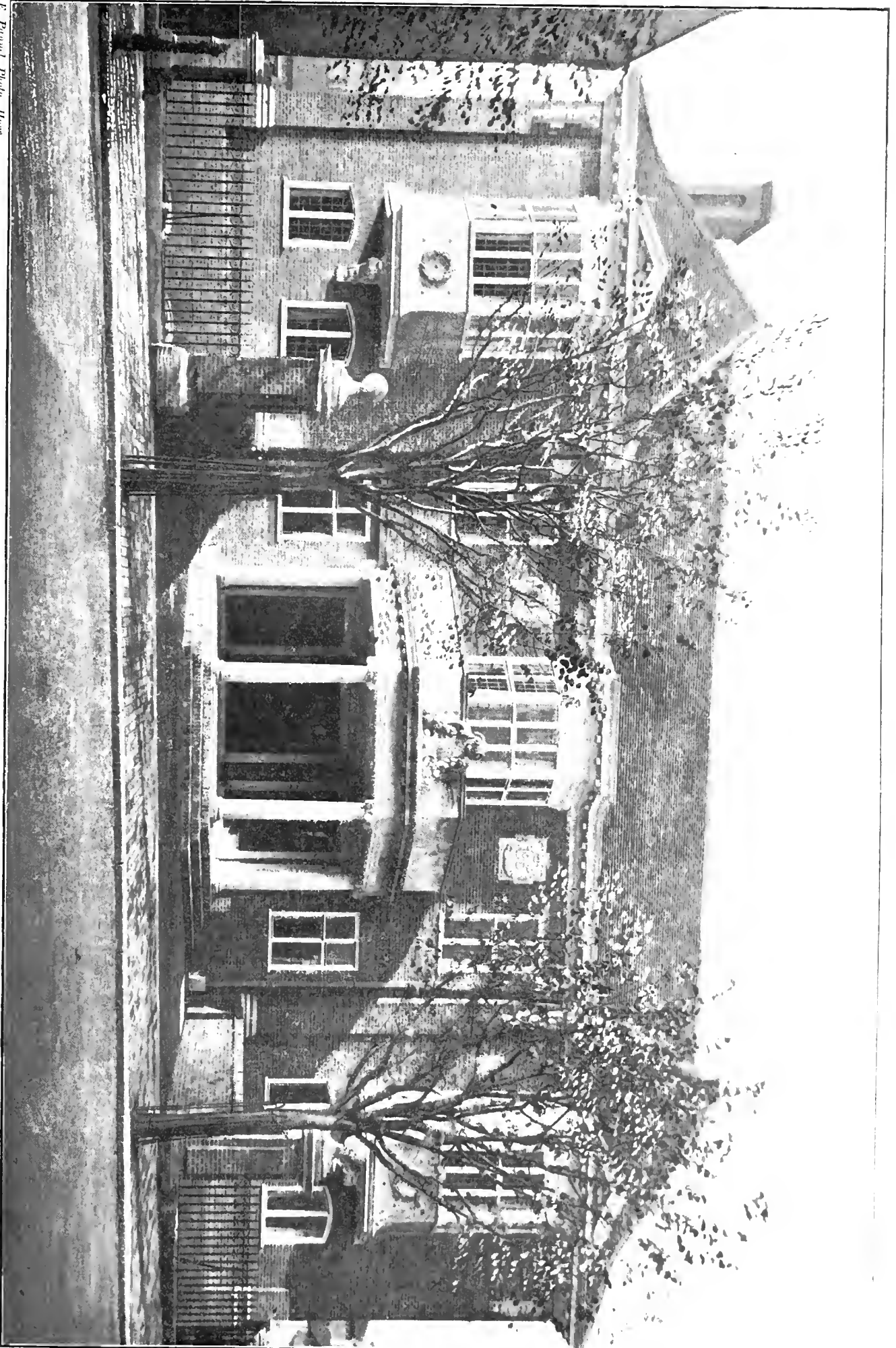
THE NEW ST. PAUL'S BRIDGE: THIRD PREMIATED DESIGN. VIADUCT OVER QUEEN VICTORIA STREET.—Mr. EDWARD R. D. SELWAY, A.R.I.B.A., Architect.







HOUSE IN WILDWOOD RISE, HAMPSTEAD GARDEN SUBURB, AND
XVII. AVENUE ROAD, ST. JOHN'S WOOD, N.W.
Messrs. HORACE FIELD, F.R.I.B.A., and EVELYN SIMMONS, Licentiate R.I.B.A., Architects.

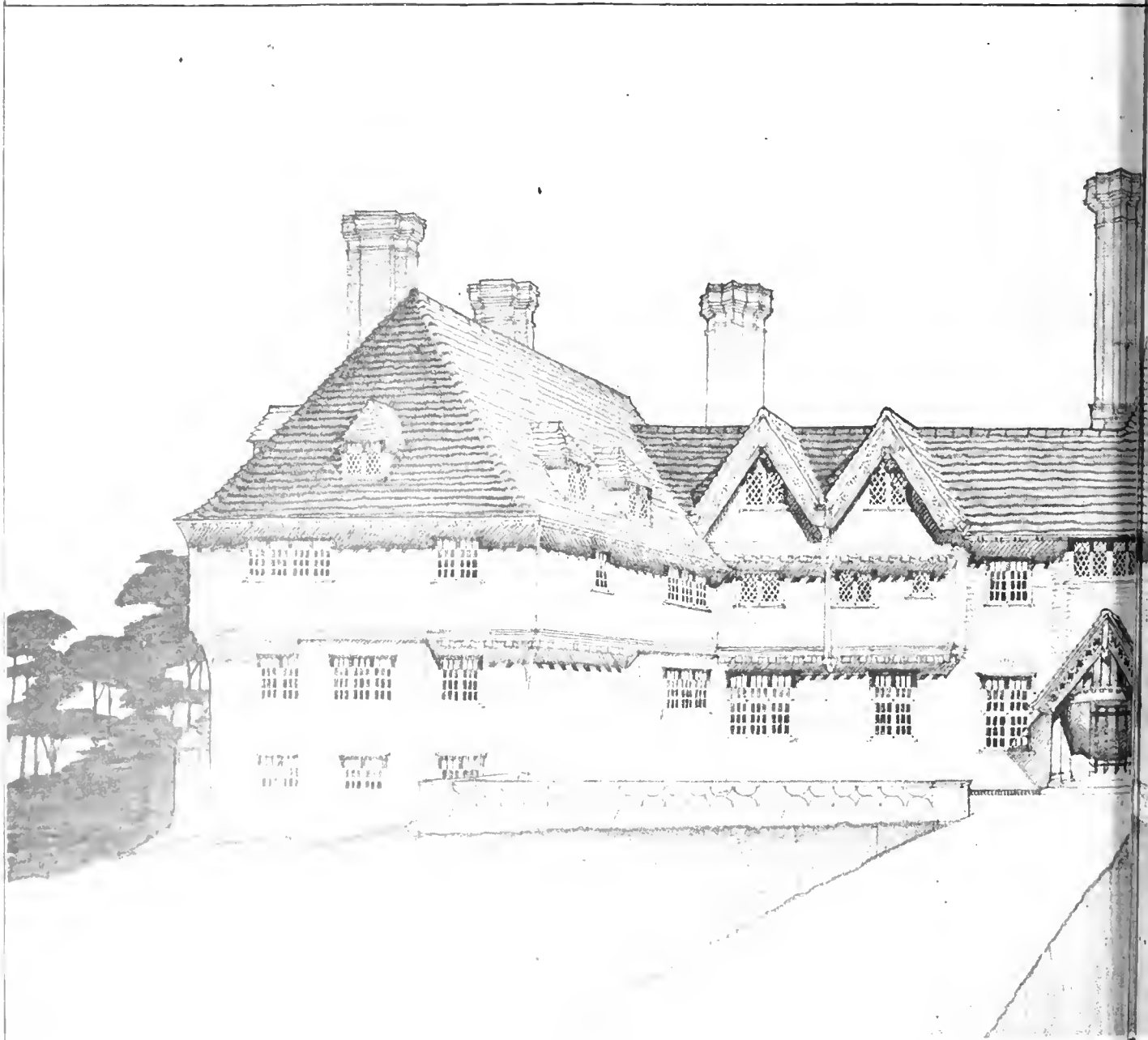
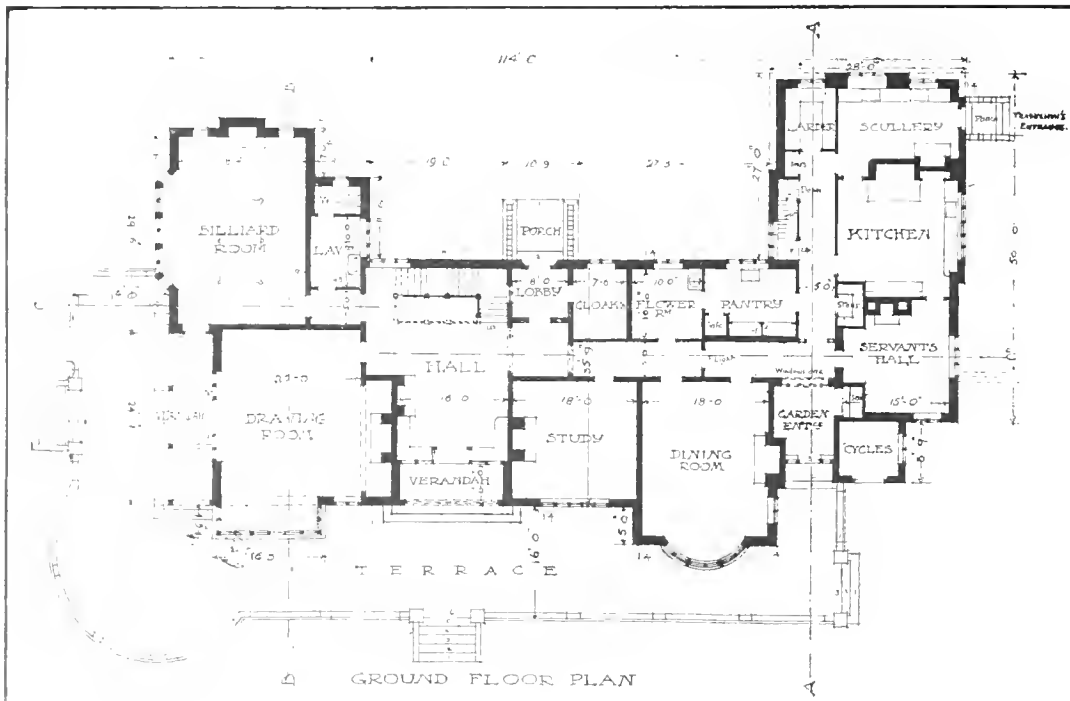


E. Powell, Photo, House.

IJOVYE PARISH CHURCH HALL (KALLI MEMORIAL), SUSSEN.—Messrs. READ and MACDONALD, Architects.

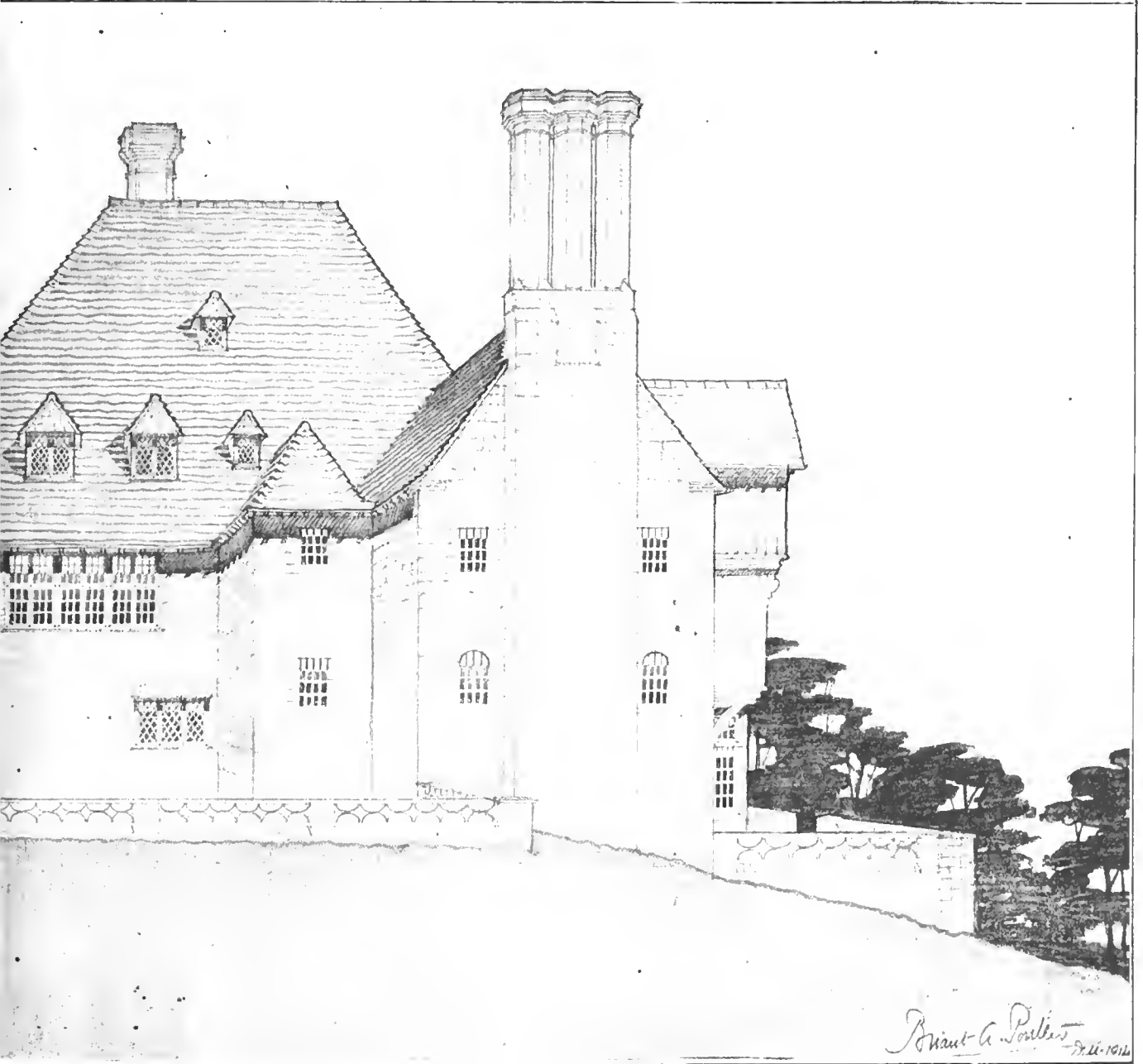
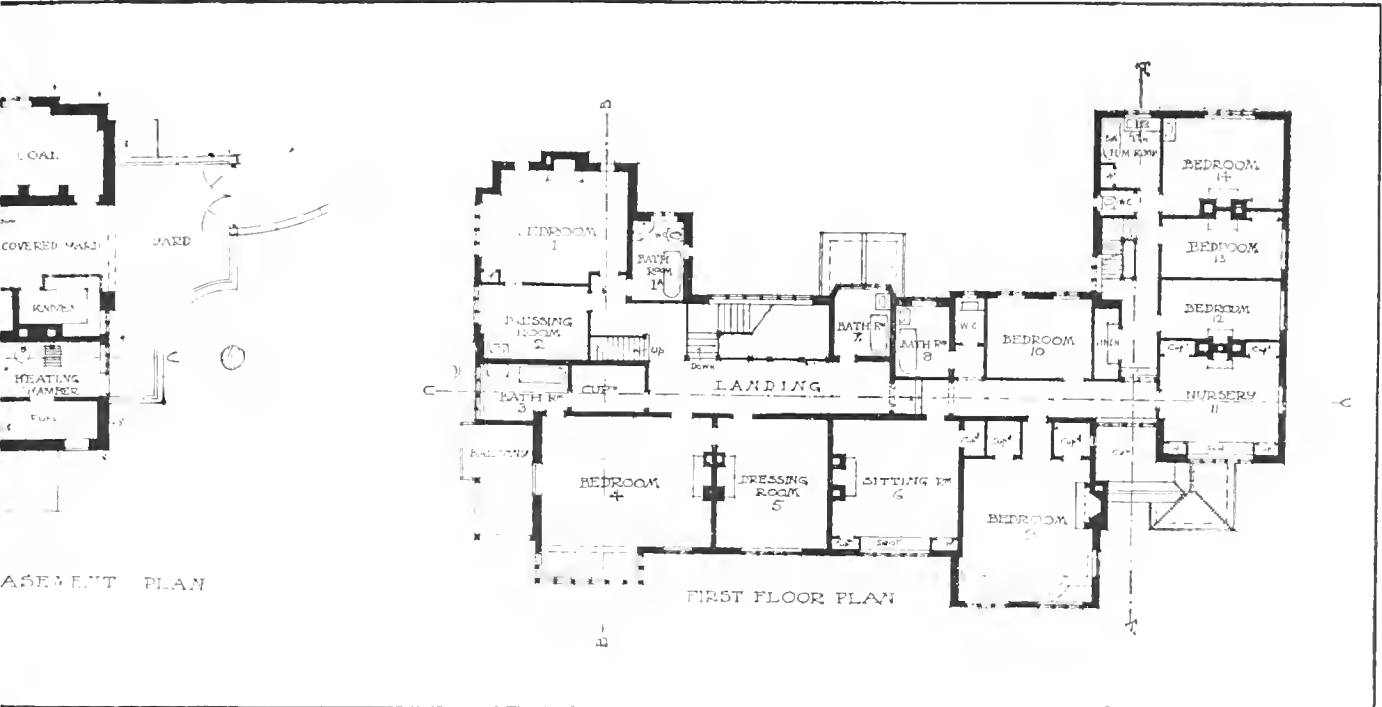




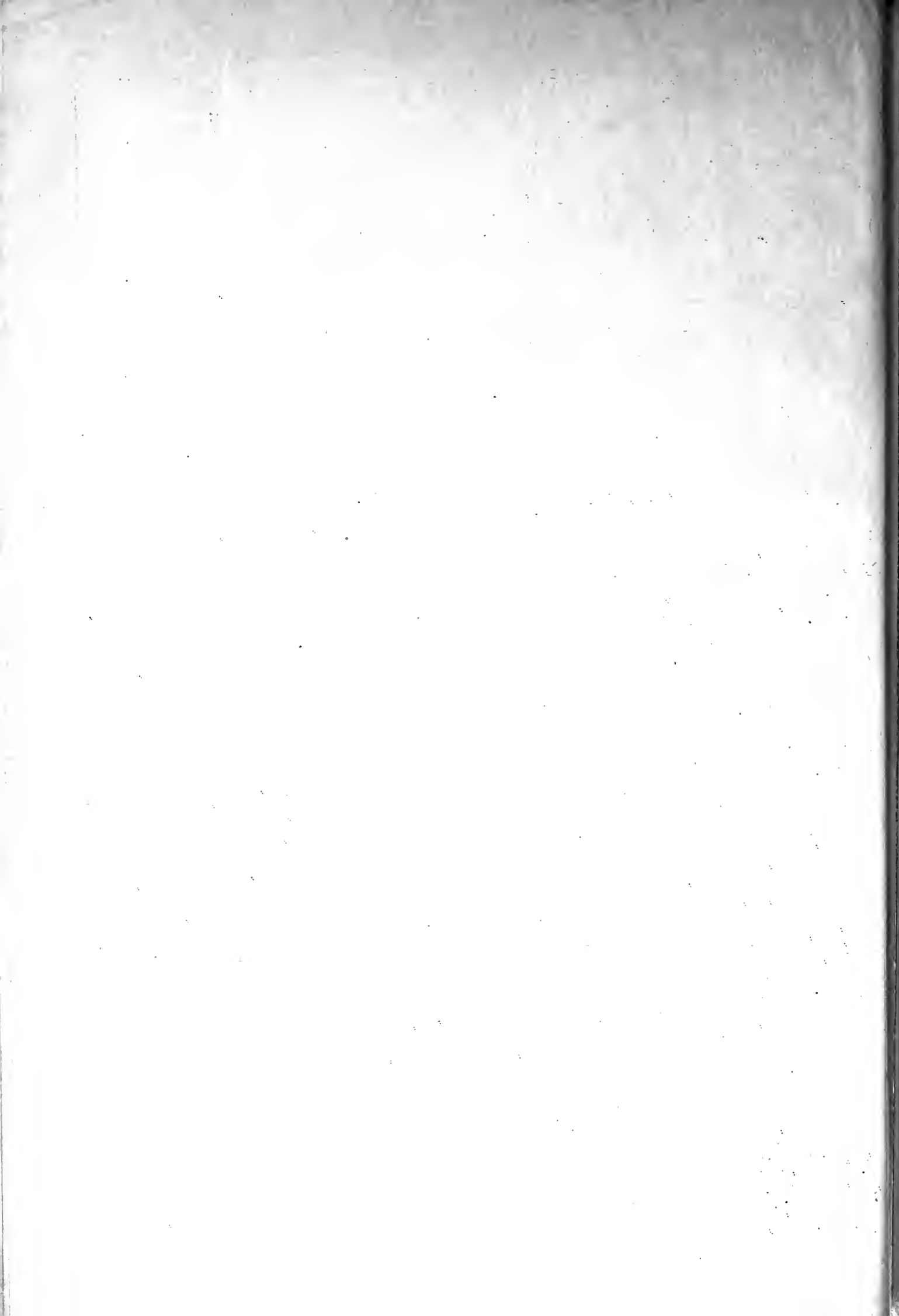


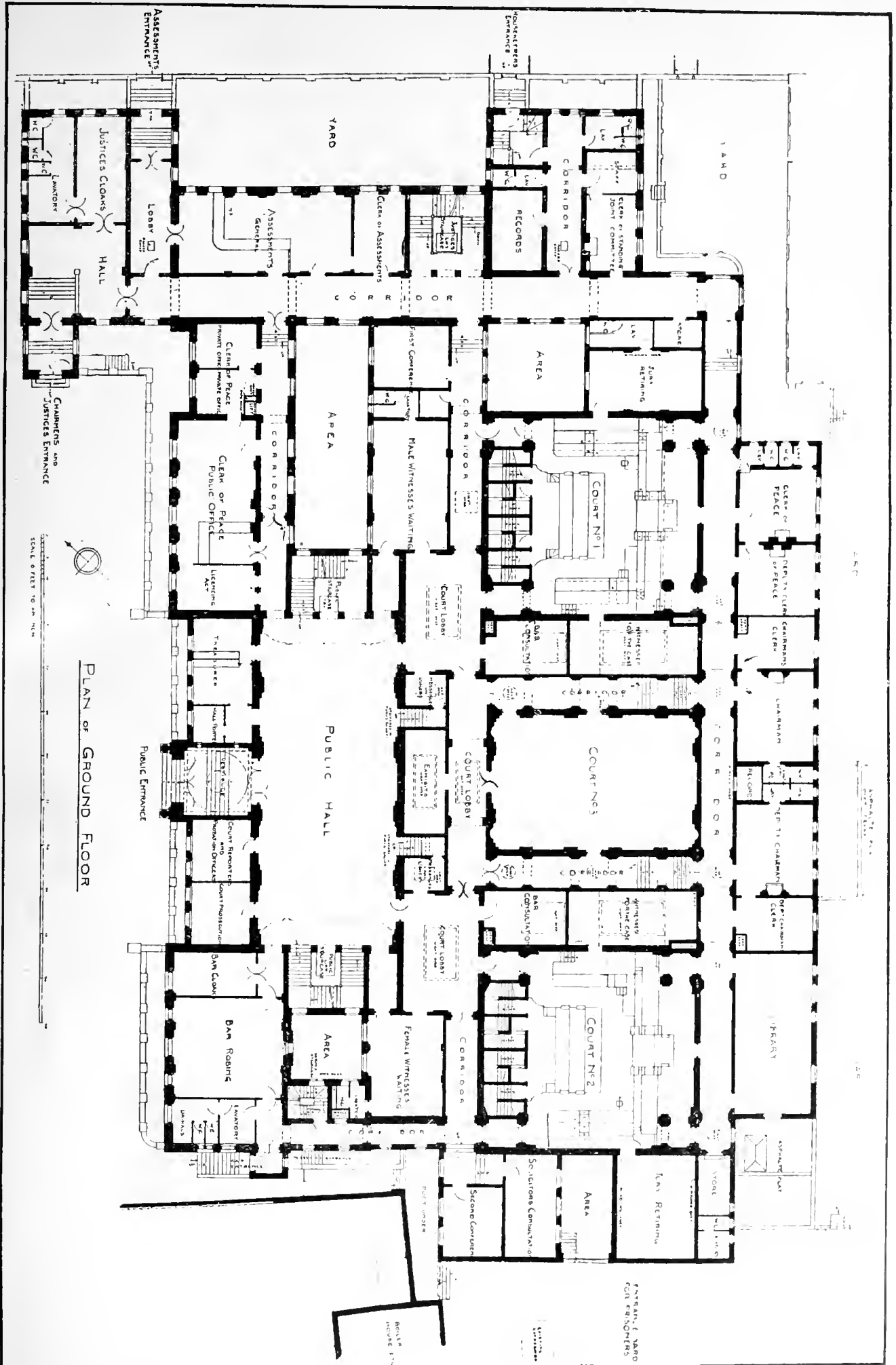
"CROW CLUMP" OVERLOOKING ST. GEORGE'S HILL GOLF LINKS

JULY 10, 1914.



Wm. A. Poulter
 July 10, 1914





PLAN of GROUND FLOOR

THE LONDON QUARTER SESSIONS HOUSE, NEWINGTON CAUSEWAY, S.E. (View given in Building News, Jan. 30, 1914).
Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect, L.C.C.

LATEST PRICES.

IRON.

Table listing prices for various iron products including Steel Joists, Wrought-Iron Girder Plates, Bar Iron, and Builders' Hoop Iron.

Table listing prices for Galvanised Corrugated Sheet Iron in different gauges and sizes.

Table listing prices for Cast-Iron Columns, Stanchions, and various types of fencing wire.

Table listing prices for Cast-Iron Socket Pipes in various diameters and lengths.

Table listing prices for Pig Iron, Wrought-Iron Tubes, and Gas-Water Tubes.

OTHER METALS.

Table listing prices for various metals including Spelter, Lead, Copper, and Tin.

TIMBER.

Table listing prices for various types of timber including Yellow Pine Deals, Spruce Deals, and Red Deals.

FURNITURE AND HARDWOODS.

Table listing prices for various types of teak and oak planks, boards, and furniture.

STONE.

Table listing prices for various types of stone including Mansfield, Darley Dale, and Bath Stone.

SLATES.

Table listing prices for various types of slates including Blue Portmadoc and Blue Bangor.

BRICKS.

Table listing prices for various types of bricks including First Hard Stocks and Second Hard Stocks.

GLAZED BRICKS.

Table listing prices for various types of glazed bricks including White, Ivory, and Buff.

MOULDED BRICKS.

Table listing prices for various types of moulded bricks including Stretchers and Headers.

TILES.

Table listing prices for various types of tiles including Plain red roofing tiles and Staffordshire tiles.

OILS.

Table listing prices for various types of oils including Rapeseed, Cottonseed, and Turpentine.

GLASS (IN CRATES).

Table listing prices for various types of glass including English Sheet Glass and Fluted Sheet.

Net free on rail, or free on boat at works.

VARNISHES, &c. Per gallon.

Fine Pale Oak Varnish	£0 8 0
Pale Copal Oak	0 10 0
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of churches	0 14 0
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Fine French Oil	1 1 0
Eggshell Flattening Varnish	0 18 9
White Copal Enamel	1 4 9
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knottling	0 10 0
French and Brush Polish	0 10 0

Telephone: DALSTON 1388.

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Hardwoods,
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TENDERS.

. Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BOURNE, Lincs.—For the erection of an isolation hospital, for the Bourne Rural District Council:—

Gilbert and Hall, Nottingham	£4,850 0 0
Fore, E. E., Leicester	4,827 0 0
Hinson, T. H., Bourne	4,829 15 10
Orton, H., and Sons, Lincoln	4,806 5 0
Thompson and Son, Louth	4,777 7 7
Maxey and Son, Sleaford	4,646 0 0
Woolston, J., Stamford	4,641 0 0
Clarke, E., Melton Mowbray	4,630 10 0
Pattinson and Son, Ruskington	4,451 0 0
Corah and Son, Loughborough	4,419 0 0
Roberts, J. H., Bourne	4,436 7 4
Gutteridge & Sons, Peterborough	4,348 0 0
Howes, E. E., Stamford	4,329 17 0
Thornhill, Lincoln (accepted)	4,060 16 5

BERMONDSEY.—For enlargement of Pages-Walk School, for the London County Council:—

Chessum, J., and Sons, South-place	£4,660 0 0
Kent, H., Hither Green	4,566 0 0
Akers, W., and Co., Ltd., South Norwood	4,553 0 0
Bovis, Ltd., Upper Berkeley-st.	4,539 0 0
Appleby, J., and Sons, Ltd., Southwark Park	4,539 0 0
Friday and Ling, Erith	4,478 4 2
Roome, E. A., and Co., Hackney	4,458 0 0
Leng, T. D., Deptford	4,443 0 0
Groves, H., Greenwich	4,436 0 0
Symes, A. E., Stratford	4,297 0 0
Smith, W., and Son, Harleford-road	4,295 0 0
Bowyer, J. and C., Ltd., Upper Norwood	4,287 0 0
Holloway, H. L., Deptford	4,220 0 0

Architect's estimate, £4,305.
 * Recommended for acceptance.

BRIXTON, S.W.—For works of cleansing and repairs at the City Corporation Orphan School:—

Bowyer, J., and Co.	£520 0 0
Bridger, E.	515 0 0
Bennett, C., and Sons	515 0 0
Evans, R. and E.	458 0 0
Pescok Bros.	449 0 0
Candler, G., and Son	437 0 0
Holliday and Greenwood	407 0 0
Rice and Sons	395 0 0
Osborne, T., and Sons (accepted)	340 0 0

CAMDEN TOWN.—For the execution of alterations and improvements at Camden Town fire station, for the London County Council:—

Downs, W., Ltd., Walworth, S.E.	£9,572 0 0
Holloway, H. L., Deptford	8,730 0 0
Bowyer, J. and C., Ltd., Upper Norwood, S.F.	8,398 0 0
Monk, A., Lower Edmonton, N.	8,288 0 0
Roberts, A., and Co., Ltd., Earl's Court-road, W.	8,158 0 0
Brand, Pettit & Co., Tottenham	8,077 0 0
Triggs and Co., Clapham, S.W.	7,821 0 0
Roberts, L. H., and R., Lower Clapton-road, N.E. (accepted)	7,749 0 0

Architect's estimate, £7,620.

GREENWICH.—For enlarging Halstow-road School, for the London County Council:—

Blay, W. F., Ltd., Cannon-st.	£5,790 0 0
Thorne, F. and T., Isle of Dogs	5,580 0 0
King, W., and Son, Vauxhall Bridge-road	5,561 0 0
Mills, W., and Sons, Blackheath	5,429 0 0
Wallis, G. E., and Sons, Ltd., Haymarket	5,380 0 0
Appleby, J. and Sons, Southwark Park	5,338 0 0
Leng, T. D., Deptford	5,281 0 0
Wall, C., Ltd., Chelsea	5,272 0 0
Lawrence, W., & Son, Finsbury Circus	5,260 0 0
Brand, Pettit and Co., West Green-road	5,185 0 0
Bowyer, J. and C., Ltd., Upper Norwood	5,166 0 0
Thomas and Edge, Woolwich	5,078 0 0
Longley, J., and Co., Sussex	4,883 0 0
Holloway, H. L., Church-street, Deptford (accepted)	4,876 0 0

Architect's estimate, £5,121.

CLAPHAM.—For enlarging Telfersecot-road School, for the London County Council:—

Garrett, J., & Son, Balham Hill	£1,015 0 0
Leng, T. D., Deptford	3,920 0 0
Triggs and Co., Clapham	3,851 0 0
Bowyer, J. and C., Ltd., Upper Norwood	3,798 0 0
Lole and Co., Chelsea	3,775 0 0
Smith, W., and Son, Harleford-rd	3,725 0 0
King, W., and Son, Vauxhall Bridge-road	3,722 0 0
McManus, J., Hammersmith-rd.	3,637 0 0

Architect's estimate, £3,821.
 * Accepted.

DEPTFORD, S.E.—For the supply of valve-grids and valves at Deptford pumping station, for the London County Council:—

Yates & Thom, Ltd., Blackburn	£290 0 0
The Lillieshall Co., Ltd., Oaken-gates	243 0 0
Seagrave, Ltd., Dartford	175 0 0
Cochrane, J., Barrhead	170 0 0
Clayton, Goodfellow, and Co., Ltd., Blackburn	151 5 0
Hathorn, Davey, and Co., Ltd., Leeds	141 0 0

* Recommended for acceptance.

HACKNEY.—For painting interior of Homerton-row School, for the London Education Committee:—

Fairhead, A., and Son, Enfield	£755 0 0
Horswill, H. C., Forest Gate	731 0 0
Brown, Pettit, and Co., West Green-road	720 0 0
Symes, A. E., Stratford	704 10 0
Bull, F., Upper Clapton	681 0 0
Monk, A., Lower Edmonton	639 0 0
Shurmur, W., and Sons, Ltd., Upper Clapton	620 0 0
Roberts, C. P., and Co., Ltd., Dalston	604 10 0
Silk, W., and Son, Homerton	593 0 0

* Recommended for acceptance.

HAMPSTEAD HEATH, N.W.—For the erection of a bothy and lock-up shed on the Wyde Farm section of Hampstead Heath, for the London County Council:—

Rowley Bros., Wood Green, N.	£263 0 0
Markham & Markham, Victoria-street, S.W.	211 0 0
Merchant, Hirst, and Co., Highgate-road, N.	211 0 0
Stevens and Son, Crouch Hill, N.	207 0 0
Mather, J. C., Islington, N.	200 0 0
McLaughlin and Harvey, Ltd., Brecknock-road, N.	195 0 0
Fletcher, F. W., Tooting, S.W.	190 0 0
Nicholls, H., Ltd., Church End, Finchley	169 0 0

Architect's estimate, £140.
 * Recommended for acceptance.

LONDON.—For external painting and varnishing at Brompton, Knightsbridge, Manchester-square, North Kensington and West Hampstead Stations, and at premises, 46, Holly-hill, Hampstead, and painting appliance room doors at 12 stations, for the London County Council:—

Polden, A. F., Shepherd's Bush	£452 6 0
Roberts, A., and Co., Ltd., Kensington, W.	115 0 0
Stevens & Sons, Crouch Hill, N.	365 9 0

Architect's estimate, £365.
 * Accepted.

(Continued on page XIV.)

LIST OF COMPETITIONS OPEN.

July 11—Cheap Cottage Exhibition (250 Designs)	.....
.. 15—Harbour Extension, Helsingborg	7,000 kron., 4,000 kron., 2,000 kron.
.. 16—Designs for New Town Hall, Middleton (cost not to exceed £18,000). (Hastwell Grayson, Assessor)	£100, £50, £25
.. 21—Cottages, Chapel-en-le-Frith	10gs., 5gs., 2gs.
.. 25—Designs for Police and Fire Station, Redhill. (Assessor)	10gs., 20gs., 10gs.
Sept. 7—Designs for Public Elementary Schools at Linda-street, York-road, Battersea; and Billingsgate-street, Church-street, Greenwich. (Mr. J. W. Simpson, F.R.I.B.A., Assessor)	.....
Oct. 31—Laying Out Show Grounds, Wayville West, Adelaide	£500, £200, £100
.. 31—Drawings for Police Buildings and Fire Station, St. Helens (Assessor)	£100, £50, £25
Dec. 31—Planning Workmen's Settlement, Campine Coalfield	£400, £240
do. —Drawing or Photograph of English or Continental Metal Work	5gs., 3gs., 2gs.
do. —Designs for Technical Schools and Education Offices (Mr. Paul Waterhouse, F.R.I.B.A., Assessor)	.....

The Surveyor's Institution, 12, Great George-street, S.W.
 The Harbour Extension Board, Helsingborg, Sweden.
 F. Entwistle, Town Clerk, Town Hall, Middleton.
 The Clerk, Rural District Council, Chapel-en-le-Frith, Stockport.
 A. Smith, Town Clerk, Municipal Buildings, Reigate.
 L. Gomme, Clerk, Education Offices, Victoria Embk., W.C.
 The Secretary, Royal Agricultural Society of South Australia
 23, Waymouth-street, Adelaide.
 A. W. Bradley, M.I.C.E., Town Hall, St. Helens.
 M. le President de la Commission pour l'Aménagement des Agglomérations Industrielles, Rue de Louvain, Brussels.
 Whiteside and Caslake, Ltd., The Broadway, Hendon, N.W.
 J. E. Jarratt, Town Clerk, Town Hall, Southport.

LIST OF TENDERS OPEN.

BUILDINGS.

July 10—Council School (720 places), Tamworth-road, Croydon	Education Committee
.. 10—Schools, Repairs to, Luddenden Foot	Education Committee
.. 10—New School, Stones	West Riding Education Com
.. 10—Schools, Repairs to, Hebden Bridge	Education Committee
.. 10—Elementary Schools, Repairs to, Guildford	Education Committee
.. 11—Council School, Alterations to, Dartford West Hill	Kent Education Commitee
.. 11—Cable Shed, Electricity Works, Halifax	Electricity Committee
.. 11—New Town Hall and Market Buildings, Denbigh	Borough Council
.. 11—Labourers' Cottages (218), Middleton	Rural District Council
.. 11—Council School, Repairs to, Chelsfield	Kent Education Committee
.. 11—Rebuilding Nos. 35-37, High-street, Bognor	.....
.. 11—Seven Labourers' Cottages, Milford	Rural District Council
.. 11—Council School, Repairs to, Marden	Kent Education Committee
.. 11—Fusehill House, Smoke Room at, Fusehill	Guardians
.. 11—Parsonage, Westfield, Workington	.....

H. C. Pegg, F.R.I.B.A., Thornton Heath.
 F. J. MacDonald, Education Offices, Sowerby Bridge.
 The Education Architect, County Hall, Wakefield.
 F. J. MacDonald, Education Offices, Sowerby Bridge.
 C. G. Mason, A.M.I.C.E., Boro' Sur, Tuns Gate, Guildford.
 W. H. Robinson, M.S.A., Sessions House, Maidstone.
 J. Lord, M.I.C.E., Boro' Eng., Town Hall, Halifax.
 J. Brooke & Elcock, F.R.I.B.A., Exchange-st., Manchester.
 J. Stanton, Clerk, Middleton, Ireland.
 W. H. Robinson, M.S.A., Sessions House, Maidstone.
 H. P. Tufnail, L.R.I.B.A., 48, High-street, Bognor.
 S. Watters, Clerk, Board Room, Milford, Ireland.
 W. H. Robinson, M.S.A., Sessions House, Maidstone.
 G. Armstrong, Archt., 24, Bank-street, Carlisle.
 W. G. Scott and Co., Archts., 2, Park-lane, Workington.

BUILDINGS—continued.

July 11—Four Small Holding Houses & Farm Bldgs., Beenham	Berkshire County Council.....	W. E. C. White, County Land Steward, Reading.
11—Council School, Repairs to, Edinbridge	Kent Education Committee.....	W. H. Robinson, M.S.A., Sessions House, Maidstone.
11—Workhouse, Repairs to, Midleton	Guardians	J. Stanton, Clerk, Guardian's Offices, Midleton.
11—Handicraft Centre, Bodmin	Cornwall Education Committee	B. C. Andrew, Archt., Biddick's-court, St. Austell.
11—Wesleyan Church & School, Repairs to, Newton Abbot	Trustees	A. E. Dodge, Sec., 87, Queen-street, Newton Abbot.
13—Schools, Alterations to, Portsmouth	Education Committee.....	A. H. Bone, Sur., Cambridge Junction, Portsmouth.
13—House, Pontyclun.....	Thomas Jenkins.....	Thomas and Morgan, Archts., Gelliwastad-road, Pontypridd.
13—Isolation Hospital (16 beds), Hitchin	Rural District Council	H. P. Adams, 28, Woburn-place, Russell-square, W.C.
13—Training College, Ford Estate, Sunderland	Town Council	G. T. Brown, F.R.I.B.A., 51, Fawcett-street, Sunderland.
13—Schools, Repairs to, Romford	Essex Education Committee	H. P. Winstanley, Clerk, 71, South-street, Romford.
13—Foundations for Turbo-Alternator, Salford	Corporation	The Borough Electrical Engineer, Frederick-rd., Pendleton.
13—Art and Technical Schools, Additions to, Bridgewater	Higher Education Committee.	Samson and Colthurst, Archts., 51, High-street, Bridgewater.
13—School, Extension to, Winchester-road, Eastleigh	Hampshire County Council	A. L. Roberts, Archt., The Castle, Winchester.
13—Houses (30), Ynysyhwyl	Twynllas Building Club	E. Ivor Evans, Archt., 55, Dunsriven-street, Tonypandy.
13—Two Pump Houses, Whitney Waterworks, Coventry	Waterworks Committee.....	J. E. Swindlehurst, City Eng., St. Mary's Hall, Coventry.
13—Villa, King's-road, Blackhill	Industrial Co-op. Soc., Ltd.	J. J. Eltringham, L.R.I.B.A., Blackhill.
13—Offices, Alterations to, Carville-road, Wallsend	Essex Education Committee	F. Robertson, Sec., Indus. Co-op. Soc., Wallsend.
13—Schools, Repairs to, Romford	Ash Grove Building Club	H. P. Winstanley, Clerk, 71, South-street, Romford.
13—Houses (214), Ebbw Vale	Rural District Council	W. Rosser, Archt., Wildings' Chambers, Newbridge, Mon.
13—Single Cottages (61), Rathdrum	Building Club	P. W. Sheehan, Clerk, Rathdrum.
13—Three Shops and Seven Houses, Pontyclun	Corporation	Thomas and Morgan, Archts., Gelliwastad-road, Pontypridd.
13—Covered Steel Shed, Waterworks Yard, Croydon	Kent Education Committee.....	J. M. Newnham, Town Clerk, Town Hall, Croydon.
14—Secondary School (200 places), Beckenham	Iron Co., Ltd.	W. H. Robinson, M.S.A., Archt., Sessions House, Maidstone.
14—Cottages (54), Langley Park, Consett	Wilts County Council	The Company's Architect, General Offices, Consett.
14—Schools, Additions to, Trowbridge	Hampshire County Council	J. G. Powell, County Sur., Trowbridge.
14—School, Additions to, Middle-road, Sholing, Itchen	Urban District Council	A. L. Roberts, Archt., The Castle, Winchester.
14—Isolation Hospital, Addition to, Hampton Hill	Urban District Council	S. H. Chambers, Sur., Public Offices, Hampton, Middlesex.
14—Laying-out Streets, Dundalk	Urban District Council	M. Sellars, Sur., Town Hall, Dundalk.
14—Workmen's Dwellings, Gascoigne-road, Barking	Middlethian County Council	C. J. Dawson, F.R.I.B.A., Clock House Chambers, Barking.
14—Loanhead Hospital, Alterations to, Edinburgh	Urban District Council	A. Murray Hardie, Archt., 20, George-street, Edinburgh.
14—Houses (46), Dundalk	Guardians	M. Sellars, Sur., Town Hall, Dundalk.
14—Workhouse, Re-lating, Aylsham	Hereford Small Holdings Com.	H. J. Gidney, Clerk, Aylsham.
14—Two Sets of Buildings, Blackmoor Farm, Abbeydore	Education Committee.....	B. Dear, County Land Agent, 132, St. Owen-street, Hereford.
15—School, Additions to, Princess-road, Croydon	Lancashire & Yorkshire Rly. Co.	J. Smyth, Clerk, Education Office, Katharine-street, Croydon.
15—Boiler House, Foundations for, Electric Station, Furnby	Metropolitan Asylums Board	The Engineer's Office, Hunt's Bank, Manchester.
15—Coal Stove, Asylum, Levensden	Kesleven Education Committee	W. T. Hatch, M.I.C.E., Eng.-in-Chief, Embankment, E.C.
15—School, Alterations and Additions to, Nocton	Lancashire & Yorkshire Rly. Co.	W. H. Dunn, Archt., Silver-street, Lincoln.
15—Electric Sub-station and Battery House, Radcliffe	Education Committee.....	The Engineer's Office, Hunt's Bank, Manchester.
15—Laundry, Joint County Asylum, Carmarthen	Visiting Committee	George Morgan and Son, 21, King-street, Carmarthen.
15—New Post-Office, Gillingham, Dorset	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
15—Exchange Sidings, Gooles	Lancashire & Yorkshire Rly. Co.	The Engineer's Office, Hunt's Bank, Manchester.
15—School, Additions to, Princess-road, Croydon	Education Committee.....	J. Smyth, Clerk, Education Office, Katharine-st., Croydon.
15—Schools, Alterations to, Bracebridge	Kesleven Education Committee	W. H. Dunn, Archt., Silver-street, Lincoln.
15—Town Hall and Municipal Buildings, Leeds	Property Committee.....	W. T. Lancashire, City Eng., Municipal Buildings, Leeds.
15—Fever Hospital, Repairs at, South Tottenham, N.	Metropolitan Asylums Board	W. T. Hatch, M.I.C.E., Eng.-in-Chief, Embankment, E.C.
15—Post-Office, Extension of, Swansea	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
15—Rebuilding Business Premises, Tonypandy	Urban District Council	R. S. Griffiths, M.S.A., Tonypandy.
15—Cottages (26), Brownlow-street, Clitheroe	Corporation	J. Perry and Sons, Archts., 3, Market-place, Huddersfield.
15—Reinstating No. 51, Glebeand-street, Merthyr Tydfil	Literary Institute Committee	A. R. Bleazard, Boro' Eng., Clitheroe.
16—Concert Hall, Coxhoo	Lindsay Education Committee	Johnson and Richards, Archts., Merthyr Tydfil.
16—School, Additions to, Ropery-road, Gainsborough	Corporation	W. A. Kellist, Archt., 2, South-road, Bishop Auckland.
16—Stores and Pumping Station, Weymouth	Corporation	Scorer and Gamble, Archts., Bank-street Chambers, Lincoln.
16—Cottage, Manor-road, Chelmsford	Lindsay Education Committee	H. A. Huxtable, Town Clerk, Municipal Offices, Weymouth.
16—School, Additions to, South Killingholme Haven	Industrial Co-op. Soc., Ltd.	G. Melvin, Town Clerk, Municipal Offices, Chelmsford.
16—Bakehouse, Wickham Market	Guardians	Scorer and Gamble, Archts., Bank-street Chambers, Lincoln.
16—Boiler and Engine House, Scarborough	Essex Education Committee	The Stores, Bridge-street, Wickham Market.
16—Converting Six Houses into Shops, Bedwas	Pen-y-wan Building Club	J. W. Read, Clerk, 14, Dean-road, Scarborough.
16—House, Cefn Porth, Llanelidno	Late James Lyle's Trustees	Gomer L. Rees, Archt., Bedwas, Mon.
17—Rebuilding Butcher's Arms Hotel, Pen-y-graig	Governors	W. G. Lewis, Bedwas, Mon.
17—Schools, Repairs to, Grays	Isle of Ely Education Committee	R. S. Griffiths, M.S.A., Tonypandy.
17—Bungalows (30), Glyncoirrog	Visiting Committee	G. T. Forrest, County Archt., 73, Duke-street, Chelmsford.
17—Farmhouse, Gibbs Hill, Stapleton	Warwickshire County Council	The Secretary, Glyncoirrog.
18—Endowed School, Enlargement of, Snaillay	Guardians	Wright, Brown, and Swan, Solicitors, Carlisle.
18—School, Murrow, Wisbech St. Mary	Metropolitan Asylums Board	Curry and Thompson, Archts., Market-place, Derby.
18—Two Villas at Hull City Asylum, Wellerby	Essex Education Committee	H. Farr Simpson, County Sur., Tavistock-road, Wisbech.
18—Police Station, Additional Cells at, Nuneaton	Metropolitan Asylums Board	J. A. Hirst, City Archt., Guildhall, Hull.
18—City Lodge, Repairs to, Cardiff	Corporation	J. Milne, County Sur., 6, Waterloo-street, Birmingham.
18—Hall, Aberkenfig	Metropolitan Asylums Board	E. J. Harris, Clerk, Union Offices, Queen's Chambers, Cardiff.
20—Disinfecting Building, North Wharf, Blackwall, E.	Essex Education Committee	E. H. Heaven, Archt., 39, Coronation-street, Aberkenfig.
20—School, Additions to, Lambourne	Metropolitan Asylums Board	W. T. Hatch, M.I.C.E., Eng.-in-Chief, Embankment, E.C.
20—Reconstructing Children's Hospital, Margate	Metropolitan Asylums Board	G. T. Forrest, County Archt., 73, Duke-street, Chelmsford.
20—Market Offices, Birley-street, Preston	Port of London Authority	T. W. Aldwickle, F.R.I.B.A., 20, Denman-street, S.E.
20—Queen Mary's Hospital, Alterations to, Carshalton	Trustees	The Borough Surveyor, Town Hall, Preston.
20—Houses (24), Tyuant	Joint Hospital Board	W. T. Hatch, M.I.C.E., Eng.-in-Chief, Embankment, E.C.
20—Asylum, Extension of, Tooting Bec, S.W.	Joint Burial Committee	Thomas and Morgan, Archts., 23, Gelliwastad-rd., Pontypridd.
20—Schools, Repairs to, Gatten and Newport	Kent Education Committee	T. W. Aldwickle, F.R.I.B.A., 20, Denman-street, S.E.
20—Club, Gilfach, Bargod	Urban District Council	S. R. Cocks, St. Thomas's-street, Ryde.
20—Isolation Hospital, Additions to, Saffron Walden	Education Committee.....	D. J. Thomas, Archt., Blackwood, Mon.
20—Cemetery, Caretaker's Lodge at, Farnham	Guardians	H. R. Bird, Archt., 10, Union-court, Old Broad-street, E.C.
20—Council School, Repairs to, Great Chart	Urban District Council	A. J. Steadman, Archt., South-street, Farnham.
20—Houses (14), Rainford	Education Committee.....	W. H. Robinson, M.S.A., Archt., Sessions House, Maidstone.
20—Council School, Enlarging, Byng-road, Barnet	Corporation	J. A. Baron, Archt., Cotham-street, St. Helens.
20—Reception Hospital, Larchet Asylum	Great Yarmouth Education Com.	U. A. Smith, County Sur., County Surveyor's Office, Hatfield.
22—School (1,122 places), Newtown, Great Yarmouth	Guardians	A. and W. Black, Archts., Falkirk.
22—St. James Infirmary, Alterations to, Wandsworth, S.W.	Port of London Authority	The Borough Surveyor, Town Hall, Great Yarmouth.
22—Electric Power Station Buildings, Walsall	Trustees	Gibson, Skipworth, & Gordon, Archts., 5, Old Broad-st., W.
22—School, Alterations at, Cobholm Island	Joint Hospital Board	E. M. Lacey, M.I.C.E., Con. Eng., 12, Victoria-street, S.W.
23—Infirmary, Repairs to, St. Dunstan's-rd., Fulham, S.W.	Joint Burial Committee	The Borough Surveyor, Town Hall, Great Yarmouth.
23—Redecorating Dining Halls, Raucecroft-road, Mile End	Kent Education Committee	A. S. Snell, F.R.I.B.A., 9, Bentinck-street, Manchester-sq., W.
23—Workhouse, Repairs to, Fulham Palace-road, W.	Urban District Council	E. J. Harrison, Archt., 9, Grey's Inn-square, W.C.
23—Housing Scheme, West Ham	Education Committee.....	A. S. Snell, F.R.I.B.A., 9, Bentinck-street, Manchester-sq., W.
23—Wards & Operating Room, Cottage Hospital, Rhymney	Corporation	C. R. S. Kirkpatrick, Chief Eng., 103, Leadenhall-street, E.C.
23—National School, Backnammullagh	Great Yarmouth Education Com.	J. Llewellyn Smith, Architect, Aberdare.
23—Infirmary, Linen Stores at, Fulham, S.W.	Guardians	T. Dooy, The Manse, Dromore.
23—Houses (101), Part-street, Blaina	Urban District Council	A. S. Snell, F.R.I.B.A., 9, Bentinck-street, Manchester-sq., W.
24—Caretaker's Cottage, Renovating, Newbury	Education Committee.....	H. J. C. Sheppard, Clerk, Council Offices, Blaina.
25—Six Workmen's Dwellings, Alderton, Glos.	West Sussex Education Com.	The Borough Surveyor, Municipal Offices, Newbury.
25—School, Alterations to, St. Martins, Oswestry	Morocco Public Works Spl. Com.	T. Malvern, L.R.I.B.A., 21, Winchcomb-st., Cheltenham.
25—Two Workmen's Dwellings, Snowhill, Glos.	Corporation	Rev. Thomas Williams, Vicarage, St. Martins, Salop.
28—School, Oxford-road, Horsham	Port of London Authority	T. Malvern, L.R.I.B.A., 21, Winchcomb-st., Cheltenham.
Aug. 6—Stone Lighthouse, Sidi Bou Abi, Mazagan	Guardians	The County Education Office, Worthing.
No date—Two Cottages at Refuse Destructor, Grantham	Urban District Council	M. le President du Comité, Dar En Niaba, Tangier.
do. Seven Houses off Ormeau-road, Belfast	Education Committee.....	The Borough Surveyor, Guildhall, Grantham.
do. Farmhouse and Cottages, Low Baron Wood	Dr. Ryece	C. Mcalister, Archt., Whitehall Buildings, Ann-st., Belfast.
do. Theatre, Torquay	Canoeck Co-op. Society, Ltd.	E. R. Ridgway, Archt., Long Eaton, Nottingham.
do. Clubhouse, The Waffron's, Strabition	Golf Club	F. G. Moore, Archt., 10, Fleet-street, Torquay.
do. Drill Hall, Alterations to, Sunderland	Dorham Terr. Force Assoc.	J. F. Falser, Archt., 3, Staple Inn, Holborn, E.C.
do. School, King's-road, Rochdale	Education Committee.....	Wright and Chapman, Archts., Newcastle-on-Tyne.
do. Residence and Surgery, Pentrebach	Dr. Ryece	The Secretary, Education Office, Baillie-street, Rochdale.
do. Wesleyan Sunday Schools, Bangor-street, Cardiff	Canoeck Co-op. Society, Ltd.	Johnson and Richards, Archts., Merthyr Tydfil.
do. Pair of Cottages, East Fen, Milville	Dr. Ryece	H. Horton, Archt., Bank Chambers, Cannock.
do. Work at C.E. Schools, Winwick	Golf Club	H. Bugden, F.R.I.B.A., 95, St. Mary-street, Cardiff.
do. Schools, Repairs to, Naunton	Dorham Terr. Force Assoc.	G. E. Clarke, M.I.C.E., Boro' Sur., Boston, Lincs.
do. Residence, Abbey-road, Barrow	Education Committee.....	W. and Segar Owen, Cairo-street Chambers, Warrington.
do. Residence, Elgin	Dr. Ryece	R. S. Phillips, Archt., Shire Hall, Gloucester.
do. Hospital, Nurses' Block at, Exeter	Canoeck Co-op. Society, Ltd.	J. C. Harvey, A.R.I.B.A., Ramsden-square, Barrow.
do. Mess Room and Storage Shed, Harrow	Dr. Ryece	R. B. Pratt, A.R.I.B.A., 110, High-street, Elgin.
do. Two Houses, Pontardawe	John Adamson and Co., Ltd.	E. H. Harbottle and Son, Archts., County Chambers, Exeter.
do. Ferro-Concrete Warehouse, Salford	John Davies, Pontardawe	H. E. Scarborough, Archt., 22, Lowther-street, Carlisle.
do. Houses (4) Craighead	T. Hedley and Bros.	J. Cook Rees, M.S.A., Parade Chambers, Neath.
do. Rebuilding Cross Keys Inn, Upper Loughor	Buckley & Brewery, Ltd.	Maxwell and Tuke, Archts., 25, Brazennose-st., Manchester.
do. Semi-detached Houses (20), Standish Garden Village	E. H. Monks	W. Routhwaite, A.R.I.B.A., Mosley-st., Newcastle-on-Tyne.
do. Motor Garage, Fleur-de-Lys	Doulton's, Ltd., Burslem	J. Davies and Son, Archts., Cowell House, Llanelly.
do. Silvester Pottery, Additions to, Burslem	Dr. Ryece	W. B. Johnson and Son, Archts., 31, King-street, Wigan.
do. Stable and Storehouse, Blaenant Farm, Blaenporth	Golf Club	The South Wales Transport Co., Ltd., 2, Rutland-st., Swansea.
	Dr. Ryece	A. R. Wood and Sons, Archts., Unstall.
	Dr. Ryece	W. H. Harries, Blaenant Farm, Blaenporth.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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Workshops for the Blind, Bolton. View, plan, and section. Messrs. Bradshaw, Gass, and Hope, Architects.	
Bank of Victoria, King William-street, E.C. Mr. Oswald P. Milne, F.R.I.B.A., Architect.	
Staircase Tower to Bankside of the New St. Paul's Bridge. Third Premiated Design. View and sheet of details. Mr. E. H. D. Selway, A.R.I.B.A., Architect.	
Lectern, St. Jude-on-the-Hill, Hampstead Garden Suburb, N.W. By Mr. Herbert A. Welch, A.R.I.B.A.	
Early Eighteenth-Century Pulpit, St. Anne's, Manchester.	
The Practical Application of Reinforced-Concrete Construction.	

OUR ILLUSTRATIONS.

King Edward VII. Memorial Sanatorium, North Wales, in the Vale of Clwyd. Selected Design. View and plans. Mr. T. Taliesin Rees, F.R.I.B.A., Architect.

SOME HINTS TO YOUNG ARCHITECTS.

In the early days of an architect's career he is not infrequently pulled up short by his client with the question, "What will it cost?"—referring, of course, to the design, which, after many days' consideration, is now ready for the builder's hands. To answer this question to the satisfaction of an outsider would demand a thorough acquaintance on the part of the architect with the value of the labour and materials involved in all the building trades; but by some behind the scenes such knowledge is deemed wholly unnecessary, and the information is arrived at by the ready and convenient way known as "cubing." It is well to note at the outset that this method is not applicable to alterations, repairs, or restorations of any kind. When it is desired to know the cost of these, application must be made to a practical man. We have said that cubing is ready and convenient—first, because it can be promptly applied, the calculations involved being few; and, secondly, because the subtraction of a penny or two per cube foot will often bring the estimate within the required limits, and so satisfy the architect and client—for the time—although the prescribed limits may be considerably exceeded in carrying out the work.

There still evidently survives a fond belief that the architect's estimate must be the actual value of the work, for no otherwise can one account for the publication of the amount of the architect's estimate with a long list of tenders. Every tender must be an approximate estimate of the work to be done, and that which is nearest the actual value of the work is necessarily that prepared by a practical man who is acquainted not only with the value of building-work in general, but also with that of the locality in which the proposed building is to be erected. Some architects write rather sharp specifications, and they keep the contractors up to their provisions. Some specifications are slipshod, the architect being stronger in art than in building-construction. Contractors soon get to know these facts, and this knowledge influences their tenders accordingly. Builders, again, have varying moods when doing their work. Some are given to interpret the drawings and specifications generously, while others appear incapable of understanding the plain English of the specification clauses, and they always take them to mean something much easier of execution than was intended. It is as great a pleasure for an architect to have to deal with one of

these kinds of contractors as it is a misery to wrestle with the other.

Quantities often produce "wild" estimates, though they are supposed to eliminate all uncertainty as to what amount of work will be required, and its quality; and this arises from the elaboration of the labours in every item. Some tender on all the minute details of every piece of work, while others neglect them, pricing only the backbone, as it were, of each item. Again, the quantities may be taken "full" or "slack." If the former, anyone tendering, and "in the know," will, of course, have an advantage over those unskilled in such things.

Having got over his first estimating, the architect's next difficulty will be in issuing his certificate for payments on account. This certainly demands some knowledge of the price of work, for the contract provides that the amount shall be a certain percentage on the value of the work done. But even in these cases certificates may be issued without any strict relation to the actual value thereof—at the beginning, at any rate; but towards the close the pinch is felt, and the architect must walk warily as the work is coming to a finish. Where an alteration is made in the work contracted for, the architect is supposed to estimate its value, and add to or deduct from the contract sum accordingly. But as the contractor has a vital interest in such changes, the architect is not likely to be left very long without some idea being obtained of what the builder values the change at. In our practice we found it difficult to get the contractor, in some cases, to say what the "extra" was worth, while in other instances the cost of the proposed change was stated at once. We would advise the architect to get an estimate at once of any such alteration and submit it to his client. The client's approval should be communicated in writing to the builder, and in this way, as the work proceeds, any additional cost will become part of the contract, and nothing will be left hanging over to the end unsettled—a plan which satisfies nobody but the builder, and very often loses a client to the architect.

Where an architect has an extensive practice he can employ a surveyor, and that gentleman, having all building prices at his fingers' ends, can arrange the preliminary estimates, certificates, and the cost of all extras, without trouble to the architect. This system is favoured by architects whose artistic instincts are incompatible with a knowledge of practical building or prices. It is obvious that where an architect values extra work he

must have quantities to attach his prices to, hence his practice must include surveying, or he must employ a surveyor to do this special work for him, or engage a surveyor as one of his clerks. When a builder tenders on quantities, the surveyor may decline responsibility for them after the contract is signed. But whether he does or does not, no one ever thinks of measuring up the finished building, with a view to finding whether full value has been rendered by the contractor. Generally speaking, the client knows nothing of the surveyor—not even that he pays him—for his charge is included in the builder's tender, and the builder pays him, leaving a very interesting conundrum to be solved, "Who is the surveyor's employer?" for the architect engages him, but accepts no responsibility for payment; the client is not aware of all the circumstances, and never meets the surveyor; and the builder hands over the employer's money to one he knew nothing about until he got the quantities. The practice as regards the employment of the surveyor is in many cases quite above board, especially with public bodies; but there is too much reason to fear that the employer is not always informed what the surveyor's charge will be, or that the contractor is the medium through which he is paid. Indeed, it is certain that the client would object to pay what is really an additional 2 per cent. on the architect's fee.

Suppose the architect does his own surveying, when does he learn how? In the course of his apprenticeship he is probably fully occupied in making drawings, with an occasional visits to works in progress. Moreover, the architect does not profess to teach surveying. Take timber, for instance—a material so extensively used in every building. Where does an architect gain that knowledge of its value which is necessary to enable him to arbitrate between the employer and the builder in the case of disputed accounts? Unless he is carrying on the work without a contractor, and buys the material himself, he can have no idea of the actual value of brick, stone, or timber. It is comparatively easy to remember what a thousand of bricks is worth, or a cube foot of stone; it is not so easy to arrive at the value of the timber used in the various details of carpentry and joinery; yet this knowledge is, after all, that of most importance to the young architect, and the most difficult to obtain. To make this plain, if an inquiry is made of a quarryman what per foot his stone is worth, there is usually only one quality, and one price, so that the reply is definite. But if a similar question is addressed to a timber-merchant, the reply will neces-

sarily be vague because there are so many different qualities of the same wood, and the information will be of little value.

We referred above to the possibility of an architect dispensing with a contractor, and carrying out his work with, say, a clever foreman. In this case, all the money for wages and materials will pass through the architect's hands; but, after a lengthened experience of this method, we cannot recommend it, and we strongly advise the architect to decline all money dealings if he wishes to maintain his independence and the respect of his client. We have taken a client to a timber-merchant's, and, in his presence, bargained for what was necessary, the client paying there and then the amount of the account, everything being above board; but, years after, we heard that a slanderer suggested there was a private understanding in the case, and he was believed. In another case, we selected some gunmetal and brass-work in the presence of a client, and when the account was made out to us, showing plainly the discount, we handed it to the client, who discharged it with his cheque. But he was never satisfied that there was not some secret understanding between the merchant and ourselves giving us a further discount or commission. For years we have resolutely refused to purchase grates, locks, or fittings of any kind that may be required in our buildings. Such a duty is the contractor's, and the profits of it should be left to him. It is no part of an architect's duty to turn tradesman.

Let us now try to give, in a familiar and attractive manner, as much information about the measurement and valuation of woodwork as will enable the architect to be his own surveyor in this trade, and to value any timber that he may have to deal with. First, then, it is necessary to recollect that timber in planks, deals, battens, and other rough-sawn sizes are always sold wholesale by the "standard" hundred of 120 pieces 6ft. long, 11in. by 3in., or, what is the same thing, 120 pieces 12ft. long, 11in. by 1½in.; so that in this standard there are 185 cubic feet. It will be noticed that we have written "this" standard—a distinction which is necessary, for there are other standards in various parts; but this one, known as the "St. Petersburg standard," is that used at all the wholesale timber sales in London. This is a large standard of measure compared with most used in the building trade, if we exclude the rod; but it is never brought into bills of quantities, though the builder generally purchases his foreign-sawn rafters and joists by the standard from the timber merchant. The architect will naturally want to know what is the value of timber per cube foot, for it is by this standard builders' estimates are priced and additional works measured. A little mental calculation will, however, enable him to know what the price per standard is when he knows that of the cube foot. Take, for instance, a standard of 3rd St. Petersburg deals 11ft. by 3in., sold at £13 10s. It is evident that as there are 185ft. in the standard, if the deals were sold at £9 5s. they would be worth 1s. per cube foot; but as they fetched £13 10s., or once and a half as much, the value per cubic foot would be, roughly speaking, 1s. 6d. per foot. Suppose, again, that the builder purchases a standard of 4in. by 2in. "unsorted yellow" at its present price—£10 15s. to £11—what does it cost per cube foot? At 1s., the standard would have been £9 5s.; but an addition must be made for the excess, £1 5s., and this is easily done when it is recollected that every penny added to the price per cube foot adds 15s. 5d. to the price per standard. Leaving builders' price-books aside for the present, and taking the whole-

sale trade in timber, what are the present prices of building timber in that trade? Knowing these, the architect will know what profits are charged on the woodwork by the time it reaches his bill of extras. The following prices are all at per standard, as explained above, so that this need not be repeated, except when it is stated to be otherwise. Archangel deals are favourites for joiners' work; they are worth £18 for first quality yellow, or about 2s. per cube foot. Canadian yellow pine, first quality dry, is worth wholesale £30, or 3s. 3d. per cube foot. The architect recognises this timber in his drawing-boards. It is now the dearest soft wood in the market, and is very little used in building on account of its cost, although it was commonly used for door-panels fifty years ago. Oregon pine, 8in. by 4in., prime unsorted quality, is worth £15, or 1s. 7d. per cube foot. Spruce, 9in. by 3in., first quality, is worth £15, so that, at present, its value is the same as that of Oregon pine. Pitch pine, prime quality, 11in. by 2in., sells for £12 10s., or 1s. 2½d. per cube foot; in the log it sells for from 1s. 3d. to 1s. 9d., the price depending on the length and dimension of the stick. Logs 40ft. to 45ft. long, and from 16in. to 18in. square, carry the higher price, while logs about 24ft. long and from 10in. to 11in. square are sold for the lower price.

THE LONDON MEMORIAL TO CAPTAIN SCOTT.

The models submitted by the six invited sculptors for the monument to Captain Scott and his four comrades, who lost their lives in the South Polar Expedition, have been on view this week in the partly-finished structural laboratory of the Imperial College of Science, South Kensington, which Sir Aston Webb is erecting in Prince Consort-road. The site has apparently not yet been chosen, or even defined, if we may judge from the varied treatment illustrated by the proposals thus displayed, some evidently being intended as the finish for the vista of an avenue, others for a recess or alcove by the side of a roadway, and some designed as the centrepiece of an open Place. The designs, therefore, are scarcely comparable, and the selection committee seems to have had some difficulty in arriving at a decision, although they were advised by Sir Thomas Brock, R.A. The members are: The Hon. Harry Lawson, M.P., The Right Hon. Sir Edgar Speyer, and Mr. Lionel Earle, Secretary H.M. Office of Works. We have no doubt as to the fitness of the choice which has been unanimously made in favour of the scheme marked by the motto, "Pro Patria," the author of which is Mr. Albert H. Hodge, 50, Bedford-gardens, Campden-hill, W. All the models were set out to the scale of two inches to the foot, and it is curious to note how greatly diverse the size of these monuments really are as seen in this gallery.

THE SELECTED DESIGN.

Mr. Hodge has reckoned that the monument will occupy a central position in an open square, and its own enclosure, comprising a raised platform of considerable area, has big, massive posts and chains at the four angles. The height of the memorial will be a little short of 40ft. It takes the form of a corniced pylon, built of granite, standing on a richly detailed podium, the whole being surmounted by a bronze group, illustrating a winged heroic figure of "Patriotism" sustaining "Courage" dressed as an Arctic explorer, and both standing on the spurred and set-underfoot representations of "Fear," "Death," and "Despair," while "Courage," as the pioneer, is crowned by "Im-

mortality." Inscriptions below read: "For King," "For Country," "For Brotherly Love," and "For Knowledge." The front of the pylon bears the names of Captain Scott, Dr. Wilson, Lieut. Bowers, Captain Oates, and Petty Officer Evans, each of these heroes being represented by medallions in bronze, linked annuletwise by a broad band of conventional laurel leaves above the moulded base of the superstructure, well done in bronze. A trophy on the rear is formed of a replica of the cross erected on "Observation Hill," a wreath, and a pair of snow-shoes. Captain Scott's memorable words are written below: "Had I lived, I should have had a tale to tell of the hardihood, endurance, and courage of my companions which would have stirred the heart of every Englishman."

Each of the four sides of the podium contains a bronze relief, illustrating "To Strive," "To Seek," "To Find," "And Not to Yield." This latter panel depicts the snow-covered tent—the heroes' last resting-place. No undue prominence is given to Captain Scott, though it no doubt will generally be taken that the figure of "Courage," which stands so prominently on the summit with his uplifted hand is intended to personate him in front of the emblematical figure of "Patriotism," holding up the crown of "Immortality."

THE OTHER DESIGNS.

Following the order of the numbering in the exhibition, we may briefly remark upon the other designs. No. 1, marked "Under the Star," is said to be by Mr. T. Stirling Lee, who has poetically aimed at the ideal of a snow-clad mountain with the dark bronze group of the five heroes on the top of a "bleached Portland stone" rock, at the circular base of which on the diagonal points are seated stone figures representing "Human Love," "Strength," "Truth," and "Science." The memorial tablet in front of the promontory seems too casual, or almost accidental in effect, and rounded forms suggested by snow are employed with a sense of size, though the scheme is one of the smallest submitted. The design of the group seems wanting in a frontal inasmuch as Captain Scott, the chief personage, is represented looking back over his shoulder, and the idea of "bleached" masonry for a monument in London would certainly not be realised in the murky atmosphere of the Metropolis. The cost is set down at £7,500 in the accompanying estimate.

No. 2, in bronze and grey granite, we were informed, was designed by Mr. Arthur G. Walker. The excellently-modelled bronze figures of "the five worthies" are intended to be rather larger than life size, and they are exceedingly well grouped; but, being placed on a shelf, so to speak, they do not intrinsically belong to the structure, and, in fact, this effect is encouraged by their being movable in the model. The central trio are standing, the pair at the sides are seated. Britannia, of heroic size, surmounts the pylon, and vases, right and left, top the ramping wings which end in bronze-panelled pedestals at the extremities, and each of them is finished, carrying a sea-lion, while the curved frontispiece of the podium is nicely terminated by these twin pedestals. Apart from this criticism, which we have suggested as weighing with the judges, no doubt the composition is both dignified and well conceived as a design adapted to be recessed by the flank of a sideway, or set in a park recessional space.

No. 3, by Mr. S. Nicholson Babb, is distinguished by a capitolly-modelled group at the base of the segmental-fronted obelisk

or pylon, finished off with a cornice and frieze, carrying a composition or trophy consisting of a wreath, and globe and flags. On the return faces of the podium the flattened prows of decorative boats project slightly in a hesitating way. The raking heads' line from right to left, formed by the figure group, is very unhappy in effect, though there is no doubt as to the unification of the arrangement of the statuary with the structure. A standing figure of a man with a horse and dog occurs to the left, and on the right hand a figure is seated at the end of a sleigh, while Captain Scott in the midst is pointing forward with undaunted fearlessness. The inscription panel is in front of the pedestal of the piece which has a moulded base and plinth of bold proportions standing on a pair of shaped steps having but an incidental relation to the whole.

Mr. Derwent Wood, we were told, is the author of No. 5, which in large letters bears as a frontal the words, "To strive, to seek, and not to yield," along the top of the podium. The structure of this proposal is very massive, and quite unlike the winning design, though it found favour, it is said, with some of the assessors. It has rusticated sides which, after the fashion of an obelisk, taper towards the top, where a broad platform is furnished by a colossal globe encircled by the equatorial band or zodiacal girdle. The entire conception is somewhat strong:—

"What though in solemn silence all
Move round this dark terrestrial ball."

The sphere rests upon a flamboyant stand garnished with flags, which follow on in scale as a striking trophy. The cornice is too big and coarse; quite out of harmony with the rusticated masonry, which again accords badly with the jointing shown at the rear of this squat pylon. Indeed, the structural joints do not even run through in a line with these rustications, and the scale of the inscription panels, 9ft. to 12ft. high, emphasise the smallness of this puny quoin work. The modelling of the figures of Scott, Wilson, Bowers, Oates, and Evans is extremely good, and their composition is quite one of the best. Architecturally the design is indifferent and lacking in study.

No. 6, marked "Credo nella Eperenza," is an Italian design, to be carried out in red granite and gilt bronze; but the style is somewhat an imitation of the Victoria Memorial, and yet it looks toylike in scale. The seated figures of "Navigation" and "Science" flanking the pylon being too compressed into their chairs, which are part of the structure, and the heads of these figures seem much too big in profile. On the top is an heroic figure of winged "Fame," urging on a boy who carries a model of a boat in his left hand. This group is very pleasingly managed, but the medallion of Captain Scott is very out of scale and poor.

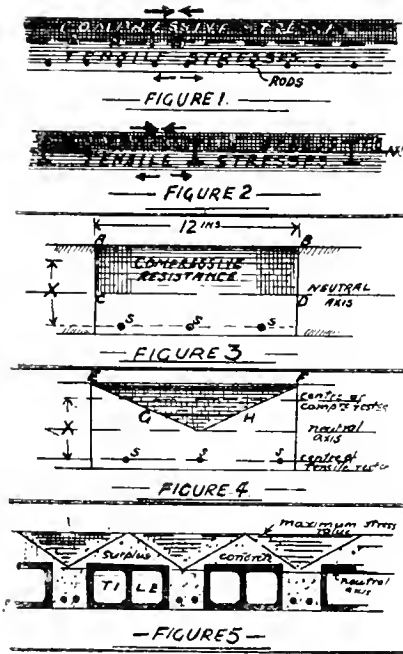
THE PRACTICAL APPLICATION OF REINFORCED - CONCRETE CONSTRUCTION.

By WM. G. SHIPWRIGHT,

Licentiate R.I.B.A., M.C.I., and Chartered Surveyor (by Exam.)

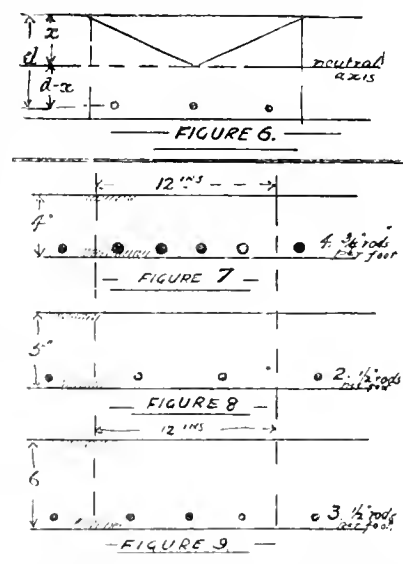
Many previous articles on reinforced-concrete buildings in this paper have clearly indicated its scope. Of course, the design of any form of construction plays an important part in determining its ultimate efficiency, cost, and the facility with which it can be applied; but very few practitioners realise how very extensive is the difference in the cost of well- or badly-designed reinforced-concrete construction, and exactly where the prime causes of this difference are to be found. The most reliable comparison is effected by placing side by side

various forms of reinforced concrete constructed with rods, to resist the tension stresses, whilst the concrete affords the compressive resistance, and the ordinary steel joist and concrete construction, wherein both steel and concrete resist both compressive and tensile forces. The comparison can be readily appreciated by reference to the diagram (Figs. 1 and 2), which shows an



essential difference between the two types which is not always fully appreciated.

Having regard to the fact that concrete is not prima facie a material adapted to the resistance of tensile stresses, the old type of steel and concrete floor shown in Fig. 2 does not commend itself on a scientific basis, and indicates that some considerable wastage must occur in securing concrete bays of sufficient strength to resist the tensile forces, the axis, in fact, coming much nearer the upper (compressed) surface when the slab adapts itself to provide equality in the moments of resistance, in



much the same manner as the axis in the old-type cast-iron girder came much nearer the centre of the compression resistance, unless the girder was specially designed to provide a much greater area of metal in the tension resistance. A comparison of the cast-iron girder, with its unequal resistance to the steel, with equal resistance and consequent saving in material, being an applicable analogy to the resultant wastage which must occur in the construction of a floor where no provision is made to assist the tensile resistance of the concrete. Therefore, from a scientific aspect, a floor which is designed in

such a manner that the concrete takes up the compressive stress and steel the tensile stress, is obviously of more scientific value in its main principle of design, by allocating to each material the resistance of which it is most capable, and should, other things being equal, show a consequent saving in the cost of construction. As a matter of fact, this hypothesis can be demonstrated to be a fact, the actual saving really occurring in the steel, owing to the fact that concrete slabs of equal thickness may be used to better advantage and much greater span than is possible under the older type of construction. Hence, with a normal thickness of concrete the percentage of steel in the older form is much higher than in the modern.

The essential principles governing reinforced-concrete floor construction may be summarised in the illustration given in Fig. 3, which may be assumed to be a section 12in. wide across a reinforced concrete slab floor; the assumption, for the purposes of calculation, being that the resistance moment is secured by a couple of forces represented respectively by the rods S, below the axis, and the area of the concrete, A, B, C, D, above the axis-line. The former resists the compressive forces, the latter the tensile, and the lever arm of these resistances, X, extends between the two respective centres of pressure, the tensile in the centre of the rods and the compressional two-thirds the height of section A, B, C, D. This latter result arises from the fact that the maximum compressive stress at the upper edge, AB, steadily declines to nil at CD, and the amount of pressure in each particular layer of fibres may be expressed as a proportion of the maximum stress at the outside edge, diagrammatically, as shown in Fig. 4. The amount of the stress at GH, in comparison to the allowable maximum, being, in fact, equal to the length of GH in comparison to EF.

The centre of this total value of resistance is two-thirds its height, from which it follows that the forces required to resist fracture by bending are the triangle of concrete and the rods shown in Fig. 4, in which an equal stress would occur in every part of the concrete. It will, therefore, be seen that the form shown in Fig. 5, which is an outline of the hollow tube floor, when properly designed, has an equal strength with a solid concrete floor of the same thickness, and is at the same time lighter and possesses better sound- and fire-resisting qualities. The reduction in weight alone is, it should be noted, an added strength, probably amounting to 20lb. or 30lb. per foot super. Hence it is clear that the hollow tube reinforced concrete represents the most scientific form of floor construction at present in vogue—a possible defect from thoroughly fire-resisting construction is the strip of concrete between the tile-blocks, the concrete being a comparatively poor fire-resisting medium compared with the tile. In this respect the steel joist, tile, and concrete floor undoubtedly must be given precedence, as it provides a complete ceiling surface of fire-resisting tile—a result which has not been adequately secured in any system of reinforced concrete floor construction so far evolved.

A great amount of wastage in metal may be caused by uneconomic design, which provides greatly differing tensile and compressive resistances. Reinforced concrete is designed on the accepted basis that steel possesses an elastic resistance from eight to fifteen times greater than concrete, graded in the following proportions:—

Cement.	Sand.	Coarse material.	Comparative elastic resistance of steel to concrete (or modular ratio).
1	2	1	15
1	1	3	11
1	1	2	8

Hence the stress in the steel rods in a floor is fifteen times greater than in the concrete of the usual proportions of 4:2 and 1, that is to say, the axis is determined in a floor, taking a 12in. section, by 15 x area of metal in section by $d - x = \text{area in compression} (A, B, C, D \times X)$ or $15 a (d - x) = \frac{1}{2} a c^2 \times X$ (Fig. 6).

A few test calculations will serve to show how wastage may occur, and it will be seen after further investigating the process of calculation, that the area of metal which

produces an equal tensile and compressive resistance equals about .006 of the concrete area, as in the case of the floor shown in Fig. 8, wherein two 3/4 in. rods = .2 x 2 = .4 in. Concrete 12 in. x 5 in. = 60 in. Therefore, metal area

$$= \frac{.4}{60} = .006 \text{ of the concrete area.}$$

For the purpose of drawing an analogy between design and cost for different types of reinforced floors, the examples shown in Figs. 6, 7, and 8 are selected. The particulars of these floors are:

Fig. 7:—

$$\text{Ratio of steel and concrete} = \frac{1.76}{48} = .036.$$

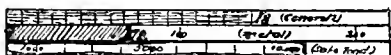
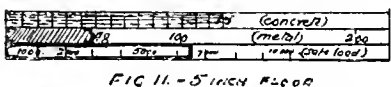
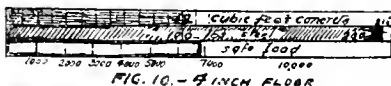
Position of axis "X" = 2.56 in. from top edge. Resistance (comp.) 190 lb. per ft. (over 10ft. spans).

Resistance (tension) 600 lb. per ft. (over 10ft. spans).

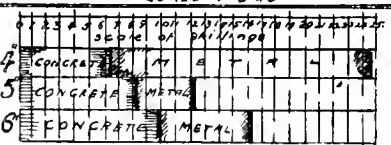
Fig. 8:—

$$\text{Ratio steel and concrete} = \frac{.4}{60} = .006.$$

Position of axis "X" = 1.7 in. from top edge.



SCALE DIAGRAM SHOWING—CUBIC YARDS OF CONCRETE—LBS. OF METAL—TOTAL SAFE LOAD IN LBS.—6 FT. SQ. BAYS—10 FT. SPAN FLOORS. ALL TO SAME SCALE, FOR FLOORS SHOWN IN FIGURES 7, 8 & 9



SCALE SHOWING ACTUAL COST OF MATERIALS IN A 6 FT SQ BAY OF FLOORING (10 FT SPAN) AND THE EQUIVALENT COST FOR EVERY 100 LBS PER SQ FOOT RESISTANCE OBTAINED IN EACH TYPE

Resistance (comp.) = 180 lb. per ft. (over 10ft. spans). Resistance (tension) = 190 lb. per ft. (over 10ft. spans).

Fig. 9:—

$$\text{Ratio of steel and concrete} = \frac{.6}{72} = .0083.$$

Position of axis 2.3 in. from top edge. Resistance (compression) 290 lb. per ft. (over 10ft. span).

Resistance (tension) 350 lb. per ft. (over 10ft. span).

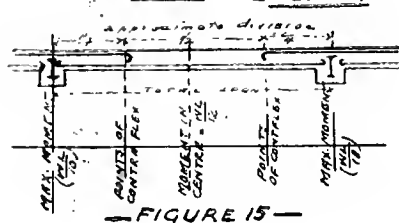
An estimate of the relative cost of these different types of floor is shown in the diagram, Figs. 10, 11, and 12, the concrete and steel being shown by differently hatched areas.

The concrete is shown to scale in cubic feet of material taken up in laying a bay 6 ft. square, and the steel is shown in pounds weight for similar area. This diagram affords a clear indication how wastage of material may occur when the relative strength of the floors are compared.

Assuming that the cost of the concrete is 15s. per yard, the steel 9 6s. 8d. per ton (14. per lb.), the diagram in Fig. 13 shows to scale the relative cost of the materials in shillings for each 6 ft. square bay, and also the cost per 100 lb. per foot super. resistance secured, this latter being an equivalent economic basis, and, therefore, the actual value obtained in each case. From this it will be seen that in the floors, with the more equal tension and compression resistances, far better value is obtained for the outlay, and that the 4 in. floor would cost just double

the 5 in. in order to obtain almost identical resistance—viz., 180 lb. and 190 lb. per foot super. This is, of course, omitting the cost of the centering and labour, which will be approximately equal in all cases.

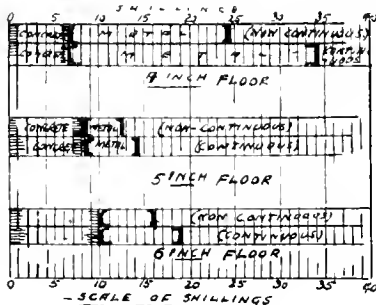
If the floors are constructed upon what is known as the continuous principle, illustrated



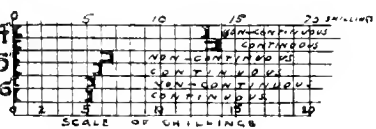
in Figs. 14 and 15, wherein it will be seen that the negative tension stresses occurring above the supporting beams are resisted by tension-rods, the floor becomes partly a cantilever on either side of the supports and partly a beam in the centre of the span. The allowance made for this type of floor is one-quarter greater loading as regards the maximum moments occurring above the supports and one-half greater loading as regards the maximum moment in the centre of the span; hence it becomes a question of cost in a floor as to whether it is desirable to make the floor uniform throughout, or to increase the metal 20 per cent. over the support only. On the basis of the previous figures the floors constructed uniformly throughout will respectively carry—

- 4" with four 3/4 in. rods per foot—
190 + (4 x 190) = 240 cwt. per ft.
- 5" with two 3/4 in. rods per foot—
180 + (2 x 180) = 225 " "
- 6" with three 3/4 in. rods per foot—
290 + (3 x 290) = 360 " "

Assuming the lower rods are carried through—



SCALE DIAGRAM—SHOWING COMPARATIVE COST OF MATERIAL IN 6 FT SQ BAY OF FLOOR OF THE CONTINUOUS 3 INCH CONTINUOUS TYPE



SCALE SHOWING THE EQUIVALENT COST FOR EACH 100 LBS (PER FT. SUP.) RESISTANCE OBTAINED IN EACH TYPE—OR THE RELATIVE ECONOMIC VALUE

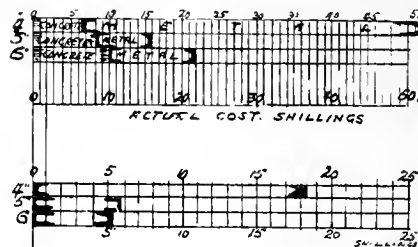
out the span between supports, in order to secure continuity in the construction, the comparative actual cost in relation to the previous example of noncontinuous floors is shown in Fig. 16, and the comparative cost in relation to the strength secured in Fig. 17, wherein all the examples are placed on an equivalent basis of 100 lb. per foot (10ft. spans). From this it will be seen that the equivalent value obtained for the cost is

almost equal in the continuous and non-continuous types, except in the too-heavily-reinforced floor, where the wastage is accentuated.

In order to secure an equable strength or resistance the floors must be one-fifth greater strength above the supports than in the centre of the span, in which event the safe loads will be—

4"	285 cwt.	per ft. super 10ft. spans
5"	270	" " "
6"	435	" " "

The design being exactly in accordance with previous illustrations, with the exception that the steel over the beam, or point of support, requires to be increased to secure a resistance equal to that in the centre of the span. This apparently small increase in the resistance would, however, necessitate an increase to 12 3/4 in. rods in the 4 in. floor (1 in. apart), 3 1/2 in. rods on 5 in., and 5 1/2 in. rods on 6 in. floor (2 in. apart). The cost diagram, Fig. 18, shows still more clearly how disproportionately heavy is the cost of the excessively reinforced floor, compared with the more scientific and accurately balanced types, and also that the extra reinforcement does not produce adequate returns for the outlay in the small



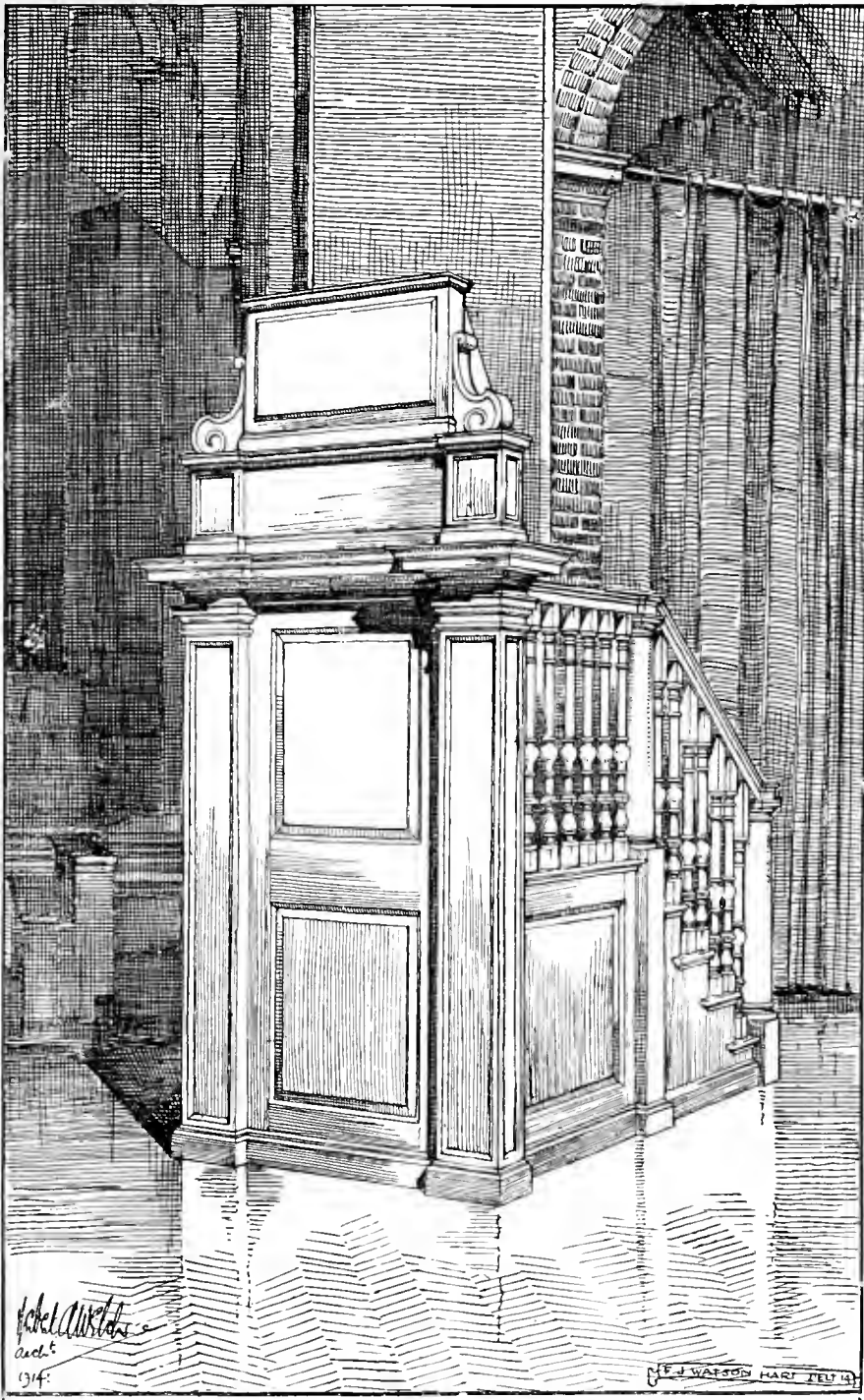
SCALE DIAGRAM. SHOWING ACTUAL COST OF MATERIAL IN 6 FT. BAY OF FLOOR, DESIGNED TO SECURE EQUAL RESISTANCE OVER SUPPORTS, 8 IN CENTRE OF SPANS, WHEN CONTINUOUS. AND THE COST PER 100 LB. RESISTANCE—AN ECONOMIC VALUE.

additional strength acquired. The enormous difference in cost between the 4 in. and 5 in. floors of practically identical strength is too striking to need further emphasis.

(To be continued)

THE REPORT OF THE ROAD BOARD.

The fourth annual report of the Road Board for the year ended March 31 last, states that applications for advances were made for £2,593,805, as against £1,508,272 in 1912-13. Of that total £2,304,637 was for the improvement of road crusts, £190,741 for widenings, diversions, and the improvement of gradients, curves, and corners, £37,892 for reconstruction, and £60,515 for new roads and bridges. The applications from England and Wales amounted to £2,127,793, those from Scotland to £265,747, and those from Ireland to £202,265. Since the institution of the Road Board Improvement Fund the net receipts have totalled £4,810,818, motor spirit duties realising £2,716,211, carriage license duties £1,923,415, and interest and profit on investments and loans £171,162. The net payments have totalled £1,686,647, administrative expenses being £43,135, grants paid £1,272,254, and loans £403,302. Loans were repaid to the amount of £32,104. The receipts for 1913-14 amounted to £1,481,398, an increase of £231,395; and the net payments to £924,959, an increase of £457,891; administrative expenses rose during the year by £3,764 to £15,690. Up to March 31, 1914, the grants made or indicated totalled £3,829,105, and the loans £1,584,707, making the total (less repayments) £5,181,708. Of this, £4,392,804 was for England and Wales, £480,885 for Scotland, and £308,018 for Ireland. The commitments of the Board in



LECTERN FOR ST JUDE: ON: THE: HILL ~ HAMPSTEAD GARDEN SUBURB

THE LONDON COUNTY COUNCIL.

At Tuesday's meeting of the County Council a report was submitted by the Establishment Committee recommending the acceptance of the tender of Messrs. Morrison and Mason, Ltd., of Glasgow, amounting to £23,268 6s. 8d., for the construction of the eastern extension, in front of the premises now occupied by Messrs. Holloway Brothers, Ltd., of the river-wall at the site of the new County Hall. The Finance Committee reported that they had considered an offer by Holland and Hannen and Cubitts, Ltd., the contractors for the superstructure for the new County Hall, that advances may be made in respect of materials delivered on the site but not fixed. Clause xxv. of the contract with Holland and Hannen and Cubitts, Ltd., provides that, subject to certain conditions, payments on account "shall be made to the contractors by the Council at the rate of 90 per cent. upon the value of permanent work from time to time executed and fixed on the site"; but there is no provision in the contract for payments in respect of materials specially worked and delivered on the site but not fixed. The committee were advised, however, that, having regard to the value of the materials delivered and waiting to be fixed, there would be no objection to further advances being made to the contractors generally under the contracts, without prejudice to any of their liabilities and obligations under the contract, and to the rights and powers of the Council thereunder, and subject to the accounts being adjusted from time to time after the work is recommenced on the site, such adjustments to be completed unless otherwise agreed in writing within six months from the date of recommencement of the work. The committee thought it desirable that such advances should be made, having regard to the abnormal demands which will obtain when the present labour dispute in the building trade is settled, to the delay which may arise if the material worked specially for the new County Hall is not delivered by the time by which it is required, and to the possibility of the sub-contractors suspending their operations on work relating to the new County Hall, and therefore submitted a recommendation with this object. No advance will be made without a certificate by the architects. They recommended "That notwithstanding the terms of clause xxv., relating to payments on account, of the contract with Holland and Hannen and Cubitts, Ltd., the contractors of the superstructure of the new County Hall, the architects be authorised to issue certificates for further payments to the contractors generally on account of the contract, subject to the accounts being adjusted from time to time after the work is recommenced on the site and to such adjustments being completed, unless otherwise agreed in writing within six months from the date of recommencement of work."

The Highways Committee submitted a proposal for the widening of Grove road, Bethnal Green, between Wemington road and the bridge which carries Grove road over the Hertford Union canal, and a widening of the bridge. The width of the bridge is only 29ft., while the width of the road in the part mentioned is 33ft. A scheme has been prepared for increasing the width throughout this part, a distance of about 255ft., to a width of 50ft. The total cost is estimated at £8,000. Grove road, together with Burdett road, forms an important means of communication between the West India Docks, Limehouse, and Victoria Park.

The Council was recommended by the Fire Brigade Committee to make an experiment with a new fire-alarm system, at a cost of about £250, at a brigade station. The question of the desirability of installing a more modern system of apparatus has been under consideration for some time, and the north divisional officer of the Fire Brigade, accompanied by an official of the Post Office, has been in America inspecting systems in operation there. The Fire Brigade Committee recommend the closing of the Chelsea, Rushey Green, and Sydenham fire substations as soon as the neighbouring stations have been fully equipped with motor appliances.

respect of grants and loans exceed the actual net receipts by £414,025. The most pressing and the most universal need, it is stated, is the strengthening and improvement of the crusts (which include foundations as well as surface coatings) of existing roads. In a few districts important roads are so narrow that they need widening before any other improvement is attempted; but the general need of most rural and inter-urban roads is that they should rapidly be made fit to carry the increasing motor traffic satisfactorily to the road user and without undue deterioration of the road surface. In England and Wales, outside London and county boroughs, there are 27,879 miles of main roads maintained by or at the cost of county councils, and 111,884 miles of district roads. Of the latter 74 miles are being improved with the assistance of advances, and will in future be maintained as main roads. The Board have provisionally allocated for the purposes of works in Greater London £960,000, out of the total available amount of £6,000,000, on the population ratio, which the Board regards as the most equitable method of allocating grants.

Of this sum £400,000 has been set aside for the Brentford Loop road, from Kew Bridge to Hounslow, which will relieve Brentford High-street.

LECTERN, 81, JUDE-ON-THE-HILL, HAMPSTEAD GARDEN SUBURB, N.W.

This drawing is now on view at the Royal Academy. The lectern has been erected to the memory of the late Alfred Lyttelton, K.C., M.P., and it is executed in pine finished with a sand-blasted surface, to the design of Mr. Herbert A. Welch, A.R.I.B.A., of 7, New square, Lincoln's Inn, W.C.

The late Mr. William Porter, of Wells road, Malvern, builder, left net personalty £6,791 and gross £27,595.

The foundation-stone of a Methodist chapel has been laid in Boleton Road, Hartland, North Devon. Mr. Parsons, of Holsworthy, is the architect, and the contractors are Messrs. Cann, of Bude, whose tender was accepted at £1,360.

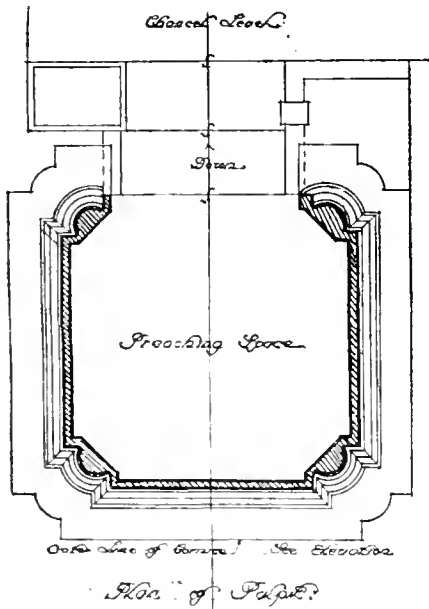
The Council decided by 57 votes to 50 not to appeal against the decision of Mr. Justice Astbury, adverse to the Council, in proceedings brought against the lessee of the Piccadilly Mansions in respect of the erection thereat of illuminated signs.

The Local Government Committee recommended the acceptance of the tender of Messrs. W. E. Blake and Co., Ltd., of Fulham, amounting to £98,980, for the erection within 21 months of the new Sessions House at Clerkenwell. The tenders had been invited from selected firms, and Mr. G. Dew, who said that every firm on the list had locked out their men, moved that the recommendation be referred back, with instructions to the Committee to arrange for the invitation of fresh tenders from firms who had not locked out their workmen. This was seconded by Miss Susan Lawrence. During a discussion, Mr. Gosling contended that the Council was taking the side of the contractors in the dispute in the building trade.—Mr. W. Ray, the vice-chairman of the committee, said that among the firms from whom tenders were invited were five who were not members of the Master Builders' Federation, and among firms tendering were two who were not members of the Federation—Mr. E. Gray, who said that the Council's traditional policy was to take no part in trade disputes, moved that the committee be instructed to accept Messrs. Blake's tender if they were satisfied that the firm were fully prepared to fulfil the requirements of the Council in respect to wages and labour conditions.

The discussion was adjourned at 7.30 p.m., when by its rules the Council proceeded to the consideration of unopposed business.

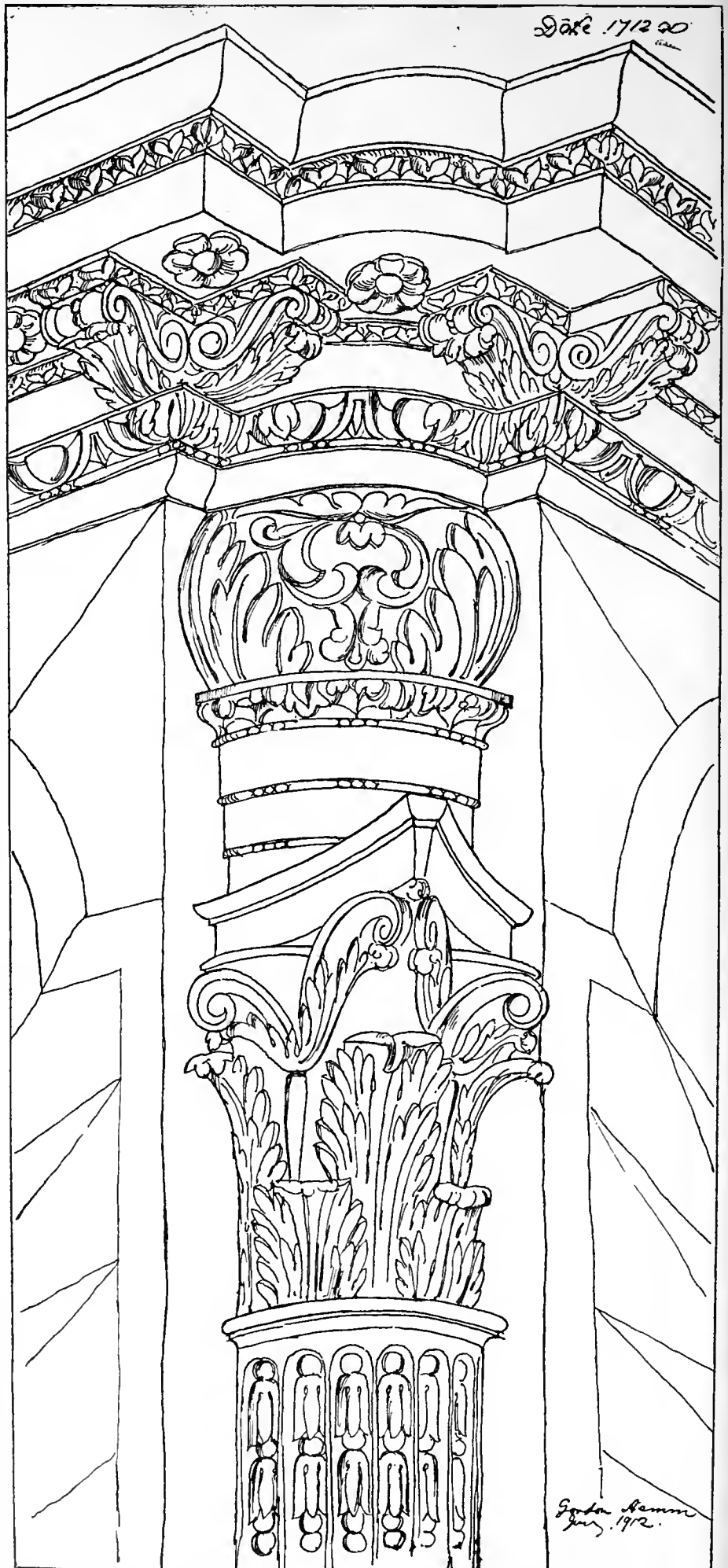
EARLY EIGHTEENTH-CENTURY. PULPIT, ST. ANNE'S, MANCHESTER.

This is one of the finest pulpits of the Renaissance period in Lancashire, and



belongs to St. Anne's Church, Manchester. It is said to have been designed by a pupil of Sir C. Wren between 1710-1720, and is made of oak. The pulpit is square on plan, with recessed angles, and fluted quarter Corinthian columns inserted into the splays.

The well-proportioned entablature has an architrave of three fasciae, also an ogee bellied and carved frieze to these features, including an enriched cornice with consoles. This cornice is continued only round the front and sides of the pulpit, the architrave and frieze occurring only over the quarter columns. The design of the ornament is very similar in character to that of the stonework outside the church, more especially the delicate acanthus foliations to the capitals and consoles. The leaves are long, acutely pointed, and hollow in section. Owing



EARLY EIGHTEENTH-CENTURY PULPIT, ST. ANNE'S, MANCHESTER.

perhaps, to the nature of the material, the foliage is by no means evenly balanced.

The excellent egg-and-tongue carving is of a very spreading and open type, also noticeable in the other woodwork of the church, such as the gallery and organ-case.

AUSTRALIAN ARCHITECTS IN THE UNITED STATES AND CANADA.

Two interesting papers were read on April 28 before the Royal Victorian Institute of Architects at Melbourne, brief extracts from which may interest. The first was by Mr. Kingsley Harrison, who made the best use of his time.

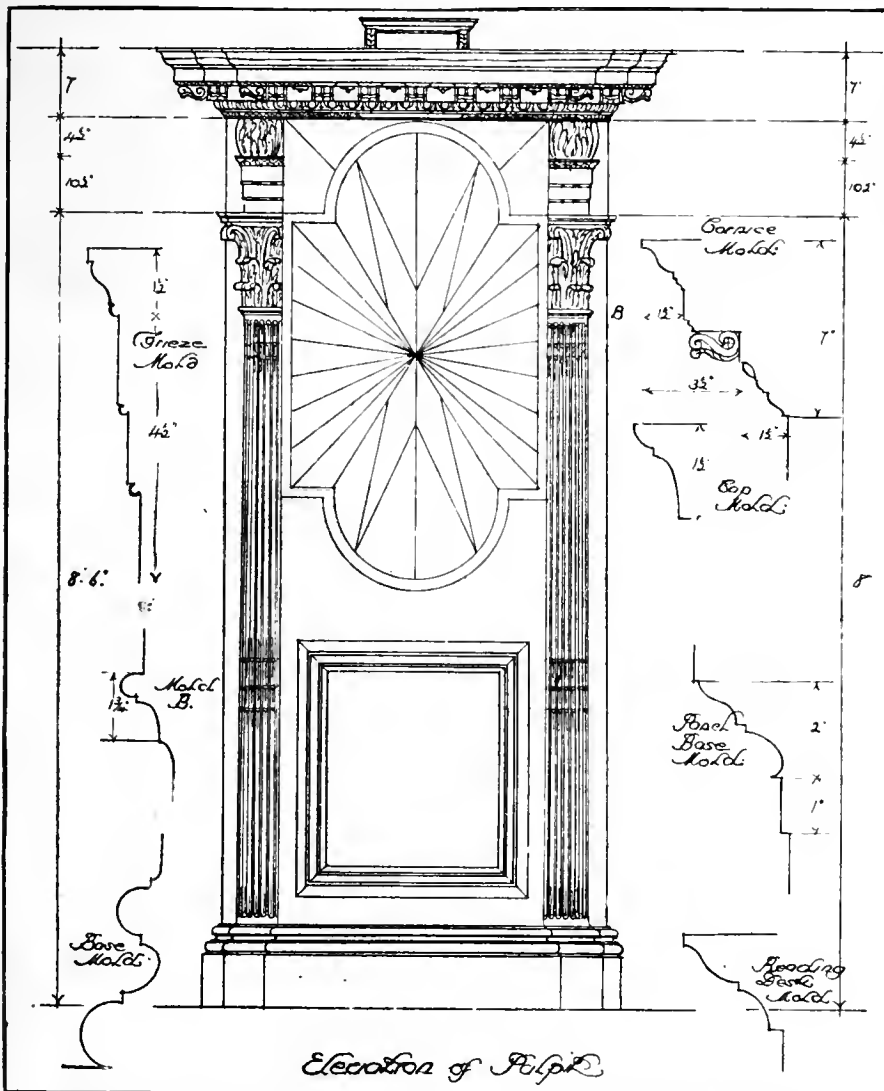
"I travelled via Sydney, Wellington, and

the problems the Americans have been up against, and the way in which they have solved them. I naturally thought of the problem which had confronted them concerning the housing of their huge business concerns in the cities, and its solution by the evolution of the skyscraper, with all the attendant factors of foundation, drainage, windage, high-speed elevators, and many others. Some of the New York office buildings are awe-inspiring, as, for instance, the Woolworth and the Municipal Buildings, the Singer, the Metropolitan Life, and the Bankers' Trust. Next, I would refer to the housing problem, and the solution of this problem by the distinctive type of apartment houses. There are 4,000,000 souls living on

pitals, of which we have no equal in Victoria. Further, we have nothing to equal, I am safe in saying, its Barbary Coast, the district given over to vice, which I was piloted through by a one-time Australian. The authorities of the San Francisco Hospital, before laying a brick of their new building, sent a doctor for five years' travelling, in order to acquire information from all parts of the world. From San Francisco to Los Angeles there is a journey of eighteen hours in a most comfortable train, though, in our case, we had not been travelling for twenty minutes before the engine jumped the rails, and we all slid out of our seats before the brakes were applied. Los Angeles, with its newly-built mercantile centre, is a city of immensely rapid growth, with 500 per cent. increase in its population during twelve years. Close by is Pasadena, where millionaires from all America have built winter homes, and beautiful homes they are, too. The city is without fences, and has beautiful roads, planted with palms and pepper-trees. There are concrete sidewalks and concrete approaches and terraces to the homes. One's first and lasting and altogether most pleasing impression is that of the absolute orderliness of home and garden, and a complete absence of outhouse and backyards. Everywhere there is a series of snug, comfortable homes and beautiful gardens.

"Thence we went to St. Louis, of which city I only saw the business and warehouse districts. St. Louis is a huge distributing centre for the States, like Los Angeles. It is an old city with a new heart, in which I saw warehouses from which the fire hazard has been eliminated as far as is humanly possible. These warehouses are internally absolutely fireproof, with all the stairs and lifts isolated, and the buildings are completely sprinklered. There are flat roofs with drenchers, ample window-lights all drenchered, and, as nearly as possible, safe from attack by fire from within or without. Next, Chicago, on the shore of Lake Michigan, was visited. It is a city with a commercial centre of about ten blocks each way, and outwards is a 15-miles' radius on north, west, and south of factories, stock-yards, residential suburbs, etc. Chicago has a 250ft. building limit, and the consequence is that the city is very thoroughly built up to the limit, and one might say that, from the building point of view, it is the most typical of the American cities. We next went to Washington, a 26-hours' run through Pittsburg, Harrisburg, Alleghany Mountain, where the oil, coal, and steel industries everywhere appeared. Wonderful Baltimore was reached about 6 p.m.; Washington at 8 p.m., where is the Nation's Pride, the Home of History, and the Home of National Sentiment. It is a city of magnificent public buildings, street vistas, squares, and statuary. The Washington Monument might be seen from anywhere, as it has a searchlight shining upon it from dusk to dawn. The Great Capitol was to be seen from everywhere. The Library, White House, Army and Navy Buildings, Museum, Smithsonian Institute, the Foreign Legations, Arlington Cemetery, and Grant's Home, Abraham Lincoln's deathbed, the great museums, which house the nation's historic treasures, the Corcoran Art Gallery, constitute some of the city's most valued possessions. Visit Washington, the capital city of the great American Federation, and come home, and you will say Australia will never be truly federated until our national and federal institutions have a permanent home.

"I cannot tell you much about New York. I cannot give you the spirit of the city. I suggest that there you must go hard, for you must live well and work hard, you must spend, and feast, and be entertained. The concentrated spirit of the whole American race is there. Everything is huge and costly, and there is a daring about it all in their buildings, bridges, tunnels, shipping, transport, and a great display of wealth. An American writer says: 'I saw a mighty city full of a kind of iron gladness, a thousand sky-scrapers reaching up and up and up, and crying, 'I will, I will, I will.' to God.' I spent three weeks in New York, and in the middle of my



EARLY EIGHTEENTH-CENTURY PULPIT, ST. ANNE'S, MANCHESTER.

the Islands of Raratonga and Papeete, to San Francisco. I passed through the Golden Gate about 10 a.m., as the mists were clearing, and it was certainly a magnificent entrance. After a stay in San Francisco, I visited Los Angeles and Pasadena, and from Los Angeles I traversed the desert, spending three days and three nights in the train to St. Louis, and staying five hours in Kansas City en route. From St. Louis I went to Chicago in the night, then to Washington with a 26-hours' run, and from Washington to New York in the night again. In the middle of my stay in New York I went down to Philadelphia, and visited its Architectural University. From New York I turned my face homeward, visiting Buffalo and Niagara, Chicago a second time, Minneapolis, and had a short stay at Winnipeg. From Winnipeg I went over the Canadian prairies, through Medicine Hat, Moose Jaw, and Calgary to Vancouver. Leaving Vancouver, I visited Honolulu, Suva, and Auckland, thence by Sydney to Melbourne.

"I would submit a few thoughts regarding

Manhattan Island, which is fourteen miles long and two and a half miles wide, with the business quarter at the south end, the shopping district in the centre. Poverty exists on the two edges (S.E. and S.W.), and apartment houses, miles of them, are built up-town at the north end. There are streets on streets of nine- and ten-story apartment houses, with often a hundred families living under one roof. There is ingenious planning about these apartments, ingenious services of all kinds for comfort, and enormous rentals to be paid. The day-lighting of the skyscrapers, with the possibility of the light-well being built in, has brought about the arrangement of light-wells on the street frontages, where the sites permit. The soiling of the façades of the city buildings has brought about the use of cream and other coloured terracotta ware, which can be washed down regularly. San Francisco I visited first. But eight short years ago the city was burning fiercely, and was torn and rent by earthquake. A city with hotels, clubs, department stores, offices, and hos-

stay I went to Philadelphia for two days, principally to see its architectural university. I spent one and a half hours with Professor Laird, and went through the architectural school and a portion of the other schools. I travelled from New York to Vancouver in nine days, peeping at mighty Niagara and Buffalo City on the journey; I then spent another day in Chicago. I visited a huge grain elevator in Minneapolis. Another day was spent in Winnipeg, the wonderful city of Central Canada. Then a day in the Rockies, amongst the snow, the ice, and glacier, and mountain peak. My last four days in America were spent in Vancouver.

"I must preface my notes on types of buildings by a passing reference to the dollar. Buildings mostly consist of floors, ceilings, walls, columns, windows, doors, lift stairs, special fittings, and planning devices for special purposes. There is nothing mysterious about American buildings in this respect; they possess the same common elements. The difference between American city buildings and those to which I was used was first the size, and second the first cost. To the student who has followed his 'building construction' there is no hidden mystery. I saw steel-framed buildings in course of erection in every city visited, and we in Australia are working on exactly the same lines. I saw underpinning works and cantilever foundations, and throughout the construction is simple and effective. I saw concrete structures in course of erection, and the same remark applies, though I think we design more economically in Australia, using more steel and less dead-load concrete. I saw frame buildings in every stage of construction, and watched them grow from day to day. I discussed with engineers the questions of sway-bracing, eccentric column loading, and wind-bracing, especially in Chicago, and found that we work on the same system as regards the checking of the calculations by the civic authorities. I saw a theatre in Chicago in which there was no carpentry, and there was nothing 'burnable' except the upholstery of the seats. I did not see a single lift enclosure which would be permitted by our regulations, nor even one moderately 'finsh' formation. I saw hotels, apartment-houses, and private homes everywhere, and have brought plans of such, which our sewerage regulations would not allow to be built."

MODERN RENAISSANCE IN THE UNITED STATES AND ITS CAUSES.

The second paper was by Mr. John S. Gawler (A.): "Briefly stated, I consider the causes of the Renaissance in America to be as follows: First, the rapid increase in population caused a great era of development and expansion of industry, one of the results of which has been a phenomenal growth in the cities, causing the last twenty or thirty years to constitute a building era of the greatest activity. Second, the wealth, both of the nation and the individual, have brought about the consequent ability and desire to expend large sums of money on monumental buildings. Third, the increased facilities for travelling to Europe have enabled, not only architects and artists—who had special reasons for going—but numbers of wealthy and influential classes, to make the trip, not once, but often. When in Europe, notably in France and Italy, the Renaissance buildings, pictures, and sculptures naturally enough attracted the attention of all these visitors. Fourth, the influence of the Ecole des Beaux Arts on young American students and architects, who journey to Paris in considerable numbers to study there. In passing it is interesting to note that the most of them seem to lose their individuality to some extent, their work being correct and scholarly, but like east iron in its lack of feeling. Of course, a few, whose genius is great, rise superior to the hide-bound methods of the school, getting from it only benefit. In this connection might be mentioned Mr. H. H. Richardson, who spent seven years in Paris after graduating from Harvard University. He did a great deal towards introducing French academic methods. His best works, carried out in the Romanesque style, have a rugged strength and beauty more likely to

be learned from the hills and mountains of his native land than in the French school. Another Ecole des Beaux Arts student of great originality is Mr. Louis H. Sullivan, of Chicago, who originated a style of decoration entirely his own. It is mostly surface decoration on plain, broad surfaces, alternating with boldly-cut window- and door-openings. Fifth, the immigration to the United States of numbers of craftsmen and tradesmen from the British Isles, Germany, France, and Italy. Sixth, the evident suitability of Classic forms, treated after the manner of the Renaissance, to modern public buildings, such as libraries, art galleries, capitol buildings, post-offices, banks, railway stations, etc. Seventh, the development of extensive granite and marble quarries within reasonable distance of the cities. Some people might question the reasons I have set down; but be that as it may, all who have travelled across the United States, who know anything at all about architecture, must agree that in the last decade there has come a different spirit over the work. It has grown more thoughtful, broader, and most imposing. Great attention is paid to detail, while the main masses are boldly and simply placed. Where beautiful material has been obtained, broad, plain surfaces are freely used, being contrasted and brought out, perhaps, by rich and beautiful doorways or entrance archways. Undoubtedly the American people have a great love of the spectacular. They love imposing personages, whether they are orators, statesmen, or great men of any kind. Their love of the spectacular is seen in the way the 'Stars and Stripes' appears everywhere. The same national characteristic is abundantly seen in the public buildings. They are in the main beautiful, and appealed to me as full of feeling and brains. The Renaissance, as I felt it, seemed a Renaissance of the true spirit of architecture, and not merely a Renaissance of Classic forms. It is certainly true that the most noticeable tendency in modern work has been towards the Italian Renaissance. This was probably initiated by a group of men in New York City. Mr. J. M. Wells, a partner in the firm of McKim, Mead, and White, is said to have done more than anyone else in starting this movement towards Italian Renaissance, which began about the year 1889. The firm of McKim, Mead, and White, and a number of others have succeeded in popularising what I think the nation was just waiting for. Mr. McKim and others started also what is now known as the 'American Academy at Rome.' A nation-wide competition is held annually to select an architect, an artist, and a sculptor from among the young men of America. These fortunate prize-winners then have three years' residence in Rome, spending a great portion of their time travelling, and the balance in study at Rome, under the leadership of a resident leader of repute. It is planned that these young men, on graduating from the academy, should return to the United States and become professors and lecturers in the various schools of architecture.

"Another thing that must strike the architectural visitor to the United States is the number of schools of architecture. Almost every University has a Chair of Architecture of more or less importance. This is not a cause of the modern Renaissance, I think, but one of the effects. While a great many of them are certainly indifferent training grounds, numbers are very good, such as the Massachusetts Institute of Technology, University of Pennsylvania, Columbia University, University of Illinois, etc. Another result of the Renaissance of architecture in the United States that has great interest for us in Australia at this time is that compulsory registration of architects is being seriously considered in most parts of the country. Three of the States at least have a satisfactory law in operation. I would like to give an outline of the law for registration of architects in Illinois, as I worked in Chicago, Illinois, for about a year, and consequently had an opportunity of seeing the working of the law to some extent. The title of the law is 'An Act to provide for the Licensing of Architects and Regulating the

Practice of Architecture as a Profession.' It has been in force since 1899, and is generally accepted by architects and the public as an efficient law for public safety regarding buildings. Anyone wishing to become a licensed architect must submit to an examination held by the State Board of Examiners, consisting of five members, one being a member of the Faculty of the State University, the other four being architects who have been in practice at least ten years. This examination lays special stress on construction of buildings, strength of materials, sanitation, knowledge of supervision, and the ability to turn knowledge of building to practical application. The art side of the profession and knowledge of Classic forms and architectural history are only slightly touched upon. Every licensed architect must have a seal, and no building of any sort can be erected in the State of Illinois unless the plans and specifications for it have on them the seal of a licensed architect. No stock company or corporation may practise as architects, though, of course, they may employ licensed architects. For gross incompetency, reckless construction, or dishonest practice, licenses may be revoked by the Board of Examiners. There is an entrance-fee of 25dol., and an annual fee of 5dol."

A SUNDIAL IN PORTLAND STONE.

Many readers who from time to time ask for designs for sundials may be interested in this.

The work represented is a recently completed sundial, carved in Portland stone,



representing the seasons. It is square on plan, 4ft. high, 1ft. 6 $\frac{1}{2}$ in. base. It has been produced in collaboration with Mr. C. H. Pike, of Messrs. Jupp and Pike, Templecombe, by Mr. Alfred Buxton, The Studio, Thornton-street, Brixton-road, London, S.W., the R.A.G.M. Student of 1909, on whose work then we commented in the BUILDING NEWS of Dec. 17, 1909.

A new Roman Catholic church in Upper Beechwood-avenue, Ranelagh, was consecrated last week by the Archbishop of Dublin. It is Romanesque in style, and is built of Ballyknocken granite. The architects were Messrs. W. H. Byrne and Son, of Dublin, and Mr. Kevin Toole was the builder.

Currente Calamo.

We are still in hopes that sectional agreements between the men and the London Master Builders will end the dispute ere long. In addition to the trades mentioned last week, the smiths and fitters have come to terms, and it is probable that before the end of the week other trades will come in. Our best advice to the men of all trades is to do so, or the end of the month will see a general lock-out proclaimed of all union labour. A largely-attended meeting of London master builders who are not members of the London Master Builders' Association was held at the Holborn Restaurant on Tuesday afternoon, Mr. William Willett presiding. Deputations attended from the London Master Builders' Association and the London Association of Master Decorators. After discussion, the following resolutions were passed:—

"That, in the opinion of this meeting of master builders who are not members of the London Master Builders' Association, the time has arrived when further steps must be taken to bring the present dispute in the building trade to an end.

"That all present at this meeting undertake to close their works to union labour on August 1 next if a settlement be not arrived at in the interim.

"That a committee be appointed to report how this resolution can best be carried out, and whether the basis of membership of the London Master Builders' Association can be broadened so as to bring in all classes of master builders in the London district."

A committee was appointed to carry out the third resolution, and has since been busy. The master builders who have hitherto held aloof evidently see at last the necessity of organisation for defence.

Now that is so, we believe the National Federation of Building Trades Industries, which is naturally the most powerful and representative body numerically, will have little hesitation in proclaiming a general lock-out throughout the country if the London workmen do not come to terms before August 1. It must do so, in self-defence. Because if the London Master Builders' Association is beaten, then the National Federation of Masters and the national executives of the really representative unions will have been beaten by the aggressive faction of unionists who for the time have captured the London workmen and persuaded them three times to disregard the action of their own executives. A general lock-out, of course, will be most disastrous to all of us. It should not be, and we believe will not be undertaken until the last effort for peace has failed. But if it is to come, we are sure that it will be the briefer and the less disastrous if all the employers act together and at once. Our advice, therefore, to the provincial members of our industries is to bear this in mind, and not to stand aside six months, as the outside London builders have done, and then trickle in at last because they have no choice.

All our advices from the provinces convince us that this necessity is recognised. In addition to the meetings held before we went to press last week, which are being addressed by missionaries of the London Master Builders' Association, others have been held at Manchester, Grays, Grimsby, Rochdale, Batley, Wolverhampton, Newport (Mon.), Gloucester, Burton-on-Trent, Portsmouth, South Shields, Bury (Lanes), Accrington, on the Tyne, at Sunderland, and other centres, and at each the determination to vote for the general lock-out has been unanimous.

The ballot papers for the national lock-out, which were issued last week, are returnable on the 27th inst. They were sent to the secretaries of all the local associations, who will be responsible for counting the votes and sending the returns to the National Federation. The result of the ballot will come before the Administrative Committee of the Federation at its meeting to be held at Cardiff. Many more meetings are arranged for the coming fortnight, and our conviction is that the men will find presently the contention of the London militants, that the threat of a general lock-out is "bluff," will prove as misleading as the rest of the rhodomontade with which they have lauded the London workmen in the bog of disaster, simply to secure their own ascendancy and to raise a so-called "Federation" on the ruins of the respectable unions. The net result, as far as the unions are concerned, will be that, while the strongest unions, which have been able to weather the storm without bankruptcy, may go back "as they were," the smaller trades will be worse off than ever, and will have to thank "Larkinism" for it!

It is to be regretted that the text of the Government Housing Bill makes its insufficiency evident. It is inadequate; it fails to make any provision for industrial areas, and its supersession of the local authorities is a serious defect. We are sure that local information as to requirements and local supervision in supplying them cannot be replaced by a central authority. It is curious that the section of the Bill which Mr. Runciman stated was intended to deal with Rosyth makes no mention of that place. Its provisions under the head are so general that they might refer to the housing of any body of Government employees, and not even extend to Post Office servants, for whom, in most English villages, it is difficult to find accommodation. Remembering the period at which it has been introduced, and the present chaotic state of Parliamentary business, the Bill has little prospect of passing this session, and less of affording hereafter any basis of real effort to solve the problem which daily becomes a more urgent one.

"Extraordinary traffic" is a term which, having got into an Act of Parliament, has now acquired a technical meaning. But looked at only in the light of common-sense, it is a phrase which would certainly cover the use of our main roads by the modern motor-bus. It is in this way that business people will consider it unfair that while contractors have to pay for cutting up the roads by traction-engines and the like, our many motor-buses can still tear away the road surface without making any contribution anywhere. The Middlesex County Council have done good work by putting a clause into their Bill which provides that those bus companies shall pay them 3ths of a penny per car-mile towards the expense of maintaining the new thoroughfare—Western road—which their buses will have to use largely. They have got their Bill through the Commons, and it has now been passed by the Select Committee of the Lords. This is likely to become an important precedent, for other county councils about the country will no doubt adopt the same plan, with this moral force behind them. Assuredly the harmless body of general ratepayers should not be made to bear the burden of the cost of constantly

remaking roads which have been cut to pieces by the motor-buses.

At the same time it is true that the proposed way of getting a contribution out of the companies is cumbersome and archaic. It is held by the Roads Improvement Association to be as bad in principle as in practice, and to be a return to something like the old toll-gate system. It is also difficult to believe that all our local authorities will act on the same lines and pull together harmoniously to produce one uniform result. It seems that the companies are going on to fight the Middlesex Bill for all they are worth, so as to stop this sharp thin end of the wedge from penetrating their privileges, and the Prime Minister has promised a general inquiry into the whole matter, which may report in a year or two! Meanwhile, the comparisons made to the disadvantage of the London County Council are ridiculous, because the cost of laying and maintaining their tramlines is a heavy item which the bus companies escape altogether. Probably the day is not far distant when all these will be scrapped, as being too costly.

The Duke of Bedford's Covent Garden Estate seems to have been sold yet once again. It is now stated that Sir Joseph Beecham's interest in the estate will be acquired by Mr. Alexander Lawson Ormrod (Lawson and Ormrod, Manchester), and that he will be the principal in the contemplated negotiations for the disposal of portions of the property. It is intended to offer tenants an opportunity of purchasing the freeholds outright and of acquiring long leases. Asked in the House of Commons on Monday whether he was aware that an estate known as the Covent Garden Estate had changed hands recently for a sum of money stated to be approximately £3,000,000; whether all the hereditaments comprising this estate had had their total and site values ascertained and recorded; whether they had been assessed for increment land value duty on the occasion of such sale; and whether he had been able to form an estimate of the total sum that would accrue to the State by way of increment value duty, Mr. Lloyd George replied that his attention had been drawn to the transaction. Particulars of the reported sale, however, were not yet available to the Commissioners of Inland Revenue, and he could not answer the second part of the question. The answers to the third and fourth parts of the question were in the negative.

Hardly a week passes but the cry of the "famine in houses" is heard in one part of the country or another, and it has been long manifest that but for the harassing legislation and the aggravating labour quarrels of the past four or five years builders almost everywhere would have been as busy again as they could wish. The latest complaint comes from Wallasey, where a builder says in the local press the "famine of houses" applies not only to houses of the small rental of 7s. 6d., but to tenements commanding rents ranging from 9s. to 13s. a week. To some extent the combined action of the cartage contractors and team-owners is held responsible for this difficulty. In consequence of the combination referred to, the cost of cartage during the past six or eight months, it is alleged, has gone up to a very high figure. Is it not a fact, it is asked, that when the carters received an increase of

wages of 2s. a week for one-horse work and 3s. a week for teams, the contractors demanded from builders the like increase per day? Another grievance in the new county borough is that there is too much red-tape. A purchaser of land some time ago sent in his plans, but the council put the Town-Planning Act into force, and nothing further was done, although the houses proposed to be built on the property would have been equal to those already in existence in the neighbourhood. Another element is that building materials have gone up from 17 to 22 per cent. at least, and yet another is the difficulty which the speculative builder has in obtaining mortgages to the extent of two-thirds of the value of his property.

OBITUARY.

We regret to learn of the severe bereavement which Mr. Frederick Moore Simpson, F.R.I.B.A., Professor of Architecture at University College, Gower-street, and of 3, Brunswick-place, Regent's Park, has sustained in the death of his wife. Mrs. Maud Mary Simpson, who was 44 years of age, died on Sunday last at The Ridge, Chelwood Gate, Sussex. The funeral takes place tomorrow (Saturday) at 2 p.m., at Danehill, near Forest Row railway station.

Mr. James Herbert Stones, F.R.I.B.A., of Railway-terrace, Blackburn, and Marlborough-road, Tuebrook, Liverpool, died on Friday last. He had been a Fellow of the Royal Institute of British Architects since 1889.

The Hammersmith Borough Council have under consideration a proposal to extend the town-hall premises on an adjoining vacant site at an estimated cost of £20,000; the first portion, only one story in height will be proceeded with at once at a cost of £6,000.

The urban district council of Newbiggin have decided to build an infectious diseases hospital with eight beds for scarlet fever, eight for diphtheria, and two for enteric fever, with accommodation for caretaker and nurses, on North Seaton lugs. This will cost £3,600.

At a cost of £226,500 the Mersey Docks and Harbour Board are about to erect a shed occupying a space of 15 acres on the south quay of the new Gladstone Dock at Liverpool, with the necessary cranes and railway lines for handling cargo. The shed is to be a three-story building, and is a new feature at the Liverpool Docks, so far as it is to be set back from the quay so as to allow space for a double set of railway-lines.

The new open-air municipal sea-bathing lake on the shore at Southport, to the north of the pier, was opened on Monday by the Earl of Derby. The cost of the lake is stated to have been about £3,500, and the work was carried out under the direction of the borough surveyor, Mr. A. E. Jackson. The work had, it was mentioned, cost about £1,000 less than the lowest tender from a contractor. The lake is 400ft. long by 200ft. wide, with a maximum depth of 6ft. 6in., and a minimum depth of a few inches.

Mr. Thomas Adams, Local Government Board inspector, held an inquiry at the Merton Council-chamber on Friday into an application by the urban district council for authority to prepare a town-planning scheme with reference to 2,805 acres in Merton and Morden, and 125 acres in the parish of Mitcham. Opposition was entered by the London and South-Western Railway Company, the London, Brighton, and South Coast Railway Company, the Wimbledon and Sutton Railway Company, and a number of owners of property. Mr. C. J. Mountfield, clerk to the district council, explained the proposals.

The memorial statue erected by the townspeople of Cheltenham in honour of Dr. Edward Adrian Wilson, the artist and zoologist of the British Antarctic Expedition, who perished with Captain Scott on the great ice barrier, was unveiled on Friday by Sir Clements Markham, K.C.B., F.R.S., F.S.A., who in 1850-51 took part in the Franklin expedition. The memorial statue, which was executed in bronze from a plaster cast taken of the modelled design of Lady Scott, represents Dr. Wilson in sleighing-kit. The figure is 7ft. in height, and stands on a pedestal of Portland stone. The statue has been placed at the south end of the Long Garden in the Promenade.

Building Intelligence.

CHICHESTER.—Large factory premises at Chichester, Sussex, for the Chichester and District Co-operative Bacon Factory, Ltd., are about to be erected in close proximity to the cattle market and railway station on the south side of the L.B. and S.C. Railway. The proposed buildings cover an area of about 275ft. long and 85ft. wide, a portion having an upper floor. The plans have been prepared to embody the most up-to-date methods in the arrangement of the departments, construction, and general design, and will be fully equipped with the latest machinery and appliances to deal with the killing of 750 pigs per week in three killings of 250 pigs at one time. The architect is Mr. G. C. Vernon-Inkpen, M.S.A., 40, Commercial-road, Portsmouth.

DUNDEE.—The new town-hall, of which the King laid the foundation-stone on Friday, is being built at a cost of £100,000, provided by Sir James K. Caird, Bart. It will occupy an island site immediately to the south of the existing town-hall in High-street, and bounded by Shore-terrace, Crichton-street, and Castle-street. On the east and west sides beneath the hall there will be blocks of business premises. The whole frontage towards the open quadrangle in the centre will be occupied by two flights of steps. The main entrance to the hall is in the centre, and consists of three doorways, opening into a crush-hall 60ft. long by 25ft. wide. To the east and west is provided cloakroom accommodation. The hall will be enclosed by corridors 10ft. wide along three sides, and at the west end will be a refreshment-room, 82ft. by 30ft. This supper-room will be connected by lift with a servery and kitchen, 60ft. by 50ft., on the upper floor. The hall proper will provide accommodation for 3,500 people. It will contain two side galleries and a back gallery, while the east end will be reserved for the platform and orchestral space. Due to the fall of the ground there is a difference of 26ft. in the level of Shore-terrace compared with the High-street, and this space will be taken up by two floors utilised for departmental purposes, and enabling the public hall proper to be on the level of the High-street.

The River Tees Commissioners, at the meeting at Middlesbrough, decided to proceed with the widening of the river at Blue House Point, at an estimated cost of £2,600.

The death occurred at his residence, Malvern Lodge, Castleview-road, Strood, North Kent, on Friday, of Mr. John Bean Martin, the founder of the firm of Martin, Earle, and Company, cement manufacturers, Wickham. Mr. Martin, who was 80 years of age, formerly practised as a veterinary surgeon, and was also in an extensive way of business as a jobmaster, bus proprietor and contractor. He purchased Wickham factory, then quite a small concern, 22 years ago, and was later joined by Mr. Vavasour Earle.

With the proceeds of the National Loan Exhibition held at the Grosvenor Gallery last winter, the committee have bought for the Tate Gallery several oil paintings and a water-colour design for a frieze from Miss Mary Davis, amounting in value to £2,500. The pictures are by William Orpen, "The Anglers"; Oliver Hall, "Avignon"; H. Muhrman, "Kew Bridge"; A. McEvoy, "Portrait of a Man"; W. W. Russell, "Donkeys and Kites"; John Lavery, Anna Pavlova—"La Mort du Cygne"; and Gerald F. Kelly, "Ma El Gyaw, A Dancer." The pictures were chosen by Earl Plymouth and Mr. Francis Howard on behalf of the committee.

Sleaford Rural District Council adopted on Monday a report of a special committee appointed to inquire into the circumstances surrounding the trial of the case "Fisher v. the Rural Council." The finding of the jury, the committee pointed out, was that Fisher's death was due to the negligence of the Council, and for this negligence the committee submitted that Mr. Marsden, surveyor and engineer, was responsible. The committee also recommended that the clerk, who, they regretted, was unable to perform his duties owing to advanced age, should tender his resignation. The report was signed by all the members of the committee, except one, who thought milder treatment should be meted out to the clerk.

Engineering Notes.

NEWPORT, MON.—The new lock, providing a deep-water entrance to the docks from the Bristol Channel, opened by Prince Arthur of Connaught on Tuesday, is the largest in the world, and has cost over £2,008,000. In 1906 the Alexandra Dock Co. obtained Parliamentary powers for the construction of the new lock, which is 1,000ft. by 100ft., and for a further dock extension of 27 acres to complete the rectangular dock, of which 48 acres, opened in 1907, formed the larger part. The contract for the lock and dock extension was let to Messrs. Easton Gibb and Son in December, 1906. The lock is divided into two compartments, that opening into the dock being 600ft. long, and the outer portion opening into the River Usk being 400ft. long. The depth of water on the outer sill at high water of spring tides is 45ft., and at high water of neap tides 35ft. Two timber jetties—one 450ft. long and the other 750ft. long—extend across the foreshore from the extremities of the wing walls. On the west side of the west jetty landing-stages have been provided for pleasure steamboat traffic. The channel itself has been considerably deepened and widened, the bottom width at its narrowest part being about 650ft., increasing to 800ft. at the limits of the Commissioners' jurisdiction, and to 900ft. opposite the new lock. The dredging has involved the removal of one and a half million tons of material. The lock is provided with three pairs of hydraulically-operated gates supplied by Sir William Arrol and Co. The dock is 4,000ft. long and 12,000ft. wide, and the extension has involved the construction of a length of 3,600ft. of concrete walls. The South Dock and extension of seventy-five acres was dredged to 33ft., but the inner sill of the lock and foundation of quays is such as will permit of a depth of 38ft. being ultimately provided. The length of the new south quay from east end to new lock is 3,600ft.; it is equipped with twenty hydraulic cranes, with lifting capacities ranging from 1½ to 10 tons. A separate dock pumping and electric lighting and power plant has been installed in a station built at the south end of the new lock entrance. New hydraulic coal-hoists are working on the north side of the dock, and Sir W. G. Armstrong, Whitworth, and Co. are erecting three additional high bunkering hoists. The extension works have been carried out under the superintendence and from the designs of Sir John Wolfe Barry, Lyster, and Partners, of Queen Anne's Gate, Westminster, S.W.

At the meeting on Monday of the city council of Nottingham, the report of the housing committee for clearing, laying out, and rearranging the Carter-street and Manvers-street slum area was eventually carried by 28 votes to 5. Widened thoroughfares will be driven through the district, now notoriously unhealthy. The estimated outlay on the scheme is £140,000.

Mr. R. H. Bicknell, M.Inst.C.E., Local Government Board Inspector, attended at the town-hall, Darlington, on Monday, to consider an application by the corporation for sanction to borrow £11,600 for works of private street improvement, £8,372 for re-surfacing streets with tar macadam, and £3,991 for the widening and improvement of Houghton.

The Norfolk County Council decided last week to rebuild the highway bridge at Ludham, and, after some discussion, resolved (in accordance with the recommendations of the bridges committee, who considered that the work of Mr. Heslop, the county surveyor, should be lightened where possible) that Mr. Russell, who was the engineer for Magdalen bridge, be requested to undertake the work upon the usual terms.

At the last meeting of the town council of Northampton, it was reported by the water committee that Messrs. Moss and Sons, of Loughborough, had, since its acceptance, withdrawn their tender to construct the Hollowell water-supply tunnel for £16,100. The Water Committee recommended that the work be carried out by direct labour, under the supervision of Mr. F. Tomlinson, the water engineer, and this was agreed to. The difference between Messrs. Moss's tender and the next lowest was £5,337, while Mr. Tomlinson's estimate was for £14,900.

COMPETITIONS.

ANGMERING.—The designs by Mr. Horace T. Bonner, A.R.I.B.A., have been selected for the proposed Sports Club at the new village-by-the-sea, East Preston, near Angmering, Sussex. The scheme provides for the usual accommodation for club members, and a large covered badminton court, dining-room, and offices.

BRADFORD.—In connection with the re-planning of the centre of Bradford, a costly scheme for which Parliamentary powers have been granted, the city corporation intend to invite competitive designs, offering three premiums of £500, £300, and £200 respectively.

CANBERRA PARLIAMENT HOUSE.—Further particulars are sent us of this competition, which we announced a fortnight ago. It is for the purpose of selecting the architect of the Parliament House, and possibly, incidentally, an additional architect for other Government structures of the new Federal Capital city, Canberra. Only tentative outline sketch designs for the building are requested, and eight prizes are offered, aggregating £6,000, the first being £2,000, in addition to commission for service at the scale of the Royal Institute of British Architects. The designs may be submitted in either Melbourne or London, by the end of March, and will be judged by the following jury of architects, whose decision will be final: George T. Poole, of Australia; Sir John J. Burnet, of London; Victor Laloux, of Paris; Otto Wagner, of Vienna; Louis H. Sullivan, of Chicago. The programme will be issued to any practising architect on application to the High Commissioner for Australia in London, or any British Ambassador, to whom copies are being forwarded. The importance of this event, we are told, is not to be measured by that of the foremost building of the Commonwealth, but by the opportunity to establish an architectural standard, not only for the future seat of Government in Australia, but for a great new Democracy of scope, scale, and modern advantages, as well as of climatic conditions differing radically from any prototype in Europe or elsewhere.

GILDERSOME HOUSING PROJECT.—The urban district council of Gildersome, near Leeds, adopted on Monday the report of the special housing committee, which recommended that the council should advertise for plans and designs of twenty houses at a cost ranging from £200 to £270 per house, inclusive of land, sewers, and streets, to be erected on the Grove Park Estate. A member stated that the committee were of opinion that the houses, which should contain a living-room and scullery, with bath on the ground floor, and two good bedrooms on the first floor, could be built at a rental of 5s. 3d. clear.

NEW YORK.—As a result of a recently conducted competition, Messrs. Jackson, Rosecrans, and Waterbury, 1328, Broadway, New York, architects, have been selected to prepare plans for, and supervise the construction of, the Hotel Irwin for women. The proposed structure will be located at 308 310 312, W. Thirtieth-street, New York, will be twelve stories high, and will cost approximately £50,000 sterling.

OTTAWA.—The competition for the new Departmental and Court Buildings, Ottawa, in which contest Mr. T. E. Collett, P.-P.R.I.B.A., acted as assessor, does not appear to be progressing with marked rapidity, and no date has been fixed for the reception of the final six designs. The authors' names, as a matter of fact, are not yet known by the authorities, as their envelopes have not, so far, been opened, and for this reason the preliminary plans have not been returned to the selected architects for elaboration, in conformity with the terms of the conditions.

PENZANCE.—At their last meeting the town council adopted conditions for inviting architects to send in competitive plans for twenty-two workmen's houses to be built on the Weeth's field, and agreed to offer a premium of £10 to the architect whose plan was

most in accordance with the conditions, in the event of it not being adopted.

THE SHAKESPEARE MEMORIAL NATIONAL THEATRE. The committee are about to invite photographs of drawings of important buildings, with the view of selecting from the authors thereof six architects to compete for the new National Theatre. Mr. T. E. Collett, P.-P.R.I.B.A., will draw up the conditions, select the six competitors, the committee reserving the right to add two more names and award the premium. The author of the design placed first will receive 500 guineas, to be merged in his remuneration. The other five will be paid each 150 guineas. Preliminary conditions may be had of the Secretary, Shakespeare Memorial Committee, 3A, Dean's yard, S.W. Drawings and photographs must be sent in by September 15.

WIMBLEDON.—For the altar to be erected in the Roman Catholic church at Wimbledon as a memorial to the late Father Kerr, the design of Mr. George Drysdale, A.R.I.B.A., 5, John street, Adelphi, W.C., has been unanimously selected by the memorial committee.

The city council of Birmingham accepted on Tuesday with gratitude the bequest by the late Mrs. John Edward Wilson, of the well-known and somewhat gloomy picture by E. W. Leader, R.A., entitled "February Full Oyke."

At their meeting on Monday, the urban district council of Arnold decided to offer the owners of the Hills estate on the Nottingham-road £250 per acre for 1½ acres, with all buildings thereon for the purposes of a public park.

The King has been pleased, on the recommendation of the Secretary for Scotland, to approve the appointment of Mr. Thomas John Jenn, M.D., presently lecturer on Geology at the University of St. Andrews, to be Regius Professor of Geology and Mineralogy in the University of Edinburgh, in the place of Professor James Geikie, who has resigned.

At the meeting on Tuesday of the Birmingham City Council, the recommendation of the water committee in favour of the provision of a third pipe on the siphon sections of the aqueduct from the Elan Valley to Frankley was approved, and the committee were instructed to submit designs and an estimate for the work. The provisional estimate for the undertaking was mentioned as £700,000.

The Duke of Richmond and Gordon laid on Wednesday the foundation stone of the new hospital at Hastings, with full Masonic ceremonial. The building is to cost £50,000, and is to be erected as a memorial to King Edward. The architects are Messrs. John Saxon Snell and Stanley M. Spoor, whose designs were selected in competition by the referee, Mr. Edw. T. Hall.

The Admiralty has accepted tenders for the construction at Rosyth naval base of 20 oil-tanks and an underground oil-reservoir, which, it is stated, will be the largest in the world. Ten of the tanks are to be erected by the Carronfield Oil Works Company, and ten by the Motherwell Bridge Company. Messrs. Easton, Gibb, and Son (Limited), the contractors for the docks, will construct the reservoir.

Prince Arthur of Connaught laid yesterday (Thursday) the foundation-stone of the British Columbia Government's new building at the corner of Regent-street and Charles-street, S.W. The ground floor will be occupied by an exhibition hall 87ft. by 42ft., for the display of products of the province, and over this will be four stories of offices. Mr. Arthur Barr, F.R.I.B.A., is the architect of the premises, which were illustrated by a double-page perspective and a plan in our issue of December 5, 1913. The estimated outlay is £75,000. The builders are Messrs. Holland and Hammen and Cubitts, Ltd., of Hyde-street, Bloomsbury.

At the meeting on Monday of the Edinburgh School Board, Mr. Lawrence proposed that notice to terminate agreement between the school board and Mr. J. A. Cartier, architect, be duly given to Mr. Cartier in order that in the erection of any new school buildings competitive designs be publicly invited. He said his motion rested purely upon principle. He wished an equality of opportunity for architects. Mr. Elder seconded and pointed out that the Glasgow Board had no architect. Mr. Cartier, he said, got an undue preference over his fellow architects. It was agreed to commit the matter to the building committee, and the finance and law committee, to draw up a report.

PROFESSIONAL AND TRADE SOCIETIES.

BRISTOL SOCIETY OF ANTI QUARIES.—The second excursion under the auspices of this society took place on Saturday, the venue being Edington and its Monastery Gardens. The party, including Mr. J. I. Francombe, president, and Mr. W. F. Kumer, hon. secretary, trained to Trowbridge, and then completed the journey to Edington by brake, via Hilperton and Steeple Ashton. Making a tour of Trowbridge, the town hall, the old church of St. James, and other features were inspected from the brakes. Arriving at Steeple Ashton—literally Staple Ashton—once a settlement of cloth manufacturers, a detour was made in order to examine the beautiful Late Perpendicular church which was erected at the end of the 15th century in part by two wealthy clothiers, Walter Lucas and Robert Long, the latter of the well-known Wiltshire family whose present seat of Rood Ashton is close by. The quaint old timbered houses, the Round House, and the column erected over two centuries ago marking the site of the old market cross in the village street, did not escape notice. On arrival at Edington Monastery Gardens, the Rev. E. C. Alexander, who acted as guide during the remainder of the proceedings, delivered an address. He pointed out that the founder of the monastery buildings was a native of the village, and known as William of Edington, who ranked among the great church-builders of the age, and whose life was almost entirely spent from 1341 in the public service. From the time of the Dissolution the monastery buildings fell into ruins, and were used by the villagers to build and repair their cottages. All that is now left is a massive stone wall. Mr. Alexander then conducted the party to the monks' fishpond. It is ½ acres in extent, having in the centre two shrub covered islands. Next the Church of St. Mary, St. Katharine, and All Saints was thoroughly inspected. Mr. Alexander spared no pains in pointing out the numerous interesting features. The famous Edington Church is one of the few perfect monastic churches in the country, and also of the types of the transition from the Decorated to the Perpendicular style. It is cruciform in shape, and has an embattled tower holding six bells.

THE BRITISH AND KENT ARCHAEOLOGICAL ASSOCIATIONS AT CANTERBURY. The seventy-first annual congress of the British Archaeological Association, which is being held in conjunction with the Kent Archaeological Society, opened at Canterbury on Monday, under the presidency of Mr. Charles E. Keyser, M.A., F.S.A. In the afternoon a party of about a hundred members visited St. Augustine's College, where the interesting ruins of the Abbey church of St. Peter and St. Paul and the Early Saxon church of St. Pancras were inspected under the guidance of the Rev. R. U. Potts, the sub-warden. The excavations on the site of the Abbey church, which have resulted in a number of interesting discoveries, are to be continued this autumn in the neighbourhood of the south transept, where it is expected to find the foundations of an apsidal chapel similar to that already uncovered on the northern side. The party were welcomed to the college by the warden, Bishop Knight, who was accompanied by Canon Mason. Subsequently a visit was paid to the historic church of St. Martin, the oratory of Queen Bertha, where the Rev. C. Evelyn Woodruff pointed out the special architectural features and objects of interest. In the evening the visitors attended a reception given by a local committee, of which the Dean of Canterbury is chairman. In his presidential address, delivered at the grand hall, Mr. Keyser advised the Kent Association's committee to keep a regular check on what was going on in the south-eastern part of the county. He shuddered to think of the possibility of their quiet and seclusion in the country parishes, with their old stone churches, many erected during the Norman period, becoming the centres of a growing mining population. On Tuesday the party proceeded by motor via Fernhill, Blandford, and Baringston to Dover, returning to Canter-

bury by way of Deal and Eastry. At the well-known little Norman church of Patricbourne the Rev. Hubert Knight called special attention to the beautiful Late Norman work over the main entrance. The tower is disfigured by ugly brick buttresses of comparatively modern date. Mr. Knight mentioned that much of the Flemish glass in the windows was brought over and placed in the church by a former Lady Conyngham in the 15th or 16th century. Barfreston Church is another small but extremely valuable example of Late Norman architecture. The moulding over the arch of the main entrance is considered to be the finest of its kind in the country. The church, which was restored in 1840, was stated by Mr. C. E. Woodruff to have been originally built like that at Patricbourne about the year 1180. The bell which used to hang in the roof now occupies a position in a tree outside the church, but is rung from the inside. The remains of the Benedictine Priory of St. Martin at Dover, visited under the guidance of the headmaster, and the refectory and the fresco of "The Last Supper" at Dover Castle were among the most interesting features. The Banqueting Hall, with its ladies' and minstrel galleries, proved a great attraction. The church of St. Mary in the Castle was described by General Sir Charles Warren, who drew attention to the pharos adjoining. An inspection (under the guidance of Colonel Kavanagh) of the church at St. Margaret's-at-Cliff, another good example of Late Norman architecture, closed the day's proceedings. On Wednesday the members visited Ash Church, the ruins of Richborough, and the churches and Medieval houses in Sandwich, the excursion ending with tea at Betteshanger, the seat of Lord and Lady Northbourne.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—The annual cricket-match between the Royal Institute of British Architects and the Architectural Association will take place on Wednesday, July 22, at the A.A. Ground, Edlestree. We are asked to request any members of the R.I.B.A. who would like to play to communicate with Mr. N. W. Hadwen, 22, Buckingham-street, Adelphi, W.C.

The technical institute and boys' secondary school at Woking, erected jointly by the urban and county councils, at a cost of £30,000, was opened by Lord Moulton on Wednesday.

The Hull Grammar School Committee have approved sketch plans prepared by the city architect for the extension of the buildings, including six additional classrooms, with a geography laboratory, a dining-room, a boys' library, and a common room.

Whitchurch volunteer and town fire-brigades and the Malpas fire-brigade were engaged several hours on Tuesday evening dealing with a destructive fire, which destroyed the works of Messrs. T. G. Huxley and Co., builders, Malpas. The flames broke out just as the workmen had left.

A Local Government Board inquiry was held at Hull on Tuesday by Mr. G. Pepler, into the corporation's first application to prepare a town-planning scheme. The land referred to in the application has an area of 913 acres, and is situated partly in the city and partly in the rural district of Sculcoates.

A select committee of the House of Commons passed on Wednesday, after nine days' inquiry, the Bill to amalgamate "the Three Towns"—Plymouth, Devonport, and Stonehouse. The scheme was opposed by Devonport, and, if adopted finally, it will be the first time a county borough has been joined to another against its will.

The annual excursion of the Northern Architectural Association will be held at Carlisle on Wednesday week, the 29th inst. The members to travel by the 10.20 train from Newcastle. The party will drive by motor to Rose Castle. The cathedral and castle at Carlisle will also be visited. The return train leaves Carlisle at 6.40 p.m.

The annual report of the Prabody Trust shows that the trustees now house over 22,000 persons, mostly labourers and charwomen, who have an average family income of £1 1s. 10d. a week, and who pay an average rent of 2s. 4½d. a week per room. Other dwellings are in course of erection at Vauxhall and Walworth, and a seven-acre estate is being acquired in Hammersmith.

Correspondence.

LICENTIATES AND THE R.I.B.A. CHARTER.

To the Editor of the BUILDING NEWS.

SIR,—A circular, evidently being sent to all Licentiates of the Institute during the past week, has been authorised by a group of Licentiates who have formed themselves into a committee, ostensibly for the purpose of petitioning the R.I.B.A. Council, and "if necessary" the Privy Council, with regard to Clause 2 of the proposed new Charter. An analysis of this circular will surely be interesting to the profession generally.

It is alleged that the Clause mentioned would operate unfairly to the Licentiates as a class, the particular grievance being that they, along with other architects (whose names will be admitted to the Register at a later date) will be styled "Registered" Architects, whereas Fellows and Associates (who are corporate members), the greater number of whom have qualified by examination, will be termed "Chartered" Architects. It is also claimed that the "status" of Licentiates will be affected and "their identity lost," owing to the fact that other Registered architects will be enrolled after the Charter comes into operation. Having this in view, one pauses to see the nature of their appeal, which amounts to nothing less than a demand that no distinction should be made between the Licentiate and Associate classes. The personal efforts, work, and expense entailed by those who have sought to qualify for admission to the Institute by examination shall be all to no purpose and of no avail. This body of Licentiates evidently does not recognise any claims of merit, but by some train of reasoning would seek equal distinction, for which they have "toiled not," etc.

It should be borne in mind that the petition does not take the form of a suggestion that all other architects enrolled after the Charter has been passed should be separately classed, although this is stated to be the ground of complaint. This appears to be far from the minds of the petitioners, as no mention of this is found in the circular. One can well imagine the feelings of those members of the Institute who have been successful in working their way patiently through the various examinations at this attempt to obtain, through a combination of circumstances, that which has hitherto been reserved for those who have cared to work for what has been considered to be the best distinction in architecture.

It will be noted that the two signatories to the circular have thought fit to qualify in engineering and surveying (being members of the Institution of Civil Engineers and Surveyors' Institution respectively), but not in architecture. It would be interesting to know how they would view an attempt by professional men outside these institutions to gain admission to the same, and then appeal to be given the same status as themselves. Such a proceeding would be exactly on all fours with the effort they are now engineering.

The appeal cannot be said to be in accord with the British spirit of fair play, and it is hoped that little support will be found for such an unworthy petition, which will, no doubt, receive the scant respect which it deserves at the hands of the R.I.B.A. Council.

We shall esteem it a favour if you can find room in your valuable paper for this letter.—We are, etc., FIVE ASSOCIATES.

ANOTHER GOOD MAN WHO PLAYS MANY PARTS WELL.

SIR,—We notice in a recent issue of your Journal that you draw attention to an instance of one man contriving in his own person to play many parts in local civic life. The gentleman referred to fills three posts, that of clerk, inspector, and surveyor of nuisances.

It may interest you to know that Mr. W. G. H. Browne, of Bolsover, has four posts. He is not only surveyor to the

council, sanitary and water engineer, and inspector under the P.H.A. 1875, but he is also captain of the fire brigade.

It is possible that some of your readers may know of a gentleman holding even more posts; but if so, he would certainly be an energetic man who would be able to give to all the attention that each deserved.—We are, etc., KERNER-GREENWOOD AND CO. King's Lynn.

PARLIAMENTARY NOTES.

THE GOVERNMENT HOUSING BILL.—In reply to questions on Monday by Mr. C. Bathurst and Sir A. G. Boscawen about this measure, Mr. Runciman explained that it was the intention of the Government that all the cottages provided should be let at an economic rent. Gardens would be provided wherever necessary; the size would naturally depend upon various circumstances, and he was not prepared to pledge himself to a minimum. A sum not exceeding £2,000,000 was proposed to be made available for the purposes set out in Clause 2 of the Bill, and when introducing the Bill he mentioned Rosyth only as one specially urgent case to be dealt with under that clause. The houses proposed to be erected at Rosyth would be occupied by Admiralty employees when the constructional work now in progress had been completed. A sum not exceeding £3,000,000 was to be made available for the purposes set out in Clause 1—that was to say, the provision of dwellings and gardens in agricultural districts. It was impossible to estimate precisely the number of dwellings which were required in agricultural districts, but he had no reason to think that the sum named in the Bill would be insufficient to meet the immediate demand.—Sir A. G. Boscawen: Do I understand that a sum not exceeding two millions is necessary for Rosyth and other Government factories, and that a sum not exceeding three millions is all that is required for the rest of the country?—Mr. Runciman: No, the hon. gentleman is not right in understanding that.—In reply to Mr. Lane-Fox, Mr. Runciman said that when the Government had obtained the necessary powers they would lose no time in making a start.

The Swansea Town Council decided on Wednesday to apply to the Local Government Board for sanction to borrow £101,990 for the erection of 500 workers' dwellings on the corporation estate at Town Hill.

Mr. A. O. Goodrich, vice-chairman of the London County Council, opened on Friday Fairfield-road elementary schools, Bow, E., which have been rebuilt at a cost of £19,000. The three-story building gives a total accommodation of 1,024 places.

The death is announced, at the age of 76, of Mr. Joseph Lockwood, master builder, of King-street, Boston, Lincs. For six years he was a member of the corporation, and he also served on the board of guardians, and on the Eastern Sea Fishery Board, and other public bodies.

The Portsmouth Town Council unanimously approved on Tuesday the scheme for the provision of a new road out of the town, which is to cost about £200,000. The scheme will now be submitted to the Road Board in order to secure what financial assistance is possible.

An appeal has been issued for a memorial to Sir Edmund Hay Currie, to take the form of a churchyard cross in the churchyard of Hindhead, where Sir Edmund is buried. A design has been made by Mr. Temple Moore, F.R.I.B.A., and will cost about £250 to £300 to execute.

The health committee of the Bradford Corporation recommend that application be made to the Local Government Board for power to borrow £168,000 for carrying out a municipal house-building scheme at Odsal, one of the out-districts of the city. Plans have been drawn, and the proposal deals almost exclusively with working-class houses.

The new block just added to the grammar-school at Oundle was opened on Speech Day. On the ground floor there are research, biological, and chemical laboratories, lecture-rooms, teaching-museum and agnaria; and on the second floor drawing-office, machinery hall, and standardising and physical laboratories. Messrs. John Thompson and Son, of Peterborough, were the builders.

Mr. C. G. Mason, A.M.I.C.E., who has been borough surveyor of Guildford for eighteen years, and previously served under the borough surveyor of Portsmouth, tendered his resignation to the town council last week. The matter was taken in committee, and was accepted. The council appointed a special committee to bring up a report as to the terms of appointment of his successor.

STATUES, MEMORIALS, &c.

A NORMAN SHAW MEMORIAL.—At New Scotland Yard, Victoria-embankment, on Monday afternoon, the Earl of Plymouth unveiled a memorial medallion to the late Mr. Norman Shaw, R.A., the architect. The medallion, which is of bronze gilt, is placed in the centre of the river front of the building under the middle balcony of the third floor. A portrait head of Mr. Shaw, to the scale of a 10ft. figure, occupies the centre, the head being surrounded by an oak leaf wreath. The inscription round the head reads: "Richard Norman Shaw, architect, 1831-1912." The medallion was designed by Professor W. R. Lethaby, F.S.A., and was modelled by Mr. Hamo Thornycroft, R.A. Sir Edward Poynter, P.R.A., presided at the ceremony. Others present included the Countess of Plymouth, Sir Aston Webb, R.A., Sir Thomas J. Jackson, R.A., Sir J. J. Burnet,

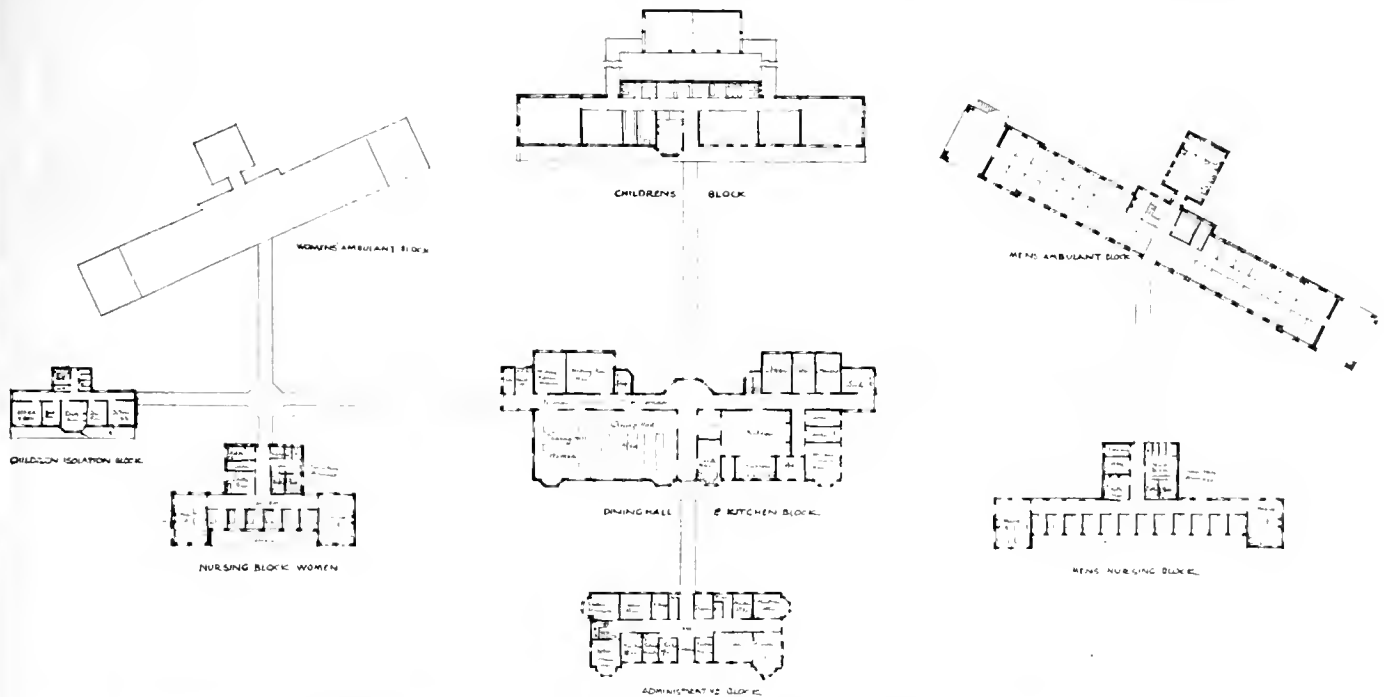
LEGAL INTELLIGENCE.

ALLEGED NEGLIGENCE IN SEWER-LAYING.—An action of interest to property owners and local authorities was heard at Wellington (Salop) County-court on Tuesday, before Judge Harris Lea. The plaintiff was George Jennings Huxley, commercial traveller, Sutton Coldfield, who sued the Wellington Urban District Council for £70 damages for alleged negligence in laying a sewer along an entry between the plaintiff's houses in Regent-street, Wellington. The five houses affected were purchased by the plaintiff for £550, and are let at rentals varying from 4s. to 5s. 10d. a week. In the early part of 1913, as a result of the Housing and Town-Planning Act, an inspection of the whole of the cottage property in Wellington was ordered by the local council. Plaintiff agreed to effect certain alterations to his houses. It was arranged that a new sewer should be put

Our Illustrations.

KING EDWARD VII. MEMORIAL SANATORIUM IN THE VALE OF CLWYD: SELECTED DESIGN.

Building operations are to begin forthwith upon these buildings, which will be the principal sanatorium in North Wales. It is to form part of the Welsh National Memorial to King Edward VII. Mr. T. Taliesin Rees, F.R.I.B.A., architect, of Liverpool, was placed first in an open competition, and the plans so chosen have been adopted by the committee, with the result that now the estimate of Mr. James Merritt, of Birkenhead, for about £31,500, has been accepted



KING EDWARD VII. MEMORIAL SANATORIUM, NORTH WALES: SELECTED DESIGN. (GENERAL PLAN.)

MR. T. TALIESIN REES, F.R.I.B.A., Architect.

R.S.A., Sir Edward Henry, Mr. Ernest Newton, A.R.A. (President of the Royal Institute of British Architects), Mr. G. H. Tripp (Receiver for the Police), Mr. J. Dixon Butler, F.R.I.B.A., Mr. Gerald Horsley (past-President of the Architectural Association), Mr. F. A. White (hon. secretary and treasurer of the fund), and several of Mr. Shaw's pupils. Sir Edward Poynter, in opening the proceedings, referred to the charm of voice and fluency and felicity of words possessed by Mr. Norman Shaw and to his position as a public man and an artist. Lord Plymouth remembered that Mr. Norman Shaw played a very strong part during the latter years of the 19th century not only in the buildings he had left to us, but also in the influence he exercised upon those who were working in the architectural profession. He would not be misunderstood if he described Mr. Shaw's work as examples of the aristocracy of architecture. He not only had the genius of invention, the instinct for true proportion, and the feeling of dignity in architecture, but there was something more easily felt than described in his work, and that was the refinement which it never lost, however simple and however plain the design might be. His work showed the broad and cultivated mind directing the hand of the artist.

Mr. Thomas Stevens Geere, of Leytonstone, timber merchant, late of Stratford, E., who died on May 3, aged 90, left estate of the gross value of £56,681, of which £52,152 is net personality.

At the meeting on Monday of the town council of Walsall, the sewage-farm committee and the borough surveyor (Mr. J. Taylor) were congratulated on the completion of the new sewage purification works for less than £30,000.

Messrs. T. and G. C. Hirst, who have decided to build a tower to St. Mark's Church, Longwood, as a memorial to their parents, laid the foundation-stones of the addition on Saturday. Mr. O. White, of Huddersfield, is the architect.

in along an entry between two houses, and this was done. Plaintiff's contention was that the sewer was put in negligently, and caused the walls to bulge and crack. The council contended that the damage done was small, and could be easily put right. The buildings were fifty years old, and in a dilapidated condition. It was further asserted that there was no negligence on the part of the workmen, and that the cracks were made by vibration caused by the railway trains.—Mr. Wilson, one of the tenants, was called to give evidence.—Mr. George Riley, surveyor and engineer to the Urban Council, described what had been done under the Housing and Town-Planning Act to plaintiff's property. He estimated the damage at £5—His Honour gave judgment for the defendants with costs, and ordered that the £20 which had been paid into court be returned, as no negligence had been proved.

AFFAIRS OF A HEREFORD BUILDER.—At the Hereford Bankruptcy Court on Tuesday Richard Langdon Friend, builder, of Victoria-street, Hereford, came up before the Registrar, Mr. Carless, for his public examination. His gross liabilities amounted to £2,072 19s. 4d. expected to rank for dividend £717 9s. 6d., £610 of which was due to seventy-six unsecured creditors. His assets amounted to £180 5s. 2d., and there was a deficiency of £537 4s. 4d. Debtor attributed his insolvency to insufficient work and low prices. The examination was adjourned.

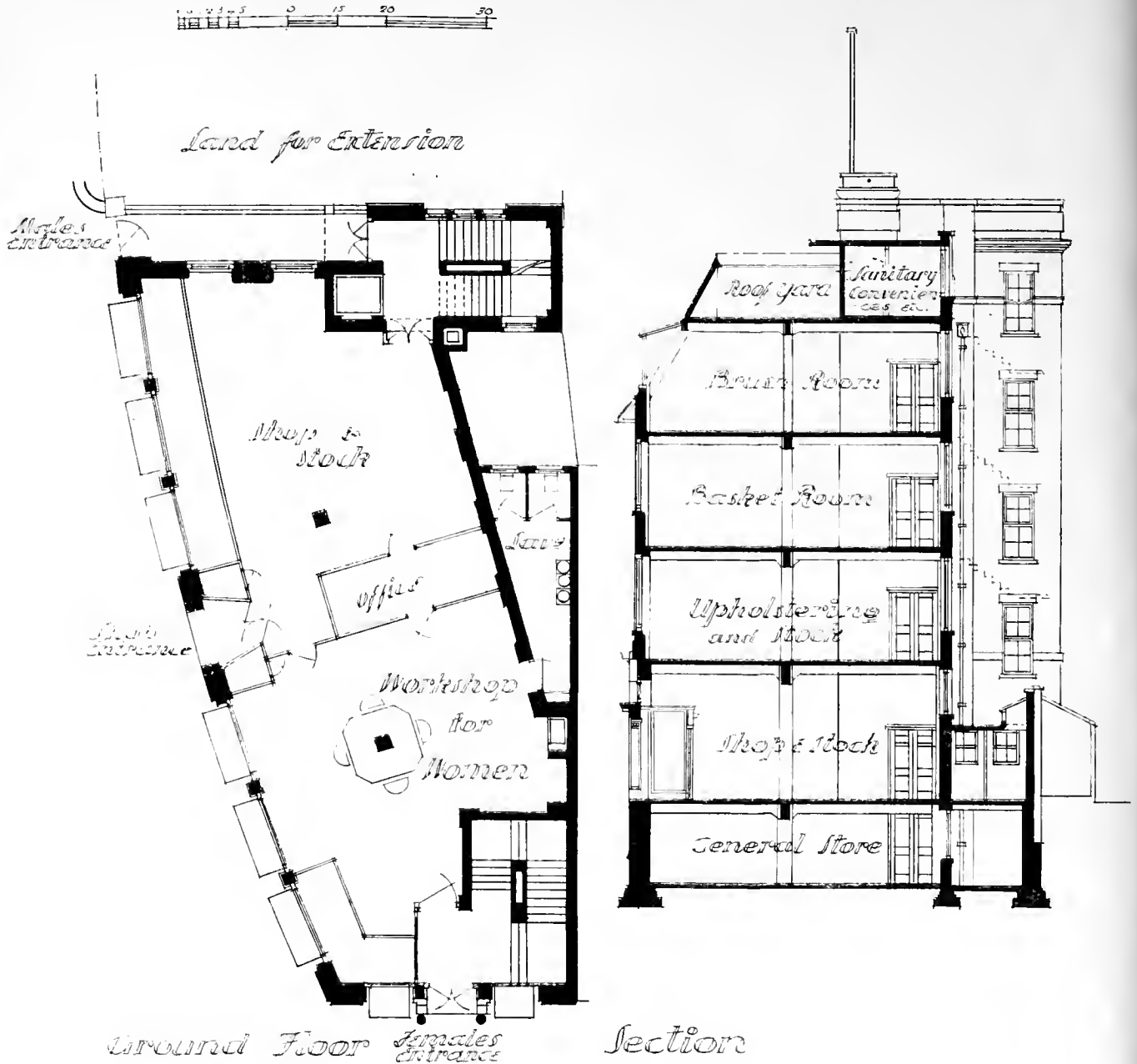
The wallpaper manufactory of Messrs. F. W. Howarth, at Blackley, Manchester, was completely destroyed by fire on Friday, the damage amounting to over £60,000. Two firemen were killed, owing to the collapse of a wall.

Mr. George Winch, of St. Elmo, Calverley Park-gardens, Tunbridge Wells, who died on February 22, left the statue of "My Dainty Aerial," by Henry Hugh Armistead, R.A., to the trustees of the National Gallery, to be placed in the Tate Gallery.

in respect of the first section of the scheme. The site is an ideal one, being surrounded by some of the loveliest scenery in North Wales, and situated at Llangwyfan, in the Vale of Clwyd, some three miles from the town of Denbigh. The land, about 250 acres in extent, was selected by the committee of the Memorial Association, and was acquired by Mr. D. S. Davies, Plas Castell, Denbigh, at a cost of over £5,000, and presented by him as a gift to the Association, in memory of his father-in-law, the late Mr. Thomas Gee. The present plans provide for eleven blocks of buildings—five for administration purposes, including a detached residence for the medical superintendent, and six wards all connected by covered ways, for the accommodation of patients. As a first instalment beds will be provided for 154 adults and 30 children; but when complete the institution will accommodate 284 patients. The buildings of this self-contained institute will be of substantial brick construction, and will be carried out and equipped according to the most up-to-date sanitary and curative knowledge. The institution will be to an unusual degree self-comprised, having its own reservoir for a water supply and its own electric plant for lighting and heating. Part of the land will be farmed for the benefit of the sanatorium, and new farm buildings are to be erected. Other portions of the surroundings will be laid out ornamentally, and made available for the recreation of patients and for light work, when such may be medically recommended.

DOWNING COLLEGE, CAMBRIDGE.

The drawing reproduced today is in this season's Royal Academy Exhibition. It shows the new extensions to this college by



WORKSHOPS FOR THE BLIND, BOLTON.—Messrs. BRADSHAW, GASS, and HOPE, Architects

Mr. Cecil G. Hare, architect, Gray's Inn-square, and the design, though given an individuality of its own, has been made to conform as far as circumstances allow, with the existing buildings of this college. The facings throughout are of stone, handled in the manner of the Late Renaissance.

WORKSHOPS FOR THE BLIND, BOLTON.

This building is erected in a central position in the town, and was opened by Mr. C. Arthur Pearson, the treasurer of the National Institute for the Blind, last May. The ground floor is used as a saleroom for goods made by the blind workers, and for women's workroom, the upper floors being used for men's workrooms, while on the roof is an open yard, with sanitary conveniences and shelters. As there are many workers with a little sight, the rooms are all made with a large proportion of window to floor space—25 per cent. on each floor. Reinforced concrete construction is used throughout for both floors and roof, and executed by Stuart's Granolithic Company, the general contractor being Mr. R. J. Tyson, of Bolton. Messrs. Bradshaw, Gass, and Hope, of Bolton, are the architects.

THE BANK OF VICTORIA, LIMITED. LXIX, KING WILLIAM STREET, E.C.

This building is now being built for the Bank of Victoria as premises for the London

Branch of their business. They at present occupy offices on the opposite side of the street. The front is of Portland stone, with a base of Aberdeen granite. Inside, the main office on the ground floor will be panelled in oak. The builders are Messrs. Patman and Potheringham, and the fireproof floors, etc., are being erected by Messrs. the Kleine Patent Fire-Resisting Flooring Syndicate, Ltd., and Mr. O. P. Milne, F.R.I.B.A., of London, is the architect.

DETAIL OF TOWER AND STAIRCASE AT BANKSIDE END OF ST. PAUL'S BRIDGE.

The view which is given here is reproduced from the third perspective submitted by Mr. Edward R. D. Selway, who won the third premium of £100, and it serves to more fully illustrate the accompanying capital sheets of details to which we particularly alluded when we reviewed the competition designs on June 26 last. These geometrical drawings show the stairways on the Surrey side of St. Paul's bridge leading down to the proposed Embankment, and the obelisk towers rising above these stairs are intended to serve as pylons in the general contour of the design. This completes our series of illustrations from this competition. Our previous ones will be found in the BUILDING NEWS for June 26, July 3 and 10.

CHIPS.

Mr. Thomas Newbigging, of Woodgarth, Knutsford, the well-known consulting gas engineer, who died on June 1 last, left estate of the gross value of £28,903, of which £28,800 is net personality.

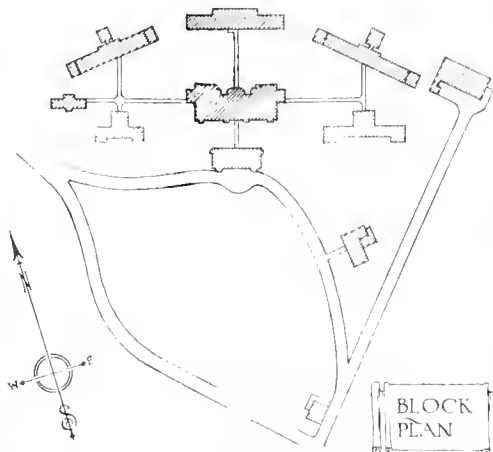
At last week's meeting of the City Corporation sums amounting to £37,000 were voted for acquiring interests in property numbered 50 to 68 required for the widening of Leadenhall-street. A plan for disposal of the surplus land by public auction or private treaty was also approved.

Plans for an elementary school to accommodate 260 girls in connection with Holy Trinity Church, Halifax, intended to be erected in West-parade, have been approved by the Board of Education, and also by the local education committee, and the works are intended to be commenced forthwith, as soon as the full particulars are ready. The architect having the work in hand is Mr. Lister Coates, A.R.I.B.A., of Central Chambers, Halifax.

The council of the Zoological Society have decided to carry out this autumn a long-contemplated improvement at the gardens. Plans have been prepared, and a tender accepted for the construction of a second tunnel under the Outer Circle roadway. It will be placed near the main gate under the end of the Western Aviary, and will be both higher and wider than the existing tunnel. The contract has been given to Messrs. D. G. Somerville and Co., of Westminster, who built the Mappin Terraces. The clay that is excavated will have to be removed by canal barges.

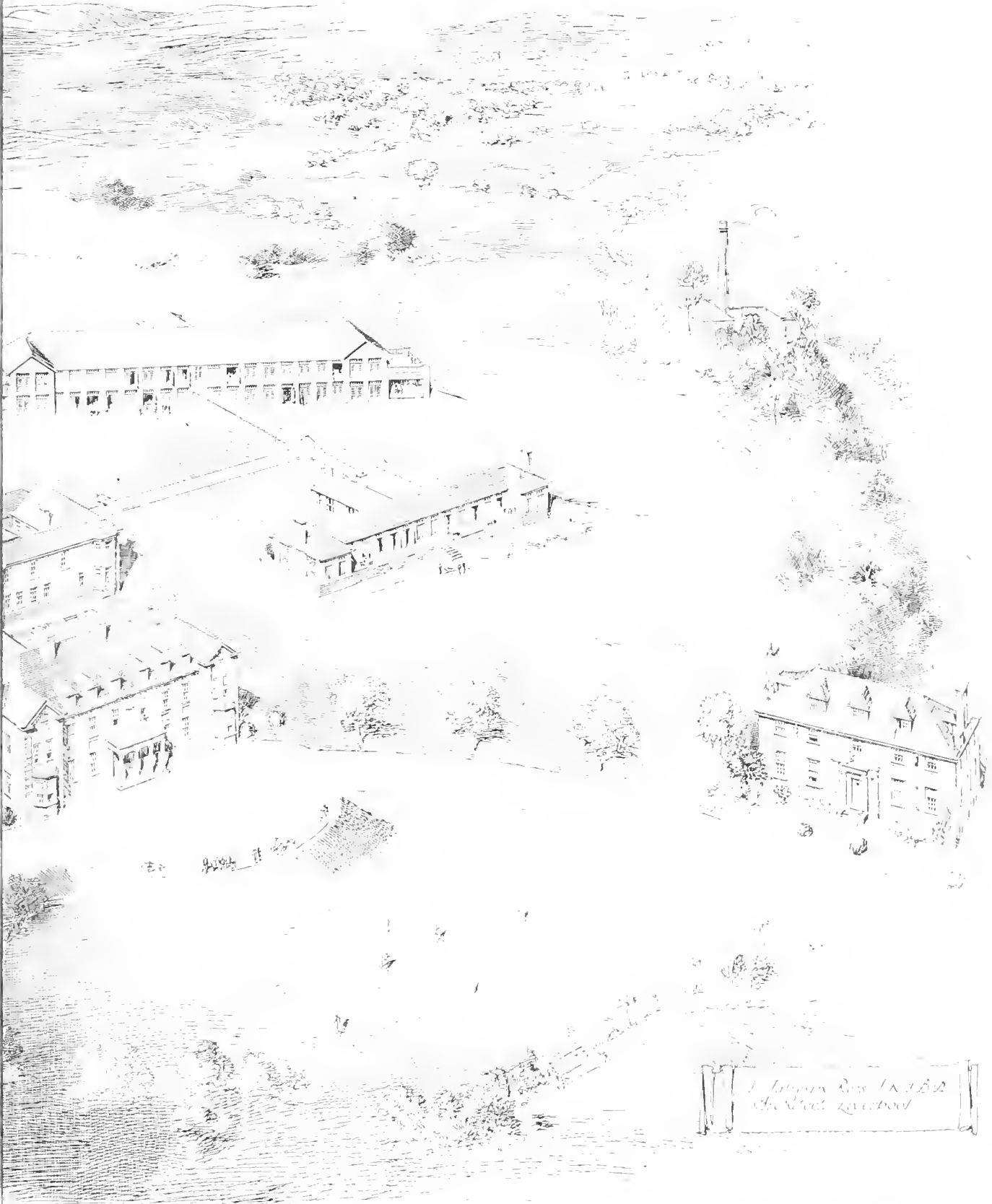
77-80

KING EDWARD VII MEMORIAL SANATOR



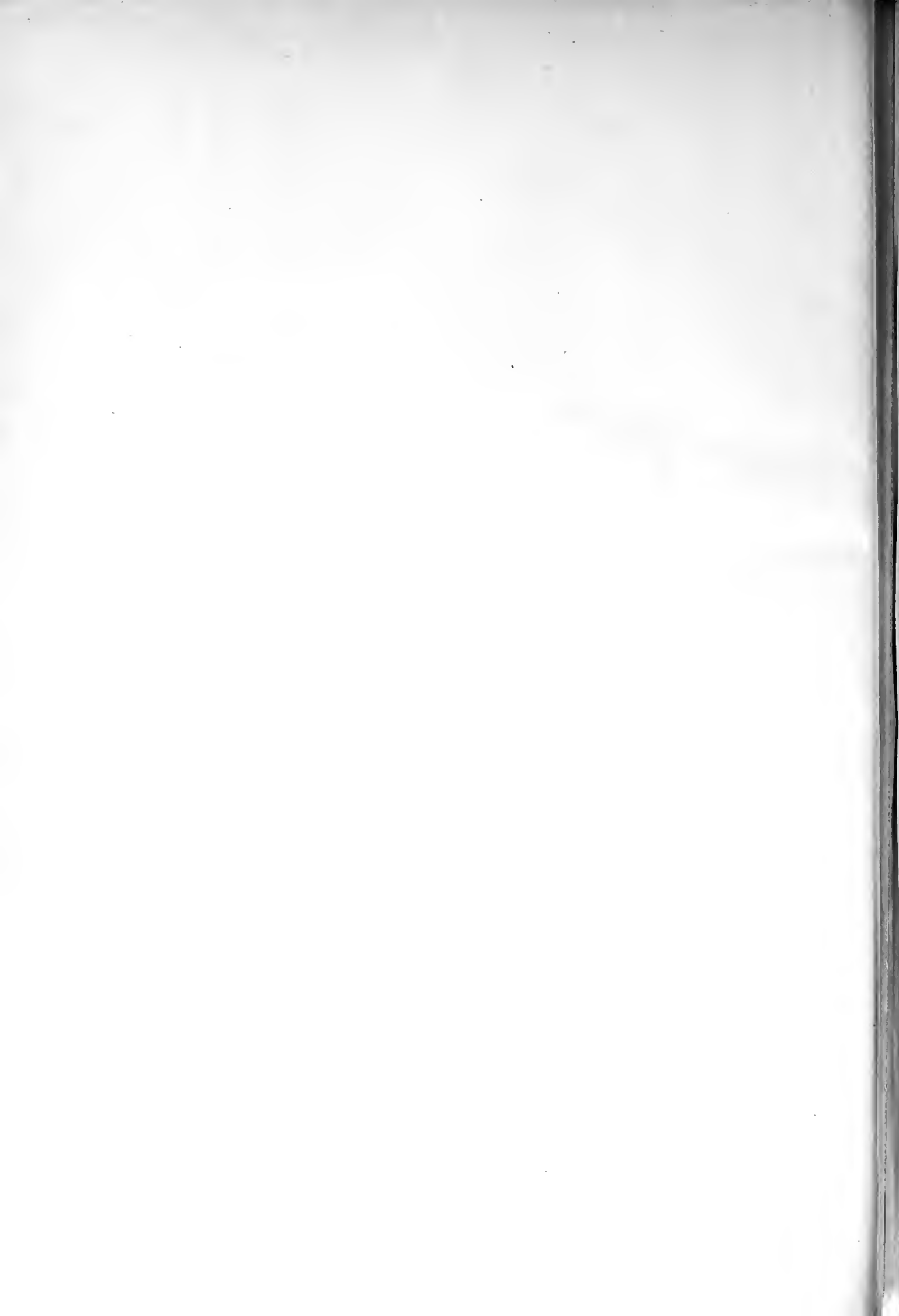
JULY 17, 1914.

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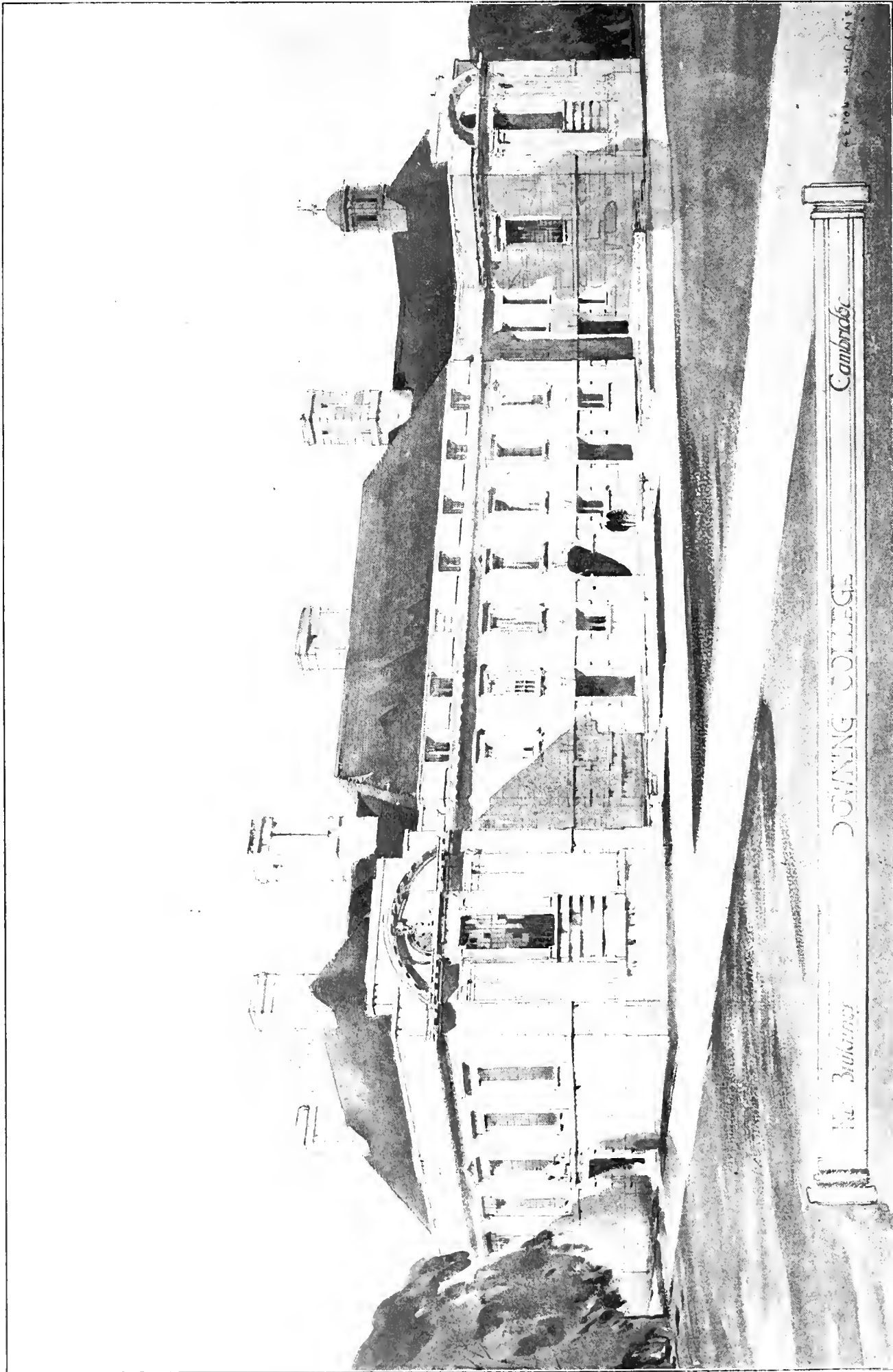
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DESIGN.



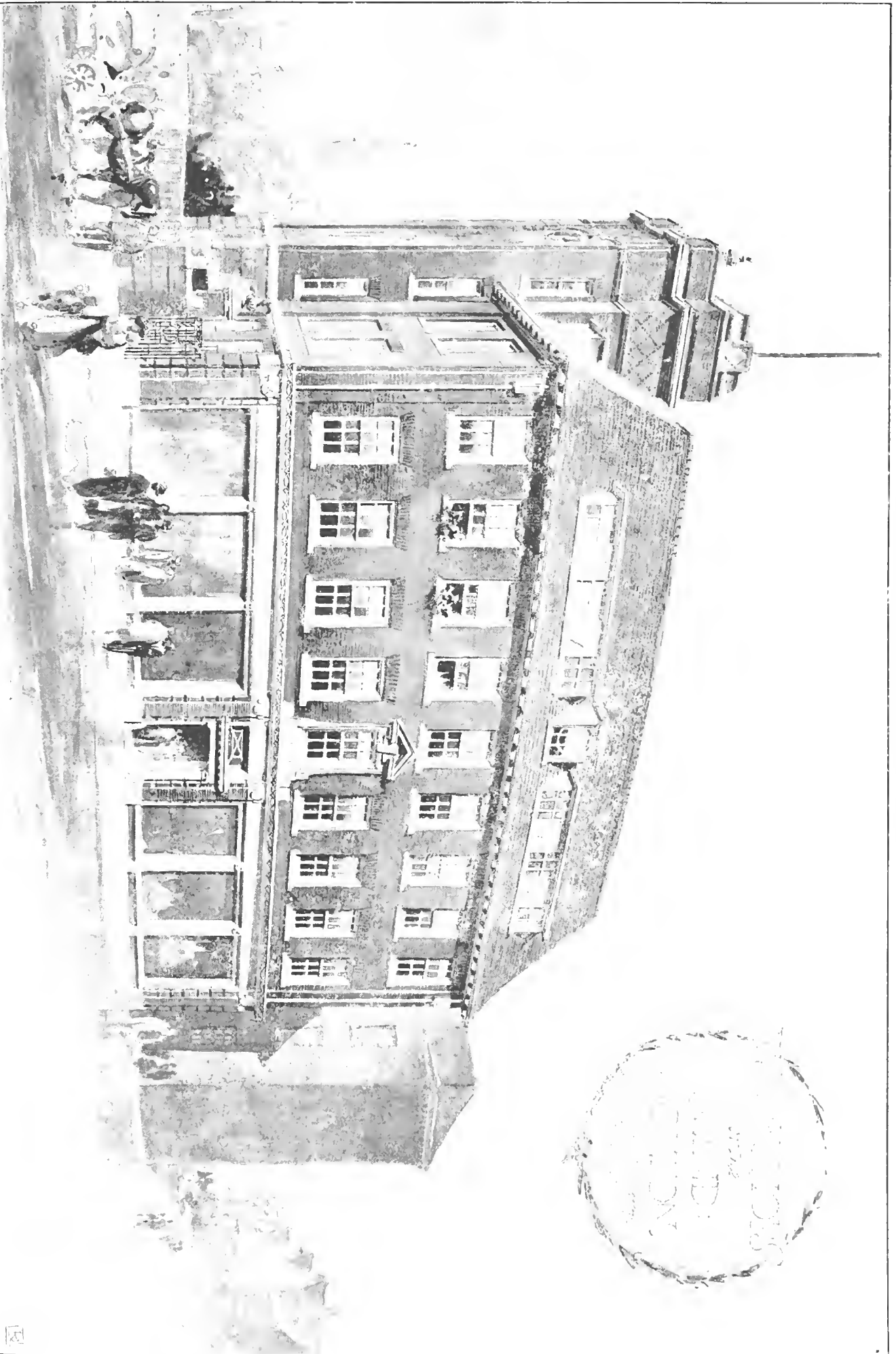
81-84

THE BUILDING NEWS, JULY 17, 1914.



NEW BUILDING, DOWNING COLLEGE, CAMBRIDGE.—Mr. CECIL G HARE, Architect.

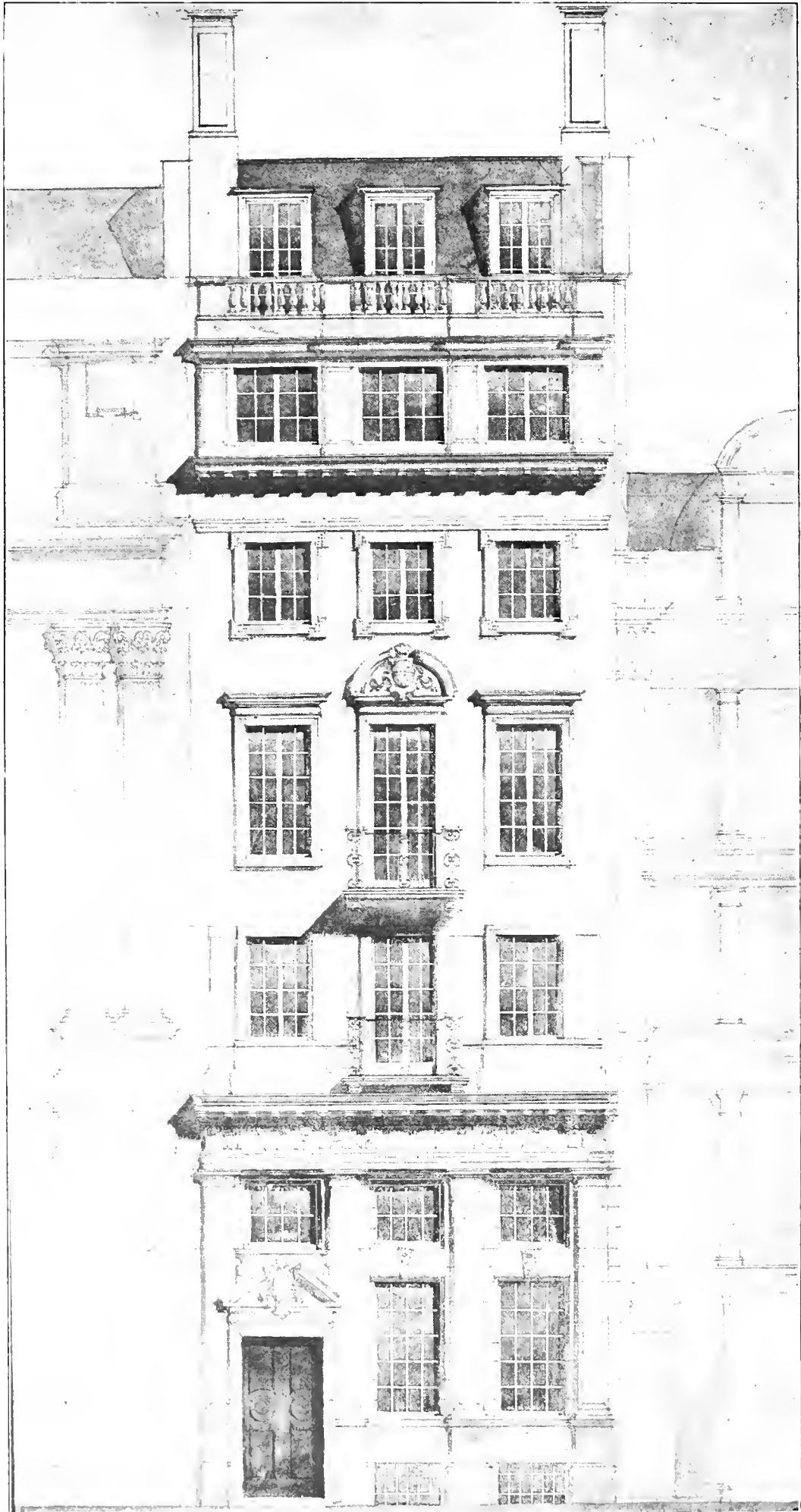
THE BUILDING NEWS, JULY 17, 1914.



WORKSHOPS FOR THE BLIND, BOLTON Messrs. BRADSHAW, GASS, and HOPE, Architects.



88-53



BANK OF VICTORIA, KING WILLIAM STREET, E.C.
Mr. OSWALD P. MILNE, F.R.I.B.A., Architect.



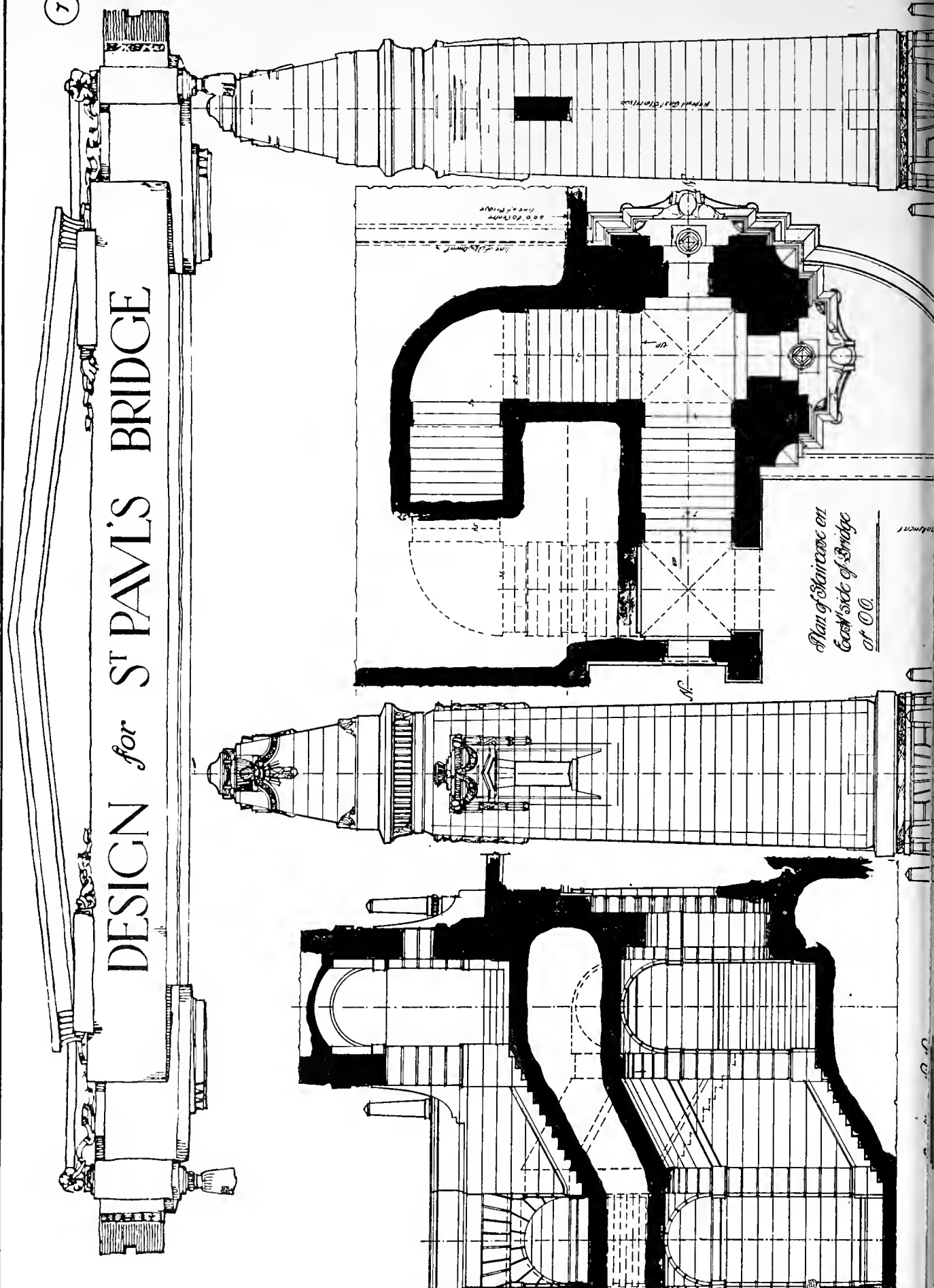
STAIRCASE TOWER TO BANKSIDE EMBANKMENT. THE NEW ST. PAUL'S BRIDGE: THIRD PREMIATED DESIGN.—Mr. E. R. D. SELWY, A.R.I.B.A., Architect.

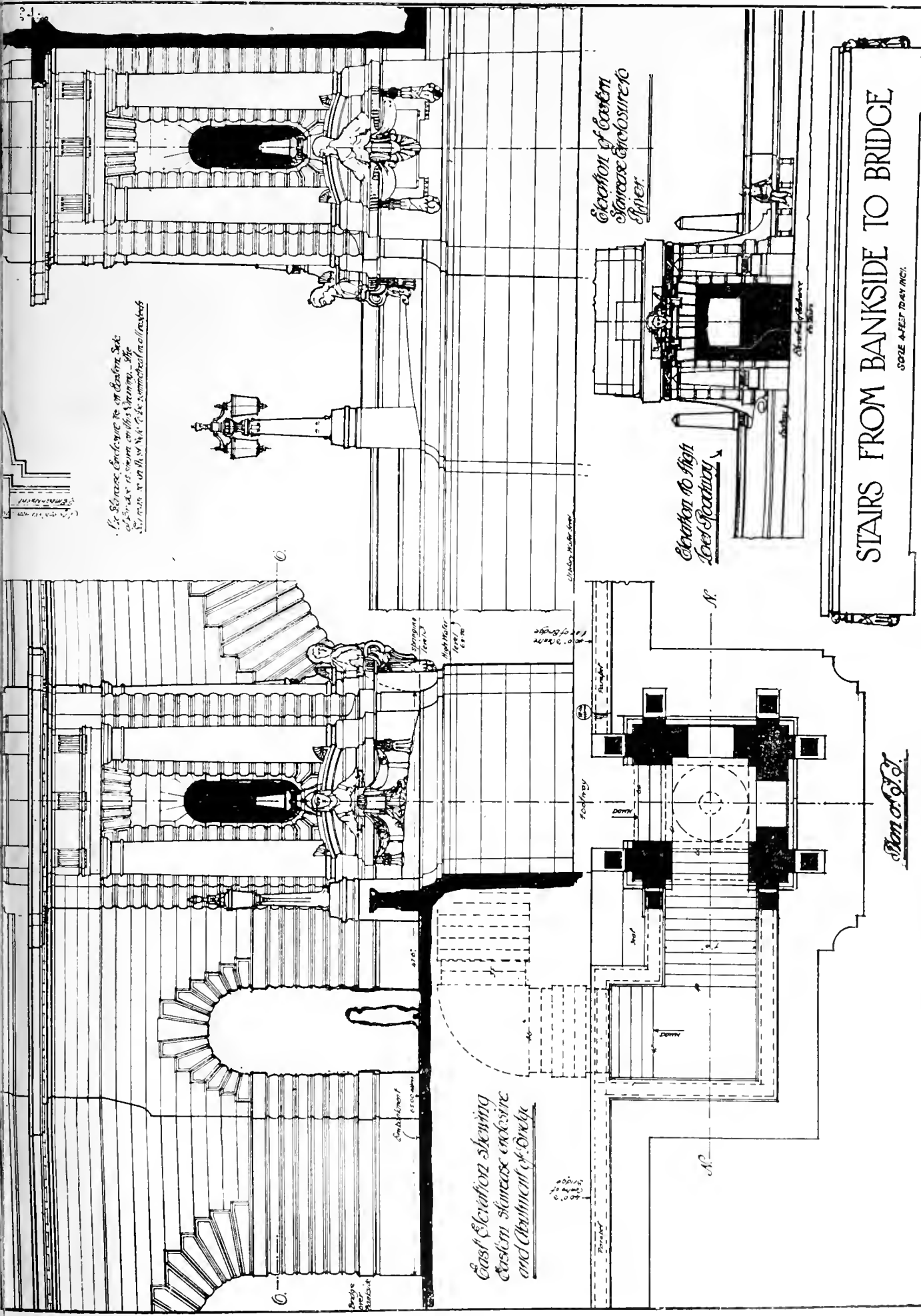


91-5

7

DESIGN for ST PAUL'S BRIDGE





STAIRS FROM BANKSIDE TO BRIDGE

SCALE 4"=10' 10" (1/2")

Don of St.

THIRD PREMIATED DESIGN.—Mr. EDWARD R. D. SELWAY, A.R.I.B.A., Architect.



Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worth insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

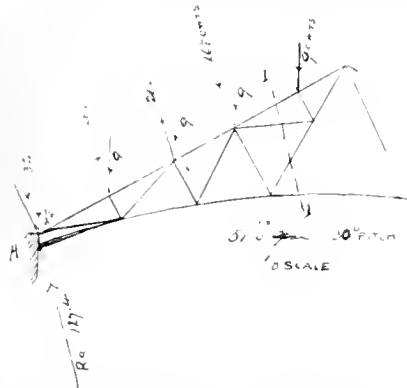
All else being equal, brief replies will stand the best chance. We emphasise this, as some correspondents ignore the fact that querists want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

We award the guinea to Mr. James Murphy.

QUESTIONS.

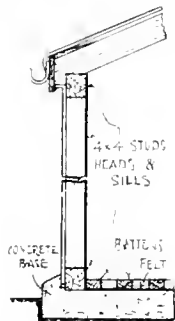
[13146].—STRESSES.—Can the "method of sections" be employed to determine the stresses in four bars of a



roof, as shown by dotted lines on enclosed sketch? If so, what would the formula be?—Sections.

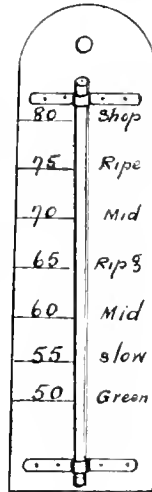
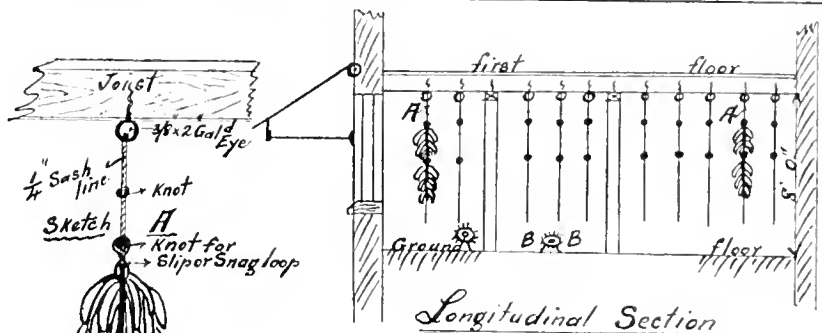
REPLIES.

[13145].—BANANA STORE.—For a store for bananas there is nothing better than a light timber framed structure, erected on a concrete base, the sides and roof being finished with "Ruberoid," or any such like material. The store should be 10ft. by 8ft., and 8ft. 6in. high, internal dimensions, the annexed diagram show-



ing construction, which consists of a 4-in. concrete base, returned and weathered at a curb externally around the entire building, upon which is erected the shed in the usual manner of quartering, the roof of rafters, the eaves finished with fascia and half-round gutter and 2in. down pipe. The inside should be lined with Willesden paper. A ventilating space of 12in. is formed around the building just below the head, this opening being filled in with fine gauze. A few ventilating panels of similar construction are inserted in the framing 12in. above floor level. The concrete floor is finished by covering it with felt and battens. An arrangement of bamboo sticks fixed lengthwise and vertically to the framing are fixed for hanging the clusters of bananas. Salesmen that have had these stores erected find that a covering as mentioned is far more economical and satisfactory than boarding, &c., owing to its damp and vermin-proof properties.—Chas. S. Longley, 52, Ivanhoe-road, Denmark Park, London.

[13145].—BANANA STORE.—The following sketches denote how the leading banana store in this district is arranged, with notes thereon, and how the same is supervised with excellent results. The fruit is stored, as shown, on ground and first floors, and brought forward in three stages for ripening, as indicated on plan. The stores are gas-heated with No. 4 large Bunsen



Barometer

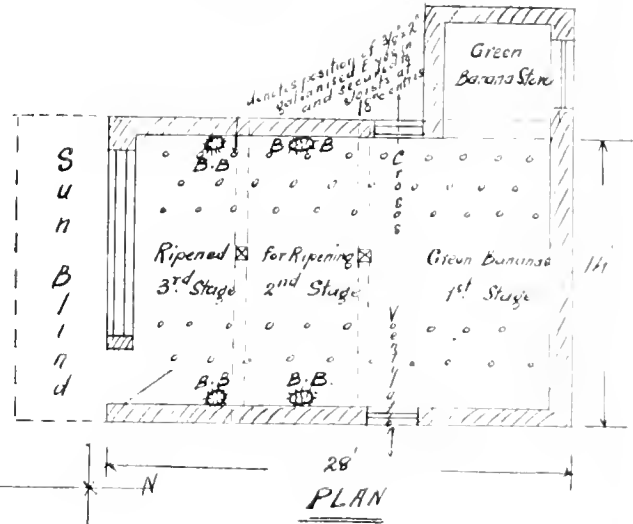
burners for winter, damp and cold weather, and also partially for summer, with sun-blind in hot weather for regulating the heat, which said heat and expert ripening is controlled by three barometers (as per sketch), one placed in each stage, combined with practical experience.—James Murphy, 15, Seaford-road, Seaford.

[13145].—BANANA STORE.—"Jamaica" does not mention if the store is required at home or for the temporary storage prior to shipment. To deal with the former, the clusters of fruit, which weigh about half a hundredweight apiece, are landed in a green state, and it is for the merchant to ripen them off as required to meet the demand, and this requires considerable care. A special thermometer is made for this purpose, which has in addition to the readings of the degrees as follow:—50°, too cold; 60°, slow; to keep; 65°, medium; 75° and 80°, to ripen quickly, and 100° too hot. The chambers require to be kept dark and ventilated, the size naturally depending upon the stock held. The fruit should be hung up by means of stout rough twine to hooks in the ceiling, or, preferably, to special beams on iron runners, similar to those used by butchers, with double lock in double rows, with a gangway between for inspection. By using the twine it is possible to turn a cluster round to see how far the ripening process has gone without removing from the hook, or lifting the cluster up. By taking the weight of a cluster at 50lb., and those exported are generally of that weight, although they have been known to reach as much as 80lb., one can calculate the total weight of one row. It is better to have only one cluster in height, and that at about eye-level for easy watching, also on account of lifting one over the other. Taking 100 clusters to require about 250ft. super, including gangways, the size of the store can be determined. When this is settled, the strength, or, in the case of existing premises, additional strength of the runner, beams, &c., can be worked out. It is better to have a store for keeping (60°) and another for ripening (75°), with facilities for cooling or heating in summer or winter by means of a small ice box and hot-water pipes from, say, a gas radiator.—K. H. Read, Lecturer on Building Construction, Gloucester Technical School.

The York-hire Federation of Building Employers held their delegate meeting at Ratley Town Hall on Friday, and were welcomed by the mayor. The delegates had tea at the Wilton Park Mansion House.

The Le Brun Prize of 1,000dol., entitling its holder to a year of travel and architectural study in Europe, has been awarded to Mr. John R. Lautenbach, of New York. The award was made as the result of a competition, the subject of which was "The Embellishment of Columbus Circle."

The town-council of Edinburgh have intimated their intention of applying for authority to prepare a town-planning scheme for an area of land in the Alcorn, Duddingston, and Niddrie districts, in accordance with the provisions of Part II. of the Housing and Town-Planning Act, 1909.



Our Office Table.

At the meeting of the Westminster City Council yesterday (Thursday) the general purposes committee submitted a recommendation that they be authorised to negotiate for the purchase of the Westminster Hospital site for new municipal buildings, and make a definite offer therefor. The agents to the hospital authorities had informed the committee that they had been authorised to offer the site to the council at a certain sum. This sum, however, the committee were not prepared to recommend the council to pay. The finance committee reported that they also had considered the matter in its financial bearings, and submitted an estimate of expenditure of £250,000 for the site and building, to be chargeable to capital account. Reporting on the subject, the general purposes committee pointed out that it had long been felt that the accommodation at the City Hall in Charing Cross road is not sufficient for the council's purposes, nor is the site of Caxton Hall large enough to provide the required accommodation. The Westminster Hospital site, however, is regarded by the committee as eminently suitable for municipal purposes. With regard to the cost of the scheme, estimates and a report had been submitted, from which the committee were satisfied that, if the whole cost of purchasing the site and erecting the new building was raised by loan, repayable with interest by yearly instalments spread over a period of years, the rents from the existing halls would cover most of the cost of the site and buildings, and only a fraction of the cost would have to be met out of the rate. The report and recommendation were adopted *in camera* for an hour, and for a moment at the close it was announced that the motion of Mr. Spicer, Clerk, was carried. Mr. Gatti, the reporter, then had been referred back to the General Purposes Committee to reconsider and report upon.

Counsel have been consulted with reference to the powers of the City Corporation to purchase so much of the undertaking of the City of London and Charing Cross Electric Light Companies as relates to the

City. The late Mr. Danckwerts, K.C., and the Law Officers of the Corporation were of opinion that the power to purchase could be exercised during the six months following August 18 next, or, if not then exercised, within the six months following August 18, 1924. On the other hand, Sir Robert Finlay, K.C.; Mr. Cave, K.C.; and Mr. Tyldesley Jones, whom the companies consulted, held that the Corporation would have no right to purchase the undertaking if it failed to take the necessary steps within six months from August 18 next. The Corporation have been advised by their Streets Committee that it is inexpedient to exercise the powers either this year or next.

A Select Committee of the House of Lords has passed the Middlesex County Council's Bill to authorise the construction of a road five miles long and 80ft. wide from Chiswick to a point of junction with the Bath road at Hounslow, giving a new route to the West of England, and relieving the congestion of Brentford High-street. Clause 25 of the Bill enables the county council to require motor-omnibus companies to give them access to their books and to make returns of the mileage run by their cars on the new road, and to charge the companies three-eighths of a penny per car mile towards the expense of maintaining the road. This clause, which has already passed the House of Commons, was strongly opposed by the Motor-Omnibus Owners' Federation, who will attempt to have the Bill recommitted. The clause should it receive the Royal Assent, will in effect afford statutory recognition to a far-reaching principle, as it invokes the liability of motor-omnibus proprietors to contribute to the upkeep of the roads they utilise, and so relieve the ratepayer, in part at least, of an ever-increasing charge. It will be noted that during the inquiry the surveyors to the borough councils of Fulham and Marylebone supported by evidence the allegation of the companies that motor-buses did not inflict special damage on a well-made road with a wood-block surface, and that, therefore, the proposed charge could not be justified.

At the meeting of Northamptonshire County Council, on Thursday in last week, Mr. C. S. Morris, the county surveyor, submitted his annual report on the roads. The time is rapidly approaching, he stated, when the present system of maintenance—i.e., recoating short lengths on every road each year—will have to be discontinued and a new system adopted of recoating each road from end to end as and when required. The total cost of maintenance will probably be cheaper when the bulk of the materials is concentrated upon certain roads each year instead of being spread over the whole mileage, as at present. The traffic of the present day will, ere long, Mr. Morris believes, demand the application of the principle to the whole of the main roads. From a traffic point of view there is, he points out, a distinct advantage in having the whole work of renewal of each road carried out in a given year with no further obstruction by repair operations for several subsequent years, in addition to the truer and continuous surface which can be obtained and maintained by this method. The total cost of the maintenance of the work upon the roads last year was £41,665 5s. 4d.

The Ordnance Survey Department are erecting a number of permanent bench-marks throughout the United Kingdom. They are erected in circles at not less than twenty-five miles apart. One has been erected on the roadside in the parish of Bulmer, about 200 yards east of the village. The old style of bench-marks have been found unreliable, and after experimenting the Government Department decided to substitute granite pillars bearing levelling datum which would enable them to arrive at a fixed level. The granite pillar bears a brass pin, on which a record of the sea level will be inserted by the engineers on inspection and survey.

Mr. Banister Fletcher, in a criticism of the designs for the improvement of the Guildhall, states that if the Guildhall Yard is altered in the manner projected it will be nothing short of an architectural misfortune. His

main objection to the treatment of the Guildhall façade is the prolongation of the eastern wing of an archway across the street known as "Guildhall-buildings," which would incorporate the length of the Irish Chamber in the new eastern façade. The treatment of these façades and the proposal to lengthen the eastern portion would entirely destroy the symmetry of Guildhall Yard by making it into a lop-sided court, with an eastern wing 55ft. longer than the western wing. This, he declares, would be an architectural blunder, for, while spoiling the symmetry of Guildhall Yard, it would connect the principal entrance of the Guildhall of the City of London to a block of office buildings, now occupied by the Automobile Association, adjoining a public-house! The lengthening of the eastern wing would not only destroy the symmetry of the courtyard, but, by reason of its length and imposing architectural treatment, also detract from the present importance of the central entrance portal leading into the Guildhall.

Sir Charles Holroyd, in an address at a Lyceum Club dinner on Monday, on Italian art, said that painting remained more in Italy than in any other country, and would remain there for ever. Italian painters had a directness and simplicity of style unmatched in Europe out of consideration for others, and a more graceful and flowing manner than any other race in Europe out of consideration for themselves. Dürer never quite got rid of his hard German manner, and Rubens never got rid of his Flemish superabundance and roundness. Raphael knew how to be soft in outline without hardness, and round in form without being superabundant. The words that best expressed the quality of Italian painting was graciousness. How did he, a North-country coal-miner, come to love Italian art? First, he went through all the stages of the artist's education. Then he came up to London and studied at the Slade School. Here he read Vasari, the Bible of art, and had never stopped reading him. Then he got a travelling studentship and went to Italy for two years. He got to Milan, but it was not Italy, but Cisalpine Gaul. Afterwards he visited Florence and Rome. By studying church mosaics at Rome in the order in which they had been done he acquired an extraordinary knowledge of Roman churches, and he advised others who had the time to follow the same method.

At the rooms of the Society of Antiquaries, Burlington House, on Monday, objects discovered at Antinoë and Abydos during the past year were exhibited. The work at Antinoë is most largely represented, and the finds throw considerable light on the life of the inhabitants of the town, especially during of the fifth and sixth centuries A.D. The bulk of the papyri discovered is in Greek, but a few are in Latin. One valuable find was a number of pages of Theocritus, dating from the fifth or sixth centuries A.D. This is practically the only example of a Theocritean MS. which Egypt has yet provided, and it is at least seven centuries earlier than the earliest Mediaeval MSS. Shorthand appears to have been in existence in those early times. One fragment not only gives a Latin alphabet with the letter names in Greek, but lists of words with their shorthand equivalent. Particularly valuable also are a number of Coptic woven tapestries which date from the third to the seventh centuries. Some pieces of woven silk must have been among the earliest that occur either in Europe or Egypt. They are supposed to date from the sixth century, and silk was only introduced into Europe from China about 550 A.D.

At Messrs. Knight, Frank, and Rutley's sale on Wednesday of Early Georgian fittings in the old residences in Argyll-place, by order of the Westminster City Council, the carved panelling to walls on the first floor of No. 6 realised 54 guineas; a massive chimney-piece, white marble, inlaid with Irish green, 41 guineas; a similar lot, 40 guineas; a carved wood mantelpiece, with marble slips and iron grate, in No. 7, Argyll-place, £50; three six-pannelled doors, with carved mouldings and

Georgian door-heads, £53; a white marble mantelpiece, with carved frieze and caryatid jambs, £168; a white marble mantelpiece, with carved frieze, inlaid with green marble, with open grate, 70 guineas; five six-pannelled doors, with carved egg-and-tongue mouldings and architraves, and three overdoors, 43 guineas; five panelled shutter linings, with carved mouldings and architraves, £27.

It has been decided to hold a national service for Freemasons in St. Paul's Cathedral on Thursday afternoon, October 22, in aid of the fund being raised for the preservation of the fabric of the Cathedral. Sir Christopher Wren is traditionally believed to have been the Master of a Lodge consisting of operative masons engaged in the construction of his great masterpiece, and it is felt that Freemasons would welcome the opportunity to associate themselves with the endeavour to preserve a building of such national importance and interest. The Pro-Grand Master, Lord Amphil, has expressed his intention to be present at the service officially. A sub-committee, consisting of the Grand Secretary (Sir Edward Letchworth), the President of the Board of General Purposes (Mr. Alfred F. Robbins), the Grand Director of Ceremonies (Mr. J. S. Granville Grenfell), the Rev. W. P. Besley (Past Assistant Grand Chaplain), Mr. W. Resbury Few (Assistant Grand Secretary), Mr. G. T. Lawrence (Master of the Cathedral Lodge), and Mr. Vernon Taylor (Past Deputy Grand Organist), has been formed to arrange the details of the service.

After a keen debate the town council of Wolverhampton adopted on Monday a report by their housing committee recommending the erection of workmen's dwellings in the borough. A site in Green-lane, containing an area of 3½ acres and 15,545 square yards, acquired at a cost of 1s. 4d. per square yard, has been considered suitable, inasmuch as it lies in a healthy area on a high elevation and is centrally situated. Plans prepared by the borough surveyor and approved by the committee show there is sufficient land available for ninety houses to be erected in blocks of not more than six. The scheme will be commenced by the erection of sixty houses. There will be thirty-eight of the smaller-size dwelling, with two bedrooms, and twenty-two of the larger size, with three bedrooms. A rental of 4s. 6d. a week in respect of the twenty-two houses containing three bedrooms, and 3s. 9d. a week for the remaining thirty-eight houses, will be fixed. The estimated cost is £187 each for three-bedroomed houses and £160 each for houses of two bedrooms. The purchase money to be paid in respect of the land is £1,845, and the cost of the erection of the sixty houses amounts to £10,186, making a total capital expenditure of £12,031. The financial statement prepared by the borough accountant indicates a debit balance of £187 to be met out of the rates.

"Evenings by the Sea" is a new handbook just issued by the Great Eastern Railway to the evening attractions and amusements of the twenty seaside resorts served by the company. It is finely illustrated with numerous facsimile water-colour sketches. Copies can be obtained free by sending a postcard to the Superintendent of the Line, Liverpool-street Station, London, E.C.

Part III. of Vol. VII. of the Transactions of the St. Paul's Ecclesiological Society has just been published for the society by Messrs. Harrison and Sons, 45, Pall Mall, price 5s. It contains architectural descriptions of the City church of St. Mary-le-Bow and St. Mary Abchurch, by Dr. Philip Norman, and another of Much Hadham Church, by Mr. A. Whitford Anderson, A.R.I.B.A., of Watford. Mr. F. C. Eeles writes on two 16th-century pontificals used by suffragan bishops in England, previously unrecorded, and raising the number known from two to four. The Rev. J. Kestell Floyer gives particulars of a Norman prayer guild, discovered by him and Mr. Sydney Hamilton while compiling the calendar of the Worcester Cathedral manuscripts. A MS. Book of Hours, written in France for an unidentified Scottish lady, about the middle of the 14th century,

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed bricks with columns for White, Ivory, and Buff, Cream, Other, and Second Best. Includes items like Stretchers, Headers, Quoins, Bullnose, and Double Stretchers.

MOULDED BRICKS.

Table listing moulded bricks including Stretchers and Headers, Internal and External Angles, Sill Bullnose, and various other types.

Table listing Portland Cement and Ground Blue Lias Lime with prices per ton delivered.

TILES.

Table listing various types of tiles such as Plain red roofing tiles, Hip and Valley tiles, and Ornamental tiles.

OILS.

Table listing various oils including Rapeseed, Cottonseed, Olive, and others with prices per ton.

GLASS (IN CRATES).

Table listing glass products like English Sheet Glass, Fourths, Thirds, and Fluted Sheet.

VARNISHES, &c.

Table listing various varnishes and oils such as Fine Pale Oak Varnish, Pale Copal Oil, and Superfine Pale Elastic Oil.

TRADE NOTES.

Claridge's asphalt is specified for covering the roofs of the new offices of the "Sheffield Telegraph" in Sheffield.

Boyle's latest patent "Air-Pump" Concealed Ventilators have been applied to Ouchan parish church, Isle of Man.

For the new municipal swimming-baths, which are being erected in Salisbury, Rhodesia, the powder Pudlo (which makes cement waterproof) has been specified.

PILKINGTON & CO.

(ESTABLISHED 1838.) DEPTFORD WHARF, 190 & 192, OREEK ROAD, DEPTFORD, S.E.

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TENDERS.

* Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BELVEDERE ROAD, LAMBETH. — For the construction of the extension, in front of the premises now occupied by Holloway Brothers (London), Ltd., of the river wall at the new county hall site, for the London County Council:—

Table listing tenders for Belvedere Road, Lambeth, with names of contractors like Cochrane, J. and Sons, Ltd., and prices.

* Recommended for acceptance. (After arithmetical correction)

BIGGLESWADE.—For alterations to the Unionist Club, St. Andrews, for the committee. Mr. Thomas Cockrill, A.M.L.C.E., Bedford and Biggleswade, architect:—

Table listing tenders for Biggleswade alterations with names like Allen, M. J., Brampton and prices.

CANNON.—For widening and improving Stafford-road, for the urban district council:—

Table listing tenders for Cannon-road with names like Tebb and Mattashaw and prices.

CANNON.—For the construction of sewers in various parts of the district, for the urban district council:—

Table listing tenders for Cannon sewers with names like Jules and Co. and prices.

CARDIFF.—For alterations at police-station, Grange-town, for the corporation. Mr. W. Harford, City Hall, Cardiff, architect:—

Table listing tenders for Cardiff alterations with names like Bryan, D., Cardiff and prices.

CLAPHAM, S.W.—For incorporating additional land in the site of the Raywood-street school, Clapham, for the London County Council:—

Table listing tenders for Clapham school with names like Foster, F. and G., Norwood and prices.

FELLING-ON-TYNE.—For alterations to the council school, for the urban district council:—

Table listing tenders for Felling-on-Tyne with names like Crane, J. and prices.

FULHAM, S.W.—For installing low-pressure hot-water heating apparatus at William-street School, for the London County Council:—

Table listing tenders for Fulham school with names like Cannon and Hefford, Peckham and prices.

GOOLE.—For carrying out sewerage works for the Goole Urban District Council:—

Table listing tenders for Goole sewerage with names like Binns, F. E., and Co., Croydon and prices.

HAMMERSMITH, S.W.—For the installation of steam heating apparatus, laundry machinery, and calorifier at the Girls' Trade School, for the London County Council:—

Table listing tenders for Hammersmith school with names like Manlove, Allott, and Co., Ltd., and prices.

HAMMERSMITH, S.W.—For installing low-pressure hot-water heating apparatus at the Victoria School, for the London County Council:—

Table listing tenders for Hammersmith school with names like Arling and Dyne, Southwark and prices.

HINDLEY.—For new schools, for the Hindley Education Committee:—

Table listing tenders for Hindley schools with names like Massey Bros., Wigan and prices.

KILBURN.—For tar-paving the path round the pond at Kilburn-grange, for the London County Council:—

Table listing tenders for Kilburn pond with names like Smart, J., and Son, Victoria-street, S.W. and prices.

LETCORTH.—For the erection of an isolation hospital at Letcorth (Garden City), for the Hitchin Rural District Council:—
 Beckley & Turpie, Letcorth ... £10,196 0 0
 Openshaw & Co., Letcorth ... 9,500 0 0
 Senter, G. W., and Son, Lechworth ... 8,990 0 0
 Wallis, G. E., and Sons, Ltd., London, S.W. ... 8,987 0 0
 Willcock, H., and Co., Wolverhampton ... 8,975 0 0
 Longley, J., and Co., Crawley ... 8,948 0 0
 Redhouse, S., & Son, Stotfield ... 8,862 0 0
 Brightman, C., and Son, Ltd., Watford ... 8,837 0 0
 Willmott, J., & Sons, Hitchin ... 8,747 0 0
 Mead, J. Ltd., Chesham ... 8,697 0 0
 Raban, T., and Sons, Baldock ... 8,686 0 0
 Hickman, T., and Sons, Market Harborough ... 8,660 0 0
 Hurst, H., Letcorth ... 8,654 0 0
 Foster, F., Kempston ... 8,646 0 0
 Hackley Bros., Wellingborough ... 8,608 0 0
 Henson, G., and Son, Wellingborough ... 8,571 0 0
 Archer, E., and Sons, Ltd., Northampton ... 8,570 0 0
 Clarke, Bros., Watford ... 8,497 0 0
 Cleaver, A. R. & W., Northampton ... 8,475 0 0
 Newton, F., Hitchin ... 8,448 0 0
 Miskin, C., and Sons, Ltd., St. Albans ... 8,363 0 0
 Corab, W., & Son, Loughborough ... 8,062 0 0
 Kidman and Sons, Cambridge ... 7,923 0 0

LONDON.—For the supply of (A) 250 steel axle forgings and (B) 50 steel axle forgings, for the London County Council. Prices each:—
 A. B.
 Vickers, Ltd., Sheffield ... £4 3 0 ... £3 7 6
 Bochumer Verein für Bergbau und Gussstahlfabrikation, Germany ... 4 2 0 ... 3 12 0
 Spencer, J., and Sons, Ltd., Newcastle-on-Tyne ... 3 10 0 ... 3 12 0
 Brown, A., and Co., Cannon-street, E.C. ... 3 10 3 ... 2 16 3
 Glasgow Railway Engineering Co., Ltd., Glasgow ... 3 0 0 ... 2 10 0
 Brown, J., and Co., Ltd., Sheffield ... 2 18 6 ... 2 9 6
 Worthington Iron and Steel Co., Ltd., Worthington ... 2 17 1 ... 2 6 10
 Anger Manufacturing and Supply Co., Ltd., Preston ... 2 12 6 ... 2 14 6
 Ritchie, W. J. and Co., Sheffield ... 2 12 0 ... 2 14 0
 Bessemer, H., and Co., Ltd., Bolton ... 2 12 6 ... 2 2 6
 Brown Bayley's Steel Works, Ltd., Sheffield ... 2 12 6 ... 2 0 0
 Baker, J., and Co. (Rotherham), Ltd., Rotherham ... 2 11 6 ... 2 1 6
 Fried. Krupp Aktiengesellschaft, Geruany ... 2 8 0 ... 1 19 9
 Steel, Peech, and Tozer, Ltd., Sheffield (accepted for both) ... 2 8 0 ... 1 16 3

LONDON.—For the supply of a motor-escape van for the fire brigades, for the London County Council:—
 Leland Motors, Ltd. ... £461 0 0
 (Recommended for acceptance.)

LONDON.—For cleaning and painting schools, for the London County Council. Accepted tenders:—
 Bermondsey, County Secondary—
 Peyton, A. T. ... £281 6 0
 Laxou-street—
 Peyton, A. T. ... 216 5 0
 Townsend-street—
 Press Robinson and Co. ... 411 0 0
 Camberwell, N., The "Oliver Goldsmith"—
 Cook, H. J., and Sons ... 457 0 0
 Hackney, C., Enfield-road—
 Keetch, G. ... 387 0 0
 Hackney, S., South Hackney Central—
 Butlers, G. ... 260 10 0
 Holborn, Tower-street—
 King, W., and Son ... 270 0 0
 Islington, S., Barnsbury Park—
 Keetch, G. ... 327 0 0
 Station-road—
 Bull, F. ... 280 0 0
 Kensington, N., Barby-road—
 Polden, A. and F. ... 411 0 0
 Newington, W., Faunce-street—
 Vigor and Co. ... 363 0 0
 Norwood, Elm-court Residential—
 Banks, W. ... 233 15 0
 Paddington, N., Beethoven-street—
 Chappell, W. ... 299 11 4
 Peckham, Chomert-road—
 Groves, H. ... 460 0 0
 Poplar, Dingle-lane—
 Fenn, J. S. ... 352 16 10
 Rotherhithe, The "Redriff"—
 Gorham, F. J. ... 335 9 9
 St. George-in-the-East, Fairclough-street—
 Munday, G., and Sons ... 424 5 0
 Southwark, W., Holland-street—
 Newell, H. ... 280 0 0
 Stepney, Baker-street—
 Munday, G., and Sons ... 326 0 0
 Westminster, Buckingham-gate—
 Loashy, F. W. ... 209 17 6
 Whitechapel, Buxton-street—
 Munday, G., and Sons ... 341 5 0
 Woolwich, Elizabeth-street—
 Harris, W. ... 308 0 0
 Mulgrave-place—
 Fenn, J. S. ... 318 18 0

NORWOOD, S.W.—For works of planting at Sussex road School, Norwood, for the London County Council:—
 Maxwell Bros., Ltd. (accepted) ... £414 0 0
 In lieu of tender from W. Read, withdrawn since acceptance.

ORPINGTON.—For road repairs at Orpington, for the rural district council of Bromley, Kent. Accepted tenders:—
 St. John's road:—
 Mowlem, J., and Co. ... 5,710 0 0
 Somerset and Wiltshire Roads:—
 Road Maintenance & Supply Co. ... £771 0 0

PORTSMOUTH.—For the erection of Wimborne-road schools. Mr. G. C. Vernon-Inkpen, M.S.A., 40, Commercial-road, Portsmouth, architect:—
 Wakeham Bros., Plymouth ... £21,972 0 0
 Evans, W. W., Southsea ... 21,086 0 0
 Road, G., Portsmouth ... 21,075 0 0
 Tanner, G., Southsea ... 21,052 0 0
 Salter, S., Portsmouth ... 21,021 0 0
 Spriggs, E. & A., Portsmouth ... 20,958 0 0
 Harding, G., Southsea ... 20,843 0 0
 Cockerell, G., Portsmouth ... 20,245 0 0
 Privett, F. G., Portsmouth ... 19,669 0 0
 * Recommended for acceptance.

REGENT'S PARK, N.W.—For constructing a new tunnel under the Outer Circle-road, Regent's Park, for the council of the Zoological Society:—
 Somerville, D. G., and Co., Victoria-street, S.W. (Accepted.)

SOUTHAMPTON.—For building a refuse destructor at Portswood, for the Southampton Corporation:—
 Foundations:—
 Dyer and Sons, Southampton ... 1,327 0 0
 (Accepted.)
 Destructor cells and boilers:—
 Warrington, T., Manchester ... 1,221 0 0
 (Recommended for acceptance.)
 Chimney:—
 Britannia Construction Co., London (accepted) ... £480 0 0

STRATTON, NORTH CORNWALL.—For building a bridge at Hannaford's Mill, for the Stratton Rural District Council:—
 Gardener, T. (accepted) ... £3 19 9

THURSK.—For building a new secondary school at Thirsk, for the North Riding Education Committee:—
 Willoughby, T., Northallerton ... £5,661 0 0
 (Accepted.)

WANDSWORTH, S.W.—For installing electric light, bells, and telephones at the Furzedown Training College and Hostels, Wandsworth, for the London County Council:—
 Hodson, F., and Co., Queen Victoria-street ... 2,800 0 0
 Cathcart, C. H., & Co., Fleet-st. ... 2,425 0 0
 Buchanan and Curwen, Bristol ... 2,063 0 0
 Cox-Walkers, Ltd., Darlington ... 1,965 0 0
 Malcolm & Allan, Ltd., Kingsway ... 1,761 0 0
 Alpha Manufacturing Co., Balham ... 1,746 0 0
 Tredegar and Co., Victoria-street ... 1,729 0 0
 Defries and Goldman, New Oxford-street ... 1,565 0 0
 Lund Bros. and Co., Queen Victoria-street ... 1,539 0 0
 Weston, G., and Sons, Ltd., Fenchurch-street ... 1,503 0 0
 Newman, A., Ltd., Ilford ... 1,490 0 0
 Tyler Apparatus Co., Ltd., Gerrard-street ... 1,283 11 6
 Turham & Co., 12, John-street, Adelphi ... 1,050 0 0
 Chief engineer's estimate, £1,740.
 * Recommended for acceptance.

LIST OF COMPETITIONS OPEN.

July 24—Cottages, Chapel-en-le-Frith ... 10ga., 5ga., 2ga. ... The Clerk, Rural District Council, Chapel-en-le-Frith Stockport.
 .. 25—Designs for Police and Fire Station, Redhill. (Assessor) 40ga., 20ga., 10ga. ... A. Smith, Town Clerk, Municipal Buildings, Reigate.
 Sept. 7—Designs for Public Elementary Schools at Linda-street, York-road, Battersea; and Billingsgate-street, Church-street, Greenwich. (Mr. J. W. Simpson, F.R.I.B.A., Assessor) ... L. Gemma, Clerk, Education Offices, Victoria Embk., W.C.; The Secretary, Royal Agricultural Society of South Australia 23, Waymouth-street, Adelaide.
 Oct. 31—Laying Out Show Grounds, Wayville West, Adelaide ... £500, £200, £100 ... A. W. Bradley, M.I.C.E., Town Hall, St. Helens.
 .. 31—Drawings for Police Buildings and Fire Station, St. Helens. (Assessor). ... £100, £50, £25 ... M. le President de la Commission pour l'Aménagement des Agglomerations Industrielles, Rue de Louvain, Brussels.
 Dec. 31—Planning Workmen's Settlement, Campine Coalfield ... £400, £240 ... Whiteside and Caslake, Ltd., The Broadway, Hendon, N.W.
 do. —Drawing or Photograph of English or Continental Metal Work ... 5ga., 3ga., 2ga. ... J. E. Jarratt, Town Clerk, Town Hall, Southport.
 do. —Designs for Technical Schools and Education Offices (Mr. Paul Waterhouse, F.R.I.B.A., Assessor) ...

LIST OF TENDERS OPEN.

BUILDINGS.

July 17—Meal Mill and Kiln, Newburgh ... Mitchell and Rae, Ltd.
 .. 18—Buildings, Hooper's Farm, Westonzoyland ... John Turner
 .. 18—Endowed School, Enlargement of, Smalley ... Governors
 .. 18—School, Murrow, Wisbech St. Mary ... Isle of Ely Education Committee
 .. 18—Two Villas at Hull City Asylum, Willery ... Visiting Committee
 .. 18—Police Station, Additional Cells at, Nunceaton ... Warwickshire County Council
 .. 18—Infirmary, Repairs to, Kingston-on-Thames ... Guardians
 .. 18—Infirmary Block, Earlswood Common, Redhill ... Helgate Guardians
 .. 18—Hall, Aberkenning ... Guardians
 .. 18—Children's Central Homes, Repairs to, New Malden ... Gospel Brethren Trustees
 .. 18—Partitioning Schoolroom, West Fordington, Dorchester ... Kingston-on-Thames Guardians
 .. 20—Repairs to School, Denon ... Managers
 .. 20—Disinfecter Building, North Wharf, Blackwall, E. ... Kent Education Committee
 .. 20—School, Additions to, Lambourne ... Metropolitan Asylums Board
 .. 20—Reconstructing Children's Hospital, Margate ... Essex Education Committee
 .. 20—Market Offices, Birley-street, Preston ... Metropolitan Asylums Board Corporation
 .. 20—Queen Mary's Hospital, Alterations to, Carshalton ... Metropolitan Asylums Board
 .. 20—Houses (200), Tynant ... Great Western Colliery Co., Ltd.
 .. 20—Asylum, Extension of, Tooting Bec, S.W. ... Metropolitan Asylums Board
 .. 20—Public Wash-house, M'Leod-street, Gorgie ... Edinburgh Town Council
 .. 20—Four Houses, Oughterside ... Isle of Wight County Council
 .. 20—Schools, Repairs to, Gatten and Newport ... Trustees
 .. 20—Club, Gilfach, Bargoed ...
 .. 20—Institute for Blind, Additions to, Glossop-road, Cardiff ... Kent Education Committee
 .. 20—Brook Council School, Repairs to, Maidstone ... Joint Hospital Board
 .. 20—Isolation Hospital, Additions to, Saffron Walden ... Joint Burial Committee
 .. 20—Cemetery, Carstaker's Lodge at, Farnham ... Kent Education Committee
 .. 20—School of Domestic Economy, Repairs to, Bromley ... Isle of Wight County Council
 .. 20—Council Schools, Alterations to, Gatten ...
 .. 20—Bakery and Stable, Croeland Moor ... Education Committee
 .. 20—Infant School, Additions to, Holburn ...

W. Davidson, Archt., Ellen.
 F. H. J. Gabbutt, Archt., Cornhill Chambers, Bridgewater.
 Currey and Thompson, Archts., Market-place, Derby.
 H. Farr Simpson, County Sur., Tavistock-road, Wisbech.
 J. A. Hirst, City Archt., Guildhall, Hull.
 J. Millmet, County Sur., 6, Waterloo-street, Birmingham.
 C. W. Dash, Clerk, Union Offices, Market Hall Bldgs., Reigate.
 T. R. and V. Roberts, Archts., Queen's Chambers, Cardiff.
 A. J. Harris, Clerk, Union Offices, Market Hall Bldgs., Reigate.
 F. H. Heaven, Archt., 39, Coronation-street, Aberkenning.
 C. W. Dash, Clerk, Union Offices, Kingston-on-Thames.
 Jackson, Son, and Peacey, Archts., 26, South-st., Dorchester.
 W. H. Robinson, M.S.A., Sessions House, Maidstone.
 W. T. Hatch, M.I.C.E., Eng-in-Chief, Embankment, L.C.
 G. T. Forrest, County Archt., 73, Duke-street, Chelmsford.
 T. W. Aldwinckle, F.R.I.B.A., 20, Denman-street, S.E.
 The Borough Surveyor, Town Hall, Preston.
 W. T. Hatch, M.I.C.E., Eng-in-Chief, Embankment, L.C.
 Thomas and Morgan, Archts., 23, Gellihurst-st., Pontypool.
 T. W. Aldwinckle, F.R.I.B.A., 20, Denman-street, S.E.
 J. Williamson, A.R.I.B.A., Public Works Office, Edinburgh.
 The Secretary, Colliery Offices, Oughterside, Cumberland.
 S. R. Coeks, St. Thomas's-street, Ryde.
 D. J. Thomas, Archt., Blackwood, Mon.
 D. Morgan, F.R.I.B.A., Chambers-st., Chambers, Cardiff.
 The County Architect, Sessions House, Maidstone.
 H. R. Bird, Archt., 10, Union-court, Old Broad-street, E.C.
 A. J. Stedman, Archt., South-street, Farnham.
 W. H. Robinson, M.S.A., Sessions House, Maidstone.
 S. R. Coeks, St. Thomas-street, Ryde.
 C. F. Mallinson and Son, Market-place, Huddersfield.
 H. Paterson, Sur., Education Office, Huddersfield.

BUILDINGS—continued.

July 20—Council School, Repairs to, Great Chart	Kent Education Committee	W. H. Robinson, M.S.A., Archt., Sessions House, Maidstone.
20—Houses (14), Rainford	Urban District Council	J. A. Baron, Archt., Cotham-street, St. Helens.
20—Council School, Repairs to, Herne Bay	Kent Education Committee	The County Architect, Sessions House, Maidstone.
20—Council Schools, Repairs to, Newport	Isle of Wight County Council	S. R. Cocks, St. Thomas-street, Ryde.
20—Church of England Schools, Repairs to, Dorchester	Managers	H. O. Lock, Sec., 24, High West-street, Dorchester.
20—Danygraig School (160 places), Classrooms at, Swansea	Education Committee	E. E. Morgan, A.R.I.B.A., 3, Prospect-place, Swansea.
20—School, Repairs to, Orlestone	Kent Education Committee	W. H. Robinson, M.S.A., Sessions House, Maidstone.
20—Council Schools, Repairs to, Carisbrooke	Isle of Wight County Council	S. R. Cocks, St. Thomas-street, Ryde.
20—Reception Hospital, Larbert Asylum	Stirling District Board of Control	A. and W. Black, Archts., Falkirk.
20—Workshops, Additions to, King's Stables-rd., Edinburgh	Town Council	J. Williamson, A.R.I.B.A., Public Works Office, Edinburgh.
20—Council School, Enlarging, Byng-road, Barnet	Education Committee	U. A. Smith, County Sur., County Surveyor's Office, Hatfield.
21—Houses (25), Hirwain	Bute Colliery Building Club	A. S. Cameron, Archt., 1, Glanant-street, Aberdare.
21—Labourers' Cottages (49), Swinford and Kiltimagh	Rural District Council	T. R. McNulty, Clerk, Board-room, Swinford.
21—Cloth Warehouse, New Mills, Drighlington	Exors. of the late T. & S. Barron	T. A. Buttery, L.R.I.B.A., Queen-street, Morley.
21—Schools, Repairs to, Tipton	Education Committee	Scott and Clark, Archts., Great Bridge.
21—Various Police Stations, Repairs to, Maidstone	Kent Standing Joint Committee	The County Architect, 86, Week-street, Maidstone.
22—School (1,122 places), Newtown, Great Yarmouth	Education Committee	The Borough Surveyor, Town Hall, Great Yarmouth.
22—Working Men's Club, Additions to, Crosland Moor	Guardians	J. Berry and Sons, Archts., 3, Market-place, Huddersfield.
22—St. James Infirmary, Alterations to, Wandsworth, S.W.	Corporation	Gibson, Skipworth, & Gordon, Archts., 5, Old Broad-st., W.
22—Electric Power Station Buildings, Walsall	Great Yarmouth Education Com.	E. M. Lacey, M.I.C.E., Con. Eng., 12, Victoria-street, S.W.
22—School, Alterations at, Cobholm Island	Committee	The Borough Surveyor, Town Hall, Great Yarmouth.
22—Ward Block at Isolation Hospital, Wincanton	Committee	A. J. Pictor, A.R.I.B.A., Bruton, Somerset.
22—Two Houses, Cbapel-street, Penyce	Kent Standing Joint Committee	J. Francis, Post Office, Penyce.
22—Court House, Repairs to, Maidstone	Guardians	The County Architect, 86, Week-street, Maidstone.
23—Infirmary, Repairs to, St. Dunstan's-rd., Fulham, S.W.	Old Town Guardians	A. S. Snell, F.R.I.B.A., 9, Bentinck-street, Manchester-sq., W.
23—Redecorating Dining Halls, Bancroft-road, Mile End	Guardians	E. J. Harrison, Archt., 9, Grey's Inn-square, W.C.
23—Workhouse, Repairs to, Fulham Palace-road, W.	Port of London Authority	A. S. Snell, F.R.I.B.A., 9, Bentinck-street, Manchester-sq., W.
23—Housing Scheme, West Ham	Miss E. C. Talbot	C. R. S. Kirkpatrick, Chief Eng., 109, Leadenhall-street, E.C.
23—Detached House, Groes	Corporation	D. J. Jones, M.S.A., Commercial Buildings, Port Talbot.
23—Cottages (20), Old Farm-road, Guildford	Devon Education Committee	A. D. Jenkins, Town Clerk, Bridge-street, Guilford.
23—Wards & Operating Room, Cottage Hospital, Rhymney	Monmouth Terr. Force Assoc.	J. Llewellyn Smith, Architect, Aberdare.
23—National School, Backnamullagh	Monmouth Terr. Force Assoc.	T. Doey, The Manse, Dromore.
23—Council Schools, Repairs to, Exeter	Bermundsey Guardians	The Architect's Office, 1, Richmond-road, Exeter.
23—Drill Hall, Additions to, Risea	Guardians	A. H. Davies, M.S.A., 26, Dock-st., Newport, Mon.
23—Two Villas, Salendine Nook	Urban District Council	Lunn and Kaye, Archts., Milnsbridge.
23—Ladywell Institution, Repairs to, Lewisham, S.E.	Municipal Authorities	E. P. Fenton, Clerk, 283, Tooley-street, S.E.
23—Infirmary, Linen Stores at, Fulham, S.W.	Salop County Council	A. S. Snell, F.R.I.B.A., 9, Bentinck-street, Manchester-sq., W.
23—Houses (101), Part-street, Blaina	Hants Terr. Force Assoc.	H. J. C. Shepard, Clerk, Council Offices, Blaina.
23—Municipal Abattoir, Enlargement of, Antwerp	Urban District Council	The Burgomaster, Hotel de Ville, Antwerp.
24—Cottage, Holding No. 16, Albrighton	West Riding Education Com.	W. Pulford, County Land Agent, County Bldgs., Shrewsbury.
24—Barracks, Alterations to, Medina-road, East Cowes	Education Committee	R. H. P. Bevis, A.R.I.B.A., Elm Grove Chmbrs., Southsea.
24—Cart and Store Shed, Kingston-road, Merton	Winchcomb R.D.C.	G. Jerram, Sur., Council Offices, Merton.
24—Weifs' and Strays' Home, Cleveland-road, Darlington	Managers	Potts and Son, Archts., 12, Eldon-square, Newcastle-on-Tyne.
24—School, Additions to, Copmanthorpe	East Sussex Hospital Committee	The Education Architect, County Hall, Wakefield.
24—Caretaker's Cottage, Renovating, Newbury	Urban District Council	The Borough Surveyor, Municipal Offices, Newbury.
24—Iron Shedding, North Quay, Antwerp	Winchcomb R.D.C.	The Secretariat, Hotel de Ville, Antwerp.
25—Six Workmen's Dwellings, Alderton, Glos.	Managers	T. Malvern, L.R.I.B.A., 21, Winchcomb-st., Cheltenham.
25—School, Alterations to, St. Martins, Oswestry	East Sussex Hospital Committee	Rev. Thomas Williams, Vicarage, St. Martins, Salop.
25—Tabernacle Baptist Chapel, Alterations to, Troedyrbiw	Urban District Council	T. E. Rees, M.S.A., Bank Chambers, Merthyr Tydfil.
25—Foundations for New Hospital, Hastings	Winchcomb R.D.C.	J. Saxon Snell & S. M. Spoor, Archts., 26, Great James-st., W.C.
25—Chapel at Cemetery, Dartford	Kent Education Committee	The Surveyor, Council Offices, Dartford.
25—Two Workmen's Dwellings, Snowhill, Glos.	Urban District Council	T. Malvern, L.R.I.B.A., 21, Winchcomb-st., Cheltenham.
27—Council School, Repairs to, Sandhurst	Education Committee	W. H. Robinson, M.S.A., Sessions House, Maidstone.
27—School, Lower-road, Belvedere	Hemel Hempstead R.D.C.	The Surveyor, Council Offices, Eritb.
27—School, Alterations to, Argyle-street, Ipswich	Urban District Council	E. T. Johns, Archt., 8, Lower Brook street, Ipswich.
27—Cottages (14), Waterside, King's Langley	W. Fovargue, The Causeway, March.	T. H. Lighbody, M.S.A., 20, Marlowes, Hemel Hempstead.
27—Workmen's Dwellings (16), Gall-road, March		

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THE BUILDING NEWS

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Effingham House,

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Strand, W.C.

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 Edinburgh Provincial Training College for Teachers, Cannongate, Edinburgh. Views of Main Front, Quadrangle Entrance, South Side of Quadrangle, and Interior of Library. Principal plans. Mr. A. K. Robertson, Licentiate R.I.B.A., Architect (Messrs. Robertson and Swan).
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SESSIONAL TESTIMONIES OF STUDY AT THE ARCHITECTURAL ASSOCIATION.

In the large studio at Tufton-street, Westminster, where the prize-giving took place last Friday, a big display was made of the drawings gathered together in Paris for the recent Exhibition of British Architecture, in illustration of students' work in this country. In our issue for July 3 we gave a brief description of these, and, therefore, need say no more in regard to them now. The current work in the architectural schools at Tufton-street filled the ground floor and two galleries of the Architectural Museum, and the Elementary Studies were on view in the top studio. With so vast an accumulation of sketches and designs it is impossible to do more than refer to a few of the more notable examples, and these are comprised by the testimonies of study shown by the more advanced pupils, and their drawings are, for the greater part, signed by Mr. Ernest Newton, A.R.A., the examiner.

The subjects vary, of course; but, generally they include a small Municipal Building or Council Offices, a Town Church Tower in the style of Sir Christopher Wren, a Town House, and a Concert Hall. We may refer to these essays of design in the order in which they are exhibited, and it is not our purpose to adjudicate upon their various merits. Indeed, without a more complete representation of the several proposals it is not possible to do more than make a few notes upon the precise drawings selected for this typical assemblage. Commencing on the first gallery, we begin with Mr. B. George, whose municipal offices block, carried out in the Doric order, has a good and quiet treatment without undue effort; but it might have improved the façade had the pilasters at the extremities of the colonnade been made much wider, so as to have enclosed the composition better. The Ball-room is an isolated building something like the familiar form of orangery, with big fenestration and a touch of the Bros. Adam in its design. The same subject by Mr. J. A. C. Tayler, for a municipal building, is accompanied by the plan displaying an inner area for light. This student's ambitious detail of the reception-room fireplace is very weighty with its overmastering pediment and restless sculpture. A pair of full-length draped figures stand upon the chimney-piece as supporters to a mural painting as an overmantel. Mr. W. T. Ching shows a chimney-piece for the reception-room of the municipal building, which is less dis-

cordant; but we prefer his recessed sarcophagus monument design, set in a recess behind a colonnaded front of rather nice proportions.

The quiet and discreet-looking Town-House front sent in by Mr. H. F. Gessling is refined and neatly drawn out on historical lines. The municipal offices by the same hand deserves similar approbation; but, perhaps, it might be said that the elementary simplicity of the side wings insufficiently supports the pedimented centrepiece, and suggests the idea that it is too ambitious for so small a block handled in a small way otherwise. The plan is sacrificed to corridors, areas, and stairs, and the lay-out is pinched in appearance. Mr. D. C. L. Derry delineates in a capable way, but his fancy for the brush is apt to carry him away, as in the study which gives a tower and side of a church, after the manner of Gibbs in elevation, set in a sort of Italian town, with the picturesque street in perspective having nothing in common with the special purpose of the drawing. Mr. Derry's stone-fronted Town House is self-contained, elevationally on old lines, with a tendency to recall Mr. Lutyens's work, and that, no doubt, is a good example to follow. The much wider scheme for a town residence, submitted by Mr. J. Burford, is difficult to compare, as it is bigger, though equally plain. The ground floor fenestration below the massive stone balcony seems needlessly tall, but as a whole the detail is consistent and constrained. The plan is commodious, and might be made to work out well by further study. The Pompeian decoration for a cortile is very sketchy, and the architectural proportions are not particularly happy. The raking cornice, following the idea of three pediments jostling one another, makes Mr. Burford's Municipal Offices façade look restless, and it is commonplace.

Messrs. T. C. Evans and P. Butt are content with a pair of drawings each. They are painstaking, and adepts at the art of stripping up like coffee-grounds effect of staining, so as to bring out the whites left in the plans; but adroit as all this may be, it does not mean fine architecture. As it happens, the measure shown belongs to the platitude of Coutts' Bank in the Strand. Mr. C. J. Brooks, or as he is designated on this occasion, "The incomparable Brooks," certainly ranks among the most attractive exhibitors in this gallery. His confreres, who esteem him so highly, have thus labelled his exhibit. His town house is unexceptional as an edition of Smith-square-like modern domestic work done in stock purple bricks or malms on Georgian lines, which are good enough, no doubt.

His plan is not very workmanlike in its lay-out. The Ionic Order is chosen by Mr. J. H. Jacob for his Municipal Offices, and his result is consistent and inoffensive. This design is more commendable than the author's Cinematograph Theatre, but too much valuable space is devoted to the central cortile and staircase. The council chamber is on the front overlooking a vast square. In all these students' competitions their enterprise is seldom, if ever, restricted by site limitations, and cost is scarcely a known quantity.

Several of the students had one restricted site, anyhow, this year, as a lighthouse on a sea-bound rock formed one of the subjects. Mr. R. A. Duncan's scheme for this is not simple enough, and florid detail and carvings are out of place midst the wildnesses of cliffs and the ragings of a storm, with sea surf scattered round. This contributor's public offices building is very different to the others, and has a long plan with dark passages in the wings. His elevation appears somewhat stilted in its proportions. Mr. W. S. Forbes is represented by a forceful set of highly-coloured sheets and a flamboyant ceiling, heavy in detail, though rich in effect, is to be noted as one of the striking exhibits on view. The first floor of Mr. Forbes' municipal buildings is not economic of administrative space, one of the first essentials in direct contrivance, and in the absence of the ground plan we do not know how the entrance is managed, because the elevation does not show the portals. The Council Offices, by Mr. J. M. B. Walsh, bear evidence of taste and study. The handling of the reception room fireplace is quite one of the best examples illustrated, and the drawings are spirited and feelingly expressed. The Town Offices, by Mr. A. B. Hamilton, on the ground floor gallery, look rather like an early 19th century hospital frontispiece, with a brick and stone well set out regulated pediment of the very late school. Mr. K. Takekoechi sends a good detail of a stone-pilastered Town House elevation, but his portico to the municipal buildings ranks as a capable study to ample scale, with big Ionic caps and fluted columns boldly drawn and strongly handled as a student's proposal. Mr. G. Shonstone also is to be commended for his work.

ANNUAL PRIZE DISTRIBUTION AT THE ARCHITECTURAL ASSOCIATION SCHOOL.

The annual prize-giving and exhibition of work by students in the Architectural Association School of Architecture took place on Friday afternoon at the headquarters, the Royal Architectural Museum,

Tufton-street, Westminster. There was a numerous attendance of ladies and many architects, and, as is customary, the students attended in full force and vociferously cheered the prize-winners. The eulogistic allusion by the chairman to the head-master was received with hearty applause. The chair was occupied by the President, Mr. Maurice E. Webb, who observed that before proceeding to the business of the day, he had a very sad announcement to make, that of the unexpected death of their friend Mr. F. Dare Clapham, a member of Council, which occurred that morning. Mr. Clapham was deeply interested in the welfare and progress of the Association, and was a great favourite with all; his death would be deeply regretted. Now he must pass on to a very pleasant duty, that of giving a brief account of the work of the schools during the past year. Hitherto it had been the custom to announce the award of prizes in July and to give them in October, a proceeding which was apt to damp the enthusiasm of everybody concerned. This year the Council of the Association had decided to announce the awards and give the tangible results on the same day. The past twelve months was the first year in which the headmaster, Mr. Robert Atkinson, had had complete control of the whole school. He thought all those who had seen the drawings now exhibited on the walls of the museum galleries would agree that he and the able staff of masters under him were to be congratulated on the results. The competition for all the important prizes and studentships in the Day School had been very closely contested, and in the case of several of them the result was in doubt up to the last subject set. Mr. Atkinson had the rare gift of being able to impart his knowledge to others. His enthusiasm for architecture was unbounded, and unsurpassed by any of his pupils, although it was understood that he occasionally had to refuse to keep an all-night vigil at the school while they were working out a design. Under Mr. Atkinson's guidance the school had had a most prosperous year in point of numbers and keenness for the work. They had had during the year sixty three men in the Day School and thirty in the Evening School. They could, if they would, advertise, like certain celebrated newspapers, the largest circulation (of budding architects) in England; but size was not the principal object. What the A.A. Council set most store by was the fact that they were the only architectural school in England which ran a full three-years' day-school course, managed entirely by architects for architects, without outside interference or control. The leaders of the profession entrusted their sons to the school's care for three years, and that, he thought, was sufficient proof that the school was—he would not say as good as it could be, but as good as there was. It was a somewhat curious fact that the council which controlled the destiny of the school was, and always had been, composed of the younger men of the profession, and in that fact lay, he believed, its success. In spite of this, he believed the members of the council were looked upon by the men in the school as old fogies, and the students were fully of opinion that they had forgotten more than the council ever knew! Perhaps that was so; but the council believed they occupied the half-way house between youth and age, and they tried to keep in touch with the new ideals and enthusiasms of youth without forgetting altogether to pay heed to the advice of the older, wiser, and perhaps sadder, members of the profession, who were always ready to give their help and assistance when asked for it on questions of policy for the school. In addition to the support of the profession they were now, through the energies of the registrar, in touch with all the public schools, who were sending them men every year. No longer was the career of an architect looked upon by the masters of public schools as the last refuge for a boy who had no other bent. He might mention in passing that the Public Schools Art Exhibition would be held in the autumn. Next year, if their numbers went on increasing as they appeared likely to do, they would be crowded out of that building. Already he

saw signs of the room devoted to council meetings becoming a Life room, with the model on the table where the minutes now lie; their meeting room was being turned into a studio, and the museum—that desperate refuge of the unwashed casts—was becoming a schoolroom. Extensions were, in fact, badly needed, and the money with which to make them was still more urgently wanted. At present every penny they had was spent on education, and all of it, amounting to some £6,000 a year, was subscribed, in one way or another, by the profession. The Evening School, an important branch of the work, would this year have to be reorganised, owing to the resignation of their master, Mr. James Buyers Scott, who had felt compelled by the cares of a growing practice and the addition of a wife to his responsibilities, to give up his work at Tufton-street, where he had been master in the Evening School for some five years. Mr. Robert Atkinson would take charge of that school, assisted by Mr. Robertson, an old Day School student, who had since worked for six years in Paris, gaining the highest honours open to an Englishman. The school would be in future organised on the basis of a designing club, and would be managed by a committee of its own members. A large studio would be placed at its disposal, where monthly designs would be worked out, occasional friends at the Wells-street atelier. He hoped that those of the present third year who were not going on to the Academy schools would avail themselves of the opportunity of continuing their work under Mr. Atkinson for a further period. Two pleasant tasks still remained to be accomplished. First, to congratulate Mr. Hepworth, an old A.A. Schoolman, in the name of the Association, on winning the English Prix de Rome with a very fine set of drawings; and, secondly, to introduce to them Mr. Herbert Baker. In welcoming Mr. Baker they were proud to see one of the outstanding personalities in our day's architectural world, an architect who, not satisfied with designing most of the modern houses in South Africa, the great memorial to Cecil Rhodes, and the new Public Buildings in Pretoria, had found a further outlet for his energies at Delhi.

Mr. Baker, who was most cordially received, then distributed the prizes, in accordance with the following list, the names being announced by Mr. H. M. Fletcher, the Hon. Sec. of the A.A.

LECTURES.

Greek and Roman Architecture: Book Prize, D. S. Glover.
Elementary Physics: Book Prize, D. S. Glover.
Elementary Construction: Book Prize, D. S. Glover.
Renaissance Architecture: Book Prize, S. F. Irwin.
Materials: Book Prize, M. D. N. Koch.
Intermediate and Advanced Construction: Book Prize, A. B. Hamilton.
Hygiene: Book Prize, James Burford.
Timber and Steel Construction: Book Prize, R. A. Duncan.

EVENING SCHOOL.

First Year.—Book Prize, H. Brundell.
Second Year.—"Andrew Oliver Prize," value £5 5s., E. A. D. Tanner.
Third Year.—Book Prize, R. Braine.
Fourth Year.—First Prize, Free pass to new School of Design for one year, J. B. M. Walsh.
Second Prize, value £3 3s., R. H. Mallock.

DAY SCHOOL.

First Year.—Studio Prize for best work done throughout the year: Value £2 10s., O. Campbell Jones.
History Examination: Book Prize, P. M. Hill.
Construction Examination: Book Prize, W. Steer.
Freehand Studies: Book Prize, A. G. Brau.
General Progress: Book Prize: A. S. Whitburn.
Second Year.—The Association Two-Year Course Certificate has been awarded to the following students:—C. J. Brandon, G. G. Clark, N. F. C. Day, F. F. Eschawzer, J. H. Hopewell, W. H. Lloyd, J. L. Murgatroyd, F. Reixa, H. Schein, G. E. Tubbs, F. R. M. Woodhouse, and R. C. Blampied.
End of Session Test: Value £4, G. Clark.
Freehand Studies: Book Prize, G. G. Clark.
Travelling Studentship: Value £20, E. P. M. Woodhouse, for best work done throughout the year.
Second Prize, Studentship Competition: Value £5, F. A. Eschawzer.
"Howard Colls." Travelling Studentship: Specially awarded in Second Year by the Council: Value £15 15s., W. L. von Berg.
Third Year.—Book Prizes for best work done in the Studio during the year: (1) W. T. Chung, (2) D. C. L. Derry, (3) H. F. Gossling.
The Jarvis Scholarship, value £40, A. R. Hamilton. Awarded for the best constructional sheet prepared in connection with a design subject.
The Day School Travelling Studentship, value £50,

A. Stanhope Forbes for best work done throughout the year.
Second Prize.—Studentship Competition: Value £10, divided between James Burford and J. H. Jacob.
A. A. Travelling Studentship, value 25 guineas. Specially awarded in third year, R. A. Duncan.

OTHER PRIZES.

A. A. Essay, prize value £10 10s., A. S. G. Butler.
Banister Fletcher Entrance Scholarship to Evening School: Tenable for two years, value 25 guineas, P. S. Hudson.
A. A. Entrance Scholarship to Day School, Tenable for one year, value 45 guineas, F. W. Matthew (Dover College).

THE HAPPY MEDIUM IN ARCHITECTURAL DESIGN.

Mr. Baker afterwards addressed the students, remarking that he was very pleased to observe that the basis of the education in the A.A. School, of which he was a humble student, under much less favourable surroundings, five-and-twenty years ago, was mainly Classical; but he thought there was a danger of going too far in the Classical direction. Success in architecture rather meant the happy medium between control and liberty. There must be some guiding star in the way of sentiment behind, and perhaps the most valuable one to Englishmen was that of the great inheritance they all had. No doubt what made English architecture supreme was that it was always gentlemanly, quiet, and reserved. What they all wanted was self-repression. They must all, of course, have their individual soul, but they must not plaster it on the outside of a building. Good architecture was evolved out of practical considerations, and it should have a sentiment to inspire; but it was not based on symbolism and sentiment. We had much, very much, to learn from other countries, and they should imbibe all they could from them, and they need not lose sight of the English characteristic of quiet restraint and simplicity. It was good that the light of the English gentleman should shine through all their architectural work.

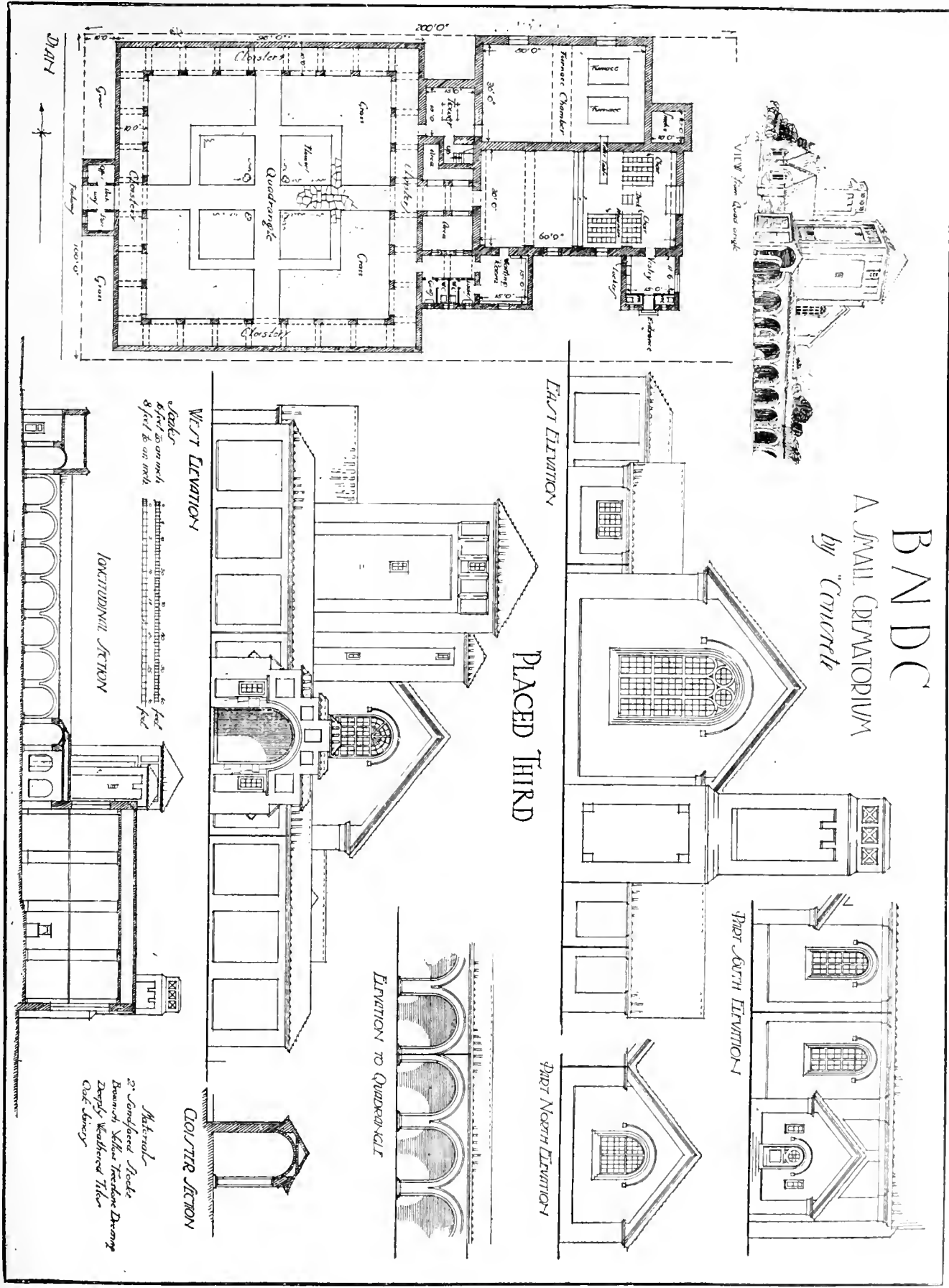
A vote of thanks to Mr. Baker was accorded on the motion of Mr. W. Curtis Green, immediate Past-President, seconded by Mr. H. Austen Hall, Vice-President.

"BUILDING NEWS" DESIGNING CLUB.

A SMALL CREMATORIUM.

By way of preface it may be well to give a reprint of the conditions published for the use of members of our Club. They were as follows:—

"A Small Crematorium on a Suburban Site for a County Town. The land is flat, and adjoins the public highway, and it is next to the parochial burial-ground. There is an available depth of 200ft., but this is not to be all covered by the buildings. There is a back access-way for service external to the site itself. The frontage is on the west, and measures 100ft. long, with no buildings on either side. The situation is of considerable elevation with reference to its urban surroundings, and there are some good trees round about. In the middle of the frontage, skirting the turnpike, going north and south, a central archway or gate-house, with a small inquiry office attached to it, is to lead to a cloistered quadrangle about 100ft. square, inclusive of cloister, forming the approach to the chapel, which is to have an open portecochère at the west end made to line with this entrance gateway. The cloisters for mural monuments to be 10ft. wide (out to out), and to extend all round the quad, leaving space for the gatehouse and chapel porch. The chapel is to be 30ft. wide inside and 60ft. long. On the south side provide a convenient waiting-room, with lavatory attached. Also a small vestry for priest and choir leading out of the chapel. On the north side of the chapel build a furnace chamber about 35ft. by 40ft., or of that area. A pair of furnaces which will occupy about 20ft. by 12ft., to stand clear of the walls, but about 5ft. away, only at one end of the furnace. Put a smoke-shaft 10ft. square, inside dimension at base, attached to one corner of this chamber. Above the portecochère, or, if preferred, at the west-end of the furnace chamber (and entered in either case from the cloister), carry up a tower about 15ft. square inside, and having iron galleries or stages



"BUILDING NEWS" DESIGNING CLUB.

BNDCC
A SMALL CREMATORIUM
by "Concrete"

recurring every 7ft., to be used as a columbarium, with niches in the walls for urns or caskets. The approach to these galleries is to be external to the tower by way of an attached stair turret. The total height of tower, including conical tiled roof, to be about 50ft. from the ground. The materials to be brick and stone and tiled roofs. The style is not to be Classic or Oriental; but otherwise the competitors are left free, provided the style is adapted to the materials specified

and appropriate to Christian sepulture. The plan and section may be drawn to the scale of 1/16ft. to the inch, elevations 8ft. to the inch. No technical details as to the furnace, etc., need be elaborated on the drawings; but the chapel and furnace chamber must be connected by means of a hatchway or small opening above the level of the roller-table arrangement used for passing the bodies through from the chapel to the furnace-chamber. A perspective view from the cloister

showing west-end of the chapel is desired. "Enfant" is placed first, "Paolo" second, and "Concrete" third. All three average on the whole very much in equality of merit, though we cannot fail to note their general shortcomings. Neither happens to be specially good, and in this way we have had some little difficulty in arriving at an exact conclusion. One fault common to all the plans sent in is the comparative disregard by their authors as to the suitable seating and

amenities of the chapel. Everybody knows what uncomfortable and barn-like places cemetery chapels usually are, so cold and uninteresting, with no inspiring charm and little æsthetic character about them, to say nothing in regard to any suitable provision for religious worship or its associations. The burning of the dead has nowadays to be provided for irrespective of creeds; but the majority of mourners in this country still keenly appreciate the consequence of religious observance—at any rate, at burials—and to a great number the environments of the service and its ecclesiastical associations count for much, while to some they still are accounted very highly. A few may possibly profess a contrary opinion; but none who happen to attend a funeral service at a crematorium would actually prefer an ugly and repellent-looking chapel even if they keep their views to themselves, out of deference to the religious predilections or practice of some dear relatives or friends, who also have to be present to participate in the last offices for their dead. Christian charity and natural reverence for the departed is incompatible with the provision of ungainly or barbaric places of sepulture. In any event, for the purposes of this competition, whether this be so or not, we provided as one of the leading conditions that the designs should be made relatively appropriate for this purpose. We scarcely can say that this rule, thus laid down, has received a precise compliance, though "Paolo" has suggested a sort of sanctuary, and "Tee-Square" gives a chancel. "Concrete" crowds his seats together, eastward, beyond the catafalques, and writes on his plan the word "choir." Perhaps the arrangement of a funeral is too casual and is treated much as a matter of local fashion, but ordinary usage and decorum suggest that the corpse should be near the officiating clerics, or, at any rate, in front of the assembled mourners. We did not expect too precise a decision as to the detail of a crematorium; but "Enfant" avoids any decision on superfluities by omitting all furniture in the chapel save the catafalque table. Its relation to the furnaces in the incinerarium is doubtfully near the first one, thus allowing for access to the other with too little space to turn in. This chapel anyhow is roomy, and if not too dark (which it certainly would seem to be), a working arrangement of suitable seats and desks might be made. The tower, rising above the porte-cochère, is over-pretentious in treatment, and would effectively block out the much-needed light from the west-end window of the chapel, whereas the furnace chimney prevents a central light at the east-end being constructed, over where the altar would be placed. The odd setting-out of the side windows is unhappy, and they have an uncomfortable appearance. Besides this, their sills are much too low down. We are not particularly pleased with the waiting-room either; and here the lavatory arrangement is far from nice, being too self-evident and very cramped. The vestry is not much better. The drive-in round the quad allows of a proper use of carriages and a hearse. This is most important. The columbarium wall-space is interfered with too much by the windows on the four faces of the tower, and they suggest too much the style of a belfry. The diagonal paths at the corners of the cloister cut up the look of the plan awkwardly, and leave inconsequential and odd-shaped grass plots or flower-beds scattered about. The smoke-tower is over-elaborated and suggests a columbarium. The gatehouse roof is not happily managed in relation to the cloister roofs, the projection being on the outside only; the difference of span likewise is too slight to warrant such a deviation as here arrests attention. This criticism applies also to the central front feature, which is over-assertive above the gateway arch. The office-doors, likewise, by being situated in the cloister, necessitate going a long way round or a short cut being made over the flower-border or grass plots. One "office" would be too isolated from the other, and perhaps the second one might have been utilised as a shed for the gardener. The stair-turret to the tower columbarium has an ungainly termination, done in masonry, which quarrels with the tiled spire, and the square windows below it lack grace and scale. The

roofing of the furnace-chamber, being in three spans, is complicated, and a flat would have sufficed, allowing room for side-windows to the chapel. Another window could easily have been arranged on the south side of the chapel by curtailing the width of the lobby to the waiting-room. The base of the tower is most inadequate on the west face, and the plan does not agree with the perspective, which shows a wider respond pier to the side openings, of a more substantial thickness than the plan provides for. We have thus picked the details of this scheme out for adverse comment, in the hope that the author may understand how to avoid such elementary faults in future. The other competitors, in the face of such criticism, very likely may doubt the wisdom of our choice in giving "Enfant" the premier place in this competition; but the fault, after all, is theirs, seeing that their particular proposals afford no alternative in the making of this selection, though, we admit, as already stated, we hesitated considerably before coming to a conclusion which, after all, is only relative, even if it ranks as final.

Our first impression favoured "Concrete." "Paolo" has set out his scheme on Lombardic lines in a way which might have been made more befitting to the objects in view had he evinced more care and not gone wrong on some essentials. The boundary wall of the quadrangle formed by the cloisters should have been brought forward to the west frontage line, and the gatehouse was intended to form part of this elevation, and not isolated in the manner shown by "Paolo's" lay-out. He has not overcome the difficulty of bringing in a funeral procession with coaches and a hearse to set down the coffin and mourners in the porte-cochère. The space which he has afforded is needlessly curtailed by the disposition of his grass-plots or flower-beds. He has not included the design of his gatehouse at all, and that ought to have been illustrated. The porch to the chapel is roomy, and, so far, good; but the arcade in front might well have been continued on the same proportions as the cloister arches, leaving the side openings larger, for carriages to pass under easily. This, however, is a detail and rather a matter of taste in design. Mere breadth of wall space over the arches to the west of this portal would, we think, have added dignity. The roofing of this porch is not correctly shown in the side elevation, as according to the view the eaves would extend along the side piers of the chapel walling, with a small hip. No narthex was needed in this chapel, and as drawn it would be dark and useless. The waiting-room looks rather small and the lavatory is over-large; but the w.c.'s are better isolated than in the first scheme. "Concrete" has the best arrangement of either in this particular. The catafalque is too near the western end of the chapel, but the relation of the table to the furnaces has been considered. Their shape, however, is too long and narrow. The sanctuary in this chapel is too crowded up, with its twin pulpits or ambones. The vestry ought to have had a lavatory provision, as ministers and the staff are on duty, who sometimes may have to attend for hours, and others may come from long distances, to say nothing of choir-men occasionally attending such services. "Paolo" provides stalls for a choir, and so ought to have realised their physical needs in other respects than vocal. The canted splay shown to the east wall are not an improvement, and a window would have brightened up the interior. The section represents the flat over the incinerating chamber as being level with the chapel eaves, so that no clerestory windows could be ranged along the north wall, as are shown on the south, and the columbarium tower also stands in the way west of the furnace-room. This tower is the best part of this design, though more light would be needed to illuminate the series of its gallery floors within. Two only of the openings on each face are pierced for light, and these have merely perforated stone slabs, judging from the front elevation. The chimney-shaft is too much like a factory, and though in the group, as figured by the perspective, it looks well enough, the undue prominence of fire-consumption suggested is needlessly objectionable, even if some may say this is only a question of sentiment. The west front of the chapel,

with the sculptured saint partly in the middle niche and standing on a corbel, is not a very attractive performance, and is poorly proportioned.

"Concrete" omits a porte-cochère and makes it impossible to bring the dead by coach further than the outside gateway. He clutters up the intervening space between the cloisters and the chapel with a pair of queer little areas where not even grass would grow, and rubbish fostered by damp would be liable to accumulate. The chapel is badly arranged with the chief part of its area left unoccupied, and some seats crowded together eastwards of where the body would stand, and, besides, with a bigger choir set out on one side of the sanctuary than on the other. The chapel is not well lighted. Only two side-windows are provided, while the big east window is entirely out of scale with that at the west end. Both are semicircular-headed, but they are otherwise absurdly different. The eastern one affects a tracery ideal and has only three lights, though it is nearly twice the size of the west window, which is divided into four lights and having only radiating divisional bars in the head and no tracery. The tower and the chimney group excellently in the sketch, and the cloisters look pretty and simple. In a general way the composition looks like a crematorium. It is when we get to details that we find how mistaken one may be. The incinerating chamber is not well contrived. It is so big, and the columbarium stairs are pitch dark and badly placed, with no light in the base of the tower either, save from the external doorways. Thus the story which we have had to tell gives little satisfaction, and had we viewed the matter in a superficial manner the order of our placing might have been reversed.

"Tee-Square" is very incomplete in his set of drawings, and we are unable to say that the design over which he has expended so much care is particularly commendable. This big, wide tower, with its double turrets and twin stairways, looks large enough for a town entry or gateway. The wooden dormers and diminutive apsidal chancel seem to belong rather to a village church or school chapel of the middle-class private and exclusive kind. The porte-cochère consists of only a small set-off from the cloister; but there is a good carriage approach in the quad. The gateway is not delineated. The plan is uniform and symmetrical. The incinerarium is the best of the series, and the catafalque is properly located. The waiting-room is capacious and the vestry is big enough for State occasions. In execution the cloisters would look dignified and monumental, though they do not belong to the chapel, either in scale or style. No section is given of the chapel, the dormers of which start above the flats of the adjacent buildings. There is no perspective view.

THE ROYAL INSTITUTE OF PUBLIC HEALTH.

The twenty-second annual congress of the Royal Institute of Public Health was held at Edinburgh on Thursday and Friday in last week, and was very numerous and influentially attended. The Lord Provost of the city presided. The inaugural address was delivered in the Usher Hall on Thursday night by the president of the congress, the Mayor of Linlithgow, who observed that while no practical person could fail to look to good laws and to improved economic conditions to do much to better the lives of the masses, the great hope of the future lay in the spread of sound and healthy knowledge in the appreciation by all men of those natural laws which claimed an unswerving obedience from all things living, and the disregard of which brought, sooner or later, the certain penalties of sickness and misery. He feared that we were not doing all that was possible to bring the public consciousness to a healthy view of these great problems. There were signs that public interest in the country was awakening to the importance of research work; but he doubted if the general public realised that ours was the only country in which the leading surgeon-physicians, and specialists do not as general rule control laboratories, and research work. The gold medal of the

institute for conspicuous service in the cause of preventive medicine was awarded to Dr. James Niven, Medical Officer of Health for Manchester, for his work in the direction of prevention of tuberculosis.

STATE ASSISTANCE IN HOUSING.

At Friday's sitting of the congress, held in the Old University, Sir Thomas Hunter, town clerk, Edinburgh, read a paper before the section dealing with urban, rural, and port sanitary administration on "Powers and Duties of Local Authorities with Regard to Housing." It was not enough, he said, that spasmodic efforts be made to find a remedy for overcrowding. Only by persevering, continuous, well-directed work would the stroughold be forced to give way. Its causes were not merely physical, but also moral and social, which could be reached only by moral, social, educational, and religious agencies. It was necessary, however, for effective action to utilise the forces of the community in the organised and permanent form as represented by the local authority acting under compulsory powers. The question not only affected the poor. It directly affected a very large number of the population, and indirectly and in a very real way vitally affected them all. By far the largest part of it concerned the working population, who were able and willing to pay their way, to be provided at a rent they could afford with the kind of accommodation which they and their families ought to have. Hitherto, for the most part, local authorities had been content to allow private enterprise or the laws of supply and demand to meet the housing requirements. The standard of housing had to be raised. The local authority must insist upon houses being fit for human habitation to get at the source. As a necessary complement of the work undertaken by local authorities in the crusade against consumption, they must direct their earnest attention to their responsibilities and powers in connection with the housing question. Sir Thomas Hunter proceeded to describe the numerous Acts of Parliament and their powers, and said whatever criticism might be made on these Acts the Legislature had put considerable power into the hands of local authorities, and thus placed upon them the responsibility for its use. The necessity of continual vigilance against overcrowding of persons per room required more attention than had hitherto been given to it. The Housing Acts did not provide prompt and effective measures for dealing with it, and the provisions of the public health and local Acts applicable to it were far from being sufficient or satisfactory. The larger part of the problem was to provide houses with suitable accommodation, at a rent within the means of the ordinary working man in regular employment—that was at a rent he could afford, which would be sufficient to yield a fair return upon the outlay, and not entail a burden upon the rates. The local authorities should direct their special attention to this. It might be found that there were a number of cases on the borderland where the local authority would have to incur cost in connection with the removal of existing slums, or reconstruction of existing buildings, for which there was no return, or only a partial return, and it might be expected that there would be a residuum or certain number of cases more or less, where it would be found impossible to get any adequate return from the occupants. That expenditure was truly for public health purposes, and as such the local authority should have a good claim against the Government for a grant towards it. In many cases the local authority might find it possible to arrange with voluntary associations, such as public utility associations, or the social union, to carry out building schemes.

Professor E. W. Hoop, Liverpool, submitted a paper dealing with housing operations and their results in that city.

Sir William S. Brown, in a paper which dealt with "Housing in Edinburgh," described what had been done in the city, particularly under the 1893, 1898, and 1900 improvement schemes. In round figures the schemes cost £177,000, and the total tax on

the community had not exceeded on the average more than one halfpenny in the £1. Within the past forty years the death-rate of the city had fallen from 27.8 to 14.3 per thousand.

Dr. Wilson, Medical Officer of Health, County of Lanark, dealt with the housing conditions in Lanarkshire.

DUST AND TUBERCULOSIS.

In the section of Industrial Hygiene, Professor J. M. Beattie, Liverpool, submitted a paper on "Dust Disease." He urged the great importance of strict regulations against uncontrolled spitting in workshops and elsewhere, and of insisting on regular medical examination of the workers. Unless this was done, he believed all elaborate precautions to minimise the amount of dust were only touching the fringe of the whole question. The paper was illustrated by lantern slides, showing the effect of dust on the lungs.

LEAD POISONING AND ITS TREATMENT.

A discussion on "Electrolytic Treatment of Lead Poisoning" was initiated with a series of experiments carried through by Mr. T. M. Clague, Newcastle. Dr. William H. P. Oxley, in the course of the discussion, gave the results of some experiments he had conducted, and said he had not been able to confirm the results of Sir Thomas Oliver, that any lead was extracted from the body as the result of the treatment. Sir Thomas Oliver said that Dr. Oxley's experience of the treatment differed from the results they had obtained at Newcastle. Their experience was one that was extremely favourable to the treatment, and he was glad that Dr. Oxley was still continuing the treatment, because he thought this was a subject upon which they should have a perfectly open mind.

NEW SCHOOL-BUILDING REGULATIONS.

After an interval of seven years, revised regulations relating to the planning and fitting-up of new elementary school buildings have just been issued by the Board of Education as a White Paper. In a prefatory note, Sir A. L. Selby-Bigge, Permanent Secretary to the Board, remarks that the regulations now laid down are partly a statement of principles of school planning upon which the Board proceed in criticising the plans submitted to them, and partly a statement of what the Board believe to be the best current practice. The main object is to facilitate co-operation between the Board of Education and the Local Government Board on the one hand and local education authorities and school architects on the other in securing the greatest amount of comfort, convenience, and suitability which a reasonable expenditure can be made to yield. The combination of efficiency and economy is the perpetual problem of the school architect. The problem for the Board of Education, it is pointed out, is in some respects even more difficult than for the architect, or the member of the local authority who is responsible to the ratepayer. In considering educational advantages they do not ignore the effect of beauty of design, or material or decoration on the minds of the children or of their parents. On the other hand, the Board have to take account of the present state of public opinion, and while endeavouring to influence public opinion in the direction which they believe to be beneficial to the nation, they cannot ignore the risk of provoking reaction. In this, as in other departments of administration, some degree of compromise is inevitable.

RECENT MODIFICATIONS.

The present regulations—which are to come into force on September 1 next—are the outcome of discussions which have taken place during the last six years in numerous cases between the Board's officers and the officers and architects of local education authorities and governing bodies. Theory and practice are constantly developing with a tendency towards restriction and uniformity in some directions, and towards variety and relaxation in others. The principal modifications in the present issue relate to design as affected by ventilation, to disposition of buildings on

the site, to size and organisation of departments, and to the extent and character of facilities for physical exercises, play, and organised games, whether for older or younger children.

In school planning, it is pointed out, certain principles are tolerably well settled; but the modes in which even the most firmly-established may be applied, and the standards by which they are tested in concrete cases, are subject to change.

SELECTING THE SITE.

The point first insisted on is that the site for a new school should be carefully chosen. If possible, it should be in an open situation, and have no undesirable surroundings. It should not be exposed to noise or dust from roads, streets, tramlines, railways, or works. It should be such that the building can either be set well back or have its classrooms on a side away from the street or road, so that there may be no difficulty in keeping their windows open, and it should allow of classes being taken in the playground. In towns the site should, where possible, be within reach of any public park or central playground in which there are opportunities for open-air education and organised games.

The site should, if possible, be sufficiently large, open, and level to allow all the rooms to be on the ground floor. It is in any case desirable that the building should be on not more than two floors. A school on three floors is open to many objections, and should be necessary only in special circumstances, as, for example, where land is very costly, or where it is otherwise impossible to get adequate area for playgrounds.

The site must include space for a playground. Where the site is expensive, the provision of a playground on the roof of the school buildings has been found, in some cases, to be a satisfactory device. In order to provide space for a playground, the minimum area required for the site should be reckoned, in the absence of exceptional circumstances, at a rate of a quarter of an acre for every 200 children, irrespective of any space required for a teacher's or caretaker's house, for special subjects centres, or for instruction in gardening. If the school is of more than one story, or if a roof playground is provided, the area can be proportionately reduced.

IMPORTANCE OF ECONOMY.

In the style and general treatment of the building, every care should be taken to secure economy. The Board regard this as a matter of great importance. All proposals for new schools will be carefully examined, and the Board will ask for the omission of any features that appear extravagant, and may require a modification of the whole scheme should the proposed expenditure appear unreasonably high. The possibility that the school may require enlargement in the future should be borne in mind, and in cases where an early extension is likely to be required, the future additions should form part of the original scheme, and be included in the plans submitted to the Board.

The Board will consider a proposal for the installation of shower baths or spray baths of a simple and effective kind in connection with a school where difficulty arises in providing facilities for cleansing children otherwise. Such baths should provide for the bathing of twelve to twenty children at one time, and should have simple dressing boxes or partitioned spaces, and a drying chamber and storage for towels.

It will be apparent that although stress is laid on the necessity for economy, the hostility of ratepayers to the Board's requisitions is likely to be intensified rather than abated by the new regulations, as they suggest various augmentations in costumes of sites, buildings, and their equipment.

The foundation-stone of the new Catholic church of St. Joseph, Longsight, Manchester, was laid on Saturday by Alder S. S. S. The church will cost £28,000.

The death is announced of Mr. John Unthank Braithwaite, who was for upwards of forty years an architect in the employ of the North Eastern Railway Co.

THE LONDON COUNTY COUNCIL.

At Tuesday's meeting of the London County Council the Highways Committee reported that, in accordance with the Council's resolution that the traffic congestion caused by dead-ends, other roadway obstructions, and street markets should be removed as soon as possible, they had considered the whole subject and had consulted M. A. Mariage, Directeur-Général des Omnibus de Paris. The Committee hope to submit a prepared scheme in time for Parliamentary action next year, but cannot submit their report until after the summer recess. For the supply of 10,000 steel tires for trams, the Committee reported that the lowest tender for British-made tires, £10,600, was nearly £1,800 higher than a Belgian tender, and considerably higher than three other foreign tenders. The Committee recommended the acceptance of a London tender, that of Messrs. John Batt and Co., who will supply tires made in Germany.

The Improvements Committee recommended approval of elevations, to be executed in Portland stone, of buildings to be erected on sites in Kingsway by Messrs. King and Arnell, Ltd., and also of elevations for buildings proposed to be erected by the Crown Agents for the Colonies on a site at the corner of Millbank and Wood-street. The elevation continues the treatment proposed in the elevations of buildings to be erected for the Crown Agents on an adjoining site. The Improvements Committee further reported that in connection with the widening of High-street, Wandsworth, and East Hill, proceedings were taken by the trustees of the East Hill Baptist Chapel for an injunction to restrain the Council from proceeding upon a notice to treat served upon the trustees for the acquisition by the Council of a portion of the forecourt, wall, gates, and railings of the chapel. Upon a motion in the action coming before Mr. Justice Joyce, he held that, as substantial alterations would have to be made to the main building to render it suitable for use after the forecourt had been added to the roadway, the taking of the land in front of the premises would be an interference with the main structure of the building, within the meaning of the proviso to section 18 of the London County Council (Tramways and Improvements) Act, 1913, and he therefore granted an injunction restraining the Council from proceeding under the notice to treat. The power to acquire parts only of property required for improvements is, the Committee reported, a most valuable one to the Council, particularly as the greater portion of the improvements now undertaken by the Council are effected by means of the acquisition of parts only of the premises affected, thus saving considerable expense. It would therefore be appreciated that the decision of Mr. Justice Joyce has a most important bearing on the Council's work, and the Committee obtained the opinion of the two counsel engaged in the case as to the prospect of a successful result of an appeal. They expressed the opinion that the question is a very narrow one, and wholly one of construction, and pointed out that on such a question it is obvious, as the learned judge himself said, that there may well be a difference of opinion, but they think that an appeal would have a fair chance of success, and having regard to the far-reaching effect of the decision, and the importance of the matter to the Council in many other cases, they say that an appeal is, in their opinion, desirable. The Committee therefore recommended the Council to appeal against the decision of Mr. Justice Joyce in these proceedings.

It was recommended by the Education Committee that Professor Selwyn Image be appointed to give a course of fifteen lectures on the "History of Art" during the session 1914-15, at the L.C.C. Central School of Arts and Crafts at a fee of £75.

Mr. W. J. West resumed the debate upon the recommendation of the Local Government Committee that the tender of Messrs. W. E. Blake and Co., Ltd., of Fulham, amounting to £98,980, for the erection, within a period of twenty-one months, of the new Sessions House, Newington-causeway, be accepted. Mr. George Dew had moved at

the previous meeting that the recommendation be referred back to the committee, with instructions to arrange for the invitation of fresh tenders for the erection of the building from firms who had not locked out their workmen, but Mr. Ernest Gray moved an amendment to this to the effect that the tender of Messrs. Blake and Co. be accepted, provided that the committee were satisfied that that firm were fully prepared to comply with the requirements of the council in respect of rates of pay and conditions of labour. This was carried, and Mr. W. C. Johnson then moved, as a further amendment, that arrangements be made for the execution of the work by the direct employment of labour. This was seconded by Mr. J. D. Gilbert. In the course of discussion Mr. I. Salmon deprecated any action which could be construed into the taking of sides in the dispute in the building trade, and Mr. R. G. Easton protested against the proposal as an attempt to revive the Works Department, which he described as "a sink of iniquity." The amendment was defeated, on a division, by 67 votes to 43. Mr. R. C. Phillimore moved the addition of words providing that the firm should give the committee an assurance that they were not engaged in such a dispute with their employees as would in any way delay the normal starting of the work. This was seconded by Mr. D. Blackley, but lost, and Mr. Gray's amendment was then adopted as the substantive motion.

The chairman of the Highways Committee stated, in reply to a question, that in 1913 the motor-omnibuses of the London General Omnibus Company covered 120,000,000 miles in or around London. A tax of three-eighths of a penny per omnibus mile on that mileage would produce £187,500.

Mr. G. H. Hume, chairman of the Highways Committee of the London County Council, states that it is the intention of the council, after the autumn recess, to promote, at the cost of £1,000,000, a scheme for linking up, extending, and consolidating the system of London tramways. The proposals include extensions of the tramways in Gray's Inn-road and Holborn; Hammersmith to Shepherd's Bush; Euston-road to Hampstead-road; a new track in Marylebone-road; a link in Anhurst Park-road; a new line from Tottenham-court-road, and an extension from Whitechapel to Aldgate.

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS OF GREAT BRITAIN AND IRELAND.

The half-yearly general meeting of this Federation will be held at the South Wales Institute of Engineers, Park-place, Cardiff, on Wednesday, July 29, 1914, at 10.30 in the forenoon, to consider the following business:

1. Notice calling the Meeting.
2. Minutes of the last Annual Meeting, held Jan. 24, 1914, and business arising, if any.
3. Welcome to representatives from South African Federation, from the International Federation of Building and Public Works Contractors, and from kindred Associations.
4. Report, in accordance with decision of a former Meeting, a short interim Report will be submitted to the Meeting, and published in the N.F. Record.
5. Consider recommendations from yesterday's Council on the following matters:—
 - (a) The question of a Lock-out in support of London.
 - (b) The Revenue Bill.
 - (c) Housing Schemes. Motion by the Yorkshire Federation.

"That this Federation is strongly of opinion that in all cases in which sanctions are given by Government Departments to Local Authorities for the raising of loans for construction of houses and other public works, it should be made a condition of the sanction that the works should be carried out by private contractors after open competition."

- (d) The National Insurance Act, Parts I and II:—
 1. Motion by the Yorkshire Federation:—

"That in the opinion of this Federation, the cost of accident, health, and unemployment benefits should be borne equitably among taxpayers in general, and industries be relieved from the heavy and growing charges in respect of benefits to workmen."
 2. Motion by the Midland Centre:—

"This Federation reiterates the protests which it made on the introduction of the National Insurance Act, 1911, against the principle of payment by industries, instead of placing the burden upon incomes. Two years' experience of the working of the Act have proved that it is a serious handicap to competitive trade, and this Federation appeals to the Government to amend the Act that all expenses of National

Health, Unemployment, and Workmen's Compensation Insurance shall be paid for out of income-tax money instead of as at present by certain selected trades."

(e) Building By-laws. Suggestion from Yorkshire Federation.

(f) Forfeiture of Goods by Freeholder. Motion by the South Wales Federation:—

"That it is desirable that steps be taken to amend the Law that if a freeholder or assignee, by way of forfeiture, takes over and uses goods or works delivered or executed upon the freehold by direction of the leaseholder, or his agent, in accordance with the requirements of the lease, he shall be required to pay for them on the principle that he who takes the benefit should bear the cost."

6. Next meeting.

7. Such other business as may be presented by the President.

SUMMER MEETINGS OF THE FEDERATION IN CARDIFF.

Tuesday, July 28, 2.30 p.m.—Executive Council Meeting at the South Wales Institute of Engineers, Park-place, Cardiff.

7 p.m.—Dinner to the Members of the Executive Council by the Members of the Cardiff M.B.A. Invitations will be issued from the Office of the Cardiff Association to those who signify their intention of attending the Council Meeting. Kindly forward names as early as possible.

Wednesday, July 29, 10.30 a.m.—General Meeting at the South Wales Institute of Engineers, Park-place, Cardiff.

Afternoon.—Visit to Cardiff Castle.

7.30 p.m.—Civic Reception by the Lord Mayor at the City Hall.

Thursday, July 30, 9.35 a.m.—Trip by steamer to Ilfracombe, returning from Ilfracombe at 6 p.m.

THE BRITISH PORTLAND CEMENT MANUFACTURERS, LTD.

The report of the directors of the British Portland Cement Manufacturers, Ltd., to be submitted to the third ordinary general meeting of the company, to be held at Winchester House, Old Broad-street, London, E.C., on Monday, July 27, 1914, at 12 o'clock noon, together with the audited accounts for the year ended April 30, 1914, states that the balance brought forward from last year was £32,568 9s. 2d. The revenue for the year amounted to £330,428 8s. 11d., against which has been charged: Directors' and trustees' fees, £9,828 4s. 6d.; debenture stock interest, £49,646 12s. 4d.; debenture stock redemption account, £10,498 15s. 1d.; bargo and rolling stock depreciation account, £2,000; depreciation of office furniture, £389 5s. 6d.; debenture stock issue expenses, £465 5s.; Income-tax, £4,600; sack reserve, £2,500; making £79,928 2s. 5d.; leaving a profit of £250,500 6s. 6d. An interim dividend on the preference shares to October 31, 1913, paid January 31, 1914, absorbed £34,969 16s. The directors propose to make the following allocations: Preliminary expenses account, £11,755 11s. 9d.; general depreciation reserve account, £40,000; leaving the sum of £196,343 7s. 11d. The directors recommend the payment of a final dividend on the preference shares to April 30, 1914, amounting to £35,354 5s. 8d., making, with the interim dividend of £34,969 16s. already paid, a total preference dividend for the year of £70,324 1s. 8d.; the payment of a dividend on the ordinary shares at the rate of 7 per cent. per annum for the year ended April 30, 1914, amounting to £96,666 11s. 1d., leaving to be carried forward £64,322 11s. 2d. The directors report an improvement in the trading results for the period covered by the accounts; they recommend that the balance of the preliminary expenses, amounting to £11,755 11s. 9d., be written off as against £6,000 written off this item last year; that £40,000 be added to the general depreciation reserve account, making it £80,000, and that the dividend on the ordinary shares should be at the same rate as for the previous year—namely 7 per cent. per annum—leaving £64,322 11s. 2d. to be carried forward, an addition of £31,754 2s. Trading conditions, upon the whole, have been satisfactory, but sales have been adversely affected in certain markets by labour disputes in various parts of the United Kingdom, while towards the end of the year the demand for cement somewhat lessened owing to the general decline of trade at home and abroad. The company's new works in the North of Ireland are making substantial progress, and it is hoped that they will be completed before the end of the current year. The construction of the works in South Africa, in which the company is largely interested, is well advanced, and

manufacturing operations are expected to commence within the next few weeks. When Lord St. Davids, on the formation of the company, accepted the position of chairman, it was recognised that he could only do so for a limited period, owing to the many other demands upon his time. This period has been exceeded, and the directors, with much regret, have now to report that he resigned the chairmanship of the company, and his seat on the board, at the end of the financial year. Captain the Hon. F. C. Stanley, D.S.O., has been unanimously elected the chairman of the company.

SHOPS AND SHOP-FITTINGS.

The present-day shopkeeper needs, above all things, if he is to meet competition, to improve his shop-front and interior, as it arrests notice right on his doorstep, just where he wants to attract his customer. He, and all architects and builders who second his endeavours, will do well, therefore, to get and study the 80-page royal 4to catalogue just issued by Messrs. Harris and Sheldon, Ltd., of Stafford-street, Birmingham, devoted solely and entirely to joinery works in connection with shop-fronts and interior fittings. It must have taken the compilers some years to collate the matter, gathered from all parts of the world, to illustrate the work efficiently, for it is a veritable textbook of shop-fittings.

It illustrates over 150 shops and interiors actually executed by Messrs. Harris and Sheldon, the work comprising jobs in places so far apart as London and Calcutta, or Johannesburg and Buenos Aires, whilst there are examples of work carried out for some of the most enterprising firms in this country. There is, indeed, scarcely a town of any size which has not benefited by the firm's exertions, the sphere of which is ever widening, as a visit to their works will demonstrate. There may be seen artistic inlaid counters and showcases being prepared for a Parisian firm, whilst, on the other hand, shop-fronts of specially hardened timber are being manufactured, to stand the heat of the West Indies.

Following up these examples of work actually executed by the firm in all parts of the world, we find examples of component parts of the modern shop, from fascias to stall-plates, giving over 300 examples of up-to-date fixtures and fittings (many unique in their way), the latest time and temper-saving devices, for which there is at the moment such a demand, being their patent "Selphast" sectional fixtures, made to store and yet display the most delicate garment, saving, as they do, fixture boxes and wrappers, and the useless labour wasted in straightening up after the customer has made his selection.

No branch of trade has been overlooked, from men's wear shops to jewellers', confectioners' to chemists'; suitable wall cases, fixtures, counters, all are illustrated so as to at once convey to the shopkeeper the realisation of that which is most suitable for his requirements, whilst, owing to the vogue at present in metal shop-fronts, these are specified, showing their component parts, and examples of the most artistic forms of enrichment.

It is manifest that there is an organisation behind this catalogue which is complete in all its details, generations of artisans having seconded the firm's efforts in the production of all that is best and up-to-date in shop-front construction, over thirty years' experience in the production of up-to-date methods of display, and the installation of the latest labour-saving machinery, having kept down the cost of production, even to the using up of by-products from sawdust upwards. There are hundreds of men solely employed in the production of shop-fronts and interiors; draughtsmen waiting to show intending customers how to make the best use of the space at their disposal, while of the quality of work consistent with price, the best idea will be gained by a visit to the works at Stafford-street, Birmingham, or the branches at 70, Wood-street, London; Springfield-court, Glasgow; 38, Thomas-street, Manchester; and 15, Wicklow-street, Dublin.

OBITUARY.

We deeply regret to record the death by a motor-car accident of Mr. F. Dare Clapham, F.R.I.B.A., of the firm of Clapham and Symons-Jeune, Norwich House, Southampton-street, Bloomsbury, and of the Avenue, Beckenham, at the early age of forty-one years. At the inquest held by the coroner for West Kent at Beckenham on Monday, Mr. Hedley Spencer Blake, a friend and neighbour of Mr. Clapham's, stated that on Thursday midnight he returned with the deceased from Charing Cross to Beckenham. On leaving the station they were crossing Southend-road when witness, glancing to the right, saw a car approach at a rapid pace on the driver's wrong side. The car appeared to be 20 or 30 yards away, and Mr. Clapham was a little in front of witness and apparently did not notice it. Witness said, "Look out," and jumped backwards. Mr. Clapham, who had less time to decide, seemed to make for the pavement facing him. When jumping backwards he was struck by the car. In cross-examination, witness suggested that deceased was carried or dragged for about 30 yards. Mr. Geoffrey Norman Foster, the Worcestershire amateur cricketer, and a financial advertising agent, stated that he was in the car with Miss Prest. He saw two gentlemen practically in the middle of the road, one of whom, in an attempt to get to the pavement, was caught by the near headlight. Witness did not think that the car was travelling fast. There was ample room for it to pass on either side of Mr. Blake and Mr. Clapham before they moved. Dr. Randall said deceased had a bad compound fracture of the right leg and a large scalp wound. Fred Torrence, the chauffeur, stated that had Mr. Clapham stood still the car would have passed him all right. The jury, in returning a verdict of "Accidental death," attached no blame to the chauffeur. Mr. Frederick Dare Clapham, who was unmarried, was the elder surviving son of the late Douglas Clapham, of Leabrook, Broxbourne, and after passing through Brentwood School, was trained for his profession at the Architectural Association and Royal Academy Schools, gaining the A.A. silver medal, and in 1901 a special prize in the R.I.B.A. Final. He was articled to Mr. E. J. May, F.R.I.B.A., and after a short period of independent practice, joined the late Mr. E. W. Mountford, F.R.I.B.A., in partnership, their work in collaboration including the Central Criminal Court at Newgate, which was completed under Mr. Clapham's supervision, and the extension of the municipal buildings at Sheffield. Among the works carried out by Mr. Clapham were the town hall and fire station at Lancaster, additions to the Battersea Polytechnic, including the Tate Library and the Tate Mausoleum at Kingston Vale Cemetery, Putney. Last year he assumed in partnership Mr. E. H. B. Symons-Jeune. Mr. Clapham joined the Architectural Association in 1891, and threw himself into its work with characteristic energy and application. Since 1906 he had been re-elected upon the Council, and in 1909-10 served as vice-president. He was a constant attendant at the meetings, read several papers, and often took part in the discussions. An accomplished amateur actor, he figured in all recent A.A. plays, and was the author of three of these amusing productions. He was also for a time the editor of the fitful publication, the "Purple Patch." He joined the Royal Institute of British Architects as an Associate in 1901, becoming a Fellow in December, 1909. The funeral service was held at St. George's parish church, Beckenham, on Tuesday, and was attended by Mr. Maurice E. Webb, president, Mr. Henry Tanner, past-president, Mr. P. W. Lovell, Mr. Symons-Jeune, and many other members of the Architectural Association, and by representatives of the Romany and Sidcup dramatic clubs, the Beckenham Arts and Crafts Society, and other bodies to which Mr. Clapham belonged. A large number of wreaths and floral tributes testified to the esteem and regard in which he was held, and to the regret felt at his untimely death. The interment took place later in the day in the family grave at Wormley, near Broxbourne.

The death has occurred, at the age of 65 years, of Mr. James Gillespie, senior partner in the firm of Gillespie and Scott, architects, of St. Andrew's, N.B. Among the buildings carried out by his firm are the Medical School and St. Leonard's School, St. Andrew's; the Cottage Hospital, Kirkcaldy; Montrrose House and Rankellor House, both at St. Andrew's. For many years he had been chairman of the St. Andrew's Conservative Club. He leaves a widow, four sons, and two daughters.

COMPETITIONS.

ALLESTREE FORD BRIDGE.—At the last meeting of the Belper Rural District Council, the surveyor reported that he had advertised for designs for the construction of a bridge over the Derwent at Allestree Ford, and had received 50 applications for the form of conditions, 15 designs, and 46 estimates. He suggested that these should be dealt with in the first place by the bridge committee. The estimates ranged from £450 for a 9ft. bridge to £1,292, and for an 18ft. bridge from £749 to £3,347. The question was referred to the bridge committee.

BRIGHTON.—The town council have eventually decided, by 25 votes to 13, to spend £25,000 on the erection of a concert hall for the municipal orchestra on the Aquarium site and to remodel the existing terrace, so as to provide accommodation for outdoor performances. The concert hall will accommodate 1,200 people, and the scientific portion of the Aquarium will be kept quite distinct from it. The questions of how to deal with the Aquarium site and the future of municipal orchestra have been deferred from time to time. Competitive designs are to be invited for the new scheme.

MIDDLETON.—The competition for the new town-hall at Middleton will probably be settled some time in August. Mr. G. Hastwell Grayson, M.A., F.R.I.B.A., president of the Liverpool Architectural Society, is the professional referee. One hundred and seven sets of plans have been received. So far, no steps have been taken as to the exhibit of the drawings.

The salary of Mr. G. W. Lacey, borough surveyor of Oswestry, has been increased by £50 per annum.

The Camborne Urban District Council have raised the salary of their surveyor from £120 to £150 a year.

Mr. R. S. Wilshire, of H.M. Office of Works, has been appointed assistant architect to the Essex County Council.

Mr. F. O. Starford, an inspector of the Local Government Board, recently held an inquiry at Lye, Worcestershire, into an application of the Lye and Wollescote Urban District Council for sanction to borrow £2,650 for the purpose of acquiring the Sudbridge Brook estate, and for carrying out various street improvements.

The foundation-stone of a new Roman Catholic Church has been laid at Gerrard's Cross, Bucks, by the Bishop of Northampton. The building will be Gothic in style, and carried out in red brick, with Bath stone facings. It will consist of nave and two aisles. The length will be 140ft., and the breadth 72ft. The architect is Mr. Percy A. Lamb, and Messrs. Y. J. Lovell and Sons are the builders.

The historic tower of Oswestry Parish Church is now in the hands of the builders. The roots of the ivy which enveloped it have caused it to crack ominously, and liberal repairs are necessary. The tower is one which was fired at and damaged by Cromwell, and in later years it has been associated with the escapades of Colonel Burnaby, of "Ride to Khiva" fame, who, as a boy at Oswestry Grammar School, climbed to the top of the tower by clinging to the ivy.

Lt.-Col. Henry Norland Rattan, who has resigned the city engineership of Winnipeg after a continuous service of nearly thirty years, is 66 years of age, and was a member of the first council of the Canadian Society of Civil Engineers in 1887, serving as president of the society in 1910. He will be retained by the city of Winnipeg in the capacity of consulting engineer, and will receive a pension, which, combined with his salary, will give him a yearly income of five thousand dollars. Mr. Rattan is a member of the council of the Institution of Civil Engineers of Great Britain.

PROFESSIONAL AND TRADE SOCIETIES.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION AT CANTERBURY.—The seventy-first annual conference of the British Archaeological Association, held at Canterbury in conjunction with that of the Kent Archaeological Society, was continued on Friday and Saturday. On Friday the Eastbridge Hospital, founded in the time of Henry I., was visited, under the guidance of the Rev. P. A. W. Clarke; the adjoining school, added by Archbishop Whitgift, is now an almshouse. The fine West Gate, built by Archbishop Simon of Sudbury, in the 14th century, was examined under the leadership of Mr. H. T. Mead, the city curator. The building, which was used from 1549 to 1829 as the city gaol, served for many years afterwards as a mortuary. In 1906 Mr. Bennett Goldney, M.P., the then mayor, restored the condemned cell and galleys, and established within the Gate a museum of arms and armoury and other objects. A visit to Canterbury Cathedral, under the guidance of the Rev. C. E. Woodruff and Colonel Hegan, Seneschal, was afterwards made. At the Cathedral library, Mr. Woodruff explained that, according to the catalogue, compiled by Prior Henry, of Eastry, now in the British Museum, there were in the library either late in the 13th or early in the 14th century, 1,831 volumes and 4,157 treatises. Of that number Dr. James had identified 182 as being still in existence, principally at Corpus Christi and Trinity Colleges, Cambridge. They had still considerably over five thousand early charters in the library, including thirty-three of Saxon date. In the evening the annual business meeting was held at St. Augustine's College. A paper on "The Roads of Kent" was afterwards read by General Sir Charles Warren. The highways of the county were, he showed, subordinate to three special local influences, the forests of the Weald and Bleau, the estuaries and mud-flats about the rivers and the islands near the coast, and the line of chalk cliff, the lip of crater, surrounding the Weald. This last was the great highway east and west through Kent. On Saturday morning the members visited Chartham Church, and subsequently drove to the village of Chilham, where they inspected the castle keep, which adjoins the Jacobean mansion built by Sir Dudley Digges in the 17th century. An inspection of Chilham Church, built in 1534, concluded the excursion.

THE EDINBURGH ARCHITECTURAL ASSOCIATION. The annual excursion of the Edinburgh Architectural Association was made on Saturday to Hamilton. The Palace and Cadzow Forest were first visited, by permission of the Duke of Hamilton and Brandon. Mr. Henry F. Kerr, A.R.I.B.A., acted as leader. The lands of Cadzow, with its castle, formed a Royal barony, when the early Scottish kings repaired there for hunting down to the time of King Robert Bruce. The barony passed about 1323 into the hands of the Hamiltons, who acquired the tower of Orchard about a century and a half later. The barony was then erected into a lordship, and the name was changed from Cadzow to Hamilton. The tower of Orchard was gradually enlarged, and was known as Hamilton Castle. During the troublous times of Mary Queen of Scots the castle was besieged three times, after which the family was exiled. On the restoration of the Hamiltons to their estates, the castle was rebuilt from 1588 to 1591, and a portion of it is incorporated in the present building. In 1703-1705 extensive alterations were made, the great central gallery was formed, and the quadrangle wings were re-constructed. There is no record of the designer, but its style is influenced by the designs of Sir William Bruce, of Kinross. In later years William Adam was called in to make further additions to the building, but his designs were not carried out. In 1822 and subsequent years the north front was constructed, along with a new suite of apartments, from designs by David Hamilton, of Glasgow. The rooms contain many art treasures in furniture, china, and glass, while

the pictures comprise examples by Rubens, Holbein, Kneller, Lawrence, Reynolds, Gainsborough, Raeburn, and other famous artists. The mausoleum was completed in 1852 from designs by David Bryce, Edinburgh, and cost about £130,000. The octagonal chapel is lighted by a dome 120ft. high. On returning from Cadzow the gardens and old mansion of Barnclith were visited, by permission of Mr. William Bishop. The terraced gardens, formed about 1700, on the steep banks of the Avon, are at present being repaired and improved. The customary votes of thanks were proposed by Mr. T. Forbes MacLennan, A.R.I.B.A., president.

FACULTY OF SURVEYORS OF SCOTLAND.—At a special general meeting of members of the East District Section of the Faculty, held at 117, George-street, Edinburgh, on the 16th inst.—Mr. Alan K. Smith, F.F.S., chairman of the district section, presiding—a resolution was unanimously passed approving of the action of the west district section in declining to recognise the mode of measurement for joiner work prepared by the Scottish National Building Trades Federation.

SHROPSHIRE SANITARY INSPECTORS ON HOUSING REFORMS.—A meeting of the Shropshire branch of the Sanitary Inspectors' Association was held at Wellington on Saturday, under the chairmanship of Mr. Beville Stanier, M.P., Mr. G. Riley (surveyor and sanitary inspector, Wellington), read a paper on housing. There was no reason why local authorities should not put an end to the worst features of the present system of making new slums and work out their areas on garden city lines. The great task set housing reformers in this country should be tackled fearlessly. In designing a model cottage for general adoption the primary factors were good grouping and proportion suitable to the site so as to secure the maximum of sun and air in the living rooms and bedrooms with every possible comfort. The roads as far as possible should be laid out so as to run towards the north and south, thus giving east and west frontages for sunshine. The width of a road should in no case be less than 36ft. In 1901 the Wellington Urban Council began a housing scheme and built sixteen houses, containing living room, parlour, scullery, and three bedrooms. The dwellings were let at a weekly rental of 5s., including rates, and up to the present they had been self-supporting. In the present year the council started to build twenty-two houses, containing living room, scullery, larder, and three bedrooms, at a cost of £4,200, including land, buildings, fences, and roads. He was not in favour of subsidising any housing schemes out of the rates. It was a national question. Owing to local authorities being in a position to borrow money for long periods at a low rate of interest, the question of building houses for the working classes was now practically out of the hands of the private builder. Mr. J. W. Cliff, chairman of Wellington sanitary committee, said that in Shropshire there were 26,329 persons (25 per cent. of the urban population) and 30,647 persons (23 per cent. of the rural population) who lived in cottages with only two, or less than two, bedrooms. In the rural districts in 141 cases and in the urban districts in 185 cases there were from nine to thirteen persons sleeping in one or two bedrooms. Mr. Beville Stanier, M.P., pointed out that the money promised by the Government for housing was only a drop in the ocean. The cost of a cottage was from £190 to £200, and the grant from the Government would produce only 15,000 houses. A return showed that up to December 31 only 6,355 houses had been sanctioned for building in the country, and there was a shortage of 37,000. The State would have to take up the question, although he regretted that by doing so they would penalise the private builder.

UNIVERSITY COLLEGE.—The Donaldson Silver Medal, awarded by the Royal Institute of British Architects in connection with the work of the University School of Architecture at University College, has this year been awarded to Mr. Henry Nettleton Fisher.

Building Intelligence.

WALTON, SURREY.—The Bishop of London, chairman of the Whiteley Trust, visited on Tuesday Whiteley Park, near Walton, Surrey, an estate of 200 acres, where he laid the foundation-stone of the memorial to the late Mr. William Whiteley, which is to be erected in the middle of the village of cottage homes to be constructed in accordance with his will, by which he bequeathed £1,000,000 for the housing of the aged and deserving poor. The laying out of the site was based on the design of Mr. Frank Atkinson, F.R.I.B.A., selected in competition, in which a group of over 200 cottages in the form of an octagon will be the central feature. The church to be built on the property has been planned by Mr. Walter Tapper, F.R.I.B.A., while Sir Aston Webb, R.A., is designing the hall. The monument to be erected to Mr. Whiteley will consist of a figure of "Industry." On its pedestal will be a bronze plaque portrait and the coat of arms of the founder of the trust. The sculptor is Sir George Frampton, R.A., and the architect Mr. Walter Cave, F.R.I.B.A.

Mr. Horace B. Douslin has been selected for the office of Director of Public Works, Southern Rhodesia.

A new church is to be built at Abram, near Wigan. Mr. F. R. Freeman, of Bolton, is the architect.

The salary of Mr. C. W. Salt, borough electrical engineer of Torquay, has been increased by £50 per annum, with a further increase of £50 per annum at Midsummer, 1915.

The foundation-stone of a school-hall, attached to Eden-street Wesleyan church, Kingston-on-Thames, has been formally laid. Mr. A. Dawkins is the architect, and Messrs. Limpus and Son, of Kingston, are the builders.

The Local Government Board are asked by Bournemouth Corporation to sanction the borrowing of an additional loan of £4,000 for removing falls of cliffs and driving adits in the face of the cliffs for drainage purposes.

The housing committee of the city corporation of Newcastle-on-Tyne have approved schemes for building 138 workmen's dwellings, at an estimated cost of £25,000. The houses are to be erected in St. Lawrence-square and Walker-road.

The North Toronto drainage system, recommended by Mr. R. C. Harris, Commissioner of Works, has been adopted by the city council of Toronto. The entire work is to cost \$4,144,256, which includes provision for surface and domestic sewage.

The Roman Catholic Bishop of Shrewsbury, Dr. Singleton, has opened St. Edmund's Orphanage and Certified Poor Law Schools, which have been erected in Heath-road, Bebbington. The buildings have been erected at a cost of £7,600 from plans by Mr. E. Bertram Kirby, of Cook-street, Liverpool. The orphanage will accommodate 120 boys.

At a sitting of Norwich Consistory Court on Saturday application was made by the rector and churchwardens of Hingham, Norfolk, for a faculty to place a bust of Abraham Lincoln in the parish church, the cost to be defrayed by citizens of the United States. It will be a copy of the well-known Volk bust. The application will be further considered at the next Court.

A memorial to the brave French soldiers and sailors who, as prisoners of war, died in this country when we were at war 100 years ago, will be unveiled by Lord Weardale at Norman's Cross, Hunts, on the Great North Road, on Tuesday next, and handed over to the Lord-Lieutenant of Huntingdon. The memorial has been designed by the Vicomte de la Chapelle.

The Wiltshire Archaeological Society is in treaty with H.M. Office of Works to preserve the well-known mediaeval tithe barn at Barton Farm, Bradford-on-Avon, which threatens to fall into ruin. Sir Charles Parry Hobhouse, on whose estate the barn stands, has no further use for it, and is not prepared to spend the considerable sum entailed in its preservation. The Office of Works, which has the administration of the Ancient Monuments Act, will take charge of the barn and its preservation if it is handed over in proper order. The Wiltshire Archaeological Society have accepted the offer of the Office of Works to report as to what work is required on the barn, and will issue an appeal for carrying out the repairs.

Currente Calamo.

Little fresh has transpired during the week with regard to the London building trades dispute. Last Saturday night, at a meeting of the United Operative Plumbers' Society held in the Club Union Buildings, Clerkenwell, a resolution was passed declaring that no satisfactory purpose was to be served by continuing the building dispute, and recommending the members of the society to accept the terms offered by the London Master Builders' Association. Nothing further is announced yet. There was a small but rowdy demonstration in Trafalgar-square on Sunday, at which the demonstrators came to loggerheads with a rival meeting of "Industrial Workers of the World"—whoever they may be, who claimed priority of organisation and purpose. A newagency reports that there was talk of a fresh ballot of the members of the still stubborn unions at a meeting of the London Building Industries Federation on Tuesday, but nothing came of it. Meanwhile the meetings of the branches of the National Federation of Building Trades' Employers throughout the provinces are practically unanimous in favour of a general lock out. At Bolton on Monday, only five members voted against the resolution, at York 90 per cent. voted in favour, and at Manchester the figures were 89 to 6 in favour. There can be little doubt therefore that the necessary two-thirds majority will be announced at the meeting of the Federation at Cardiff next Wednesday, particulars of which will be found on another page.

We are glad to learn that the Beaux Arts Committee, taking into consideration the fact that the First Atelier now has its full complement of students, and feeling that the success of the First Atelier will be greatly enhanced, and the objects of the committee still further promoted, by the affording of opportunities for emulation and competition on similar lines, have decided to take immediate steps for the opening of a second Atelier in London. The committee are in negotiation for premises, and hope shortly to make some more definite announcement regarding the details of the scheme. In the meantime, those who wish for further information regarding this development should communicate with Mr. Adrian Berrington at the First Atelier, B. Wells mews, Oxford street, W., or of the Honorary Secretary of the Beaux Arts Committee, at 28, Bedford-square, W.C.

The Lumsden case has ended in a dead lock. Anyhow the House of Lords has decided nothing, and the judgment of Mr. Justice Horridge still holds the field. It was well known to every one outside the House of Lords, that the three judges of the Court of Appeal had been divided, only confirming the Court below by a majority, and that the matter was one of wide public interest, affecting the very basis of modern taxation. Yet the presiding Lord Chancellor did not see to it that there was an odd number of Law Lords, and the case by chance was heard by four. Naturally "the animals" went in two by two—but one couple one way and the other the other, and so all this legal learning and good money are simply wasted in words. Only in April a bench of seven judges sat in the House of Lords to decide a point on Workmen's Compensation.

There are plenty of qualified Lords about doing nothing, and surely one more could have been secured to make up five? Lord Moulton's judgment hit the mark Socratically when he put it thus: "Question: What is the increment of the site value of land when the value of the site has not changed? Answer: It is the difference of opinion of two sets of Government valuers as to the value of the owner's total interest in the estate! Could the force of absurdity go further?" In the clutch of this "reductio ad absurdum" we leave the matter for the present.

We are sick of the law in the Lumsden case. The empty comfort for builders is that the House of Lords cannot decide whether it is law or not. The Court of Appeal said it was, by two to one. Mr. Lloyd George, who long ago said it was not, professed his eagerness to make it plain that it was not in his Revenue Amendment Bill last autumn, and then withdrew that measure. There was a clause in this year's Revenue Bill which we are told made it clear that the Government was agreed that builders' profits ought not to be subject to a second taxation, and one which nobody else has to pay. That Bill, too, is now withdrawn. So we have no option but to pay and look pleasant till the coming general election; when if every builder no matter what his politics are does not remember that this Government has passively allowed Mr. Lloyd George thus unfairly to harass the second industry in the realm in a fashion unsurpassed by the most unscrupulous of past financiers, he will deserve canonisation as the personification par excellence of self-sacrificing meekness. Yesterday Mr. Chamberlain was to ask the Prime Minister "whether his attention has been called to the termination of the appeal in the Lumsden case, the House of Lords being equally divided; whether he has considered the judgment delivered, and in particular the observations of Lord Justice Moulton; whether he is aware that legislation was promised on this subject by the Government on August 1 of last year; and whether, as the Revenue Bill is dropped, the Government will introduce and press through the House a one-clause Bill, giving the promised relief to those who are affected by this decision?" Next week, doubtless, we shall have to record Mr. Asquith's favourite answer in the usual three words!

The Ministry of Fine Arts has not yet commended itself to Parliament. For the present, it seems, we are to have a Parliamentary Committee of members of both Houses interested in art. Lord Bryce, Lord Henry Bentinck, Lord Crawford, Lord Curzon, Sir Alfred Mond, Mr. Stephen Gwynn, Sir Herbert Raphael, Mr. Philip Snowden, M. A. A. Allen, and Mr. Almeric Paget have agreed to join the Committee, of which Mr. C. Montague Barlow is secretary. There can be no doubt about the scope of action for such a body, for the overdue report of the Committee that has been considering the questions of State grants to public collections and the better organisation of our galleries and museums may appear any day, and all friends of art hope that there will be a strong party in Parliament seriously to consider the recommendations of the Committee. Apart from this, there are questions affecting art education, public monuments, town planning, and the preserva-

tion of fine architecture which have long needed a more organised expression of public opinion in both Houses of Parliament.

The case of "Kirby v. Chessum," which has cropped up several times in our columns, has now got as far as the Court of Appeal (*Times*, July 17, 1914), having been first heard in October, 1913, by Mr. Justice Avory and a common jury. Upon the appeal, where the true issues seem to have been at last understood, there appeared to be very little in it. The plaintiff, as reversioner of a house at East Ham, sued the defendants as builders for trespass in reference to the underpinning of a wall. The defendants brought in the Commissioners of Works as third parties, liable to indemnify them, as the work was being done in regard to a post-office. The jury found a verdict for £20, and the judge decided against defendants on their claim to be indemnified. The Court of Appeal has now refused to order a new trial, although they said that the only damages proved came to 18s. 6d. But the verdict was not so unreasonably as to require the case should be tried all over again. As to the point of indemnity, the Lords Justices allowed the appeal, and so the builders make good their claim against the Commissioners of Works, whose architect gave them the order. The case was obviously one which an expert arbitrator should have settled in a couple of hours, with only the parties before him.

Some legal points of principle were raised; but it does not seem as if they had much to do with the result. The judge who tried the case was possibly not so well acquainted with the ways of architects and contractors. The whole business appears to have been confused, and it was, after all, something of a comedy of litigation. The builder should have obtained the consent of the tenant to underpin his wall, and then there could have been no trespass. Instead of this it was said that notice was to be given to the reversioner. But, as the Lords Justices said, such a notice would have been quite useless, for giving notice that you are going to commit a trespass does not make it any the less a trespass when it is done! As to the damages, the plaintiff got a new and good wall instead of an unsound one, and the only claim the Court of Appeal could discover was for 18s. 6d., cost of cutting through the added concrete, if necessary. There were three sets of solicitors and a good many counsel engaged in the case, which was entirely unfit for trial by a common jury. But as the heavy costs incurred will now apparently fall upon the Commissioners of Works, it will doubtless all work out well in the end.

Mr. Herbert Samuel, President of the Local Government Board, has promised to give the inaugural address to the members of the Summer School of Town Planning on Monday evening, August 3. The course will be held in the School of Architecture, University College from August 3 to 10. Although Germany rivals Great Britain as a pioneer of town planning, a good many foreign architects are attending this English school, as our housing system is being taken as a model by many growing towns on the Continent, whose people find their flat system more costly than our single houses. A group of students from the American schools of architecture are also attending.

Besides the courses of lectures by the leading English town planners, special lectures are arranged by well-known American and German professors of the subject. This Summer School initiates the study of town planning at the University of London. A professorship of municipal engineering has recently been founded, and a professor of town planning is also about to be appointed by the Senate.

We are glad to note the common-sense remarks of Sir William Church, the chairman of the executive committee, at the annual meeting of the Imperial Cancer Research Fund on Tuesday, at Examination Hall, with regard to the alleged existence of "cancer houses" and "cancer areas." Three instances which had been adduced of the existence of cancer houses had been investigated on the spot, and by abstraction of the data in the statistical office of the Registrar-General. In all three the complete data sufficed to show that a local cause had not induced an increased cancer mortality. In the report for this year, probably the most interesting feature is the scientific expert inquiry whether or not there was any risk of infection or contagion through the occupation of houses or rooms where cases of cancer had occurred. The result was an emphatic negative to the existence of any such risk. The fear was entirely groundless, and it is hoped that the public will be reassured by the evidence produced, and that sensational journals will cease publication of the statements made by people evidently ignorant of the real nature of cancer, which alarm readers and do serious damage to property owners. We suggest to the latter that a very reasonable ground of action exists against those who make and those who give currency to these wild but seriously damaging statements.

Many of our readers probably are familiar with the trend of the controversy during the past twenty-five years with regard to the right material for bell-frames, and with the reasons which many architects still give for their preference of wood to a cast-iron frame mounted on steel girders. The more intelligently an architect adheres to his predilection for oak, the more ready he will be to consider arguments to the contrary, when set forth reasonably and as the fruits of experience, as they are in a little volume, entitled, "Bell Towers and Bell Hanging: an Appeal to Architects," by Sir Arthur Percival Heywood, Bart., M.A., just published by Messrs. Longmans, Green, and Co. at two shillings. Sir Arthur, who is the President of the Central Council of Bell-Ringers, and a member of many kindred associations, is aided by contributions by Mr. Edwin H. Lewis, M.A.; Mr. E. Alexander Young, A.R.I.B.A., and others. Mr. Young's paper will probably appeal most directly to his brethren—the more so because at the outset he recognises the real reasons why some of us sometimes have to sin against knowledge. There is much else in his paper which more of us ought to know, but we are sorry to say, seem not to. Some fifteen years ago, as some will remember, Lord Grimthorpe, and Mr. Thackeray Turner, and Sir Arthur Heywood exchanged views in characteristic fashion with regard to metal versus wood frames, which, with other more or less interesting matter, are given in the appendix.

The Public Library of the City of Boston, Mass., U.S.A., has issued a new edition of

its catalogue of books relating to Architecture, Construction, and Decoration, with an additional section on City Planning. The previous edition was published in 1894; but since then the collection of architectural books had increased so largely that the preparation of a new edition became imperative. The work has occupied five years, and the Boston Society of Architects and other friends contributed 500 dollars towards the cost, the section on City Planning being prepared by Mr. Frank A. Bourne. The price is one dollar, plus postage; the weight of the catalogue is 40oz. ready for post. The work is most creditable to all concerned, and the City of Boston is to be congratulated on its publication and its acquisition of so varied and extensive a collection of architectural literature. No English city has had the good fortune, or the enterprise, to acquire such a library, or to make its extent and value so usefully known. This second edition is a closely-printed octavo volume of 536 pages, with classified lists arranged under such headings as bibliography, dictionaries, history and theory, periodicals (in which the BUILDING NEWS figures from Vol. XV., 1868, to the present date), periods and styles, architecture of countries, illustrations of buildings (the largest section of all), architectural and technical details, decoration, handbooks, etc. An additional section of this edition relates to city planning. The work of cataloguing and indexing has been very thoroughly and accurately carried out. The Public Library Building at Boston, it will be remembered, was built between 1888 and 1895, from plans by Messrs. McKim, Meade, and White, of New York, at a cost of £473,000 sterling. Before it was completed its accommodation, originally provided for 750,000 volumes, was found to be inadequate.

The old Infirmary site at Manchester has been the cause of as many searchings of heart as the divisions of Reuben, and the climax, possibly, was reached yesterday week, when Mr. W. Phillips, an ex-councillor of the city, appeared before the Manchester stipendiary magistrate on a charge of having defaced a public building by writing on the walls of the Temporary Reference Library, on the old Infirmary site, the words "Our Disgrace." Evidence of the offence having been given, Mr. Phillips protested that, having served on the libraries committee for three years, he knew all the members were convinced it was a disgrace. He submitted that the offence was not necessarily defacing. The word "defacing" meant to destroy or injure the beauty of anything. It was absolutely impossible to say there was any beauty about the buildings on Piccadilly. "In the interests of the public and in the interest of the dignity of the city," said Mr. Phillips, "I have done this, because I feel that our city is being disgraced by a part of the old Infirmary site being used for this temporary library. We have little or no sentiment in our city, and I feel that this was the only opportunity I had. Without doing any damage to the building or to anyone, and without defacing the building in the true sense of the word—for I used whitewash instead of paint, in order that it might be washed off easily—I did it because I do feel a protest was called for. We are absolutely lost, it seems to me, to the sense of our true responsibility. The site was practically given to the city for a purpose well understood between the parties, and it does seem to me that a protest like this is called for. We have the money to

make this a beautiful site," he said. "We know exactly what ought to be done, and here we have it an absolute wilderness. I feel I am acting the part of someone who in years gone by wrote with a finger on the wall 'Mene, Mene, tekel, upbarsin'—'Weighed in the balance and found wanting.' I thought I was doing a little handwriting on the wall." The stipendiary magistrate was afraid Mr. Phillips had broken the law, and fined him 5s. and costs.

The town council of Pittenwee have adopted plans by Messrs. Haxton and Walker, of Leven, for the town-hall. The estimated outlay is £11,050.

The Bradford Education Committee are about to build a secondary school at Bolling Hall for 435 girls, at an estimated cost of £53 per scholar, exclusive of site and playing-field.

At Winnipeg, tenders are invited for the erection of the engineering building of the University of Manitoba. The estimated cost is 250,000dol. The plans were prepared by Mr. V. W. Horwood, 261, Fort-street, Winnipeg, Messrs. Brown and Vallance, Montreal and Winnipeg, are the consulting architects.

In the course of the excavations on the site of the old General Post Office in St. Martin's-le-Grand, some interesting discoveries of Roman fragments have been made. The relics unearthed include fragments of pottery (some with the potter's stamps), glassware, plastic figures, spokeshaives, coins, frescoes, writing-tablets, building materials, lamps, fibulae, and tile stamps.

No. 1, Abbey-road, St. John's Wood, for many years the residence of the late Mr. John W. McWhirter, R.A., has been acquired by the Lady Workers' Home, Ltd., as part of a scheme for providing women workers with small flats. Plans are before the London County Council for erecting a building on two sides of the gardens, to provide about 120 additional bedrooms, with central heating and bathrooms. It is also intended to build, subject also to the approval of the London County Council, 26 self-contained flats.

The Kensington Borough Council is recommended by its works committee to offer strong opposition to a proposal by the Highways Committee of the London County Council to obtain powers to link up the tramway system at Shepherd's Bush with that at Hammersmith Broadway by laying a new tramway through Holland-road, Kensington-road, over Addison-road Bridge, and along Hammersmith-road. The borough council of Paddington are also recommended to refuse consent to the L.C.C. proposal for linking up the tramways in Harrow-road.

The church of St. Peter in Eastgate-with-St. Margaret, Lincoln, has been restored and enlarged at a cost of about £4,000, and the Bishop of the diocese has dedicated the new south aisle and the chapel of St. Margaret. The chancel has been restored and extended westward to the first bay of the nave, and the choir-stalls have been moved westward correspondingly. A roof-screen of oak, with open tracery panels, and having a vaulted cope on both east and west sides, has been erected, and this is surmounted by a roof bearing the figures of the Saviour, the Virgin, and St. John.

Mr. T. H. Mawson's preliminary studies for the new city plan of Athens are now so far advanced that he has submitted them to the Queen of the Hellenes at Eastbourne. The plans incorporate many personal ideas which the King and Queen of the Hellenes have for years been desirous of seeing carried into effect. Considerable improvements are also being planned on the estate of their Majesties at Tatou, a well-wooded property among the hills a few miles from Athens. Work is also proceeding on the gardens surrounding the two Royal Palaces in the city to the designs of Mr. E. Prentice Mawson.

A working-class housing scheme, promoted by the Southgate Urban District Council, involving an outlay of £40,463, was inquired into by a Local Government Board Inspector at Palmers Green on Monday. Mr. C. G. Lawson, the surveyor to the council, explained that the scheme provided for 160 houses, comprising 17 to be let at 8s. a week inclusive, 84 at 7s., 14 at 7s. 6d., 31 at 5s. 6d., and 14 tenements (divided into 28 flats) at 4s. a week each. All the houses would be equipped with cupboards, baths, and every up-to-date sanitary and other convenience. The roads on the estate would be 40ft. wide, the distance between the buildings being 80ft. At present, out of 9,000 houses in the district, there were only 335 suitable for working-class occupation. There was no opposition to the scheme.

Correspondence.

ARCHITECTURAL TOUR IN SOUTH FRANCE.

To the Editor of the BUILDING NEWS.

SIR,—Will you kindly grant me space in your Correspondence columns in which to draw attention to the fact that the final arrangements for the above tour are now being made, and that those desirous of attending should send in their names as soon as possible?

The tour will start on August 31, and the following places will be visited:—Poitiers, Limoges, Perigueux, Cahors, Conques, Rodez, Rocamadour, Cordes, Carcassonne, Nîmes, Arles, Avignon, Orange, Le Puy, Isoire, and Clermont Ferrand.

In order to obviate any possible misunderstanding, I may say that the tour is open to all interested in the study of architecture, whether ladies or gentlemen. I shall be glad to send further particulars of the tour to any desiring them.—I am, etc.,

W. S. PURCHON, Lecturer in Architecture.
The University, Sheffield, July 19.

LICENTIATES AND THE R.I.B.A. CHARTER.

SIR,—The five Associates, whose letter you published last week, should remember that amongst those who have "toiled not," etc., are numbered over 600 (out of 850) Fellows, and are 100 Associates of the Institute. They have, nevertheless, obtained their distinctions.

On the merit of qualifying examinations, do those five Associates claim superiority from the Presidents of the Institute for the last 15 years? Or do they suggest these distinguished gentlemen, with a host of others which the R.I.B.A. have been pleased to freely admit from the "outside" ranks, are exceptions unlikely to be a product of the future?

Apart from the fact that the "Associate" degree is one obtainable without necessarily producing one building, or, indeed, being in practice at all; it is not for their class to claim higher consideration than architects in active conscientious practice—the greatest qualifying course of all.

Steps towards reform must be initially unselfish, based on sounder arguments than this and directed towards cohesion of spirit, as it is a question whether freedom of study has not in the past been as productive of good results as any prescribed course.

Certainly to those in the outside majority who are devoting their lives to the profession of architecture in the able pursuance of their own practices, the future should hold something more than a lower status from that proposed to be held by a class, members of which it is common for them to employ as assistants.

In their apt quotation, the Five Associates should "consider" those who have "toiled not," but who, nevertheless, have "arrayed" themselves in "glory."—We are, etc.,

NOT EVEN LICENTIATES.

The partnership hitherto subsisting between L. Nagington and A. E. Shennan, architects and surveyors, Dale-street, Liverpool, under the style of Nagington and Shennan, has been dissolved.

Mr. F. R. Gibbins, B.Sc., a son of the surveyor to the Northampton Borough Education Committee, has been appointed engineer and surveyor to the Cheadle and Gatley Urban District Council.

After much discussion the town council of Margate have decided by 14 votes to 9 to purchase the Hotel Metropole, inclusive of all fixtures and fittings, for £12,000 for adaptation to use as municipal offices.

Major J. Stewart, Inspector of the Local Government Board, held an inquiry at Brierley Hill on Friday into the application of the urban district council for sanction to borrow £6,600 for the purchase of Brierley estate. Of the area of thirty-eight acres, twelve acres will be utilised as a burial-ground, and a considerable portion of the remaining land may be used as sites for workmen's houses.

STATUES, MEMORIALS, &c.

THE KING EDWARD MEMORIALS.—A meeting of the Advisory Committee of the King Edward Memorial Fund was held at the Mansion House on Monday. Amongst those present were Earl Beauchamp, First Commissioner of Works; Mr. Cyril Jackson, representing the London County Council; Sir Homewood Crawford; and Mr. Leonard Stokes, ex-President of the Royal Institute of British Architects. The Right, Hon. Sir Vezey Strong, who presided, said that the Committee had purchased and paid for, at the expense of £70,000, the site of the Shadwell Fish Market on the banks of the Thames. The engineering and architectural plans and specifications to convert this property into a park for East London were well advanced; but the Committee found themselves in difficulty in facing the expenditure involved—about £40,000—in laying out the property, owing to the unexpected failure of one of the subscribers, who had been overtaken by misfortune, and thereby prevented from making a promised contribution of £25,000. Some of the wealthier friends of King Edward had given them generous additional contributions, and the London County Council were willing to commute for about £15,000 an annual rent-charge on the property of £710. The fund now amounted to £76,000; but they were still about £20,000 in arrear, and if during the next few weeks it was not forthcoming from private sources, a further public appeal would become absolutely necessary. The equestrian statue of the King to be erected in Waterloo-place was now in course of execution by Mr. Bertram Mackennoel, A.R.A. The committee, after approving the chairman's statement and action, adjourned.

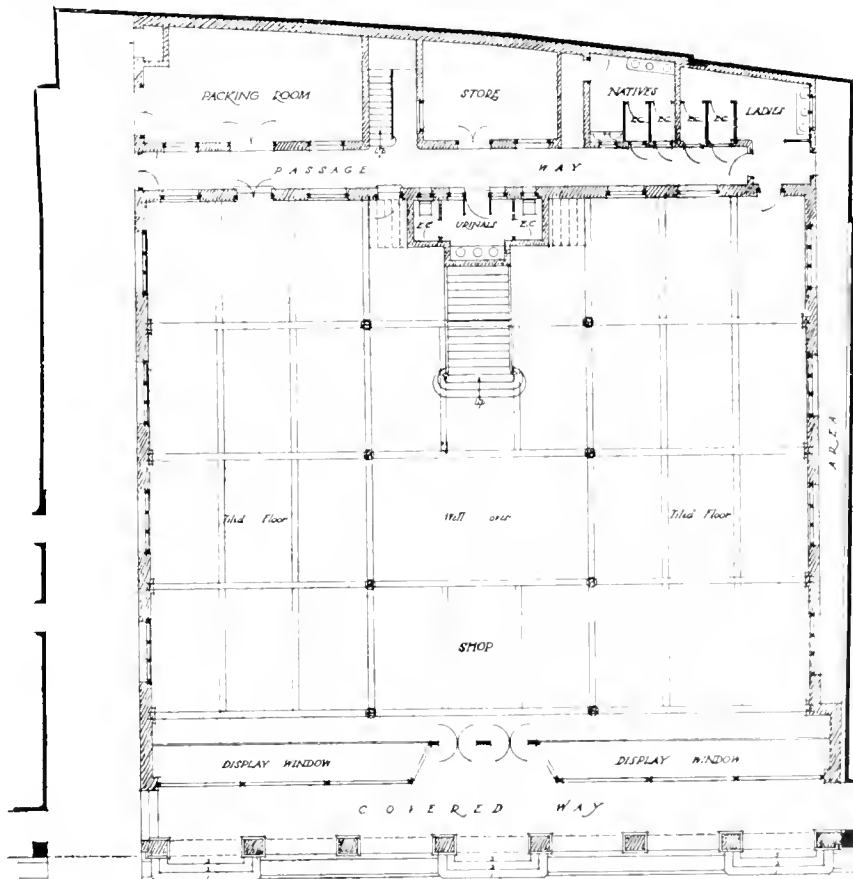
Our Illustrations.

NEW PARISH HALL AND VICARAGE OF ST. MARK'S, LEWISHAM.

These buildings are in course of erection on the west side of the Clarendon-road, and nearly opposite the Church of St. Mark. The hall will seat 300 persons, and is planned with a wide vestibule and cloakrooms next the entrance, and retiring-rooms on either side of the platform, with a passage behind to connect them. On either side of the hall at the platform end exit to lobbies are provided, which also form direct entrances to the retiring-rooms. The vicarage will contain three sitting-rooms and six bed- and dressing-rooms, with the usual offices. Both buildings are being faced with brown Sussex stock bricks; the upper part of the vicarage will be finished with pebble-dash, and Portland stone will be sparingly used for the dressings. The roofs will be covered with red hand-made tiles. Mr. E. J. Saunders, of Croydon, is the contractor for both buildings, and Messrs. Strode and Co., Ltd., are carrying out the hot-water heating for the hall. The architects are Messrs. F. H. Greenaway and J. E. Newberry, of Westminster.

NEW DRY GOODS STORE, PENANG.

These premises are now being erected in Bishop-street, Penang, for Messrs. Whiteaway, Laidlaw, and Co., Ltd., from the



GROUND FLOOR PLAN

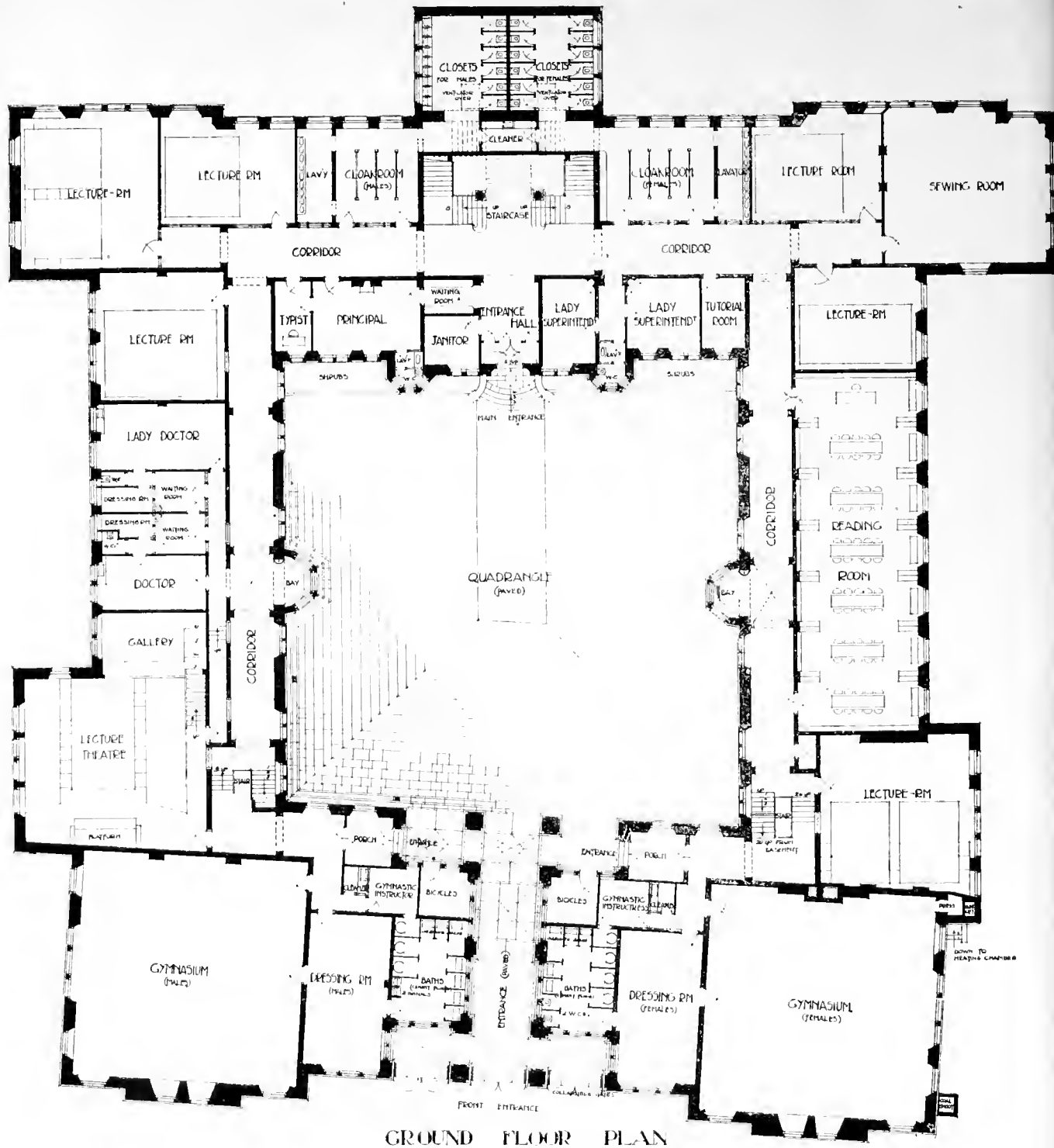
SCALE 8 FEET TO 1 INCH

NEW DRY GOODS STORE, PENANG.

A public hall, seated for 5,000 persons, is to be built on the site of the skating rink in West-gate-street, Cardiff. The architects are Messrs Willmott and Smith.

A Local Government Board Inquiry was held at Penzance on Friday by Mr. W. O. E. Meade King, an inspector, relative to the application of the town council to borrow £1,355 for the provision of public conveniences in Morrab-gardens, Alexandra Grounds, and of offices and conveniences in the eastern end of the Market House.

designs of Messrs. Herbert O. Ellis and Clarke, architects, of 46, Fenchurch-street, E.C. They comprise large selling spaces on ground and first floors, with go-downs, tiffins, etc., at the back of site. The construction throughout is fire resisting, the floors being of steel and concrete, the surface being laid with tiles, while the walls are of Chinese bricks faced with cement. The pier-forming the arcade are of granite up to the springing of the arches. The steelwork, shop front



GROUND FLOOR PLAN
 EDINBURGH PROVINCIAL TRAINING COLLEGE FOR TEACHERS, CANNONGATE.
 Mr. A. K. ROBERTSON, Licentiate R.I.B.A., Architect.

floor tiles, ornamental ironwork, and all hardware have been sent out from London. The building is being erected by a Chinese contractor.

"BUILDING NEWS" DESIGNING CLUB: A SMALL CREMATORIUM FOR A COUNTRY TOWN.

(These designs are described in our referee's report thereon on pages 100-102.)

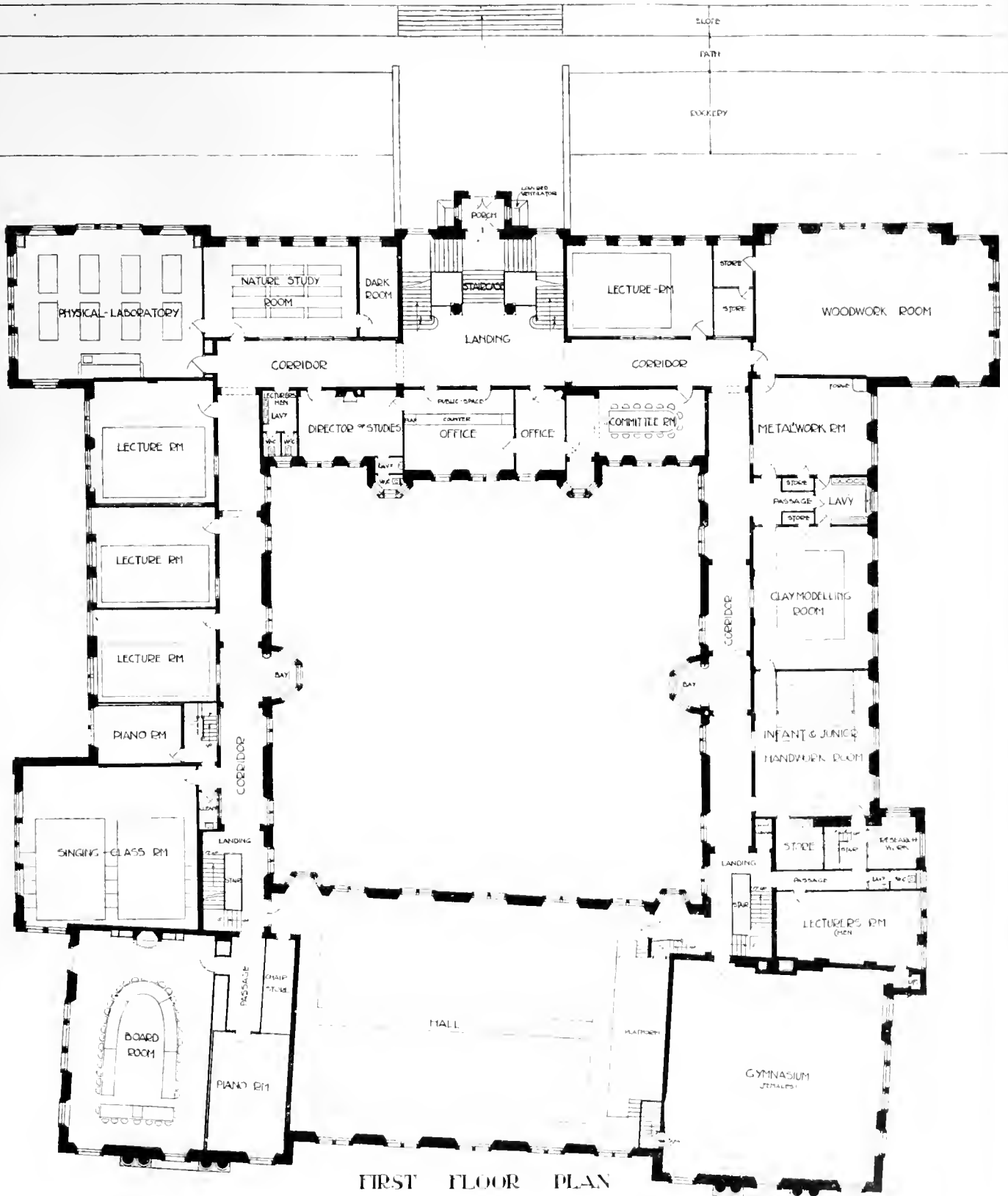
EDINBURGH PROVINCIAL TRAINING COLLEGE FOR TEACHERS, CANNONGATE.

The Edinburgh Provincial Training College for Teachers, which, apart from the demonstration school, will very shortly be completed, has been erected on a site behind Old Moray House, in the Canongate. It contains

numerous lecture-rooms, laboratories for science, nature study, psychology, and pedagogy; art rooms, handwork rooms, three large gymnasias, library, hall for 800, dining-hall, and common rooms for the students. In addition accommodation is provided for medical inspection, the director of studies, principal and the administrative and teaching staff. Several rooms are fitted for lantern-work, while the large hall is equipped for cinematograph displays. The heating is by means of low-pressure hot water, and cross-ventilation between the classroom and corridor windows is provided, augmented by extract ducts leading to fan chambers in the roof. The estimated cost was £53,500, including furnishings and professional fees. The architect is Mr. A. K. Robertson, of the firm of Messrs. Robertson and Swan, A.R.I.B.A.,

Hanover-street, Edinburgh. The committee are uniting with other Edinburgh educational bodies in a scheme for the provision of hostels for women students on a suburban site at Craigmillar Park, at an estimated cost of £89,000, the plans being prepared by the same architect. When the new hostels are available the present hostels, situated behind the new college, will be removed, to provide a site for the demonstration school, which is estimated to cost £14,750. We give two plans of the building, with views of the main front and quadrangle entrance, also the quad side of hall and interior of library.

The Royal Architectural Institute of Canada will hold its seventh annual meeting at Quebec, September 21-22. The hon. secretary is Mr. Alcide Chausse, 3, Beaver Hall-square, Montreal.



EDINBURGH PROVINCIAL TRAINING COLLEGE FOR TEACHERS, CANYONGATE.
 Mr. A. K. ROBERTSON, Licentiate R.I.B.A., Architect.

CHIPS.

A scheme of housing for the working classes at Colwyn Bay, on garden village lines, drawn up by Mr. William Jones, surveyor to the urban district council, and estimated to cost about £20,000, has received the approval of the Local Government Board.

Professor S. D. Adshead, honorary M.A. (Liverpool), F.R.I.B.A., has been appointed as from September 1, 1914, to the University part-time Chair of Town-Planning, tenable at University College. Since 1909 Mr. Adshead has been Professor of Town-Planning at Liverpool.

Sir Thomas Barlow on Saturday opened the King Edward VII Memorial Nurses' Home erected in the grounds of Bolton Infirmary at a cost of £10,000.

The Local Government Board have given full sanction to the Wallasey Corporation for the borrowing of £64,500 for the new electric generating-station at Poulton.

A group of science buildings are about to be added to the University buildings at Vancouver, British Columbia, from plans by Messrs. Sharpe and Thompson, of London-building, in that city. The estimated cost is over £100,000 sterling.

The new library which has been erected by the Deptford Borough Council on Lewisham High road, at a cost of over £12,000, exclusive of £5,000 paid for the site, was opened on Saturday afternoon by the Mayor.

In response to the appeal on behalf of the memorial fund to the late Sir Robert Hunter a sum of about £1,000 has been collected, and the committee has decided that this amount shall form a permanent fund vested in trustees. The interest of this is to be applied from time to time to assisting schemes in connection with open-space movements.

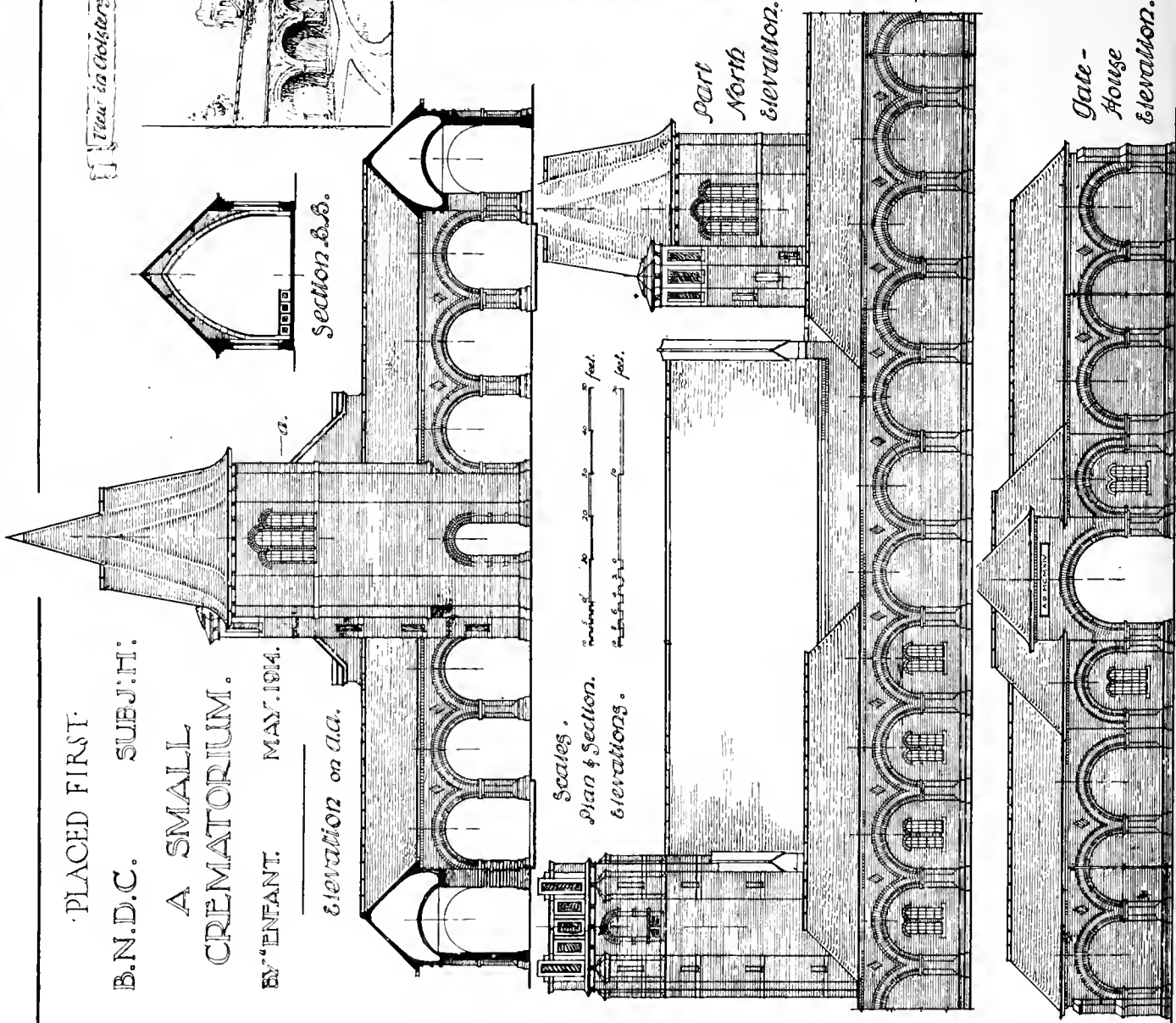
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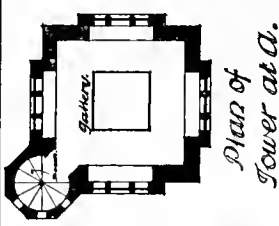
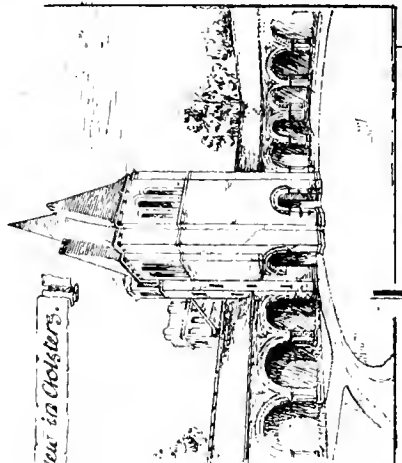
A SMALL
CREMATORIUM.

BY "ENFANT. MAY, 1914.

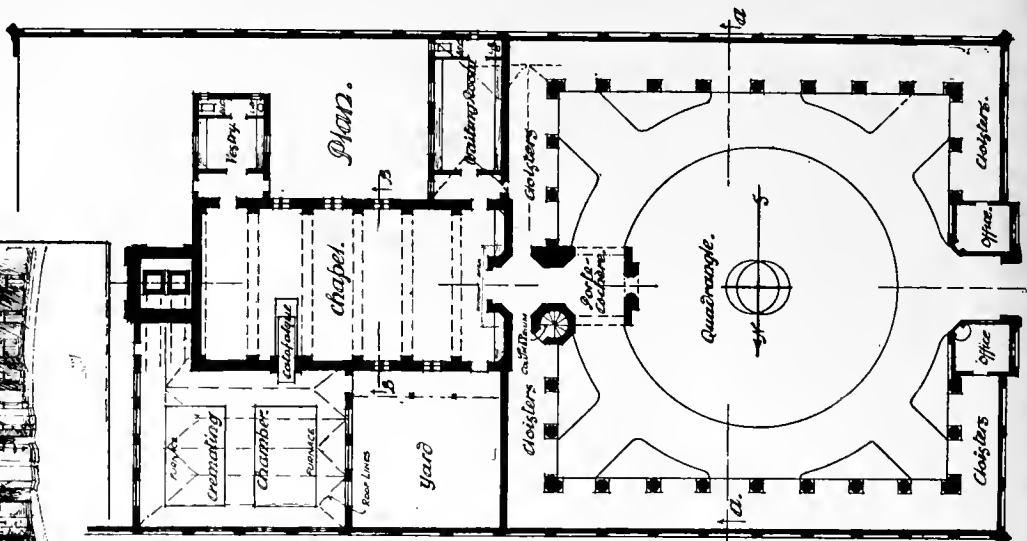
Elevation on *a.a.*



View in Cloisters.



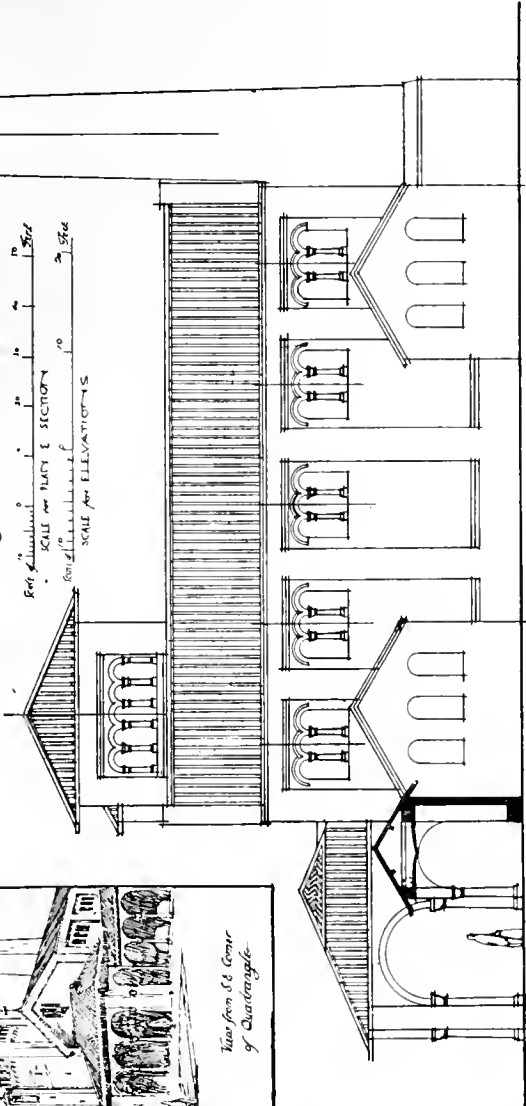
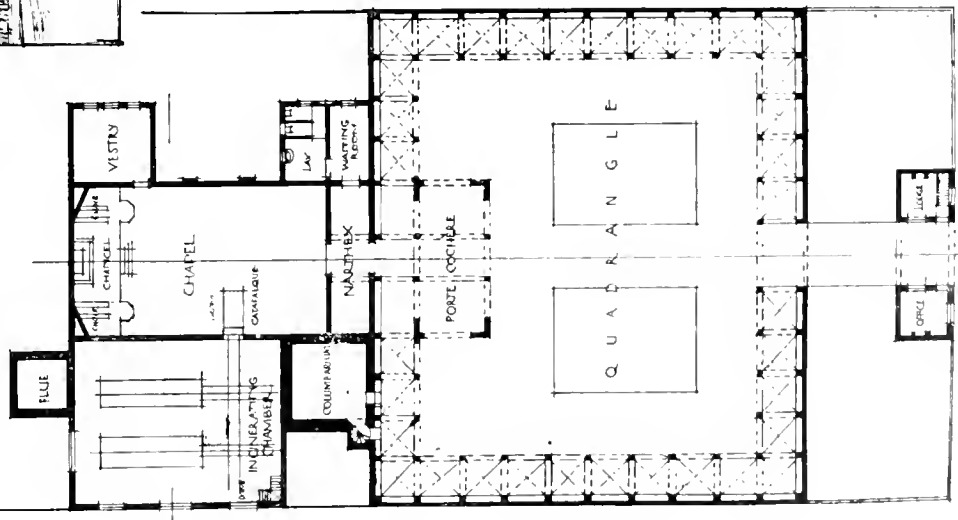
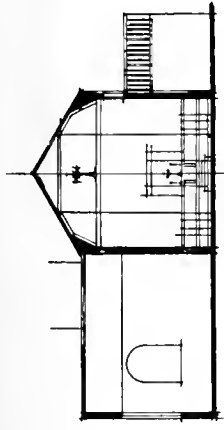
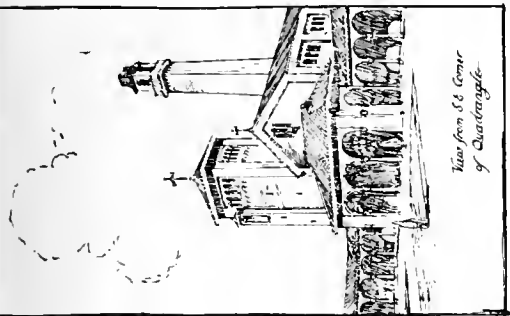
Plan of Tower *a.d.*



B N D C DESIGN for A CREMATORIUM

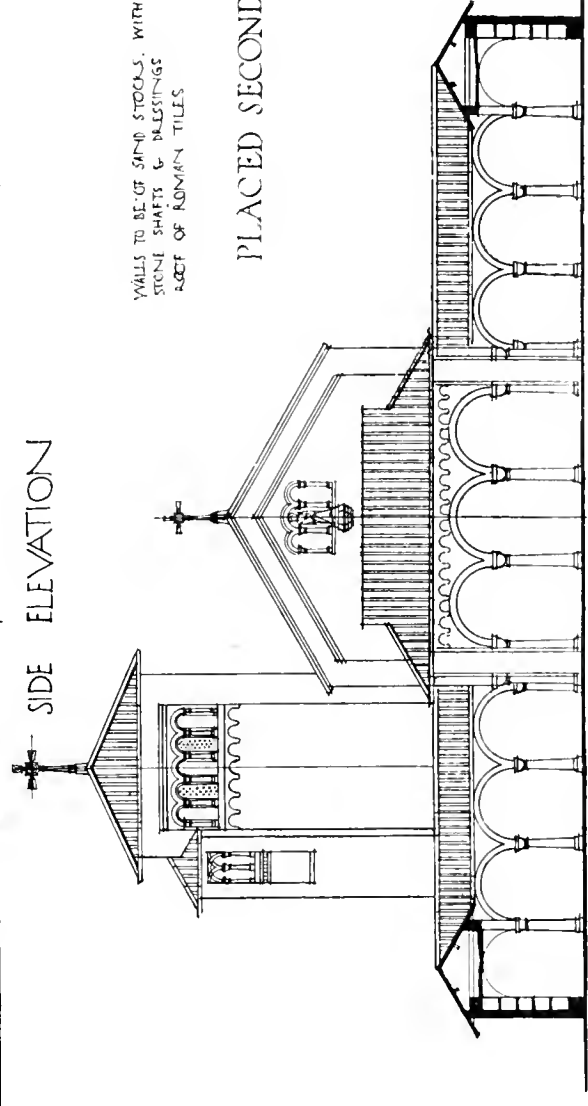
By "PAOLO"

Ref. Architectural
SCALE FOR PLANS & SECTIONS
1" = 10'-0"
SCALE FOR ELEVATIONS
1" = 20'-0"



WALLS TO BE OF SAND STOCKS, WITH
STONE SHAFTS & BLESSINGS
ROOF OF ROMAN TILES

PLACED SECOND



M A T T R O A D

"BUILDING NEWS" DESIGNING CLUB.

Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worth insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

All else being equal, brief replies will stand the best chance. We emphasise this, as some correspondents ignore the fact that querists want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

We divide the guinea between the authors of the two replies printed.

REPLIES.

[13146].—STRESSES.—The "method of sections" can be employed to find the stresses in the four bars of the roof truss shown. This method, however, is apt to be rather confusing to the student, though its fundamental

obtain the stress in bar 5-15, take moments about E, see Fig. 1a. The following are the data used for calculations:—Reaction at A = 127.4cwt. By resolving the two component forces given for wind and dead load, we get results as follows:—Load 1-2, 17.5cwt.; 2-3, 31cwt.; 3-4, 31cwt.; 4-5, 34cwt.; 5-6, 34cwt. Now, following Fig. 1a, we know the algebraical sum of the moments of all the forces acting round E equals zero. Hence, the following equation—

$$\text{Stress in 5-15} = 127.4 \times 18.6 - 17.5 \times 18.16 - 34 \times 12.3 - 34 \times 6.6 - 34 \times 8 + S_{15} 14 \times 6.0 + S_{13} 15 \times 6.8 = 0.$$

Taking stress in bar 15/14 to equal 34cwt., then—
 $2369.64 - 317.8 - 416.5 - 224.2 - 27.2 + 204 = 6.8 = 234\text{cwt. compn.}$

To find stress in bar 15-14, take moments about A, see Fig. 1b, allowing stress for bar 14-13 to be 55cwt., then—

$$127.4 \times 0 + 17.5 \times 0 + 34 \times 6 + 34 \times 11.7 + 34 \times 17.5 - S_{14} 13 \times 17.6 + S_{15} 14 = 0, = 33\text{cwt. tension.}$$

For stress in bar 11/17: Take moments about A, see Fig. 1c.

$$127.4 \times 0 + 17.5 \times 0 + 34 \times 6 + 34 \times 11.7 + 34 \times 17.5 + S_{15} 14 \times 9 + S_{14} 15 \times 15 + S_{17} 8 \times 2.75 = 0.$$

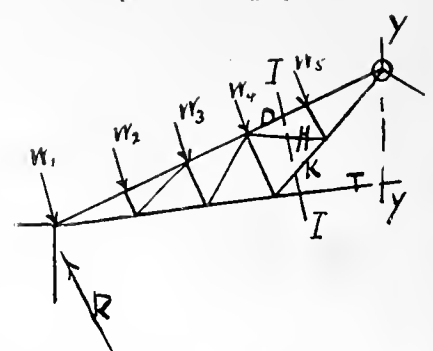
Allowing stress in S₁₅ to be 103cwt., we get S₁₄/17 to be 119cwt. tension. To find stress in bar 17-8, refer to Fig. 1d. By taking moments about C, we get—

$$127.4 \times 23.5 - 17.5 \times 23.5 - 34 \times 17.5 - 34 \times 11.5 - 34 \times 6 - 34 \times 3 - 119 \times 3 - S_{17} 8 \times 9 = 0, = 104\text{cwt. tension.}$$

These results can easily be checked by a stress or reciprocal diagram.—O. Lewis Abbott, City Surveyor's Office, Town Hall, Manchester.

[13146].—STRESSES.—The method of sections can be employed in determining the stresses in the four bars of the roof-truss shown in diagram, cut by section line

of truss and the bar T. Then taking moments round axis O, i.e.—
 $Rr - W_1 X_1 - W_2 X_2 - W_3 X_3 - W_4 X_4 - W_5 X_5 = Tt \dots\dots\dots(1)$
 $r = \text{vertical distance from R to axis O}$
 $t = X_1, X_2, X_3 \dots\dots\dots = \text{vertical distances from the respective forces } W_1, W_2 \dots\dots\dots \text{ to axis O.}$



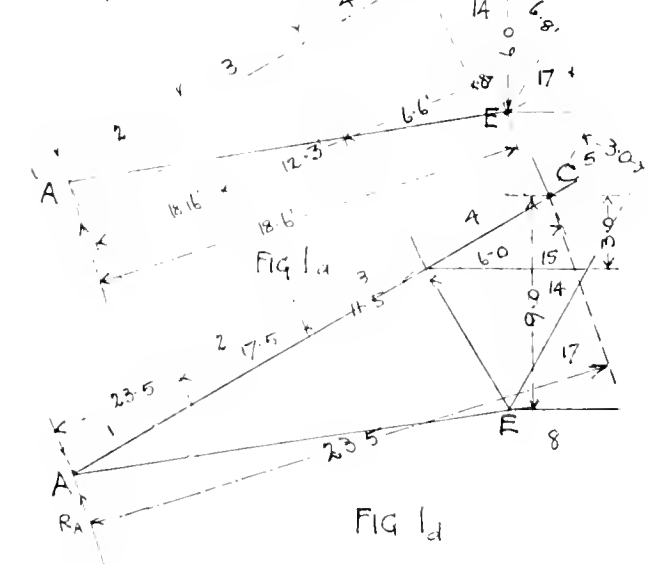
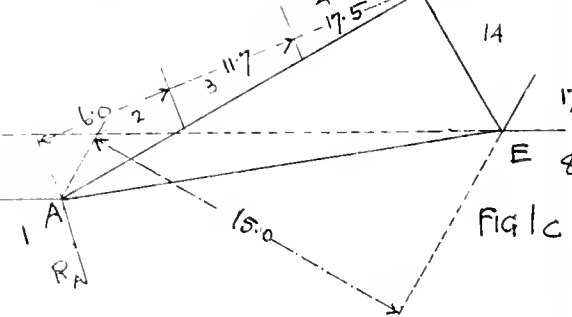
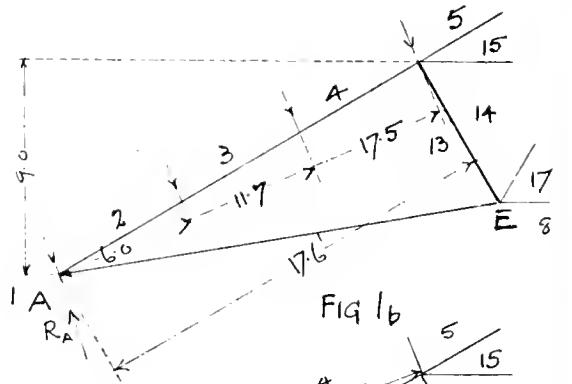
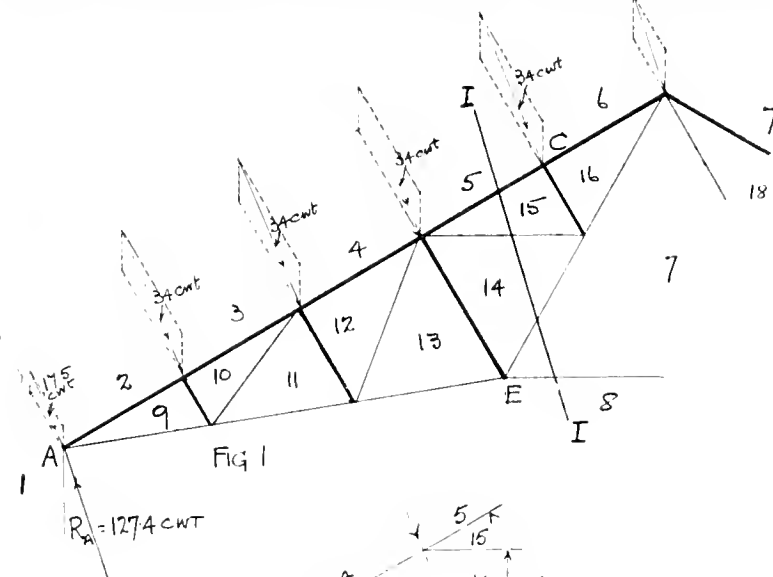
Second, take the section line I/I and moments round axis O, i.e.—

$$Rr - W_1 X_1 - W_2 X_2 - W_3 X_3 - W_4 X_4 - Tt = Hh \dots\dots\dots(2)$$

Forces D and K pass through axis have no moments. It was found in equation (1).

$$h = \text{vertical distance of force H from axis O}$$
$$\therefore H = \frac{Rr - W_1 X_1 - W_2 X_2 - W_3 X_3 - W_4 X_4 - Tt}{h}$$

In a similar way the stresses in bars D and H can be found.—A. Twiney, 15, Ashfield-road, Rusholme, Manchester.



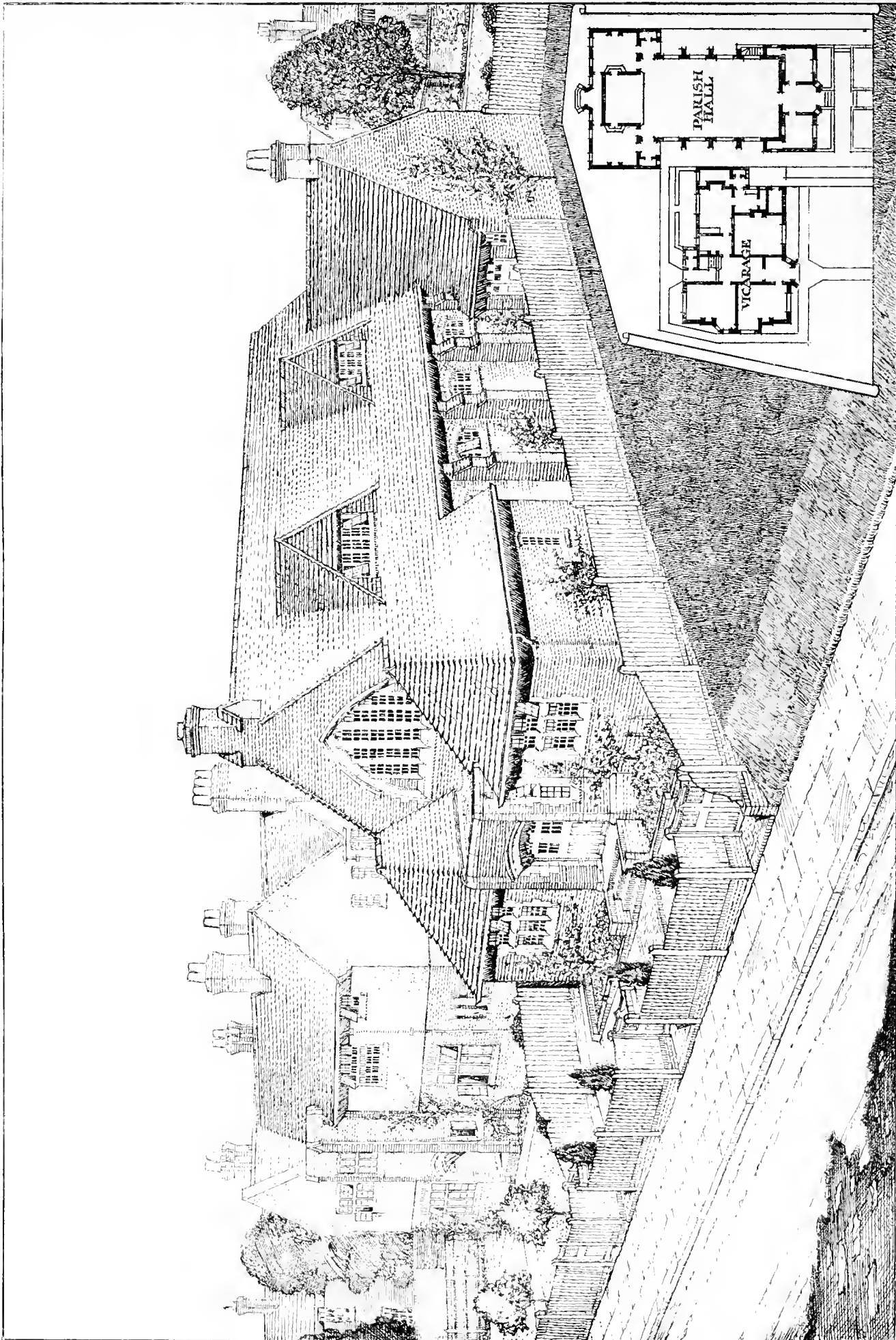
principle is simply the "theory of moment," with which the student of mechanics very soon becomes acquainted. The actual principle upon which this method is based, and proved in mechanics, is: If a series of forces be in equilibrium, the algebraic sum of the moments of all the forces acting in one plane, and to either side of any section, and about any point in that plane, must be zero. Fig. 1 represents the roof and its bars; the thick lines represent members in compression, the thin ones tension. I-I is the line cutting the four bars whose stresses it is desired to compute. To

find the stress in bar 5-15, take moments about E, see Fig. 1a. The following are the data used for calculations:—Reaction at A = 127.4cwt. By resolving the two component forces given for wind and dead load, we get results as follows:—Load 1-2, 17.5cwt.; 2-3, 31cwt.; 3-4, 31cwt.; 4-5, 34cwt.; 5-6, 34cwt. Now, following Fig. 1a, we know the algebraical sum of the moments of all the forces acting round E equals zero. Hence, the following equation—

The salaries of Mr. E. L. Morgan, borough engineer, and Mr. W. J. Smith, gas engineer to the Bolton Corporation, have been increased by £75 and £100 per annum respectively.

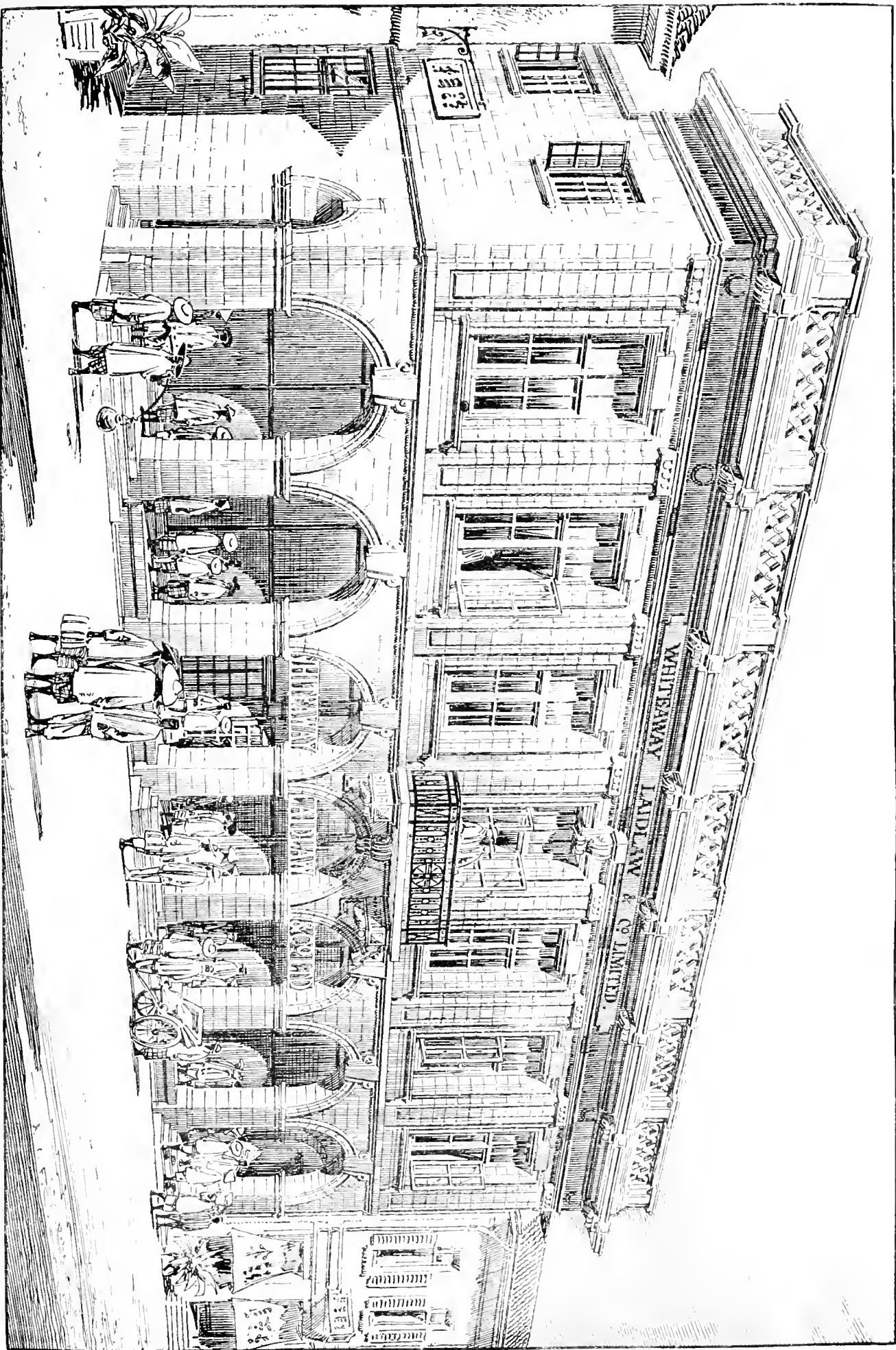
At the last meeting the city council of St. Albans approved of a scheme prepared by Mr. H. Howard Humphreys for sewerage the areas recently added to the city. The estimated outlay is £48,976, exclusive of surface-water drains.

115-118.



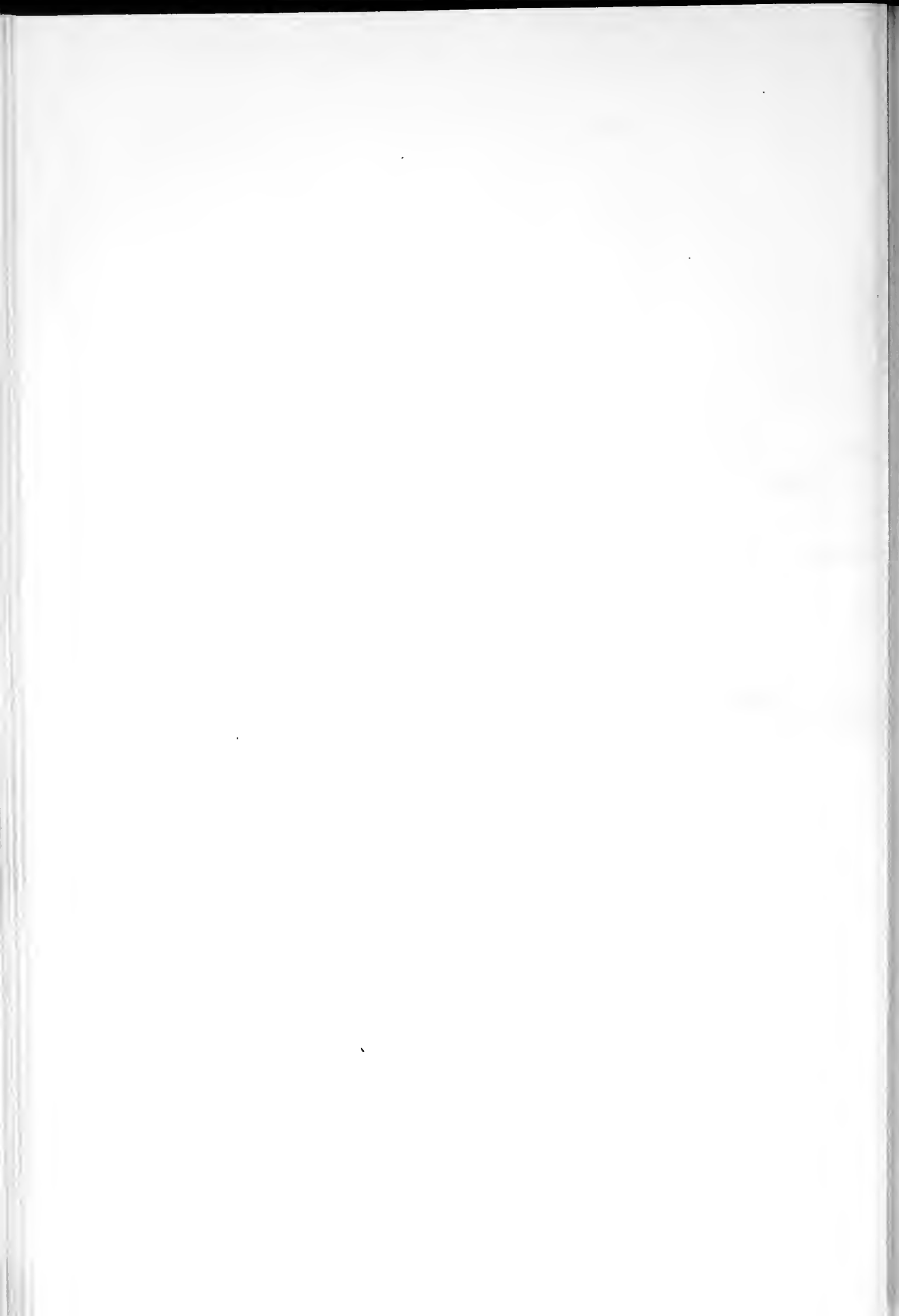
NEW PARISH HALL AND VICARAGE OF ST. MARK, LEWISHAM, S.E.—Messrs. F. H. GREENAWAY and J. E. NEWBERRY, Architects.

THE BUILDING NEWS, JULY 24, 1914.



NEW DRY GOODS STORE FOR MESSRS. WHITEAWAY, LAIDLAW, AND CO., LTD., PENANG.

White and Green M.S.A. Architects



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THE BUILDING NEWS, JULY 24, 1914.

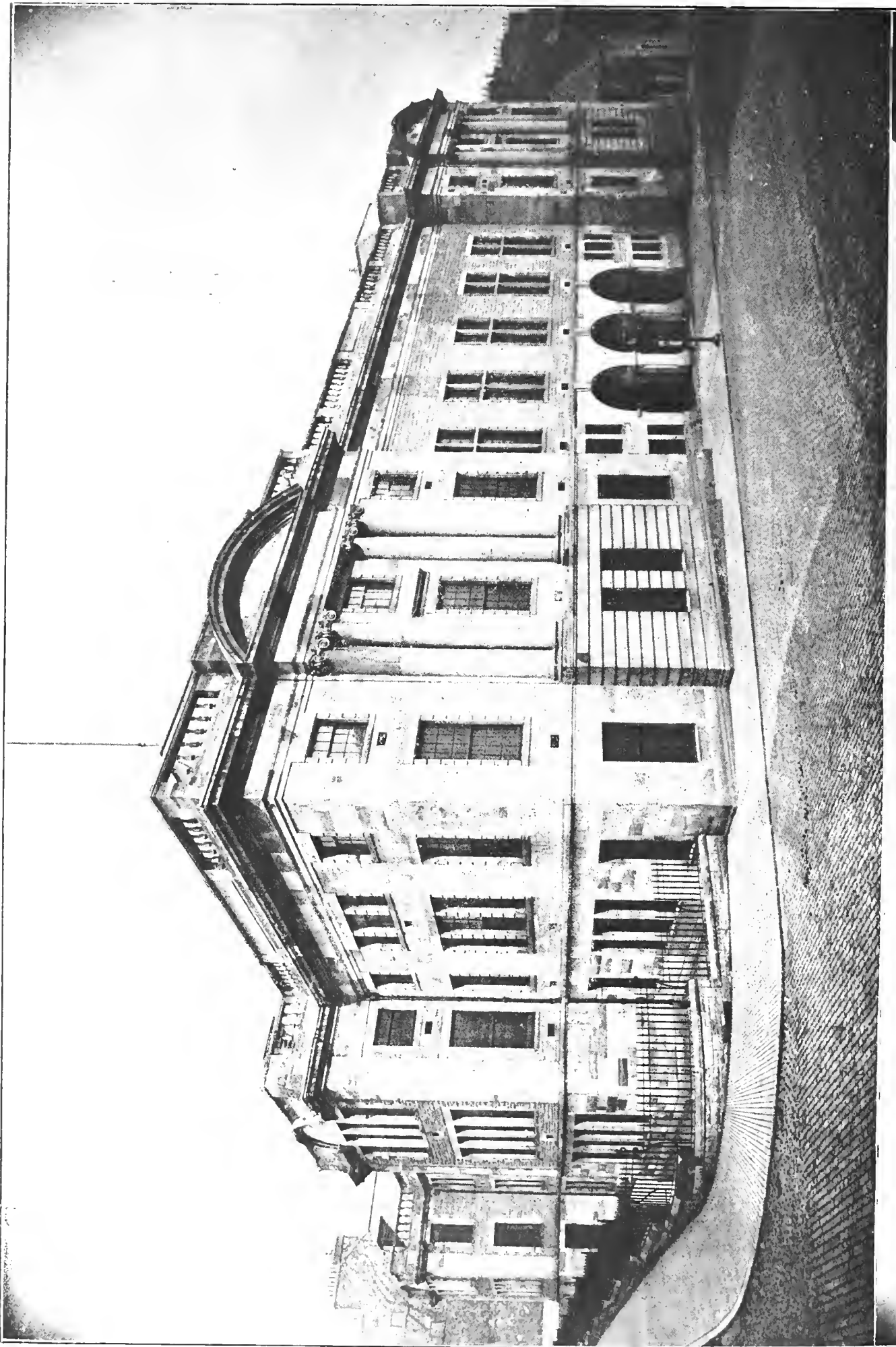




EDINBURGH PROVINCIAL TRAINING COLLEGE FOR TEACHERS: SOUTH SIDE OF QUADRANGLE AND INTERIOR OF LIBRARY. — Mr. A. K. ROBERTSON, Licentiate R.I.B.A., Architect.



THE BUILDING NEWS, JULY 24, 1914.





EDINBURGH PROVINCIAL TRAINING COLLEGE FOR TEACHERS, CANNONGATE: VIEW OF
MAIN FRONT AND QUADRANGLE ENTRANCE.—MR. A. K. ROBERTSON, Licentiate R.L.B.A., Architect

Photographed by J. P. ...



LEGAL INTELLIGENCE.

THE LUMSDEN APPEAL—CALCULATING INCREMENT VALUE DUTY: THE HOUSE OF LORDS DIVIDED.—In the House of Lords on Monday judgment was delivered by the Lord Chancellor and Lords Shaw, Moulton, and Parmoor in the important test case of *Lumsden v. The Commissioners of Inland Revenue*, deciding the basis upon which increment value duty under the Finance Act of 1909-10 is to be assessed. The issue decided was whether the appellant, Robert John Lumsden, was liable to pay increment value duty upon the occasion of a sale by him of a house and shop, No. 32, Lausdowne-road, Forest Hall, Northumberland. The appellant was charged a gross duty of £25 in respect of an alleged gross increment value of £125. The question depended mainly upon the construction of sections 2 and 25 of the Finance (1909-10) Act, 1910. On Lumsden's appeal against that assessment the Referee decided in his favour, and held that on the true construction of sections 2 and 25 no increment value was payable. The Commissioners then appealed in turn, when Mr. Justice Horridge, reversing the decision of the Referee, decided the question in favour of the Crown, and his decision was affirmed by the Court of Appeal (the Master of the Rolls and Lord Justice Kennedy), Lord Justice Swinfen Eady dissenting. Sir Robert Finlay, K.C., and Mr. W. Allen appeared for the appellant; and the Attorney-General (Sir John Simon, K.C.), the Solicitor-General (Sir Stanley Buckmaster, K.C.), and Mr. William Finlay for the respondents. The appeal was argued in June last. In the final judgment, pronounced on Monday, the Lord Chancellor and Lord Shaw were of opinion that the appeal should be dismissed, and Lord Moulton and Lord Parmoor were of opinion that it should be allowed. The House being equally divided in opinion, the decision of the Court of Appeal in favour of the contention of the Crown stands.

THE LORD CHANCELLOR'S JUDGMENT.

The Lord Chancellor, in moving that the appeal be dismissed, observed that the appeal raised a question of much difficulty which had been the subject of elaborate argument at the Bar. But the real point lay within narrow limits, and turned on the proper construction of a few words in the Finance (1909-10) Act, 1910. The sections of that Act relating to duties on land values had obviously been drafted with remarkable skill. But the subject was so novel, and so complicated, that it was inevitable that questions should arise on which the meaning of the Legislature had not been made wholly free from ambiguity. The duty of a Court of Construction in such cases was not to speculate on what was likely to have been said if those who framed the statute had thought of the point which had arisen; but, recognising that the words left the intention obscure, to construe them as they stood, with only such extraneous light as was reflected from within the four corners of the statute itself, read as a whole. The appellant had been held liable for increment duty arising upon the occasion of a sale by him of a dwelling-house and shop. By the Act of Parliament the duty was charged on the increment value of land. That increment value was the amount by which what was called the site value exceeded, on the occasion on which the duty arose, the original site value. Such was the effect of sections 1 and 2. Before referring further to the provisions of section 2, which gave a special meaning to site value on that occasion, it would be convenient to turn to the later sections to see what various values meant when spoken of generally in the Act. By section 26 a valuation of all land was to be made, showing separately the total value and the site value. Those were defined in section 25, together with two other values. The first of the four values there defined was gross value, which meant the amount which the fee simple of the land, if sold in the open market by a willing seller in its then condition, free from encumbrances and from any burden, charge, or restriction (other than rates and taxes), might be expected to realise. The second value was full site value, which meant the value which the fee simple, if similarly sold, might be expected to realise if the land were divested of all buildings and structures appurtenant to such buildings, and of all growing timber and other things growing on the land. The third value was total value, which meant the gross value after deducting the amount by which that gross value would be diminished if the land were sold subject to any fixed charges (afterwards so defined as to exclude mortgages) or public rights of way, or user, or rights of common, or easements, or certain kinds of restrictive covenant or agreement. The fourth value was assessable site value, which meant the total value after making various deductions. These included the same amount as was to be deducted for the purpose of arriving at full site value from gross value, and also value directly

attributable, in the case of a non-agricultural property such as that under consideration, to roads. There were other deductions to be made from total value in arriving at assessable site value, but those need not at present be considered. The section also provided towards its close that any reference in the statute to site value, other than a reference to it on an occasion on which increment duty was to be collected, was to be deemed to be a reference to assessable site value as ascertained in accordance with the section. Turning back to section 2, it first enacted that the increment value of any land was to be deemed to be the amount by which the site value, on the occasion on which increment value duty was to be collected after being ascertained in accordance with that section, exceeded the original site value ascertained in accordance with the general provisions of the Act as to valuation. The section then provided that the site value on the occasion on which increment duty was to be collected was to be taken to be, where, as here, the occasion was a transfer on sale of the fee simple, the value of the consideration for the transfer. He observed that among the other enumerated occasions were the periodical occasions on which the duty was to be collected in respect of the fee simple of land held by a body corporate or unincorporate, in which cases the total value was to be estimated in accordance with the general provisions as to valuation to which he had already referred. In all those instances the site value thus defined was to be "subject in each case to the like deductions as are made under the general provisions of this part of the Act as to valuation for the purpose of arriving at the site value of land from the total value." The appellant contended that the expression "like deductions" meant where the case was one of transfer on sale, that deductions were to be made from the value of the consideration in their character resembling or analogous to, but not identical in amount with, those which were made when, under the general provisions as to valuation, site value was ascertained from total value. The argument on his behalf was that, in applying the analogy of the process of deduction prescribed by section 25 for the ascertainment of assessable site value, you were to start from the amount of the value of the consideration as though it were a total value, and then make the kind of deductions that were prescribed in section 25, where the start was made from total value which was merely estimated. The respondents, on the other hand, contended that the words "like deductions" were not ambiguous. They pointed to the language of section 25 (4) (a) as defining the first deduction to be "the same amount as is to be deducted for the purpose of arriving at full site value from gross value." They argued that there was therefore, no room for making any other deduction than this varying amount which was to be, if they were right, ascertained with reference, not to the value of the consideration, but to the difference between the estimated gross and full site values. He must now refer to the facts out of which the appeal had arisen. The Referee under the Act stated a special case. He found that the consideration for the transfer on sale was £750, and that the fee simple had been sold subject to title of £33 capital value. He found, further, that the amount of deduction to be allowed under section 25 (4) for the making of roads was £90. He also found that at the time of the sale the fee simple of the property, if sold in the open market by a willing seller in its then condition free from encumbrances and from any burden, charge, or restriction other than rates and taxes (the words of the subsection defining "gross value"), might have been expected to realise £658. It was admitted that there had been no variation in the full site value between April 30, 1909 (the date as on which the original valuation had to be made) and August 23, 1910, the date of the sale. It was agreed that the full site value was £228 on each date. The original assessable site value was £105. On these findings the appellant maintained that the deductions directed by section 2 to be made from the value of the consideration must be made from the £750 and £33 (the amount of the capital charge for title), in order that the analogy of the deduction from gross value might be followed. As the full site value at the time of sale had by admission remained at £228, the difference between gross value and full site value must be taken to be £555. Therefore, on the footing that the sale price of £750 was to be taken as representing the total value for the purpose of ascertaining the proper deductions, it was from this figure that the £555 must be deducted and this subtraction, after allowing £90 as a further deduction for roads made, resulted in an assessable site value of £105. There was, therefore, no increment value. For, according to the original valuation which was annexed to the Referee's report, the original gross value was £658, the original total value that amount minus the £33 capital value of title—i.e., £625—the original

full site value £228, and the original assessable site value £105, the same amount as on the occasion of the sale. The respondents challenged this basis of calculation, contending for a different construction of section 2. Accepting the figures, they said that as the gross value had been found at the time of the sale to be £658, and the full site value to be £228, the difference really prescribed by the Act of Parliament was £430. They maintained that, on the facts found, there could be no further deduction, the gross value having been so found, excepting the £90 for roads, and that the total amount of deduction from the £750 was therefore £520, which gave a site value of £230, and resulted in increment duty being exigible on the difference between this and the original site value of £105. The Referee took the view of the appellant. On appeal Mr. Justice Horridge disagreed with the Referee, and adopted the contention of the Crown. In the Court of Appeal the Master of the Rolls and Lord Justice Kennedy agreed with Mr. Justice Horridge, but Lord Justice Swinfen Eady differed. He thought that the only method which achieved the purpose of the Act was to tax an actual difference between present and past site value. The Lord Chancellor thought, however, that a mere conjecture that Parliament entertained a purpose which, however natural, had not been embodied in the words it had used if they were literally interpreted, was no sufficient reason for departing from the literal interpretation. Indeed, the scheme of the Act appeared to him to provide for all the valuations that from time to time might become necessary. There was no reason to think that the duties of the valuers were confined to the estimation of original values only. In the case of increment value duty, it appeared to him that Parliament must, on the literal construction of its language, be taken to have contemplated the possible taxation of either something more or something less than site value strictly so called. The amount of the duty, whichever construction was adopted, was in the case of increment duty based on deduction from the actual price as the starting-point. For the rest, the ascertainment of the normal market price—i.e., valuation—seemed to him to be prescribed as the basis on which deductions were to be estimated. With the conclusion reached by Mr. Justice Horridge and by the majority in the Court of Appeal he found himself in agreement, and he was of opinion that their judgments ought to be affirmed.

LORD SHAW OF DUNFERMLINE.

Lord Atkinson read a judgment by Lord Shaw in which he agreed with the Lord Chancellor.

LORD MOULTON'S JUDGMENT.

Lord Moulton, dissenting, observed: I cannot think that the learned judges who, in the Court below, supported the contention of the respondents, appreciated the consequences of their interpretation, and how completely inconsistent it was with the object of the Act and its general tenour. To make that plain I will take the figures of the present case, but for the sake of clearness I will suppose that it was a transfer by death, and not by alienation. There is nothing in the Act to make the values for probate purposes the same as those for the taxes on land values, and I will take it that it was the values for probate (instead of the purchasers) who fixed the value of the whole of the owner's interest in the estate at the actual figure of £750 which was the consideration of the sale. How would the matter stand on the contention of the respondents which had been supported by the Courts below? It would stand thus: "The respondents admitted, as they were compelled to do, that the site value had not changed in any way, and that this would be found to be the case whichever valuation one took as correct. But they claimed that the Act entitled them to charge upon the difference of the two values—i.e., of the total estate as being 'increment of site value.' The object and intention of this Act are clear and the point in issue goes to the root of the taxation introduced by it. I cannot bring myself to declare that it has wholly failed to achieve that object or carry out that intent, and, further, that it has done so in a manner so ludicrous as to make it a laughing-stock to any one who will take the trouble to follow out the necessary arithmetical consequences of the construction which is contended for by the respondents. Counsel for the Crown objected to the construction of section 2 by saying that it followed exactly the language there used. That counsel has not even that merit. There is nothing to justify calculating the difference between the £750 of a 'total value' different from the figure from which those deductions are to be made, which is clearly the figure defined in the clause, as representing 'total value.' Indeed, the phrase, 'the like deductions,' not 'the same deductions,' points to all owing to the fact that the circumstances are a charge and that the deductions are to be obtained by like processes mutatis mutandis. This agrees precisely with the

construction put upon the words by the appellant. But there is the far weightier argument against the suggested construction already referred to, and which arises out of the language of the section itself. If it means what is contended for by the Crown, it is not in any sense an "ascertainment" of the "site value" of the land on the occasion. It leads to something wholly different from and independent of the site value—something which may increase when the site value decreases, and vice versa. To shut one's eyes to the expressed object of a clause is a bad preparation for understanding it aright, and between one interpretation which leads to what may rightly and fairly be said to carry out that object, and another which does something irreconcilable therewith, there is no doubt to which preference should be given. If read as a whole, the Act clearly means that for which the appellant contends. The same is true if section 2 be read as a whole. And even if we were to shut out all but a small portion of section 2 and construe it by itself, we could only arrive at the construction contended for by the respondents by forcing the language of the section and ignoring the fact that it is only the "like" deductions, and not the "same" deductions, that are to be made. To calculate deductions on one value of "total value" and then to apply those deductions to another and a different value is not to make the "like" deductions to those made in a process the correctness of which essentially depends on taking one and the same value of "total value" throughout the process. I see, therefore, nothing which requires me to hold that this section bears a meaning which would render misleading its clear and repeated professions that the duty it imposes is a tax on the increment of site value, and I am of opinion that the appellant is right in his construction of the section, and that this appeal should be allowed.

LORD PARMOOR.

Lord Parmoor, in his judgment, concurred entirely with Lord Moulton. He thought that the method adopted by the Referee was accurate. The original site value was £105, so that in this case there was no increment value of land, and no increment value duty was chargeable.—The Lord Chancellor: The appeal stands dismissed, and there will be no order as to costs to either party.

ASSESSMENT OF REVERSION DUTY.—(Commissioners of Inland Revenue v. Marquis Camden).—Judgment was delivered in the House of Lords on Wednesday by Lords Dunsedin, Atkinson, Shaw, and Parkinson, in this appeal from a decision of the Court of Appeal, reversing a decision of Mr. Justice Horridge, in King's Bench Division, with reference to the assessment of reversion duty. The appeal was argued on the 2nd and 3rd inst. In this action the appellants were the Inland Revenue Commissioners, and their appeal was unanimously dismissed, with costs. Under Section 13, Sub-section 1 of the Finance Act, 1909-10, it is enacted that on the determination of a lease the lessor shall pay a duty of 10 per cent. on the difference between the total value of the land at the time the lease was granted and the total value at its determination. Lord Camden let six houses in Camden Town under a building agreement which stipulated that the lessee, Mr. W. H. Wilson, should spend £6,000 in putting the property in order, and in consideration of this the rent was fixed at £125, and a lease for forty years was granted. The question between the parties was whether the £6,000 was a payment made in consideration of the lease under Sub-section 2, Section 13. Mr. Justice Horridge, in the King's Bench Division, confirming the judgment of the Referee, held that it was not. The Court of Appeal unanimously reversed this decision, and the House of Lords now upheld their judgment, and disallowed the appeal of the Crown, with costs.

ENGINEER AS ARBITRATOR.—BANKRUPTCY OF CONTRACTORS.—TRUSTEE'S POWER TO EXAMINE.—(Macdonald, Deakin, and Jones, ex parte the Trustee, July 20, 1914.—Divisional Court in Bankruptcy.—Before Mr. Justice Horridge and Mr. Justice Lush).—This was an appeal by the Trustee in Bankruptcy of Messrs. Macdonald, Deakin, and Jones, against an order of Judge Graham that the engineer, under a contract between the corporation of Burnley and the bankrupt contractors, should not be ordered to be examined by the Trustee, under Section 27 of the Bankruptcy Act, 1883. The section of the Act referred to provided that "Any person known or suspected to have in his possession any of the estate or effects belonging to the debtor, or supposed to be indebted to the debtor, or any person whom it may deem capable of giving information respecting the debtor, his dealings, or property," may be summoned by the Registrar to be examined by the Trustee in Bankruptcy. The Judge of the county-court had refused to make the order for

the examination of the engineer under the contract, on the ground that he could not furnish any facts to the Trustee that were not already known to the contractors, and it was further contended, on behalf of the engineer, that, as he was the arbitrator under the contract, he should not be subjected to such examination. Mr. C. Atkinson, K.C., and Mr. E. J. Rimmer appeared for the appellants, and Mr. Langdon, K.C., and Mr. Hanson for the respondents.—Mr. Atkinson said that the decision of the county-court Judge was clearly wrong, because the object of the section was to enable the Trustee to obtain facts from the witness about which the information given by the bankrupts might be either incorrect or unreliable. He was stopped by the Court.—Mr. Langdon, K.C., said that he could not support the ground of the decision of the county-court Judge, but he urged strongly that as the engineer had under certain matters in relation to the contract an absolute discretion, and as all other matters must be referred to him as arbitrator, his capacity under the contract was purely judicial, and he ought not, therefore, to be called upon to answer questions relating to these matters. The Court allowed the appeal, and ordered that the engineer should attend for examination.—Mr. Justice Horridge said that the grounds of the decision of the county-court Judge were clearly wrong, as otherwise examinations under the section would be abortive. Mr. Langdon had, however, raised a more formidable point, and if he thought that the examination would necessitate the engineer giving a decision upon matters which would afterwards come before him as arbitrator, he would not have made the order. He was, however, not satisfied that there were not matters upon which it was proper that the Trustee should have information which did not require him in answering to anticipate his decision as arbitrator. In this case there had been a forfeiture by the building owners, and the Trustee was entitled to examine the engineer, to find out what had been the course of proceedings since the contractors went off the work. There were, in his opinion, also other matters about which the engineer could give the Trustee information which he was entitled to know. Mr. Justice Lush agreed. Leave to appeal was given.

A CONCRETE-FLOOR COLLAPSE.—The rebuilding of the premises of Messrs. Howes and Son, Ltd., motor-car engineers and bodymakers, of Chapel Field, Norwich, in August and September last year, gave rise to an action and counterclaim heard in the King's Bench Division on Wednesday week before Mr. Justice Bailhache. The action was brought by Messrs. Frank Bradford and Charles David Hunter, trading as Messrs. F. Bradford and Co., London, ferro-concrete builders, against Messrs. Howes and Son, Ltd., for the recovery of a sum of £486 2s. 1d. for work done and material supplied in connection with the putting in of a ferro-concrete floor at the defendants' new works. Mr. Ward appeared for the plaintiffs, and the defendants were represented by Mr. Holman Gregory, K.C., and Mr. Mackinnon. The plaintiffs claim and the amount was paid into court, less £325 6s. 3d., defendants' counterclaim for damages.—Mr. Holman Gregory, K.C., in stating the counterclaim, explained that the defendants, Messrs. Howes and Son, motor-car makers, counterclaimed a sum of £325 6s. 3d. In 1913 Messrs. Howes and Son employed Messrs. Scarles for the rebuilding of their premises. The scheme involved the building of a large first floor with ferro-concrete, and the architect, Mr. Bond, entered into communication with Messrs. Bradford, whose tender for the work was accepted. Defendants commenced the work in June, and finished in September. On September 16 they took away the supports, when the floor began to break up, and they had to do the work over again. They at once admitted that there had been a breach of contract, and set to work to put in a new floor. As a result of this, the premises were not ready for occupation until December 24, and the defendants claimed damages as a result of the delay.—Mr. John Owen Bond, architect for the buildings, said Messrs. Howes had been in their old premises a long time, and purchased the adjoining house and commenced rebuilding. This floor was 4,330 ft. square, and was in the front of the premises. He saw Mr. Hunter previous to the contract, and explained to him the necessity of the work being finished speedily, because temporary premises would have to be taken. The suggestion was made that the floor should be completed a third at a time, so that the men would get to work on it, but plaintiffs said this was not possible. On August 24 one of the concrete beams which the plaintiffs had put in began to crumble and fall. The plaintiffs put it right, and the work was finished on September 9. On the 16th the men came to take away the supports, and then the whole floor began to

collapse. He had, as a result, to put in supports to keep the front of the building in position. The result of this was that the defendants had to continue in their temporary premises. When he discussed the question of the failure of the floor with Mr. Bradford, he said it did not matter if it cost £1,000 to remedy, as he should claim against the cement-makers. In his opinion, defendants' charges in the counterclaim were reasonable.—Cross-examined, witness said he was superintending the execution of the work, but had nothing to do with the mixing of the cement for the concrete. Messrs. Bradford ought to have tested the cement. The cause of the failure of the floor was the character of the cement. There was no extension of time given to Mr. Scarles, the builder, except in the case of odd works delayed in consequence of the failure of the floor.—Mr. Stanley Howes, managing director of the defendants' firm, said the counterclaim related to loss owing to the continued occupancy of temporary premises, which resulted in want of supervision, loss of time, and consumption of more stores.—Mr. William Thomas Scarles, builder, of Norwich, said his firm, Scarles Brothers, did the building work at competitive prices. The work was delayed, and extras had to be done in consequence of the floor. As to the estimate for repair of the concrete, he should more than double it, and thought a mistake had been made in this respect.—Mr. Frank Bradford, of the plaintiff firm, giving evidence in rebuttal of the counterclaim, said the failure was due to failure of the cement. When his firm discovered what had happened they used every expedition to get the work done again.—Cross-examined, witness said his firm had a guarantee with the cement.—Plaintiffs' foreman gave evidence to the effect that the work was properly done by the workmen.—Mr. Ward submitted that as there was no time limit in the contract the plaintiffs must be allowed reasonable time in which to execute the work. The failure due to the cement was not the fault of plaintiffs, and therefore they had executed their contract within a reasonable time.—His Lordship said the plaintiffs had failed in their construction of the first floor and must pay damages. Where the contract did not specify a time the plaintiff must have reasonable time allowed for the execution of the work under existing ordinary circumstances. Messrs. Bradford had constructed the first floor within three months, and that indicated that this period of time was a reasonable one in which to fulfil their contract. Mr. Ward had argued that this work was spoiled by the bad cement, and that that ought to be taken into account to get a further extension of time, but his Lordship did not think that that was a circumstance to be taken into account. They had reasonable time allowed, and by the terms of their contract should have used proper cement. It was not neglect on plaintiffs' part that this cement was used, but it was no answer to a breach of contract, and the law did not allow a man to plead his own breach of contract as a reason for the extension of time for the performance of that contract. The only question remaining was that of damages, and these must be reduced by £10. There would be judgment for the plaintiffs for £486 2s. 1d., and judgment for the defendants on the counterclaim for £315 6s. The plaintiffs would have costs of the action, and the defendants costs of the counterclaim.

APPEALS TO THE LOCAL GOVERNMENT BOARD.—In the House of Lords, on Monday, the Lord Chancellor and Lords Shaw, Moulton, and Parmoor gave a considered judgment in the appeal by the Local Government Board against an order of the Court of Appeal involving questions of the Board's procedure and the secrecy of their inspectors' reports. An inspector of the appellants made a closing order against Mr. Arlidge in respect of some small house property of his at Hampstead. He appealed to the Local Government Board, and his appeal was dismissed. Mr. Arlidge maintained that the Board, contrary to the rules of evidence, and contrary to natural justice, received and took into consideration evidence, documents, and statements which were not disclosed to him, and without giving him an opportunity of contradicting or commenting upon them. The Local Government Board submitted that their procedure was sanctioned by the Housing of the Working Classes Acts, and that their practice to treat as confidential documents reports made to them by their inspectors at local inquiries was reasonable, and was a well-known and established practice. Their Lordships allowed the appeal of the Local Government Board with costs, and restored the order of the Divisional Court.

INDEPENDENT CLAIMS UNDER WORKMEN'S COMPENSATION ACT.—Coaling v. John Mowlem and Co., Ltd.—In the Court of Appeal on Tuesday Lords Justices Buckley, Kennedy, and Phillimore delivered judgment in this action, an appeal from a judgment by Mr.

Justice Atkin, involving a question of law. The widow of one William Codrlog, who was killed while working for a well-known firm of contractors, began proceedings in the City of London Court, claiming damages under Lord Campbell's Act on behalf of herself and her six children. The employers denied that the workman met with his death from any negligence on their part, and paid £300 into court as the maximum which could be claimed as compensation under the Workmen's Compensation Act. The six children applied for payment out of the £300 in court, stating that their mother did not propose to claim under the Workmen's Compensation Act. At the hearing the widow renounced all her rights to any share in the £300, and an award was made with her consent that the money should be paid out for the benefit of the six children only. The widow afterwards proceeded with her action for damages against the employers. The point raised was whether the widow's action was not barred under section 1, subsection 2 (b) of the Workmen's Compensation Act of 1906. Mr. Justice Atkin held that the action was, under that statute, not maintainable, and the widow's appeal was now unanimously dismissed by the Court of Appeal, counsel for defendants not being called upon.

AN ORFORDNESS ARBITRATION AWARD.—The Hon. E. G. Strutt, the arbitrator in the claim brought by Lord Rendlesham against the War Office for compensation for 1,249 acres of land at King's Marshes, Orfordness, East Suffolk, required for aviation purposes, published his award on Tuesday, the amount being £12,107, in addition to £1,000 as compensation to tenants. At the arbitration proceedings the expert witnesses called on behalf of the claimant, Mr. H. Trustram Eve and Mr. W. A. Simmons, valued the land for aviation purposes at £25 an acre, or £33,620 15s., after 10 per cent. had been added for compulsory acquisition and an agreed amount for outgoings deducted. On behalf of the War Office, the land was valued by Brigadier-General D. Henderson at £6,689.

Mr. P. Glover has resigned his appointment as surveyor to the county of Kildare.

Mr. A. E. Smith, late of Uxbridge, has been appointed surveyor and inspector of nuisances at Petersfield.

It is proposed to erect forthwith a large Patents Syndicate. Messrs. J. A. J. Woodward and Sons are the architects.

After a long discussion, the town council of Bromley, Kent, have adjourned the consideration of a proposal to appoint a special committee to consider the desirability of erecting a public hall in Bromley.

The death of Mr. William Harry White, formerly chief engineer and secretary to the Government of Bombay Public Works Department, is announced. Mr. White joined the service in 1873, became superintending engineer in 1900, and was appointed an additional Member of the Legislative Council in 1904. He retired in 1907, when he was created a Companion of the Order of the Star of India.

Mr. R. H. Birknell, Local Government Board inspector, held an inquiry at the town-hall, Maidstone, on Monday, respecting the application of the corporation for sanction to borrow £1,050 for the purchase of land in Upper Fant-road and Tonbridge-road, for the purposes of street improvement, a recreation-ground, and the erection of artisans' dwellings; and also for power to borrow £3,810 for the erection of an Agricultural Hall in the Lock Meadow.

A Royal Commission has been appointed to report on the condition of the double avenue of elms, nearly three miles in length, in the Long Walk, Windsor Great Park. The trees, which at one time numbered 1,632, were first planted in 1680, an operation completed by William III. During recent years many of the elms have either fallen or been cut down, and some of those still standing show signs of decay. The Commission consists of Prince Christian, chairman; Lord Redesdale, Sir Stafford Howard, Sir William Schlich, Sir David Prin, with Mr. A. J. Forrest (Crown Receiver) as secretary.

At Friday's meeting of the Birmingham Education Committee, the chairman, Sir George Kenrick, reminded the members that at their previous meeting a member suggested they should inquire into circumstances affecting two of their contractors. Inquiry was made, and it was found they had not complied with the resolution of the city council. Therefore, their tenders were put on one side, and the next lowest was recommended. Although these gentlemen had signed the conditions of contract in which they agreed only to employ labour at the proper rates of remuneration, they frankly admitted they had signed without reading the terms. The report was approved and adopted.

PARLIAMENTARY NOTES.

MALL APPROACH IMPROVEMENT.—In debate on the Mall Approach Improvement (Expenses) resolution on Monday, Mr. Handel Booth objected to the provinces being called upon to pay a share of this money. London ought to be ashamed to ask for assistance. Mr. Hodge objected to Scottish money being used for the purpose of beautifying London. An amendment, moved by Sir F. Bambery, to limit the amount of assistance from Imperial funds to £38,000, was rejected by 129 votes to 30. The resolution was then agreed to.

THE NEW WESTERN ROAD.—In the House of Lords on Monday, on the motion for the third reading of the Middlesex County Council (Western Road and Improvements and Finance) Bill, Lord Montagu of Beaulieu moved the omission of the clause authorising the Middlesex County Council to make a charge of 3d. a mile on each motor omnibus using the new road. He protested against a tax on this class of vehicle, while heavy motor trolleys and traction-engines were to go free. Several speakers, including Lord Strachie (who gave the views of the Local Government Board), thought the clause was justified in this particular case. The amendment was not pressed to a division, and the Bill was read a third time and passed. The measure has now passed through all stages in both Houses, and only awaits the Royal assent.

SMOKE ABATEMENT.—Mr. Budden, manager of Doulton's Pottery Works, Lambeth, gave evidence on Wednesday before the Smoke Abatement Committee. He stated that two or three years ago the question was raised in the House of Commons whether the fabrics of Westminster Abbey and Lambeth Palace were not disfigured by the products of the chimneys of Messrs. Doulton's works. Careful investigation was made, and it was found that the sides of the abbey and of the palace which directly faced the Doulton potteries were in a better state of preservation than the other sides. Manufacturers had every inducement to mitigate the smoke nuisance, because they desired to utilise their fuel and not waste it. Witness considered there should be financial aid forthcoming from the Government to assist manufacturers in the carrying out of costly experiments. Such experiments would involve an outlay so enormous that it would be almost impossible for a pottery manufacturer, or even a combination of pottery manufacturers, to carry them out. Mr. Budden suggested the appointment of a permanent advisory committee to consider the merits of the cases investigated by smoke inspectors before proceedings were instituted against manufacturers.

Considerable alterations and additions have just been completed at Congham Lodge, Norfolk, for Sir Everard Folke, Bart., entailing an outlay of about £4,000. Mr. Herbert J. Green, of Norwich, has acted as architect, and the work has been carried out by Messrs. Dye and Allen, of King's Lynn.

The 67th annual general meeting of the Builders' Benevolent Institution was held on Wednesday afternoon at Koh-i-Noor House, Kingsway, Mr. G. R. Holland (Messrs. W. Cubitt and Co.) presiding, when Mr. Holland was elected president, and Mr. Frank May re-elected treasurer.

Bertie Frank Parker, forty-two, clerk, of Newlands-terrace, Battersea, was found guilty at the Marylebone Police-court on Wednesday of stealing £54 belonging to his employer, Mr. Edward John Saunders, builder, of Eleon-street, Westbourne Park. Prisoner had to collect each week the men's and the employer's contribution for unemployment and health insurance, but the prosecutor, at the end of the half-year, discovered that the cards had not been stamped to the extent of £54.—The prisoner was sentenced to two months' hard labour.

At the county schools at Tilbury, Mr. Courtenay Clifton, an inspector under the Local Government Board, has held an inquiry into the application of the urban district council for sanction to borrow £61,225 for the purchase of land and the erection of working-class dwellings: £2,275 for the purchase of land in the north and south wards, under the Housing and Town-Planning Act; £3,535 for works of surface-water drainage and channelling; and £6,138 for the purchase of land in the south ward for a depot, allotments, and public walks and pleasure-grounds. Mr. Petter, the architect, explained the housing scheme, and said the 234 houses would be in three classes. In Class I, 12 would be let at 7s., and 18 at 7s. 3d.; Class II, 64 at 7s. 3d., and 16 at 9s. 6d.; Class III, 104 at 5s. 3d. Further evidence in support was given by Dr. J. C. Thresh, medical officer for the county, and Dr. Fowler, medical officer for the urban district.

Our Office Table.

Complaints about the manner in which some Lancashire and Cheshire authorities repair their roads were made at a meeting on Tuesday of the Lancashire and Cheshire branch of the Roads Improvement Association, in the Midland Hotel, Manchester. It was stated that instead of tarring half of a roadway with sand or chippings, some authorities tarred complete sections at the same time, leaving the tar uncovered, with the result that it took cyclists and motorists longer to clean their machines and vehicles than it did for them to do even lengthy journeys. One member stated that last year he saw tar running down the grids at Chesterfield, and that the same thing happened this year at Disley. In view of these occurrences the secretary was instructed to write to the borough surveyor of Preston requesting that in future only one-half of the roadway should be tarred at a time.

The United States army engineers have long used the following mixture in waterproofing cement: One part cement, two parts sand, three-quarters pound of dry powdered alum to each cubic foot of sand. Mix dry and add water in which has been dissolved three-quarters of a pound of soap to each gallon. This is nearly as strong as ordinary cement, and is quite impervious to water, besides preventing efflorescence. For a wash, a mixture of one pound of lye and two pounds of alum in two gallons of water is often used.

A report issued by the Austrian Society of Engineers and Architects gives the results of an investigation conducted by the committee on reinforced concrete appointed by the Society. Facts, rather than theories, were kept in view throughout. Thus, the results obtained, which may some day lead to the evolution of a theory, serve in the meantime to establish facts of much value to practical constructors. The degree of fixity to be allowed for in the expression of the bending moment and in the design of reinforcement for resistance to negative bending moments is one of the most delicate questions for consideration by the designer. While the ends of reinforced-concrete beams, as usually applied, are not supported freely, the condition of perfect fixity is rarely attained. Therefore the observations made relative to the extent to which the ends are fixed under various practical conditions are of high interest. One of the most remarkable points brought out in the course of the investigation is the fact that the resistance of beams stiffened by gussets or knee-braces at the ends is seven times greater than that of beams uniform in cross-section throughout.

An engineer has described in a paper read before the American Society for Testing Materials his experiments to measure the compressive, tensile, shearing, and transverse strengths of lime mortar, and to ascertain how these values are affected by the more numerous variables met with in practice, such as chemical composition of the lime, kind and amount of sand, size and shape of test specimen, conditions under which the test specimen is stored, and the effect of added materials. The results are very disappointing, for they demonstrate that the strength developed by a specimen of lime mortar is affected by too many variables to be capable of accurate measurement in the laboratory, and that even if this were possible, there is no assurance that the results obtained would be comparable with those which might be expected in practice.

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY.—National Federation of Builders' Trades Employers. Semi-annual Meeting at the South Wales Institute of Engineers, Park-place, Cardiff. 10.30 a.m.

The Hertfordshire County Council decided on Monday to purchase from the East Garden City, Limited, 86 acres of land on the fringe of the Letchworth estate for £5,000, as a site for a sanatorium and hospital for the treatment of tuberculosis.

LATEST PRICES.

IRON.

Table listing prices for various iron products including Steel Joists, Wrought-Iron Girder Plates, Bar Iron, and Builders' Hoop Iron.

Table listing prices for Galvanised Corrugated Sheet Iron and Cast-Iron Columns.

Table listing prices for Cast-Iron Socket Pipes, Pig Iron, and Gas-Tubes.

OTHER METALS.

Table listing prices for various other metals including Spelter, Lead, Copper, and Tin.

TIMBER.

Table listing prices for various timber products including Yellow Pine Deals, Spruce Deals, and Red Deals.

FURNITURE AND HARDWOODS.

Table listing prices for various furniture and hardwoods including Teak, Oak, Birch, and Mahogany.

STONE.

Table listing prices for various stone products including Red Mansfield, Darley Dale, and Bath Stone.

SLATES.

Table listing prices for various slate products including Blue Portmadoc, Blue Bangor, and Eureka unfading.

BRICKS.

Table listing prices for various brick products including First Hard Stocks, Second Hard Stocks, and Accrington Best Red Plastic Facing.

GLAZED BRICKS.

Table listing prices for various glazed brick products including White, Ivory, and Buff Cream.

MOULDED BRICKS.

Table listing prices for various moulded brick products including Stretchers and Headers, and Compass bricks.

TILES.

Table listing prices for various tile products including Plain red roofing tiles, Hip and Valley tiles, and Selected 'Perfecta' roofing tiles.

OILS.

Table listing prices for various oil products including Rapeseed, Cottonseed, Olive, Spanish, and Seal.

GLASS (IN CRATES).

Table listing prices for various glass products including English Sheet Glass, Fluted Sheet, and Hartley's English Rolled Plate.

VARNISHES, &c.	Per gallon.
Fine Pale Oak Varnish	£0 8 0
Pale Copal Oak	0 10 0
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of churches	0 11 0
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Fine Pale Durable Copal	0 18 0
Extra Fine French Oil	1 1 0
Eggshell Flattening Varnish	0 18 9
White Copal Enamel	1 4 9
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knottling	0 10 0
French and Bruah Polish	0 10 0

TRADE NOTES.

Boyle's latest patent "Air-Pump" Ventilator has been applied to the Workmen's Hall and Institute, Blaengwni (Glam.).

We understand that the cement work in connection with the office extension of the Tramways Dept., Glasgow Corporation, is being treated with the powder Pullo, which makes cement waterproof.

Mr. J. Craddock Perkin, F.R.I.B.A., formerly of "Graham House," 3, Tudor-street, E.C., has now removed his office to "Bridge House," 181, Queen Victoria-street, E.C., close to Blackfriars Station. Telephone 2420 Central.

Claridge's Patent Asphalte Co., Ltd., announce that they have opened an agency in Manchester to cope with the work in the North Midlands District. Their representative is Mr. E. J. Thompson, of 36, Spring-chambers, Manchester.

Messrs. John W. Simpson, F.R.I.B.A., and Maxwell Ayrton, A.R.I.B.A., 3, Verulam-buildings, Gray's-inn, London, W.C., inform us that, in accordance with their usual practice, their offices will be closed from August 3 to 17, both days inclusive, for the annual staff holidays. Arrangements will be made as usual for dealing with all business referring to buildings in actual progress.

Mr. W. J. Hiseox, of Marlborough, has been appointed surveyor and inspector of nuisances to the Hay Urban District Council.

A new diocesan college is being built at Ballaghaderreen from plans by Messrs. W. H. Byrne and Son, of Dublin. The contractor is Mr. James Kiernan.

At Halifax, N.S., the erection of a science building for Dalhousie University is well advanced, and it is hoped to have the building completed by September. The total estimated cost of the work is £50,000. The architect is Mr. A. R. Cobb, and the general contractors are Messrs. Falconer and McDonald, Halifax.

A Local Government Board inquiry was held at the town-hall Wallasey, yesterday (Thursday), in regard to the corporation's application to borrow £1,570 for the widening of the north-east side of Breck-road, adjoining the Wirral Railway; £2,075 for the widening of Claremont-road, south of Mayfield-road; and £997 for the provision of a public footpath from Warren-drive to Sea-road, affording a short cut to the municipal golf-links and the shore.

The committee of the Capetown Cathedral Memorial Fund, which was formed in 1901 for the purpose of building the east end of the cathedral at Capetown, as a memorial for those who died, and a thank-offering for those who were spared in the war in South Africa, has almost finished the work entrusted to it. The architects are Messrs. Herbert Baker and Massey, whose design was illustrated by a ground plan and perspective in the BUILDING NEWS for February 21, 1902.

The first section of the new buildings which are being erected for Cheshunt College at Cambridge is approaching completion, and the opening ceremony has been fixed for October. The cost of the work now in hand is about £20,000. The site is near the Botanical Gardens in Bateman-street, near Trumpington-street. Mr. P. Morley Horder, F.R.I.B.A., is the architect, and his design, selected in competition by Sir Aston Webb, was illustrated by a birds-eye view in our issue of June 6, 1913.

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TENDERS.

* * * Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BATTERSEA.—For painting interior of Surrey-lane School, for the London County Council:—
 Akers, W., and Co., Ltd., South Norwood ... £681 0 0
 Young, W., South Norwood ... 668 0 0
 Rice and Son, Stockwell-road ... 627 0 0
 Donald, R. S., Wandsworth* ... 624 0 0
 *Recommended for acceptance.

BETHNAL GREEN, N.E.—For alteration to heating apparatus at Globe-road school, for the London County Council:—
 Arding and Dyne, 239, Southwark Bridge-road ... £1,112 0 0
 Brightside Foundry & Engineering Co., Ltd., Victoria-street ... 1,100 0 0
 Bradley, G. and E., Lever-street ... 1,040 0 0
 Christie, J. C., Aldgate ... 990 0 0
 Deane, E., and Beal, Ltd., Monument-street ... 980 0 0
 Cannon, W. G., and Sons, Ltd., Southwark ... 918 0 0
 Yetton & Brockett, Ltd., Munton-road ... 895 10 0
 Pearson, R. H. and J., Notting Hill Gate ... 880 0 0
 Palowkar and Sons, Queen-street ... 864 0 0
 Hayward Bros. & Eckstein, Ltd., Union-street (accepted) ... 760 0 0
 Architect's estimate, £935.

CAMBERWELL, N.—For painting exterior of Mawbey-road School, for the London County Council:—
 Cook, H. J., and Sons, Penge ... £826 0 0
 Foster, F., and G., Norwood Junction ... 689 0 0
 Coldman, A., and Son, East Dulwich ... 678 10 0
 Smith, F., and Co., Bush-lane ... 661 0 0
 Goad, W. V., Camberwell-road ... 633 0 0
 Griggs and Son, Cubitt Town ... 625 10 0
 Groves, H., Greenwich* ... 606 0 0
 *Recommended for acceptance.

CAMBRIDGE.—For the erection of a school, for the town council. Mr. H. H. Dunn, A.R.I.B.A., County Hall, Cambridge, architect:—
 Jeffs Bros., Leitchworth ... £2,982 0 0
 Ambrose, H. E. ... 2,853 0 0
 Bell, W., and Sons ... 2,779 0 0
 Hacksley Bros., Wellingborough ... 2,777 0 0
 Henson, G., and Son, Wellingborough ... 2,730 0 0
 Parren and Sons ... 2,493 0 0
 Clark and Sons ... 2,690 0 0
 Kidman and Lofts ... 2,574 0 0
 Coulson and Lofts ... 2,560 0 0
 Rooke, H., and Sons ... 2,555 0 0
 Brignell, J. ... 2,550 0 0
 Bennett, J. R., and Son, Gwydir-st.* ... 2,538 0 0
 *Accepted. Rest of Cambridge.

FULHAM.—For painting interior of Fulham Palace School, for the London County Council:—
 Blake, W. E., Ltd., Fulham ... £711 16 1
 Roberts, A., and Co., Ltd., Earl's Court-road ... 681 0 0
 Polden, A. and F., Shepherd's Bush ... 633 0 0
 Lole and Co., Chelsea ... 626 0 0
 Brown, W., and Sons, Ltd., Ubridge-road ... 566 18 10
 Garrett, J., and Son, Balham Hill ... 554 0 0
 Clarke, G. W., Shepherd's Bush ... 530 1 0
 *Recommended for acceptance.

FULHAM.—For painting exterior of Langford-road School, for the London County Council:—
 Garrett, J., and Son, Balham Hill ... £695 0 0
 Roberts, A., and Co., Ltd., Earl's Court-road ... 641 0 0
 Polden, A. and F., Shepherd's Bush ... 631 10 6
 Lole and Co., Chelsea ... 620 0 0
 Blake, W. E., Ltd., Fulham ... 551 2 2
 Clarke, G. W., Shepherd's Bush ... 510 2 0
 *Recommended for acceptance.

HACKNEY, N.E.—For heating Wilton-road School, for the London County Council:—
 Davis, G., Kensington ... £1,320 0 0
 Arding and Dyne, Southwark Bridge-road ... 1,187 0 0
 Brightside Foundry & Engineering Co., Ltd., Victoria-street ... 1,163 0 0
 Palowkar and Sons, Queen-street ... 1,109 0 0
 Deane, E., and Beal, Ltd., London Bridge ... 1,020 0 0
 May, J. and E., Lincoln's Inn-fields ... 979 0 0
 Yetton and Brockett, Munton-road ... 969 13 0
 Cannon, W. G., and Sons, Ltd., 107, London-road (accepted) ... 926 0 0
 Architect's estimate, £1,030.

HOXTON, N.—For painting interior and exterior of Napier-street School, for the London County Council:—
 Lea, H. and E., Regent-street ... £1,392 10 0
 Monk, A., Lower Edmonton ... 1,350 10 0
 Patman & Fotheringham, Ltd., Theobald's-road ... 1,303 0 0
 McCormick and Sons, Ltd., Essex-road ... 1,295 10 0
 Roberts, C. P., and Co., Ltd., Dalston* ... 1,290 0 0
 Williams, G. S. S., and Sons, Barnsbury ... 1,228 10 0
 *Recommended for acceptance.

ISLINGTON, N.—For painting interior and exterior of Vittoria-place School, for the London County Council:—
 Bull, F., Upper Clapton ... £1,015 0 0
 McCormick and Sons, Ltd., Northampton-street ... 1,096 0 0
 Williams, G. S. S., and Son, Barnsbury ... 963 0 0
 Lea, H. and E., Regent-street ... 808 5 0
 Patman & Fotheringham, Ltd., Theobald's-road ... 800 11 0
 Waddington, J., and Sons, Ltd., Ludgate Hill ... 786 0 0
 Whitby Bros., 29-30A, Eagle-st.* ... 779 0 0
 *Recommended for acceptance.

ISLINGTON, W.—For heating Gifford-street School, for the London County Council:—
 Gray, J., Ltd., Chelsea ... £1,500 0 0
 The Brightside Foundry and Engineering Co., Ltd., Victoria-street ... 1,366 0 0
 Strode & Co., Ltd., Osnaburgh-st. ... 1,269 0 0
 Palowkar and Sons, Queen-street ... 1,268 0 0
 Cannon and Heford, Peckham ... 1,255 0 0
 Deane, E., and Beal, Ltd., Monument-street ... 1,254 0 0
 Pearson, R. H. and J., Ltd., Notting Hill Gate ... 1,233 0 0
 Yetton & Brockett, Ltd., Munton-road ... 1,195 0 0
 Cannon, W. G., and Sons, Ltd., London-road ... 1,180 0 0
 Bradley, G. and E., Lever-street ... 1,171 0 0
 Knight, T. S., and Sons, Great Portland-street (accepted) ... 1,170 0 0
 Harlow, B., & Son, Macclesfield (withdrawn) ... 1,075 0 0
 Architect's estimate, £1,195.

LONDON.—For works of painting and tarring at parks and open spaces, for the London County Council:—
 Archbishop's Park—
 Harding, R., and Son, Brixton ... £434 0 0
 Watson and Ellwood, Dulwich ... 228 15 0
 Ronald, R. S., Wandsworth ... 184 0 0
 Marsland, J., and Son, Walworth ... 165 0 0
 Fletcher, F. W., Tooting* ... 87 0 0
 Estimate comparable with tenders, £105.

Avery Hill—
 Hodgkin and Son, Woolwich ... 339 0 0
 Penn, A. M., Woolwich ... 180 0 0
 King, H., and Son, Peckham ... 160 0 0
 Line, H., Peckham ... 149 0 0
 Thomas and Edge, Woolwich* ... 97 10 0
 Estimate comparable with tenders, £100.

Brookwell Park—
 Harding, R., and Son, Brixton ... 796 0 0
 Ronald, R. S., Wandsworth ... 475 0 0
 Watson and Ellwood, Dulwich ... 340 0 0
 Fletcher, F. W., Tooting* ... 237 0 0
 Estimate comparable with tenders, £239 10s.

Chelsea Embankment Gardens—
 Watson and Ellwood, Dulwich ... 156 0 0
 Ronald, R. S., Wandsworth ... 130 0 0
 Fletcher, F. W., Tooting* ... 56 10 0
 Estimate comparable with tenders, 47s.

Finchbury Park—
 Toop and Sons, Hornsey-rd., N. ... 390 0 0
 Patman and Fotheringham, Theobald's-road, W.C. ... 276 0 0
 Stevens & Sons, Crouch Hill, N. ... 239 0 0
 Williams, G., & Son, Barnsbury Part, J. H., Hornsey ... 203 16 0
 Marchant, Hirst, and Co., Highgate-road, N.* ... 180 0 0
 Estimate comparable with tenders, £239.

Hilly Fields—
 Loasby, F. W., Hither Green-lane, S.E. ... 346 0 0
 Finch and Finch, Hither Green ... 251 0 0
 Young, W., South Norwood ... 187 0 0
 Peyton, A. T., Lewisham ... 180 0 0
 Harris, N., and Son, Brockley* ... 125 0 0
 Estimate comparable with tenders, £175.

Horniman Gardens—
 Harding, R., and Son, Brixton ... 321 0 0
 Watson and Ellwood, Dulwich ... 161 0 0
 Mitchell, W. J., and Son, Dulwich ... 135 0 0
 Brown, T., and Son ... 91 0 0
 King, H., and Son, Peckham ... 88 0 0
 Line, H., Peckham* ... 88 0 0
 Estimate comparable with tenders, £100.

Millbank Gardens—
 Fletcher, F. W., Tooting ... 81 0 0
 Goad, W. V., Camberwell ... 74 0 0
 Laphorne and Co., Lambeth ... 73 0 0
 Markham and Markham, Victoria-street, S.W. ... 61 0 0
 King, W., and Sons, Westminster* ... 41 0 0
 Bendon, T., Ltd., Hammersmith ... 32 1 0
 Estimate comparable with tenders, 47s.

Wandsworth Common—
 Harding, R., and Son, Brixton ... 763 0 0
 Watson and Ellwood, Dulwich ... 278 12 0
 Ronald, R. S., Wandsworth ... 267 0 0
 Marsland, J., and Son, Walworth ... 275 0 0
 Fletcher, F. W., Tooting* ... 91 10 0
 Estimate comparable with tenders, £170.
 *Recommended for acceptance.

MARGATE.—For summer decorations and aundry alterations at Royal School for deaf and dumb children, under the supervision of Mr. Frank Windsor, Licentiate R.I.B.A., High-street, Croydon: Spec. A. Spec. B. Spec. C.

Wales ...	£396	£120	£151
Stiff ...	570	119	148
Farmor* ...	357	113	141

* Accepted. All of Margate.

PADDINGTON, N.—For heating Emily-street (Senior street) School, for the London County Council:—

Christie, J. C., Aldgate ...	£1,102 10 0
Palowkar and Sons, Queen-street ...	1,097 0 0
Davis, G., Kensington ...	1,048 0 0
Brightside Foundry & Engineering Co., Ltd., Victoria-street ...	1,011 0 0
Pearson, R. H. and J., Ltd., Notting Hill Gate ...	950 0 0
Cash, H. J., and Co., Ltd., Westminster ...	944 0 0
Cannon and Hefford, Stanbury-road, Peckham (accepted) ...	898 0 0

Architect's estimate, £985.

PECKHAM.—For painting interior and exterior of Woods-road School, for the London County Council:—

Dowds, W., Ltd., Walworth-rd. ...	£1,394 0 0
Goad, W. V., Camberwell-road ...	1,043 0 0
Foster, F. and G., Norwood Junction ...	1,009 0 0
Akers, W. and Co., Ltd., South Norwood ...	974 0 0
Young, W., South Norwood ...	965 0 0
Smith, F., and Co., Bush-lane ...	931 0 0
Groves, H., Greenwich* ...	875 0 0
Mills, W., and Sons, Ltd., Blackheath ...	870 0 0

* Recommended for acceptance.

PENARTH.—For the erection of a house, Redlands-road, Penarth, for Mr. Richard Guy:—

Marty, S. J., St. Nicholas-road, Barry ...	£1,771 0 0
Couzens, G., and Sons, City-road, Cardiff ...	1,640 0 0
Haines, R. E. J., Wyndham-road, Cardiff ...	1,550 0 0
Taylor, C., Woodlands-place, Penarth ...	1,549 0 0
Britton, J., Elmgrove-road, Dinas Powis ...	1,547 0 0
Evans, J., Diggle-road, Penarth ...	1,502 0 0
James, J., Cornerswell-road, Penarth ...	1,491 0 0
Edwards, E. P., and Co., 69, Penywain-road, Cardiff* ...	1,442 0 0

* Accepted.

WALTHAMSTOW.—For exterior painting and sundry renewals and repairs, to the Marsh-street, Old School, and school canteen centre, for the education committee. Mr. H. Prosser, M.S.A., architect to the committee:—

Fulker, E., and Son ...	£120 0 0
Barton, A. G. ...	98 10 0
Lucas, D. W. ...	95 0 0
Dean, J. and J. ...	92 0 0
Penn, J. F. ...	90 0 0
Sands, J. (accepted) ...	83 10 0

All of Walthamstow.

WANDSWORTH, S.W.—For heating Ballham High-road School, for the London County Council:—

Palowkar and Sons, Queen-street, E.C. ...	£1,282 0 0
Aring and Dyne, Southwark Bridge-road ...	1,257 0 0
Wilson and Smith, Ltd., King William-street ...	1,179 18 0
Knight, T. S., and Sons, Great Portland-street ...	1,120 0 0
Brightside Foundry & Engineering Co. Ltd., Victoria st., S.W. ...	1,065 0 0
Burroughs, W. J., and Sons, Holborn ...	1,015 0 0
Hayward Bros. and Eckstein, Ltd., Union-street, S.E. ...	1,006 0 0
Pearson, R. H. and J., Ltd., Notting Hill Gate ...	1,003 0 0
Cannon and Hefford, Peckham ...	975 0 0
May, J., and F., Lincoln's Inn-fields ...	949 0 0
Cannon, W. G., and Sons, Ltd., 107, London-road, S.E.* ...	937 0 0

Architect's estimate, £999.

* Accepted.

WALTHAMSTOW.—Improvements to heating Mark-le-c road Schools (junior, mixed, and infants' departments), for the Education Committee. Mr. H. Prosser, M.S.A., architect to the committee:—

Wilmer and Sons, London, E.C. ...	£215 0 0
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(Accepted.)

WALTHAMSTOW.—William Morris School. Providing and fixing new sectional boiler, and removal of old wrought iron boiler, and incidental works, for the Education Committee. Mr. H. Prosser, M.S.A., architect to the committee:—

Watkin and Son, Wood Green ...	£110 0 0	£90 0 0
Boyd, J. D., and Co., London ...	106 13 0	97 16 0
Cassidy, W., Walthamstow ...	106 0 0	89 12 0
Wentner-Smith, Gray & Co., Ltd., London, E.C. ...	105 0 0	99 15 0
Russell and Co., London, W. ...	98 14 0	98 14 0
Davies, F., Leyton ...	83 10 0	82 0 0

A.—Robin Hood Boiler. B.—Alternative Boiler. * Accepted.

WESTMINSTER.—For painting interior of the Mill-bank School, for the London County Council:—

Barton, W. S., and Co., Chancery-lane ...	£549 0 0
Kearley, C. F., Ltd., Great Marlborough-street ...	543 0 0
Sims, J. R., Horseferry-road ...	525 0 0
Staine, A. J., and Co., Ltd., Great Titchfield-street* ...	522 0 0

* Recommended for acceptance.

WHITSTABLE.—For erection of Cookery-room, Oxford-street, for the Kent Education Committee. Mr. Wilfrid H. Robinson, M.S.A., architect:—

Reeves, G. ...	£890 0 0
Porter, T. ...	850 0 0
Wyer Nicholls, and Co. ...	790 0 0
Edwards, Canterbury ...	775 0 0
Collar, T. ...	765 0 0
Dadds, L. T., Canterbury ...	704 0 0
Solly, E. ...	698 0 0
Browning, G., Canterbury* ...	683 0 0

* Provisionally accepted. Rest of Whitstable.

YSTRAD.—For the erection of electric theatre, for Gelly Pictorial Co., Ltd. Mr. J. Phillips, 9, Gelly-road, Ystrad, Rhondda Valley, architect:—

Davies, W. J., Hopkinstridd, Pontypridd, S. Wales (accepted) ...	£2,000 0 0
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* Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of mere commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

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SALOPIAN.—Yes.
R. T. F.—Thanks, no.
BURMAN.—Kindly send.
ERIC E. EVANS.—Sorry, but we really do not know what you mean by an "uncomplicated roof truss."
N. W.—Any of the firms listed in our Directory under "Structural Iron and Steel Work," will do all you want.

PLASTER.—We know nothing of the firm Bellman, Ivey, and Carter, Ltd., Linhope-street, are the recognised specialists in Scagliola marble.
B. E. LAINE-PEARSON.—The statement on p. 64 last week, that there were 185 cubic feet in a St. Petersburg standard, was a slip. It should, of course, have been 165ft. We thank you for pointing it out. We fail to find any errors in the prices you refer to, after comparison with current sales, as reported in the principal timber trades journal.
J. C. OXFEN.—(The last subject for the Session 1913-11, is that illustrated to-day for a small crematorium. The awards of the prizes for the three best series of designs submitted during the year will be published early in October, when the new session will commence. Names of intending members may be sent in meanwhile, and copies of the rules can be had, post free, on application to the Editor.)

LIST OF COMPETITIONS OPEN.

July 21—Cottages, Chapel-en-le-Frith	10gs., 5gs., 2gs.	The Clerk, Rural District Council, Chapel-en-le-Frith Stockport.
.. 25—Designs for Police and Fire Station, Redhill. (Assessor)	40gs., 20gs., 10gs.	A. Smith, Town Clerk, Municipal Buildings, Reigate.
Sept. 7—Designs for Public Elementary Schools at Lindal-street, York-road, Battersea; and Billinggate-street, Church-street, Greenwich. (Mr. J. W. Simpson, F.R.I.B.A., Assessor)		L. Gomme, Clerk, Education Offices, Victoria Embk., W.C.
.. 15—Designs for Shakespeare Memorial National Theatre (Mr. T. E. Colcutt, P.P.R.I.B.A., Assessor)	500gs. (merged), and five of 150gs.	The Secretary, 3A, Dean's-yard, Westminster Abbey, S.W.
Oct. 31—Laying Out Show Grounds, Wayville West, Adelaide	£500, £200, £100	The Secretary, Royal Agricultural Society of South Australia, 23, Waymouth-street, Adelaide.
.. 31—Drawings for Police Buildings and Fire Station, St. Helens. (Assessor)	£100, £50, £25.	A. W. Bradley, M.J.C.E., Town Hall, St. Helens.
Dec. 31—Planning Workmen's Settlement, Campine Coalfield	£400, £240	M. le President de la Commission pour l'Aménagement des Agglomérations Industrielles, Rue de Louvain, Brussels.
No date—Drawing or Photograph of English or Continental Metal Work	5gs., 3gs., 2gs.	Whitehead and Caslake, Ltd., The Broadway, Hendon, N.W.
do. —Designs for Technical Schools and Education Offices (Mr. Paul Waterhouse, F.R.I.B.A., Assessor)		J. E. Jarratt, Town Clerk, Town Hall, Southampton.
do. —Plans for 20 Houses (Costing from £200 to £270), Gildersome		W. Wilby, Sur., Council Offices, Gildersome.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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OUR ILLUSTRATIONS.

Rebuilding in Bishopsgate, London, E.C., for the Leathersellers' Company. View and plans. Mr. Howard Chaffield Clarke, F.R.I.B.A., Architect.
Church of St. Columba, Scarborough. Mr. Temple Moore, F.R.I.B.A., Architect.
"Wellgarth Corner," Hampstead. View and plans. Mr. Herbert A. Welch, F.R.I.B.A., Architect.
Doxford Hall Extension. Messrs. Maudslayi and Weightson, Architects.
Concert Hall, Hythe, Kent: Selected Design. Mr. Arthur Wintle, Architect.
The Bristol General Hospital Extensions. Messrs. Outley and Lawrence, Architects.

HOW THE BLIND LEAD THE BLIND.

It is singular that although much attention has been given to education during the past quarter of a century, few, if any, of our master builders know anything of the scientific basis underlying their work. It is difficult to understand what occupied their time at the high schools or technical schools they attended, for it was certainly not anything having the most remote connection with even as much applied chemistry, geology, or botany as concerns their business, about all of which subjects they are deplorably ignorant. It may be asked what value would such be to a bricklayer who can build straight? He would, at any rate, know good lime from bad, and a good brick from one that would not stand the weather; although we possibly admit we should prefer to employ the man who could carry out his courses level and his quoins plumb to one who could do neither, but was able to tell us how the magnesia got into the dolomites of the Permian rocks. We need not be surprised that the scholars should know so little when the teachers are so woefully ignorant of subjects they profess to instruct them in. Take this as a sample: "The knowledge of the mineralogical components of a stone helps us to ascertain its weather-resisting qualities," says one of the teachers, which is true. Now for the application of this fact. "Very harmful additions are principally carbonate of lime . . . the most desirable are consequently the most silicious stones." There are two statements here absolutely misleading, and they could only have been made by one having no practical knowledge whatever of his subject. Whether carbonate of lime is harmful or not depends entirely on its condition. It may be earthy, as in chalk, when it is "harmful"; but it may be highly crystalline, as in some of the Carboniferous limestones, in which case as a building-stone it is indestructible. The most silicious stones are not the most desirable, for many of them decay rapidly: witness the Old Red sandstone of Herefordshire and the New Red of Cheshire. As a sandstone is built up with grains of silica, felspar, and mica, its value as a building-stone will depend on the cement which binds the grains together, and it is not conceivable that our authority meant by silicious stones those like flint, which are the most silicious stones found in nature, but which are unworkable, except in plain walling and in small sizes.

Take another authority, this time on timber. He says: "For framing the best deals to be depended on are the Norway, particularly the Christiania battens."

Now, a Christiania batten has not been known in the timber market for fifty years, and our authority has a suspicion of something of the kind, for he goes on to say, "These deals are now very scarce, and, indeed, are almost unattainable." Another up-to-date authority says that "we import but very little wood from the United States, with the exception of staves," although he goes on to say that pitch-pine has long been in general use for building, and is imported from St. Mary's, Pensacola, Georgia, etc. If these places are not in the United States, where are they? There are two dangerous men at present engaged in teaching the principles of building construction—the University man who has no practical knowledge of the work, and the practical man who has practical knowledge of a sort, but is wholly ignorant of its underlying elements. How many workmen, or even builders, know what lime, the commonest material they use, is? That in every hundredweight of pure lime there must be eighty pounds of a yellow metal known to chemists as calcium, and thirty-two pounds of oxygen gas, and nothing else, is a statement that would be received with incredulity. Yet it is a fact, and on this metallic base all our limes and cements are built up. Taking our best known limes—chalk, stone, magnesium, lias, and Roman cement—all having different properties; what do they really consist of? Chiefly lime. White chalk burns to a white lime, which is wholly soluble in hydrochloric acid, and it is used chiefly for plastering in London; it never "sets," and in damp places, like foundations, it remains soft. As a matter of fact, mortar made with it only hardens by drying.

In the cements which "set," this means that in them certain new chemical combinations are formed in presence of water, and these become hard; but it is obvious that in chalk lime there are no substances present to form any such new compounds, and the process of taking up carbonic acid from the air is such a slow one that the builder would be a hundred years at least in his grave before it helped his work in any way. Lime, then, is the basis of all building mortars, and of cements, natural and artificial; and the architect should always recollect that it may be pure or combined with other substances, and if a knowledge of this fact is of importance in the selection of his materials, he should specify it without any ambiguity. To make our meaning clear, it will not do to mention "chalk lime" in a contract, for the Upper Chalk of geologists yields white lime, which is wholly soluble in water, and

the Lower Chalk a grey lime, such as that found at Merstham and Dorking. A strange thing about lime is that so many rocks, and so diverse in physical character, should yield it in a nearly pure condition. Many of the Carboniferous Limestones of the North of England and the Great Central plain of Ireland are pure limestone, the discolouring matter being carbon, which passes off as carbonic acid in the kiln. This is how it is that the black marble of Kilkenny burns to a pure white lime. Again, limestone is found varying much in specific gravity: in chalk it may weigh 126lb. to the cubic foot, and in mountain limestone over 171lb. The appearance of these stones is totally different, yet chemically they are identical, consisting only of lime and carbonic acid. Lime is always found in combination with some other substance, and the carbonate is used to obtain it, for the carbon passes away readily in the kiln at a moderate temperature. The lime could not be obtained so cheaply in any other way.

But where did the metal calcium—which is, as we have said, the basis of lime—come from? The crystalline rocks are the only known source of lime, and it must have been suspended in an invisible form in the seas before it was thrown down as limestone. By the crystalline rocks we mean granite, basalt, and other fire-formed rocks, whether plutonic or volcanic. This limestone is soluble in water at 60deg. F.; 100 parts of water will take up 1368 parts of calcium carbonate, and at boiling-point (212deg. F.) it will take up only one-half the quantity; and this is why pipes in hot-water-circulating apparatus become furred, for the limestone is thrown down gradually as the temperature of the water in the pipes is raised, the hot water not being able to hold it in solution. When clay is present in limestone, it is in a finely-divided state, and is distributed throughout the mass of the rock. Now, as any lime will for its constituents depend entirely on the stone from which it is burned, it follows that a clayey limestone will yield a clayey lime, the clay being indestructible in the fire when its heat is not high enough to bring about its combination with the lime as calcium silicate and calcium aluminate. The presence of clay with the lime renders the latter more soluble in water. Hence the Lias lime will set under water when pure lime will not do so. From this it would appear to be a necessity that when Portland cement is not used for pointing the walls of houses exposed to driving rains, his lime should be, for it will set and harden under these conditions, and pure lime will not.

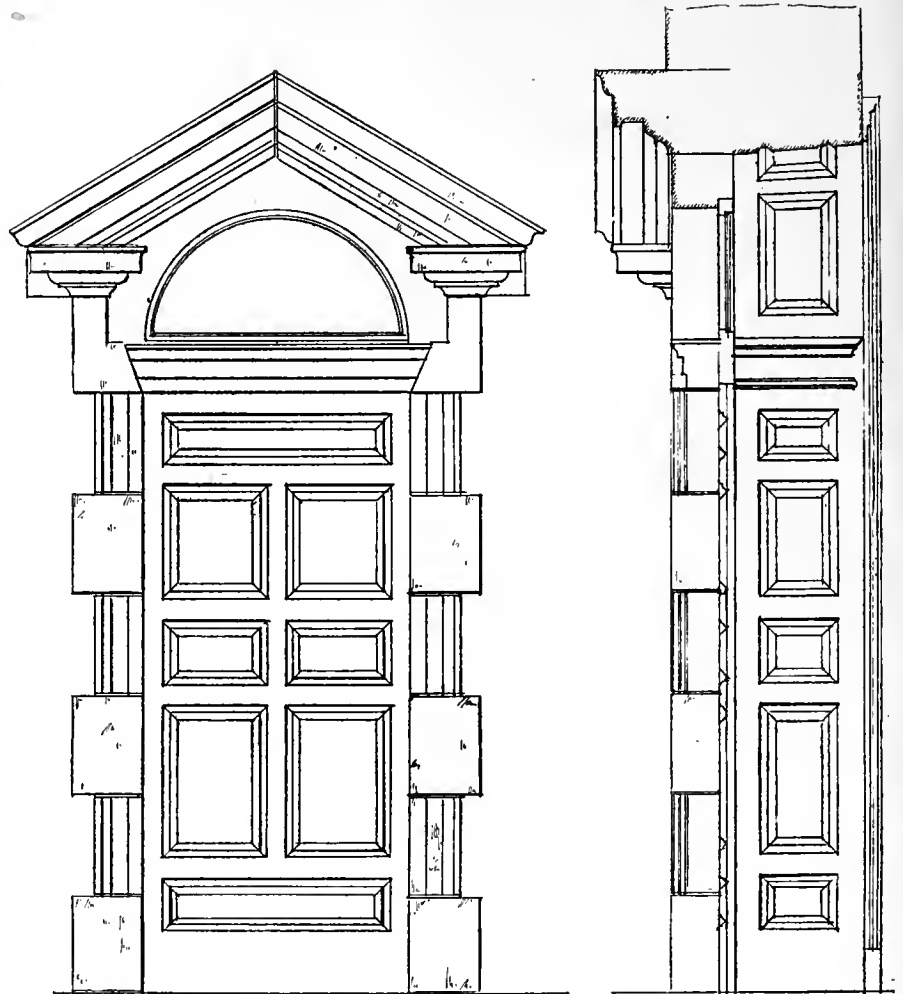
Smeaton knew, when he was building the Eddystone lighthouse, that clay was a valuable ingredient in lime for his purpose, and he used lias from Aberthaw, in South Wales. But his knowledge died out with him so far as the majority of our building workmen or their employers are concerned. When a definite quantity of water is thrown on lime, it is absorbed, and the lime-lumps fall to a dry powder, all the water having disappeared. But the action of pure lime and lias lime under this cold-water treatment differs considerably. When water is thrown on pure lime it swells in bulk considerably, it becomes intensely hot, and, if left uncovered, it disengages steam with great violence; it is of the utmost importance that the workman should know, if he does not throw on enough water at once to satisfy the combining properties of the lime it will not slake to a fine powder: the result will be a mass of fine spheres, like small shot, of small value for mortar-making.

Few workmen appear to have any idea of what takes place when lime is slaked, and they never remark on the strange fact that the water they throw on it completely disappears, and the lime is as dry as if it had not been subjected to this treatment. The water added to the lime in this way may be driven off by heat, and the same lime may be slaked and unslaked at pleasure. It is important to note that the pure limes are more easily slaked than those containing clay: hence the latter are generally sent out in sacks, ground, to be slaked, while the only chance of being able to send the pure limes any distance is to slake them before they are sent on their journey. This traffic in slaked pure lime is common in the United States; but it would be dangerous to add water to any lime containing clay, with a view to slaking it for transport, as it would probably "set," and therefore be of no value at the end of its journey. Magnesium limestone has for its basis magnesium, and not calcium; it is burned for lime wherever that stone outcrops, and though it is claimed for it that the lime is hydraulic, this claim has never been substantiated. Another source of natural cement is the Septaria found in nearly all clays; these may be seen on the beach at Sheppey and in the clay cliffs along this coast and on the opposite side of the Thames. They are called Septaria from the partitions, or septa, by which they are divided, and are a mixture of lime and clay formed in a sea where lime was thrown down with clay; but the former in too small a quantity to form a continuous limestone deposit. These Septaria, calcined and ground, make our so-called "Roman" cement, the distinguishing characteristic of which is its property of setting rapidly, even under water. A Derbyshire firm, "the largest manufacturers of lime in the world," say that their lime has no equal for plastering, and they give its analysis: Lime 98.20, magnesia 0.25, oxide of iron and alumina 6.20, silica 0.25, moisture and inorganic matter 1.10. It will be seen that this is practically a pure lime, and exactly similar to that obtained from white chalk, and the crystalline carboniferous limestone of Ireland.

Turn to timber, and see what experts have to say about that. The wood for carpenters' work, we are told, comes from Memel, Riga, Dantzic, and Sweden; that for joinery from Christiania, Stockholm, Gelle, On-ga, and other Northern ports. If by carpenters' work is meant the floor-joists and rafters of the houses going up all over London, then there is little or no Memel, Riga, or Dantzic timber used in them. The builder gets his 9in. by 3in., 7in. by 2in., or 4in.

by 2in. from the timber merchant, without a thought of what port it comes from, so long as it is cheap. As we have said before, we get no deals fit for joinery from Christiania, and the speculating builder will not trouble to get White Sea deals for his joinery when he can get much cheaper

to design his buildings so that unseasoned timber may be used in them. This is building construction turned topsy-turvy with a vengeance. Many doors of Swedish manufacture are imported at present, some elaborately panelled, and some with circular work. We give an illustration of



stuff from any port in the Gulf of Finland. An extraordinary piece of advice given is to select timber 12in. square, this being the most convenient size. We have converted many logs, and, with a keen eye to have as little sapwood as possible: we selected Crown Memel logs 2ft. square, and we found the larger the log the better the scantlings cut from it. In all these pines there is about 3in. of sapwood; it follows, therefore, that there will be less of this waste wood in proportion in a large log than in a small one. We are advised to avoid in timber spongy hearts, porous grain, and dead knots. Unfortunately, these defects cannot be seen until the log is opened, and then it is too late; the purchaser must put up with the loss, as the timber merchant does not hold himself responsible for such failures, even though he selected the log, and the only way the builder can protect himself in the matter is to make a "special" arrangement to get sound wood, paying an extra penny or two-pence a foot for it. In other words, let the builder contract himself out of "the custom of the trade" by making a special agreement, as we have suggested.

We will, for the present, close our extracts from expert advice with the following: "As it is vain to attempt to buy dry whole timber, it is necessary, in designing a building, to so arrange the timber that any shrinkage shall not affect the structural stability of the work." The architect always specifies that his timber is to be well seasoned; but here he is asked

a Georgian door, and none of these Swedish productions equal it in appearance and stability, although it is what was known a hundred years ago as a batten door—that is, one in which the panels are nailed on a plain surface specially made to take them. Why cannot builders copy this?

NATIONAL COMPETITIONS AND ROYAL COLLEGE OF ART EXHIBITIONS, 1914.

This week these two annual exhibitions have been opened at South Kensington. The larger is on view in the "North Court" of the Victoria and Albert Museum, where the assemblage will be open to public inspection till the end of August. The architectural achievements from all parts of the country are pretty much on a level with the productions of past years in this class, under the auspices of the Board of Education. Notwithstanding the pontifical ambiguities of the Examiners in their report, little change either for better or worse can be recorded this year, and, while we entirely agree that the examples chosen for display on this occasion rank at a pretty low level, we question the official assurance heading the architects' report, that "the average level of work submitted is scarcely up to that of previous years."* As a matter

* Herbert Spencer expressed in the fewest words why every exhibition at the R.A. is spoken of as "below the average." "Those who regularly visit these exhibitions presumably cultivate their taste, and apply the test of a

of fact, this question of average has long enough resolved itself into a persistent demonstration of the ineptitude of the whole system. The changes and reforms about which so much was said two or three years ago do not appear to have brought about any improvement. Indeed, the judges—Mr. Reginald Blomfield, R.A., Professor E. S. Prior, A.R.A., and Mr. Charles F. A. Voysey—call attention to the continued want of thought shown in planning and construction. A paragraph or two, intended to show the way of escape, are added, admonishing teachers not to permit students to introduce "features the logical intention and construction of which they do not understand." Tricks of skiagraphy are, perhaps, less in evidence this year, though a vulgar and meaningless use of colour prevails still in various quarters. Only one bronze medal, anyhow, has been awarded for architectural design, and we can but once again urge the need of the abandonment of trying to teach architecture in such a futile fashion.

There are fewer drawings shown this year which have done duty previously in the Institute Students' Competitions and elsewhere, but we seem to remember some old friends still. Mr. Thomas Stott, of Manchester, who takes the sole bronze medal in this class, wins it with a Late Classic brick and stone-dressed design for an Industrial Arts Museum, set up with attenuated detail. The report describes it as "a quiet and well-considered" scheme. A minority report as to this would not have surprised us; but "circumstances alter cases." Mr. Sidney H. Head, of Lambeth, obtains a book prize for a design for a Park Bridge in stone, headed by a monumental archway, designated "Gloucester Gate," and not badly detailed. Mr. William O. Jones, of Manchester, receives similar recognition for a Domed Votive Church (513), chiefly remarkable for a very lofty cupola and square plan with an apsidal sanctuary and apses to the transepts, also a portico on the west front. Commendations were extended to Mr. James Greenwood, of Lambeth, for his commonsense Georgian Country House (1313) in red brick and stone; but the plans are most indifferent, and the sheet of sections has an empty look, evincing a lack of care in spacing out, both in drawing and design. We have not much to say about the College Quadrangle (1460), by Mr. Reginald S. Moore. Mr. Thomas Fenbow, of Newcastle, is likewise commended by the examiners for a Mausoleum design with a "pepper-box" sort of top, surmounted by a gilded roof well reflected in the ornamental water in front, suggesting the commonplaces of an exhibition ground. Although not qualified under the regulations to receive the prize, Mr. Leonard Foster, of Leeds, wins a book for a Bank and Porch to a big hotel (which latter recalls a similar competition at Tufton-street). The Bank has a columned ground stage in stone, the superstructure being in brick; but the whole thing ranks as ordinary.

Although not in the same class, the work next to be mentioned is of an architectural kind, being a panelled design for a drawing-room by Mr. Horace C. Harvey, of Hackney (1265), and for which he is "commended." The decoration is Jacobean, with pendants from a rich plastered ceiling. Miss Elizabeth Anglin, of Deptford, has hanging near the last a series of drawings illus-

trating a design for a chancel decoration (1243), in which the judges say, "they regret to find evidences of the lack of a thorough study of style." This sanctuary east wall lacks all sense of style and of proportion also. The mural panels of Pelicans (pious and otherwise) are enormous, and out of scale with the weak little traceried window of Gothic detail, having a text inscribed on a blue ribbon, probably cut out of zinc, painted and stuck on round the top of the arch, and above the panels. The altar looks ridiculously small. The full sizes shown by Miss Anglin for the Altar Cross and Candlesticks are much better; the whole of the general scheme is bad, and shows work which ought to be avoided. The book illustration designs this year displayed near the last-named do not seem, on the whole, to be up to the standard of the last few years, but some of the studies for posters are suggestive, enough, such as the one illustrating an Art-school *Conversazione* by a man and woman in "full fig." passing into a doorway, and seen in silhouette against a brilliant interior.

Turning now to the exhibition generally, which, of course, in the aggregate, represents an enormous amount of work, and some capital results, we cannot attempt to mention all the examples worth note, and, therefore, shall confine our remarks briefly to those distinguished by Gold Medals. In this list there are only nine awards in England, and out of these four of the winners are disqualified by previous or concurrent success. Books are given in lieu of the Gold Medal in these cases. Mr. Arthur G. Small, of Birmingham, is given a Gold Medal for a Leather Box for Chessmen, with ivory mounts. At a first glance, this design looks very like a tobacco-jar. It is some six or seven inches high, in red leather, with the legend round the top, below the lid: "Keep what you want, cast what you can; expect nothing back once lost or given." The box is spaced into four compartments, with tooled female single figure in arched panels set out between pilasters diapered prettily with white and green. The ivory feet do not seem to belong to the leatherwork, and the crown knob to the lid, of the same material, looks somewhat out of character with it. No. 2 Gold Medal is won by Miss Agnes M. Hawker, of Bristol, for a Stencilled Border, which is most original, and quite a beautiful scheme, though we do not quite know to what precise use it would be applicable. The ribbon has four running reindeer behind conventional trees, the foliage of which forms the top of this frieze, and at the extremities, in circular panels, are seen a pair of North American hunters on the trail, and facing each other. The charm of this design is the varied or graduated white background suggestive of a snow effect. Mr. Louis Fox, of Leicester, takes the third Gold Medal for the Shaded Head from the Antique, or Michael Angelo's "Dawn," drawn with silver-point refinement, extreme delicacy of modelling, and an artistic power of reserve. The vertical delineation of the shaded tint of the background tends to enhance the rounded formation of the facial features admirably. The Marylebone students, the Misses Margaret Free and Gwen White, cannot take their Gold Medals this year; but they both well deserve them. Miss Free has a group in oil-colours, showing a gilded chair, a lady's striped frock, a sunshade, and other personal effects difficult to treat broadly and handle successfully in colour in a quiet and harmonious way. Miss White sends one of the few outstanding exhibits to be seen this year, and which creates a new standard for stained wood design and its capabilities. Her white wood triptych is a thing to be remembered for delicacy and

refined design and a pretty sense of colour. The pedimented head contains a lunette of lovers and the same idea pervades the interior of the side doors seen when open, all the figures being in Stuart period costume. The centre panel is occupied by a poem charmingly written, and round it is a foliated border rising to the frieze-like top, with Cupids in the corners driving ribboned peacocks, while in the midst is another god of Love on mischief bent, ready to dart forth in quest of further incidents. "The Rape of Persephone" is the subject of an excellently-modelled and finely-composed panel of a group of six lamenting nude maidens bewailing the discomfiture caused the youthful-looking Pluto in the chariot, who, with four horses, is hastily making off to Hades with his precious prize. The work is intended for a marble panel to be placed in the side of a library. Mr. Arthur Woodford, of Nottingham, wins a Gold Medal for this capital scheme; but its architectural accessories are not quite a success. That possibly would be expecting too much. Mr. Francis Wiles, of Dublin, deservedly obtains a Gold Medal for a charming model of a young girl, excellent in every way.

Miss Grace Lodge, of St. Marylebone, is to be praised for her "stained wood," or, as we should say, painted, corner cupboard, with tastefully diapered sides and jewel-like borderings, the big panel being peopled with goblins and characters from fairy tales, rich in colour, and pretty in effect. A Silver Medal was awarded for this (53). A like recognition is given to Mr. Frank D. Wray, of Wandsworth, for some solid good drawings from the nude in full lengths of well-chosen subjects, and of high standard in execution. Close by we noted a side back study of a splendid model glancing over her shoulder, and seen in profile—a promising piece of shaded performance by Mr. Ines O. H. Johnson, from the same school; from whence a graphic charcoal sketch of an itinerant minstrel male figure, by Mr. Charles W. Farley, who also won a Bronze Medal well. The Study of Drapery (85), by Mr. Frederick Savage, from Birmingham, is brightly handled, giving the texture finely of a full-length skirt on an antique figure of a woman. This was awarded a Silver Medal. Miss Cecilia Adams well merited her prize for an excellent enamel panel of a monk, rich in tone and handsome in colour (435). The stencilled panel design of a cock and hen in Japanese manner and style won a Bronze Medal (211) for Mr. R. E. Slarks; but its particular purpose in a nursery is not quite clear. Mr. G. E. Bradbury's modelled memorial tablet to Jeanne d'Arc 1412-1431 deservedly won a Silver Medal (47). The panel is vertical, and the girl is seated in a devotional posture, flatly modelled, the profile dominating the rest, the bower behind her being merely suggested and charmingly managed. A very different exhibit is Miss Eileen Greig's painted chest in greens and blues, ornamented with Celtic forms, and with figure panels in front (1281) of varied scale. The effect is too gaudy; but we see the work is "Commended." It comes from Hammersmith School of Arts and Crafts.

ROYAL COLLEGE OF ART.

This exhibition is held in the classrooms behind the Science Schools in Exhibition-road. Perhaps the most striking example of dashing draughtsmanship is an oval full-size study cartoon for a Ceiling Decoration, done in charcoal, red and white chalks by Mr. H. E. Staufen (95) displaying an involved composition of floating figures powerfully handled and intended for colour; but the artist's small colour studies hanging near hardly please us so well. The stained glass shown is better than usual and the cartoons are well done.

higher standard now than they did ten years ago, so that fewer pictures reach their standard now than did then. Of the pictures they saw ten years ago, only those remain in their memories which impressed them strongly, whereas in the present show all are equally before them, good, bad, and indifferent, which gives the impression of a lower average."—Henry Holiday's "Reminiscences."

Mr. P. R. Paul shows two panels for a nursery window, illustrating "A Child's Garden of Verses," by Robert Louis Stevenson. The execution of the bright effects in the horn-toned quarry panes below the figures are quite remarkable. Miss Mabel T. Eckersley, in the School of Architecture, shows some colour decoration and figure-work from Rome and Perugia, and Mr. E. H. Llewellyn's similar colour studies from Fontainebleau deserves attention, while Miss Nellie S. Flaxen attracted our notice by her graphic drawing of a sculptured pier from the Temple of Diana at Ephesus, which is here excellently expressed by shading. This student's "Medallion" has a poor figure, too big for the architectural setting. Her studies and designs for woodwork are in many respects excellent and capable.

The chief exhibit in the Architectural Gallery this year is the "Restoration of the Temple of Jupiter Olympus," of which some sixteen gigantic columns of the Corinthian order still stand in a S.E. direction from the Acropolis. Formerly this temple boasted of 124 columns, so disposed as to present a triple row of ten in each front, and a double row of twenty in the flanks, all in Pentelic marble, the total length of the building being 354ft. by 171ft. wide. The height is stated to be 58ft., including the architrave. The author of this admirable and scholarly set of restorations is Mr. W. G. E. Jones, who is accorded the Travelling Scholarship in Architecture for 1914. His principal drawing is a fine and large perspective, showing one end of one flank of the Temple, which is octostyle, and dates from 174 B.C., when it was erected by a Roman architect. Vitruvius says that the foundations were prepared by Antistates Callaeschrus, Antimachides, and Porinus, architects employed by Pistratus; but the work was abandoned. Somewhere about 350 years afterwards King Antiochus employed a Roman named Cossutius; but the ruins of his work have yet to be completely examined. This restoration, which does Mr. Jones so much credit, is based upon Perouse. We hope to illustrate it at the close of the Exhibition. There is a good House-front in the same room, prepared for the British Institute Scholarship, by Mr. G. C. Styles, and it is designed in a Classic measure, with an ingenious plan, after the modern French manner (57). We did not think much of "An Artists' Colony" (58), by Mr. P. H. Hanbury. Miss Beatrice M. Gower shows some designs for woodwork screens, and Mr. C. S. Tresilian, on the same wall, has one very good example, even if it is rather late in its detail. The same set of students exhibit designs for canopied fountains; but we could not allocate them, as they were not named.

In the Sculpture Gallery we noticed the panels submitted recently for the Music-room Mantelpiece in the competition for the British School in Rome Scholarship, by Messrs. C. S. Jagger, H. Wright, and B. Hancock, which we saw at Crosby Hall in Chelsea a few weeks ago. Their connection with the Royal College of Art display is not very clear. The figure statuettes in full length from the life, by Messrs. L. A. Smith and J. A. Floyd, seemed to us to be very excellent and reserved in their treatment. Mr. W. Marsden won the Travelling Scholarship for Sculpture by his design for a Monument to Shakespeare. The Etchings on this occasion are well shown in a separate room, properly draped to set them off to advantage. Architectural subjects are represented by Mr. W. M. Keesey, who is always capable, and by Mr. Ray Jones. "The Two Corbices," by Miss Dorothy B. Martin (49) is one of the best etchings exhibited this year.

THE ATELIERS.

The announcement of last week, that a second Atelier is to be opened, because the first is full, may have surprised some who were inclined to be pessimistic, or even opposed to the movement, at its outset. It used to be said that the affair was "un-English" and that it could never flourish, even in London. But this prognostication seems to have been due to an over-hasty patriotism, interested opposition, or ignorance of what the Atelier meant and was to stand for. From whatever quarter, and by whatever reason, it came, this prophecy has thus far proved mistaken, however, and those connected with the movement, whether they be the promoters or younger men who have been able to avail themselves of its advantages, have no reason for regretting the course they have taken. Further, all are satisfied that the method, which the Beaux Arts Committee was formed to introduce, now requires only its completion by the foundation of a second Atelier, which will compete with the first, to enable it to advance very substantially, to modify, and reform the training of architects in this country.

The Ateliers differ from schools and similar institutions in this, chiefly: that whereas the schools are schools, and, as such, subject to necessary organisation and restraint, the Ateliers are really clubs, and submit only to such regulations as the members think fit to impose upon themselves. At the present Atelier this regulation is very slight indeed. The membership includes men of all ages. Some have well-known names and practise in many styles—for the Atelier imposes no stylistic limitation. Others, the younger and more constantly working members, have come on straight from one or other of the schools. Many work in offices all day and come to the Atelier only in the evenings and at week-ends—the place is always open, and every member has his key. But, whatever their circumstances, all are convinced that for those, whether students or practitioners, whose chief interest lies in their work, there is no place like the Atelier for discussion, criticism, and design.

It is not so surprising as some might think, therefore, that many give up their leisure, after their day's work, to come along to the Atelier for the pleasures of conversation and the pains of design. The man who has made some name for himself, and the young draughtsman of ability, find themselves in an atmosphere which quickly develops their qualities and a company which gives them their due. They find also that they have to reckon with a stream of criticism which passes no slipshod thinking or unreasonable design. One or two have fallen away on this account, but the better part remains.

The young student who does not know his Orders, perhaps, advances rapidly and learns his forms as items in an interesting reality rather than as part of a process of tedious but necessary toil. At all stages he can call upon the criticism and assistance of his seniors. He sees the larger schemes being made and lends a hand on the big drawings where there happens to be something he can do. And all the time he listens, and, if he can, takes a part in the discussion which is always going on.

Free discussion and reasoned criticism are the watchwords of the Atelier. They imply an attitude and an outlook from which no sound designer has anything to fear; but also one from which meretricious work, be it by one on the last pinnacle of eminence or the height of some popular fashion, can hope only that its ruthless dissection may be tempered by a charitable, if contemptuous, regard for the conditions under which it is done. The matter is turned over and over, and anyone who advances an opinion must give also his reason, chapter and verse, in its support. In the Atelier, at least, the day is done with—indeed, it never was—when an opinion or personal preference passed as a decision of weight. A judgment there must be free and reasoned if it is to count at all.

The basic tenets of the Atelier are simple enough and applicable to all building and to all styles. The necessity the promoters were

under of going to Paris in the first instance for their model of procedure does not imply that we hold any brief for the French or Beaux Arts style of design, and, as a matter of fact, that style is very little practised. From the French methods of making, rendering, and presenting a drawing we have learned, and are learning, much. These methods are chiefly helpful in the direction of speed, in order to leave the maximum time for study, and have no necessary connection with design. But so far as external design itself is concerned, we find that English or Classic models are generally preferred. Apart from the method of presentation—which, after all, is of minor importance—what has been gained from Paris is the lesson which France is always prepared to teach the whole world in almost any line of endeavour. And that is the effort, and eventually the habit, of approaching every problem in a reasonable fashion, working from premises which are known towards the ultimate and definite solution.

Now the promoters feel sufficiently strong to run the second Atelier without any direct aid from France. Certain modifications will be made in accordance with the experience gained. Arrangements must be contrived, in so far as it be possible, to meet the conditions of London, which differ widely from those prevailing in Paris. For instance, a very substantial reduction in the fees is contemplated. Signs are not wanting also that the architectural world in London is altering some of its views to meet the Ateliers. The modifications in the educational side are already marked. They form the best possible commendation of the lead we have given. We look upon the efforts which are being made to follow our example with feelings of pleasure and hopes for their success.

These hopes are not solely altruistic, as at first sight they may appear to be. Those who were responsible for the inauguration of the movement have, from the first, realised that one Atelier, working away alone, cannot do all that an Atelier should, cannot fully display the strength of the method. For the root idea of an Atelier is that its members shall work together on, and take a proud interest in, the products of the Atelier as a whole, rather than that each member should work separately for his own hand. In this way some counteraction to the exaggerated individualism in design, which is our bane in England, is set in motion, and a man learns early to work with others, as, sooner or later, in architecture, at any rate, if he is to do permanent work, he must.

The work of the coming year should, therefore, prove exceptionally interesting, especially to working members. The Atelier method is now really to start, with all its essential parts; two, or more, Ateliers, competing under a common jury: two, or more, teams under a common referee. There is nothing un-English in this. We shall see indeed if men on this side of the Channel cannot pull together in the Ateliers as well as they contrive to do in any other direction in which they really try.

THE R.I.B.A. EXAMINATIONS.

The Preliminary Examination, qualifying for registration as Probationer R.I.B.A., was held in London and nine provincial cities on June 16 and 17. Of the 150 candidates admitted, forty-one were exempted from sitting, and the remaining 109 examined, with the result that eighty-seven passed and twenty-two were relegated to their studies. The passed and exempted candidates, totalling 128 altogether, are as follows:—

Cyril Edward Abbott, Gilbert Leonard Appleton, Douglas Gordon Armstrong, Harold Edward Asser, Morris Bader, Walter Barton, Albert Beasley, Clayton Moffat Bentley, Tom Blakeley, Howard Gilbert Boulton, Leslie John Bown, Eric Wensley Bragg, Faith Brooke, Frank Collin Brown, Bruce Burge, Alfred Vincent Butney Burr, William Frederick Cale, David Arthur Carmichael, Ronald Gundry Carnall, Harold Bertram Challen, George Stanley Chester, Benjamin Bernard Chevalier, Lionel Clement Erskine Clark, Henry Frederick Clarke, John James Collins, Ernest Cormier, Alexander Cullen, Murdoch Currie, Arthur Edwin Davidson, John Davies, John Alfred Depledge, Horace George Dolman, Thomas William Dowsett, Robert

Bancroft Dunkerley, Nicholas John Durant, Leslie Marriott Earle, Ralph Victor Eastman, Albert Edgar Eberlin, Harold William Edwards, Thomas John Evans, William Cecil Evans, Eric George Felgate, Alfred Stockley Foster, Albert Robert Fox, Harold Griffiths, Reginald Thomas Grummitt, Franklin Leslie Halliday, Charles Kendall Hanson, Frederick Claude Smith Harrison, John Holliday Hughtan, Edward Taylor Heath, Mark Oliver Hill, Percival Theodore Horns, Clifford Evans Holman, Felix Holt, Topham Becher Dabridgecourt Hough, James Houston, Cyril Ewart Howard, William Burrows Clement Hunkin, Norman Stuart Hunt, Harry Jackman, Harold Thomas Jackson, Francis Raymond James, William Peterson James, Frank Edward Jefferies, Harold Jones, Hume Victor Kerr, Edgar Graham Kiralfy, Albert Leslie Knott, Frank Henry Langley, Horatio Edward Arthur Larkum, Edgar George Latian, Edward Price Lavender, Alfred Drysdale Lewis, Archibald Ernest Lewin, Henry Thelwell Lloyd, Charles Roy Lynam, Matthew J. Lynch, Richard James Masey, Cyril Jack Mead, Clifford Edmund Mee, Bernard Alexander Miler, William Morris, Harold Leggett Mullett, Cecil Jack Noke, Edward James Nutt, Arthur Trevor Owen, Montague William Padgett, Edwin Pallett, Denis Hele Parrott, William Paulden, Leslie Frederick Phelps, Edwin Phillips, Aston Charles Pickett, Douglas Horace Selin Piteber, Edward James Potter, John William Anderson Poyer, James Rodfern, Stanley Reeves, Frederico Reina y Garcia del Busto, John Eric Reynolds, Charles William Robertson, Ronald Chard Rosevear, Charles Douglas St. Ledger, Bernard Cecil Senearate, Leonard Senyard, William Arthur Shannon, Archibald Althur Simpson, Eric Hayward Skipper, Lambertus Louis Theodor Sloop, Alfred Ewart Smith, Ernest Morris Smith, Thomas Steen, Harold Rocksby, Ernest Albert Streetfield, John Stuart Teasdale, John Thomas, Harold Warwick Thompson, Wilfrid Twiss, Michael Theodore Waterhouse, B.A. Oxon, Francis Howard Hippersley Webb, Harold Comington Wheatley, Guy Charlton Wilkins, Harold Douglas Williams, Herbert Trevor Bailey Williams, Arthur Wilson, Barry Ernest Wilson, Harry Wilson Wood.

The Intermediate Examination, qualifying for registration as Student R.I.B.A., was held from June 12 to 19. Eighty-one candidates were examined, of whom forty-seven passed and thirty-four were relegated. The passed candidates are as follows, the names being given in order of merit as placed by the Board:—

Austen St. B. Harrison, Thomas Rayson, Francis Milton Cashmore, Norman Pristo Keep, William James Watt, Neville Wynne Jones, Leslie Archibald Norris, Wilfrid Bernard Gosling, Henry Bartholomew Tunnard, George Saba Shuber, John James Douglas Burt, Leonard H. Foster, Thomas Smith Shearer, James Robert Blake, Wilfred Henry Harris, Thomas Moss Bridge, Joseph Dawson Gordon, Edgar Lync, jun, James Monteith McLean, John Adams Webb, Norman Arthur Blackburn, Joseph Rushbrooke Keyte, George Vyvyan Spruway, Frederick Wentworth Turner, Harold Morgan Lewis, John Stewart Thomson, Richard Ross Neely, George Bevan, jun, Harry St. John Harrison, Thomas William Vivian May, Horace Beverstock John Nelson Meredith, Reuben Walter Carey, Francis Eric Gooder, Leonard Heywood, Charles Allen Hinton, William Donald Key, John Gordon McBeath, Ion Beresford Pite, Clement Lawrence Pope, William Carter Preston, Percy William Rollin, Lester Howard Sacre, Norman Woodford Slater, Harley Clarence Victor Strickland, Albert Stringer Tanner, James Bernard Millard Walsh.

The number of failures among the relegated candidates in each subject of the Intermediate Examination was as follows:—

A. Principal Styles and General History of Architecture	5
B. 1. Simple Applied Construction	18
B. 2. Theoretical Construction	14
C. 1. Historical Architecture:—	
(a) Greek and Roman	1
(b) Byzantine and Romanesque	—
(c) French and English Gothic	3
(d) Italian, French, and English Renaissance	1
C. 2. Mathematics and Mechanics	—
C. 3. Design	22

The following Probationers possessing the certificates required under the regulations were exempted from the Intermediate Examination, and have been registered as Students, viz.:—

Howard Dennis Archer, Thomas Braddeok, David Arthur Carmichael, Edward Robinson Ferrihand Cole, Ernest Cormier, Arthur Edwin Davidson, Harold John Hugh Dicksee, Thomas William Dowsett, William Harkess, Bernard Alexander Miller, Robert Ainslie Threadgold, Arthur Wilson.

The Final and Special Examinations, qualifying for candidature as Associate R.I.B.A., were held in London from June 25 to July 3. Of the ninety-one candidates examined, forty-five passed, and the remaining forty-six were relegated. The successful candidates, given in alphabetical order, were as follows:—

Richard Anderton, Richard Alfred Barber, Herbert Phillips Bryant, Andrew Stuart Burnett, George Wilfred Calderer, Kenneth Cameron, Walter Llewellyn Clark, Harold Thoresby Cooksey, Colin Addison Dickeson, Edward Harold Montague Ebbs,

Joseph Charles Fowell, William Hubert Godwin, William Holgate Harrison, Frank Hearne, James Hembrow, Ernest James Hickman, Percy Howard, Basil Hughes, William John Isaac, Eric Rawlstone Jarrett, Bernard Jessop, Albert Frederick Kaitenbach, Frederick Lawrence Kruckenberg, Godfrey Horton Ledger, William Leonard Boghurst Leech, James Macgregor, Ebenezer James Maclac, Egerton Alwyn Lawer Martyn, Stanley Russell Miller, Abdulla Bhangsi Peermahomed, Thomas Luff Perkins, Richard Manning Haig Philp, Geoffrey William Ridley, Cedric Gurney Ripley, Horace Edwin Rolley, Arnold Silcock, Charles Ernest Stafford, Gerald Stanley, Herbert Samuel Taylor, James Oshert Thompson, Gilbert George Lee Tyte, Harold Gerard Waddington, Percival Mitchell Ware, Charles Taylor Whiteley, Arthur Jackson Wood.

The number of failures among the relegated candidates in each subject of the Final Examination was as follows:—

A. Design	32
B. Construction:—	
(1) Foundations, Walls, Roofs, &c.	27
(2) Iron and Steel	35
C. Hygiene	21
D. Properties and Uses of Building Materials	11
E. The Ordinary Practice of Architecture ...	20
F. The Thesis	2

Every candidate for the Final Examination is required to submit among his Testimonies of Study a thesis showing advanced and individual work in one only of the following subjects:—(1) Historical Architecture; (2) Science, as applied to Building; (3) Design, including Decoration. The thesis, which may be either an illustrated essay or a design with a detailed report, is assessed by examiners specially appointed for the purpose, who also examine the candidate orally in his thesis. Since this regulation came into force, the following candidates have obtained distinction in their theses on the subjects indicated below:—

December, 1912.—William Godfrey Newton "The Contribution of Imperial Rome to Architectural Development." William George Thoms "Working Drawings of a Factory, with all construction and details fully worked out, stress diagrams and calculations, and a detailed and comprehensive report thereon." June, 1913.—Joseph Hill: "The Gothic Towers of England." William Wilson Munno: "The Medieval Spires of England, their Design and Construction." December, 1913.—William Wallace Frikin: "The Problem of Reverberation in Buildings." Harry Beckett Swift Gibbs: "The Life and Work of James Gibbs, Architect." Henry Birkett Leighton: "Electricity and its Application to Buildings." William Paterson: "The Growth and Development of the Medieval House." June, 1914.—James Oshert Thompson: "Elementary Education and Physical Culture."

LONDON COUNTY COUNCIL.

At the very close of the protracted meeting of the Council on Tuesday, the last to be held before the recess, the Special Electricity Committee presented a report based upon the one proposed by Messrs. Merz and McLellan in March last, and recommended the promotion by the Council of a Bill next session to establish a fresh undertaking and a fresh authority for the purpose of controlling its operations, which would, if sanctioned, be actually carried out by a private company. The Committee considered that for the supply to the county town of London a new electricity authority is preferable, consisting of but thirty-one members, of whom the majority would represent the London County Council, and the rest the neighbouring county councils and county boroughs. The new authority will be empowered by Parliament to set up a new undertaking with a two-fold object:—(1) The gradual establishment of large generating stations down the river, from which supplies in bulk will be given to such existing undertakings as wish it. (2) The right to acquire by agreement existing undertakings, whether municipal or company, and combine them so as gradually to bring about one unified scheme. It is proposed that the electricity authority or its constituent bodies should share in the profits of the undertaking, and be liable to make good any loss out of the rates. It is proposed that two-thirds of the capital for the new works should be found by the electricity authority, and the whole of the money for the purchase of the existing concerns by this central authority, the remainder to be found by the company to whom the management of the undertaking would be handed over for a period of fifty years. To insure continuous control, the appointment of a statutory

technical committee is recommended, a more or less permanent body which will be responsible for seeing that the operations of the company are technically sound, and that the money allocated to it is properly spent. The public authority, however, retains the final control of all funds voted by it. The committee, it is suggested, should consist of the chairman of the authority (ex officio), the engineer of the authority, the financial adviser to the authority, and an outside member appointed by the Board of Trade. The area to be covered is 964 square miles, with a population of 7½ millions. It contains seventy existing undertakings, and about eighty electric generating stations; 60 per cent. of the electricity sold in this area is at present produced within the county of London. After a short discussion the reception of the report was, by consent, postponed until after the recess.

The Highways Committee recommended the Council to put in hand the construction of a connecting double line of electric tramways between Lea-green and Eltham directly Parliamentary sanction is obtained under the Bill which has now passed both Houses; to reconstruct the trackwork of the tramways in Burdett-road, etc., from West India Docks to Penhurst-road, and to provide an additional weather shelter on the Embankment at Blackfriars Bridge. These recommendations were agreed to.

The Council considered a recommendation of the Establishment Committee to the effect that, the terms of the contract notwithstanding, payments in advance be made to Messrs. Holland and Hannen and Cubitts, the contractors for the building of the new County Hall, in respect of materials delivered on the site but not fixed. The committee thought it desirable that such advances should be made, having regard to the abnormal demands which would obtain when the present labour dispute in the building trade was settled, to the delay which might arise if the material worked specially for the new County Hall was not delivered by the time by which it was required, and to the possibility of the sub-contractors suspending their operations on work relating to the new County Hall. Mr. E. R. Debenham, the chairman of the committee, said that those who would receive the money would be, through the contractors, those sub-contractors outside London who had no dispute with their workmen.—Mr. J. D. Gilbert, who moved that the recommendation be referred back, asked for an explanation of this statement, in view of the fact that the Council had decided that the stone should be worked in London.—Mr. Jesson seconded.—Mr. Debenham stated that no payment would be made for any work done in London, except to the quarryman for having the stone worked up in London, as stipulated, and Mr. I. Salmon said that the undertaking that the stone should be so worked had been faithfully kept. After further discussion as to whether in doing as proposed the Council would be "taking sides" in the dispute, the reference back was defeated, on a division, by 67 votes to 42, and the recommendation approved.

Messrs. W. E. Blake and Co., Ltd., of Fulham, having given an assurance of their preparedness to comply with the requirements of the Council in respect of rates of pay and conditions of labour, their tender for the construction of the new Sessions House at Newington, within a period of twenty-one months, has, it was reported, been accepted.

The Council having last week decided to undertake, at an estimated cost of £80,000, the widening of Grove-road, Bethnal Green, between Wennington-road and the north side of the bridge carrying Grove-road over the Hertford Union canal, the Improvements Committee now stated that it is desirable that there should be no delay in the execution of the improvement, and they accordingly recommended that tenders should be invited from selected firms for the reconstruction in reinforced concrete of this bridge, and for the execution of paving works in Grove road. The same Committee

recommended approval of the leasing, at £8,750 a year, of a site on the west side of Kingsway at its junction with Aldwych. The site has an area of about 23,230 square feet and frontages to Kingsway and Aldwych of about 253ft., to Drury-lane of about 114ft., and to Kean-street of about 121ft. They further advised the approval of drawings for a branch bank to be erected at the corner of Kingsland High-street and Dalston-lane for the London and South-Western Banking Co., Ltd. The elevations will be in Carrara ware, with a granite base.

The Building Act Committee recommended that application be made to Parliament in the session of 1915 for an amendment of the London Building Act of 1894, section 122, in order to provide that it shall not be lawful for any person, upon land of which the surface is below the level of the highest tide, and which is so situate as not to admit of being efficiently drained at all times by gravitation into an existing sewer of the Council, to erect any building except with the permission of the Council, and subject to, and in accordance with, such regulations as the Council may from time to time prescribe with reference to the erection of buildings on such land. This would make the section applicable to all buildings and to the area between the highest tide, instead of, as at present, only to the area below the level of Trinity high-water mark.

An interim report on the question of the playgrounds of new and existing schools was made by the Education Committee, arising out of the recent report on playgrounds of the Departmental Committee of the Board of Education. The Council's Committee recommended:—

(a) That the Council concurs in the following recommendations of the Departmental Committee of the Board of Education on Playgrounds:—*New Schools.*—(i.) The shape of the playgrounds should be more carefully scrutinised, and passages, forecourts, etc., should not be counted as forming part of the minimum space required. (ii.) (a) Except in very small schools, playgrounds should be separate for boys and girls. (b) The playgrounds for girls and infants need not be separated. (v.) That—(a) Where a site is expensive (regard being had to the price of land and the resources of the authority), the Board may accept a playground below the measurements specified in section iv. (a) and (b) below. (b) The precise degree of reduction from this standard shall be decided on the merits of each case, but in no case shall the reduction bring the playground below the measurement specified in section iii. (a) and (b). (b) That the playground areas set out in the following recommendations (iii. and iv.) of the Departmental Committee on Playgrounds be taken as the standard in the case of new schools—(iii.) Where other provision is made for games—(a) Each undivided playground for 200 children and upwards should provide—(i.) 20-sq.ft. for each older child. (ii.) 16-sq.ft. for each infant. (b) Each undivided playground for less than 200 children should provide 2,000-sq.ft. together with—(i.) 10-sq.ft. for each older child. (ii.) 6-sq.ft. for each infant. (iv.) Where no other provision is made for games—(a) Each undivided playground for 200 children and upwards should provide—(i.) 20-sq.ft. for each older child. (ii.) 16-sq.ft. for each infant. (b) Each undivided playground for less than 200 children should provide 2,000-sq.ft., together with—(i.) 20-sq.ft. for each older child. (ii.) 6-sq.ft. for each infant. *Existing schools.*—(c) That, in view of the fact that the Board of Education do not propose to depart from their present practice in regard to playground areas in existing schools, the Council do make no change in its present practice of considering the case of each school on its merits. *General.*—(d) That, provided that the question of roof playgrounds is considered on its merits in each particular case the Council concurs in the following recommendation of the Departmental Committee of the Board of Education on Playgrounds—(x.) A roof playground should be accepted, and if it covers virtually the whole of the building should be regarded as satisfying the requirements of the children, other than infants occupying one floor.

The Council decided, after some discussion, that application be made to Parliament for authority to lease land with frontages to important thoroughfares when such lands had to be acquired as part of an estate, the remainder of which the Council may decide to acquire and dedicate for use as a public open space.

Asked whether it was a fact that the purchasers of the Duke of Bedford's estate had offered to sell the whole or part of it to the Council, Mr. Andrew Taylor informed the Council that the purchasers had submitted proposals with regard to the estate, but the Improvements and Public Control Committee had recommended the Council not to purchase any part of the property.

BUILDERS' BENEVOLENT INSTITUTION.

The sixty-seventh annual general meeting of the Builders' Benevolent Institution was held at Koh-i-Noor House, Kingsway, W.C., at 4 p.m. on Wednesday, July 22. Mr. Frederick Shingleton, M.V.O. (president) was in the chair. The annual report and audited accounts for the year ending July 7, 1914, were read and approved. The following elections took place:—President: Mr. George R. Holland (Messrs. Holland and Hannen and W. Cubitt's, Ltd.). Treasurer: Mr. Frank May, J.P. (Messrs. Holland and Hannen and W. Cubitt's, Ltd.).

The following members of the committee retired by rota and were re-elected: Sir John Mowlem Burt, J.P.; Mr. J. Carmichael, J.P.; Mr. A. B. H. Colls, Mr. F. J. Dove, Mr. W. Downs, Mr. Edmond J. Hill, Mr. Fredk. Higgs, Mr. R. J. Holliday, Mr. Frank M. May, Mr. L. C. Randall, Mr. E. S. Rider, Mr. T. F. Rider, Mr. Thos. Stirling, Col. G. Haward Trollope, V.D.; and Mr. Hubert S. Ward, F.C.A.

Hon. Auditors: Mr. John T. Bolding and Mr. Hubert S. Ward, F.C.A.

Additional Trustees: Mr. George R. Holland (Messrs. Holland and Hannen and W. Cubitt's, Ltd.), Mr. H. Arthur Bartlett (Messrs. Perry and Co., Bow, Ltd.), Mr. A. B. H. Colls (Messrs. Trollope and Sons and Colls and Sons, Ltd.), Mr. J. W. Chessum, J.P. (Messrs. J. Chessum and Sons).

Various alterations were made in the rules of the institution.

RESEARCH WORK ON WATER EXAMINATION.

At the meeting on Friday of the Metropolitan Water Board the Water Examination Committee stated that they received an exhaustive report prepared by the Director of Water Examination respecting the work carried out at the Board's laboratory during the twelve months ended March 31, 1914. This report, the tenth by the director, appears, the committee add, to be not only of scientific interest, but of great practical importance. The report deals with seven subjects:—(i.) Search for pathogenic microbes in river water and sewage. The director's long-continued researches lead him to conclude that the typhoid bacillus cannot be uniformly present in raw river Thames water in the proportion of 1 typhoid bacillus per 9 c.c. of water. This is an important conclusion, because it can be shown by other tests that the river water is purified at least 1,000 times before delivery to consumers. As regards sewage, the director has shown that the typhoid bacillus cannot be uniformly present in the proportion of 1 typhoid bacillus per 0.00066 c.c. of sewage. Now, 0.00066 c.c. of sewage contains 704 excremental bacteria, which is about the number present in 17 c.c. of river Thames water, and, as previously noted, the river water is purified at least 1,000 times before delivery to consumers. (ii.) Methods for the isolation of the typhoid bacillus. Bacteriologists are constantly searching for some method enabling them to isolate with ease and certainty the typhoid bacillus from infected materials. The director has instituted a critical comparison between the (1) direct malachite green solid, (2) indirect liquid oxgall, and (3) indirect liquid brilliant green methods. He has obtained far the best results by the first method, which is the one he himself has used for a number of years. (iii.) Influence of temperature on the vitality of the typhoid bacillus. The director has carefully repeated his previous experiments, and confirms the view he has already expressed—namely, that the typhoid bacillus lives much longer in very cold water than in water at summer temperatures. Adequate storage of river water would thus seem to be of special importance during the five cold months of the year (January, February, March, November, and December). (iv.) Study of streptococci in excremental matters. The director was the first to advocate the use of the streptococcus in the examination of waters. Since then (1898) a great deal of work has been done on

the subject, and recently American bacteriologists have been seeking to show that human excremental matter can be distinguished from the dung of the lower animals by the streptococcus test, used quantitatively. The director has investigated these claims in an exhaustive research; but the matter is of so highly technical a character that the report itself must be consulted in order to appreciate the significance of his conclusions. (v.) The value of storage. There are few persons who still remain in doubt as to the value of storage; but the exact reason why stored waters are so much safer than raw waters is matter for speculative inquiry. The director supports the devitalisation theory, and does not consider that purely physical, mechanical, or chemical changes suffice to explain the observed phenomena. (vi.) Lime as a bactericidal agent. The authorities in charge of the Columbus (Ohio) Water Purification Works have already taken advantage of the information set forth in the director's eighth research report to improve the efficiency of their plant. The director shows that if their results and conclusions are read in a broad and tolerant spirit they afford valuable confirmatory evidence of the correctness of his original investigations. (vii.) Vitality of the cholera vibrio outside the animal body. In conclusion the director shows that Greig's researches in India amply corroborate his own "findings" as regards the typhoid bacillus.

HOUSE-BUILDING IN BRISTOL.

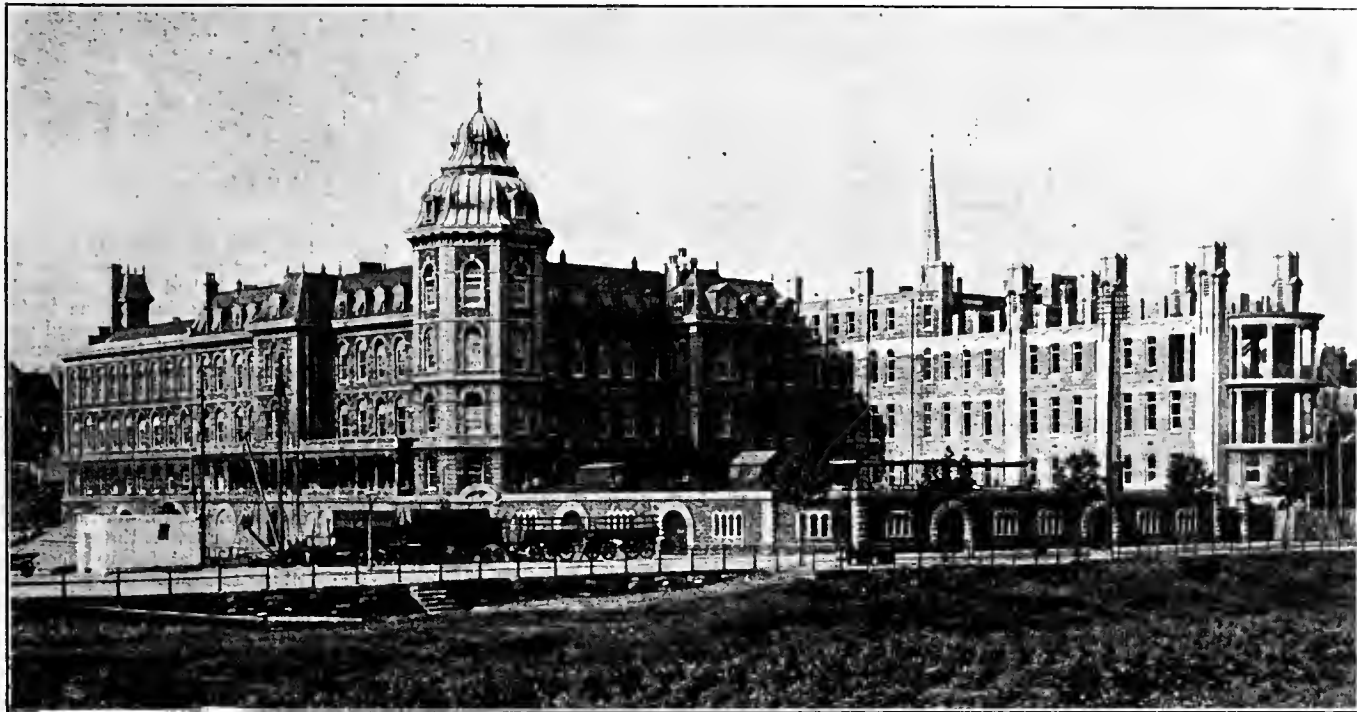
LESSENING STRUCTURAL COST.

The Bristol sanitary committee arrived at an important decision on July 23, on a point that will affect house-building in that city, and will mean a saving in initial cost and in subsequent expense due to repairing roof-leakage. Under the Improvement Act, Bristol possesses special local powers, and by enforcing one provision of that measure the civic authorities have hitherto required each house to be divided from its neighbour by carrying up the party-wall above the tiles or slates. In future these projecting walls or parapets will not be insisted upon. The matter arose, says the *Western Daily Press*, on the following report read by the clerk, Mr. Wise:—

"With reference to the housing scheme now being considered by the housing of the working-classes sub-committee, drawings have been submitted by the city valuer, in which parapet walls (required under Section 35 of the Bristol Improvement Act) have been omitted, and the attention of the sub-committee has been called to this, and a statement made that, if the sanitary and improvement committee insist on the provision of these parapet walls, the cost of building at Parson-street, where it is proposed to build 136 houses, would be increased by £800, and, at Stapleton-road, where the number proposed is 115, by £450. In November, 1904, the Bristol Society of Architects petitioned your committee to repeal the clause in the Improvement Act referred to above, and in February, 1905, the late city engineer reported the results of inquiries he had made on this subject from thirty-nine local authorities of the largest towns in England, which showed there was a growing tendency to omit parapets on domestic buildings under 35ft. in height, but to require them on warehouses and factories, and he recommended that clause 35 should be so amended as to read, after the word 'building':—

And it be enacted that all separate side walls or party walls shall be well and closely lined up to the underside of the slates upon the roofs of the buildings, and that in all domestic buildings under 35ft. in height, the slates, tiles, or other incombustible roof covering shall be properly and solidly bedded in mortar or cement on the top of such wall; but as to all public buildings, chapels, places of worship, breweries, distilleries, manufactories, and warehouses, proper parapets of the height and thickness as specified for party walls shall be built on such side walls or party walls."

"Your committee, however, decided that it was not desirable to go to Parliament for powers to amend the Improvement Act.



Fraser H. Stevens, Photo.

THE BRISTOL GENERAL HOSPITAL EXTENSIONS.—Messrs. OATLEY and LAWRENCE, Architects.

Rough elevations have been supplied by the city valuer, but before going further the sub-committee ask for your committee's decision on the point. Your engineer sees no great objection to the omission of the parapet walls, provided the party-walls are carried right up to the underside of the tiles; but, of course, if this is allowed in the present case it will be very difficult for your committee to enforce their provision in the case of private buildings."

The chairman of the committee (Alderman Lloyd) asked Mr. Wise to explain the legal position.

Mr. Wise said he did not recommend the committee, if they thought these parapets should be done away with, to attempt to get the Bristol Improvement Act altered in Parliament. That was a question they had considered on many occasions; but owing to the fact that powers were given by that Act which would not now probably be granted, the effect of going to Parliament to do away with one provision would be that their powers in other directions would be taken away. He thought, however, they need not let the provision stand in the way. If the conclusion, as a matter of policy, was that these parapets should not be required in cases of buildings of small height, treating everyone and the public alike, he thought they might waive the provision.

Mr. Coole said he was greatly in favour of the suggestion that the parapets should not be insisted upon. For years in St. George they did not enforce them, but when St. George was brought into Bristol in 1897 new houses were required to have these walls carried up. He hoped if they did anything at all it would not be for a particular committee, but for the public at large.

The Chairman said he could not conceive they would favour a committee of the council and not the general public. If they consented to this, builders must know, and must be allowed to do exactly what they were doing as a corporation.

Mr. King asked if the change proposed was not better for the tenant?

The Chairman: You could not have a better authority than Mr. Coole.

Mr. Coole replied that the houses were better without the parapets, there being less liability to leakages.

The Sheriff (Mr. Cottam Castle) suggested that parapets had an advantage in case of fire.

Mr. Forestier Walker said it was unquestionably a fact that insisting on the erection of these parapet walls prevented

hundreds of houses going up at Avonmouth. The extra walls made a difference to the builders, and prevented houses being erected.

Mr. Thorne gave it as his experience that there was less trouble of leakage without parapets.

Mr. Dowling supported the proposal to omit parapets, providing the tiles came down on the wall.

The Chairman remarked that the tiles or slates would have to be cemented to the top of the wall.

Mr. Coole moved that the construction of these walls be not insisted on.

Mr. Maggs seconded this. He asked, seeing the committee were so unanimous about this thing, was it not strange the thing should have been allowed to go on so long?

The Chairman: We grow in knowledge. You agree with what the late engineer recommended, that this exemption should apply to domestic houses of a certain height, while power is still retained to deal with factories and other buildings of large height.

The resolution, framed on the lines suggested by the chairman, was unanimously carried.

THE BRISTOL GENERAL HOSPITAL EXTENSIONS.

The new wing of the Bristol General Hospital, opened on Monday last, has been erected at a cost of £40,000. The architects are Messrs. Oatley and Lawrence, of Bristol.

Provision is made for a female ward with sun balcony facing south; a maternity ward, for the reception of the very poor in difficult cases, and a new dental department, which has hitherto been carried on at Colston-parade. The maternity ward contains twelve beds, and the female medical ward twenty-five beds. The building also includes accommodation for resident medical staff, registrar's room, accommodation for lady students, and additional bedrooms for nurses, as well as dining-halls for nurses and the sisters. In connection with the medical ward there is also a new clinical laboratory. The garden roof is a feature that will be much appreciated by those who are concerned in the work of the hospital. The builders were Messrs. W. Cowlin and Sons. The position of the wing could scarcely be bettered. It affords uninterrupted sunshine and air, and has an excellent outlook. On the basement floor are placed: The dental department, containing an entrance from Commercial road; porter's room; two surgeries; recovery-room; conversation-

room, arranged for eight chairs, in the first instance, with space for increasing the number to twelve or more when required; also a workroom and offices; dining-room accommodation for sisters and nurses and also for laundrymaids; new laundry, consisting of receiving-rooms, washhouse, drying department, with the ordinary modern dry-closet system, through which hot air is blown by an electrically-driven fan, also a place for the slower drying of woollens; finishing-room, airing-room, and room for sorting and packing. On the ground floor are six suites of private sitting-rooms and bedrooms for resident officers; officer's smoking- and common-rooms; mess-rooms for men students and lady students, and also for the matron and assistant matron; private room for the visiting staff; registrar's room, and sundry offices. The first floor is devoted to women's medical twenty-five-bed unit, comprising a ward of twenty-two beds with sun balcony at the south end; one single-bed ward, and one two-bed ward; sister's room; ward-kitchen; larder, and the necessary rooms for sorting linen and patients' clothes; also a sanitary wing containing the usual equipment. The second floor is another twenty-five-bed unit, as it is capable of being converted so as to provide accommodation practically identical with that on the first floor, but it is now arranged as a maternity ward for twelve beds—ten in a large ward and two in a separate ward. It contains a day-room, which room can serve a double purpose, it being possible to wheel the babies' cots into it at night. At the south end is an open-air balcony large enough to contain all the beds if desired. The administrative portion of the ward is much the same as on the floor below, but contains a room for washing the babies, an operating-room, a room where patients may change and bathe upon arrival, and also a changing-room for the surgical staff. On the roof of the ward is a garden or airing-ground for the women patients. A fire-escape staircase is provided at the southern end of the ward communicating from the roof-garden and from each floor level to the ground. At third floor level the nurses' sleeping accommodation has been extended by the provision of twenty-two additional rooms. The building is constructed of fire-concrete. It stands on concrete pillars carried down to the rock, which lies at a depth of about 30ft. below the ground, and the construction is arranged so that, for the most part, it would be possible to clear away all the internal partitions and build others in,

new positions without in any way interfering with the main construction of the building. The heating is by low-pressure hot-water, the circulation being accelerated by means of electrically-driven pumps. In the large wards the warming is supplemented by open fires in the centre of the floor. A water-softening plant has been provided having a capacity of 1,000 gallons per hour. The softened water is used for the hot-water supply, laundry purposes, and boiler-feed make-up. It is estimated that the introduction of this plant will save something like 50 per cent. in the cost of soap and 35 per cent. in the cost of soda. The new pathological department has been erected on land behind the museum.

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS.

THE CARDIFF MEETING.

[FROM OUR OWN REPORTER.]

When the delegates to the half-yearly meeting of the National Federation of Building Trades Employers of Great Britain and Ireland met, at Cardiff, on Wednesday morning, they read, with prolonged cheering, the result of the ballot of the members, and unanimously adopted the recommendation of the Executive Council to declare a lock-out of the operatives of the 12 unions which remain obdurate in the London dispute, unless they come to a settlement with the masters on or before August 15. This ultimatum was posted to the Secretaries of the various unions on Tuesday night.

The result of the ballot was:—

For lock-out	7,319 votes
Against lock out	1,739 votes

Majority for ... 5,580

The delegates, therefore, entered the conference with full knowledge of the figures, but there remained a feeling of expectancy and anxiety as to what the recommendation of the Executive Council would be in face of that result. Mr. William Thomas, of Cardiff, the year's president, presided over an unusually large attendance, representative of the whole Kingdom, and they possessed themselves in patience during the official welcome given by the Federation to the City by the Lord Mayor (Alderman James Robinson), who was thanked on the proposition of the president, seconded by Alderman Jessop (Huddersfield), and supported by Alderman Bowen (Birmingham).

The Secretary (Mr. A. G. White) then read the report of the Executive Council as follows:—

The Executive Council adopted the report of the Administrative Committee on the result of the ballot for a lock-out, which was: 7,319 votes for, and 1,739 against. (Loud cheers.) It despatched the following ultimatum to Executives of the general unions or trades which are still obdurate:—

Dear Sir, I am instructed to give you notice that unless the present dispute in London is brought to an end so far as your society is concerned on or before August 15 next, this Federation will issue instructions for an immediate lock-out of the members of your society.

Whilst this Federation regrets that any such course is necessary, I am desirous to point out that this action has become imperative in consequence of all reasonable suggestions for a settlement put forward by the accredited representatives of the employers and operatives having been rejected by the London operatives, although accepted by the London employers.

This Federation has always recognised and appreciated the general, loyal observance of agreements by your society throughout the provinces; but it is obvious that if a section of your society in London can successfully break agreements that have been entered into, after all formal requirements on either side have been complied with, and can receive the support of the provinces, then no agreements throughout the country will any longer be a safeguard to the trade.—Yours faithfully,

A. G. WHITE (Secretary).

UNIONS CONCERNED.

The Secretary added that the last paragraph of the ultimatum had been omitted from the communication sent to the last four societies in the following list, because they had no rules previous to the dispute. The names of the societies were: The National Association of Operative Plasterers, the Operative Bricklayers' Society (London

Order), the Amalgamated Society of Carpenters and Joiners, the General Union of Carpenters and Joiners, the United Operative Plumbers' Association, the London Plumbers' Society, the National Union of Operative Heating and Domestic Engineers, the United Builders' Labourers' Union, the National Union of Gasworkers and General Labourers; Navvies', Builders' Labourers', and General Labourers' Union; the United Order of General Labourers of London, and the National Amalgamated Society of Operative House and Ship Painters and Decorators.

The Executive Council further resolved that it be called together again on August 18, to receive the report, and that, meanwhile, the Administrative Committee be empowered to deal with any matter that may arise under this issue.

This report was discussed in private, and it was afterwards announced to the Press that the report and recommendation of the Executive Council had been unanimously adopted, with the utmost enthusiasm.

OTHER SUBJECTS.

The President gave a hearty welcome to the representatives from South Africa and New South Wales and from the International Federation, and remarked that their presence showed how combination amongst employers of labour was spreading, not only throughout the Colonies, but on the Continent. About two months ago he had the pleasure, with the Secretary and the President of the Institute of Builders, of attending the meetings of the International Federation in Holland, and he was glad to report that the United States employers had now promised to become allied to the international movement. (Applause.)

Mr. B. I. Greenwood (London), in supplementing the President's welcome, said it was true they spoke different languages, but there were some characteristics which were international, and some phases of human character were common to all nations. They all had similar interests, wherever they lived they all desired to act fairly by the men whom they employed—(hear, hear)—but they were also determined not to be frightened and overborne by the men they employed. (Applause.) They all understood and recognised the sanctity of agreements, in whatever nation they happened to be born. (Renewed applause.)

Mr. F. Van Ophem (Belgium), representing the International Federation, said he brought "the greetings of your European fellows, and of expressing to you their feelings of friendship and admiration for your great and splendid nation. I apologise, gentlemen, for not speaking the English language perfectly; but I hope that, in the early future, I shall be able to express myself more correctly, and thus be better able to discuss the questions which have crossed the frontiers of our respective countries, the international solution of which is forced upon us by the growing and prosperous movement of international labour organisation. More and more we must devote ourselves to these relations between countries, and if in England, on account of a great economic progress, the immediate necessity of these international solutions is, perhaps, less evident, it may, however, be affirmed that there is something useful for every country in the examples taken from another. This is the reason why the International Federation is so glad to number among its members the English associations, thus allowing it to form a hearty friendship and to find at its meetings and congresses the support of your practical and authorised advice.

"The International Federation doesn't seek to touch national autonomy in any way, for this must be complete; but it tries to establish very close bonds between all associations which in the world endeavour to improve our industry and make it tranquilly prosperous, by dispelling disputes and by making them less violent, and, above all, less prejudicial to the people who bear their effects. Your office, gentlemen, as ours, and as that of all men of order, is to see disappear from society the acute disputes which

leave, to victor and vanquished alike, a feeling of hatred born of the bitterness of the struggle. But the desire for conciliation, great as it may be, must never make us forget or deny those principles which ought to be considered as sacred.

"Once more you have given a proof of the spirit predominating in your Federation, by the solution of the London Building Trade dispute. In this you showed a very large spirit of conciliation; but, at the same time, you showed, too, that the solidarity between your associations and their members was not a vain word, and, if it had been necessary, a national lock-out would have come to the support of your rights; and you showed also your decision not to yield before the omnipotence of labour. We must congratulate you greatly, and we thank all the active and devoted men who, in the hour of difficulty, were found standing in the breach for the defence of your interests. From this disturbance, which could easily have overturned, economically, an entire nation, the International Federation will, after you, carefully draw conclusions and transmit them to all its members, in order that at future meetings they may contribute to support the principles or rules of which we can generalise the application, taking into consideration the customs, habits, and necessities of each individual country. You see, gentlemen, the International Federation has only one object: to inform and to be informed, to be the recording centre of all experiments, of all initiative, and to put itself at the disposal of all, in order to help to enrich the national domain by international wealth. A country such as yours, with her glorious past and her preponderating progress, is called upon to help international efforts which aim at the creation of continued connections between associations of various nationalities, but of similar tendencies. From these connections are born close and hearty bonds, because, knowing each other better, a mutual appreciation and friendship follows. If this international understanding could become a reality in all classes of society, countries and nations could work in peace, and all the clouds which bear so heavily upon the economical progress of peoples would be dispelled.

"Gentlemen, I have been led too far away from my subject; but if I have insisted at some little length, it is because I think the collaboration of the English Federation absolutely indispensable if we are to realise the objects of the International Federation. The recent meetings of our Executive Council, which Messrs. Thomas, Rice, and White attended, have shown that the bonds established between the European associations of our industry have been riveted for practical reasons, and will have a happy influence in some countries where the organisation of employers is not in a very flourishing state. We hope to meet you all at Berne, at our congress, to which I here reiterate a formal invitation. You need have no fear of difficulty on account of language; we have arranged for several interpreters to hold themselves at the disposition of English-speaking delegates. You shall see at Berne that our efforts are far from being unproductive, and that the understanding between the federations of various countries is true and permanent, because it is established on a firm basis.

"Next year we shall hold an important meeting at San Francisco; it will allow us to make a very interesting and instructive trip, and will bring us into contact with the American Building Trades Employers and their institutions. At the end of this trip, we shall visit the great American World's Fair, and join the delegates of the United States and Canadian Associations in a general meeting, which will, I hope, bring about the adhesion of their associations to the International Federation. At the present moment this Federation counts nearly one hundred thousand members, and we are persuaded that next year we shall count, with the American members, one hundred and fifty thousand. If we pin our faith to the value of numbers, certes this Federation is important, from the fact that in our days more than one hundred thousand Building Trades

Employers, face to face with international labour concentration, have shown an imperative desire to unite for the defence of their interests. If, on the contrary, we consider only the existence and working of the International Federation, we learn that the employers are following the evolutions of progress, taking their wise resolutions and finding their strength in a close union of all those, whatever their nationality, who have at heart the development of our industry far from revolutionary agitations. To-day, when everything belongs to democracy, it is good to affirm that a strong desire of social peace must not force us to abandon the principles of untouchable dignity. You will help us to affirm these principles, and, asking for your support, I am certain that I shall find it always inspired largely by those feelings which have always done honour to the great English people. I wish to your labours, gentlemen, fruitful results for the prosperity and greatness of your industry and your Federation."

Mr. Carr (Durban) said they had some labour difficulties in South Africa, but they were facing them boldly and meeting them with a considerable measure of success. (Hear, hear.)

Mr. Ridge (New South Wales) said Australia was generally credited with being in advance of England in dealing with labour problems, but it was open to doubt, for the Labour Government in power gave as much favour as they could to the men's unions.

HALF-YEARLY REPORT.

The sixty-eighth half-yearly report of the Executive Council was submitted as follows: 2. Membership.—The Federation comprises the following county Federations:—Northern Counties, Lancashire, Cheshire and North Wales, Yorkshire, Midland Centre, London, Southern Counties, Eastern Counties, South-Western Counties, and South Wales, together with the Dublin Building Trades Association, the Belfast Association, and as Colonial members, the South African Federation. The Scottish Federation are honorary members. There has been a further increase in the membership. The total number of local Associations affiliated is now 154, with an aggregate membership of about 6,222.

The Federation is affiliated to the International Federation of Building and Public Works Contractors, with headquarters at Brussels. Further particulars are to be found in the "N-F-Record" for June.

3. State of Trade: Continues to improve. Unemployment is low, and there is some apprehension that there will be a shortage of labour should the trade get busy; this is believed to be due partly to the demands of other industries, and partly to the considerable emigration which has been going on for some years past.

So far as the demands of other industries are concerned, there are signs that the trade boom in the iron, coal, and shipbuilding industries is ending, and a slump may be expected soon. This will set free some labour and relieve the building trade.

4. Boards of Conciliation.—The National Board has held six meetings, at which the following appeals and other matters were considered:—

The notice of the Operative Society of Bricklayers to terminate its membership of the Conciliation Scheme expired on May 1; it is understood, however, that recent amendments of the rules in the direction of speeding-up procedure have met the objections which caused the withdrawal, and that there is a prospect of a further vote being taken with the object of re-adhering to the scheme. At the annual meeting of the Board in March, the carpenters and joiners of Nottingham appealed for an advance of 1d. per hour and an alteration of the walking-time rule. An advance of 3d. per hour to 10d. was granted, the walking-time rule to remain unaltered. Various alterations of the rules were agreed to for the purpose of ensuring more prompt action, and it was decided to call the attention of those unions which remain outside the scheme to the improvements and to the number of settle-

ments effected by the Board. There have been a number of favourable replies received in respect to the proposed conference on Standing Joint Demarcation Committees, and it is hoped to arrange for a meeting in the autumn. Having regard to the events which brought about the London dispute and to the assurances of the union representatives on the Board that their Executives were agreed on the necessity for the strict observance of agreements entered into between employers and workmen, the Board decided to offer its services to the disputants. These were accepted with a reservation which limited the Board to recommendations, and by a suggestion by representatives from the London Master Builders' Association, and certain operative unions whose members are involved in the dispute. A conference was first held, at which both parties fully stated their case, after which the Board recommended that an undertaking or guarantee of the local working rule agreements by the general unions, whose branches had entered into them, should be deemed a sufficient guarantee for their observance, and that London should come under the Conciliation Scheme. The recommendation was accepted entirely by one party and conditionally by the other, and at a further conference the Augmented Board made detailed recommendations for the settlement of the dispute. These were accepted by one party and rejected by the other. As no settlement had been arrived at when the quarterly meeting of the Board was held on June 8, a deputation from the Executives of ten general unions whose members are involved in the dispute came before the Board with suggestions for a settlement, and the Board reported them to a meeting of the E.C. of this Federation the same day, as a result of which further negotiations took place, as elsewhere reported. Meanwhile the Board adjourned until June 19, when it was reported that the recent negotiations had failed to effect a settlement, whereupon the Board recommended the parties to refer the matters in dispute to the final decision of some third party. The carpenters and joiners of Leicester appealed for an advance in wages of 1d. per hour, the employers counter-claimed the abolition of walking-time. The Board granted an advance of a halfpenny and the abolition asked for. The joiners, bricklayers, and builders' labourers of Leamington appealed for an advance of 1d. per hour in wages, and an adjustment of the overtime rule. The Board granted an advance of a halfpenny and altered the overtime rule to time and a quarter for first two hours and time and a half afterwards. The National Joint Committee of Appeal has held four meetings, at which the following appeals and other matters were considered. The Doncaster operatives appealed against a refusal of the employers to sign the rules as settled at a previous hearing. It turned out that this was the result of a misunderstanding. The Board confirmed its previous decision as to overtime, with a qualification for jobs outside the four mile radius. The Colwyn Bay operatives appealed for an advance from 8d. to 9d. per hour in wages. The Board granted an advance of a halfpenny as from December 1, 1914. The Accrington operatives appealed on a question of the non observance of a certain local rule by members of the Master Builders' Association. The Board decided that the latter were not parties to the rules, and therefore had not violated them. The Manchester employers appealed against a refusal by the operatives to fix ceiling slabs made by a certain firm from Burton-on-Trent. The decision was in favour of the contention of the operatives, who relied upon the demarcation rule in force in Manchester. The Nottingham operatives appealed in respect of certain defaulters who had promised to join their union, and whom the employers now alleged were exempt in their capacity as foremen. The Board decided that a man regularly employed as a foreman, whether using the tools or not, has the option of either being a member of the Operatives' Union or not; but where a man has left his society in debt, he must pay up

his arrears or he may be deemed an objectionable. The Aberdare operatives appealed for an advance of a halfpenny per hour; 9d. to 9½d. The Board granted a halfpenny as from January 1, 1915, and fixed a period of two years for the decision to endure. The Newcastle-on-Tyne operatives appealed for an advance of a halfpenny per hour; 10d. to 10½d. The Board granted an advance of a halfpenny as from January 1, 1915. At the annual meeting the operatives reported that there was a desire expressed by their members to be granted the same privilege to contract themselves locally out of the National Agreement as had been assumed by London. The opinion of the Board was that it would be much better that London should come into the scheme. The Leeds operatives appealed for an advance from 9½d. to 10½d. per hour. The Board granted a halfpenny per hour advance as from May 1, 1914, the boundary rule to be made to agree with the one now in force with the plasterers' labourers. The ever-time rule to be altered to time and a quarter for the first two hours. Decision to endure two years. The Coventry operatives appealed for an advance of wages from 9½d. to 11d. per hour, a reduction of the working hours, and alterations of the walking time overtime, and latting rules. The Board granted an advance of ½d. per hour from January 1, 1915, and dealt with the other points raised. The Hereford operatives appealed for an advance from 8d. to 9d. per hour in wages. The Board granted an advance of a halfpenny per hour as from July 1, 1914. The Malvern operatives appealed for a similar advance and received a similar decision. The York operatives appealed for an advance of wages from 9½d. to 10½d. per hour, and for a revocation of the boundary rules as decided by the Board last year, when an advance of ½d. had been also granted. The Board decided that the wages and rules must remain as at present. Appeals from Birkenhead, Huddersfield, Swansea, and Southport were withdrawn, having been settled locally meanwhile.

5. Forms of Contract and Sub-Contract.—During the half-year the negotiations in regard to these have been in the hands of the Institute of Builders, which has tried to press matters forward, and it is hoped will be able soon to report favourably of the progress made.

6. Finance Act Valuations.—The provisions for relieving the building trade of the liabilities imposed upon it by the Finance Act, 1909-10, which were lost last year by the withdrawal of the Revenue Bill, have been reintroduced in the Revenue Bill for the current year. The deputation which had the matter in hand before has examined the new bill, and will report to the E.C. The committee has received valuable assistance from the officials of the E.P.C. in this connection.

7. Priced Schedules with Tenders.—A demand for priced schedules with tenders having been made by a committee of the St. Helens corporation, the matter was taken up both by the Lancashire and Cheshire Federation and the National, and after some correspondence an opportunity was afforded for an interview by deputation with the committee in question, and it is hoped the corporation will now fall into line with the general practice.

8. Strikes.—The labour unrest still prevails to a considerable extent, and its results would have been probably more in evidence than they are but for the safety valve afforded by the conciliation arrangements in force for dealing with claims which, unless dealt with promptly, are a fertile source of dispute. The London dispute has lasted twenty four weeks, and was fully reported on in the June issue of the "Record." Upon the decision of the National Federation to take a vote for a lock out becoming known, the operatives' unions at once met and resolved to individually approach the employers and try to negotiate a settlement. The masons and crane drivers at once did so, and negotiations have been proceeding since, with the result that settlements have been effected with the masons, crane drivers, and wood working machinists. A strike has pre-

vailed for some time at Coventry, due mainly to the same kind of syndicalist activity which caused the trouble in Dublin and London, and a lock-out occurred in Darlington, because the operatives broke the local working rule agreement by striking against the employment of non-union men. The employers in each case have maintained their position successfully.

9. Conference of Secretaries.—It is proposed to hold a conference of the Secretaries of the Federation in October next. Suggestions for the agenda and promises of contributions are desired.

10. Publicity.—Owing to the London dispute the building trade has obtained an unusual amount of attention from both the daily and technical Press. The Committee has also sanctioned the publication of additional literature for organisation purposes, obtainable through the Secretary.

11. The Measurement of Ferro-Concrete.—The Concrete Institute has undertaken, in conjunction with the Quantity Surveyors' Association, to try to standardise the method of measuring ferro-concrete. The opportunity was availed of to have the proposals considered by a joint committee representing this Federation and the Institute of Builders, and in the result some useful suggestions were made to send forward to the Concrete Institute.

12. The National Insurance Act (Part II.)—The Board of Trade having decided that certain amendments were needed in this Act to overcome administrative difficulties which had revealed themselves in practice, consulted with representatives of the industries concerned, ourselves among the rest. The most important changes for employers in the Amending Act are: The simplification of the conditions for a refund to employers, under Section 94. The time for making application is made two months after the termination of an insurance year, and the refund is a fixed amount of 3s. for each workman in respect of whom the employer has paid forty-five contributions during the insurance year; there is no need now for the employment to be continuous, as hitherto. The re-vesting of the provision in Section 96 for return of contributions where short time is worked. The provision as to refund in the Act is substituted by a provision for exemption of employer and workman from payment of contributions under certain conditions of short-time working. The passage of the Bill through Parliament is being watched, as attempts are being made to require indentured apprentices to be insured, and to weaken the safeguards contained in the clause which disqualifies for benefit those unemployed in consequence of a trade dispute at the works, etc., where they were employed when the dispute arose.

13. Organisation.—The following new associations are reported as having joined the Yorkshire Federation—viz., Spen Valley and Mirfield Master Masons, Normanton and Wombwell and District.

Mr. Cook (Preston) called attention to the lack of apprentices in the building trade. In the North it was almost impossible to get a proper supply of apprentices, for parents seemed to have no regard for the future career of their boys, preferring to take a few extra shillings a week they were able to earn in employment for which no apprenticeship was required.

Mr. John Lloyd (Neath) said the present labour troubles were nothing to be compared with the difficulties master builders would have to face when they found a dearth of skilled workmen in the near future, owing to the present lack of apprentices.

Mr. Renshaw (London) said it was shown, after the Census of 1901, that the proper proportion of boys who ought to have entered the building trade as apprentices was 2,500, while the actual number apprenticed was only 500. He had no doubt that the position to-day was still worse.

Mr. Taylor (Bradford) said they would never get over the difficulty until they paid apprentices better wages than at present. The day had long gone by for paying boys 5s. a week and advancing them a shilling every one or two years.

After further discussion, it was decided, on the proposition of Mr. Cook, to add a paragraph to the report urging Federations and Associations and individual firms to give the question of increased apprenticeship their most serious consideration, with a view to supplying the reasonable requirements of the trade.

The remainder of the conference was occupied in private discussion of tactics in dealing with the lock-out question, all the other questions on the agenda being relegated to the next meeting of the Federation in London.

Later in the day the delegates visited Cardiff Castle, at the invitation of the Marquis of Bute, and on Thursday they made a cross-channel trip to Ilfracombe.

THE ANNUAL DINNER.

On Tuesday night the delegates were entertained at the Royal Hotel by the Cardiff Master Builders' Association, whose president (Mr. J. E. Turner) occupied the chair.

Mr. F. G. Rice, president of the Institute of Builders, proposed the toast of "The Lord Mayor and City of Cardiff." In a humorous speech he referred to a sentence in the programme prepared in connection with the visit of the Federation, in which it was stated that the municipal enterprise of the city of Cardiff was "alarming." Personally, he thought the more suitable word was "charming." (Applause.)

Sir John Courtis, in the unavoidable absence of the Lord Mayor, said he could assure the visitors that there was no piracy in Cardiff to-day. The pirates came from without, and one of the things stolen from Wales was a great share of its pure water-supply. (Laughter.)

Mr. W. Lawrence, jun., President of the London Master Builders' Association, proposed the toast of "The Architects, Surveyors, and Engineers." He hoped that in the event of a lock-out, the architects in the provinces would not insist on the carrying out of contracts. (Hear, hear.)

Mr. H. Teatler, F.R.I.B.A., Cardiff, responding, said that it might be desirable to give all jobs to members of the Federation, but it would hardly work in Glamorgan, where the principal work was done by the county council or the corporation, who insisted on the lowest tenders being accepted.

Mr. C. H. Priestley, the Cardiff City water-works engineer, also responded.

Sir John Courtis proposed "The National Federation of Building Trades Employers of Great Britain and Ireland." In view of recent events, he said, it behoved every employer of labour to identify himself with an organisation similar to the Federation. The time had come when employers would have to stand shoulder to shoulder to deal with the matters put forward by the employees. In London the master builders had exercised commendable patience in the dispute now pending, and they deserved the support of all right-thinking men. Every year increasing demands were made on the employers, and it was only by organising that they could protect themselves. (Applause.) Sir John congratulated Mr. William Thomas on his election as President of the Federation, and coupled his name with the toast.

The President of the Federation, in replying, said the main object of a Federation of that kind was to safeguard the interests of its members and to protect them against attack, and, by being strong, to secure peaceful relations with other organised bodies, and, in particular, with the organisations of the workmen. To this end they had fostered the creation of conciliation boards representative of employers and operatives, and provided the machinery for the adjustment, as far as practicable, of disputes which might arise between them. That machinery had been of incalculable benefit to both sides during the ten years it had been in existence. It had prevented many disputes from becoming strikes, and it had brought about better relations between the executives of some of the general unions of operatives than had subsisted formerly. He thought that those executives understood that there was no hostility on the part of the Federation to trade unionism, so long as it was developed

with regard to the rights of others and with scrupulous respect for, and observance of, agreements duly entered into with our branches.

Unfortunately, as you are aware (continued the President), a number of trade-unions in London have seen fit to break away from their working-rule agreements, and violate them so seriously as to compel the London employers to take action, and which has, in turn, induced the Executive Council of this Federation to take the serious step to-day of sending an ultimatum to the executives of those general unions whose London branches still remain obdurate. Authority to do this has been conferred upon our Executive by a vote of the whole of our membership, when the vote in favour of a lock-out was

7,319 for, 1,739 against.

(Loud cheers.) This grave step has only been taken after every means of negotiation has been tried, and every effort made to secure a settlement by consent. The London employers have willingly complied with every suggestion made to them, with a view to facilitate a settlement, and settlements with some of the trades have been effected. It is now necessary that those still outstanding should accept similar terms. (Applause.)

I can only express the hope that in the action we have taken to-day, solely in defence of the principle that agreements duly entered into must be honourably lived up to, we may enjoy your support and that of the public at large. (Cheers.)

Mr. G. Macfarlane, J.P. (Manchester), proposed the toast of "The Cardiff Master Builders' Association."

The chairman, replying, said that the local association was delighted to have the pleasure of entertaining the National Federation Association representatives. It was an extraordinary fact that on the last occasion when the National Federation visited Cardiff they had also to vote on the question of a national lock-out, and the idea might go abroad that the air of Cardiff had something to do with the fostering of that kind of feeling between employer and employed. He could, however, assure them that such an idea was quite erroneous, because the ballot on each occasion had to do with matters antecedent to their Cardiff meetings. (Hear, hear.) At the same time, he might remind them that the Cardiff Master Builders' Association were not strangers to labour disputes, for he remembered the time when not a single mason's operative would work for a Cardiff master builder for a period of fifteen months. It took them seven years to come to an agreement with the masons' operatives, and during that time the masters had to import men from nearly every part of the Continent, and had to accommodate them with beds on the canal wharf. That dispute was disastrous to all parties concerned, and he hoped that the present trouble would soon adjust itself. (Applause.)

Mr. E. Griffiths (vice-president of the Cardiff Master Builders' Association) proposed the toast of "Our Guests," to which Mr. W. L. Yorath, Cardiff city coroner, Mr. F. Van Opem, Belgium, and Mr. Carr, South Africa, responded.

A new lounge and other improvements have just been carried out at the Hotel Metropole, Whitby. The structural alterations were executed by Messrs. J. Brain and Sons, of that town.

A large block of drug warehouses is about to be built at Old Trafford, Manchester, for Messrs. Boots. The premises will be five stories in height, and the main frontage will extend to thirty bays by a depth of six bays. Messrs. Bromley and Watkins, of Prudential-buildings, Nottingham, are the architects.

The Peter Lyall and Sons Construction Company, Limited, of Montreal, have been awarded the largest building contract ever given out in Canada—that of the Grand Trunk and Canadian Pacific Railways Union Station at Toronto. The competition was particularly keen, tenders being sent in by some of the principal building firms in Canada and the United States. The amount of the accepted tender is between three and four million dollars. The architects of the railway-station are Messrs. Ross and Macdonald and Hugh G. Jones, of Toronto.

Corrente Calamo.

At the half-yearly general meeting of the National Federation of Building Trades Employers of Great Britain and Ireland, at Cardiff on Wednesday, our special report of which appears on another page, it was decided that the national lock-out of all men engaged in the building trades should commence on August 15, unless the London dispute is brought to an end. It was reported that there was a majority in favour of this step of 5,580. That majority is very much more than the necessary two-thirds, and should convince all reasonable trade-unionists that the employers throughout the country are in earnest, and that their action is endorsed by all the subsidiary trades. There are some signs that this is recognised. As we stated last week, the plumbers had practically effected a settlement; but were holding back for a few days before signing the agreement in the hope that a joint settlement would be reached. The four labourers' unions met this week for the purpose of drawing up a scheme of settlement. The bricklayers, plasterers, and the carpenters and joiners have been waiting until a national lock-out was declared, hoping that the Parliamentary Committee of the Trade Union Congress will take up the matter and call a conference.

We are now in the seventh month of the London dispute, and the loss to the men in wages, levies, and out-of-work benefit is considerably over a couple of millions sterling, all of which has been simply thrown into the gutter, against the thrice-expressed recommendations of the officers of the men's responsible unions, at the instigation of the small, but mischievous, group of Syndicalists who are seeking to "federate" the unions, to serve their own purpose. It is not likely that the employers will endure any longer the provision of means to protract the struggle furnished by the levies on the men at work in London and the provinces. On the other hand, the majority of the men, especially in the provinces, are sick of contributing to the support of men in London who are needlessly idle. In one society sixty-nine provincial branches have passed resolutions protesting against further levies to keep London men out of work against the advice of their own union officials, and the national executive of the union has sent out ballot papers to all its members to say "Yes" or "No," whether the dispute shall be longer recognised. If a majority returns negative replies, those who remain on strike will receive no benefits, and other unions will quickly follow the example by taking a similar ballot of all their members. In view of all these facts the ultimatum of the National Federation of Building Trades Employers is the one means left to bring matters to an issue, and we are glad it has been proclaimed. It will be bad to be all idle together; but it will be better than struggling on to keep things going mainly for the benefit of a lazy minority, who are living on the subsidies of their fellow-workers, and suicidally playing into the hands of those who are straining every nerve to kill genuine Trade-Unionism and substitute Syndicalism in its stead.

The Government Housing Bill is a fraud. The provision of houses for the workmen at

Rosyth is obviously all that is wanted. It was read a second time last Friday; but the big batch of amendments handed in directly after will make its progress through Committee neither rapid nor easy. Sir Arthur Boscawen and Mr. Weigall each handed in an instruction to the Committee to divide the measure into two parts, one dealing with the agricultural districts and the other with what is roughly called the Rosyth question, and to report this second part first to the House. Mr. Worthington Evans, Mr. Charles Bathurst, Mr. Hills, Lord Alexander Thynne, Mr. Stanier, Sir Randolph Baker, Mr. Weigall, and Sir Arthur Boscawen also tabled a number of amendments with the object of subjecting the operations of the Board of Agriculture to the supervision, in a certain degree, of the local authorities. Another change proposed is the substitution of the Local Government Board for the Board of Agriculture. A third batch of amendments would restrict the operations of the Central Department to cases where there is a local demand for housing accommodation, expressed through the local authorities and confirmed by public inquiry conducted in the district. If Ministers want to promote the building of houses, the best thing they can do would be to restore a feeling of confidence and security among those whose business it was till the policy of the Government brought them almost to ruin. Besides, as Mr. Prothero, the new member for Oxford University, estimates, 40,000 cottages built for agricultural labourers are now occupied by persons in the employment of the Government and local authorities, and these should, and might, be set free for the use of the class of men for whom they were originally intended. What advantage, moreover, will the agricultural labourer with a family get out of the rise in wages promised by the Government if he has to pay 3s. 6d. or 4s. instead of 1s. or 1s. 6d. a week in rent? And why are the claims of the town worker—who has been hit hardest of all—to be relegated to the Greek Kalends?

The "Great Budget" is always with us. Hardly a day passes but one case or another comes before the Courts. Whatever harm this masterpiece of muddling has done to the community, it has indeed been good for the lawyers! The latest judgment is that of the House of Lords, confirming the Court of Appeal's reversal of the view of Mr. Justice Horridge about Reversion Duty. In regard to the reversion of land upon the determination of a lease, the Act provides that a duty of 10 per cent. shall be paid upon the difference between the total value of the land at the beginning and at the end of the term granted. It is also declared that, beyond the rent reserved in the lease, all "payments in consideration of the lease" are to be reckoned in arriving at its original value. In this case the lessee had agreed to, and did, expend £6,000 on erecting houses upon the land. Yet the Referee and the Judge would only allow the capitalisation of the rents to be the original value of the land leased. The Court of Appeal, and now the Lords, fortunately reversed this strange ruling, and hold that the £6,000 expended by the lessee on building must come in. So the Crown's view of the value of the reversion on which duty was chargeable had to be much cut down. Any man of business would say at once that to leave out this payment in getting at the original value of the lease was as absurd as it was unjust.

The City of Bristol Health Committee, as will be seen from a report elsewhere, determined last week to recommend a capital expenditure of nearly fifty thousand pounds in the building of houses in Bedminster and in the vicinity of Stapleton-road. It is made clear that this represents only the beginning of the policy of construction. It is asserted that there is a great shortage of good houses at low rentals in Bristol at present, and consequently a large amount of overcrowding. Private enterprise has, it is contended, not been equal to the necessities of the situation, and that is one reason why the committee has decided to recommend the council to take a definite step. However that may be, we are sure private enterprise will be stimulated by a decision arrived at simultaneously to relax the building regulations with regard to parapets on houses under 35ft. in height, as requested more than ten years since by the Bristol Society of Architects. Bristol, it seems, is able to do this without going to Parliament. It goes without saying, we take it for granted, that as the chairman and the city engineer pointed out, private builders will be allowed to do what the city is going to do with regard to its own buildings.

The proposal of the Special Electricity Committee of the L.C.C. to promote a Bill in the next Session of Parliament to establish a new undertaking and a new authority for the purpose of controlling the electric-lighting of London, which would actually be carried out by a private company, is a compromise, of course; but it has features which deserve careful consideration. No one can deny that the present system is chaos, with over seventy authorities engaged in supplying in the Metropolitan area from sixty generating stations on nearly fifty different systems. There is no real competition: some of the authorities are alive to public needs, some are not. If the L.C.C. scheme succeeds the public will be safeguarded by owning the greater part of the capital and receiving the greater part of the profits. Whether, on the other hand, commercial management and rapid development in the interests of the consumer will be insured by the placing of the operations of the concern in the hands of a private body, even under strict municipal control, we are not yet sure. If that really can be achieved, it may be that the principle will be extended by-and-by in other directions, and we may see municipal control and private enterprise not hostile, but working amicably together, as they might, for the common benefit.

A sensible decision was given with reference to cremation at the Liverpool Consistory Court on Tuesday, when the Rev. Leslie Paterson, vicar of All Saints' Church, Speke, sought permission to construct a chamber beneath the floor of the sanctuary of the church, and to place in the chamber a cinerary casket containing the ashes of his late wife. Chancellor Dowdall granted the faculty; but as petitions of this kind were still rare, and the one dealt with the first in the Liverpool diocese, he made some observations on the case. In 1881 Mr. Justice Stephen determined that cremation was not a criminal offence, unless its object was to avoid a coroner's inquest or carried out in such a way as to be a public nuisance. In 1894 Chancellor Tristram decided that although cremation was not contemplated by ecclesiastical law, it was not contrary to that law, and this decision had never been

disputed. Interments in churches, although common until the middle of the last century, were now very generally prohibited on sanitary grounds. Mr. Asquith, when Home Secretary, ascertained that the Church Building Act of 1818, the Public Health Act of 1874, and the Burial Act of 1853 did not apply to the burial of ashes within a church, which was, therefore, lawful even in those cases where the burial of a body would be unlawful. That, of course, is so, and it should be borne in mind by all who prefer the safe and reverent custody of the remains of their near and dear ones, to the chances and changes of the overcrowded cemetery.

Architects bothered with echoes and reverberations in auditoriums will be interested in Bulletin No. 29 of the University of Illinois, obtainable in this country of Messrs. Chapman and Hall, Henrietta-street, Covent Garden, price 20 cents. The auditorium of the University of Illinois seems to have furnished a particularly tough acoustical problem. The building is shaped nearly like a hemisphere, with several large arches and recesses to break up the regularity of its inner surface. The original plans of the architect were curtailed because of insufficient money appropriated for the construction. The interior of the hall, therefore, was built absolutely plain, with almost no breaking up of the large, smooth wall surfaces; and, at first, there were no furnishings except the seats and the coco matting in the aisles. The acoustical properties proved to be very unsatisfactory. A reverberation, or undue prolongation of the sound existed, and, in addition, because of the large size of the room and the form and position of the walls, echoes were set up. If an observer stood on the platform and clapped his hands, a veritable chaos of sound resulted. Echoes were heard from every direction, and reverberations continued for a number of seconds before all was still again. Speakers found their utterances thrown back at them, and auditors all over the house experienced difficulty in understanding what was said. On one occasion the University band played a piece which featured a xylophone solo, with accompaniment by the other instruments. It so happened that the leader heard the echo more strongly than the direct sound, and beat time with it. Players near the xylophone kept time to the direct sound, while those farther away followed the echo. The confusion may well be imagined.

An investigation of the acoustical properties of the auditorium was begun in 1908 and has continued for six years. It was decided at the outset not to use "cut and try" methods of cure, but to attack the problem systematically, so that general principles could be found, if possible, that would apply not only to the case being investigated, but to auditoriums in general. This plan of procedure delayed the solution of the problem, since it became necessary to study the theory of sound and carry out laboratory investigations at the same time that the complex conditions in the auditorium were being considered. The author spent one year of the six abroad studying the theory of acoustics and inspecting various auditoriums. The main echoes in the auditorium were located by means of a new method for tracing the path of sound, the time of reverberation was determined by Sabine's method, and a general diagnosis of the

acoustical defects was made. Hangings and curtains were installed in accordance with the results of the study, so that finally the acoustical properties were improved. The results of the survey show that curved walls are largely responsible for the formation of echoes because they concentrate the reflected sound. It seems desirable, therefore, to emphasise the danger of using such walls unless their action is annulled by absorbing materials or relief-work. Large halls with curved walls are almost sure to have acoustical defects. We note that the report, which is very fully illustrated, attaches little value to the popular ideas that a cure is to be sought by the use of wires and sounding-boards, or that it is of much use for architects to model auditoriums after those already built that have good acoustical properties. It does not follow, it is asserted, that halls so modelled will be successful, since the materials used in construction are not the same year after year. For instance, a few years ago it was the usual custom to put lime-plaster on wooden lath; now it is frequently the practice to put gypsum plaster on metal lath, which forms an entirely different kind of a surface. This latter arrangement makes hard, non-porous walls which absorb but little sound, and thus aggravate the reverberation. Further, a new hall usually is changed somewhat in form from the old one, to suit the ideas of the architect, and it is very likely that the changes will affect the acoustics.

Mr. Samuel Bird has been elected, for the second time, Master of the Tylers' and Bricklayers' Company; Mr. Richard Moreland, jun., Upper Warden; and Mr. H. J. B. Moreland, Renter Warden.

At the Garden Village, Knebworth, on Friday, the Countess of Lytton laid the foundation-stone of a new church, now being erected close to the centre of the village, on a site of one acre, and, when completed, will accommodate seven hundred persons.

The Lyon Memorial Hall at Hodnet, Staffs, was opened last week. It is built of red bricks, with stone dressings, seats in the assembly-room 250 persons, and cost £1,200. Mr. C. E. Davenport, of Hospital-street, Nantwich, was the architect, and Mr. T. S. Gresty, of Willaston, the builder.

A Local Government Board inquiry has been held into an application of the rural district council of Billericay for sanction to a loan of £9,000 for sewerage and sewage-disposal works for the parish of Hutton, near Shenfield. Messrs. Wilcox and Raikes, of Birmingham, are the engineers.

At the meeting on Tuesday of the Surrey County Council at Kingston, the county surveyor (Mr. A. Dryland) reported that the experience of the past year, in which the necessary repairs had been trifling, had confirmed his opinion as to the satisfactory results of the use of tarred slag for main-road surfaces.

The Brighton Town Council have received the sanction of the Local Government Board to a number of loans, including one of £13,700 to buy land adjoining the new Brighton and Sussex Grammar School for a playing-field, and one of £1,500 for the purchase of land as a site for a hostel and playing-field for the women students of the Day Training College.

The executive committee of the City and Guilds of London Institute have appointed Mr. Alfred J. Margetson, B.Sc. (Lond.), M.Sc., at present assistant professor at the City and Guilds (Engineering) College, Kensington, to the Professorship of Civil and Mechanical Engineering at the Technical College, Finsbury, vacated by Professor E. G. Coker, on his appointment to the Chair at the University College.

Two new recreation-grounds in the heart of thickly-populated areas in Birmingham were formally opened to the public on Monday evening. They are situated in Sheepcote-street and George-street West respectively. The total cost of the former is £3,997 5s., comprising site £3 4d. and laying out £557 5s. The open space at George-street West—now to be called the Brookfields Recreation Ground—has cost £6,853 8s., the site accounting for £5,833 8s., and the laying out for £1,020.

FENCED-IN TRAMLINES.

At the closing meeting of the sixth annual Conference of the Tramways and Light Railways Association, held at Newcastle-on-Tyne last week, Mr. J. A. Brodie, engineer to the Liverpool Corporation, read a paper on "Town Planning in Relation to Tramways." He appreciated the importance of the relationship between improved means of conveyance and the development of town areas. Main streets and roads had always been the principal features in old plans of towns, and they must continue to form the real backbone and frame to which details of any effective planning scheme were to be fitted. The success and prosperity of any town depended on its facilities for traffic, and there was little doubt that speedy local passenger transport was likely to play a very important part as effecting the development of town areas in the future. Although about four millions sterling had been expended in Liverpool during the past fifty years, it could safely be said that none of the most important streets in the old part of the town were of width in excess of the present requirements. It was not far from the truth to declare that the new era of road improvement and widening was about to commence. Experience in connection with street improvements near the centre of a town showed that four-fifths of the whole expenditure went in payment for houses and compensations, all of which would have been avoided if ample width for traffic had been originally provided. Ample width was now a matter of the greatest possible importance where general traffic was considerable, and 80ft. should be regarded as the minimum in any thoroughfare leading towards the centre of any considerable community. With regard to tramways, the factor leading to success would be speed. They must go for increased speed, combined with safety for passengers, comfort for occupiers of frontal property, and reasonable economy. The average speed, he suggested, might be increased to twenty miles an hour, and safety provided by fenced lines in wide streets. The question of noise would have to be considered along with speed. Competent engineers would not find the problem of resilient and silent tires incapable of solution.

Alderman Smith, Liverpool, thought it necessary that trams should travel at high speeds, and this demanded wide roads. He did not believe that people would travel in tunnels if they could travel on the surface.

Mr. Stephen Sellon, referring to diagrams presented by Mr. Brodie, asked why he had not contemplated running cars at the side instead of in the roadway?

Mr. Brodie, in reply, said it was safer to run fast cars in the centre of a road, and people occupying houses along the route would be less troubled with noise than if cars were run at the side.

Mr. Harry England observed that cars would be able to maintain a high speed at the side of the roads if they had their own right-of-way.

It was decided unanimously by the Court of Common Council on Tuesday that a bust of the late Mr. Joseph Chamberlain should be executed and placed in the Guildhall.

It is proposed by the London County Council to link up the comparatively little-used line of tramway terminating at Waterloo Station with the Blackfriars-road route and other lines, via New-cut and Great Charlotte-street. The works committee of the Southwark Council in a report issued on Tuesday, offer no objection.

At a meeting of the Staffordshire Education Committee on Saturday, it was reported that plans for the erection of the hostel and farm buildings in connection with the Staffordshire Farm Institute had been submitted to the Board of Agriculture, and that the estimated amount of £23,000, exclusive of cost of land, had been agreed to.

A Local Government Board inquiry was held on Tuesday at Astwood Bank, by Mr. C. H. Eyles, inspector, to consider an application made by the Feckenham Rural District Council for sanction to borrow £1,940 for the purpose of the purchase of land and the erection of working-class dwellings at Astwood Bank. Messrs. Dieks and Waldron, of Evesham, have prepared the plans for the houses.

Building Intelligence.

GALASHIELS.—At a recent meeting of the town council, the burghs building committee reported, in connection with the proposed extension of the burgh buildings and the accommodation for the police department, that the sketch plans submitted to the council in January by Sir Robert S. Lorimer, A.R.S.A., F.R.I.B.A., of Melville-street, Edinburgh, had been forwarded to the Scottish Office, and approved of, so far as the police department was concerned. Thereafter Sir Robert Lorimer prepared completed plans giving effect to a variety of alterations suggested on the sketch plans, and he estimated the cost of the extension at approximately £5,750, with an additional £2,500 for a tower and clock. The completed plans had been approved by the committee, and had been examined by the anonymous gentleman who had been interesting himself in the matter, and he had intimated his desire to bear the expense of the tower and clock. Further subscriptions towards the cost of the extension to the amount in all of £650 had been intimated, while others had been promised. The committee recommended that the completed plans be approved of, and that Sir Robert Lorimer be instructed to prepare specifications and schedules, and thereafter obtain and submit to the council estimates for the execution of the work. The committee's report was adopted.

KINGSWOOD, BRISTOL.—Mr. William Douglas has given a new nursing home to Kingswood, near Bristol. The building is in Hanham-road, and has a frontage of 36ft. and a depth of 40ft.; the elevation is of red brick and Bath stone dressings. To the left of the vestibule is a waiting-room, and behind it are a storeroom, kitchen, and offices. On the right of the vestibule are a committee-room and a dining-room 13ft. 5in. by 22ft. On the floors above are eight bedrooms, two bath-rooms, and a boxroom. The staircase is lighted by a lantern light from the roof. Mr. Thomas Mackay, of Kingswood, is the architect, and Mr. S. Milsom, also of Kingswood, the contractor.

MANCHESTER.—The Central Branch for Accidents and Out-patients of the Manchester Royal Infirmary, which has been built on the site of the Grosvenor-street Chapel and Roby School, Piccadilly, is rapidly approaching completion, and will be ready for occupation in a few weeks. The exterior of the new hospital is plain to a degree, being of red brick, with very little ornamentation. Opening from the entrance-hall are consulting and examination rooms. A special room for accidents is provided, and there are two observation wards, each having two beds. On the ground floor there are also an operating theatre, an X-ray room, and an isolation room. The total number of beds in the institution is fourteen, of which ten are on the first floor, where two wards will have three beds each and two others two beds each. Accommodation is provided for the staff, their sleeping accommodation being on the second floor. Throughout the buildings the floors are of terrazzo, covered by linoleum. The walls in all the patients' departments are tiled, and all corners are rounded. The cost of the building has been £25,000.

NORWICH.—At the last meeting of the city council of Norwich the Special Committee re Flood Protection and Housing reported recommending that tenement dwellings of two stories, self-contained dwellings with three or four bedrooms each, and a few dwellings with two bedrooms be erected in Starling-road, and that a competition be arranged and plans and drawings for the erection of the dwellings be invited from architects resident within seven miles of Norwich who are Fellows, Associates, or Licentiates of the Royal Institute of British Architects, or members of the Society of Architects; three premiums of £20, £15, and £10 respectively be offered, and Councillor Boardman act as assessor on behalf of the committee; and, further, that power be delegated to the Special Committee re Flood

Prevention and Housing to select a plan, and invite tenders for carrying out the work for submission to the council. After a long discussion, and several divisions, an amendment was carried that the city engineer, Mr. A. E. Collins, be instructed to prepare and submit plans and specifications for the work.

NEW CATTON, NORWICH.—The Bishop of Norwich has consecrated at New Catton, a suburb of Norwich, the church of St. Luke's, which has been provided through the generosity of some anonymous donor or donors. The cost of the church approximates to £6,000. It is of red brick, is plain in treatment, and gives accommodation for over 600 people. This most modern of Norwich churches is possessed of a fine Early English font. For years it stood in the garden of St. Andrew's, and has now been handed over to St. Luke's in a state of restoration. The architects of the new church were Sir Arthur Blomfield and Sons, and the builders Messrs. Youngs and Son, of Norwich.

OXFORD.—The Lady-chapel of St. Mary Magdalen Church, Oxford, which has just been dedicated by the Bishop of Oxford after restoration, was built on the site of a chantry erected in the 12th century by the Carmelite Friars. Among its chief features are its massive buttresses with niches to contain figures, and its balustrade. The roof and the balustrade have been restored. The stonework of the four buttresses has been repaired, and in the niches have been placed statues of the Virgin Mary, the prophet Elijah, King Richard I., and Bishop Hugh, of Lincoln. The Virgin and Bishop Hugh were, it is believed, two of the figures which originally filled the niches. King Richard has been chosen because he was born in the Palace of Beaumont, which stood near the church, and the prophet Elijah as the patron saint of the Carmelites.

WHITEKIRK.—The scheme for the restoration of Whitekirk Church, Haddingtonshire, which was burned down by incendiaries in February, has now so far advanced that it has been possible to appoint an architect to prepare plans and obtain estimates. Sir Robert Lorimer, A.R.S.A., F.R.I.B.A., of Edinburgh, has been selected. The funds subscribed and otherwise available are £6,400, but this leaves about £1,600 still to be raised to allow of the complete restoration.

Plans by Mr. Temple Moore, of Hampstead, have been adopted for the new church of St. Augustine to be built in Rock-avenue, Gillingham, near Chatham. The estimated outlay on the first section of the church is £5,500.

Mr. W. M. Cross, M.Inst.C.E., held an inquiry at the Public Hall, Whittlesey, last week, as to the application of the rural district council of Whittlesey to borrow the sum of £2,634 for the erection of working-class dwellings. Mr. Alan W. Ruddle, architect, of Peterborough, produced and explained the plans.

The Evesham rural district council adopted last week a plan prepared by Messrs. Wilcox and Raikes, civil engineers, Birmingham, for connecting Harvington with the village water scheme, by laying a main from Littleton across the River Avon at the Fish and Anchor ford. The estimated cost of this is £2,200. The council is erecting cottages in the village at an estimated cost of £3,400.

Memorial stones of a new Baptist school-chapel were laid last week at the corner of London-road and Vesey-street, Newcastle-under-Lyme. The assembly-hall will be seated for 300 adults, and there will also be three class-rooms. Messrs. George Barnes and Sons, of London, are the architects, and Messrs. Tompkinson and Bettelley, of Longton, Staffs., are the builders. The cost of the present section of the scheme will be £2,100.

A memorial to the musicians who perished in the wreck of the Titanic was unveiled at the headquarters of the National Orchestral Association, Archer-street, Soho, London, last week, by Mr. Landon Ronald. It takes the form of a decorative mantelpiece in one of the club-rooms, with a centre panel executed in bronze showing in relief and figures of Music and Fame. Eight portrait medallions also form part of the memorial. It was executed by Mr. Paul R. Montford, sculptor, with Mr. Maurice E. Webb as architect.

Engineering Notes.

BLYTH.—Large harbour extensions are to be carried out at Blyth. In the upper harbour there will be coaling berths for ships up to 10,000 tons. Staith Jetty will be 1,570ft. long, and there will be a depth alongside of 30ft. at low and 45ft. at high water. The contract has just been placed with Messrs. Mitchell Brothers, Limited, Glasgow. The cost will be borne partly by the Blyth Harbour Commissioners and partly by the North-Eastern Railway Company. A large tidal basin with a deep-water area of 15 acres is being dredged. Future improvements of the harbour consist of the extension of the East Pier by the construction of a monolithic concrete pier 1,120ft. long, the reconstruction and extension of the West Pier, and the provision of basins.

METROPOLITAN WATER BOARD.—This authority accepted on Friday the tender of Messrs. Dick, Kerr, and Co., Ltd., amounting to £673,811, for the construction of reservoirs No. 6 and 7 at Littleton, and incidental works authorised by the Board's New Works Act of last year, and Mr. T. C. Deverell, M.Inst.C.E., was appointed resident engineer at the reservoir works at a salary of £600 per annum, with house rent free. Mr. Deverell was the resident engineer during the construction of the King George reservoir, his salary then being £500 a year. Messrs. S. Wilkes and E. A. Park were promoted in consequence of the retirement through ill health of Mr. Sidney Marsland, the assistant district engineer of the Kent district. It was decided to purchase as a site for filters to be constructed at Hanworth 37½ acres of land of Mr. J. C. G. Pownall at £5,500, or about £145 per acre, and 27½ acres of the Rev. F. Salt at £3,750, or £135 per acre. It was reported that Messrs. Thomas Dockwra and Co. had completed the laying of a 48in. main for the purpose of carrying the unfiltered water of the New River from Southbury-road to Bush Hill basin, and of a 48in. main to carry the water of the New River over Maiden's Brook, authorised by the New River Company's Act of 1896, at a total cost of £9,194, and that the power-station buildings at King George's reservoir had been carried out by Messrs. Charles Wall, Ltd., at an expenditure of £16,180.

SOUTH SHIELDS.—An important scheme of dock extension has been embarked upon by the Middles Docks and Engineering Company, South Shields. The new dock, which will be the largest in Shields Harbour, will be 630ft. long and 80ft. wide at the entrance, with a depth of 26ft. of water over sill. Provision is made in the scheme for the erection of a deep water quay about 750ft. long, which will be fitted with an electric gantry travelling crane. The work will be completed in about two years, and a commencement will be made in the near future with the construction of a second new dry dock. Messrs. Edmund Nuttall and Co., Manchester, are the contractors, and the designs have been prepared by Mr. T. Hanning, M.Inst.C.E., of Newcastle.

At the meeting yesterday (Thursday) afternoon of the City Corporation, a petition to the Local Government Board was sealed for an order sanctioning the Cloth-Fair Improvement Scheme, 1914, pursuant to Part II. of the Housing of the Working Classes Act, 1890, Section 29 (b), as amended by Section 23 of the Housing and Town Planning Act, 1909.

Mr. F. O. Stamford, A.M.I.C.E., Local Government Board Inspector, conducted an inquiry at the Old Grammar School, Ashford, Kent, on Wednesday week into the application of the West Ashford Rural District Council to borrow £3,300 for the purpose of providing proper water supplies in Bethersden, Great Chart, Hothfield, Kingsnorth, and Shadoxhurst.

At a special meeting of Evesham Town Council on Monday, the town clerk reported he had received the formal sanction of the Local Government Board to a loan of £1,800, to be repaid in eighty years, for the purchase of a site in King's-road, for houses for the working classes, and he had made arrangements with the Public Works Loan Commissioners for the loan.

COMPETITIONS.

THE SHAKESPEARE MEMORIAL NATIONAL THEATRE.—We have received the following, in addition to the particulars given in our last two issues: The names of the architects sending in designs, and also their designs, will be seen only by the assessor and the sub-committee. The drawings may be the original working drawings of buildings erected, or they may be elevations of buildings designed but not erected. Not more than five drawings or photographs should be submitted, and not more than two perspectives. A short report of the designs may be included, and also a list of buildings of importance designed or erected. All drawings to be sent in a portfolio on or before September 15, 1914, to the Secretary, the Shakespeare Memorial Committee, 3A, Dean's-yard, Westminster Abbey, S.W.

NEW SCHOOL, SUNDERLAND-ROAD, GATESHEAD.—Members and Licentiates of the Royal Institute of British Architects 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.

The Herts County Museum, in Hatfield-road, St. Albans, is being enlarged, at an outlay of about £1,500. The builders are Messrs. Salisbury and Son, of Harpenden, and the additional showcases are being made by Mr. J. S. Gibbs, of Fleetville.

The death occurred in Edinburgh on Friday of Mr. David Rutherford, A.R.S.I., for the past half-dozen years chief sanitary inspector for the city. Mr. Rutherford, who had been in failing health for some time, had been in the employment of the Edinburgh Corporation for about twenty years.

The girls' secondary school is in course of erection in St. George's-avenue, Northampton. The school, which is being built by Messrs. Pullen and Sons, is to accommodate 300 pupils, and the cost will be £16,546, exclusive of furnishing, as the laying out of the playing-fields. Messrs. Sharman and Archer, of Wellingborough, are the architects.

Tenders, amounting to £6,088, have been accepted by the West Riding Standing Joint Committee, for the furnishing of the new police headquarters at Wakefield. The total estimate for the building and furnishing, it was stated, was £37,938, and the actual expenditure when completed would be £38,285.

The foundation-stone of the new church of St. Cuthbert, Preston, was laid the other afternoon. The first section of the church to be erected will consist of the chancel, part of the nave, with the vestries, which will cost over £7,000. The architect is Mr. Temple Moore, of London, and the contractors are Messrs. Ullathorne, of Selby.

On Saturday, at Chilcompton, Lady Kathleen Thynne laid the first foundation-stone of a new church house, which is to be erected in the parish. The members of the C.E.M.S. have agreed to carry out the work of erecting the building in their spare time. Mr. H. G. Tovey, of Midsomer Norton, will act as hon. architect, and has prepared plans. Mr. A. G. Target, one of the churchwardens, is the clerk of the works, and hon. treasurer to the scheme.

A Ceylon pavilion has just been added to the public galleries of the Imperial Institute. The scheme of internal decoration is based on Sinhalese designs and colouring. The designs are taken partly from sculptured decoration found on ruined dagobas at Anuradhapura, and partly from Kandyan painted pottery, with the addition of proverbs and sayings written in Sinhalese characters. The exhibits include specimens of Kandyan woodcarving, metal-work, pottery, and painting; also photographs illustrating the tea industry and water-colour sketches and photographs of Ceylon scenery.

A service was held in the partly erected new church of Urr, near Dalbeattie, on Saturday in the course of which a memorial-stone was laid in the chancel. The church, which is estimated to cost £3,000, will be the fourth on or near the present site, the first having been erected in 1606, the second in 1752 and the third in 1815. A panel from the pulpit of the first church, bearing the initials of the then minister, Mr. John Thomson, has been presented and will be fixed to the pulpit of the new building. A stone from the belfry of the church recently demolished, with the figures 1815 on it, is to be built into the new west gable. The architect is Mr. P. Macgregor Chalmers, of Glasgow.

Our Illustrations.

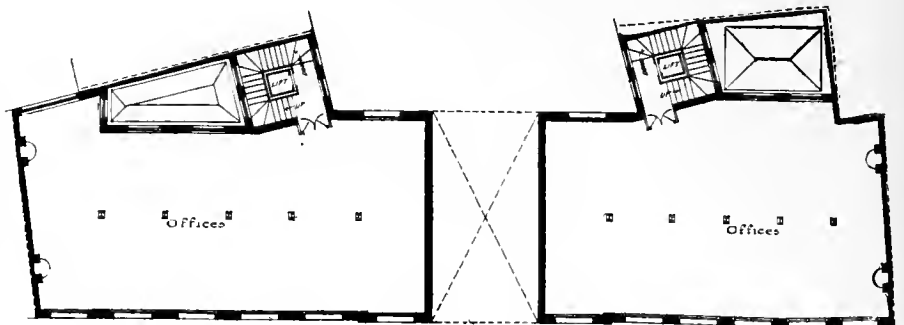
REBUILDING PREMISES IN BISHOPSGATE FOR THE LEATHERSELLERS' COMPANY.

The rebuilding of Nos. 54 to 66, Bishopsgate, is for a bank or insurance premises, with offices over, as shown by the accompanying plans. It will be seen that the

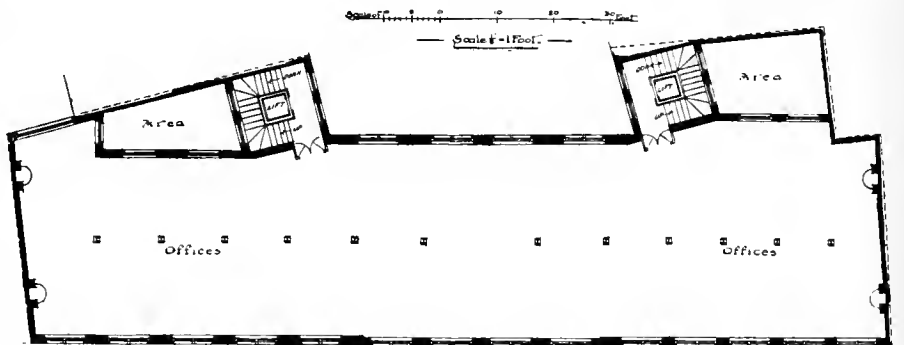
Howard Chatfield Clarke, F.R.I.B.A., President of the Surveyors' Institution, of 102, Bishopsgate, E.C.

ST. COLUMBA'S CHURCH, SCARBOROUGH.

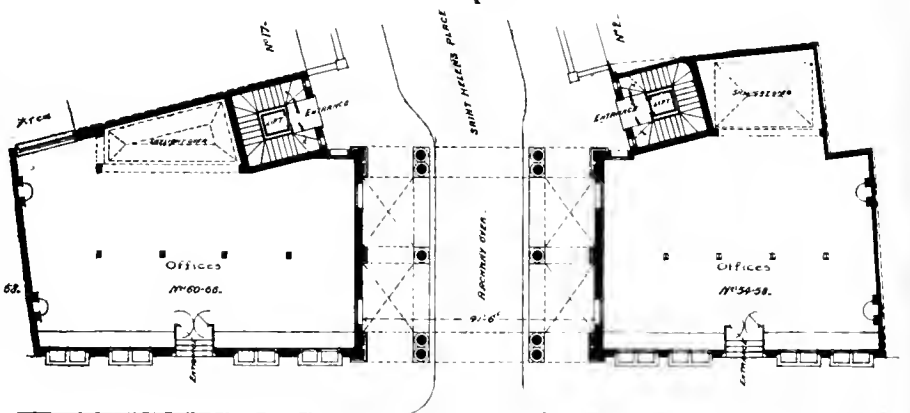
St. Columba's Church, Scarborough, is a new church to be built in a populous outskirts of the town. The site is a very difficult one, both in shape and subsoil. The plan shows a nave and chancel (with apsidal ends) lying



— Mezzanine Floor Plan —



— First Floor Plan —
— Plan of Upper Floors —



BISHOPSGATE
Ground Floor Plan

Howard Chatfield Clarke, F.R.I.B.A.,
Architect,
102, Bishopsgate, E.C.
May 1914

REBUILDING PREMISES IN BISHOPSGATE, LONDON, E.C., FOR THE LEATHERSELLERS' COMPANY.

Mr. HOWARD CHATFIELD CLARKE, F.R.I.B.A., Architect.

central feature of the façade is the arching over the existing entrance to St. Helen's-place, which has been included in the design. At present the entrance is through iron gates, the premises being the property of the Leathersellers' Company. As will be seen from the illustrations, the offices are approached from St. Helen's-place, and are planned so as to be easily divisible or dealt with in large areas. Two blocks of offices have already been built in St. Helen's-place, each occupying the site of four of the old houses formerly existing, and the present block is suggested to be carried out on similar lines, the elevation being built wholly in Portland stone. The architect is Mr.

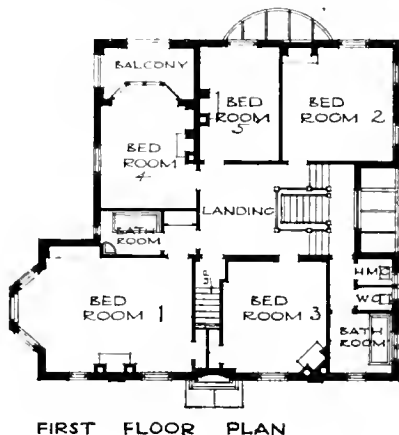
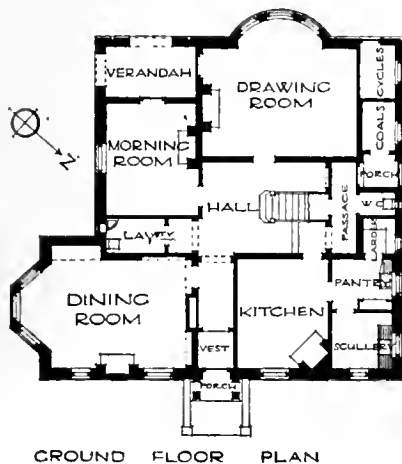
diagonally across an approximately square site, with many aisles diminishing into angles on the north and south sides. The effect should be very interesting, because although the church will be nearly as wide as it is long, its shape brings the sanctuary (and for that matter, the pulpit, too) into view from every part of the church. On account of a loose subsoil and a deep pit already dug on the site (not to mention the want of space on the land at disposal) the vestries and a large clubroom have been arranged for most economically in a basement. The church will seat 600, and the cost is estimated at £7,000 complete. It will be built of brick, with brick facings, stone being used only in the

windows, doorways, etc. The drawing here reproduced is now on view at the Royal Academy. Mr. Temple Moore, F.R.I.B.A., is the architect.

WELLGARTH CORNER, HAMPSTEAD GARDEN SUBURB.

This house overlooks the extension of Hampstead Heath, and is faced externally with Chesham grey sand-faced bricks, the chimney-stacks, quoins, and window-reveals being executed in reds. The porch and

mottled facing-bricks. The towers, east and west wings, will be roughcasted, finished with a rough surface, and distempered. Doulling stone will be employed to upper part of towers. The tile-hanging to lounge, north end, to be bright red sand-faced tiles, contrasting with roof-tiles, which are dark brindled. Roofs to tower and shelter: The floors to shelter and towers, expanded metal and concrete; the framework to shelter will be in light steelwork, cased in concrete, and finished in cement rendering. The moulded



"WELLGARTH CORNER," HAMPSTEAD GARDEN SUBURB.

MR. HERBERT A. WELCH, A.R.I.B.A., Architect.

niche over are executed in Portland stone. The windows are double-hung sashes, and the roof is covered with red sand-faced tiles, with bonnet-shaped hips. The hall is panelled in oak, which has been treated with liquid lime to finish a greyish colour. Elsewhere the joinery is in deal. The architect is Mr. Herbert A. Welch, A.R.I.B.A., 7, New-square, Lincoln's Inn, W.C. The accompanying drawing is now on view at the Royal Academy Exhibition.

EXTENSION TO DOXFORD HALL, NORTHUMBERLAND.

The illustration shows a view of the end of the new wing which has just been added to this mansion. On the ground floor is a library, 56ft. by 25ft., separated from two small rooms by an archway, through which the drive passes. On the first floor are bedrooms. The library interior is finished in mahogany, left untouched from the tool, with special plasterwork to ceiling and beams. The stone used on the building is from a local quarry, and the roof is covered with Westmorland slates. Messrs. Mauchlen and Weightman, of Newcastle-upon-Tyne, are the architects.

HYTHE CONCERT HALL: SELECTED DESIGN.

The requirements of the Hythe Corporation in this competition were to provide a concert-hall, public shelter, and tea-rooms upon the old baths site, which lies between the sea front and South road. In this, the first premiated design, Mr. Arthur Wintle, of 418, Strand, W.C., has arranged the public shelter and tea-rooms facing the sea in such a way that they can be used in conjunction with the concert-hall, which has been placed with its main entrance towards South road. The various divisions are concentrated into one block, with a view to facilitating supervision and reducing the requisite staff to a minimum. The old baths building has been utilised, thus allowing the building as a whole to be planned on a more liberal scale than would otherwise have been possible. The scheme has been divided into three portions: (1) Entrance vestibule and cloak-rooms, etc., fronting upon South road. (2) Concert-hall and gallery. (3) Shelter tea-rooms and balcony. The materials proposed to be used are: Concert-hall, north entrance and chimney-stacks facings, 2in. purple

work to the south elevation will be run in cement, which will be subsequently painted. The concert-hall will have a light steel roof, carried upon cast-iron columns, the lattice girders supporting the clerestory wall being used decoratively. The ceiling to the concert-hall and the proscenium will be constructed of fibrous plaster. Mr. Charles F. A. Voysey was the professional referee who selected this design on behalf of the Hythe Corporation.

A tower is being added to the Roman Catholic Church at Donnybrook, near Dublin. Messrs. W. H. Byrne and Son, of Dublin, are the architects, and Mr. Michael Green, of Donnybrook, is the builder.

The foundation-stone of a church hall was laid on Friday, at Hightown, Sefton, near Liverpool. It will accommodate 200 persons, and is being built from plans by Messrs. Shephard and Bower, of Royal Liver Building, Liverpool.

The Metropolitan Asylums Board have purchased 57 acres of land at Hyde Stile, two miles from Godalming, for the purpose of erecting a tuberculosis sanatorium for women, with accommodation for 200 patients. The land lies at an altitude of nearly 400ft. above sea-level, and is sheltered by the higher hills of Hindhead and the Hog's Back.

In the matter of the application on behalf of William Frederick Russell, temporarily residing at his Majesty's Prison, Wandsworth, lately Queen's Wood-road, Forest Hill, and Hollingbourne-road, Herne Hill, formerly Alscot-road, Bermondsey, builder's foreman, formerly master builder, the order of discharge has been suspended for two years.

A municipal secondary school for boys in Leaf-square, Pendleton, Salford, was opened on Thursday in last week by Sir William Mather. In the twelve classrooms of the school there are places for 330. There are also three laboratories (two chemical and one physical), an art-room, manual-instruction room, gymnasium, library, dining-room, and kitchen, head and assistant masters' rooms, and an assembly-hall. The cost for building was £20,000.

The old tower of the Royal University in Earlsfort-terrace, Dublin, which dates from 1884, and is in course of demolition in consequence of the erection of new buildings for University College on its site, is to be re-erected by H.M. Board of Works at the rear of the new College of Science adjoining Kildare-place, by Messrs. G. and T. Crampton, contractors, of Ballsbridge, Dublin, who are also the builders of the new University College, which is being constructed from plans by Messrs. Doolin and Butler, of Dublin.

LEGAL INTELLIGENCE.

PARKER - STREET AND KINGSWAY FRONTAGES.—On three days this week Mr. John Hubert Oakley, of the firm of Messrs. Daniel Smith, Son, and Oakley, sat at the Surveyors' Institution as arbitrator in a compensation claim in respect of two of the three interests in a site in Parker-street, that of Mr. Wheatner and that of Mr. Delissa Joseph. The witnesses for the claimants include Sir David Burnett (Messrs. Fox, Burnett, and Baddeley), Mr. B. I. Breach (Messrs. Farebrother, Ellis, and Co.), Mr. W. Hurst Flint (Messrs. Humbert and Flint), Mr. J. H. Townsend Green (Messrs. Weatherall and Green), Mr. James Boyton (Messrs. Elliott, Son, and Boyton), and Sir Alexander Stenning. For the Holborn Borough Council there were called Mr. H. Chatfield Clarke, P.S.I.; Mr. Leslie Vigors; and Mr. Howard Martin (Messrs. Thurgood and Martin). The Holborn Borough Council, under Michael Angelo Taylor's Act, sought to acquire a strip of the frontage of the site for the widening of Parker-street. The loss of the strip would, it is alleged, do away with the Kingsway frontage. The arbitrator announced on Wednesday afternoon that he should reserve his award.

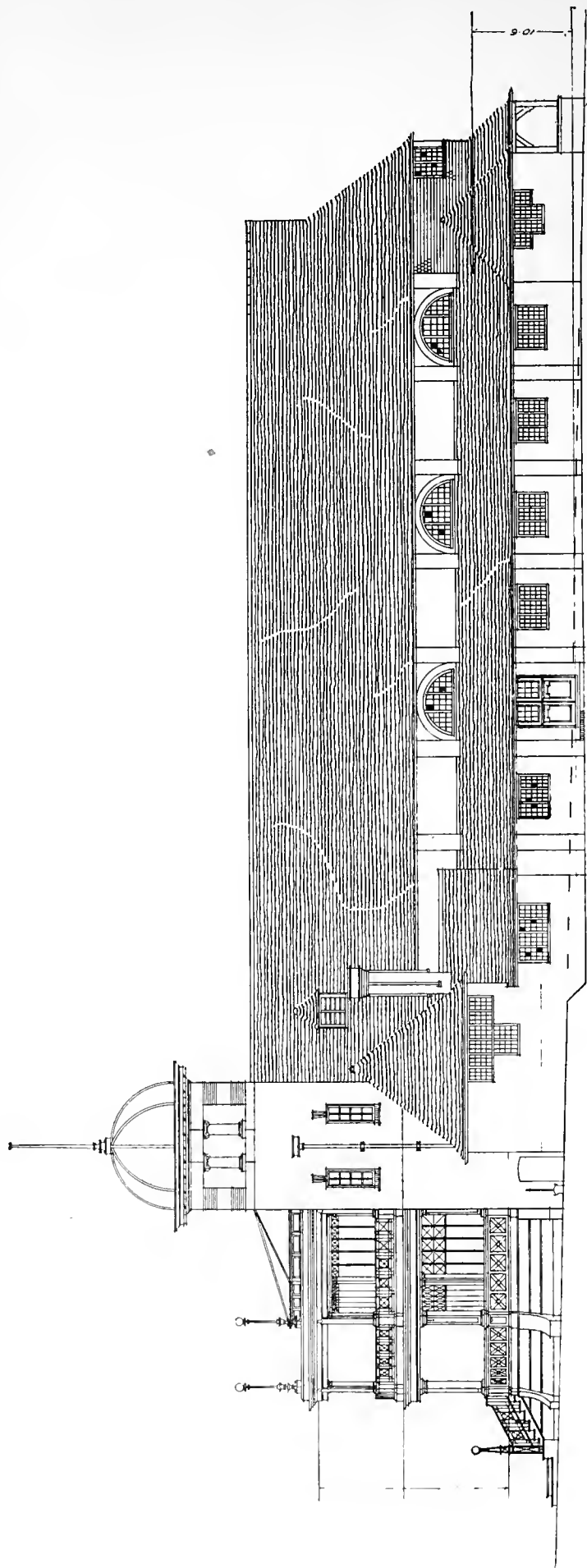
A CRUCIFIX IN A MEMORIAL WINDOW TO AN ARCHITECT.—The Chancellor of Durham (Dr. P. V. Smith) held a Consistory Court on Friday at St. Oswald's Church, Durham, for the purpose of hearing an application by the vicar and churchwardens of the parish for a faculty to confirm the insertion of a stained-glass window in memory of the late Mr. C. Hodgson Fowler, P.S.A., F.R.I.B.A., for many years architect to the Dean and Chapter of Durham. Mr. E. Laidler stated that the window was a gift by Mrs. Hodgson Fowler, and that there was no opposition. The Chancellor, giving judgment, said the window was of two lights, with representations of Bishop Hugh of Lincoln and St. Paul of Rochester. In a lower space there was a figure of Mr. Hodgson Fowler, kneeling and presenting the ground plan of the church, and there was a crucifix at the side. The window had been put up without a previous faculty, which was an unfortunate thing. He felt it was impossible to grant a faculty for a window containing such a representation without holding a Court to consider the matter and seeing the actual window itself. It was well known that before the Reformation the crucifix and other images were used in connection with Divine worship. All that was swept away at the Reformation on the ground that it led to superstition. It was hardly 40 years since the Privy Council gave a decision that figures of historic representation might be allowed, but the objection to figures in a church was confined to cases in which there was a risk of their being the subject of superstitious reference or abuse. Since that time the introduction of historic sculptures had become extremely common, and there were more and more of them every day. Simultaneously with that, there had been attempts made to introduce the crucifix in churches, and decisions given in 1901 and 1906 on the subject clearly defined what was legal and what was illegal. The Chancellor said that the window itself, he considered, had not the figure of a man engaged in prayer, but a figure of the late Mr. Fowler holding in his hand the plan of a church, which he was presenting before God. If that were done before the crucifix, he thought the objection might prevail. He thought they might take it that the crucifix was there, but that it did not form part of his actual devotional act. That being so, he was prepared to grant the confirmatory faculty.

The Stepney Borough Council have decided to purchase a site in Arbour-street, at £11,000 for the erection of municipal buildings.

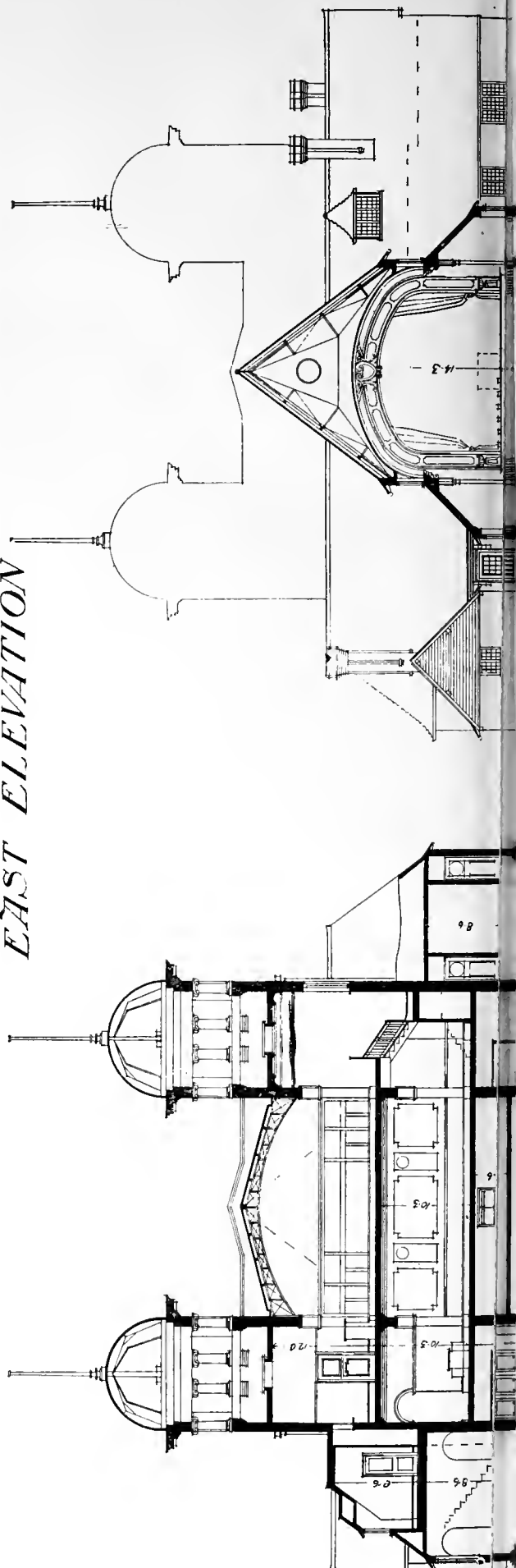
Mr. A. B. Blaschek has been appointed successor to Mr. Leese as deputy surveyor of the Forest of Dean, and director of the proposed forestry demonstration area there.

Mr. I. J. Williams, for the past four years curator of the Corporation Art Gallery and Museum at Cyfarthfa Castle, Merthyr Tydfil, has been appointed Director of the Art Gallery of the National Museum of Wales. Mr. Isaac J. Williams was for fifteen years art instructor under the Merthyr Corporation, and was especially identified with art and handicrafts.

The Pottery's Fund Committee, the object of which is the discovery and assistance of women and girls suffering from lead poisoning, states in its report for 1913 general willingness to comply with the voluminous new code of regulations issued last year has been noticeable, and in some cases abandonment of the use of lead has been an indirect result of their enforcement. For example, Messrs. Doullton, in the Potteries, now employ a glaze which is harmless for all their white china.



EAST ELEVATION

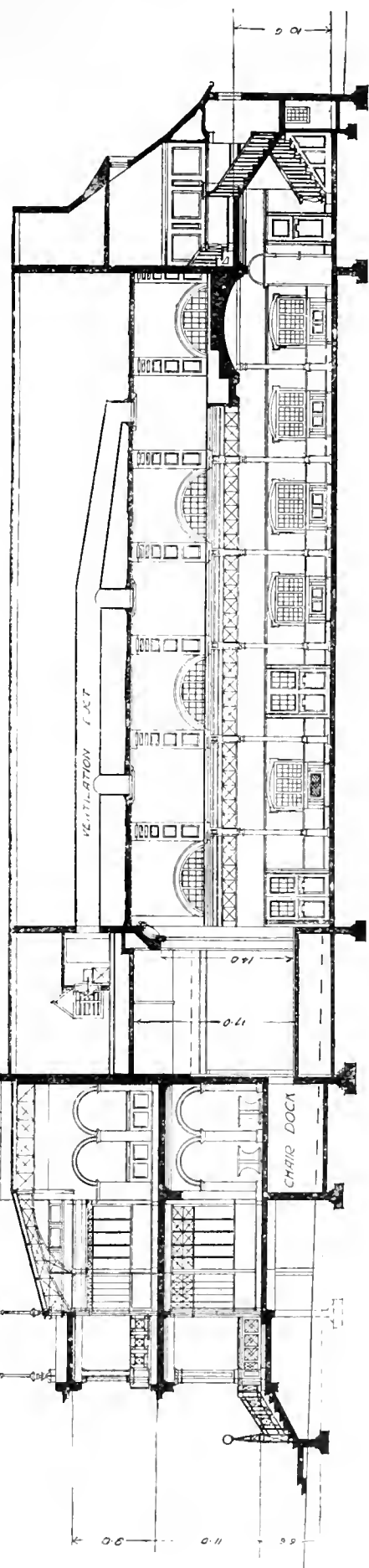
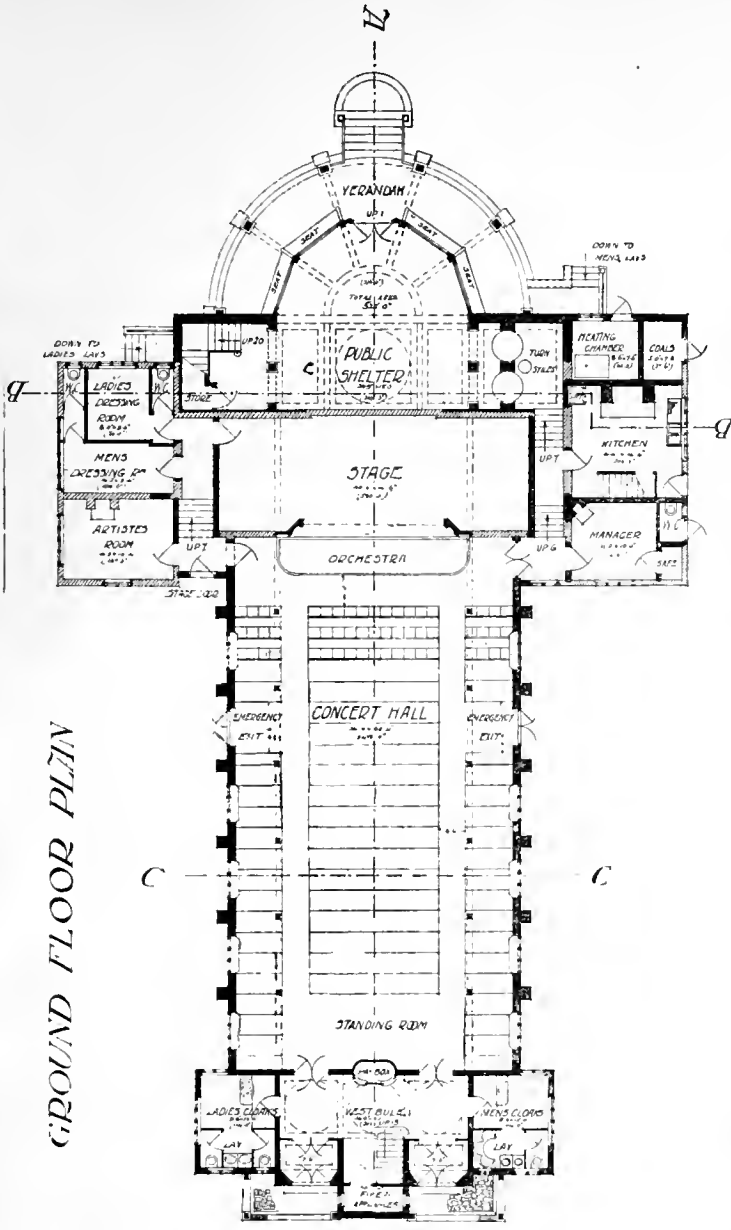


SECTION B.B.

CONCERT HALL HYTHE, KENT

SECTION C.C.

GROUND FLOOR PLAN



SECTION A.A.

FIRST PREMATED DESIGN.—MR. ARTHUR WINTLE, Architect.

PROFESSIONAL AND TRADE SOCIETIES.

ANTIQUARIES AT NEWMINSTER.—The other afternoon, there was a meeting of the Newcastle-on-Tyne Society of Antiquaries on the site of Newminster Abbey, near Morpeth. The party was received by Mr. George Renwick, Springhill, owner of the Abbey grounds, an examination of whose recent excavations was the main object of the visit. Mr. Joseph Oswald explained to members that Newminster was founded in 1138, by Ranulph de Mereley of Morpeth, that its chartulary was edited by Canon Fowler, and published by the Surtees Society, and that it met the fate of all similar establishments in this country in 1539. Mr. Renwick by his arduous work had made many important discoveries since the society was there a year ago. One of these was the base, seven feet square, of a massive pier, which was Late Transitional or of later date, about 1200. That pillar stood between two of the three chapels on the east side of the south transept. Of such chapels there had been six in all. By means of the pillars which separate these chapels, and other remains, they were able to lay out the outline of that part of the church, which was found to follow the traditional Cistercian plan. Mr. Renwick had cleared out the great accumulation of soil and debris from the cloister garth, and by the beautiful pieces of arcading he had erected with the carved stones saved out of it, had given visitors a good idea of the extent of the cloisters and their ambulatories. Several interments of exceptional interest had recently been found. One of these had its covering almost perfect, and its Latin inscription set forth that it was the burial place of Johanna, the Lady of Stanton (a property five miles west of Newminster), the wife of W. Corbett. He, Sir Walter Corbett, a Shropshire man, lies in an undisturbed grave by her side.

THE EDINBURGH ARCHITECTURAL ASSOCIATION.—Through the generosity of Sir R. Rowand Anderson two special prizes of £40 each have just been awarded by the Edinburgh Architectural Association. The prizes were offered for the encouragement of the study of the development of steel construction, more particularly as exemplified in the work of France and Germany, and were open to any two members of the architectural profession in Scotland, over twenty-one and not over thirty years of age, whom a special committee appointed by the council of the Edinburgh Architectural Association should deem most suitable for prosecuting this special study. The prizes have been awarded to Mr. William Paterson, A.R.I.B.A. (Pugin Student 1913), of Edinburgh, and Mr. James McLaren Brown, of Hamilton, N.B., who will be required to spend not less than eight weeks studying on the Continent.

THE NATIONAL SOCIETY OF ART MASTERS.—The annual meeting of the National Society of Art Masters was held on Friday at the Victoria and Albert Museum. Mr. H. Schroder, the retiring President, delivered an address, remarking on the importance of a definite policy as to the future of art education, and deploring the general failure to grapple with its present-day problems on the part of those concerned in the administration of schools. As to current reforms, the scheme for superannuation of teachers in secondary schools was practically an accomplished fact, and only awaited the legislation promised by the Chancellor of the Exchequer. The council had gone ahead with a scheme of examinations for course certificates after full discussion with the Board of Education. These certificates would insure that anyone obtaining them had passed through a course that was consistent and educationally sound for his particular work. A drawing certificate for teachers in elementary schools had been established this year. With regard to secondary teachers, a definite step had been taken that would help to establish the Society as the chief art-teaching body in the country. He had been enabled to safeguard the Society and Schools of Art, provision having been made for repre-

sentatives of the Society to be on the advisory board connected with the certificate. They had now to deal with an entirely new problem—handicraft and manufacture, and not art, taking the predominant place, and the school that turned out an inordinate number of art class teachers and art masters simply because it had a course of work already to hand was a thing of the past. The report, which was adopted on the motion of the President, stated that the examinations for the drawing certificate had been very successful. The number of full members—392—showed an increase of twenty on last year. The question of grants to schools of art was discussed, the President moving that the meeting express regret at the action of the Board of Education in reducing the grant to small schools.—Mr. Parkinson pointed out that the small schools supplied many students to large schools, and to cut out the small schools would be to limit the supply.—Mr. Bedford urged that the question was one of life or death to the small schools, which the Board was starving out of existence. The resolution was carried. Another resolution, also moved by the President and carried, urged the Board of Education to make grants to districts in relation to the all-round educational facilities which local authorities offered. The annual dinner of the Society was held at the Holborn Restaurant in the evening. Mr. H. Schroder presiding. In replying to the toast of "The Visitors," proposed by Mr. W. B. Dalton, the President-elect, Mr. W. R. Colton, R.A., remarked that in France they dealt with art on a commercial basis, and the art of the country was not the worse. There were two principals to be considered—the producer and the consumer. In England we were worrying and striving to produce the producer of art. We ought also to consider and to endeavour to educate the consumer. It was the training of the nation to a higher appreciation of what was fine in design that would make the country in the future. The official policy today seemed to be to let students, masters, and education authorities have a slack time.—Mr. Frank Warner, who also replied, referred to the great progress of the silk industry, resulting from a more general appreciation of design and colour; this was mainly the result of the work of the art schools. Mr. Alan Cole proposed "Success to the Society of Art Masters," and the President returned thanks.

MANCHESTER ARCHITECTS VISIT BIRMINGHAM.—On Saturday the Birmingham Architectural Association received a visit from the members of the Manchester Architectural Association, who made a tour of the city and inspected some of the architectural features. The new galleries of the Royal Society of Artists in New-street were first visited, and the visitors were much impressed by the galleries and the collection of works contained in them. The magnificent stained-glass windows of the Cathedral by Burne-Jones and Morris were next inspected, and afterwards the party proceeded to the Victoria Law Courts, where the stately entrance-hall and fine woodwork of the courts were admired. The journey was continued to Aston Hall. A number of modern churches, all by Birmingham architects, were visited—viz.: St. Benedict's, St. Gregory's, St. Oswald's, and St. Agatha's. Afterwards the party proceeded to the Red Lion Hotel, King's Heath, for tea, this building being an excellent example of the Cotswold style. From thence the party went to Bournville and viewed the group of buildings round the green. On returning to the city the visitors were entertained to dinner at the Queen's Hotel.

UNIVERSITY COLLEGE.—In connection with the School of Architecture the following awards have been made: Carpenters' Company Travelling Studentship, H. Norman Jepson; Evening Design Class Prizes, F. E. Crutchley and R. A. Walter; Additional Prize for Sketching and Measuring, R. A. Walter.

A return presented by the Corporation states that a net outlay of £11,370 was incurred last year on street paving in the City of London.

Correspondence.

"CAKES AND ALE."

To the Editor of the BUILDING NEWS.

SIR,—Having, not so long ago, to act professionally in connection with a competition of the first importance, I was somewhat depressed by the display of incapacity on the part of those who, as elected representatives of the people, constitute the authority responsible for the choice of the design for the building in question.

When the plans were on view the utmost was made of the occasion, and admission to view became a privileged and exclusive affair, no one being admitted unless armed with a special permit, a janitor in livery being employed to guard the portal, and a policeman in uniform was placed in charge of every room. I was very amused with all this, and particularly with the inane remarks passed upon the designs by those on whose vote the ultimate choice of an extremely costly and conspicuous building scheme depended.

I was not surprised to witness the very inadequate attention given by these guardians of the public purse to the essentials of the project or to hear vulgar designs much belauded; but I thought the climax was reached when one portly and very consequential councillor "took the cake" by remarking, almost immediately after his fussy arrival, on meeting some of his confrères: "I say, you fellows, any sherry and sandwiches?" Finding nothing of the sort going, he left promptly. Fortunately, there was a professional assessor employed in the contest referred to, and I know him well.—I am, etc., F.R.I.B.A.

The Local Government Board have given their sanction to the borrowing by the town council of Bury, Lancs, of £40,720 for extensions at the Chamber Hall electricity power station.

At an adjourned meeting of the Birmingham City Council on Tuesday, the scheme for the extension of Holyoak Asylum was approved on the recommendation of the asylums committee. The watch committee's recommendation that extensions be carried out at the Victoria Courts and police offices at an estimated cost of £29,925, and this scheme was also sanctioned.

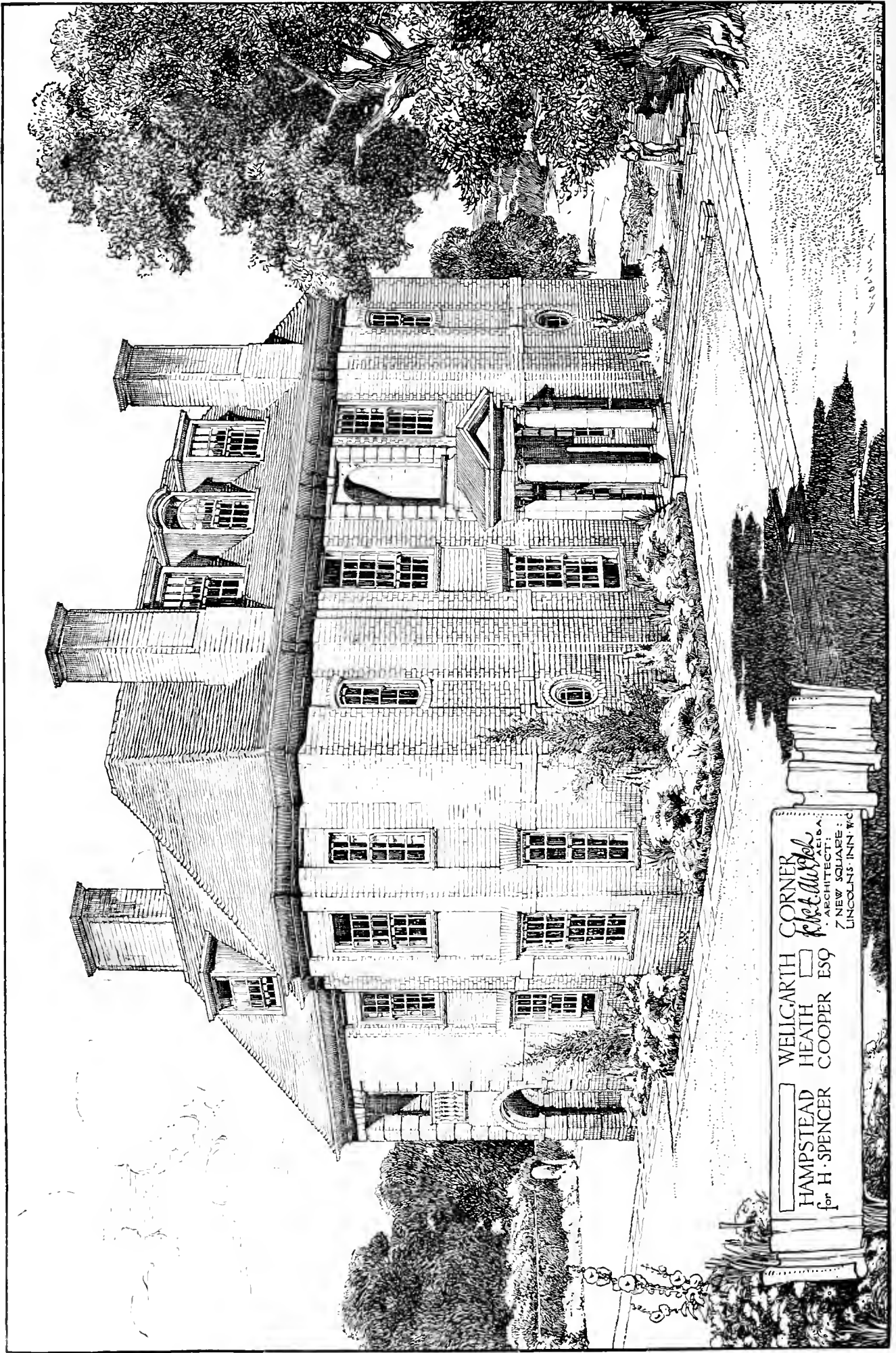
A tablet containing a list of the vicars has been erected in St. Mary's Church, Chigwell. The memorial has been designed in the Fifteenth Century style. It is composed of dark oak, enriched with tracery and moulded cornice. The latter contains a carved running ornament, and is surmounted by a pierced foliated cresting. The memorial has been executed by Messrs. Harry Hems and Sons, of Exeter.

A sub-committee of the highways committee of the Cumberland County Council have had under consideration various schemes for dealing with the bridge over the Greta at Keswick, on the road to Crosshwaite, beside the pencil mills. The full committee have adopted their recommendations for the construction of a ferro-concrete bridge, of one span, 36ft. wide, including a 6ft. wide footpath, at an estimated cost of £2,600. The recommendation will come before the county council next week.

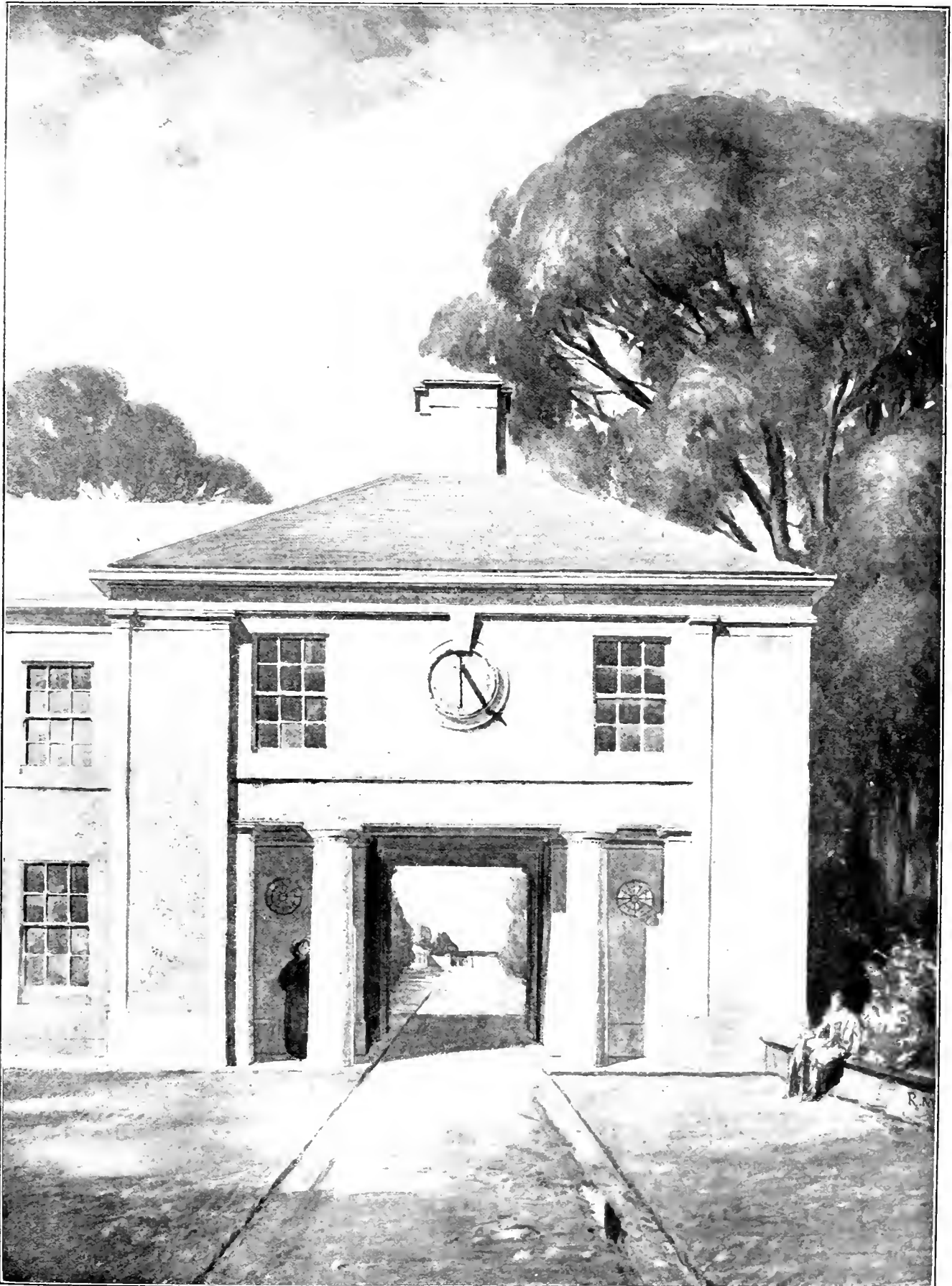
At Tuesday's meeting of the Atherstone Board of Guardians the chairman reported having had an interview in London with Mr. Kitchin, chief architect to the Local Government Board, with regard to the alterations proposed to be carried out at the workhouse. As a result of that interview he recommended that the infirmary be extended, at an estimated cost of £3,027; that a new kitchen be erected, at a cost of £682; and that a residence be erected on workhouse premises for the master, at a cost not exceeding £600. The recommendations, which will involve an outlay of about £5,700, were adopted.

The inauguration of the tower that the town council of Aberdeen have erected on the historic field of Harlaw, near Inverurie, in memory of Provost Davidson and the burghesses of Bon Accord, who fell in the battle fought there on July 24, 1411, took place on Friday. The memorial, which has been erected near the site of Drum's Cairn, where Sir Alexander Irvine of Drum fell, is a hexagonal tower, about 45ft. in height, and 13ft. in diameter at the base. Built of rough granite stone, largely composed of boulders got near the site, the monument bears several inscriptions. The designer is Mr. William Kelly, architect, A.R.S.A., Aberdeen.

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WELICARTH CORNER
HAMPSTEAD HEATH E59
for H. SPENCER COOPER ESQ
R. H. COOPER ARCHT.
7 NEW SQUARE
LINCOLN INN W.C.

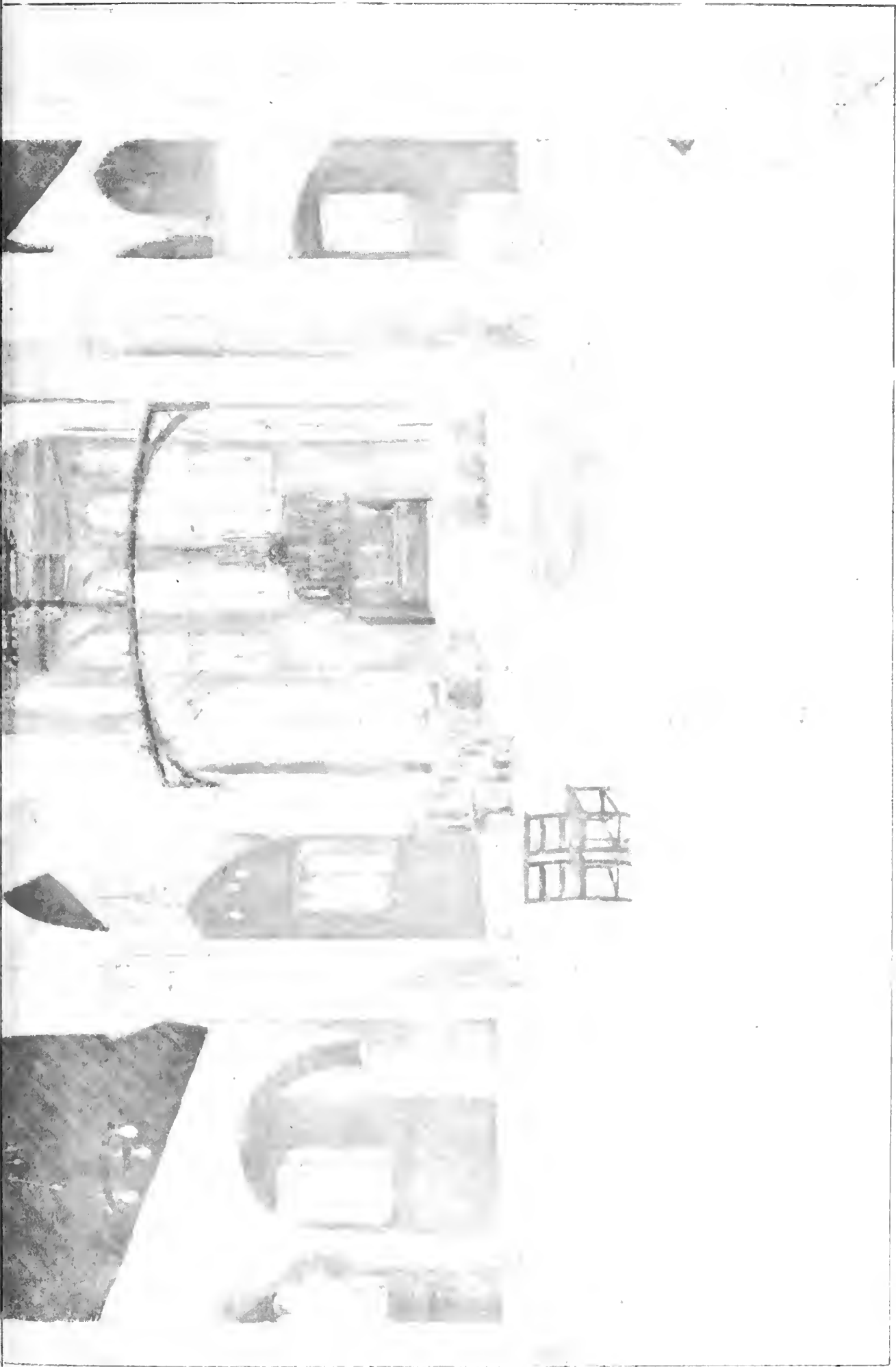


DOXFORD HALL EXTENSION.—Messrs. MAUCLLEN and WEIGHTMAN, Architects.



THE BUILDING NEWS. JULY 31, 1914





CHURCH OF ST. COLUMBA, SARREBOURGH: VIEW LOOKING EAST.—Mr. TEMPLE MOORE, F.R.I.B.A., Architect.



159-162.



REBUILDING IN BISHOPSGATE, LONDON, E.C., FOR THE LEATHER





PARLIAMENTARY NOTES.

THE LUMSDEN APPEAL.—Mr. Roysd asked the Chancellor of the Exchequer on Thursday in last week whether, in view of the equal division of opinion of the House of Lords in the Lumsden appeal, and of the provisions of the Revenue Bill, which, if passed into law, would exempt builders' profits from claims for increment value duty, he would agree that the Commissioners should pay the costs incurred by Mr. Lumsden in prosecuting his appeal. Mr. Montagu replied that the Chancellor of the Exchequer regretted that he did not see his way to accede to the request.—Mr. Chamberlain asked whether the Chancellor of the Exchequer did not give something like a promise that in a fair test case the Treasury would pay the expenses of both parties, and did he not think that a case of this kind, where the Government propose to repeal the decision by amending the law immediately after it has been given, was a fair case for paying the expenses? Mr. Montagu: My right hon. friend is of opinion that the matter is on all fours with minus site values in Scotland, when the same decision was arrived at.—Replying to Mr. Chamberlain, Mr. Asquith said he understood that this case (which had already been decided in favour of the Crown by the Revenue Judge and in the Court of Appeal) had now been decided in favour of the Crown by the House of Lords. The Government were prepared to introduce and pass this Session a one-clause Bill as suggested by Mr. Chamberlain, giving relief to those who were affected by the decision, provided the measure was treated as unopposed.

THE PREPARATION OF VALUATION LISTS.—A deputation representing the Conference of Assessment Committees in England and Wales waited on the President of the Local Government Board on Friday, Sir J. W. Spen, M.P., acting as spokesman for the 360 committees, and presented a resolution strongly deprecating the proposal that the preparation and approval of valuation lists for local rating purposes should be transferred to a Government Department. In reply, Mr. Herbert Samuel said they were a little premature in their alarm. There was a proposal that the preparation of valuation lists should be transferred to the Land Valuation Office, but there was no proposal that the preparation of valuation lists should be transferred to a Government Department. The assessment committees would continue as they had done in the past. The existing gross inequalities in rating assessment became of greater importance when the Imperial Parliament proposed to give grants in aid of local rates on the basis of rateable values. If there was to be a special rating of land with a view of lowering the rates on houses and improvements, they must have a special assessment of land valuation, and the Valuation Office had been for the last four years accumulating enormous masses of material as to the actual value of the land for the whole country.

THE PROPOSED NEW R.I.B.A. CHARTER.—In the House of Commons on the 17th inst. Mr. Stuart-Wortley asked the President of the Board of Education whether the Royal Institute of British Architects was applying for a grant of a new Charter; whether an opportunity would be given for petitions to be presented by persons whose interests are affected by the modification of such Charter; by what authority the questions raised by such petitions would be heard and determined; and whether he could give any information as to the time of such hearing and the procedure to be followed.—Mr. J. A. Pease: I am informed by the Lord President of the Council that no petition to the King in Council praying for the grant of a new Charter to the Royal Institute of British Architects has been lodged at the Privy Council Office. Should any such application be made, formal notice of the presentation of the petition would be published in the *London Gazette*, and persons interested could then lodge petitions for or against the Charter *pro et contra*. All such petitions, together with the original petition, are referred by his Majesty to a committee of the Lords of the Council for consideration and report.

MOTOR-OMNIBUSES AND ROAD MAINTENANCE.—In the House of Lords on Tuesday it was agreed, on the motion of the Earl of Donoughmore (Chairman of Committees) "That it is desirable that a Joint Committee of both Houses be appointed to inquire and report as to the present law relating to the running of motor-omnibuses and trolley vehicles under statutory powers and otherwise; whether any amendment is necessary with respect to the control to be exercised by local authorities; and what contribution, if any, should be payable towards the cost of road maintenance by the proprietors of such vehicles." Lord Monk Bretton suggested that the terms of reference should be enlarged so that the inquiry should include the question of establishing a Board of Control for London.

THE VENTILATION OF THE HOUSE OF COMMONS.—The Select Committee which is inquiring into the question of the ventilation of the House of Commons considered on Thursday in last week a joint recommendation for experimental trials of a new system from Professor A. H. Barker and Dr. Leonard Hill. These experts state that to make the trials fully adequate it is necessary on occasions that the House of Commons or Committee-rooms should be crowded. To obtain a crowd is a difficulty; but the help of the War Office might be sought and soldiers borrowed for the purpose. Failing this, London hospitals might be asked to send contingents of nurses off duty to make the crowd. The Committee, presided over by Mr. Charles Bathurst, unanimously resolved to ask the Office of Works to give their authority for the conduct of such experiments during the coming autumn.

Harrogate Corporation have received the sanction of the Local Government Board to the borrowing of £6,000 for the enlargement of the Kursaal.

A new police-station is to be built near the town-hall, at Batley, and in harmony with that institution, at a cost of about £6,300.

A labour exchange is about to be built in Lord Edward-street, Dublin, from plans by Mr. A. Robinson, architect to H.M. Board of Works. The cost will be about £12,000, and the builders are Messrs. Collen Brothers, of East Wall, Dublin.

Mr. H. R. Hooper, M.Inst.C.E., has held an inquiry on behalf of the Local Government Board at the town-hall, Burton-on-Trent, into the town-council's application for sanction to borrow £25,000 for the purposes of improving the gas undertaking.

The Harrogate Corporation has received the sanction of the Local Government Board to the borrowing of £6,000 odd for the enlargement of the stage at the Kursaal. The scheme is to provide a stage area double the width and treble the depth of the present one.

The tower of the church at Holme-next-Runcton, Norfolk, is about to be strengthened and repaired in accordance with a report made by Mr. Herbert Green, the diocesan architect. The builders' work is to be entrusted to Messrs. Neal Bros., contractors, of North Elmham, Norfolk.

Lord Derby formally opened on Friday the first part of the new hospital for crippled children at Leasowe, near the seashore of the Worrall Peninsula, and laid the foundation-stone for the administrative block. The plans for the sanatorium were drawn up by Mr. T. W. Haigh, architect of the new children's infirmary in Liverpool.

A new wing added to the Howell School for Girls at Denbigh, was formally opened on Monday. The Drapers' Company of London had made a grant of £7,500 towards the cost of the additional wing, of which Messrs. J. Barnsley and Son, Birmingham, were the builders, and Messrs. Comyns and More, London, the architects.

The King, having learned that there were at Windsor several pieces belonging to armour shown in the Tower of London, has commanded that these should be returned to complete those suits of which they originally formed part. The armour in question belonged to Henry VIII., William Somerset, Earl of Worcester, and Sir John Smythe.

The corporation of Wrexham discussed on Tuesday the proposed erection of a town-hall, and the borough surveyor was directed to prepare a plan showing the whole of the properties bounded by Henblas-street, Queen-street, Rhosddu-road, the northerly boundary of the vicarage grounds, Chester-road, and Chester-street, and to colour on the plan the lands and buildings belonging to the corporation.

The new drill-hall which has been erected by the Staffordshire Territorial Force Association in Nineveh-road, Handsworth, for the accommodation of the North Midland Mounted Brigade Field Ambulance of the Royal Army Medical Corps, was opened by Colonel J. H. Wilkinson on Saturday. The buildings are of brick, the front elevation being faced with coloured Stourbridge bricks, with Hollington stone dressings.

An open verdict was returned at the City Coroner's Court on Tuesday, at an inquest on Thomas Alexander Ross, a scaffolder, of Stepney, who had been locked out owing to the building strike, and whose body was recovered from the Thames at Custom House Quay, Lower Thames-street, on Saturday. The widow said her husband had been very much worried, because he had no work. He had been receiving 10s. a week from his Union, but earned much more than that when employed.

Our Office Table.

As a memorial to the late James Mitchell Whitelaw, whose promising career as an architect was cut short by his death in July last year, while bathing, at the early age of twenty-seven, a committee of architects, with Mr. Arthur G. Shoosmith as chairman and Mr. George Pildes, 11, Melbury-road, Kensington, as secretary, are arranging for publication of some of his principal studies, with an introductory essay, at the price to subscribers of one guinea. It will include numerous prize designs of the Royal Institute of British Architects, the Royal Academy, and the Glasgow School of Art; various other design studies, a series of beautiful measured drawings, and many miscellaneous freehand drawings. The committee have fortunately secured permission to include as a frontispiece an excellent portrait in charcoal done from the life not long before Mr. Whitelaw's death. The plates, about forty in number, will be done in collotype, measuring approximately 15in. by 11½in., and will be issued in book or portfolio form as desired.

An improvement has been carried out at Carlisle Cathedral by the corporation, with the consent of the Dean and Chapter. A dangerous corner of the churchyard wall has been cut away at the entrance to Paternoster-row from Castle-street, and a fine view of the nave and other portions of the Cathedral from the north opened up. Formerly this interesting part of the Cathedral, which includes the window of the north transept, containing stained glass in memory of the children which Archbishop Tait lost by death from fever when Dean of Carlisle, was half-hidden from view from the north in Castle-street. Now, with the light railing and gateway which have been put up in place of the heavy wall, the full beauty of the northern portion can be seen. It has been suggested that for the heavy railing from Paternoster-row to the main entrance lodge there might be substituted a light ornamental railing, and the trees along the churchyard wall removed. If the suggestion were carried out an unobstructed view would be given of the whole of the northern and eastern portions of the Cathedral.

Mr. P. Harris Mitchell, of Chard, has lent to the Victoria and Albert Museum a Gothic bench, for many years in the Green Dragon Inn at Combe St. Nicholas, Somerset, and this is now exhibited in the Department of Woodwork, in Room 21. The woodcut in Parker, in spite of its bad drawing, shows that an important detail of decoration has been lost since his day—viz., the figure of an angel bearing a shield, which formerly constituted the terminal of the curious overhanging beam on the left side of the bench. This loss is the more regrettable as the device on the shield, which appears to have been a goat's head, might have afforded a clue to the origin of the bench. It has been set up against a background of linenfold panelling, and adjacent to a Gothic window-frame in oak, from Hadleigh, Essex, recently presented to the Museum by Mr. A. H. Fass, while other appropriate furniture is placed in the neighbourhood. In Room 52 is also displayed a recent purchase of a quantity of plasterwork, decorated in "grisaille," which was acquired for the Museum from an old house at Stodmarsh, Kent. These panels fall into two groups, one representing the story of Diana and Acteon, flanked with full-length drawings of a lady and of her maid in costume of the middle of the 16th century; and the other group consisting of emblems of four of the planets—Jupiter, Venus, Mercury, and the Moon—each with one of the signs of the Zodiac and a landscape emblematic of one of the months. Technically, they suggest a simple and effective method of wall-decoration, to which those now endeavouring to revive the art of mural painting might well give their attention.

Mr. Thomas Cave, of Broadwaters, near Kidderminster, has been pursuing inquiries into the life-history of Richard Baxter and his ministry in the parish church of Kidderminster. All biographers of that divine have

been led astray, Mr. Cave shows, by following, without independent investigation, the subjoined passage (p. 84) in Mathew Sylvester's "Reliquiæ Baxterianæ," a folio volume published in 1695—viz.: "The congregation was usually full, so that we were fain to build five galleries after my coming thither." This has been accepted as stating that on either side, both north and south, of the parish church of Kidderminster two tiers of galleries were erected for the great divine, and that a fifth gallery was built up at the west end of the church. By careful study and comparison of several documents in the Registry of the Diocese of Worcester, and entered between 1651 and 1680, Mr. Cave proves that the said "five galleries" were a number of additions, each of a few pews, in continuity and on the same level, on the south side of the nave of the church. Indeed, the comparatively low pitch of Kidderminster church makes it highly improbable that a double tier of galleries could have been raised against the nave arcades.

In the first annual report of the Forestry branches, recently constituted in the Board of Agriculture and Fisheries and the Office of Woods, it is stated that the total area of woodlands in England and Wales is 1,884,100 acres. Over 95 per cent. of this area is privately owned, and it is probably producing not more than one-half of its maximum yield. A conservative estimate of the value of the property would be between £25,000,000 and £30,000,000. The detailed treatment of this woodland lies in the hands of woodmen who work for the most part under the direction of land agents. At present there are no indications that the academically-trained forester will participate to any extent in its direct management. In regarding the afforestation problem from an economic point of view, the outstanding feature is the absence of accurate information as to the actual afforestation area and of the productive capacity of the land in question. To meet these difficulties the Board propose to collect accurate information by means of organised inquiries or surveys, and to secure land for commercial planting in typical districts where there is a large area of uncultivated land, and where a prima-facie case for afforestation has been established. The total expenditure on education amounted to £1,000, divided equally among the forestry schools at Oxford, Cambridge, Bangor, and Newcastle, that amount being exclusive of a proportion of a sum of £1,200 granted to the Royal Agricultural College, Cirencester, in respect both of agriculture and forestry.

That the price of timber must, on the whole, continue to rise steadily is the view expressed in this annual report of the State Forestry Branches. One disquieting fact revealed is that as definite surveys are made into the extent of virgin forests in various parts of the world, the results disclose that the reserves are by no means as large as had been anticipated. The total area of woodland in England and Wales is 1,884,000 acres. Over 94 per cent. of this is privately owned, and, says the report, it is probably producing not more than one-half of its maximum yield. It is not possible to make an accurate estimate of the value of this property, but a conservative estimate would be between 25 and 30 million pounds sterling. The improvement of existing woodlands is an important matter. If it were possible to raise the production by even 10 per cent., an effect equivalent to the afforestation of at least 100,000 acres would be obtained.

Timber merchants are constantly on the look-out (says the Bulletin of Kew Gardens) for new sources of lumber, and at the present time attention is being paid to the forests of Eastern Siberia, Manchuria, and Korea, from whence a good class of pine wood, equal in quality to yellow and red pine of North Europe, and Canadian yellow pine, is procured. During the last two or three years several experimental cargoes have been brought to European ports, where the timber appears to have created a good impression, although the heavy freight charges incidental to its 12,000 miles journey are a serious handicap. A Liverpool merchant gives the

freight charges per standard of Canadian pine to Liverpool as about £2 2s. 6d., whereas the charges per standard from Eastern Siberian ports are about £7 10s. In its favour is the fact that larger timber can be procured, at the present time, from the Far East than from the readily accessible European and North American forests, imported logs of Siberian pine being from 18ft. to 23ft. long. Siberian yellow pine is the timber of *Pinus koraiensis*, a tree growing up to 150ft. high in Eastern Siberia, Korea, and Manchuria. It belongs to the five-leaved group of the genus, and is recognised by its cylindrical, resinous winter buds, by the pubescent bark of the young wood, its dark green leaves 3½in. to 4½in. long, each with two glaucous lines running the full length, and by its cylindrical lines, which are from 5in. to 7in. long, with stalks an inch or so in length. The scales of the cones are large and prominent, and the basal ones are recurved. It has been grown in English gardens since 1861, the date of its original introduction by Mr. J. G. Veitch. It does not, however, take kindly to our gardens, and few fine specimens are known.

It seems, from the report of the American Wood Preservers' Association, in conjunction with the United States Department of Agriculture, that there was an actual falling off in the quantity of wood-paving blocks treated during the two years 1912 and 1913, compared with the record of 1911, and in this industry the status is not encouraging. One reason, doubtless, is the increasing use of concrete for street-paving, as the wear on wooden paving, under heavy traffic, is necessarily rapid, and where conditions are severe it is not practicable to prolong the life of the pavement by arresting decay, to any such degree as is possible where the traffic is light and where the deterioration of the blocks takes place mainly through decay of the wood. We know that here in London by now! Altogether, the increase in the use of treated timber was about 22 per cent. compared with the quantity treated in the year 1912. This increase represented an increased consumption of 29½ per cent. of creosote oil and 27½ per cent. in zinc chloride, while in other preservatives of miscellaneous character the increase was about 26½ per cent. It thus appears that the use of zinc chloride is advancing at about the same rate as the use of creosote.

The health committee of the corporation of Hull adopted on Friday last a housing scheme estimated to cost £110,000. The site selected, known as the New George-street area, is largely a slum district. It is proposed to demolish 252 dwellings reported to be unfit for human habitation and to erect 282 dwellings, at a cost of £250 each. The yearly income is estimated at £3,435, and the charge on the rates at £2,382, or a little over a halfpenny rate. It was urged that it was unfair to charge rentals which would not cover the whole charges and to saddle provident ratepayers with the loss. Alderman Askew, the chairman, replied that if they perpetuated slum areas they equally saddled the ratepayers with the cost.

In his annual report upon the work of his department for the year ended March 25, Mr. Lessel S. McKenzie, the city engineer of Bristol, states that the number of dwelling-houses erected during the year is the lowest number but one on record, and that with the number of void houses reduced to 2,600, the housing question will very soon become serious, if it has not already done so. "It would appear," Mr. McKenzie goes on to state, "that as regards the housing of the poorest of the poor, the most practical solution would be for the work to be taken in hand by the local authority, aided by grants from the National Exchequer. During the year a town-planning and city development sub-committee was appointed by the sanitary committee, but very little, so far, has been done. However, the Local Government Board having now considerably simplified the procedure under the Town-Planning Act, which hitherto was very cumbersome and costly, it would appear to be wise to seriously consider the advisability or

otherwise of preparing a scheme of town planning under the Act, especially in view of the necessity, which must shortly arise, of the extension of building operations."

In a lecture given at the closing session of the International Municipal Congress on Town Planning, held at the London County Hall, Spring Gardens, Senator Fletcher presiding, Mr. C. M. Robinson, Rochester, New York, a town-planning architect, read a paper in which he stated that eight of the more populous States had conferred upon their cities the right to establish city-planning commissions. The members of the commissions served without remuneration, and they were given the privilege of employing experts. The State legislation provided the machinery for town planning. There was also legislation for promoting the efficiency of town planning. Several States had the right to lay out land beyond the city limits. At the present time certain States had extended their control even further, and some, including New York, had set no definite limit, and had followed the lines of the English Town-Planning Act. The State of Pennsylvania had passed an Act giving to Philadelphia the right to establish a metropolitan town-planning commission, which would operate for twenty-five miles. So far they were feeling their way very carefully and slowly, each State acting independently by itself. They were approaching the English town-planning legislation not in a federal, but in a State, way.

Presiding at the ordinary general meeting of the British Portland Cement Manufacturers, Ltd., at London on Monday, the Hon. F. C. Stanley said that, with regard to the company's trading, it was a matter for congratulation that, in a period of considerable difficulty, they were able to show results substantially better than for the previous year. They had exceeded the profits of the earlier year by £24,000, and this increase would have been appreciably greater had not financial conditions adversely affected constructional work. Another factor that had acted against them had been the frequently recurring labour disputes in all parts of the country, and notably in London and Dublin. The London dispute still continued, and in the meantime their deliveries to London, which was the greatest cement-consuming area in the world, was held up. He ventured to say, however, that with improved financial conditions, cessation of labour disputes, and more settled trade conditions, they would, before long, witness more prosperous times again. The gross profit for the year amounted to £338,428, an increase of over £24,000. After deducting directors' and trustees' fees, debenture stock interest, and certain other items, there remained a balance of £250,500. Together with the balance of £31,000 brought forward, they had a total of £283,068. The directors recommended that the balance of the preliminary expenses, amounting to £11,755, be written off, that £40,000 be added to the depreciation reserve, and that a dividend of 7 per cent. be paid, leaving £64,322 to be carried forward. The report and accounts were adopted.

President MacLaurin, of the Massachusetts Institute of Technology, announces the resignation of Professor James Knox Taylor of the Department of Architecture and the appointment of Mr. Ralph Adams Cram to Professor Taylor's place as senior professor of architecture. Mr. Cram will continue the active practice of his profession, and it is believed that his presence on the Faculty will insure the school being kept in close touch with the problems of the day and the needs of the profession. Professor William H. Lawrence, a graduate of the Institute, who has for many years been Professor of Architectural Engineering in the department, will assume the position of chairman of the Department of Architecture and will be responsible for the administrative routine.

The association of vanadium with petroleum and asphalt, and its relationship to the formation of asphaltic deposits, is dealt with by Messrs. R. M. Bird and W. S. Calcott in a paper published in the Bulletin of the Philosophical Society, University of Virginia.

Trade News.

WAGES MOVEMENTS.

COVENTRY.—After a stoppage of work of nearly three months, terms of settlement have been arrived at in the Coventry building trade dispute. The majority of the workpeople returned to work on Monday, and the remainder will resume work as the jobs are ready. The terms of settlement finally accepted were suggested by Sir George Askwith, who presided at conferences of the parties in London, a further meeting of the parties being held at Coventry. The agreement provides for a halfpenny an hour advance in wages to the various sections of the skilled workmen, as from January 1, 1915, and an advance of a halfpenny and increased payment for overtime from December 1 to the labourers; no further alteration to be made before April, 1916.

The dock commissioners of Ipswich have considered and adopted the plans and specifications drawn up by their engineer for the important improvements authorised by a private Act last year.

In the House of Lords on Tuesday the London County Council (Tramways and Improvements) Bill was read a third time, and the Mall Approach Improvement Bill was given second reading. Both measures have passed through all stages in the House of Commons.

A Local Government Board inquiry was held at Barnwell on Tuesday, before Mr. H. R. Hooper, with reference to the application of the urban district council for sanction to borrow £2,300 for the purchase of Cellfechan Farm, to be utilised as public walks and pleasure-grounds.

At yesterday's meeting of the City Corporation the improvements committee reported the continued illness of Mr. Frank Sumner, city engineer, and on their recommendation he was granted a further three months' leave of absence.

Mr. John Horace Castle, of Bedford, has been appointed surveyor to the Gooale Urban District Council. Mr. Castle has had previous experience at Worksop, Southgate, and Islington. Mr. W. Granger, who has been assistant surveyor at Gooale during the past two years, has obtained a similar appointment at Loughborough.

The marriage of Mr. Banister Flight Fletcher, F.R.I.B.A., F.S.I., C.C., barrister-at-law, eldest son of the late Professor Banister Fletcher, F.R.I.B.A., formerly M.P. for North-West Wilts, and Lady Bamford-Slack, widow of the late Sir John Bamford-Slack, formerly M.P. for Mid-Herts, took place at the Temple Church yesterday (Thursday) afternoon.

With reference to the scheme framed by the highways committee of the London County Council providing for a tramway from Victoria to Westminster Bridge by way of Victoria-street, Broad Sanctuary, Parliament-square, and Bridge-street, the works committee of the Westminster City Council report that they consider the proposal to be extremely undesirable. Apart from other considerations, the width of these streets was not such as to allow of the construction of tramways.

The Northants and East Midlands Surveyors' Association met at Northampton on Friday. An inspection was made of the Far Cotton tramway extension and the Bridge-street improvement works that are being carried out under the direction of the borough engineer, Mr. A. Fidler, who is the president of the association. The members afterwards visited the new South Bridge. Messrs. Alchin's engineering works, Messrs. Mulliner's motor body-building works, and Messrs. Phipps' brewery.

The Bradford Sewerage Committee propose to accept the tender of Messrs. Wm. Best and Sons, the contractors for the Angram Waterworks, for the completion of the construction of the tunnel to carry sewage from Frisinghall to Esholt. Messrs. Best originally secured the tender; but on an error being discovered in their tender, the contract was given to Messrs. Pethick, Dix, and Co. The latter were unable to complete the contract owing to financial difficulties. The amount of the tender is £121,616.

A guild has been established at Coventry with the object of preserving historic buildings and places of natural beauty. The City Guild has been formed on similar lines to the society at Stratford-on-Avon, which, though only two years old, has already done much good work. The guild will appeal to private owners and public bodies to preserve existing buildings of interest and places round which the religious and municipal life in the past has centred. The guild hopes also to guard open spaces now in use.

LATEST PRICES.

IRON.

Steel Joists, Belgian and German (ex steamer London) per ton	£5 2 6 to £6 5 0
Steel Joists, English	7 10 0 .. 7 12 6
Wrought-iron Girder Plates	7 0 0 .. 7 5 0
Steel Girder Plates	7 2 6 .. 8 2 6
Bar Iron, good Steels	6 5 0 .. 8 10 0
Do., Lowmoor, Flat, Round, or Squares	20 0 0 .. 0 0 0
Do., Welsh	5 15 0 .. 5 17 0
Boiler Plates, Iron—	
South Staffs	8 0 0 .. 8 15 0
Best Scodhill	9 0 0 .. 9 10 0
Angles 10s., Tees 20s. per ton extra	
Builders' Hoop Iron, for bonding, &c., 48 lbs. to 49.	
Ditto galvanised, 4 1/4 to 4 1/2 lbs. per ton.	
Galvanised Corrugated Sheet Iron—	
No. 18 to 20. No. 22 to 24	
6ft. to 8ft. long, inclusive Per ton.	
gauges	£13 0 0 .. £13 10 0
Best ditto	13 0 0 .. 14 0 0
Wire Nails (Points de Paris)—	
3 to 7 8 9 10 11 12 13 14 15 B.W.G.	
8/3 8/9 9/3 9/9 10/3 11- 11/9 12/6 13/6 per cwt.	
	Per ton. Per ton.
Cast-iron Columns	£7 10 0 to £9 0 0
Cast-iron Stanchions	7 10 0 .. 9 0 0
Rolled-iron Fencing Wire	8 5 0 .. 8 10 0
Rolled-Steel Fencing Wire	7 5 0 .. 7 10 0
Galvanised	8 15 0 .. 9 5 0
Cast-iron Sash Weights	5 0 0 .. 5 5 0
Cut Floor Brads	9 15 0 .. —
Corrugated Iron, 24 gauges	16 0 0 .. —
Galvanised Wire Strand, 7 ply.	
14 B.W.G.	14 5 0 .. —
B.B. Drawn Telegraph Wire, Galvanised—	
0 to 8	10 11 12 B.W.G.
£10 10s. £10 9s. £11 0s. £11 5s. £11 15s. per ton.	
Cast-iron Socket Pipes—	
3in. diameter	£6 2 6 to £6 7 0
4in. to 6in.	6 0 0 .. 6 5 0
7in. to 24in. (all sizes)	3 7 6 .. 6 0 0
[Coated with composition, 5s. 0d. per ton extra, turned and bored joints, 5s. per ton extra.]	
Pig Iron—	Per ton.
Cold Blast, Lillieshall	110s. 0d. to 117s. 6d.
Hot Blast, ditto	70s. 0d. .. 75s. 0d.
Wrought-iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—	
Gas-Tubes	72 p.c.
Water-Tubes	70 ..
Steam-Tubes	66½ ..
Galvanised Gas-Tubes	65 ..
Galvanised Water-Tubes	60 ..
Galvanised Steam-Tubes	53 ..

OTHER METALS.

Spelter, Silesian	Per ton £21 5 0 to £21 7 6
Lead Water Pipe, Town	23 5 0 .. —
Country	24 0 0 .. —
Lead Barrel Pipe, Town	24 5 0 .. —
Country	25 0 0 .. —
Lead Pipe, Tinned inside, Town	25 5 0 .. —
Country	26 0 0 .. —
Lead Pipe, Tinned inside and outside	
Town	27 15 0 .. —
Country	28 10 0 .. —
Composition Gas-Pipe, Town	26 5 0 .. —
Country	27 0 0 .. —
Lead Soil-pipe (upto 4in.) Town	26 5 0 .. —
Country	27 0 0 .. —
[Over 4in. £1 per ton extra.]	
Lead, Common Brands	17 16 6 .. 18 12 6
Lead Shot, in 28lb. bags	24 15 0 .. —
Copper Sheets, sheathing & rods	75 0 0 .. 75 10 0
Copper, British Cake and Ingot	64 0 0 .. 65 0 0
Tin, English Ingots	145 0 0 .. 146 0 0
Do., Bars	146 0 0 .. 146 10 0
Pig Lead, io lewt. Pigs (Town)	20 5 0 .. —
Sheet Lead, Town	22 15 0 .. —
Country	23 10 0 .. —
Genuine White Lead	30 5 0 .. —
Refined Red Lead	25 0 0 .. —
Sheet Zinc	29 0 0 .. —
Old Lead, against account	17 15 0 .. —
Tin	8 0 0 .. —
Cut nails (per cwt. basis, ordinary brand)	0 10 9 .. —

TIMBER.

	(CONSTRUCTIONAL.)
Yellow Pine Deals, (Quebec, per standard—	
1st quality	£38 0 0 to £45 0 0
2nd	25 0 0 .. 32 0 0
3rd	16 0 0 .. 18 10 0
Spruce Deals: St. Johns	10 0 0 .. 11 10 0
Miramichi	9 10 0 .. 10 10 0
Boards: Swag	11 0 0 .. 12 0 0
Red Deals: Archangel 1st quality	21 0 0 .. 24 0 0
2nd	16 0 0 .. 19 0 0
3rd	12 0 0 .. 14 0 0
St. Petersburg	
1st quality	16 10 0 .. 18 0 0
2nd	14 10 0 .. 15 10 0
Wyburg & Uleaborg	12 10 0 .. 15 0 0
Gelle, Gothenburg, and Stockholm	12 10 0 .. 17 0 0
White Deals: Crown	11 0 0 .. 15 10 0
Seconds	11 10 0 .. 13 0 0
Flooring: White and Planed—	
1st and 2nd quality mixed	10 15 0 .. 11 15 0
1st, 2nd, & 3rd quality mixed	10 5 0 .. 11 0 0
Red Planed, 1st quality	11 10 0 .. 17 0 0
Pitch Pine: Prime Deals and Boards	18 0 0 .. 23 0 0
Lignum Vite	7 0 0 .. 14 0 0
	Per cubic foot.
Yellow Pine Logs (waney beard)	0 5 0 .. 0 5 6
Pitch Pine Logs	0 2 0 .. 0 2 6
Birch: Quebec Logs	0 2 3 .. 0 2 9
Oak: Austrian Wainscot	0 7 0 .. 0 8 0
Mahogany Gaboon	0 2 0 .. 0 2 3

From the experiments recorded in this communication it is suggested that the Peruvian deposits of vanadium sulphide and oxide, which occur in alternate layers with asphaltite, are probably formed in the following way: Vanadates in solution in ground water come into contact with oils bearing hydrogen sulphide, and thus yield vanadium sulphide, which may travel with the oil and be deposited by meeting with carbon dioxide. In presence of atmospheric oxygen the vanadium sulphide acts as an oxygen carrier and converts the accumulating mass of oil into asphaltite. That this latter change may rapidly occur is shown by actual experiment in presence of oxygen, but no "asphalting" of mineral oil occurs when oxygen is excluded. The formation of asphaltite thus appears to be essentially an oxidation process in which active catalytic agents, such as vanadium, play a part.

At Brighton, Mr. Edgar Dudley, an inspector under the Local Government Board, held an inquiry on Tuesday into an application by the town council for leave to borrow £9,470 for purchase of properties in Makeborough-street and Western-road for urgently-needed street improvements.

The Wandsworth Borough Council, at their meeting on Wednesday, unanimously agreed to a scheme submitted by the City and South London Railway Company for the improvement of the means of access to the station near Clapham Common, including the provision of escalators.

The death has taken place at Whitby of Mr. Henry James Walker, architect, in his 66th year. The deceased was born in Ulverston, and was engaged in the building trade at Scarborough and Harrogate, until 1881, when he was appointed agent to the West Cliff Estate at Whitby by the late Sir George Elliott, Bart.

Tattershall Castle, Lincolnshire, will be opened to the public by Earl Curzon of Kedleston on August 8. The ceremony will be attended by representatives of the leading archaeological and antiquarian societies, and the party will be conducted round by Lord Curzon and Mr. W. Weir, the architect, who has been in charge of the works.

A Select Committee of the House of Commons have approved of the Glasgow Corporation Tramway Bill as it left the House of Lords. Opposition to that part of the Bill which proposed to construct a bridge across the Kelvin, and a new road running through Queen Margaret College to connect Queen Margaret Drive on the north side of the river and Byres-road and Great Western-road on the south side, was unsuccessfully entered by the University of Glasgow.

At the annual meeting of the Devonshire Association, held at Tavistock on Friday, Professor A. M. Worthington presiding, Mr. Hugh R. Watkin read an interesting paper on the use of a Norse standard of measurements by the Normans in the eleventh and twelfth centuries in building Torre Abbey and the churches of Kingskerswell and Cockington. Evidence showed, he said, that the Normans used the same Norse measurements to be found in Russia in the present day.

The Bannan Loch waterworks, which have been constructed by the Renfrew County Council for the purpose of augmenting the present supply obtained from reservoirs at Carmunnock, in the County of Lanark, were inaugurated on Thursday in last week. The works will serve growing districts in the parishes of Eastwood, Mearns, and Cathcart, lying immediately to the south of Glasgow. They have been constructed at a cost of over £25,000, and they increase the available supply by 300,000 gallons per day. Messrs. W. R. Copland and Sons, of Glasgow, were the engineers, and Messrs. Kinniburgh, Ltd., of Glasgow, the contractors.

At the last meeting of the corporation of Stoke-on-Trent, the gas committee recommended that the gas undertakings of the borough be placed under the control of a chief engineer; that Mr. W. Langford, the engineer of the Longton gasworks, be appointed chief engineer and manager, at an annual salary of £700, and that Mr. Robert Surtees be appointed chief assistant to the gas engineer, and resident engineer of the Burslem works. After a sharp discussion, an amendment was, however, carried that, pending the appointment of a chief engineer, Mr. Langford take over the control of the various works, and that he prepare and submit forthwith to the committee a report as to the advisability or otherwise of combining the four gas undertakings.

FURNITURE AND HARDWOODS.

Table listing furniture and hardwoods with prices. Includes items like Teak, Oak Planks, Walnut, Mahogany, and Rosewood.

STONE.

Table listing stone products such as Red Mansfield, Darley Dale, and Portland Stone.

* All F.O.R. London.

Table listing stone products including Bath Stone, Beer Stone, and Portland Stone.

SLATES.

Table listing various slate products like Blue Portmadoc, Blue Bangor, and Permanent Green.

BRICKS.

(All prices net.)

Table listing various brick products including First Hard Stocks, Mild Stocks, and Accrington Bricks.

Netfree on rail, or free on boat at works.

GLAZED BRICKS.

Table listing glazed bricks with different glazes and colors. Includes White, Ivory, Buff, Cream, and others.

MOULDED BRICKS.

Table listing moulded bricks such as Stretchers and Headers, and various sizes and finishes.

TILES.

Table listing various tiles including Plain red roofing tiles, Hip and Valley tiles, and Ornamental tiles.

OILS.

Table listing various oils like Rapeseed, Olive, and Linseed oil.

GLASS (IN CRATES).

Table listing glass products such as English Sheet Glass and Fluted Sheet.

VARNISHES, &c. Per gallon.

Table listing various varnishes and finishes like Fine Pale Oak Varnish, Pale Copal Oak, and others.

New school premises, added to the Tabernacle at Dursley at a cost of £800, have been opened by Sir Ashton Lister.

The salary of Mr. W. W. Shennan, surveyor to the Wirral Rural District Council, has been increased by £100 per annum.

The corporation of Folkestone have instructed Messrs. Mansergh to proceed with their tunnel scheme of sewerage, which is estimated to cost £29,000.

The corporation of Southampton decided at their last meeting to raise the salary of Mr. E. C. Rodda, their waterworks engineer, from £300 to £400 a year.

The canal connecting Buzzard Bay and Cape Cod Bay, shortening the distance between Boston and New York by seventy miles, was opened on Wednesday.

The foundation-stone has been laid of a Carnegie free library at Taibach, Port Talbot. It will cost £2,500, will be Classic in character, and has been planned by Mr. John Cox, surveyor to the Margam Urban District Council.

The roads and bridges committee of the Warwickshire County Council have decided to proceed with the reconstruction of the dangerous canal bridge on the main road between Bedworth and Bulkington, over which there has been much discussion for years past.

The first group of sixteen houses has just been completed of a garden tenants' estate suburb at Shirley, near Southampton. The estate has been planned by Mr. G. L. Pegler, F.S.I., assisted by Mr. C. J. Hair, A.R.I.B.A., of Southampton.

The death has occurred, at the ripe age of 85 years, of Mr. John Jones, a Carnarvon stonemason, who had become a personality through his association with the work of restoration which has been proceeding in the Castle for the last 40 years.

A 3,500,000 dol. office building is to be constructed at St. Paul, Minn., for the general offices of the Northern Pacific Railway and Great Northern Railway. It will be 290ft. by 232ft., thirteen stories high, with a basement and sub-basement.

The chapel for the grammar-school at Guildford, Western Australia, has just been consecrated. It is Early English in style, and the cost, about £40,000, was borne by Mr. C. H. Oliverson, of London.

There has been launched from the yard of Messrs. Duxford and Sons, Ltd., Sunderland, a steel caisson for the South Pier head at that port. It is 60ft. in diameter, 22ft. high, and weighs 2,000 tons.

TRADE NOTES.

The flat roofs over the additions to the offices of the South Manchester Guardians, Withington, have been waterproofed throughout with Pudlo, the powder which makes cement waterproof.

Under the direction of Mr. G. H. Lingner Barker, architect, Moscow Court, W., Boyle's latest patent "air-pump" concealed ventilator has been applied to Christ Church, Westbourne, Bournemouth.

In our notice last week, on p. 131, that Claridge's Patent Asphalte Co., Ltd., had opened an agency in Manchester to come with the work in the North Midlands District, the address of their representative, Mr. E. J. Thompson, should have been given as of 36, Spring Gardens, Manchester, instead of Spring Chambers.

CHIPS.

An hotel estimated to cost two million dollars is about to be built at Hartford, Connecticut, from plans by Messrs. Warren and Wetmore, architects, 3E, Thirty-Third-street, New York.

The foundation-stone had been laid of a new Sunday-school in connection with Holy Trinity Church, Gresley, near Derby. Messrs. Naylor and Sale, of Derby, are the architects, and Mr. Hodges, of Burton, is the contractor.

The Roman Catholic Bishop of Middlesbrough has laid the foundation of a permanent church of St. Lawrence at Lartington, near Barnard Castle. The contractors are Messrs. Lyons, of St. Peter's Works, Norton-by-Malton.

Consideration is being given to a scheme for linking up Eastbourne, Bexhill, and Hastings by a broad coastal road. The cost of construction is estimated at £65,000, and it is hoped that the Road Board will make a substantial grant.

Mr. Edward A. Crane, of the architectural firm of Messrs. Rankin, Kellogg, and Crane, Philadelphia, has resigned his office as city architect of Philadelphia. Mr. Crane had served his city in that capacity without-salary, since January 1.

The post of General Manager, Federated Malay States Railways, has been filled by the appointment of Mr. G. H. Fox, formerly chief resident engineer for construction, who has been succeeded by Mr. F. D. Openshaw as chief resident engineer for construction.

The foundation-stone of a Roman Catholic church of St. Peter has been formally laid at Mill Hill, Blackburn. The estimated cost is £7,000. The architects are Messrs. Pugin and Pugin, of London and Liverpool, and the builder is Mr. D. Haworth, of Blackburn.

Mr. Herbert Kelly, of 233, Camden-road, N.W., and of 108, Finchley-road, N.W., builder, of the firm of Messrs. Herbert and Edward Kelly, of Finchley-road, Hampstead, who died February 11, aged 71 years, left estate of which the net personalty has been sworn at £166,133.

The late Mr. W. Piffe Brown, solicitor, by his will, has left £1,000 each to five Gloucester churches—St. Nicholas, St. Michael, St. Mary de Lode, St. Mary de Crypt, and St. John the Baptist—"to be applied in or towards external repairs and restoration of such churches."

Mr. Otto M. Eidlitz and Mr. Burt L. Fenner, architects, in partnership in New York, have been appointed members of the Commission on Building Districts and Restriction of Height for that city. The commission are not expected to issue their report and recommendations for at least a year.

Toronto's building permits are making an excellent showing this year. For the six months ending June 30, the total was 13,476,140d., as compared with 13,584,725d. for the corresponding period last year. At Montreal, on the other hand, the building permits showed during the six months a falling off of 1,420,376d. in the value of the permits issued.

There is now under construction in Victoria, B.C., a reinforced concrete trunk sewer about two miles long, which is to drain about 425 acres in a rapidly-growing residential section of the city, as well as 1,000 acres in Esquimaux and 800 acres in Saanich. The sewer starts with a 27in. diameter and increases to a 36in. pipe at the outfall near Macaulay Point.

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TENDERS.

* * * Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

AYLSHAM.—For repairs to part of the workhouse roof, for the board of guardians:—
Bylthe, J., jun., Foulsham ... £103 10 0
(Lowest tender received.)

BRADFORD.—For the completion of the construction of the tunnel to carry sewage from Frizinghall to Esbolt, for the Bradford Corporation:—
Best, W., and Sons ... £21,616 0 0
(Recommended for acceptance.)

BRIDPORT.—For the erection of the new hospital in North Allington, in accordance with plans by Mr. Frank H. Shayler, F.R.I.B.A., of Shrewsbury, for the Bridport Hospital Committee:—

Original tenders.

Sprackling, J. G., Netherbury ... £5,059 0 0
Jesty and Baker, Weymouth ... 4,809 0 0
Conway, Theo, Ltd., Weymouth ... 4,880 0 0
Cooper, W. J., Bridport ... 4,874 18 0

Amended tenders.

Sprackling, J. G. ... 4,292 5 6
Jesty and Baker ... 4,158 14 3
Cooper, W. J. ... 4,157 14 2
Conway, Theo, Ltd. (accepted) ... 3,949 0 0

BROADSTAIRS.—For the supply and delivery of a 10-ton steam roller for the Broadstairs and St. Peter's Urban District Council:—

Ruston and Proctor ... 4,555 7 0
Fowler and Co. ... 530 16 9
Marshall, Sons, and Co. ... 518 16 0
Aveling and Porter ... 417 14 6
Wallace and Stevens ... 467 1 7

DENBIGH.—For the erection of Denbigh Market Buildings, &c., for the Town Council:—

Lovalt, W., and Sons, Wolverhampton ... 49,930 0 0
Blake, W. E., Ltd., Fulham, S.W. ... 9,880 0 0
Morrison and Sons, Liverpool ... 9,750 0 0
Dalton, J., and Son, Birmingham ... 9,525 0 0
Cooke, J., Longport ... 9,200 0 0
Lumb, B., Old Colwyn ... 9,099 10 0
Barnsley, J., & Sons, Birmingham ... 9,085 0 0
Morton Browne, Ltd., Chester ... 8,955 0 0
* Accepted.

FRAMINGHAM.—For repaving a culvert on the Norfolk and Beules-road at Framingham, for the Norfolk County Council:—

May, R. J., Norwich (accepted) ... 463 0 0

FULHAM.—For painting interior of Sherbrooke road School, for the London County Council:—

Blake, W. E., Ltd., Fulham ... 4845 0 0
Lole and Co., Chelsea ... 768 0 0
Polden A., and F. Shepherd's Bush ... 738 16 0
Clarke, G. W., Shepherd's Bush ... 599 0 0
Garrett, J., & Son, Balham Hill ... 583 0 0
* Recommended for acceptance.

HACKNEY, N.E.—For executing the tramway and paving works in connection with the doubling of the existing single line of tramways in Graham-road at Mare-street, and the execution of a street widening at that part, for the London County Council:—

Dick, Kerr, and Co., Ltd. (accepted) as per schedule of prices.

HEMEL HEMPSTEAD.—For 11 cottages at King's Langley, Herts, for the Hemel Hempstead Rural District Council Mr. Thos. H. Lightbody, M.S.A., Hemel Hempstead, architect:—

Payne Bros., Watford ... £3,563 0 0
Timberlake, A., Herts ... 3,425 0 0
Harrowell Bros., Bucks ... 3,362 1 0
Ray, J., Herts ... 3,360 0 0
Sears, W. W., Leverstock Green ... 3,262 0 0
Higgs, T., Northampton ... 3,118 0 0
* Accepted.

KENNINGTON, S.E.—For works of painting and tarring at Kennington Park, for the London County Council:—

Carbey, J., and Son, Battersea ... 4175 0 0
Ronald, R. S., Wandsworth ... 366 12 6
King, W., & Son, Westminster ... 261 0 0
* Recommended for acceptance.

LONDON. For painting a number of ventilating columns and pipes in the south-eastern and south-western districts, for the London County Council:—
Mowlem, J., and Co., Pimlico ... 4150 0 0
(Accepted.)

LONDON.—For the supply of ventilators in connection with heating installations for new Schools, for the London County Council:—

Knight, T. S., & Sons (recommended for acceptance). (Lowest of 13 tenders received.)

LONDON, E.C.—For works of cleaning, painting, and repairs at the City of London Court, for the City Corporation:—

Lidstone and Son ... 4570 0 0
Porter, A. ... 735 0 0
Dove Bros. ... 695 0 0
Webbking and Co. ... 600 0 0
Larke and Son ... 595 0 0
Kilby and Gayford ... 514 0 0
Troppe and Colls ... 496 0 0
Holliday and Greenwood ... 480 0 0
Greenwood, J., Ltd. ... 480 0 0
Staines and Co. ... 420 0 0
* Recommended for acceptance.

LONDON, S.W.—For internal and external painting works at the Marshall-street public baths, for the Westminster City Council:—

Green and Abbott ... 4840 0 0
Carr, T. ... 695 1 0
Simis, J. R. ... 691 0 0
Burton Bros. ... 635 0 0
Markham and Markham ... 569 0 0
Wright and Son ... 523 0 0
Campbell and Christmas* ... 494 0 0
* Accepted.

LEYTON.—For erection of tramways depot, for the urban district council. Mr. E. H. Essex, A.M.I.C.E., Town Hall, Leyton, engineer and surveyor:—

Horswill, H. C., Forest Gate ... £422 0 0
Partridge Bros., Romford ... 406 0 0
Russell Bros., Palmer's Green ... 366 15 9
Russell, E. A., Leytonstone ... 336 0 0
Coshead, F. J., Leytonstone ... 329 0 0
Sands, J., Walthamstow ... 321 10 0
Lown, E., and Co., Holloway* ... 314 3 2
* Accepted.

LITTLETON, MIDDLESEX.—For construction of reservoirs Nos. 6 and 7, intake channel from the River Thames, pumping station foundations and delivery mains, the diversion of the River Ash and a road at Ashford Common, approach roads to intake works, pumping station and outlet from the western reservoir, and all secondary access roads, roadways and steps up embankments, with boundary and other fencing, for the Metropolitan Water Board:—

Walker, C. H., and Co., Ltd. ... £1,331,485 5 8
Perry and Co., Ltd., How ... 1,310,446 0 0
Holloway Bros., Ltd. ... 1,090,000 0 0
Coles, A. M. ... 945,079 11 11
Wall, C., Ltd. ... 889,336 14 2
Nowell, H. M. ... 797,714 0 6
Jackson, Sir J., Ltd. ... 759,812 17 4
Muirhead, W., and Co., Ltd. ... 747,851 14 5
Pearsons, S., and Son, Ltd. ... 728,881 17 7
Nuttal, E., and Co. ... 710,913 14 9
McAlpine, R., and Sons ... 702,482 9 4
Scott, W., and Middleton, Ltd. ... 696,737 5 6
Price, J., and Sons ... 686,762 13 6
Dick, Kerr and Co., Ltd.* ... 673,811 15 0
* Accepted. Chief engineer's estimate, £729,660.

MORLEY.—For erection of cloth warehouse, for the exors. of the late Messrs. T. and S. Baron. Mr. T. A. Buttery, L.R.I.B.A., Queen-street, Morley, architect.

Accepted tenders:—
Mason and joiner:—
Clegg, J., and Sons, Morley.
Plumber:—
Swith, G. A., Morley.
Plasterer:—
Iredale, J., and Son, Birstall.
Slatier:—
Atkinson, J., and Sons, Leeds.

NEWCASTLE-ON-TYNE.—For additions to Y.W.C.A. Newcastle-on-Tyne. Mr. A. B. Plummer, F.R.I.B.A., F.R.San.L., Newcastle, architect:—

Weir, W. T., Howdon ... £5,697 0 1
Elliott Bros. ... 5,600 0 0
Easton, S., Ltd. ... 5,300 0 0
Jackson, J., and Sons ... 5,285 9 9
Mauchlen, G. H. ... 5,180 0 0
Middlemiss Bros. ... 5,018 0 0
Miller, S. (accepted) ... 4,940 12 8
Rest of Newcastle.

NORTH LAMBETH.—For enclosing land at Lollard street council school, North Lambeth, for the London County Council:—

Line, H. (accepted) ... 4150 0 0
(Lowest tender received; architect's estimate, £190.)

PADDINGTON, N.—For heating Paddington and Mablevale High School, for the London County Council:—

Cannon and Hettford, Peckham ... £1,139 0 0
The Brightside Foundry and Engineering Co., Ltd., Victoria-street ... 1,129 0 0
Korting Bros., Ltd., Victoria-st. ... 1,000 0 0
Davis, G., Kensington ... 950 0 0
Deane, E., and Beal, Ltd., Monument-street ... 951 0 0
Yetton and Brockett, Ltd., Mutton-road ... 920 0 0
Cannon, W. G., and Sons, Ltd., London-road ... 898 0 0
Bradley, G., and E., Leverstock Green ... 894 0 0
Cornack, J., and Sons, Ltd., Westminster ... 881 15 0
Knight, T. S., and Sons, Great Portland-street (accepted) ... 850 0 0
Architect's estimate, £900.

SOUTHAMPTON.—For the construction of a dwarf wall on the Western Shore, for the corporation:—
Franklin, J. E., and Co., Ltd. ... 4187 0 0
Southampton (accepted)

PUTNEY.—For painting interior and exterior of County Secondary School, Putney, for the London County Council:—

Table with 3 columns: Name, Amount, Status. Includes Rice and Son, Stockwell-road; Blake, W. E., Ltd., Fulham; Garrett, J., and Sons, Balham Hill; Donald, R. S., Waudsworth; King, W. and Son, Vauxhall Bridge-road.

* Recommended for acceptance.

SOUTHWARK, W.—For painting interior and exterior of West-square School, for the London County Council:—

Table with 3 columns: Name, Amount, Status. Includes General Building Co., Ltd., St. Martin's-lane; Smith, W., & Son, Harleyford-rd.; Monk, A., Lower Edmonton; Laphorne & Co., Ltd., Lambeth; Downs, W., Ltd., Watworth-rd.; King, W., and Son, Westminster; Vigor and Co., Poplar.

* Recommended for acceptance.

WALSINGHAM.—For works of painting at the work-house, for the board of guardians:—

Table with 3 columns: Name, Amount, Status. Includes Needs, J., Fakenham.

(Accepted as amended.)

WANDSWORTH.—For re-erection of an iron building to be removed from Caldecot-road site to Magdalen-road, for the London County Council:—

Table with 3 columns: Name, Amount, Status. Includes Boulton and Paul, Ltd., Queen Victoria-street; McManus, J., Hammersmith-rd.; Harbrow, W. J., S. Bernoudsey; Cleams, W. J., Stratford; Fletcher, F. W., Tooting.

* Accepted. Architect's estimate, £640.

WANDSWORTH.—For re-erection of an iron building at the Furzedown School, for the London County Council:—

Table with 3 columns: Name, Amount, Status. Includes Fletcher, F. W., Tooting; McManus, J., Hammersmith-rd.; Boulton and Paul, Ltd., Queen Victoria-street; Harbrow, W., South Bernoudsey.

The tender is in respect of the removal of an iron building from the Carlyle Secondary school site (Chelsea) and re-erecting it on the Furzedown site (Wandsworth), pulling down and removing a second iron building, and demolishing a third.

* Accepted. Architect's estimate, £975.

WESTMINSTER.—For altering and reconstructing the above ground public conveniences in Dansey Yard, Grosvenor Mews, Ham Yard, Providence-court, Ramillies-street, and West-street, for the Westminster City Council:—

Table with 3 columns: Name, Amount, Status. Includes Dent and Hellyer, Ltd.; Davis, Bennett, and Co.; Farrer, W. E., Ltd.; Doulton and Co., Ltd.; Finch, B., and Co.

* Accepted with omission of works to West-street urinal at £268 13s.

WHITEHILLS.—For erection of police station at Whitehills, Banffshire. Mr. James Christie, Banff, architect. Accepted tenders:—

Table with 3 columns: Name, Amount, Status. Includes Mason and bricklayer: Donaldson, C., Banff; Carpenter and joiner: Murdoch, J. W., Banff; Slater: Wilson, J., Whitehills; Plasterer: Simpson, J., Macduff; Plumbing and heating: Strachan, A., Banff; Painter and glazier: Chalucers, A., Banff.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

* Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

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Bound copies of Vol. CV. are now ready, and should be ordered early (price 12s. each, by post 12s. 9d.), as only a limited number are done up. A few bound volumes of Vols. XXXIX., XL., XLVI., XLIX., LIII., LXI., LXII., LXIV., LXV., LXVI., LXVII., LXVIII., LXIX., LXXI., LXXII., LXXIII., LXXIV., LXXV., LXXVI., LXXVII., LXXIX., LXXX., LXXXI., LXXXII., LXXXIII., LXXXIV., LXXXV., LXXXVI., LXXXVII., LXXXVIII., LXXXIX., XC., XCI., XCII., XCIII., XCIV., XCV., XCVI., XCVII., XCVIII., XCIX., C., CI., CII., CIII., CIV., and CV. may still be obtained at the same price; all the other bound volumes are out of print. Most of the back numbers of former volumes are, however, to be had singly. Subscribers requiring any back numbers to complete volume just ended should order at once, as many of them soon run out of print.

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Advertisements for the current week must reach the office not later than 3 p.m. on Thursday. Front-page advertisements and alterations or stop orders for serial advertisements must reach the office by Tuesday morning to secure attention.

RECEIVED.—W. and W.—E. U.—E. G. E. Co.—F. B. and C., Ltd.—V., Ltd.—M. A. A.—M. and Co.—S. E. C.—W. B. H.—E. P. U.—B. P. C. M., Ltd.—C. G. H.—A. D. D., and Sons, Ltd.—T. H. C.—A. H. and Son.—M. G. and Co.—E. and Son.—H. C.—M. T.

D. P.—No.

RHO.—Thanks, no.

L. J. M.—We know of none.

A. M.—The Leeds Fireclay Co. make a very useful dovetailed brick (Shoppee's) of light weight, and entailing no thrust on walls.

A. L.—See our Directory under "Shop-fronts."

BUILDER.—To encase a timber lintel with rebated stone as you propose, is not only a "sham," as you recognise, but it would be a bad piece of construction also; it would make a patched job on the soft where you appear to intend rendering the wood with cement. Nothing could be worse. The width of the span is not stated, and a flat brick arch in the interior of the wall, in any event, should be built. A solid lintel keyed as drawn, if deep enough, and a proper bearing stone used (laid on its natural bed), the work would stand, provided the load is not excessive, and the width of the span proportionate.

LIST OF COMPETITIONS OPEN.

Table with 3 columns: Date, Description, Name/Address. Includes Sept. 7—Designs for Public Elementary Schools at Lindasiret, York-road, Battersea; Oct. 31—Laying Out Show Grounds, Wayville West, Adelaide; Dec. 31—Planning Workmen's Settlement, Campine Coalfield; No date—Drawing or Photograph of English or Continental Metal Work.

LIST OF TENDERS OPEN.

BUILDINGS.

Table with 3 columns: Date, Description, Name/Address. Includes July 31—St. Stephen's School, Alterations to, Congleton; 31—Council School, Alterations to, Steeple; 31—Electricity Building, King's Hill, Weynesbury; 31—Church, Boom; 31—Four Houses, Pontlanfraith; 31—Council School, Alterations to, Tollebury; 31—Provided Infants' School, Additions to, Brighton; 31—Cottage, Alterations to, Houghhead Station, Duss; 31—Offices, Alterations to, Carville-road, Wallsend; 31—Restoring House at Toddlehill Farm, near Ellon.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

Selected Design for the Royal Exchange, Calcutta. View and plan. Messrs. Stevens and Gregson and Co., Architects.
University of Sheffield Applied Science Department. Views and plans. Messrs. Gibbs, Flockton, and Teather, Architects.
Wesleyan Mission Buildings, Blackburn. Views and plan. Messrs. Bradshaw, Gass, and Hope, Architects.
New Medical Baths, Torquay. Mr. Alfred J. Taylor, M.S.A., Architect.
The Practical Application of Reinforced-Concrete Construction.

CHARACTER IN ARCHITECTURE.

Individuality in design—the impress of mind upon matter—is, in architecture, to be measured by the degree of thought instilled. The plasticity of a medium is limited only by the amount of mental force applied; and since a force, to be effective, must be constant, character is almost synonymous with constancy, and shares its invariableness; for that which continually shifts and changes cannot possess definite character, either good or bad. Endurance, permanence, and constancy are thus the essential bases of character.

When, therefore, we speak of character in design, we refer to a mental impress. In art, in architecture, the artist and architect are shown forth in their work. Strong character is either definitely good or definitely bad; for among the average and mediocre we find copyism, and the adoption without thought of ideas at second hand, and in this case we can expect no definite expression other than that of the original designer, mangled or misinterpreted, possibly, when we make fac-simile quasi-correct copies of pictures; and, where the architect reproduces without the ability to define, modify, or improve traditional form, character, or mental impress, we do not look for and cannot expect effective work.

We have been told that the characteristics of Egyptian, Roman, and Greek are shown forth in their buildings. Where national style exists, more or less, we should naturally look for such. Where there is no national style there can be no national impress; and, therefore, in modern work we find, in place of the catholic, universal and average, the particular, partial, and individual. Walking along the streets we may frequently recognise this and that building as emanating from a certain hand or brain, and although it is said that this position may and does at times become modified and subject to change synchronously with a change of head draughtsmen, this is but further evidence in support of the main proposition, that character resides in measure related to brain-power; that, in this country, more particularly, perhaps, than on the Continent, with its academic influences, or in America, with a national style of a sort, we find in architecture the impress of the individual. Here we may say generally of our contemporary work that the mind is not only a measure of the man, but of his building; and the paucity of invention, the offence or the pleasure resulting to us from his work is a direct isolated impress as of a solitary die upon plastic clay. Perchance, say what we like about decadence of style, want of perman-

ence of traditional methods, and the like, there is in defined, individual impress much compensation for want of so-called national style.

If we fully understand that modern English architecture, if it has character, owes it to individual, as distinct from collective, influence, we shall see how vainly true character and expression are sought by the copyist, and the disher-up of old-time form and line at second hand; for, if we desire to impress genuine character upon our work and to stamp it with definite quality or character, we must press hardy our minds on matter, and establish direct contact with the media. There must be independent thought, an absence of reliance on precedent and example. We must eliminate from our minds not tradition (that would be folly), not the subconsciousness of contemporary attainment, which would be presumptuous; but the mind must be free, the attack of the brain upon the medium immediate and frontal; to the end, we might say, that impress upon the plastic may be whole-souled. If there be such a thing as originality, these principles of action will lead us to it; but it were better that we should say of a building that it has "character" rather than mere novelty.

Every designer has in him the power to accomplish original work and to give character to such work, and for this we look, the public looks, and the client pays; but too often necromancy and mountebankism supplant the originality we love, and patchwork inconsistency gives the death-blow to character, the unity of effect, which is the outcome of definite character. Earnestly we seek to discover character and true originality, encumbered of principles of design such as we have put forward. Too often, day by day, we fail to discover aught but shallow artifice; until it comes to this (and we all know it), that we walk along our streets, and the brand-new building never for a moment diverts our gaze. We never alter our pace, we do not trouble to cross the street to look at that which we intuitively feel is but a characterless replica of thousands, such. Lack of brain impress—that seems the trouble, and the cause of want of definite quality, of character; lack of a noble self-reliance, and absence of grasp and grip. If there be any excuse for it, it may be that the art of architecture being founded on practical construction, we cannot deal with our media with the facility and freedom of craftsmen engaged upon mere ornamental detail. No doubt, we need to proceed cautiously in our endeavours to evolve and give character and novel effect to architectural device; but,

say what we may, no reasonable excuse can be advanced for not seeking to remodel and refine old-time forms to suit immediate position and present duty.

Doubtless, we cannot all have master minds, and so it results in practice that one invents and others copy, and so, it may be, things are duly ordered to be. We are all supposed to have brains, but we do not all use them, is perhaps a better way of explaining why so much repetition lutes our city thoroughfares, adding year by year little of interest; the really powerful works of architecture, of definite character and expression, appearing as a few first-magnitude stars in a host of lesser luminaries. If we desire character in architecture we must, too, be sufficiently definite and stable ourselves to lay upon inert matter some measure of the dignity of life.

Style details, after all, should be regarded rather as words (or phrases, perhaps) ready-made and practically unalterable; or as fabric, of special print in line and colour, which we cut and fashion with resultant individual impress. In this way, true and definite character may be produced in old-time form as rearranged to suit practical needs; for, fine and noble, beautiful and gracious qualities of design are the result, not of particular detail, mould, or device, but of the manner in which such style details are grouped and modelled to general theme or ultimate effect, preconceived in the mind of the designer.

Character in architecture is therefore a direct reflex of character in the man. Firmness and constancy are reflected in stone and marble. The changeling, with his here-to-day and gone-to-morrow method, cannot impress character in design, because in truth he has no character to impress. If we desire to give definite expression to our work we must be definite ourselves, must launch, with all the confidence we can command, into the deep waters of independent thought and action, holding to sound first principles of design. True style, as outflowing from noble character, must result when we throw aside mental props and are loyal to our own thought and perception. Success, then, will be a measure of the sincerity and depth of that thought.

EXAMINATIONS IN ART, 1914.

The Reports of the Examining Committee for Art in England have been issued by the Board of Education. Beyond a general note at the head of these departmental reviews of the work done during the past two or three months there is no abstract, though a synopsis of some sort would have been useful, and might have been looked for. We here not, how-

ever, overlooked the "general observations" which are printed at the tail end. The examiners' initial remark is to the effect that fewer incompetent works were submitted this year than in 1913, but that still there is much room for improvement in this direction, and the fault is set down to the likelihood of students insisting upon entering these examinations contrary to the advice of their masters.

The results comprise less than 150 passes. Women are distinguishing themselves throughout the country pretty much as women have been doing of late at the Royal Academy, while in the National Competitions women are very much to the fore. In these Examinations in Art the proportion stands at about 62 women to 145 men. It is not easy to be exact as to the precise figures, as Christian names are not always to be identified; but, roughly, this is the relative record, and it certainly is remarkable as being the result of a level competition in which numerically the male candidates seem greatly in excess, though as to the entries of women as compared with men no information is given. The men hold their priority among those who have passed with distinction by the ratio of only 14 men to 10 women, the latter scoring equally in "Drawing" and distinctly in "Industrial Design," with Enamelling, Jewelry, and, naturally, in Embroidery women take precedence. Two men gained distinction for Modelling, and two passed, but no women scored for this subject. "Pictorial Design" passes were without any distinction results, and out of the eleven successes only one woman's name appears. Leeds School of Art heads the list with 16 passes, Leicester School of Art obtained 11, Manchester School of Art 10, Newcastle-on-Tyne 6, Birmingham 4, and Liverpool 3, and all of this trio were women, their subjects being Linen weaving or Jewelry or Embroidery. The Metropolis is not conspicuous, seven only figuring for the whole of Greater London. We need not pursue this annotation further, and only give our abstract for what it is worth. Its practical bearing on the subject of art is important, no doubt; but, after all, examinations in Art, as such, favour schools and teachers rather more than insure the creation of real artists and virile artistic results, even in the domain of arts and crafts. Painting, Sculpture, and Architecture prospered with the greatest distinction when examinations in art were unknown, as we know them, and, of course, professors had not been thought of.

The only architects on the Art Examining Committee are Professor Beresford Pite, Professor E. S. Prior, A.R.A., and Professor Lethaby, the first two being engaged with the examination of "Drawing," and the last-named with "Industrial and Pictorial Design." We have already referred to this picture work. Of "Painting," three passes with distinction and seven ordinary passes make up the sum about which a degree of improvement in the work is mentioned, with the exception of drawings and paintings from the nude, which evince a distinct falling off. In reference to "Architectural Drawing" the test has been made in the lines of draughtsmanship in pencil and in colour-washes. The student was asked to show his powers in the delineation of a Classical column, and, secondly, in the plan, section, and elevation of a building or portion of one. Only the smallest medium of knowledge of architectural archæology was expected or asked for, but an appreciation of architectural form, such as can be shown by a sympathetic line drawing, with values brought out by monochrome washes. Few candidates cared to express themselves in this easy and effective way, and the examiners add that in the majority of cases the remembrance of the Greek column and the setting out of the selected building was conveyed by mechanical exercises in a thin line, and also devoid of freedom of touch in the details. About half a dozen exercises had more assured draughtsmanship, but in the greater part feeble execution and lack of knowledge prevailed. The record does not say if anybody passed in this subject, but we imagine not.

Coming back to the "General Observations" set out at the end of these reports, it may be well to add that while the examiners have been compelled to speak of a great deal of the work submitted to them as unsatisfactory, yet, as a whole, they think it shows an advance upon that submitted last year, and in one or two cases a notable advance has been obtained. They, however, again regret, ex cathedra, that, generally speaking, the written answers to their questions have been better than the executed work. Knowing how much excellent teaching is given in the schools and how much excellent work is produced there while the students are in immediate touch with their teachers, the examiners go on to say, after seeing how inferior the examination work actually is, "they cannot help feeling that in the schools hardly enough attention is paid to the confessedly difficult task of teaching students to stand on their own feet and run alone." Quite so, and it is doubtful if any forcible feeding is conducive to healthy exercise in the production of Fine Art or its application. Some are led to fancy that the means becomes the end, while the learner gets so fed up with cramming that the normal digestive capacity is impaired, and any intuitive capabilities possessed by the student at the start are stultified by profound professorial programmes. If this appears to be the case at headquarters in the Royal College of Art—and we suggest that this year's Exhibition there gives that idea—how can better results be expected from the minor schools throughout the land, officered from South Kensington?

THE PRACTICAL APPLICATION OF REINFORCED-CONCRETE CONSTRUCTION.—II.

By WM. G. SHIPWRIGHT,
Licentiate R.I.B.A., M.C.I., Chartered
Surveyor (by Exam.)

The two principal remaining variations are the doubly-reinforced floor, constructed either in the slab form, or as a continuous floor. These floors have a resistance in both directions, and, assuming the spans to be equal in both directions, the strength is in either case doubled over that of the single reinforcement. The design in the former case will be as shown in Figs. 19, and for the three types (4in., 5in., and 6in., with rods as before), the safe loads will be found to be—

- 4' floor (190 × 2) = 380 cwt. per foot super.
- 5' floor (180 × 2) = 360 cwt. per foot super.
- 6' floor (240 × 2) = 580 cwt. per foot super.

The concrete remains constant and the steel is doubled, thus giving the cost shown in Fig. 21.

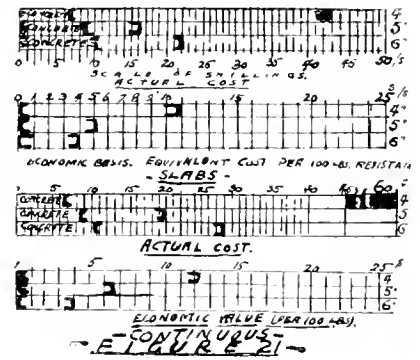
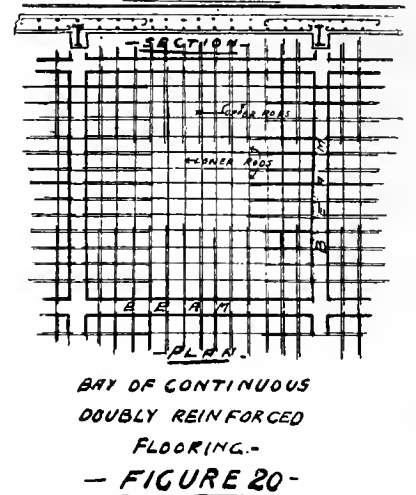
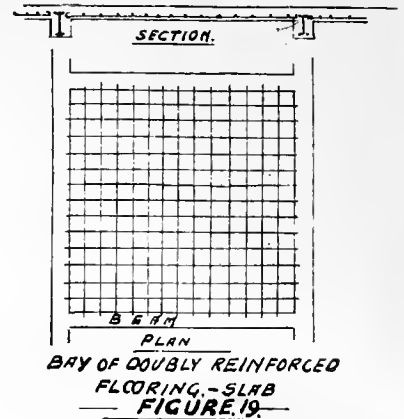
The design of the continuous double-reinforced floor is shown in Fig. 20. The strength of these floors is twice the similar single continuous floors, as follows:—

- 4' floor (240 × 2) = 480 cwt. per foot super.
- 5' floor (225 × 2) = 450 cwt. per foot super.
- 6' floor (360 × 2) = 720 cwt. per foot super.

The scale diagrams of cost is shown in Fig. 21. This type of floor is, of course, only suitable for positions where the bays are approximately square, so that the spans in both directions are about equal; otherwise the cost of extra steel to secure an equal resistance in an oblong bay, with a much greater length than width, would render this type excessively costly, for the reasons demonstrated in the 4in. floor. For spans equal in both directions the doubly-reinforced floor is the cheapest form, as the concrete is precisely the same as in the single floor, the steel only being doubled, whilst the floor has twice the strength.

The adoption of hollow tile in floor construction possesses undoubted advantages. The floor is rendered lighter and more sound and fire-resisting, without impairing its strength. The cost of hollow tile in floor construction usually averages about 2s. 6d. to 3s. per superficial yard of floor; but there is, of course, a small offset in the deduction of concrete, being about one-fourth the cost of the tile, making an approximate net extra of 2s. per yard. There is also a net saving of about 20lb. per foot in the dead weight of

the floor, which relieves the structural steel-work and foundations to the extent of about 800 tons on a building of 10,000 yards floor area. A usual process is to have the tiles of such depth that the top edge is approximately coincident with axis line, the floor being, in fact, composed of a series of small reinforced T-beams (see Fig. 5). Care



should be taken to secure sufficient area in the concrete rib to afford the necessary compressive resistance below the upper surface of the tile. Fig. 24 shows the correct and incorrect form of construction in this respect.

Fig. 22 shows at A the 6in. reinforced floor, with three 3/4in. rods per foot; at B, C, and D the steel joists are shown which would be required to carry the same floor-weight per foot super. (290lb. over 10ft. spans). The joists are spaced as follows:—

- At B 3in. × 3in. × 8 1/2lb. 1ft. apart 10ft. span.
- C 5in. × 3in. × 11lb. 2ft. apart 10ft. span.
- D 5in. × 4 1/2in. × 18lb. 3ft. apart 10ft. span.

The centering required for these floors will be approximately the same as that for the reinforced floor, and the cost of material on the basis previously adopted, is shown in Fig. 23, in which the surplus metal provided in B, C, and D is simply waste material, amounting in cost to between 10s. and 15s. over each bay of 6ft. square.

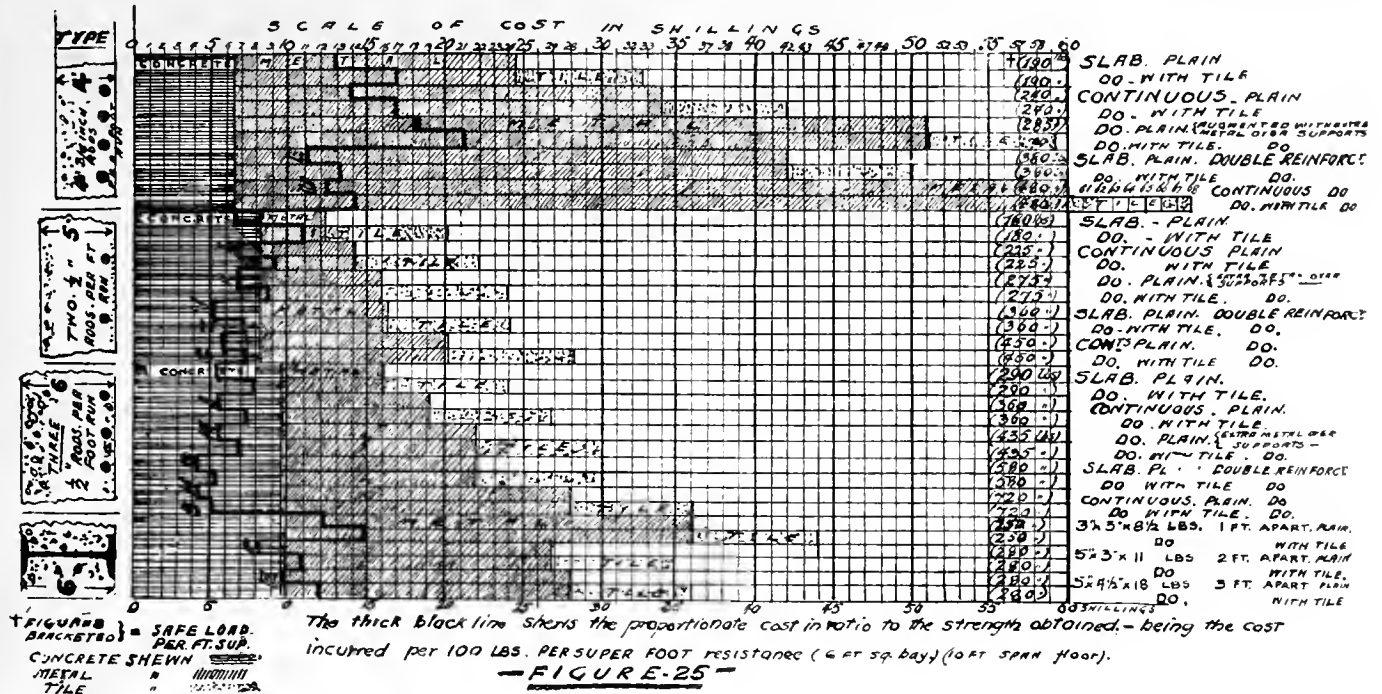


Fig. 25 is a summarised diagram, showing the actual cost of material on the basis previously given of all the types of floor illustrated and described, the calculation being in all cases for bays 6ft. square in floors of varying load-carrying capacity, and the

nine years. The present chapel on the island is believed to stand on the site of his hermitage. There are two lighthouses, preceding which Prior Castell's Tower, built about 1500, served a similar purpose, beacon fires being used. Longstone Island is the point from which William Darling and his heroic daughter Grace put off to rescue the survivors of the wrecked ship Forfarshire in 1838. A monument to her memory is placed in the Great Farne chapel, and a handsome canopied altar tomb, with recumbent effigy, is in the churchyard at Bamborough, where she is buried. Grace Darling was born in 1815, the year of the Battle of Waterloo, and she died at the age of twenty-five. Her nephew, Robert Darling, has recently given up lighthouse keeping after thirty-six years' service. On the return to the mainland, the afternoon was devoted to Bamborough. "King Ida's Castle, huge and square"—as described in "Marmion"—is a bold and prominent object in the landscape on the Great North road between Alnwick and Berwick. The castle was founded in 547, and was frequently stormed by the Danes. After Edward IV.'s time it lay dismantled for centuries. In 1720, Lord Crewe, the philanthropic Bishop of Durham, having purchased the Castle, bequeathed it for charitable objects. In 1894 it was acquired by the late Lord Armstrong at a cost of a quarter of a million and fitted up as a convalescent home.

so named from a metal figure of a lion dominating the structure. The afternoon was devoted to Alnwick Castle. The visitors were met by Mr. Kyle, Constable of the Castle, whose knowledge of the precincts placed them under infinite obligation. The Castle was founded by a de Vesci in 1150. It was rebuilt by the first two Percys between 1310 and 1350. The restoration of the Castle to its present stately form was the result of alterations and additions made by the first and fourth dukes. The family are at present not in residence, and the party were shown much of interest, including the State coach used by the Duke of Northumberland at the coronation of the last King of France in 1825; it was redecorated and again used at the coronation of King Edward VII.; also the museum of Egyptian antiquities, the geological museum, in which are numerous Roman and some Saxon inscribed slabs which have been found in Northumberland; the dungeon, the ancient draw-well, and Hot spur's seat on the walls. Near this part of the Castle is the "Bloody Gap," where tradition says a raiding party of Scots were slaughtered to a man while attempting to force a passage through a breach made in the wall. The "gap" is now built up, but the different colour of the stone indicates where the breach was made. During the afternoon time was found for a drive to the picturesque, ivy-clad ruins of Hulne Abbey, the first monastery of Carmelite Friars in the kingdom, founded by a de Vesci about 1240.

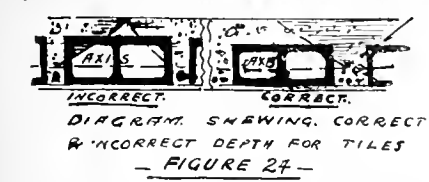
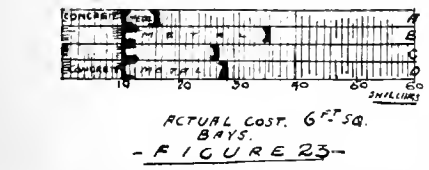
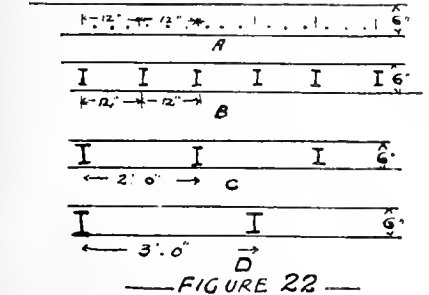


diagram shows by a thick line the comparative economic value—i.e., the cost involved in obtaining each 100lb. per super. foot loading resistance, from which it will be seen that the properly designed reinforced floors are by far the most economical form of construction, whether with or without tile filling. (To be concluded.)

ALNWKIC TOWN AND CASTLE.

On Friday week the visitors devoted their attention to many things of interest about Alnwick. In the morning the party proceeded to St. Mary and St. Michael's Church, where they were met by the Rev. Canon Mangin. It is a Norman church of large size, and is remarkable for its width, which Canon Mangin thought was designed to provide processional room for the monks of Alnwick Abbey on festival days. There are no elaborate monuments, the Dukes of Northumberland having found their last resting-place in Westminster Abbey. From the church the visitors walked to the site of Alnwick Abbey, formerly a foundation of Premonstratensian Canons, dedicated to St. James and the Blessed Virgin. It was founded in 1147 by Eustace FitzJohn. All that now remain of this extensive building are the tower and gateway. The foundations have been uncovered and cemented, and the various rooms can be traced. On leaving a visit was paid to Malcolm's Cross, marking the spot where Malcolm King of Scotland was slain in besieging Alnwick Castle in 1092. Near by is the ruin of St. Leonard's Hospital, founded and given to Alnwick Abbey by Eustace de Vesci some time after the death of Malcolm. The Lion bridge is

BERWICK AND WARKWORTH.

Saturday week was selected for an excursion to Berwick-on-Tweed and Warkworth Castle. The town has played a unique part in history. In the reign of Alexander of Scotland (1286) it was the second city to London. Its list of mayors goes back for eight centuries, and the vicars of Berwick date from 1296. The walls are of great interest, going back to Edwardian days. In a hurried visit, the various points of greater note—the walls, the old bridge, the bastions, and the parish church—were points of leading interest. The parish church of St. Mary, consecrated in 1662, replaced an older building, of which from 1549 to 1551 John Knox was minister. This church is the most northerly parish church in England. The afternoon was devoted to Warkworth Castle, now a ruin, which in the early days was the favourite residence of the Earls of Northumberland, and in Edward's time well maintained; but in 1672 its timbers and lead were disposed of and the principal parts of it unroofed.

WARKWORTH HERMITAGE.

Half a mile above the Castle is the Hermitage, widely known from the Bishop of

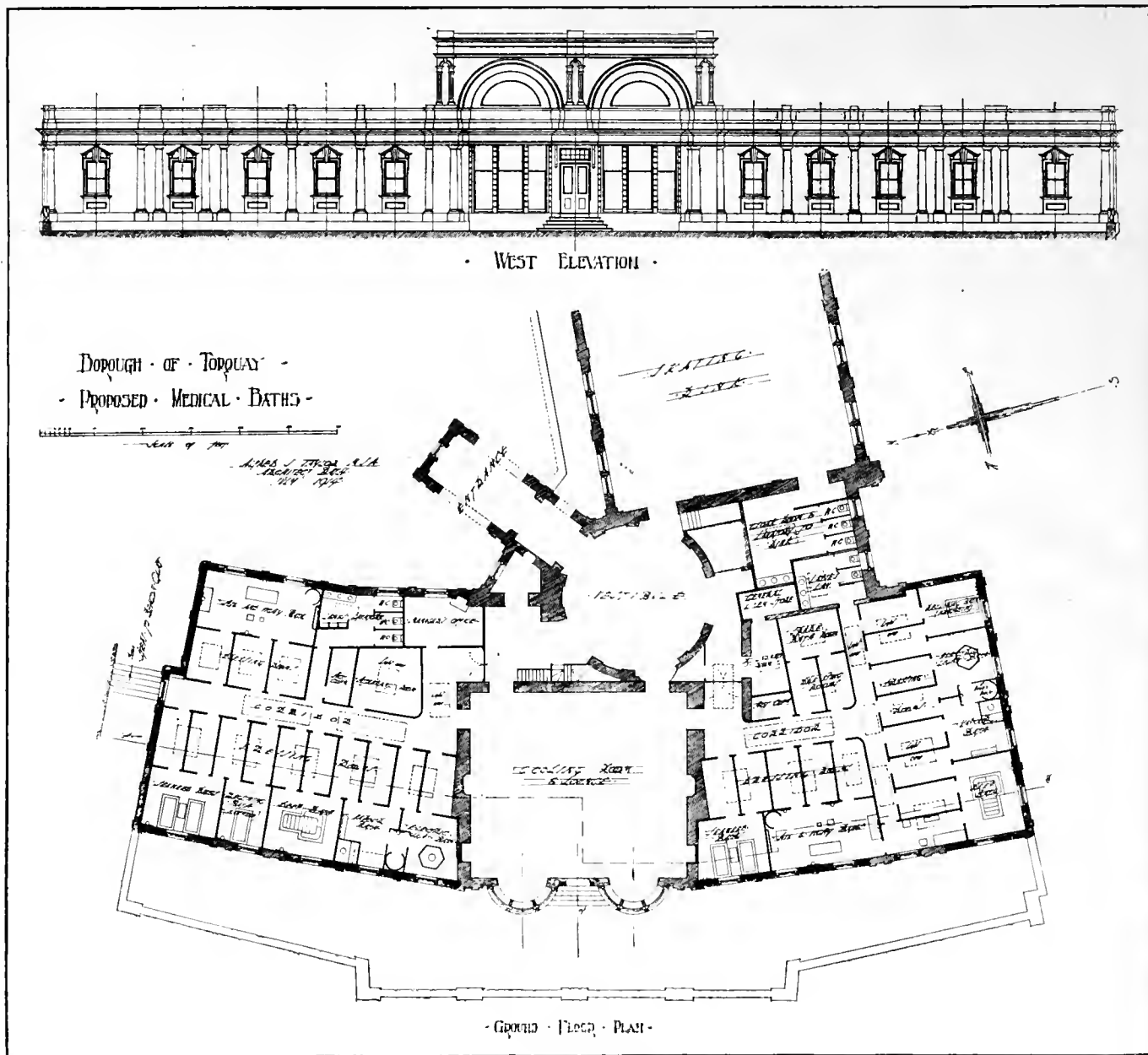
NORTH STAFFORDSHIRE FIELD CLUB.

THE NORTHUMBERLAND EXCURSION.

The "long excursion," under the auspices of the North Staffordshire Field Club, was a complete success.

THE FARNE ISLANDS AND BAMBOROUGH.

On Thursday week the excursion was to the Farne Islands and Bamborough. There are seventeen in all, forming three distinct groups. It was on the Great Farne that St. Cuthbert died in 687, after a residence of



MR. ALFRED J. TAYLOR, M.S.A., ARCHITECT.

Dromore's ballad of the "Hermit of Warkworth." Its origin and foundation are uncertain. The Earl of Northumberland, in his grant to the last hermit, in 1532, calls it "min armitage, helded in a rock of stone, in my parke, in honor of the Holy Trinity." Over the doorway is a rood and a Latin inscription. "My tears have been my meat day and night." There are three chambers, known as the chapel, confessional, and dormitory. In a recess to the south, lighted by two lancets, is the Hermitage. Kneeling on the west side is the figure of a man in contemplation of a female recumbent, with a bull's head (the crest of the Widdrington family) near, and the figure of an angel on the left. Popular tradition says the man was Bertram of Bothal; the female, the Lady Widdrington, whom he was to marry, and who had been captured by a border chief. Sir Bertram and his brother set out separately to search for her. Disguised as a minstrel, the former found the tower in the Cheviots where she was, but, seeing her escaping at nightfall with another man, he attacked and killed them both. Too late, he found that he had slain his own faithful brother in the very act of rescuing his betrothed, and so he became the Hermit of Warkworth and made a lifelong expiation. Descending, the hermit's oven is reached, and a stone stair leading to what was his garden above. Below are the remains of some later buildings 15th century or after, built for the convenience

of the chaplains who for a period ministered here in succession to the Hermit. A record exists granting various privileges to George Lancastr, chaplain at the Hermitage, by the sixth Earl of Northumberland in 1531. Sunday was observed as a day of rest. In the afternoon a visit was paid to Dunstanborough Castle, built about 1313, and now a magnificent ruin. The official programme terminated, and the party broke up on Monday morning.

The county council of West Sussex have approved the proposal to build new council offices at Chichester at an estimated cost of £15,000, exclusive of site.

At Sandgate Parish Church, near Folkestone, extensive alterations are to be made, a faculty having been obtained for taking down the galleries and erecting a reredos, forming a barrel ceiling to the sanctuary, and providing new communion rails, dwarf chancel screen, stalls, pulpit, and holy table. The work is estimated to cost £1,000.

The Montreal Builders' Exchange have been invited by Mr. D. Norman MacVicar, chairman of the Quantity Surveying Committee of the Province of Quebec Architects' Association, to cooperate on the question of quantity surveying. The Architects' Association desire to obtain the views of contractors, who are naturally as much interested in the subject as are the architects. A committee of the Exchange has therefore been appointed to go into the entire question with the architect.

NEW MEDICAL BATHS, TORQUAY.

This plan provides for converting the existing Bath Saloons at Torquay into a High Class Medicinal Bathing Establishment. The ladies and gentlemen's baths are separated by a large cooling room and lounge, common to both sexes. Till now this room has been used as a ball room. The new walls will be constructed of local stone, covered on their external faces with cement stucco. The partitions will be patent slabs tiled on the bathroom side with vitreous tiles to a height of 6ft. 6in. The roof will be composed of concrete carried on steelwork and covered with asphalt. Mr. Alfred J. Taylor, M.S.A., of Bath, is the architect.

Liverpool Housing Committee have recommended the appointment of Mr. Fletcher Turton, the present deputy city surveyor, as director of housing at a salary of £1,200 a year.

The committee of the Captain Scott Memorial Fund have accepted an offer of the Admiralty of a site at Greenwich Hospital for the erection of the memorial to the Antarctic explorers. The site faces the river and is mid-way between what are called King Charles's and Queen Anne's Buildings. The Admiralty stipulate that the memorial shall be in keeping with the character of the architectural surroundings, in the opinion of experts whom they will consult, and before the actual position is selected a light framework model will be made so that its effect may be judged *in situ*.

Currente Calamo.

What effect will war have on the Building Trades? The obvious dictates of common-sense should bring them full work and prosperity that would be shared by hundreds of cognate industries, and bring lasting and profitable benefit to the whole country. The work is waiting. From all parts of the country for months past the cry of the shortage of houses has been urgent, and the general prosperity of the past three years has accumulated capital which will instinctively turn to solid home investments. Land and houses never slump after the fashion which shut up the Stock Exchange last week, and gave us four Bank Holidays instead of one. One thing alone has hindered earlier recognition by capital of the opportunities afforded by real estate, and that has been the unfair and exceptional taxation of the investor and builder. We have at last been promised redress by Mr. Asquith. Surely that Bill could be passed as quickly as the Suspension of Payments Bill was passed last Monday? Capital that is likely to be shut out of other profitable fields for months to come would at once respond to the demands in so many directions for the support of a home investment, and this troublous time be consolingly remembered hereafter as a time of marked increase in our best national assets, and of full employment for the workers of the second great group of our national industries.

If only, of course, the threatened war in the building trades is not provoked with the audacity and foolishness of certain European potentates. When Britons and Irishmen are closing up their ranks, and forgetting or postponing all differences in face of the common peril, surely masters and men will get to work "as they were" at once, and agree to relegate all grievances to a more convenient period for their redress? At a time when national sacrifices of no small magnitude are likely to be demanded of all of us, there will be scant sympathy for out-of-work, idle thanks to their own obstinacy or foolish surrender to the wiles of mischievous agitators. The moment calls for the utmost conciliation on the part of the masters and the promptest recognition by the men that the best principles of trade-unionism demand reasonable determination that union funds shall not be exhausted by inter-union strife at a time when the supreme duty of all of us is to husband our resources to the uttermost and to seize and improve in every way the opportunities of honest and profitable work still open.

In common with our contemporaries daily and weekly, although there is no immediate shortage, we are compelled to husband our resources of paper, and to ask the indulgence of our readers, and especially of our advertisers, if we have to curtail our available space. We have done so very slightly this week, and fortunately it is, naturally, the slackest month of the year, so that few will be inconvenienced. We beg to intimate to our direct Continental subscribers that we are posting their copies as usual, but that we can assume no responsibility for delay or non-delivery as results of the disturbance of traffic.

The Beaux Arts Committee have now obtained suitable premises for a Second

Atelier, which will be opened in the autumn, and Mr. A. R. Jenmett, F.R.I.B.A., has accepted the position of patron. Communications should be addressed to Mr. Adrian Berrington, at the First Atelier, 16, Wells-mews, Wells-street, W. We heartily wish the Second Atelier as successful a start as the First has had, and have little doubt that ere long we shall record the birth of a Third.

In his question, to which we replied last week, "A Builder" proposed to encase a timber lintol with a keyed and rebated stone facing over an opening, to give an external appearance of masonry, thus perpetrating an architectural sham, besides making an incurably bad piece of construction. It reminded us of some other similar abortions actually perpetrated by so-called "practical" builders in the carrying out of their own designs, without the check of professional supervision. One of these was a case analogous to the one above, in which a timber was completely buried, thus risking dry rot. A window opening in a wall happened to be built several inches too wide for the casement frame which had been made for it; so to save the cost of altering the frame, which, when being offered up in position was found to be too small, the ingenious builder got over his difficulty by fixing up a length of an ordinary rough putlog taken from his scaffold, and in this way he reduced the opening to accommodate the window-frame; but the York stone sill was left unchanged. The consequence is it projects on that side of the window about 7in. more than on the other. The facing of the walls were roughcasted, so the builder drove some nails into the putlog to get a key and plastered over the wood, finishing the reveal in this fashion as if nothing had happened, and hiding the discrepancy.

In the same house, which has been erected in a London garden suburb (for a well known water-colour painter whose work is just now much in vogue), a soil-pipe is run up in front of the principal elevation on the face of the brickwork, below the projecting sham half-timbered gable which comes above; but the over-sailing of this gable is so slight that the fin, iron tube partly protrudes in front of the stucco panelling, with the most incongruous effect, particularly so as the pipe is not vertical, varying also in its relation to the face of the wall, in order to clear a rafter where the roof projects, and thus it passes, oddly enough, through the fling on one side of this apex, this sewer-gas vent not even assuming the character of a gable finial. This the ridge-tiles in any case would preclude.

The drawing room fireplace is set so close to the door that it is always in a direct draught, with the result that whenever a fire is lighted the smoke is more than often driven out into the parlour. A gas-fire, therefore, is employed; but the fumes still cause much discomfort, owing to the unpreventable side draught. That the artist in question deserves little commiseration is obvious, because, instead of consulting one of his architect friends before he had his house built, he made a bargain with the "practical" builder, who has achieved the result. The "half timber" is made up of inch boards planted on to the face of the plaster, and the work is curling up gracefully under the action of the sun. The owner

evidently effected no economy when he saved the dreaded architect's fees. Our correspondent adds that he was not personally acquainted with the painter for whom this residence was "put up" till he came to reside in it, and that the subject has never been mentioned between them. Time is, however, already making these little secrets known.

It has not taken long to "nationalise" the railways in the face of national peril. An Order in Council has been made under Section 15 of the Regulation of the Forces Act, 1871, declaring that it is expedient that the Government should have control over the railroads in Great Britain. This control will be exercised through an Executive Committee composed of general managers of railways, which has been formed for some time, and has prepared plans with a view to facilitating the working of these provisions of the Act. Although the railway facilities for other than naval and military purposes may for a time be somewhat restricted, the effect of the use of the powers under this Act will be to co-ordinate the demands on the railways of the civil community with these necessary to meet the special requirements of the naval and military authorities. More normal conditions will in due course be restored, and the public will readily recognise the necessity for the special conditions, and in the general interest accommodate themselves to the inconvenience involved. Not a few, perhaps, will hope that under joint control and Government supervision, some experience of co-operative action may be gained that may bear fruit in other directions when peace again favours traffic.

A novel point cropped up last week before a House of Commons Committee, presided over by Mr. Lane Fox, considering a Bill to provide Weston super-Mare with an improved water supply. The Somersetshire County Council wanted the insertion of a clause providing that when it was necessary to alter the level of, or improve, main roads any additional cost because of the necessity for moving the pipes of the Weston super-Mare district council should be borne by the district council, and not by the Somerset County Council. It was asserted that the county council had a public duty to perform in respect of the roads, and it was only fair, in the event of the urban district council's pipes causing any additional expense, that the cost should fall on the district council, and not be borne by the county council. The district council, while admitting this was fair in the case of bridges belonging to the county council, objected to it in regard to main roads which had to be improved to meet the weightier and denser traffic. It was contended that it was an attempt to put part of the burden which should be borne by the county council upon the district council. The committee unanimously decided to insert a provision as asked by the county council, and the district council will therefore be called upon to pay any additional expense involved by their pipes being in the main roads when main road improvements are made. This, we believe, is the first time such a decision has been given in respect of water mains.

A perpetual lease is often a good one, and, indeed, such a lease would, if it could be supported, become a freehold, and so not a lease at all, which must be for a term either

of years or of a life or lives. But although this is the theory of the law, there is, as usual, a way out in fact. For in practice a covenant in a lease to grant perpetual renewals of the term is held valid. This very pretty point was lately decided by the Court of Appeal, confirming the judge below, and the matter has some business interest and importance. It seems that a lease of certain premises had been granted as long ago as 1824 for a term of twenty-one years. This contained a covenant by the lessors that on the surrender of the lease on the expiry of the first eleven years, and on payment of a fine, they would grant a new lease for twenty-one years, with the like covenant. The deed then went on to provide that as often as every eleven years of the said term shall expire the lessee could claim such new lease. After running in this way for some ninety years, the lessors suddenly objected that this perpetual renewal was illegal and void. But the Court held the covenant was valid, as, although a perpetual lease was bad, a right to a perpetual renewal of an existing lease was good, and so this lease may go on renewing its youth for ever.

In the timber trade it seems that the "del credere" commission is common as between principal and agent. These Italian words mean "of the credit," and in such an agency the agent warrants or guarantees the payment of the debt contracted through him to his principal. In other words, he becomes liable for the solvency of the customer he introduces. But this is only a pecuniary obligation, and it does not compel the agent to indemnify his principal as to the performance of the contract. Nor is a "del credere" agent liable to litigate disputes between the buyer and the seller. Obviously there is a great deal of difference in these two views of the agent's position, and the question has often come up before the Courts. In the latest case of "Gabriel and Son v. Churchill and Sim" (July 14), in the Court of Appeal, where a dispute had arisen between the buyer and the timber merchant as to the carrying out of the contract, the merchants sued the defendant as "del credere" agent for the price of the goods. But it appeared that the plaintiffs had themselves been arranging with the buyer, and had got into a wrangle. So the defendants, as their agents, declined to pay the price and take over the litigation. The Court held that they were not liable, as their responsibility as "del credere" agents only applied to payment in case of the buyer's default by insolvency or the like.

The following, having completed their course in the School of Architecture, University College, have been awarded architectural certificates: H. N. Fisher, A. J. Villegas, and J. F. Villegas.

On St. James's Day the Bishop of Kingston dedicated the complete nave and baptistry of All Saints' Parish Church, Carshalton. This work, costing £5,800, is the last section of a much larger undertaking of a quarter of a century ago. The completion of the plan has given a church with accommodation for nearly 1,000 worshippers. The work has been done under the direction of Mr. C. J. Blomfield.

The old established firm of Edward Fench and Co., Ltd., Chesham (Mon.), successfully carried out the removal of an existing bridge carrying the North and South-Western Junction Railway way over the Great Western Railway at Shepherd's Bush, and replaced it with a new one in the short space of time of thirty-five minutes, which we understand to be a record one. The time allowed for it by the engineers was two and a quarter hours. The weight of the new bridge with ballast is about 150 tons.

AUDITORIUM VENTILATION.

Messrs. McKim, Mead, and White, the well-known architects of New York, in erecting the Convention Hall of the National Cash Register Company at Dayton, Ohio, have, with the assistance of the engineers,

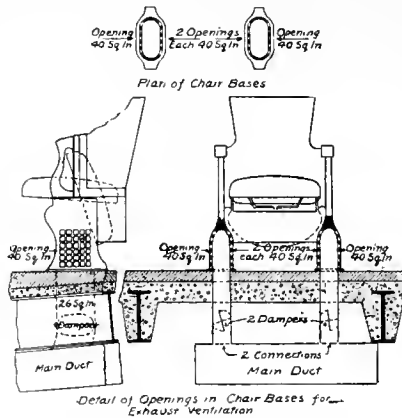


FIG. 1.

Messrs. Nygren, Lenner, and Ohmes, completed a very elaborate system, described as being unequalled in America. The auditorium is provided with fresh air by means of a 9ft. centrifugal fan placed in the basement, in connection with tempering coils. Exhausts for clearing the building of vitiated air are provided, with an 8ft. 6in. by 2ft. 6in. centrifugal exhaust fan, located in the cellar, and a 66in. disc exhaust for summer ventilation, set up in the roof space. These are

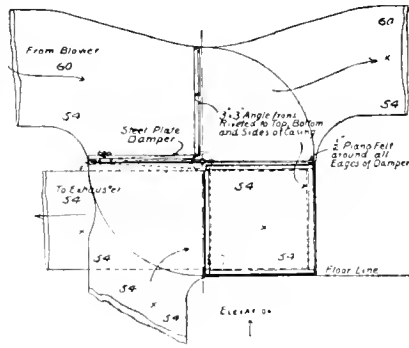


FIG. 2.

worked by 20H.P. motor, and are adjusted to an installation for reversing the air-supply and exhaust. This system is arranged by reversing dampers to the registers close to the floors as well as near the ceilings.

Steel plates are used of reinforced 10 gauge, and all the contact surfaces are lined with piano felt, to avoid leakage either way. The tempering coils are in two sets and are enclosed by gauged steel-plate jackets. Hand-valves on the return ends of the coils are provided where they are not thermostatically controlled. The fresh-air chamber is provided with a set of air-filters contrived of galvanised-iron wire netting, covered with cheese-cloth, fixed to wooden frames, and having a total filter area of 1,300 square feet. In the "American Architect" several other particulars are given of this installation, as, for example, the 21H.P. motor for the fan heating the foyer, which is driven to give a speed of 400 revolutions per minute. The ducts are designed with curves and bends, so as to insure an easy flow of air. The air-washer is of 46,600 cubic feet capacity, and the building is heated by a return-line vacuum system.

The accompanying sections, No. 1, illustrate the detail of the reversing apparatus in the ducts, and No. 2 a detail of the openings in the auditorium chair standard bases for exhaust ventilation, immediately under the seats and above the floor level.

Mr H. W. A. Carter, of Matlock Bath, has been appointed surveyor to the Bollington Urban District Council.

WAR AND THE TIMBER TRADES.

Messrs. Denny, Mott, and Dickson, Ltd., do not offer a cheerful view of the wood market in their report for July.

Teak.—The landings in the docks in London during July consisted of fifty-one loads of logs and 291 loads of planks and scantlings, or a total of 342 loads, as against 1,063 loads for the corresponding month of last year. The deliveries into consumption were 167 loads of logs and 292 loads of planks and scantlings—together 459 loads, as against 529 loads for July, 1913.

The following is the analysis of the dock stocks at date:—

Logs—	Loads.	Loads at the same date last year.
Burma and Siam	2,213	2,217
Java	124	228
Planks and conversions—		
Burma and Siam	2,616	2,995
Java	207	317
Total	5,160	5,787

The demand has continued to be of a very meagre character, as shown by the above figures. Some development of demand may be reasonably expected as an outcome of the danger of a general European war.

Mahogany.—This market still remains depressed by the excessive supply of inferior wood, but prices have been fairly well maintained for wood of good description. The demand has been very quiet. For all descriptions during July, the landings in the docks in London were 8,126 logs, and deliveries from the docks in London were 3,585 logs, whilst the stocks in the docks are 22,093 logs.

Canadian Timber.—Waney Pine: There are very few inquiries, and stocks remain practically unaltered. Elm continues to go into consumption, and prices keep steady with the scarcity of larger-sized timber. Oak continues dull now that the railway contracts have all been placed, as there is little demand for this timber for general consumption. Spruce: Some sales have been made at reduced prices, but owing to the heavy stocks held by importers, further concessions will have to be made to tempt buyers. The demand continues quiet, consumers taking only what they actually need for their immediate requirements.

Pitch Pine.—Firmer rates are being asked by shippers, as with the cotton shipping season close at hand, tonnage is more difficult to obtain, and freights are stiffer. A shortage of sawn timber at the Gulf ports, and a disinclination of the mills to cut at present rates, give a steady tone to the market.

Oregon Pine.—A quiet demand continues, but stocks are unduly heavy in several of the U.K. markets. The very much higher c.i.f. cost of timber, however, should allow holders to reduce their stocks during the autumn.

Odessa Oak.—There has been no change in the market position during the past month. Some fresh arrivals came to hand, but went straight into consumption; consequently, stocks still remain on the moderate side, with prices firm.

Baltic and White Sea Goods.—The demand remains steady, and although there has been a sagging tendency, prices have not changed much, considering that the labour trouble still remains unsettled, and that there is no indication at the moment of any immediate settlement of the dispute. The import of fresh goods has, so far, been light, and it is satisfactory to notice that the tendency still seems to be to restrict the import.

It is difficult to form any accurate opinion of the effect if Europe becomes involved in war, although it is evident that the values of stocks in this country would rapidly improve. Shippers have made considerable sales during the past month, having shown a general disposition to meet buyers as regards prices; but, on the other hand, freights have stiffened and chartering has become more difficult, which, to a large extent, will counteract the further set-back in f.o.b. values.

Business in July lacked all brightness as a result of dwindling general trade and the political unrest at home. The month closed in profound gloom, owing to the startling development of a war crisis in Europe. Should

England become involved, the narrowing down of supplies from abroad seems inevitable, and holders of stocks here should find them increase in value as some compensation for the possibly prolonged curtailment of forward business.

OBITUARY.

We regret to record the death of Mr. John Brooke, F.R.I.B.A., ex-president of the Manchester Society of Architects, of 18, Exchange-street, Manchester, which occurred on Saturday night at his residence, The Hive, Bowden. Mr. Brooke, who was in his sixty-first year, had long enjoyed an extensive practice, not only in Manchester, but also in South-East Lancashire, Cheshire, and Derbyshire. Among the numerous buildings carried out from Mr. Brooke's designs were the residence of Mr. E. N. Galloway at Dunham Massey, Cheshire, illustrated by plan and perspective in our issue of November 8, 1889; almshouses, Welbeck, built for the Duke of Portland, and given by us, September 5, 1890; the new principal entrance-gateway and lodge at Welbeck Abbey, also carried out for his Grace, and reproduced in our pages, October 13, 1893; Congregational Church, Ashton-under-Lyne, erected at a cost of £25,000, and published by us, June 19, 1891; Stanway Manor Farmstead, near Rushbury, built for the late Mr. F. W. Webb, of Crewe, the eminent L. and N.W. Railway engineer, and shown by plan and perspective, December 18, 1891; Edinscourt House, Disley, illustrated October 13, 1893; Ollerton Grange, Knutsford, a large country residence, shown by double-page perspective and plans, November 14, 1902; and the arcade in Deansgate, Manchester, illustrated by us, January 30, 1903. He was associated with Mr. Edwin T. Hall, of Bedford-square, Bloomsbury, in carrying out the Royal Infirmary at Manchester; this institution was carried out at a cost of £400,000, from the designs of Messrs. Hall and Brooke, selected in competition, and was illustrated in our issues of April, 1, 1904; March 6, 1908; and July 9, 1909. Mr. Brooke joined the Royal Institute of British Architects as an Associate in 1881, becoming a Fellow in 1908. As president of the Manchester Society of Architects, May, 1913-14, he was a member ex-officio of the Institute Council last session, and took a warm interest in furthering the cause of Statutory Registration. The funeral service took place on Wednesday afternoon at Bowden Church.

The death occurred on Tuesday week of Mr. Edward Sharman, J.P., of Croyland Abbey, Wellingborough. Born in 1829, and educated at Leicester and Totteridge, Mr. Sharman was, early in life, articled as an architect to Mr. John Davies, who was a district surveyor in the city of London. After completing his articles and nine months' travel in Italy, Germany, and Austria, he returned to Wellingborough in 1853, and in 1854 commenced his professional career as an architect and surveyor, and founded the firm of Sharman and Archer, now carried on by Mr. J. M. Sharman, his son, and Mr. Caleb Archer, who became a partner not very long after Mr. Edward Sharman started in business. In 1856 Mr. Sharman was surveyor to the old Wellingborough Local Board of Health, and he held the office of town surveyor for forty-seven years. Amongst the public buildings in the town that he designed were the Northamptonshire Union Bank, the Capital and Counties Bank, the High-street Congregational Church, Victoria Congregational Church, Northampton-road Congregational Church, etc., with numerous mansions in the town and neighbourhood. One of the latest of his works for the town was the planning, in conjunction with his son, of the new cattle market. In 1867 Mr. Sharman acquired as a residence the property which dates back to the existence of the Abbot of Croyland—Croyland Abbey. The name is derived from the Abbot of Crowland, Lincolnshire, who established an offshoot of the monastic system at Wellingborough. The old tithe barn forming part of the temporal belongings of the Abbot of Croyland still

stands as it did in that remote period. The main structure of the abbey, purchased by Mr. Sharman, was restored and added to. In 1859 Mr. Sharman married Miss Campbell, second daughter of Mr. W. Campbell, of Tullishevan Castle, Loch Lomond, Dumbartonshire, who predeceased him some years ago. She was a cousin of the late Sir Henry Campbell-Bannerman. There are five children—Dr. Mark Sharman, of Rickmansworth; Mrs. O. A. Ellis, Leicester; Mr. Edward Sharman, Glasgow; Mr. W. Campbell Sharman, Leicester; and Mr. J. Melfut Sharman, Wellingborough. Mr. Sharman had been in failing health for some months, but it was only recently that he took to his bed. The end came about two o'clock on Tuesday week.

The death has occurred at Dene-terrace, Walbottle, of Mr. William Kirton, at the age of seventy-three. In early life Mr. Kirton was employed at the brickworks at Bell's Close, Scotswood, which were carried on by the late Mr. William Harriman and Mr. Carr. Half a century ago the late Mr. R. O. Lamb appointed Mr. Kirton manager of the brick works connected with the Walbottle Colliery, a position which Mr. Kirton held until the colliery and brickworks were closed down. Afterwards, deceased held a similar appointment at Eltringham, near Prudhoe. After nine months' sojourn there Mr. Kirton returned to Walbottle and formed a partnership with his brothers and Mr. Tarelli, of Newcastle. They restarted the colliery brickworks at Walbottle, but some years later the business was transferred. The brothers Kirton then developed the sand quarry at Sand Hills, Newburn, and also took up whinstone quarrying at Haydon Bridge. For a period Mr. Kirton was a member of the Northumberland County Council, but retired four years ago on account of failing health.

The Foundation Company of Vancouver has secured the contract for constructing a steel and concrete bridge over the Second Narrows at Vancouver, B.C., at an expenditure of 2,000,000 dollars.

A new rood-screen was dedicated in the parish church of Bradley, Staffs., on July 23 by the Ven. Archdeacon Blakeaway. It was designed by Mr. Carroll, architect, London, and executed by Messrs. Dart and Francis, Crediton, Devonshire.

The East Sussex County Council have completed arrangements for the acquisition of the land required in connection with the improvement of the Lewes-to-Newhaven road, the estimated cost of which is set down at £33,619. The road board have increased their grant to £17,619.

New works have just been completed in Cumberland-avenue, Park Royal, Willesden, for Messrs. Henry Simons and Co., fire-engine and appliance manufacturers. The builders were Messrs. Walter Jones and Sons, of Old Queen-street, Westminster, and Mr. Walter Pamphilon, L.R.I.B.A., of Finsbury-pavement, E.C., is the architect.

Mr. A. W. Brightmore, D.Sc., M.Inst.C.E., an inspector of the Local Government Board, held an inquiry at the offices of the Maidstone Rural District Council on Friday into the application of that body for power to borrow £3,000 for the erection of a new bridge at Wateringbury. The plans were explained by the engineer, Mr. R. H. Halls, of Lewes.

Mr. H. S. Bilwell, Local Government Board inspector, held an inquiry at the Town Hall, Kirton, on the 23rd ult., concerning an application by the Boston Rural District Council for sanction to borrow £8,340 for the purpose of schemes under part 3 of the Housing of the Working Classes Act, 1890, for the purchase of land and the erection of working-class dwellings in the parishes of Wrangle, Freiston, Pelham's Lands, Kirton, Frampton, Sutterton, Wigtoft, and Alzarkirk respectively.

The total quantity of Canadian Portland cement sold in 1912 was 7,132,732 barrels (1,248,228 tons), as compared with 5,692,915 barrels (996,260 tons) in 1911, an increase of 1,439,817 barrels, or over 25 per cent. The total consumption of Portland cement in 1912, including Canadian and imported cement, was 8,567,145 barrels of 350lb. net each, as compared with 6,354,831 barrels in the previous year, being an increase of 2,212,314, or nearly 35 per cent., according to statistics issued recently from the Department of Canadian Mines.

Engineering Notes.

OGDEN POINT, BRITISH COLUMBIA.—According to the engineer's statistics, the weight of granite blocks laid since the commencement of operations on the construction of the Ogden Point breakwater, B.C., amounts to 3,677 tons. In June 2,000 tons of granite were placed in position by the divers. The work is carried out by means of a powerful steam crane operated from a big scow, and all the granite being used in the breakwater construction is procured from Hardy Island. The work is so far advanced by the contractors, Sir John Jackson, Limited, of Plymouth, that operations were started in July on the concrete work forming the superstructure of the great sea-wall. The Associated Cement Company, of Bamberton, who are the contractors for the cement, have delivered 1,250 barrels on the site. Before use it is to undergo a twenty-eight-day test. The total amount of rubble dumped to the end of June is placed at 373,608 tons. The width of the base of the foundation is 200ft., tapering to a height of 72ft.

QUEBEC.—Work is progressing steadily on the construction of the new Quebec bridge at Neilsonville, Quebec, which will replace the half-built structure which suddenly collapsed in August, 1907. The firm of Messrs. M. B. and J. T. Davis have completed the construction of the granite piers, eight in number. The main piers are 90ft. below water-level and 28ft. above, making a total height of 118ft. The anchor piers are each 160ft. high, with dimensions of 75 by 30ft. at the bottom. It is expected that Messrs. Davis will complete their part of the contract by the end of this autumn. The main portion of the structure, the actual building of the bridge, is in the hands of the St. Lawrence Bridge Works Company. They are making rapid progress in arranging a special plant in the vicinity of the work. This includes an overhead crane of seventy-five tons capacity, operated by electricity, and supported on steel pillars. The approach spans to the bridge, with the exception of the sidewalks, have already been completed, while the anchor arms are at present being built. The bridge proper is of the cantilever and suspended centre-span type, the distance between the centres of the piers being 1,800ft. The suspended span is 640ft. long, which is believed to be the longest centre span in the world. The length of each of the anchor arms is 515ft., while the total length of the bridge, including approaches, will be 3,230ft. The height from high-water level to the top of the main posts is 344ft., and the clear height from the high water level to the suspended span is 150ft. The width of the bridge from centre to centre is 88ft. The centre span is to be constructed entirely of nickel steel, to conserve weight. Each of the cantilevers will be erected as an entirely separate structure, with its individual erection equipment.

A sum of £11,344 was left by Mr. Samuel Dyer, china clay merchant of Trethenal, St Austell.

The parish church of Kemington, near Ashford, East Kent, is about to be restored at an estimated cost of £600.

The Urban District Council of Bedwas and Machen have appointed their surveyor Mr. A. S. V. Taylor, as architect for the Machen housing scheme, and the clerk has been instructed to negotiate with the Heath estate for two acres of land on the Ysgubor Fawr Farm.

Mr. Edward Harold Ferrabee has been appointed as assistant surveyor for the Uttoxeter district, and his duties commenced on the 6th ult., his commencing salary being £175 per annum, rising by the increments mentioned in the resolution passed by the Staffordshire County Council on March 10 last.

An inquiry was held at Stroud on July 29 by Mr. W. O. E. Meade King, an inspector of the Local Government Board, with reference to an application by the urban district council for sanction to borrow £1,650 for additions to the swimming baths and stabling accommodation for steam roller. There was no opposition.

Building Intelligence.

DURHAM.—At the last meeting of the Durham County Council the education committee reported that they had passed estimates for the next quarter showing that £154,115 would be needed for elementary and £21,100 for higher education. They recommended that the seal of the council be affixed to contracts for building new schools at Blackhall Mill (cost £8,019) and Bishop Auckland (£1,117); for alterations and extensions at Ferryhill Station (cost £4,317), Emmaville (£1,055), Tudhoe Colliery (£1,379), East Hetton (£3,243), Spennymoor Higher Education (£4,389), and Newbottle (£2,997); and for conveyances of Newton Cap council school and site, land adjoining Newton Cap school, Barnard Castle school site, Easington-lane school site, and Station Town council school and site, and for the surrender of the Woodland school and site. They recommended the provision of new schools at Birtley (estimated cost £9,960), Newfield (£2,850), Edmondsley (£5,726), Pelton Fell (£3,960), West Pelton (£8,798), Bewicke Main (£1,500), and Witton Gilbert (£4,250). Plans for the new Bishop Auckland Grammar School were under consideration by the Board of Education. The proposal to build a new school at Edmondsley was referred back.

MANCHESTER DIOCESE. Chancellor Philip Vernon Smith held a consistory court the other day in the vestry of Manchester Cathedral. Faculties were decreed in the following, among other, cases:—St. Andrew, Oldham, a parish room on the south-east side of the church; St. Paul, Westleigh, for the erection of a new organ; St. George, Abbey Hey, to erect an oak reredos on shelf to take the place of the present curtains at the east end of the church; St. Thomas's, Bradford, to paint the apse walls, erect a carved oak reredos with panels, and insert stained glass in the windows of the apse, and to raise the church floor at the west end; St. John the Baptist, Heaton Mersey, to provide a new organ; Prestwich (St. Mary), to install electric light in the place of gas; St. Stephen, Audenshaw, to insert stained glass in the east windows; Eccles (St. Mary), to install electric light; St. Mary, Hulme, to insert stained glass in west window; St. Katharine, Blackrod, to erect and furnish a chapel on the south side of the chancel with stone screen in the arches between the new chapel and the chancel and the south aisle of the nave; St. Anne's, Lancaster, to remove side galleries on the north and south and reduce the depth from back to front of the west gallery.

NEW BRIDGE STREET, E.C.—New premises are being built for Messrs. Spicer Brothers at the south western corner of New Bridge-street, near the Embankment. Of the seven stories in height, three floors will be occupied by Messrs. Spicer, and the remaining offices, numbering 180 in all, will be let. The buildings will be equipped with four electric lifts, and a hot- and cold-water system. The flat roof will be fitted up as a roof garden. Steel and concrete alone will be used in the building, and the structure will rest on concrete piles, this being the first occasion on which the latter have been used in the City. Three sides will be faced with Donlon's Carrara. The total cost will be close upon £80,000. The architect is Mr. F. W. Troup, F.R.I.B.A., of Gray's Inn-square.

ROCHDALE. The Primitive Methodists of Jarvis-street, Rochdale, have in hand a scheme of improvements and extensions. Their existing school chapel is to be re-fronted, re-decorated, and re-furnished, and at the front there is to be an attractive tower and spire. This part of the premises will then be used exclusively for the public services. A new school is being erected at the rear of the existing building, and four new classrooms are also to be built. This work is being carried out according to plans prepared by Mr. H. Harper, architect, of Nottingham; the firm of W. H. Ashworth, of Deepdish, being the contractors. It is estimated that the expenditure will amount to about £1,400.

Stone laying ceremony was held last Saturday afternoon.—Plans for the extension of the Rochdale Technical School by the addition of rooms for the accommodation of cotton-spinning machinery have been approved by the Board of Education, and tenders will be invited shortly. The whole of the plant necessary to equip the extension has been promised, free of cost, by local firms. The extension will be carried down Church-lane from the existing premises to a point adjoining the hotel, and will involve the demolition of an old shop there. Architecturally it will be in keeping with the original building, being a free treatment of the Renaissance style. In the basement provision is being made for a heat engines laboratory; the first and second floors will be devoted to the accommodation of cotton-spinning machinery; and the top floor will be used as a plumber's shop. All the three floors are to be connected with the corridors of the existing school. Electric lighting will be installed, and the plant will be driven by separate motors. The extension will cost about £3,500. The plans have been drawn by Mr. Percy W. Hathaway, A.R.I.B.A., of the town hall, Rochdale, the borough architect.

WHITLINGHAM, NEAR NORWICH.—Recently the Sewerage Committee of the Norwich Corporation have completed six workmen's dwellings at the sewage farm at Whitlingham, built to the designs and under the supervision of the city's engineer, Mr. A. E. Collins, assisted by Mr. Lancelot H. Keay, his chief architectural assistant. Wherever possible, local materials were used in their construction. The concrete blocks were made on the spot with sand and gravel raised on the farm. The roof ridge and gable tiles and quoin bricks were obtained from Rockland. In the smaller cottages the living rooms are 14ft. 6in. by 10ft., parlour 14ft. by 11ft., one bedroom 14ft. by 11ft., one 8ft. 6in. by 10ft., one 8ft. by 7ft. 6in., scullery 6ft. 6in. by 9ft., containing bath, slop sink, water supply, and clothes boiler. There is also to each house ventilated food-pantry, coal-store, w.c., rain-water butt, and tool-shed. The ground floor rooms are 8ft. high, and the bedrooms 8ft. 6in. The yards at rear are concreted; there are complete water supplies and sewerage to each house. The end cottages are somewhat larger, having an additional bedroom 14ft. by 10ft. The walls of the dwellings are hollow, consisting of two distinct walls of concrete each 4½in. thick, with 2½in. cavity. The two walls are bonded together by iron ties; the lintels consist of tiles and reinforced concrete. The houses were built by Messrs. Podd and Fisher, Norwich.

Swansea Town Council last Friday decided to extend the borough boundaries by taking in Mumbles, Bryan, Llanamlet, Cockett, and portions of Clase and Pendery districts. This will give an added acreage of 17,964 acres, and will make the borough three times as large as at present. Its existing area is 6,195 acres. The present population of 120,000 will be increased by 29,000. The council also decided to proceed with a comprehensive drainage scheme, involving an outlay of £344,000.

The total length of sewers constructed up to the date of the Rivers Committee report, March 31, under the Manchester Corporation Act, 1911, and completed to date is 127 miles, of which 253 miles were executed by the committee staff, without the intervention of a contractor. The sewers vary in size from 2ft. to 15ft. in diameter. They are composed of red engineering bricks and shale bricks set in cement mortar. No surface clay bricks have been used.

At the meeting of the Holywell Rural District Council on Friday a communication was submitted from the Flintshire County Council enclosing a report of the county architect and medical officer on the proposal to erect an isolation hospital for the county, or such districts as are not yet provided for in this respect. Particulars were furnished of the alternative schemes, varying in cost from £17,000 to £15,000, the cost per bed varying between £450 and £550. The districts to be provided for would be Holywell, Flint, Mold, and Connah's Quay. It was decided to further consider the matter at a future meeting.

Our Illustrations.

ROYAL EXCHANGE, CALCUTTA. (SELECTED DESIGN.)

The Exchange Building at Calcutta is to be erected at the junction of Clive-street and New China Bazaar-street. Its design is severe Classic with a Corinthian colonnade between plain end pavilions. The building contains a general exchange hall, European and native bookers' exchange rooms, an arbitration room and post office, with the necessary amenities on the ground floor. On the mezzanine floor there are reading and committee rooms, restaurant and arbitration rooms, with dressing rooms and lavatory accommodation. On the first floor there is a large hall for the Calcutta Chamber of Commerce, with various committee rooms and offices. On the second floor there are offices for the Chamber of Commerce and suites to be let off with the necessary lavatory accommodation. Messrs. Stevens and Gregson and Co., of Bombay, Calcutta, Rangoon, and 32, Victoria-street, S.W., are the architects. We printed a notice of the competition in the BUILDING NEWS for May 22 last, after the award by Mr. John Begg, F.R.I.B.A., consulting architect to the Government of India, had been published.

THE DEPARTMENT OF APPLIED SCIENCE, UNIVERSITY OF SHEFFIELD.

This department is situated a quarter of a mile from the main University buildings, and is managed by a sub-committee of the University, with a separate secretary and clerical staff, subject to the general jurisdiction of the University Council. It was founded in 1884 as a department of Firth College, Sheffield. From 1890 to 1897 it became an independent technical school. It was afterwards incorporated and absorbed by the University College, now the University of Sheffield. Its special function is theoretical and practical instruction in the science underlying the staple trades of Sheffield, and special departments are devoted to the metallurgy of the steel and silver industries, mechanical, electrical, civil and mining engineering, building construction, and geology. The engineering, metallurgical, and steel plant is considered one of the most complete and efficient of its kind in the world. On the site, previous to this extension, the buildings occupied 2,834 superficial yards, and contained engine and boiler room, engineering workshops with machinery and tools, electrical laboratories, steel laboratories, furnaces, etc., building construction, workshop, and numerous lecture and class rooms. The present extension is four stories high, and the buildings occupy 1,571 superficial yards; it completes the main façade to St. George's-square, making it 330ft. in length, besides the return elevation in Portobello-street, thus enclosing three sides of the quadrangle and leaving the fourth, next Broad-lane, for still future extension. Accrington red pressed bricks are used for the exterior, with Huddersfield stone dressings. The new buildings contain, on the upper ground floor, the central entrance doorway, with inner hall and main staircase, the walls of which are lined with buff brick and enriched with Huddersfield stone columns, pilasters, cornices, etc. This floor also contains the library, a room 32ft. by 25ft., fitted from floor to ceiling with oak book cupboards, shelves, etc., also the general cloakroom and porter's office, and lecture rooms for the metallurgical department. On the first floor and opposite the main staircase is the Mappin Hall, a room 72ft. by 33ft. by 24ft. high. The walls are covered with richly-moulded oak panelling, 18ft. high, with carving judiciously introduced, and the floor is of oak boarding in narrow widths. The ceiling is of fibrous plaster with enriched mouldings, and elliptical in section. This hall is lighted by three large three-light windows, glazed with painted leaded-glass, and containing the Arms of the University, the City, and the Drapers Company of London. The remainder

of the first and the whole of the second floor contains the Mining Department; the third floor the Geological Department, and in the basement are rooms of the Metallurgical and Electrical Departments. The heating and ventilation of the laboratories is by Ibbotson's patent air-washing Plenum apparatus, the cleaned air being heated and then propelled along glazed brick-ducts and delivered 7ft. 6in. above the floor, the outlet flues being placed near the floor and ceiling. The other rooms have fresh air admitted through ventilating radiators and extracted by flues in the walls connected to ventilating turrets on the roof. Generally the heating is by low pressure hot-water pipes and radiators. The architects were Messrs. Gibbs, Flockton, and Teather, of St. James's-row, Sheffield, and the total cost of this extension was about £44,000.

BLACKBURN WESLEYAN MISSION BUILDINGS.

A site in the centre of Blackburn is to be cleared for these buildings, for which Messrs. Bradshaw, Gass, and Hope, of Bolton, were appointed architects after a limited competition, in which Sir Alfred Gelder was the assessor. The whole of the lower floor is to be used for Sunday school and institutional purposes, with a large hall on the first floor to seat 1,600 persons. Many vestries are also arranged and available for general use. The buildings are to be fire-proof throughout, and externally red brick and stone will be used. It is proposed to commence erection of the buildings at an early date, and the working drawings are now in progress. We give the two chief floor plans, also an exterior view, as well as a sketch of the great auditorium.

The Urban District Council of Romford are purchasing properties in the Market-place and South-street, in order to carry out improvement works. The cost of the properties to be acquired will be £3,300.

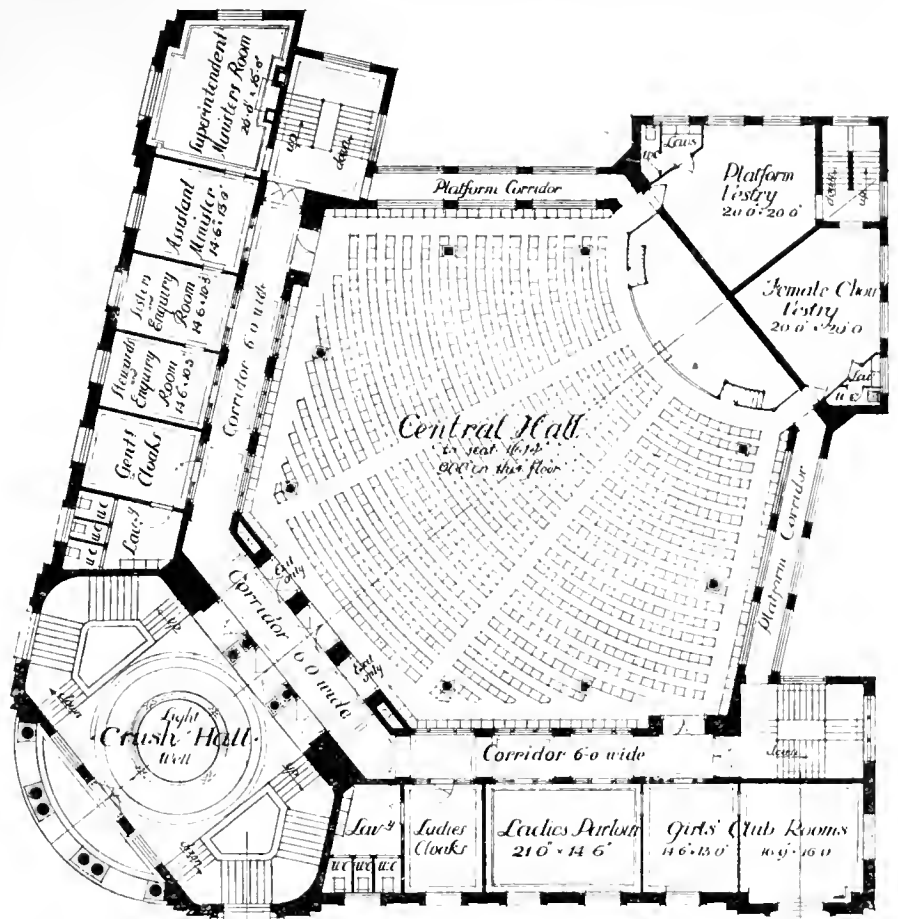
A new school, in two departments, accommodating 500 children, is about to be built in Lower-place, Oldham-road, Rochdale, from plans by Mr. P. W. Hathaway, the borough architect. It will provide two central halls and ten classrooms.

The interesting twelfth century village church of Preston, near Faversham, is about to be restored at a cost of some £1,000 from plans by Mr. W. D. Caroe, F.S.A. The nave roof will be largely rebuilt, and that over the south aisle will be entirely replaced.

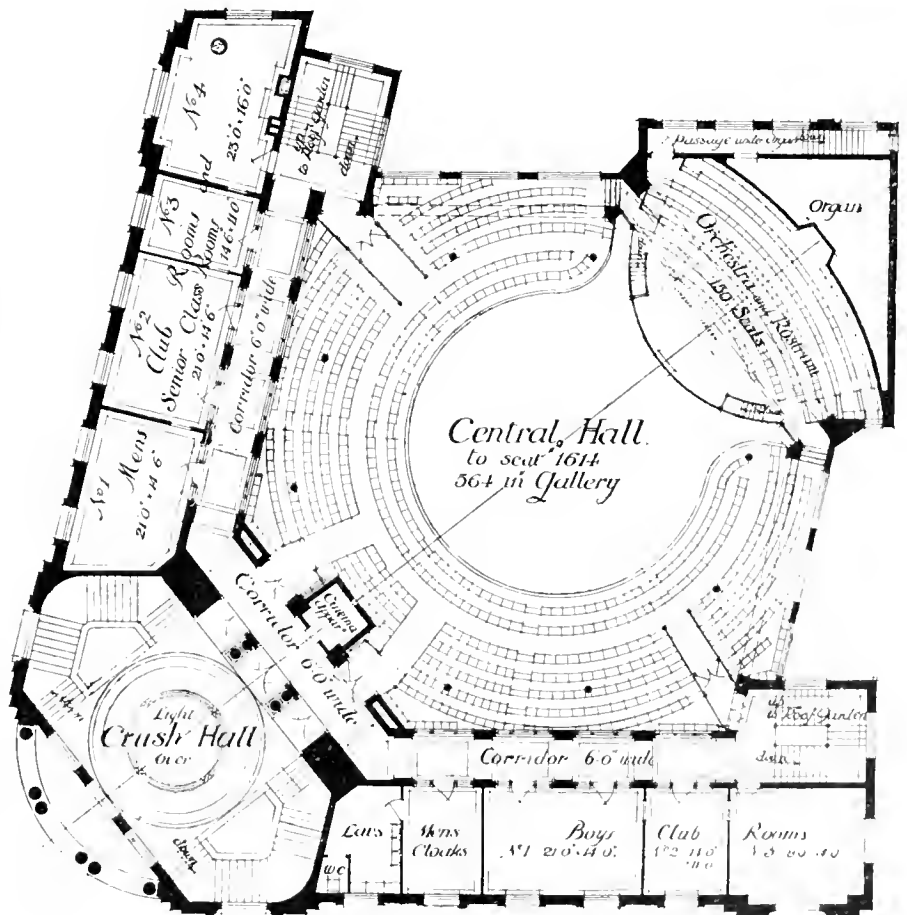
It was reported to the Looe Harbour Commissioners at their last meeting that Mr. Lewis, of the firm of Messrs. Douglass, Lewis, and Douglas, civil engineers, Westminster, had visited Looe and gone carefully into the proposed alterations to the harbour. Their plans and specifications would shortly be delivered.

The harbour at Fraserburgh, N.B., has just been extended and deepened at a cost of about £200,000. A new basin with a centre area of eleven acres has been constructed, and two piers of concrete, 282ft. and 262ft. in length respectively, thrown out. Mr. G. N. Abernethy, of Westminster, was the engineer.

The application of the Lincoln City Council to the Local Government Board for authority to prepare a town planning scheme was the subject of an inquiry by one of the board's inspectors, Mr. George L. Pepler, F.S.I., at the Guildhall, Lincoln, last week. The Town Clerk stated that the area of the city was 3,755 acres, and the population, according to the census of 1911, was 57,285. The population increased from 1891 to 1901 by 7,293, representing a percentage of 17.6, and for the following ten years the increase was 8,501, or a percentage of 17.4. It followed that undeveloped land in the city would be required for development, and it was very necessary that the corporation should exercise control over the method of the development, and that could only be accomplished by means of a town-planning scheme. Accordingly, they made application to the Local Government Board for permission to borrow the purchase money, and they had every reason to believe that their application would be acceded to. Between the selected site and Nettleham-road there was an area of something like 140 acres, now agricultural land, and the corporation had every reason to believe that their housing proposals would have the effect of opening up this land for development.

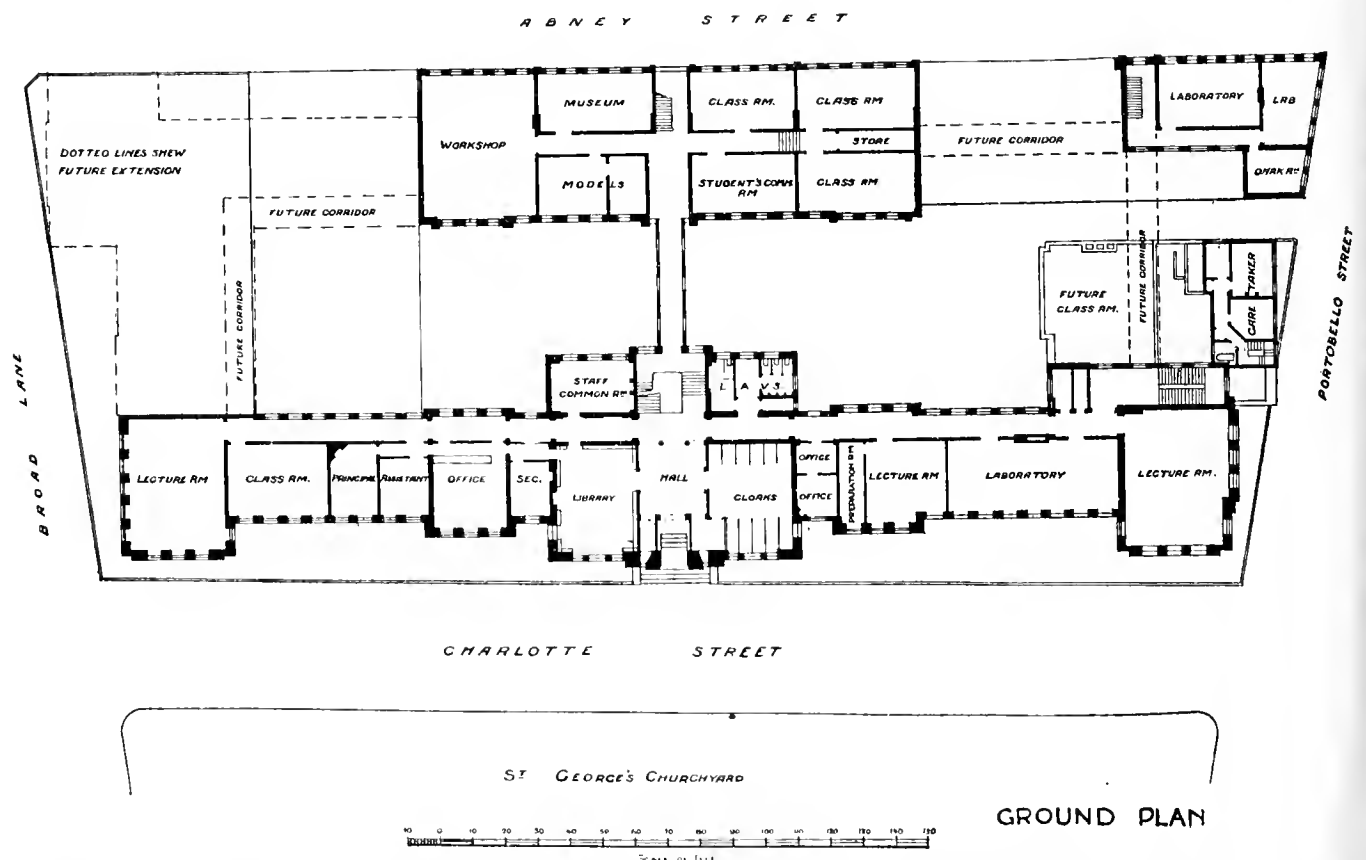
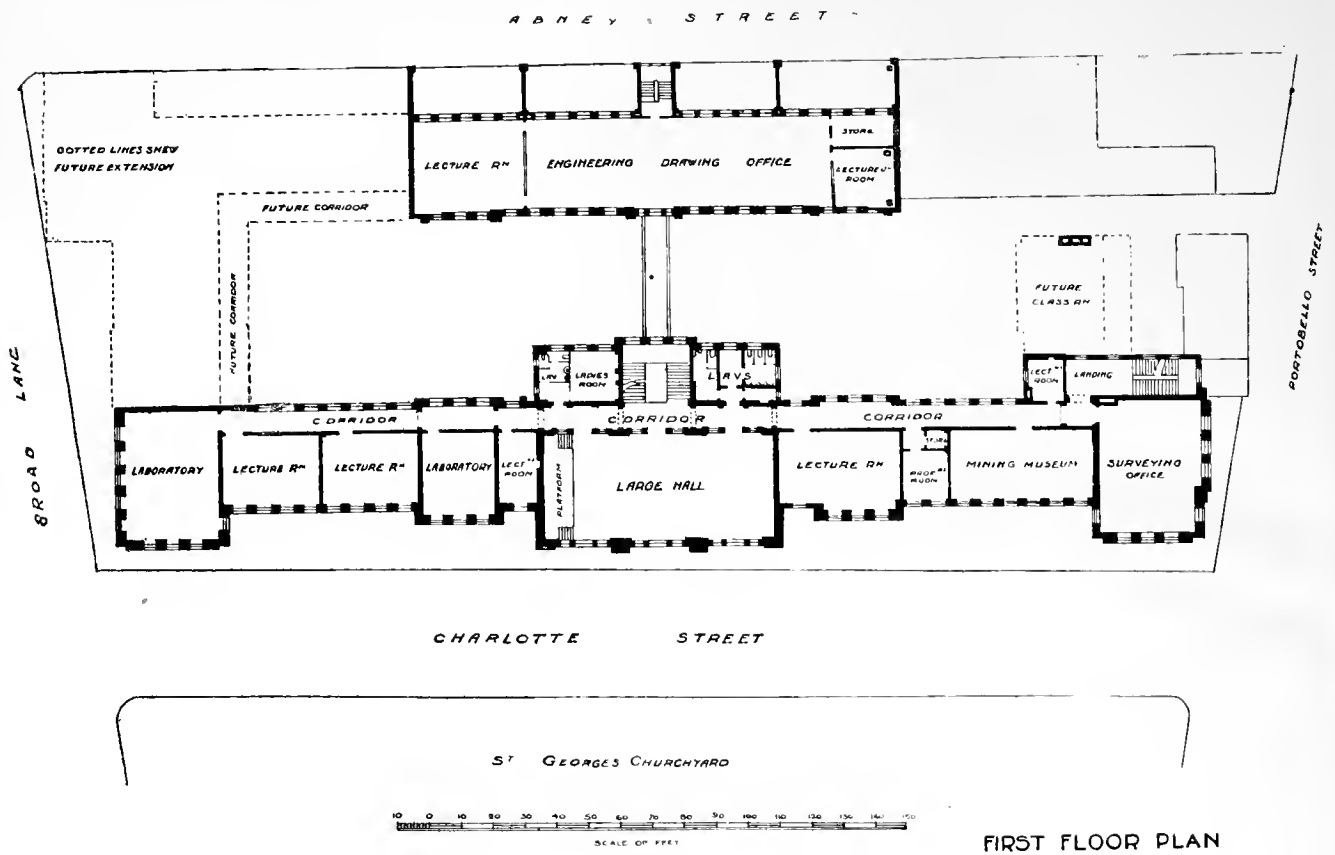


First Floor Plan.

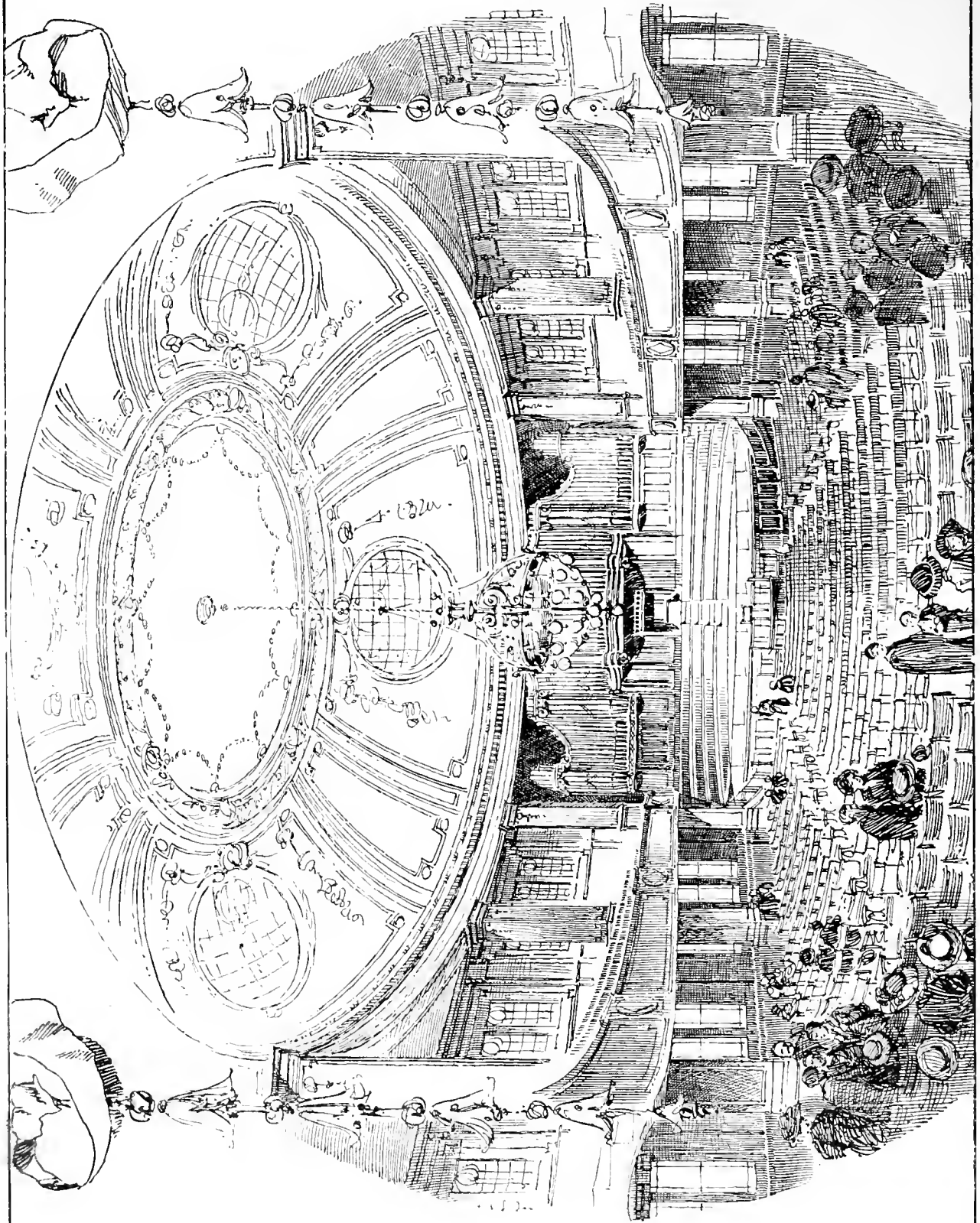


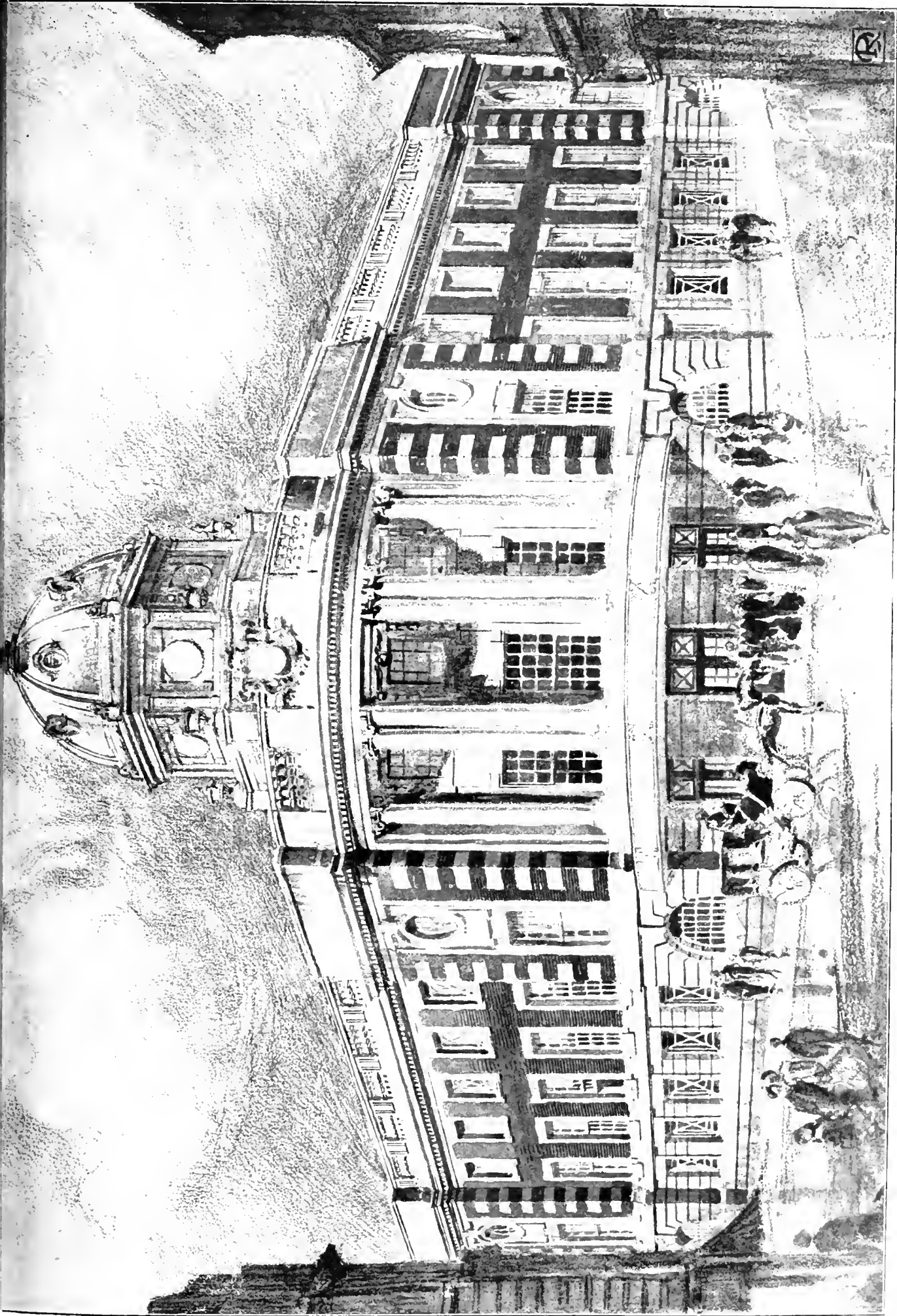
Gallery Floor Plan.

WESLEYAN CENTRAL HALL, BLACKBURN
Messrs. BRADSHAW, GASS, and HOPE, Architects.



THE BUILDING NEWS, AUGUST 7, 1914.





WESLEYAN MISSION BUILDINGS, PLACKBURN: EXTERIOR VIEW AND ASSEMBLY HALL.

Messrs. BRADSHAW, GASS, and HOPE, Architects.



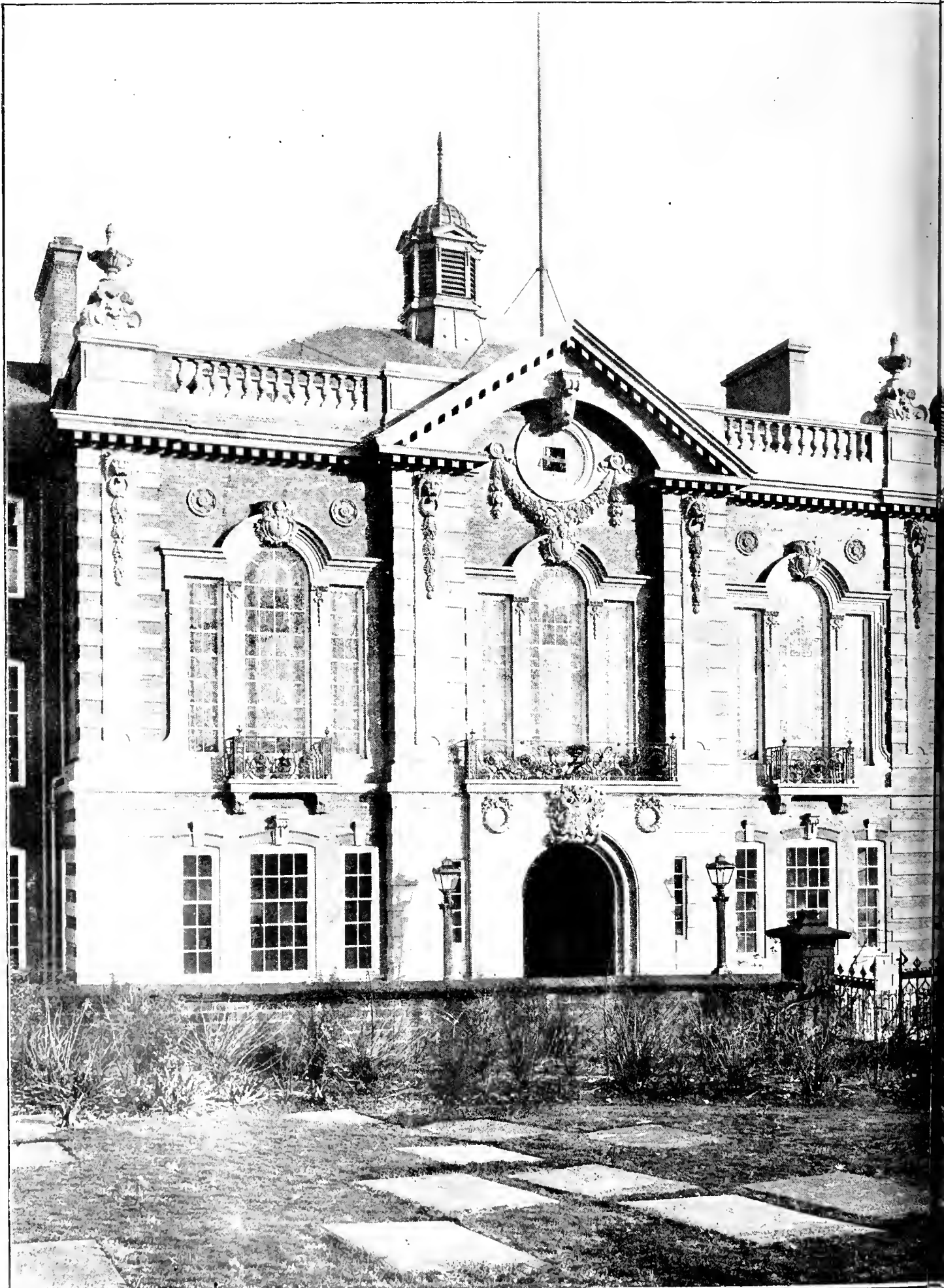


Photo. Lewis, Photo.

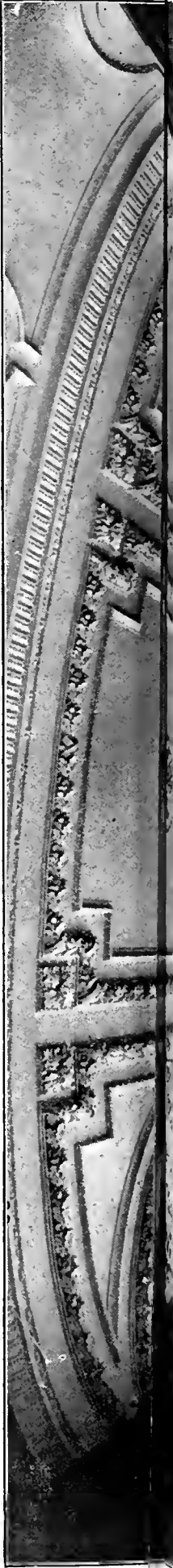
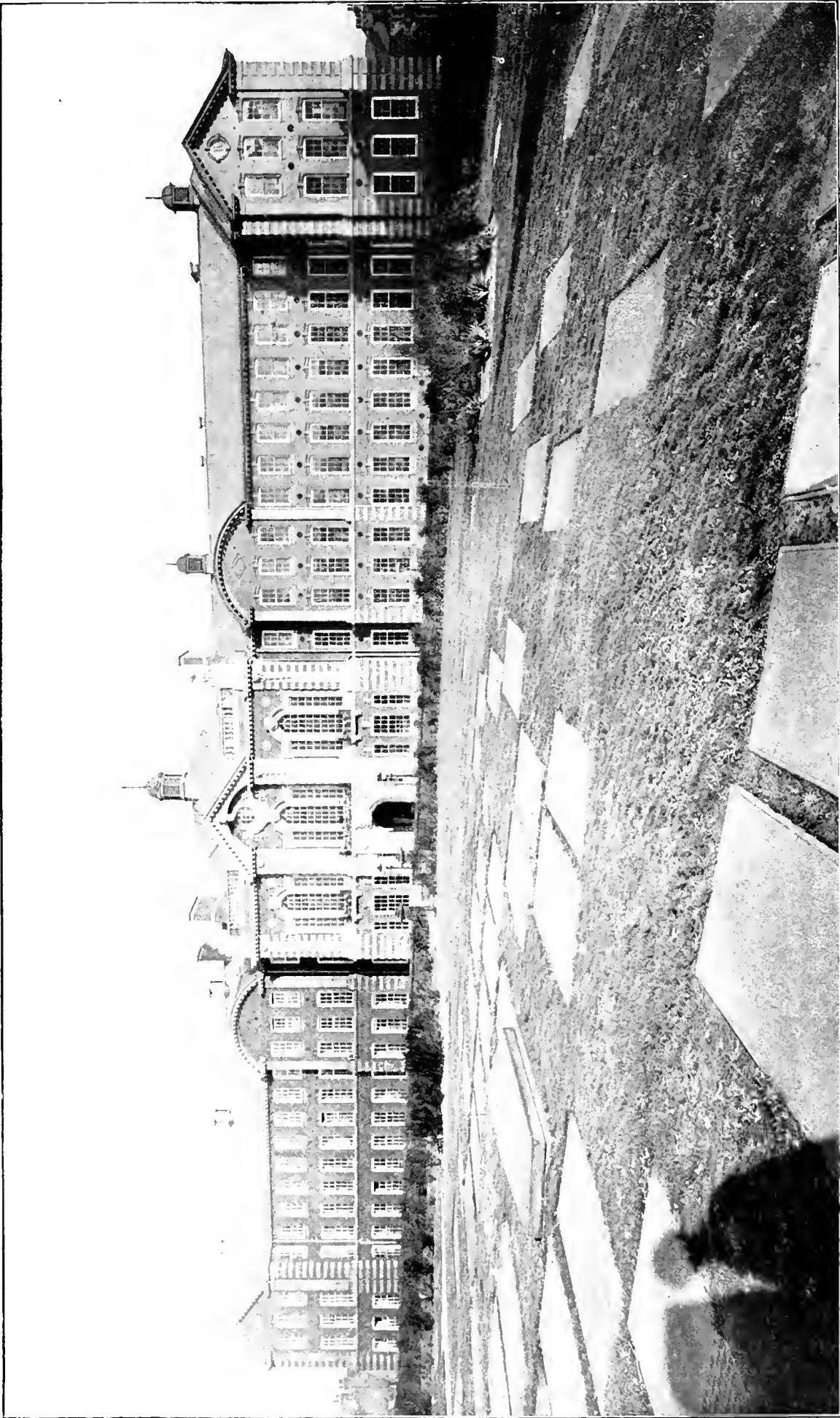
UNIVERSITY OF SHEFFIELD—APPLIED SCIENCE DEPARTMENT: CENTRAL
Messrs. GIBBS, FLOCKTON & CO.

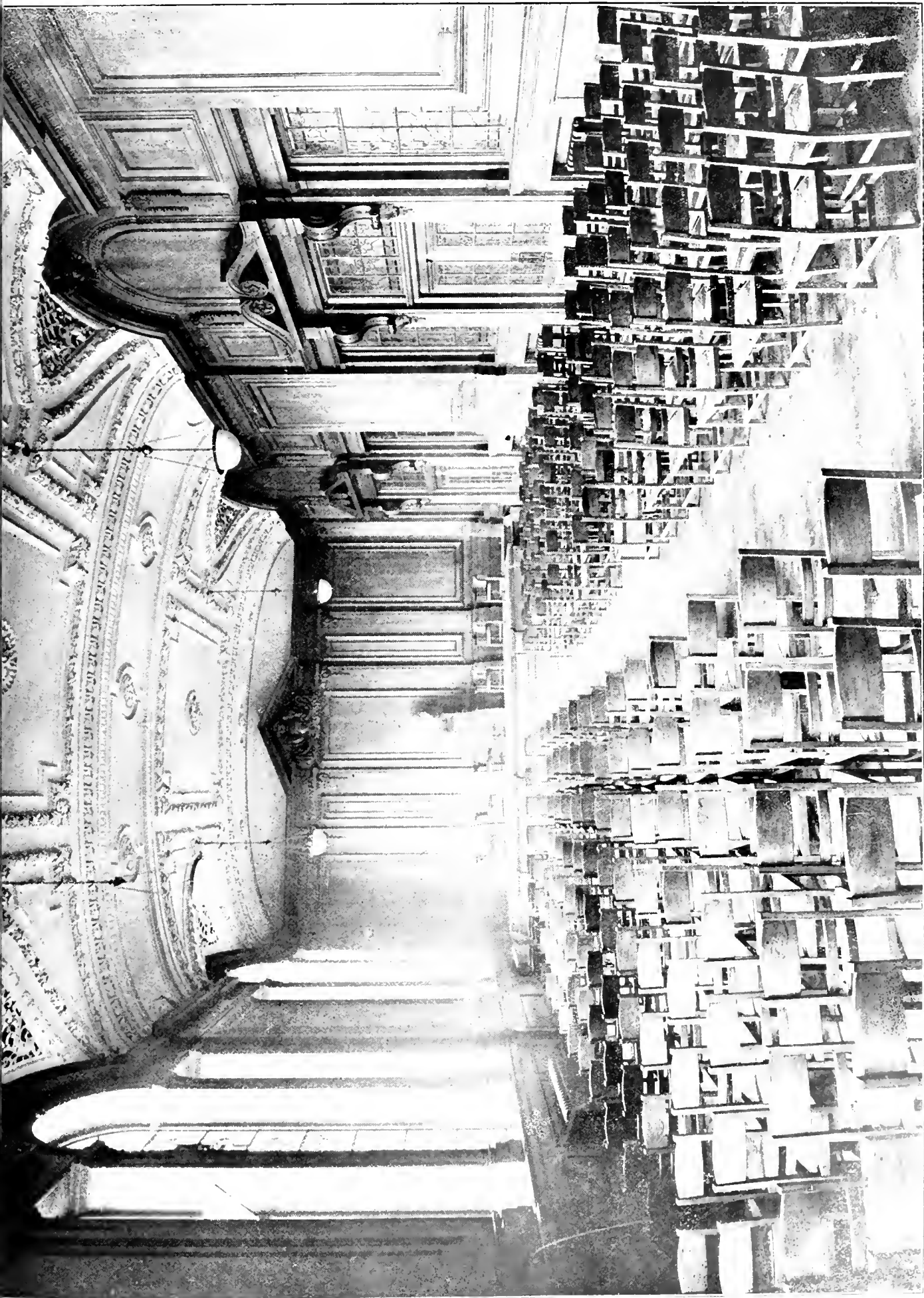
AUGUST 7, 1914



PORTION OF MAIN FRONT AND THE MAPPIN HALL PLATFORM END.
TEATHER, Architects.

THE BUILDING NEWS, AUGUST 7, 1914.



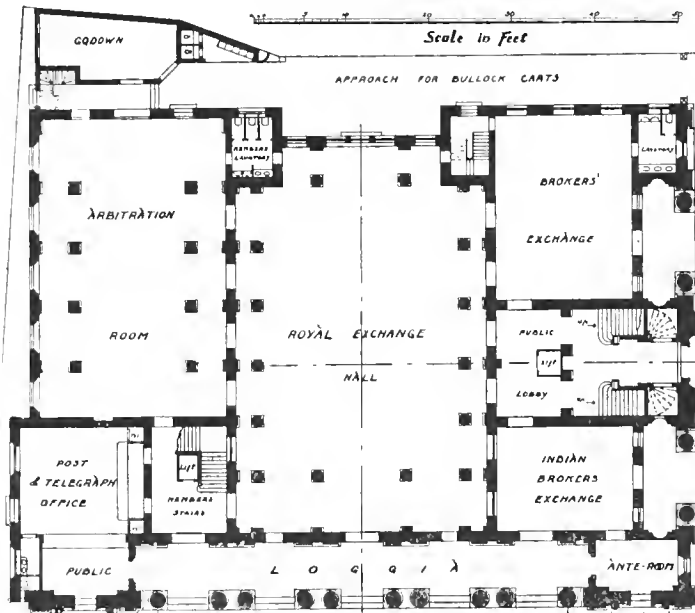


UNIVERSITY OF SHEFFIELD—APPLIED SCIENCE DEPARTMENT: THE MAPPIN HALL AND MAIN FRONT.

Messrs. GIBBS, FLOCKTON, and TEATHER, Architects.



GROVND FLOOR PLAN



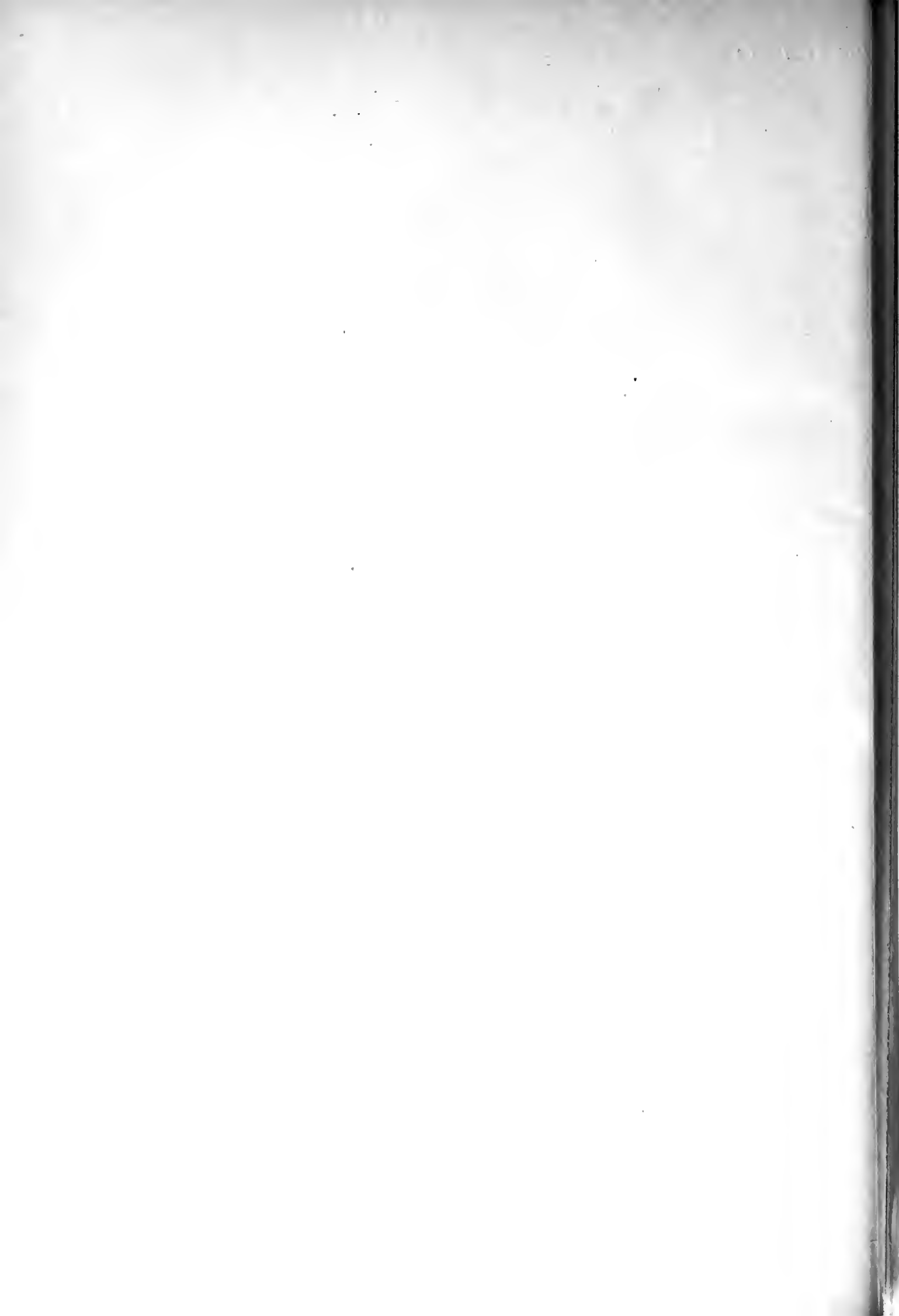
H. A. P. S. IND. 1851

SELECTED DESIGN FOR THE ROYAL EXCHANGE,

AUGUST 7, 1914.



CUTTA.—Messrs. STEVENS and GREGSON and Co., Architects.



COMPETITIONS.

"OWEN JONES" PRIZES.—The council of the Royal Society of Arts hold a sum of £400, the balance of the subscriptions to the Owen Jones Memorial Fund, presented to them by the committee of that fund in 1876, on condition that the interest thereof be spent in prizes to "students of schools of art, who, in annual competition, produce the best designs for household furniture, carpets, wall-papers, and hangings, damasks, chintzes, etc., regulated by the principles laid down by Owen Jones." The next award will be made in 1915, when six prizes are offered for competition, each prize to consist of a bound copy of "The Leading Principles in Composition of Ornament of Every Period," from the "Grammar of Ornament," by Owen Jones, and the Society's Bronze Medal. Designs submitted for these prizes must be sent in with the other works forwarded for the National Competition. No candidate who has gained one of the above prizes can again take part in the competition.

FEDERAL PARLIAMENT HOUSE, CANBERRA.—The conditions for this highly-important international competition have just been published by the Commonwealth Department of Home Affairs, and may be obtained of the Director of Design and Construction, 151, Collins-street, Melbourne, and of the High Commissioner for Australia in London. We mentioned, in our issue of the 17th ult., p. 73, that eight premiums are offered, aggregating £6,000, the first being £2,000, in addition to the usual commission on the R.I.B.A. scale. Sir J. J. Burnet, Mr. G. T. Poole, of Australia, M. Victor Laloux, of Paris, Herr Otto Wagner, of Vienna, and Mr. Louis H. Sullivan, of Chicago, are the jury of architects. Only tentative sketch outline designs are to be submitted, and alternative designs are prohibited. The drawings must be executed with pencil or pen, without wash or colours, and to be cloth-mounted or stretched. Only six sets of drawings must be submitted, of which five—plan of each floor of Parliament House, longitudinal section, transverse section, and three elevations, and perspective from division of terrace east of the reservoir—are to be to a scale of 1-16in. per foot; the sixth is to be a detail of one architectural feature of the building—selection optional. A brief description in print, or typewritten, unsigned, must accompany the drawings, including a statement of the total value of the ultimate building in tens of cubic feet. The designs are to be submitted anonymously, with accompanying sealed packet giving name and address of author or authors, and delivered to the Federal Capital Director of Design and Construction, Melbourne, Australia, or to the High Commissioner of Australia in London, on or before March 31, 1915. The designs will be exhibited free to the public after the adjudication. The winning design will become the property of the Government, and all other designs will be returned, freight paid, to the competitors. The Government will employ the competitor placed first by the jury as architect for the initial portion of the building, and so far as the subsequent stages of the ultimate building are concerned, it is the intention of the Government similarly to employ him. Should the architect be required to give personal supervision to the building, his remuneration will be in accordance with the R.I.B.A. schedule of charges as at the date of the first publication of the programme, and otherwise he will be paid at the rate of 3 per cent. on the actual outlay. The site is a virgin one, under unified control, and it is desired that "the standard of design be the expression of actual proportions through practical organic planning . . . avoiding the intrusion of irrelevant features on the one hand, or individual on the other, and thorough recognition of the peculiar site conditions." The ultimate cost of the Parliament House is to be within £1,000,000, and that of the initial or necessary portion must not exceed £250,000. Two views of the absolutely unoccupied site of Canberra, from paintings by W. Lister Lister and Penleigh Bond, a general block plan, and elevations and

sections of the site, and of the group, and a preliminary perspective and coloured plan of the extended city, form useful adjuncts to the pamphlet of conditions.

PROFESSIONAL AND TRADE SOCIETIES.

MANCHESTER UNIVERSITY.—Faculty of Technology.—The prospectus of courses in the Municipal School of Technology for the session 1914-15 has reached us. In the section devoted to architecture and building construction, Mr. Archibald C. Dickie, M.A. (Manchester), A.R.I.B.A., is professor of architecture in the University, and in the School of Technology; Mr. W. Leicester, M.S.A., is lecturer in building construction in the University and in the School of Technology; and Mr. J. Lindsay Grant is demonstrator in architectural drawing and design in the University. Candidates are required to present certificates of having attended approved courses in building construction (4), building surveying (6), history of architecture (2), drawing (9), sanitary engineering (1), and architectural design (18). The examination will consist of two parts, of which Part I. may be taken at the end of the second year and Part II. at the end of the third year, or both parts may be taken together at the end of the third year. Part I. includes four papers in:—1, general history of architecture; 2, architecture (special); 3, building construction; 4, sanitation. Part II. consists of three papers in:—5, History of art; 6, architectural history (special); 7, advanced building construction; together with a thesis (design with memoir) and survey of a building with memoir. Students, who have completed the intermediate course for the Honours School in Architecture in the Faculty of Arts, are allowed to proceed to the degree of B.Sc.Tech. in architecture, provided that they pass the intermediate examination in the science subject of the intermediate (which they have not already taken), that is to say, in physics, inorganic chemistry, or mathematics, as the case may be.

NORTHERN ARCHITECTURAL ASSOCIATION.—The annual excursion of the Northern Architectural Association took place on the 29th ult., the members leaving Newcastle for Carlisle, where a series of visits had been arranged. Among those travelling were Mr. R. Burns Dick, the president; Mr. C. S. Errington, vice-president; Mr. J. Bruce, hon. librarian; Mr. H. L. Hicks, hon. secretary; Mr. G. T. Brown, Mr. E. E. Dotchin, Mr. M. G. Martinson, Mr. A. B. Plummer, and Mr. A. K. Tasker, members of council; Mr. J. Hall, hon. local secretary for Sunderland; Mr. J. W. Dyson, and Mr. T. J. Peters. The visits were to Rose Castle and the Cathedral and Castle at Carlisle. The Cumberland architects had been invited to take part in the proceedings. In connection with the visit, an invitation was given to the Cumberland district to join the Northern Architectural Association. It was explained that recently, as an allied society of the Royal Institute of British Architects, the association had had its boundaries extended so as to embrace the Cumberland district. What was wanted was a real extension of their domains, and until the Carlisle men co-operated, the association could hardly be said to be fulfilling its functions. The arrangements for the visit at Carlisle were carried out by Mr. Oliver, architect.

R.I.B.A. PROBLEMS IN DESIGN.—The designs submitted under Subject XV. will be on view in the rooms of the R.I.B.A. on August 10, 11, and 12, inclusive, between the hours of 10 a.m. and 6 p.m.

Mr. E. S. Rider has been elected Master of the Joiners' Company, and Mr. F. L. Wiginton and Mr. J. R. Bedford wardens.

The salary of Mr. Edwards, water engineer to the corporation of Leicester, has been increased by £150 per annum.

The Departmental Committee on Smoke Abatement have adjourned sine die. Due notice will be given of the date when the committee resume their meetings.

Correspondence.

TIMBER PRICES.

To the Editor of the BUILDING NEWS.

SIR,—In your "Answers to Correspondents" in a recent issue I notice that one of your readers has taken exception to the price quoted for joiners' deals, and you replied that you were unable to find any error in the prices, after comparison with current sales, as reported in the principal timber trades journal.

I personally noticed these extremely low prices, and feel that a little explanation should be given, so that architects are not misled in basing their estimates upon wrong prices.

I can quite understand that anyone perusing the trade journals, and noticing the prices there, might think these were the current prices that the builder paid; but in my experience of between two and three thousand builders, I only know of one provincial builder who buys at the London sales, the report of which these timber trade journals' prices are.

It is a fact that few builders have cash to place down for timber stocks, nor have they the time to spend in journeying up to London on the off-chance of buying a job lot of deals, because it means going on to the docks to see them on the day preceding the sale, and then attending the sale to buy, and if the prices went high, then the builder would have his two days' time and expenses thrown away, so that you can see that it would not do for builders to buy at the London sales.

There is another point to consider in these prices, and that is that these sales are intended for the merchant, and I think I am right in saying that builders are not knowingly supplied. The reason that the prices there named are so very much below the merchant's prices are: (1) Because there are sometimes heavy lighterage charges, and always cartage and railway expenses, before the merchant or builder can stock the timber in his yard. (2) If the goods are left at the dock until required, there are very heavy dock dues and rents. In the latter connection, I may say that twelve years ago, when I bought my business, in taking over the stock, there was a matter of 1,000 bundles of ceiling laths omitted from the stock list. Probably two years after, the dock company wrote and said that these laths were lying there, and the rent had nearly eaten up the cost of them. In fact, that was so, because we sold the laths to pay the rent, and the widow of my predecessor did not receive a penny for the laths, so that you can quite understand that the expenses at the London docks are very heavy indeed. Allowance must, therefore, be made for not only a merchant's expenses as detailed above, but for merchants' profit and builders' profit.—I am, etc.,

J. H. KERNER GREENWOOD.

King's Lynn.

THE METROPOLITAN WATER BOARD AND TERRITORIAL AND OTHER RESERVE FORCES.

SIR,—I have the pleasure to inform you that the board, at a special meeting held to-day, passed the following resolution:

"That any officer or servant of the board who, as a member of the Territorial or other Reserve (Naval or Military) Forces of the Crown, may be affected by the mobilisation or embodiment consequent on the present European crisis, be allowed leave of absence during his naval or military service; that he be reinstated on his return with no loss of position or emoluments consequent on his enforced absence; that the board pay him or such other person or persons as he may appoint) during such period such sums, as with the pay he receives from the Government, will make up his full salary or wages; and further, that the respective committees be authorised to make such temporary arrangements as may be necessary for carry-

ing on the work of such officers and servants in their absence."—I am, yours faithfully,

A. B. PILLING, Clerk of the Board.

"Metropolitan Water Board (Clerk's Department), Savoy Court, Strand, W.C.
"August 4, 1914."

SCOTTISH BUILDERS AND MEASUREMENTS OF CARPENTERS' AND JOINERS' WORK.

SIR.—In view of the deadlock which has recently arisen through the attempt on the part of the Western District Wrights' Section of the Scottish National Building Trades Federation to impose, throughout the West of Scotland, a new Mode of Measurement of Wright Work, which has not been approved by this Institute, or by any of the other parties concerned, excepting the Federation, my Council has instructed me to prepare, for the information of the members, the following résumé of the course of events which has led up to the present unsatisfactory state of affairs.

When the Scottish National Building Trades Federation was recently instituted, the Council of this Institute was prepared to welcome the establishment of a central representative body of contractors with which the architectural societies could co-operate for the discussion and adjustment not only of conditions of contract and modes of measurement, but, generally, of all matters connected with the various building trades; and as it was understood that the general feeling of the Federation was that all such questions should be dealt with on a distinctly national basis, the Council was further encouraged to support the Federation in the accomplishment of its aims. Negotiations were accordingly entered into between the Federation, the Faculty of Surveyors, and the various architectural societies for the preparation of new conditions of contract, and friendly relations were soon established. At the various meetings which took place satisfactory progress was made in adjusting these conditions, of which a draft had been prepared by the Federation for discussion; but of late this progress has not continued.

An endeavour was also made to open negotiations with a view to the formulation of uniform modes of measurement, and a conference was held in Edinburgh on February 6 last, at which, however, no representative of the Institute could be present. From a report of the conference communicated by the secretary of the Federation, the Institute learned that the meeting was unanimous in the desire that such uniform modes should be adopted, but that there was some difficulty in arranging as to the mode of procedure. The members of the Federation suggested that the mode of procedure should be by way of joint considerations in conference between the representatives of the architects, the surveyors, and the Federation, and that a conference should be instituted of four representatives of the faculty and the Federation, and one representative architect from Edinburgh, Glasgow, Aberdeen, Dundee, and Perth.

This proposal was quite acceptable to the Institute, but the proposed conference, so far as I am aware, never met, owing, it is understood, to the position taken up by the Faculty, which claimed to reserve to itself the right of preparing modes of measurement. In any case, nothing further was heard of any movement on the part of the Federation relative to the preparation of new modes for any of the trades until April 15, when the Secretary of the Federation issued a circular to the members of the profession informing them that, at a large and representative meeting of the Western District Wrights' Section of the Federation, held within the City Hall, Glasgow, on the 2nd inst., the following resolution was unanimously agreed to, viz.: "That this meeting of master wrights of Glasgow and the West of Scotland (and forming the Western District Wrights' Section of the Scottish National Building Trades Federation) resolve that on and after July 1, 1914, the

regulations for the measurement of wright work known as the 'Glasgow Mode of Measurement, 1894,' shall no longer be in force or recognised by them, and thereafter they shall only contract under schedules prepared in terms of the conditions of contract and in accordance with the mode of measurement known as the 'Scottish Mode of Measurement, 1914,' as adopted and approved of by the Scottish National Building Trades Federation—the schedules being endorsed 'Scottish Mode of Measurement, 1914.'"

This circular was brought up for consideration at the first meeting of the Practice Committee of the Institute, held on April 22, and it was agreed that, before deciding on any action, to ascertain from the Faculty the attitude they were prepared to take up. In response to this inquiry, a deputation from the Faculty was received by the committee at a meeting held specially for that purpose on May 1, when it was found that the Faculty had done nothing towards the preparation of a new mode of measurement of wright work, and that they were of opinion that no progress would be made until the question of the supply of scaffolding planks had been officially disposed of. The committee declined to admit this as a valid excuse for delay, and in order, however, to clear the way for progress undertaken, on behalf of the Institute, to adjust the matter at once with the various trades concerned, the deputation at the same time undertaking on behalf of the faculty to proceed with the preparation of a new mode immediately the question had been settled.

Meetings with the representatives of the various trades were thereafter held, with the result that all the trades except the plasterers agreed to accept the recommendation of the Institute that each should supply their own scaffolding planks. These negotiations naturally required some time, and it was only at a meeting of the Practice Committee held on June 11, that the representatives appointed to deal with the matter could report that the question had been finally disposed of. It should here be added that the plasterers, at a later date, agreed to fall into line with the other contractors. While these negotiations were in progress, the convenor of the Practice Committee had, on June 4, written to the Secretary of the Federation informing him of the position, and asking that the Federation should consider the postponement of the new mode until a mode had been prepared which might be acceptable to all parties concerned, and a reply, dated the 8th ultimo, had been received, in which the Federation simply reaffirmed the position it had taken up.

Notwithstanding the unaccommodating nature of this reply, the committee resolved to again approach the Federation with a view to some settlement being arrived at, and representatives were appointed to meet representatives of the Edinburgh Architectural Association and the Faculty of Surveyors. These representatives accordingly met on the 15th ultimo, and a joint letter was addressed to the Federation, again requesting that the new mode should be postponed meantime, and that a small committee should be appointed to meet a similar committee of the architects and surveyors. To this joint letter the Secretary of the Federation replied on the 29th ultimo "that, while the Federation cannot for a moment consider the question of withdrawing the resolution referred to, they are prepared to appoint a small committee to meet authorised representatives of the architectural societies and the faculty of surveyors," adding, "meantime, it must be understood that the mode of measurement issued by the Federation shall stand until any amendments that may be found necessary are adopted."

The Practice Committee met on the 1st inst. to consider this reply, and after a full discussion on the whole situation, it was unanimously agreed that no good purpose would be served by continuing negotiations with a body which met all attempts at conciliation by the Institute in such an ungenerous and inconsiderate spirit as had been displayed in the present instance, and it was

decided to recommend the Institute to again affirm its position with regard to the preparation of new Modes of Measurement—viz., that all such modes must, before being put into force, be discussed, adjusted, and approved by the architects, the surveyors, and the contractors; to decline, therefore, to recognise the new Modes for Measurement prepared by the Federation, and to advise the members, the Federation, and all others concerned accordingly.

A special meeting of the members of the Institute was held on the 8th inst., and after the position had been explained and discussed, it was unanimously decided to adopt the recommendation of the Practice Committee as the only course open to the Institute under the circumstances. It was resolved, however, as a last effort towards an amicable solution of the difficulty, to ask the Federation to confer with representatives of the Institute in order that the situation might be further discussed.

The Federation acceded to this request, and the Institute representatives, together with the representatives of the Edinburgh Architectural Association, met the Federation in a conference in Edinburgh on the 13th inst. No practicable basis of agreement could, however, be discovered, as the Federation would agree to nothing short of an immediate acceptance of their Mode of Measurement. At the conclusion of the conference the Institute representatives submitted a proposal that, if the Federation would agree to a postponement of their Mode for three months, the Institute would undertake to have the details of a new mode adjusted with all the parties interested within that period; but as the Federation refused to entertain this proposal, the conference, after sitting for three hours, terminated without having discovered any grounds upon which an agreement could be arrived at.

The result of the conference was reported by the Institute representatives to a meeting of the Practice Committee held on the 15th inst., and it was then decided to inform the Federation that, in consequence of their action on this question, the Institute felt that no good purpose would be served by continuing the connection, and to intimate that, unless and until a more reasonable attitude and a more accommodating disposition was displayed on the part of the Federation, the Institute must decline to proceed further in the negotiations they have entered into, not only with regard to the new Mode of Measurement, but also with regard to the new Conditions of Contract.

From the foregoing statement my Council trusts the members will recognise that no efforts have been spared on the part of the Institute to bring about an amicable settlement of the difficulty; but it regrets that, so far, its efforts in that direction have proved unavailing. Had the parties most intimately concerned in the drawing up of a new Mode of Measurement—viz., the Faculty and the Federation found it possible to approach the negotiations in a broader spirit of mutual respect and consideration, my Council can see no reason why a settlement satisfactory to all parties concerned should not have been arrived at; and, as they are firmly convinced that a lasting settlement can only be attained on the basis of an agreed settlement, they feel that the only course open to the Institute is to continue their efforts until such a settlement has been reached.

Meantime I am instructed to advise the members that the Council expects them, individually and collectively, to do their utmost to uphold the position the Institute has taken up, and to refrain from using the Scottish Mode of Measurement, 1914, for Carpenter and Joiner Work, as issued by the Federation.

In name, and on behalf of the Council,

C. J. MACLEAN, Secretary.
Glasgow Institute of Architects, 115, St. Vincent-street, Glasgow.
July 31, 1914.

It is proposed to acquire Highbury, his Birmingham residence, as a permanent national memorial to Mr. Chamberlain

LEGAL INTELLIGENCE.

MINERALS AND SITE VALUE.—FORAN v. THE ATTORNEY-GENERAL.—A question arising on Form IV, under the Finance Act, 1910, with reference to minerals site value, and increment duty, was discussed before Mr. Justice Warrington in the Chancery Division on July 30, on an action by Canon William Francis Foran and Mr. Herbert Scott Cartwright, trustees of a settlement comprising a property called Appleton Farm, near Dover, against the Attorney-General as representing the Inland Revenue. Plaintiffs asked to have it declared that the notice and Form IV, served on the trustees in 1910 were unauthorised and void, and that they were not bound by the return they made and the provisional valuation which the Commissioners made on the footing of that return. Mr. Cave, K.C., M.P., for the plaintiffs, said a return was made of the property, but not of the minerals, and the valuation on that footing was put at £3,400 as at April, 1909. The property was sold in December, 1910, at £5,500, and if the plaintiffs were denied a separate valuation of the minerals, the difference between those two figures would be treated as wholly increment in the space of a year and eight months, and duty would have to be paid. It was a frightful hardship, said counsel, and his lordship would have to determine whether it was law. The Solicitor-General contended that the return in question was the return contemplated by the section of the Act, and that the capital value of the minerals was finally settled as nil by the operation of the Statute. His lordship said the only question was the construction of the Statute and the effect of what had been done on either side. The actual difficulties and the hardship or otherwise on the plaintiffs were irrelevant. The answer to the plaintiffs' case seemed to him to be that they had been invited to make their return in reference to the land, including the minerals, and they made their return, and there was nothing in the Act to require a separate return as to minerals where, as here, the owners of the land were the proprietors of the minerals. It was said that the proprietor could not make an estimate of the capital value because of the deductions that had to be made, but his lordship saw no difficulty in the proprietors arriving at the sum which they thought should be allowed for deductions, and thus arriving at the capital value. Moreover, it any difficulty existed it was caused by the Act itself and not by the Form. On the whole he thought he ought not to make the declaration asked for, and the plaintiffs' action must be dismissed. The Solicitor-General did not ask for costs.

A new church is to be built at Greencastle, near Kilkool, Co. Down, and extensions to the Parochial House, Kilkool, are also to be carried out. Messrs. E. and J. Byrne, 4, Waring-street, Belfast, are the architects. Applications for quantities should be made to Mr. S. W. Hunter, Scottish Provident buildings, Belfast.

Replying to the toast of the society, the president, at the summer meeting at Leeds last week of the Royal English Arboreal Society, took the opportunity of condemning the high rates charged by railway companies for conveying English timber. "Is it not scandalous," he asked, "that we cannot transport our own timber, produced in this country, at as low a rate as the imported timber? These charges are one of the consequences of our railway companies all being private companies."

At a meeting of the Hull Corporation Works-Committee last week, a letter was read from the city engineer intimating his resignation. In his letter, Mr. A. E. White stated that he had served the corporation for thirty-six years, and during twenty-eight of these years he had been the chief of the department. He felt that the time had arrived when he should seek rest. The chairman moved that the resignation be accepted with regret, and the motion was carried.

The outstanding feature of the last meeting of the Leominster Board of Guardians was the reading of the tenders for the alterations to the casual wards to meet the requirements of the Local Government Board, the plans having been prepared by Messrs. Groom and Bettington, of Hereford. The amounts quoted ranged from £839 to £665, the chairman remarking that he and the vice-chairman had had considerable experience in regard to tenders on the Roads and Bridges Committee, but never had he known such a difference between the highest and lowest tender. Consideration of the tenders, which we give elsewhere, was adjourned for the architect to report on them.

PARLIAMENTARY NOTES.

HOUSING BILL.—This measure was considered in Committee of the House of Commons on Wednesday.—Mr. Macnamara stated that there was a feeling that they might pass Clauses 2, 3, and 4 of the measure, the immediate application of which was to provide for the housing of Government employés at Rosyth, Cromarty, and possibly other places. He hoped that course would be agreed to. In the present circumstances he would be prepared to go on with those clauses, making certain amendments, one of which would take out the provision of such money as was required for Clause 1. He trusted that the Bill would then be passed as a self-contained measure for the purpose of housing these Government employés. In the case of Rosyth the need for such housing would soon become urgent. Amendments consequent on the dropping of Clause 1 were then agreed to, including one limiting the expenditure under the Act to £2,000,000. Some further Government amendments having been agreed to, the Bill was reported to the House and read a third time.

THE MALL IMPROVEMENT. The Committee of the House of Lords presided over by Lord Haversham met on Tuesday to consider the Bill which has already passed the House of Commons to authorise the carrying out of the Mall Approach improvement in Charing Cross, in connection with the Admiralty Arch. Mr. Balfour Browne, K.C., representing the Phoenix Assurance Company, stated that although his clients still held the view that the proposal to take away part of their property and hand it over to the Liverpool, London, and Globe Company, was hardly a just and equitable arrangement, at the present juncture he would not ask the Committee to decide this question as between the two insurance companies. He had the authority of Lord George Hamilton, chairman of the Phoenix Company, to say that, in the circumstances, that company considered it more patriotic not to persist in their opposition. Lord George Hamilton having given formal evidence of the withdrawal of opposition, the Bill was reported for third reading. The latter stage was passed on Wednesday, and the measure now only awaits the Royal Assent.

At Howgrave, Yorks, last Friday, the foundation stone of the new Wesleyan Chapel was laid. The design, which is Gothic, has been prepared by Mr. T. Stokes, architect, of Thirsk, under whose direction and supervision the work will be carried out. There will be accommodation for about 100 people. The total cost will be about £600.

The new church room in connection with St. Andrew's Church, Pilmore, was opened on Tuesday week. It is of bricks, and has a seating capacity of about 100. The work of erecting the structure was undertaken by Messrs. Geo. Richardson and John Scafe, and the rôle of architect was taken by the curate of the parish, the Rev. Herbert Richards.

The foundation stone of a new church at Knebworth was laid last Friday week. Only a section of the building is being proceeded with at the present moment sufficient to accommodate a congregation of 350 people. When completed the church will accommodate 700. The cost of the present section of the church is £4,000. Mr. E. L. Luyens, A.R.A., brother-in-law of Lord Lytton, is the architect, and Mr. W. Darby, of Knebworth, the builder.

At the last meeting of the Staffordshire Education Committee on Saturday, it was reported that the plans of the proposed Staffordshire farm institute were considered by the works sub-committee at its meeting on July 4. The works sub-committee wrote of opinion that the hostel should be erected in proximity to the farm buildings, as shown on the plan. An estimated amount of £23,000, exclusive of the cost of fuel, was agreed upon, and the following apportionment was provisionally accepted: namely farm, £10,600; school, £12,361.

The Belfast Board of Guardians has considered a report, through Messrs. Young and MacKenzie, the Board's architects, from Messrs. John Woolfson and Co., electrical engineers. The report dealt with the offer of the Selas Lighting Co., and gave details of a scheme for heating and lighting the whole of the workhouse premises for a capital sum of £22,308. The present annual cost, details of which were given, is £6,889 3s. 7d., and the maintenance charges under the scheme would amount to £4,552 annually, exclusive of the sum required for the repayment of the loan for the work. The matter was referred to the works committee for consideration.

Our Office Table.

The Crystal Palace became the property of the nation yesterday, when the transfer was completed between the present trustees and the trustees representing the British people. The first meeting of the new trustees took place immediately after the transfer. Fifteen thousand pounds is the annual revenue that Sir David Burnett requires to pay expenses. The removal of the structure, which will be immediately taken in hand, is expected to occupy eight years and entail an annual expenditure of £5,000, in addition to the sum required for administration. Every endeavour is to be made to regain for the palace the popularity that it once enjoyed. On the educational side an effort will be made to widen the scope of the Crystal Palace School of Art, Science, and Literature, and to secure that prominence for the Crystal Palace School of Engineering that the institution so rightly deserves. It is not generally realised that the several levels in the giant south tower are occupied by the workshops and drawing offices of one of the most practical schools of its kind in the kingdom.

Tattershall Castle, Lincolnshire, will be opened to-morrow, August 8. It will be remembered that in the autumn of 1911 Lord Curzon purchased the castle, and subsequently the sculptured stone fireplaces, which were on the brink of removal from the country, with the intention of restoring and ultimately presenting them to the nation. During the last two and a half years the work of restoration has proceeded, and is now complete, the two moats which had been filled in having been excavated, and the fabric of the castle, which was in partial ruin, restored to its original condition. It now forms a unique example of domestic and military architecture of the Early 15th Century. The official opening will be attended by representatives of the leading archaeological and antiquarian societies, and the party will be conducted round by Mr. W. Weir, the architect, who has been in charge of the works.

The forthcoming exhibition and convention of the National Association of Master House-painters and Decorators of England and Wales (Incorporated), to be held in Manchester in September next, promises to be of exceptional importance. The association has secured the City Exhibition Hall, Liverpool-road, for the purposes of an exhibition of decorative art and manufactures. An important and interesting feature this year will be the special exhibition of painters' class work, to which the large gallery of the hall will be exclusively devoted. Exhibits of the work done in these classes have been sent from all parts of the Continent, including France, Germany, Holland, and Belgium, and from the chief centres of Great Britain. Lord Emmott, his Majesty's Under Secretary of State for the Colonies, has consented to open the Exhibition on September 18, and the Lord Mayor of Manchester has promised to preside on the occasion. The Exhibition remains open the whole of the following week, and closes on Saturday evening, September 26. The funds derived from the Exhibition are devoted to educational work amongst the young men engaged in the painting and decorating trade, and the association during its twenty years' existence has spent upwards of £3,000 in furthering this work. Many students have been sent to Italy to study the decorative work of the masters, and many men occupying honourable positions in the trade to-day owe their first start to the stimulus of the association.

Volume VIII of the Transactions of the Edinburgh Architectural Association appears this week as an attractive illustrated and uniform with its predecessors of former years. It contains reports of lectures and papers by Messrs. Hippolyte F. Lecoq, Dr. U. Hay Fleming, Rev. Dr. H. G. G. J. A. Morris, A. N. Paterson, Alexander Portledge, and J. H. Stevenson, and among the sketches and photographs reproduced may be noticed those of the Gatehouse at Lindisgow Palace.

the churches of Craig and Pitsligo and Craigievar, Drum and Muchalls castles.

The appointment of Mr. William Brodie to the important position of principal assistant to the dock engineer under the Mersey Docks and Harbour Board is one which has elicited the heartiest congratulations from engineering circles in Liverpool. Mr. Brodie, who is a member of the Institution of Civil Engineers, and an ex-president of the Liverpool Engineering Society, is brother to Mr. J. A. Brodie, the Liverpool city engineer, and has qualifications which well fit him for the part he is now called upon to fulfil.

Another controversy respecting a Lake District bridge has arisen in the proposal of the Cumberland County Council Highway Committee to substitute the present Greta Bridge, Keswick, with a ferro-concrete structure. At an influential meeting, held at Keswick, presided over by Canon Rawnsley, a resolution of protest was carried unanimously. A second resolution that a petition should go to the urban council asking them to support the opposition to the proposed ferro-concrete bridge and the widening of the present bridge on existing lines, which they advocated from the first, was carried.

An interesting police-court prosecution is, says the *Liverpool Post*, pending under very peculiar circumstances. The Works Committee of the corporation of Wallasey resolved, by two votes to one, six other members present not voting, that proceedings should be taken against a certain contractor for an alleged offence which need not be specified here. In consequence of this remarkable abstention from voting, a meeting of the council in committee was called for Wednesday evening last in order that the recorded decision of the committee might be reviewed. After a prolonged debate, it was then decided, by sixteen votes to six, several members still not voting, to reverse the committee's decision and not to take proceedings. At the council meeting on Thursday in last week a suspension of standing orders was necessary for the consideration of these particular minutes. But when the time came the requisite twenty-five members were not present, and the suspension of standing orders could not be carried, with the result that the original resolution and the instructions to prosecute stand good, notwithstanding the subsequent resolution to the contrary.

While the Committee of the House of Commons was considering the Manchester Corporation proposal to spend £300,000 on the extension of water mains, workmen excavating in Withygrove were digging out some relics of a very early means of water supply in the city. These were water-pipes apparently of sandstone, which, as a workman said, "was laid a bit before you was born." Cut out of solid sandstone, the pipes have an outward diameter of about twenty inches, and are hexagonal in shape. The bore is some six inches in diameter, and the union of the lengths of pipe is made by means of a collar, also of sandstone, which fits over the point of junction and is welded to it—if one may use the word by a natural cement, which in the passing of the years has set like adamant, often defying even the sledge-hammers which have broken the pipes into pieces, leaving the joints intact.

A meeting of the Newcastle and Gateshead Trades and Labour Council was held in the Collingwood Hall, Clayton street, Newcastle, last week, when the question of supporting the Trades Hall Social Club and Institute, Ltd., in Percy street, Newcastle, was again before the council, the executive committee of which, in a report, recommended an investment of £5 in the club, with direct representation on its council, and a friendly working arrangement between the club and the Trades Council. The secretary (Mr. J. Wilkinson) said they had been talking for many years of establishing a trades hall, and through the enterprise of two or three of the lower paid unions they were able to have one, and it only needed the council's help and blessing. The sum of £5 might look a little paltry; but the executive believed in going

cautiously, and if the club came up to expectations, the council, he said, would be willing to help it still further. All the large towns in the country had trades halls, except one, and that, the city, which was practically the home of trade unionism. The proposition was carried without discussion.

The Bristol city engineer's report contains a table showing the number of houses erected during the past sixteen years. In 1899 the total was 1,157, and for each of the succeeding three years the number exceeded 1,500. In 1903 there was a drop to 1,240, and in 1904 to 1,176. Then there was another advance to 1,206 in 1905, and 1,372 in 1906. From that period there has been a gradual diminution. There were 1,239 houses erected in 1907, 859 in 1908, 454 in 1909, 386 in 1910, and the numbers for the last four years have been 297, 204, 218, and 132 respectively. The same table gives the number of inhabited houses, number of persons per house, number of void houses, and the estimated population for the past six years, and the results work out as follow:—

Year.	Population estimated.	Inhabited houses.	Persons per house.	Void houses.
1909	377,642	67,200	5.61	4,800
1910	382,550	67,650	5.65	4,750
1911	357,059	67,950	5.2	4,650
1912	359,400	68,080	5.28	4,500
1913	361,362	69,175	5.22	3,400
1914	363,312	69,985	5.19	2,600

The number of houses closed last year was 157, and of these thirty-seven were voluntarily demolished.

An exhibition of gyroscopic mechanism is being organised at the Science Museum, South Kensington, and at a private view given last week, Mr. J. W. Gordon explained his models, one of which is designed to show how a high flywheel speed may be obtained with a low shaft speed, without the use of gear-trains. The principle involved was described in Mr. Gordon's paper on "An Engineering Theory of the Gyrostat," read in Birmingham last year before the British Association. This is, that, in constrained precession the movements of forced and free precession are opposed—the one tending to set the axis of spin at right-angles to the field plane, and the other tending to place it in the field plane. Thus the forced precession can be employed to feed the free precession by restoring the potential which the gyrostat lost in free precession. Another model was exhibited to show how the restriction of angle of the gyrostat might be got rid of.

Many may have noticed, remarks the *American Architect*, that the wood of the same species frequently behaves quite differently, even under similar conditions. This can be attributed to the character of the wood itself as a result of the particular soil and climatic conditions under which the trees grew. The wood of a mahogany tree grown on high and well-drained situations is usually much harder and more durable than that which is produced in low, moist soil. This difference in the manner of behaviour can be readily understood in the case of the white oak. The wood of slowly grown oak is often exceedingly brash, because it contains a very large proportion of early, porous wood. That of a fast-growing oak has a small proportion of early porous wood, and is much denser and heavier.

When two pieces of wood cut from the same tree show a marked difference in their behaviour under exactly similar external conditions, another influence must be at work, which has often puzzled the layman. The position of a stick of wood has a great deal to do with its durability and general behaviour. For example, a fence post will be found to decay much faster if the top end is placed in the ground than if the butt is placed down. The reason for this is that the moisture of the atmosphere will permeate the fibres of the wood much more rapidly in the way the tree grew than it will in the opposite direction. Microscopical examination of the wood shows that the fibres invite the ascent of moisture, while they repel its descent. A good many have observed in a wooden bucket that some of the staves appear

to be entirely saturated with water, while others are apparently quite dry. This is due to the fact that the staves which are dry are in the position in which the tree grew, while the saturated ones are reversed.

The famous time-ball at Greenwich is to be replaced by a new aluminium ball, its mechanism overhauled and reconstructed. The winch will be removed from its present position near the Octagon Room to the Ball Lobby. The time-ball was first erected in 1833. An electric current from the clock was first used to drop it at one o'clock in 1852. In 1855 the ball was blown down into the courtyard. Some repairs were made in 1895, when the chain broke during winding, and again, in August, 1913, some temporary repairs were made to the ball.

A French engineer, M. Mähl, has recently submitted to the Minister for Public Works in France a scheme for a suspended mono railway on which, it is claimed, speeds of 150 miles an hour or so may be attained with safety. The track, either single or double, is to be carried 20ft. to 25ft. above the ground by catenary suspension. The train will be composed of small sections freely articulated, and will easily take curves of 1 kilometre radius and gradients of 1 in 20. It will be propelled, of course, by electricity. Each section of the train will be suspended from two wheels placed about 1 metre apart. The seats will be placed longitudinally, and there will be but a single row of them.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY.—Institution of Municipal Engineers. Visit to the South Metropolitan Gas Company's Works at East Greenwich. 2 p.m.

SATURDAY (AUG. 15) TO MONDAY (AUG. 17).—Institution of Municipal Engineers. Week-end Visit of the Eastern and North-Eastern Districts to Hunstanton.

Trade News.

WAGES MOVEMENTS.

DUNFERMLINE.—After being on strike for seven weeks, the operative plumbers of Dunfermline accepted on Friday the offer of the masters, and resumed work on Monday morning. The original demand by the men was for an increase of from 8d. to 9d. per hour. After some negotiations the employers offered 8½d., with an additional ½d. four months after the resumption of work. This offer was made about a month ago, and has now been accepted by the men.

EXETER.—The bricklayers and plasterers at Exeter have resumed work. The master builders have granted an increase of halfpenny an hour on August 1, and a provisional further halfpenny on February 1, the latter advance to be made the subject of an appeal by the Master Builders' Association to the Conciliation Board.

A new Wesleyan chapel is being built at Bishop Sutton. The contract has been taken at a little over £700 by Messrs. Flowers, of West Hartpree.

The trustees of the Whitechapel Art Gallery have appointed Mr. H. Samuel Teed to the post of art director, in succession to Mr. Gilbert A. Ramsay, who has accepted the office of superintendent of the Glasgow Municipal Art Galleries and Museums.

Bristol Docks (Various Powers) Act, which has just received the Royal assent, empowers the city council to raise £100,000 for new cold storage. The warehouse will be on the pattern of the tobacco warehouse, and will be erected on a site behind the "O" shed.

The will of the late Mr. Henry Thomas Holloway, who died on May 8 last, aged 61, of The Manor, West Lavington, Wiltshire, and of 19, Cedars-road, Clapham-common, S.W., director of Messrs. Holloway Brothers (London) Ltd., J.P. for Wiltshire, has been proved at Exeter by Messrs. Belvedere-road, S.E., and J.P. for Wiltshire, has been proved at a gross sum of £281,699.

The new drill-hall, erected by the Staffordshire Territorial Force Association in Nineveh-road, Handsworth, was opened on Saturday week. The building contains a drill-hall, officers' room, orderly-room, etc., is of brick, the front elevating to Nineveh-road being faced with variegated coloured bricks with stone dressings.

TRADE NOTES.

Boyle's latest patent "Air-Pump" Ventilator has been applied to the Parochial Hall, Teignmouth.

Claridge's asphalt is being used on the roofs of the new County Hall, Northallerton, and Sledmere Hall, near Malton.

The National Radiator Company, Ltd., 439 and 441, Oxford-street, London, W., has issued three leaflets giving particulars of the Ideal No. 1 and 2 "G" Series Boilers, a new type of boiler which they are just placing on the market. In these boilers the construction obviates the necessity for a loose base, thus entirely overcoming the difficulty often experienced in forming an airtight joint between sections and base. These boilers also occupy much less space than other sectional boilers of equal capacity, and provide flow-tappings at a very low height above the floor-level. This is a particularly valuable feature in the ease of the No. 2 "G" Series Steam Boilers, which, with capacities running up to 488,000 B.T.U., or 1,890sq.ft. of direct radiation, have a flow outlet only 38in. above the floor line. The No. 1 "G" Series Boilers are sent out assembled, while the No. 2 "G" Series, to facilitate handling and erection, have the sections cast in halves. We also call special attention to the patent insulating jackets, which are supplied for these boilers. These jackets consist of steel and non-conducting material, and are complete in themselves. As they are not fastened to the boiler, bolts and screws are dispensed with, and, owing to the fact that they consist of only five parts beside the key-strips and corner-pieces, they can be fixed in a few minutes. Specimens of both the No. 1 and 2 "G" Series Boilers are on view in the company's showrooms. Another leaflet gives particulars of several new specialities. Copies of these insets are being sent to the principal trade and architects this week, but the company will be pleased to forward same to any firms who may not have received a copy.

Mr. A. B. Blaschek has been appointed deputy surveyor to the Forest of Dean, and director of the proposed forestry demonstration area, as successor to Mr. Leese.

A new stained-glass window has been dedicated at the parish church of Brompton, near Chatham. The window, which represents St. Simeon and St. Anna, occupies the east end of the south aisle of the church.

Mr. James Wharton, master builder, of Keighley, died at his residence, Grafton House, in that town on Saturday, aged 52, after a long illness. He was mayor of the borough in 1908-9, and had begun work at the age of eight.

The operations of H.M. Office of Works in connection with the exploration of the site of Penrith Castle have been begun. The buildings put up nearly sixty years ago by the London and North Western Railway Company are being pulled down, and the work already done has made a great difference to the appearance of the place.

Plans have been prepared by Mr. Leonard Durrell, of Calgary, for the new departmental building to be erected at Calgary for the Dominion Government. The building is to be partly constructed with material taken from the old post office lately demolished, and will occupy a site at the corner of 6th-avenue and 4th-street west.

A new parish hall which has been built in connection with Christ Church, Jarrow, was opened last week. The hall has been erected on a site adjacent to the church and has cost about £1,500. It was built by Messrs. Middlemiss Brothers, Newcastle, from the designs of Messrs. Hicks and Charlewood, Newcastle-on-Tyne.

Meetings of the Northants and East Midlands Surveyors' Associations took place at Northampton on Thursday week. With Mr. A. Fidler, the president, in the chair, a meeting was held at the town hall, when rules were adopted, and an exhibition of town-planning designs prepared by Mr. Fidler was on view. The members subsequently inspected various local works.

The Douglas Town Council have purchased the Pulrose estate, near Douglas, consisting of over 200 acres of arable land, two farm houses, a mansion, a laundry, and a corn mill, for £19,000. It is the intention to use the property partly for the disposal of such refuse as is not already dealt with by the existing sewerage system, and in all probability a destructor will be erected. At present the refuse is taken out to sea in hopper barges and discharged, but this system has been very costly.

LATEST PRICES.

IRON.

Table of iron prices including Steel Joists, Wrought-Iron Girder Plates, Steel Girder Plates, Bar Iron, and Boiler Plates.

Table of Galvanised Corrugated Sheet Iron and Wire Nails (Points de Paris).

Table of Cast-Iron Columns, Cast-Iron Stanchions, Rolled-Iron Fencing Wire, and Galvanised Wire Strand.

Table of Cast-Iron Socket Pipes in various diameters.

Table of B.B. Drawn Telegraph Wire and other wire products.

OTHER METALS.

Table of prices for various metals including Spelter, Lead, Copper, and Tin.

TIMBER.

CONSTRUCTIONAL.

Table of timber prices including Yellow Pine Deals, Spruce Deals, Red Deals, and various types of flooring.

FURNITURE AND HARDWOODS.

Table of furniture and hardwood prices including Teak, Oak Planks, and various types of wood.

STONE.

Table of stone prices including Red Mansfield, Darley Dale, and other stone types.

Table of Portland Stone prices and delivery information.

SLATES.

Table of slate prices including Blue Portmadoc and other slate types.

BRICKS.

Table of brick prices including First Hard Stocks, Mild Stocks, and various facing bricks.

GLAZED BRICKS.

Table with columns for Glazed Bricks, Hard Glazes (per 1,000), and various brick types like White, Ivory, and Buff Cream.

MOULDED BRICKS.

Table with columns for Moulded Bricks, including stretchers and headers, and various sizes and finishes.

TILES.

Table with columns for Tiles, including plain red roofing, hip and valley, and ornamental tiles.

OILS.

Table with columns for Oils, including rapeseed, cottonseed, olive, and various other types.

GLASS (IN CRATES).

Table with columns for Glass (in crates), including English sheet glass and various thicknesses.

VARNISHES, &c.

Table with columns for Varnishes, &c., listing various types like Fine Pale Oak Varnish and their prices per gallon.

CHIPS.

Mr. G. L. Pegler, surveyor, planned the first group of sixteen houses which have just been completed on the garden tenants' estate suburb at Shirley, Southampton.

A movement is on foot at Brighton to create a municipal estate department, which shall have control of the whole of the properties belonging to the corporation.

The new cathedral at Chicoutimi, Quebec Province, the estimated cost of which is placed at 300,000 dollars, is nearing completion, the roofing work now being in progress.

The work on the Meade Memorial Chapter House at St. Fin Barre's Cathedral, Cork, is now well advanced. It is being carried out according to the general plans made by William Burges, who designed the cathedral.

Canon H. Darwin Burton laid the foundation-stone last Saturday week of the new parish hall in course of erection for St. Saviour's Church at Culver-road, St. Albans. The architects of the building are Messrs. Mence and Finn, and the builders Messrs. Miskin and Sons.

The Greater Winnipeg Water District Administrative Board will receive on Saturday, September 19, separate tenders for the construction of an aqueduct and intake from Indian Bay to Deacon. The whole undertaking involves the expenditure of about 8,729,000 dol.

A new juniors' school, erected by the Rochdale Education Committee in Canal-street, Castleton, was opened on Saturday. It accommodates 300 children in six classrooms, and is provided with an assembly-hall 56ft. by 25ft. The classroom floors are of concrete, to the face of which is cemented a thick covering of linoleum.

Telephone DAIKTON 158.

OGILVIE & CO. Many years connected with the late firm of W. H. LASELLES & CO., of Bunhill Row. MILDMAY AVENUE, ISLINGTON, N. EXPERTS IN HIGH-CLASS JOINERY. ALTERATIONS & DECORATIONS. ESTIMATES FREE.

FOR Olivers' Seasoned Hardwoods, WM. OLIVER & SONS, Ltd., 120, Bunhill Row, London, E.C.

TENDERS.

* * * Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BATH.—For the erection of Drill Hall and offices, for the Somerset Territorial Force Association. Mr. A. J. Pictor, A.R.I.B.A., Bruton, architect:— Wilkins, R., Bristol ... 48,754 0 0 Stockham, T., Bridgewater ... 6,663 0 0 Poles, H., and Son, Bristol ... 6,223 0 0 Cotard H., and Sons ... 6,200 0 0 Wills and Son ... 6,108 0 0 Blackmore, R. ... 6,006 8 0 Hayward and Wooster ... 5,983 0 0 Long, J., and Sons ... 5,940 0 0 Chancellor, E., and Sons* ... 5,935 0 0 * Accepted. Rest of Bath.

BELLEEK, CO. FERMANAGH.—For fourteen cottages, for the rural council:— Campbell, J., Cormore, Belleek (accepted), at £138 per cottage.

BRIXWORTH.—For painting the interior of the workhouse:— Buswell, R. ... £50 12 6 Crane, F. W. ... 39 0 0 Letherland (accepted) ... 47 18 0

CHISWICK, W.—For the erection of a new secondary school in Burlington-lane, Chiswick, for the education committee of the County Council of Middlesex. Mr. H. G. Crothall, F.R.I.B.A., architect:— Neal, G. ... 413,096 0 0 Brand, Pettit and Co. ... 13,067 0 0 Fairhead, A., and Son ... 13,780 0 0 Monk, A. ... 13,739 0 0 Knight, H., and Son ... 13,656 0 0 Leeder, L., and Co. ... 13,620 0 0 Lawrence, W., and Son ... 13,582 0 0 Fassnidge and Soc ... 13,500 0 0 Gibson, W., and Co. ... 13,370 0 0 Mattock Bros. ... 13,294 0 0 Hanson, A. and B. ... 13,244 1 2 Dickens, W. J. ... 13,191 0 0 Lacey, W., Hounslow* ... 12,971 0 0 * Recommended for acceptance.

CLAPHAM, S.W.—For the incorporation of additional land at the Sleaford-street school, Clapham, for the London County Council:— Hooper, T., and Son, Lambeth ... £575 0 0 Lole and Co., Chelsea ... 493 0 0 Polden, A. and F., Shepherd's Bush ... 410 0 0 Bowyer, J. and C., Ltd., Upper Norwood ... 389 0 0 Fletcher, F. W., Tooting ... 385 0 0 Triggs and Co., Clapham ... 368 0 0 Carrett, J., & Son, Balham Hill* ... 311 0 0 * Architect's estimate, £480. * Recommended for acceptance.

COXHOL, CO. DURHAM.—For the erection of concert hall (contract No. 1), for Literary Institute Committee. Mr. W. A. Kellert, 2, South-road, Bishop Auckland, architect:— Bell and Rowe, Coxhoe (accepted) £1,107 16 5

DONCASTER.—For the erection of Morley U.M.I. church and schools. Messrs. G. Baines and Son, 5, Clements-inn, Strand, W.C., architects:— Dorey, J., and Co. ... £5,866 0 0 Longden and Son ... 5,730 0 0 Sheldon, D. ... 5,710 0 0 Eschley and Son ... 5,690 0 0 Fidler, J., Ltd. ... 5,636 0 0 Arnold and Son ... 5,386 0 0 Beeton, W. M. ... 5,193 17 3 Rhodes, P. ... 4,979 0 0 Sprakes and Son ... 4,962 0 0 Gill and Son ... 4,957 0 0 Perks and Son ... 4,802 2 0 Pattinson, W., and Son* ... 4,767 0 0 * Accepted with modifications. Contract, £4,526 16s. 6d.

DUBLIN.—For the extension of the Dental Hospital, Lincoln-place. Messrs. Orpen and Dickinson, architects, and Messrs. Beckett and McCreaf, quantity surveyors:— Thompson, J. and R. ... £3,510 0 0 Mellor, R. E., and Son ... 3,285 0 0 Beckett, W., and Son ... 3,147 0 0 Crampton, G. and T. ... 3,110 0 0 Frazer, A., and Co. ... 3,096 0 0 Collen Bros. ... 3,000 0 0 Good, J. and P. ... 3,080 0 0 Bolton, S. H., and Sons ... 2,991 0 0 Pemberton, J., and Son ... 2,880 10 0 Martin, H. and J. (accepted) ... 2,787 0 0

FINSBURY.—For the erection of temporary offices at the New River Head, Rosebery-avenue, for the Metropolitan Water Board:— Wall, C., Ltd., Chelsea ... £1,650 0 0 Coarney, W. J., Gate P. Smith, and Co., Stratford ... 1,466 0 0 McManus, J., Hammersmith ... 1,367 0 0 Rea-Son, W., Rosebery-avenue ... 1,349 0 0 Harrow, W., South Bernershey ... 1,344 0 0 Humphreys, Ltd., Knightsbridge ... 1,320 0 0 King, W., and Sons, Vauxhall Bridge-road ... 1,300 0 0 Wylie and Lockhead, Ltd., Bloomsbury ... 1,300 0 0 Humphreys, Ltd., Knightsbridge ... 1,261 0 0 Pattinson, W., and Sons, Ltd., Westminster ... 1,150 0 0 Harrison, J. and Co., Camberwell (accepted) ... 1,100 0 0

GLASGOW.—For constructing approach to Kelvin Art Galleries, excavation work, &c., for the corporation. Mr. J. Lindsay, town clerk, City Chambers, Glasgow, architect:— Wilson, W., 34, West George-st., Glasgow (accepted) ... £1,825 8 1

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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House, "Hailey," Oxon. View and plans. Mr. F. L. Pearson, F.R.I.B.A., Architect.
43, Great Portland-street, W. View and plan. Messrs. William and Edward A. Hunt, F.R.I.B.A., Architects.
Rathbone Convalescent Home, Parwich, Derbyshire. View and plans. Mr. W. R. Mosley, Architect.
Church of St. Mark, Bush Hill, Enfield. View and plan. Messrs. Cutts, Davis, and Boddy, Architects.
Villa, Fields Park, Newport, Mon. View and plans. Messrs. Alfred Swash and Son, Architects.
House at Twickenham, Surrey. View and plans. Mr. Stanley P. Sease, Architect.

OUR ILLUSTRATIONS.

Grand Oriental Hotel, Colombo, Ceylon. View and plans. Messrs. Stevens and Gregson and Co., Architects.

AMERICAN ADVERTISERS AND AMERICAN BUILDING CONSTRUCTION.

The immense area over which specialised building appliances are distributed, by advertisement, throughout a great continent like America affords, of course, direct facilities, which, it is true, are obtained indirectly over even a much greater area by our own colonies and our protectorates, but which the British advertiser does not avail himself of to anything like the extent of his American compeer's enterprise. The sun never sets on the well-placed advertisement in the BUILDING NEWS, for instance, and its matter pages and illustrations bear almost weekly witness that it is as well known in Australia, Canada, and India, as in London. The harvest is there; but if the home manufacturer does not make his existence known, he may just as well shut himself up in his own street at home. The American knows that, and is always a bold advertiser. He does not limit himself to paragraphs, or even columns, in his favourite media; he revels in whole pages, and he has his reward. American advertisements, again, are never commonplace. They always command attention. One firm informs us that "Our heads of departments are experienced men who gained experience in doing fine work; our men are the boys that came into this plant and learned their trade right here." Another says: "We understand handling glue." Little glue, we guess, sticks long to the fingers that penned that slightly ambiguous but terse manifesto. The American advertiser is always alive: handling, holding, or carrying something which he is anxious to turn over to someone else for a consideration. Our advertisers here at home are beginning to handle and hold things, too, and need infringe no Yankee patent expressions. We do not by any means recommend the use of such assurances as: "Every piece of wood we send out has been subjected to our own scrutiny and superintendence"; "We are not the cheapest people on the market and do not seek that trade"; "We manufacture from the stump to the finished product, and know how to do it"; "Indiana oak is the standard by which all oak is judged. In Indiana we have our own forests." No one will be surprised to hear that this enterprising firm does not use ordinary kilns for drying wood; they have "retorts." After that one is rather disappointed that there is no mention of a volcano or two in Indiana, where they dry their marvellous lumber; but anyhow, from that stock they can carry out, in natural woods, any scheme of decoration except light blue. In these advertisements there is much space

occupied, and it is costly; but attention is arrested, every word tells, and there is not the slightest chance of the reader falling asleep over them. It is doubtless true, as we were all taught in our youth, that truth is stranger than fiction, yet in advertising it is well to remember that truth may reasonably claim such moderate exercise as not to exceed what may be poetic license, and that fancy may play attractively even round an advertisement of such prosaic stuff as building material. One blunder the American advertiser never makes. You cannot persuade him that an advertisement once a year is quite as good and much cheaper than one once a week; or that, in dull times, or in the days of distraction or disturbance, the first thing to do is to stop advertising. He knows better than to risk such an inquiry as at this moment we stopped writing to reply to on the phone—whether an advertiser whose usual list an architect had looked for in vain "had gone out of trade."

Among the most resourceful American advertisers are the reinforced concrete men. They quarry oolitic limestone, and can crush 2,000 yards daily; their quarries yield dimension stone of the very best kind in the United States; it is sawn to sizes for building and cemetery use. The rock formation is described as being massive, with very few seams, and of great thickness and extent. It is quarried by the use of steam-channelling machinery and drills, and blocks up to 25 tons are easily obtained. This firm announce that they will not undertake cut-stone work; they furnish rough and sawn dimension blocks only. A fireproof building company are modestly contented to announce that they have done 300,000,000 dollars' worth of such work, and they give illustrations of buildings in such number, so many stories high, and covering so much ground on plan, that one wonders, like Martin Chuzzlewit, junior, whether there is anything else left to build. A constructive company "handles" most efficiently the many problems in connection with building construction, and builds everywhere—in the States, Mexico, and Canada. A contractor for inburnable construction announces that distant work is one of his easiest problems, and he combines fine and exact work with very unusual speed. A general contractor "handles" contracts of any size, and draws special attention to the "number of times he has received a second contract from the same owner or architect." The Unit Construction Company adopts a "moulded in advance" method of concrete building, and claim that it affords the greatest opportunity for inspection during construction, and of testing of concrete units before

using. Accuracy and maximum strength are assured, all joints being determined by designing engineers. As all forms are on the ground, the concrete may be given any finish desired. A building can be put up rapidly in this way by employing several "forms," and as soon as one story is erected it can be used, as there is no waiting for the removal of centering. All their work is done with their own "forces," as they do not license others to use their patented methods. A building company advertise the various kinds of buildings they put up. Here they are: Office buildings, factories, schools, churches, residences, power-houses, country houses, monumental work, armouries, bank buildings, reinforced concrete "from our own design," engineering construction of all kinds, and landscape work. They boast that their knowledge of costs, gained from long experience, enables them to advance accurate preliminary information to architects upon request. They also build "everywhere" in the United States or abroad, their construction being always characterised by the same successful and rapid results. One of the firms which build factory chimneys uses hollow radial bricks, which it manufactures itself. These are bonded in a peculiar way, owing to the use of bricks varying in length from 4in. to 10in. These bricks are made to the curve of the chimney, so that they maintain correct circular and radial lines. The bricks are perforated, and the mortar in these perforations forms continuous bolts running through the shell of the stack. This they call a vertical anchorage. Steel bands are inserted in the brickwork to take the stress due to expansion caused by heat. Their chimneys are built from the inside, thus doing away with expensive and dangerous outside scaffolding. This firm claims that it has erected the most slender building in the world; it has a diameter of only 5ft. at the top, and it is 160ft. high. As it may be of interest to some of our readers, we give this firm's specification for a chimney: "The foundation is built octagonal, of Portland cement concrete 1-3-5 properly rammed. Where there is an underground flue, ample protection is given the concrete against direct contact with the ground. The base is built octagonal or square, 2m. diam., about one-fifth of the height of the chimney, if an overhead flue is required. Base, as a rule, built in hard common bricks, laid in cement-lime mortar in a full mortar bed, joints about three-eighths of an inch thick, every fourth course to be a header course, and the whole exterior properly pointed. A cast-iron clean-out door and frame, 24in. by 36in., will be furnished and built in at the base. The round shaft is built of hard-

burned weather and acid-proof Perforated Radial Bricks, laid in cement-lime mortar, in the 'Henicke bond,' and with full mortar bed joints about $\frac{1}{2}$ in., and properly pointed. Shaft provided with an ornamental head and with concealed reinforced bands, and having inside step-irons ($\frac{3}{4}$ in.) 16 in. apart, forming a ladder the entire height of the chimney. The lining of Radial Fire Bricks extends at least to the top of the base. The lightning-rod consists of a securely-mounted lightning arrester, with one point to each foot of clear diameter at top, and a $\frac{1}{2}$ in. cable conductor with fastenings, together with suitable earth connections." Another firm say that they are designers and builders of masonry chimneys built of corrugated perforated radial brick, reinforced concrete, and common brick. The radial bricks of this firm are corrugated at the ends: this gives a mortar adhesion 62½ per cent. greater than between ordinary flat-sided bricks. In these radial bricks horizontal bond is obtained in width as well as in length, for, unlike our bricks, which are always 4½ in. wide, they are of various widths from 3 in. up to 12 in., vertical bond being obtained by a number of twisted high-carbon steel bars built into the concrete chimney. Triangular wire mesh is used for horizontal or circumferential reinforcement. The following is a list of some of the chimneys built with radial brick, 300 ft. by 22 ft., 250 ft. by 12 ft., and 225 by 11 ft. 6 in. In concrete, 250 ft. by 13 ft., 225 ft. by 11 ft., 200 ft. by 12 ft., 175 ft. by 10 ft., 150 ft. by 5 ft., and 125 ft. by 4 ft. 6 in. With reference to building with radial bricks, there is this difficulty. As the chimneys are never cylindrical, but always taper, the bricks that will fit one ring accurately will not fit the next, so that to build with mathematical accuracy each course should have a specially made series of bricks. Neither of the radial-brick builders alludes to this difficulty.

An advertisement, with a good illustration of thirteenth-century groining covering a fifteenth-century nave, introduces the architect to what the inventor calls "timbré vault construction." This company makes a speciality of dome construction—that of the cathedral of St. John the Divine, New York, being the largest dome they have built. It spans 135 ft. at the base. The domes and vaults are built with "timbré tiles," which are made in a factory owned and operated by the company. Vaulted ceilings, roofs, and floor-construction form a large portion of the business of this firm, and they claim that the class of work it is particularly adapted for are buildings of the monumental type, such as state-houses, court-houses, libraries, churches, etc., in which a vaulted ceiling is notably acceptable when finished in tiles, glazed or unglazed. To take tension stresses, a small amount of steel is embedded in the masonry. Here we may note in passing that brickwork, or baked clay in any shape, built into the work is referred to as "masonry." Next we have a house-raising, moving, and shoring company, which is content with a wealth of illustration, and shows a building 110 ft. long and 65 ft. wide, weighing about 2,500 tons, which was moved a distance of 500 ft. and half-turned. A firm bearing the novel name of "The Foundation Company" make a speciality of foundations of great depth, in treacherous ground, and to carry heavy weights. They claim to be specialists in this work, and they suggest or advise the foundation construction best adapted to the conditions presented. Pneumatic caissons, open caissons, sheet piling (wood or steel), concrete piles, hollow steel pipe filled with concrete, and wooden piles are appliances all coming within range of their work. An exhaustive list of their works is given, and no expense is spared in advertising every advantage they are possessed of. Another

foundation firm is "The Raymond Concrete Pile Company," which has driven over four million feet of Raymond concrete piles. The Raymond piles are made by driving a tapering sheet-steel shell "to refusal" by means of a collapsible steel mandrel, withdrawing the mandrel, and then filling the shell with concrete. The shell remains in the ground. It is usually of plain sheet steel; but where back pressure is unusually severe, specially reinforced shells are used. In all other concrete piles the shell is withdrawn—that is, of course, when the concrete is made-in-place. The essential features of these piles are (1) Driving the mandrel to a resistance sufficient to carry the desired load; (2) The maintenance of the hole, and the sustaining of the initial pressure between the pile and the surrounding soil by the shell that remains in the front; (3) The protection of the pile during the time that the concrete is setting from distortion due to the driving of the adjacent pile, and from the admixture of water, silt, quicksand, or other soil, by means of a shell that remains in the ground. Perhaps, after all, the advertiser likely to attract all trouble-savers is one who "recognises the fact that every situation requires individual study in order to determine first what is best suited to meet the local conditions. We give each job special consideration, and then design and build whatever best meets the need."

BUILDING REGULATIONS FOR SECONDARY SCHOOLS.

Following closely upon the heels of the revised regulations relating to the planning and fitting up of elementary schools, issued three weeks ago by the Board of Education, and reviewed by us in our issue of the 24th ult., p. 103, a second White Paper is now published, price 2½ d., dealing in like manner with the building regulations for secondary schools. In a prefatory note Sir L. A. Selby-Bigge, the Permanent Secretary to the Board of Education, remarks that the combination of efficiency and economy is the perpetual problem of the school architect. The regulations, replacing those published in 1907, are the outcome of discussions which have taken place during the last six years in numerous particular cases between the Board's officers and the officers and architects of local education authorities and governing bodies; they have also been submitted in draft to certain bodies and individuals whose experience specially qualified them to advise the Board in the matter. While the Board take entire responsibility for the present form of the regulations, they hope that they represent a very general consensus of opinion both of professional architects and of other persons engaged in educational administration. The principal modifications in the present issue relate to the position of the assembly-hall in relation to the classrooms, the need of making provision for physical training in every new school, the arrangement of cloakrooms, and certain details in connection with art and science rooms, housecraft rooms, and staircases.

In this new edition the arrangement of the Regulations has been revised. The division into two parts, one dealing with principles and one with hygienic and sanitary requirements, has proved to be inconvenient. All the regulations that refer to one subject are now grouped under the same heading. In the order adopted sites and general considerations are first dealt with; next, a list is given of all the rooms which may be found in a secondary school; then detailed provisions are set out with regard to each of these rooms. The following chapters deal with the boarding-houses, ventilation and heating, construction and materials, and water supply. At the end the procedure for obtaining approval of plans is set out. A note on the requirements of the Local Government Board relating to loans in respect of schools other than public elementary schools is printed as an appendix.

The Board offer to place their experience at the disposal of the promoters of a new school, or to discuss a building scheme either before the preparation of plans, or while the drawings are in a preliminary stage. They will be ready to give careful and, so far as possible, favourable, consideration to individual designs or experimental modes of treatment which promoters of schools and their architects may propose to adopt to meet the special exigencies of particular cases.

The following are some of the principal regulations:—

SITES, PLAYGROUNDS, AND PLAYING-FIELDS.

The site for a new school should, if possible, not be exposed to noise or dust from roads, streets, tramlines, railways, or works. It should be such that the building can either be set well back or have its classrooms on a side away from the street or road. There should be convenient access to the site. The site should be open to the sun, both for the sake of the general health of the pupils and staff, and because the ventilation of the building is then easier. The site should secure the best aspect possible for the classrooms, which is south-east. In the warmer parts of England, east may be a better aspect than south. Windows which look to quarters other than these should, so far as possible, be those of corridors, staircases, cloakrooms, assembly-halls, cookery rooms, art rooms, and the like. The most should be made of any natural advantages which the site may possess. Pleasant views should be left open instead of being shut off by high boundary walls. Dull walls may be covered with creepers and bordered with flower-beds. If it is consistent with the proper lighting of the school, trees should be preserved or planted, to give shade in summer to open-air classes. When the extent of the site is being considered, the provision of suitable plots for botany, gardening, and other natural-history work, should be borne in mind. In every school there must be a playground suitable to the size of the school, which should provide a clear space of 50 square feet per head; but in no case must the playground contain less than 750 square yards. Special consideration will be given to the case of schools in large towns. There should be separate playgrounds for the two sexes. (a) The playground should be given a warm, sunny aspect and provided with seats. (b) The buildings should be so planned that the effective playground space will not be unduly diminished by projecting wings or buttresses. Bicycle sheds should be provided. Playing-fields must in all cases be provided. Wherever possible the playing-field should be adjacent to the school, and every effort should be made to secure a site which will admit of this arrangement. The minimum effective area for a playing-field may be taken as two acres. This will usually suffice for a school of 100 pupils, but the area will require to be increased in proportion to the number of pupils and the provision of games. Boys, as a rule, require more playing space than girls.

GENERAL ARRANGEMENT OF THE BUILDING.

Before any instructions are given to an architect to prepare plans for a new building, consideration should be given to the proposed organisation of the school, the number of masters or mistresses to be employed, the probable size of the classes in the different parts of the school, the relative importance of the teaching of science, art, and manual work; the convenient grouping of the rooms, and the possible use of the buildings, or any part of them, for evening classes or for day instruction in technical or domestic subjects, so that the plan of the building may be fully adapted to the work to be done in the school. A margin of accommodation should be provided, sufficient to secure the necessary elasticity of organisation. The provision of some small classrooms is desirable. The general arrangement of the building should be governed by the endeavour to secure a suitable aspect, effective ventilation for the classrooms, convenience of organisation, and economy in maintenance. The older type of building,

compactly planned with several stories, with a central hall off which the classrooms open directly, is giving place to single-storied groups of rooms, arranged to let the sun and air into every corner. Windows of the ordinary type on one side of the room only, with some form of extract in the chimney or ceiling, and inlet-tubes in the walls, can no longer be considered as providing the best form of ventilation for a classroom. Far more satisfactory results can be obtained by placing windows on opposite sides of the rooms, and so insuring a fresh current of air. The heating surface will have to be increased above that required in the older type of rooms. The general plan of the building will be largely determined by the position of the assembly-hall and its relation to the classrooms; this, therefore, should be carefully considered. A combined room to serve as a gymnasium and assembly-hall is not a satisfactory arrangement. In the style and general treatment of the building every care should be taken to secure economy. The possibility that the school may require enlargement in the future should be borne in mind, and where an early extension is likely to be required the future additions should form part of the original scheme and be included in the plans submitted to the Board.

ACCOMMODATION.

The accommodation of the school is reckoned upon the number of places provided in the classrooms. A lecture-room may be reckoned in assessing the number for which the school will be recognised. The number for which any room will be counted depends not merely upon the area, but also on the lighting, the position of the doors and windows, and the general shape of the room. The details of the accommodation ordinarily required in a secondary school are comprised under the following twenty headings: (i.) Entrances, (ii.) staircases, (iii.) corridors, (iv.) assembly-halls, (v.) classrooms, (vi.) science rooms, (vii.) lecture rooms, (viii.) art rooms, (ix.) housecraft rooms, (x.) handicraft rooms, (xi.) preparatory classes and departments, (xii.) staff rooms, (xiii.) storerooms, (xiv.) dining halls, (xv.) library, (xvi.) music rooms, (xvii.) gymnasium, (xviii.) cloakrooms, (xix.) lavatories, and (xx.) closets.

DETAILS OF ACCOMMODATION.

(i.) Entrances.—Entrances must not lead directly from the outside into an assembly-hall or other room, and must not be used as cloakrooms. An external door, having outside steps, requires a landing between the door and the top step. Entrance doors should open outwards. In schools of more than 150 scholars there should be more than one exit. In schools for both boys and girls there must be a separate entrance for each sex.

(ii.) Staircases.—In schools with more than 150 pupils, if the buildings are on more than one floor, at least two staircases must be provided. Separate staircases must be provided for boys and girls. Every staircase must have at least one external wall, must be of fire-resisting materials, and must be well lighted in every part. Staircases must be not less than 4ft. wide, and must not have more than fourteen steps to a flight. The landings must be unbroken by steps. Treads must be from 11in. to 13in. wide, and risers not more than 5in. to 6in. high. Winders must not be used. In settling the position of the staircase the need for easy access from the hall to the classrooms should be borne in mind. Staircases should be so planned that an easy view can be obtained right up or down.

(iii.) Corridors.—Corridors, which should be for access only, should be from 6ft. to 8ft. wide, according to the size of the school, and well lighted.

(iv.) Assembly-Halls.—The assembly-hall should have a floor-space of at least 6 square feet for each pupil for whom the school is to provide accommodation, and it is preferable that, if the school be for less than 150, a floor-space of 8 square feet per pupil should be provided. It is desirable to place the hall so that noise in it will not disturb

the work in the classrooms. For this reason, as well as for ventilation and freedom from dust, the classrooms should not open directly from it. The hall may, therefore, be altogether or partly detached from the main building. It must be fully lighted, warmed, and ventilated. If it is not possible to provide a room for specific use as a gymnasium, the hall must be made suitable for the purpose of physical training. In this case it should be completely separated from the classrooms, and be so placed that it does not serve as a passage-way from one part of the building to another. If no hall is provided, in addition to a gymnasium, it is desirable to arrange two or three adjacent classrooms with movable partitions, so that they can be thrown into one for purposes of assembly.

(v.) Classrooms.—Classrooms should be provided at the rate of at least four for every 100 pupils. They should not be designed for more than thirty, or less than fifteen, pupils. It is desirable to have one or more division rooms in addition to the regular classrooms, to be taken from 10 to 15 pupils each. A lecture-room, if suitably arranged, may be counted as the equivalent of one classroom. The classrooms must not be passage-rooms from one room or part of the building to another, or from the playground or yard to any room used for teaching or to the hall. The rooms and passages should be so arranged that every room can be cleared easily, and without disturbing any other room. The classrooms should be designed to take single desks, and should have a gangway of not less than 18in. between the rows and between the desks and the wall on each side; a space of 1ft. between the last row of desks and the back wall, and a clear space for the teacher extending the full width of the room of not less than 7ft. 6in. between the front row of desks and the wall. (Each desk may be reckoned as occupying a space of about 3ft. by 2ft.) These dimensions provide a floor area of 16 to 18 square feet per head, according to the size of the class, but in no case must the floor area be less than 16 square feet per head. The proportions of classrooms should be such as to allow a good arrangement of the seats. Long, narrow rooms are to be avoided. If there is a fireplace, it should be placed at the teacher's end of the room in the corner away from the door. The height of classrooms should not be less than 12ft., if it has a flat ceiling. If it is ceiled at the collar-beam the height should be 10ft. to the wall-plate and 13ft. to the ceiling. The ceiling should extend over at least half the area of the room. In no case may a classroom be left open to the ridge. In classrooms arranged with corresponding windows on opposite sides these heights may be diminished by 1ft., where the cross ventilation is adequate. The area of window-glass of classrooms should be approximately one-fifth of the floor space. The windows should be so distributed as to light every table or desk and the whole of the room evenly and sufficiently. The last vertical glass line of the window furthest from the teacher should be on a level with the back of the last row of desks. Where windows are provided in one wall only, this must be the wall on the left of the pupils as seated. Any additional windows should be placed in the right-hand wall, but not so as to throw a stronger light from the right of the pupils than from the left. Windows facing either the pupils or the teacher are to be avoided. Skylights cannot be approved, except in special circumstances, in classrooms. Unless the top of the window be more than 12ft. above the floor, no desk should be more than 20ft. from a window. (a) The lower glass line of the main lighting windows should not be more than 3ft. 6in. above the floor. (b) The tops of the windows should, as a rule, reach nearly to the ceiling. French casements may be approved for some rooms. Windows should never be provided for the sake merely of external effect. Clear glass should be used in the windows, and all kinds of glazing which diminish the light and are troublesome to keep clean and in repair must be avoided. The colouring of the walls and ceilings and

of all fittings in the rooms should be carefully considered as affecting the light. It is advisable to keep the classroom floor level throughout. If a platform is provided for the teacher it should be about 6in. high. Ample blackboard space should be provided, also space for maps and diagrams. In schools where there are a considerable number of older pupils, one classroom at least should be treated as a sixth-form room. Such a room may be furnished with tables suited to the work of the pupils, instead of desks, and may also be used as a library.

(vi.) Science Rooms.—The provision of rooms for science teaching should be carefully considered in relation to the work of the school and the number of pupils.

Laboratories.—A school of 150 pupils over twelve years of age will require at least one laboratory; but in a school of this size for boys and girls two laboratories will, as a rule, be necessary. A school of 200 pupils or more over twelve years of age will require two full-sized laboratories. In schools of 300 pupils or more three laboratories may be necessary. Before the exact dimensions for a laboratory are decided on the arrangement of benches, fittings, drainage, and flues for fume closets and combustion hoods should be determined and should be shown on the plans; but in no case should there be less than 30 square feet per pupil. It is desirable that the laboratory should be large enough to take a full class. The following dimensions will serve as a guide in planning a laboratory: Bench room.—Space for each pupil not less than 3ft. 6in. by 2ft. 3in. Where pupils work opposite each other the double bench may be 4ft. wide. Gangways.—For pupils working back to back, 4ft.; for pupils not working back to back, 3ft. Benches should be clear of shelves. It is very useful to have side bench accommodation not normally used by pupils, but available for special purposes. A demonstration table should be provided. Gas and water should be laid on for benches and demonstration table. The pipes should be accessible. Sinks should be provided.

Additional Rooms.—Where work of an advanced character is done it will often be necessary, and generally desirable, to provide, in addition to the laboratories for elementary work, one or more smaller additional rooms, simply furnished, for advanced work. All the science rooms should, if possible, be close together and conveniently accessible from one another. A separate balance room for the balances ordinarily in use is not necessary. When such a room is provided there is usually a good deal of overcrowding, and supervision is rendered difficult. In larger schools it is generally found advantageous to have a preparation room; in all schools it is necessary to have ample space for storage of apparatus and materials both in the laboratories themselves and in an adjacent room or rooms. In many schools it has been found easy to provide a separate dark-room. This room may conveniently be fitted for photographic purposes. Even where a dark-room exists it will often be desirable that arrangements should be made for partially darkening a laboratory, when necessary, for practical work in optics. A botanical laboratory need not differ in size from an ordinary laboratory for elementary chemical and physical work; but it should have an aspect that will secure plenty of sunlight for growing plants. It will be found useful to provide a narrow bench under the windows, about 2ft. wide, for physiological experiments and such other work as requires a specially good light. The benches may be plain tables, providing 3ft. 6in. by 2ft. or 2ft. 6in. for each working place, fitted with gas. Sinks should be provided. A demonstration table, fitted with water and gas, should be provided. Wall space should be utilised for reagents and apparatus. It may be convenient to have one bench 4ft. long, with reagent shelves above it. Greenhouse accommodation is desirable, and some arrangement for the germination of seeds.

(vii.) Lecture Rooms. In schools of 200 and over it is useful to provide one or more

lecture rooms, or a classroom fitted with a demonstration table, so that it may be used for lecture purposes. In smaller schools lecture rooms may be omitted. A lecture room should ordinarily accommodate thirty pupils, the last three or four rows of desks being raised; a large demonstration table should be provided, and the room made capable of being easily darkened for lantern-work. In big schools a larger room may be provided, constructed, if desired, on the principle of a theatre, with rising seats. There must be a floor-space of not less than 14 square feet per pupil for the first thirty pupils, and 12 square feet for each pupil above that number. Windows must not be placed facing either the teacher or the pupils.

(viii.) Art Rooms.—A room for teaching drawing should provide not less than 30 square feet per pupil; a suitably shaped room would be 25ft. by 30ft. In schools of over 300 it is desirable to provide a supplementary room for crafts and modelling, or separate rooms for advanced and elementary work. The room should be lighted by a large window to the north, as far as possible in one length, not broken up by wide piers; the top should be carried close up to the ceiling. Any other windows should be fitted with light-excluding blinds. The room should be provided with a sink and have water laid on. In schools for 100 or less the hall, if suitably lighted, may be used for drawing.

(ix.) Housecraft Rooms.—The room provided for housewifery, laundry, and cookery classes should allow 30 square feet of clear floor space for each pupil under instruction at any one time. In addition, space is required for fixed apparatus, which may be roughly reckoned at about 5 square feet per head. A suitable number of pupils for a housecraft class is 15 to 18; in no case should more than twenty be taken together. A north aspect is desirable; special arrangements should be made for ventilating, and where necessary for warming the room. The room should be so placed that smells from cooking will not penetrate into other parts of the school. A larder should be provided, the window of which should face north or east. It is convenient to have two cooking ranges, one open and the other closed, to one of which a back boiler should be attached. Where gas is available, a gas-stove, provided with a flue-pipe to carry off fumes from the oven, should be fixed in a convenient position accessible on at least three sides. Where a gas hot-plate is provided, it may be separated from the oven, and should be set at a height of about 2ft. 6in. from the ground. In cases where electricity can be used with economy, it may be desirable to introduce an electric stove. At least one sink, not less than 3ft. in length, with draining-boards and hot and cold water laid on, should be placed in full view of the teacher and pupils, also a slop sink 12in. deep. Fixed furniture is undesirable; movable tables providing 2ft. per pupil, with two additional tables, are needed. A convenient size for the tables is 6ft. by 2ft. 6in. wide by 2ft. 6in. high. In selecting them regard should be paid to their convenience for needlework purposes. For laundry work a copper holding from 12 to 18 gallons is essential; there should be a supply tap above the copper, and also a tap for emptying it. Storage accommodation, such as shelves, racks, and cupboards, is required. Suitable seats should be provided.

(x.) Handcraft Rooms. In every school there should be, and in every boarding-school with more than twenty boarders there must be, a handcraft room, which should provide for the instruction at one time of not more than fifteen or more than thirty pupils. The latter number will require about 900 square feet of floor area. There should be a space of at least 4ft. in width between benches, and a clear space round every bench for woodworking. A rack for tools should be provided for every bench. In its plan, arrangements, lighting, and ventilation a room for teaching handcraft should be modelled on a workshop rather than on a school. The roof may be either of lean-to or other ordinary form according

to circumstances. Its height at the windows in front of the benches need not be more than 9ft. A flat ceiling is not, as a rule, necessary. The lighting and ventilation must be ample. The room must be warmed, but need not be so warm as an ordinary classroom. The floor should be of wood-blocks or some other material that will not damage tools dropped upon it. Provision for black-board teaching should be made.

(xi.) Preparatory Classes and Departments.—If a kindergarten or preparatory class is attached to a school, it should be taught in a light, airy room or rooms, facing south or south-east, and so arranged as to provide an easy way into the open air. The room should have a fireplace. Wall blackboards for the use of the children and ample cupboard accommodation should be provided. The class should have its own lavatory, offices, and cloakroom accommodation. Where the preparatory department is large a separate block of buildings is often, and in boys' schools a separate playground is always, desirable.

(xii.) Staff Rooms.—The head master's or head mistress's room should be placed conveniently near the entrance, and be provided with a lavatory and closet. Some provision for persons waiting for interviews is desirable. In schools for both boys and girls, under a head master, a separate room is needed for the senior assistant mistress, as well as separate common-rooms for the staff of each sex. It is advisable to place these rooms in a position facilitating supervision over the playgrounds, access to lavatories, etc. Adequate cloakrooms, lavatories, and closets should be provided in connection with these rooms, apart from those provided for the pupils.

(xiii.) Store Rooms.—There should be sufficient space for storage; this can be most economically provided by designing cupboards as part of the buildings.

(xiv.) Dining Halls.—In every school an estimate should be made of the number of day pupils who may be expected to dine at the school or bring their own meals, and dining accommodation should be provided accordingly. Not less than 2ft. should be allowed for every pupil at the table, and not less than 10 square feet of floor area. The kitchen and offices, which should include a larder and pantry, should be adjacent to the dining-hall, with separate entrance, and so placed that the smell of cooking will not be likely to enter the school.

(xv.) Library.—In every school it is essential that there should be a room furnished for use as a library, in which pupils can have facilities for consulting and working from books of reference. This room may also be used as a sixth-form room.

(xvi.) Music Rooms.—In every school in which instrumental music is taught it is desirable to have a music classroom, unless there is a lecture or other room that can be conveniently used. Practice-rooms should be about 8ft. by 6ft. 6in., divided by sound-proof partitions, and with soundproof doors. Music and practice-rooms, if provided, should be as much isolated as is practicable.

(xvii.) Gymnasium.—A suitable size for a gymnasium is 60ft. by 30ft.; in no case should it be less than 50ft. by 25ft. It should be constructed with a flat ceiling 16ft. from the floor and lighted by a continuous range of windows down each side; these windows should have the underside of the sills not less than 9ft. from the floor, and be hung on centres to swing open. At least one end wall should be left blank. The entrance for the ordinary use of pupils should be through a lobby and changing room, so that outdoor boots and shoes are not brought into the gymnasium. The floor should be resilient and to a certain degree resonant; solid floors are therefore unsuitable. Narrow boards running across the room laid on joists will be found the most suitable. Some means of warming must be provided. It is often feasible and desirable to erect a gymnasium of light and cheap construction, separate from, but in convenient connection with, the main school building.

(xviii.) Cloakrooms. In schools for boys and girls there must be separate cloakrooms

for each sex. Cloakrooms should be placed conveniently near the pupils' entrances, and if possible near the pupils' offices. They should be entered from properly lighted and ventilated lobbies, and not from any room used for teaching. They must not be used as passages. As cloakrooms are frequently locked up, it is undesirable to place the lavatory basins in them. They should be heated, in order to dry damp cloaks, and well ventilated, to insure that no smell is carried into the school. Cloakrooms should be amply lighted from the end. The floors should be of asphalt or other impervious material, and the walls of tile or other hard material, or at least with a dado 5ft. high of such materials. It is very desirable to provide a small drying-room for wet cloaks. In schools to be used also by evening classes some part of the cloakroom accommodation and offices should be effectively separated from the rest for the use of the evening pupils. Equipment should be provided on the following scale: Boys.—Cloakroom pegs, 10in. apart, in one horizontal row only. Girls.—Cloakroom pegs, 15in. apart, in one row only, with seats for changing boots and wire boot-racks. For both boys and girls a space of 5ft. is required between the stands.

Changing Rooms.—In large schools it is desirable to provide changing-rooms, which should be fitted with fixed seats, pegs, lockers, and boot-racks. Provision for foot and spray baths may be made. In small day-schools accommodation for changing may be provided in the cloakroom.

(xix.) Lavatories.—The lavatory may serve as access to the closets. Lavatory basins should be provided on the following scale: Boys.—One for every 20 pupils up to 100, and one for each succeeding 25, 18in. being allowed to a basin. Girls.—One for every 10 pupils up to 100, and one for each succeeding 20, 18in. being allowed to a basin. A lock-up slop-sink, water-tap, and cupboard for use by the caretaker are desirable.

(xx.) Closets.—The girls' offices should always be in the main building, but suitably isolated; if this is not possible, they should be connected by a covered corridor. Privacy of access must always be secured. The boys' offices should be completely disconnected from the school. In schools for both boys and girls the offices and approaches to them must be wholly separate for the two sexes. Every closet must be not less in the clear than 2ft. 3in. wide, nor more than 3ft. Each must be fully lighted and ventilated, and have a door. The door should be at least 3in. short at the bottom, and at least 6in. short at the top. The closets are best divided by partitions carried up 6ft. only. The walls should as far as possible be treated with some smooth hard surface upon which writing is impossible. Each closet must be fitted with its own flushing apparatus. The number of closets required is: Boys.—One for every 25. Girls.—One for every 15 up to 100, and one for each succeeding 20. In unials separate stalls are desirable. One stall should be provided for every 15 boys up to 100 and one for each succeeding 20. The arrangement of drains should be in accordance with approved modern practice.

BOARDING HOUSES.

It is necessary that a boarding school should provide ample space for games and recreation. Suitable and adequate accommodation should be provided for resident members of the staff. The pupils may be provided for either in dormitories or in cubicles. Dormitories should contain not less than three beds; there should be a space of at least 3ft. between beds. In girls' schools, cubicles for all girls over twelve years of age must be entertained or partitioned. A floor area of not less than 65 square feet and a cubic space of 700 cubic feet must be provided for each occupant. Ventilation must be adequate, and a thorough current of air should be provided, by arranging the windows on opposite sides of the room. Cubicles, if formed out of a dormitory by partitions not carried up to the ceiling, should provide the area required above; each cubicle must have its own window. If the partitions are carried right up, not less than

100 square feet floor area will be required. Closet accommodation for night use must be provided within reasonable access of each dormitory. The rooms for matron and staff should be so placed as to provide for easy supervision of the dormitories. An aspect that allows the sun to enter the rooms freely should be chosen—south or south-east being preferable. All dormitories must have alternative means of escape for use in case of fire. The provision of chemical fire-extinguishers is not advisable. The washing arrangements may consist of either ordinary hand-basins in the dormitories, or, in the case of boys' schools, lavatories placed conveniently near; in the latter case each pupil should be provided with a small rack and towel-rail. Fixed lavatory basins should not be fitted in sleeping rooms. There should be baths at the rate of two for every twenty boarders, with separate bathroom provision for the staff. A good plan for daily use is to have a room with a floor of asphalt, lead, or other impervious material, with taps and movable baths, or shower-baths. Two shower-baths divided by waterproof curtains or partitions will occupy the space of one slipper-bath, and can also be used more expeditiously. A downstairs changing-room and a separate lavatory for day use, in connection with it, should be provided. The number of closets required for day use is one for every seven boarders. Every boarding school or house must have adequate day-room accommodation; these rooms should provide not less than 20 square feet for each boarder. There should be a separate sitting-room, or bedroom furnished as a sitting-room, for each member of the resident staff, also a matron's sitting-room and linen-room. In every boarding school there must be a sickroom, properly isolated. In a sickroom the beds must be free of the walls. There should be a space of not less than 6ft. between beds, and, if possible, a window between every two beds, the windows being opposite to each other. All internal angles of walls, floors, and ceilings should be rounded. There must be in a sickroom 1,000 cubic feet for each bed. Water-closets and bathroom, with hospital bath, should be provided, with aerial disconnection from the sickroom. In boarding schools of more than 50 boarders provision for infectious cases should be made in a separate building, as far from the main building as can conveniently be arranged. A room for the nurse should be provided, adjoining the sickroom. The head master's house, if any, should be planned as a private residence, with accommodation for a family. It should be entirely separate from the accommodation for boarders. For the head mistress in a girls' school proper and self-contained apartments, with reception-rooms, should be provided.

VENTILATION AND HEATING.

Adequate means for ventilating all rooms used for teaching must be provided, not only for admitting fresh air during use, but for flushing the rooms effectually during the intervals. The inlets for fresh air should be large and well distributed, and be provided with some arrangement to divert the incoming air from striking directly on to the pupils and teachers. In order to insure a sufficient movement of the air, there should be openings on opposite sides of the room, and these should be into the outside air. Where the rooms are properly cross-ventilated, ceiling extracts will not be required. One of various economical and effective plans is to have the lower panes of the windows arranged to open inwards, as "hopper" inlets with side pieces, the upper parts of the windows being hung on centres to swing, in order to give as large an opening as possible. The windows should be arranged so that at least half their area can be open at once. They may be arranged so that the whole space can be open. Openings behind hot-water radiators and ventilating grates are useful adjuncts in cold weather, but do not obviate the need for an ample supply of properly constructed opening windows. Combined systems of heating and ventilation in which air raised to a sufficient degree to warm the rooms is used for ventilation are not generally desirable in a school. The

stimulating and invigorating effects of fresh, cool air are lost, and the pupils become accustomed to sit with closed windows. In buildings of more than one story the ventilation requires particular attention. As far as possible, long trunks and flues for the admission of air, which are difficult to keep clean, should be avoided. Outlets opening into chimney-flues or ceiling ventilators do not work well without some mechanical aid. Generally, the best results will be obtained by providing ample heating power, and making full use of well-arranged windows to secure cross-ventilation. The heat supplied to the school should be moderate and evenly distributed, so as to maintain a temperature of from 56deg. to 60deg. in the rooms. Where windows are provided on two sides of a room, 25 to 30 square feet of heating surface per 1,000 cubic feet should be secured. In a large room heated by an open fire the heating should be supplemented by hot-water pipes on the side furthest from the fire. When the heating is by means of hot water it should be at medium or low pressure; high-pressure water and steam heating cannot be approved. Slow-combustion stoves with long flue-pipes cannot be approved. Gas radiators or stoves are not approved for warming rooms used for teaching unless they are provided with flues. Windows which face the sun should have blinds.

CONSTRUCTION AND MATERIALS.

(i.) Permanent Buildings. — The whole space within the area of the building should be covered by a layer of concrete not less than 6in. thick, and if solid floors are not used, air bricks should be inserted in opposite walls. Except where hard rock, gravel, or chalk bottom is found, concrete foundations must be provided under all new walls. If the external walls of a school are of brick, they should be at least one brick and a half thick; if of stone, they should be 20in. thick. Where hollow walls are proposed, one wall should be at least 9in. thick, with a 2in. cavity between it and the other wall. All walls, not excepting fence-walls, should have a damp-proof course just above the ground line. For single-storied buildings the Board will be prepared to consider proposals for walls of less thickness, as, for instance, a 9in. solid brick wall or an 11in. hollow brick wall, strengthened where necessary with piers. Such walls should be treated with roughcast or cement, or, in the case of hollow walls, a second damp-course should be placed in the inner wall one course of bricks above that through the whole wall. Great care should be taken to render the roofs impervious to cold and heat. Roofs open to the apex are not approved. All classrooms must be ceiled either at the wall-plate or not less than half-way up the roof. In a school of more than one story, special care must be taken to render the floors as far as possible soundproof and fireproof. Solid floors should be used on the ground floor.

(ii.) Temporary Buildings. In special circumstances the Board are prepared to sanction the erection of schools of a lighter and less permanent construction. When such buildings are proposed for recognition for a considerable period, they must be placed upon properly constructed brick foundations, with concrete under the floors, and conform generally to the requirements of an ordinary school building. When a wooden building is proposed the wood should be chemically treated under pressure. In iron buildings careful precautions are required to guard against extremes of temperature, and unless the building is purely temporary it is well to roof it with some form of thin non-conducting tiles. In any case a ceiling should be provided with an air space between it and the roof. The walls should be lined with felt or some other material capable of absorbing heat and of giving protection against cold.

WATER SUPPLY.

In all schools adequate and wholesome drinking water must be readily accessible by the pupils. There should be no direct communication between any pipe or cistern from which water is drawn for domestic purposes, and any water-closet or urinal. Any cistern

to be used for the storage of water should be watertight and be properly covered and ventilated, and should be placed in such a position that the interior may be readily inspected and cleansed. Where waterpipes are used they should be so laid or fixed as to be properly protected from frost. Provision should also be made for completely emptying any exposed pipes and cisterns. All water-closets and urinals should be provided with proper service cisterns, which, together with the outlets from them, are capable of providing a sufficient flush.

PLANS AND PROCEDURE.

The Board may refuse to recognise a school if in their opinion the principles set out in the above regulations have been departed from unnecessarily. Before they recognise enlargements or alterations of premises which have been already recognised, the Board must be satisfied, by the submission of properly drawn plans and estimates, that the proposals are satisfactory. In cases where the immediate erection of the whole building is not proposed, the portions not to be carried out at once should be clearly indicated. Duplicate copies of the block plan and of the plan of each floor must be sent for retention by the Board. The Board expect that in respect of sanitary matters the plans will come up to the standard set by the Local Government Board's model by-laws, or that departures from that standard will be specially indicated and justified.

Requirements as to Plans.—The plans and other information to be furnished in support of proposals for new buildings or for improvements of existing buildings include a block plan of the site, drawn in ink to a scale of 20ft. to an inch; a plan of each floor of all the buildings drawn in ink to a scale of 8ft. to an inch; sections and at least four elevations, also drawn in ink to a scale of 8ft. to an inch. There must also be furnished a concise description of the buildings, and of the various rooms, with their dimensions and uses; a specification; and an estimate of the total expenditure proposed.

THE COST PER HEAD OF SANATORIA.

At their last meeting the Kent County Council received a committee's report stating that twenty-two tenders had been received for the erection of the Leatham Sanatorium. The lowest tender was for the sum of £19,860; but this had now been withdrawn. This left the tender of Messrs. West Bros., of Rochester, for £20,860, the lowest. The committee recommended the council to accept this tender. The building being one for 125 beds, the tender worked out at about £167 per bed for all the work covered by the specification. To this must be added the cost of the land and the redemption of the land tax (which, with expenses, was £1,618 18s. 3d.), the cost of furnishing (estimated approximately at £10 per bed) and the cost of providing the water-supply, of planting and laying out the ground, and the architect's fees (5 per cent. on the cost), and the wages of the clerk of works. It was obvious that the total cost would not be less than £200 per bed. On the other hand, added the Committee, the Local Government Board had informed them that while they recognised that the capital cost must vary, "it should probably not, as a rule, exceed £150 a bed, inclusive of cost of site and equipment," and proceeded to recommend that "capital grants should be made up to three fifths of the cost per bed, provided that the total sum does not exceed an average of £90 per bed." The committee recommended that the council should apply to the Local Government Board for a capital grant of three fifths of the actual expenditure. Even if such increased grant were made, the council's expenditure would be about £80 per bed, instead of the £60 per bed which county councils would be to suppose would be their maximum expenditure.

Alderman Earl Danby, in moving the adoption of the report, offered the council an explanation of the large difference between the probable actual cost per bed of the new sanatorium and the estimate on

which the committee had been relying—£150 per bed—given by the Local Government Board. The cost per bed, allowing for all expenses that could be thought of, was £203 per bed—or no less than £53 per bed more than they were led to expect. Their committee selected as their architect, Mr. Edwin T. Hall, of Bedford-square, London, a man of great experience, who said at the outset that no institution that he had ever heard of—and he apparently knew all the institutions of the kind in this country—had been erected at £150 per bed; but if it was humanly possible he would undertake that it should be done at that figure. When the plans were produced the sub-committee who dealt with the matter were satisfied that Mr. Hall had carried out economy to the highest extent compatible with the comfort and security of the inmates of the building; but it was apparent that this £150 per bed would be considerably exceeded, and the final estimate of the cost was increased, as he had already said, to £203 per bed, made up as follows: Purchase of land and redemption of land tax, £1,620; furnishing, at £10 per bed, £1,250; architect's fee at 5 per cent. on the cost, £1,050; clerk of the works, £200; planting, £200; contract for building, including generating plant, laundry, sewage disposal, roads, etc., £20,860; capital cost of laying on water, £250; making in all £23,435, or just about £203 per bed for 125 beds. Lord Darley quoted figures to show that the sanatorium would be built at a much less cost than many other similar institutions, among them being Liverpool, £375 per bed; Frimley, £374; Worcester, £320; Ipswich, £250; Eastbourne, £266; South Wales, £221; and North Wales, £220. The committee, his lordship added, recommended the council to apply to the Local Government Board for a grant equal to three-fifths of the actual expenditure, and to protest very strongly against the Board having fixed so inadequate a limit as £150 per head.

A long discussion ensued, many members being in favour of an amendment proposed that no new building contracts be entered upon, and that all departments be as sparing as possible in the expenditure. It was stated that the standing joint committee had decided that morning not to invite tenders at present for the erection at Maidstone of the new county police headquarters, which were to cost £25,000; but eventually Messrs. West Bros.' tender for Lenham Sanatorium was accepted, and the committee's recommendation to apply to the Local Government Board was adopted by a substantial majority.

BITUMINOUS CONCRETE.

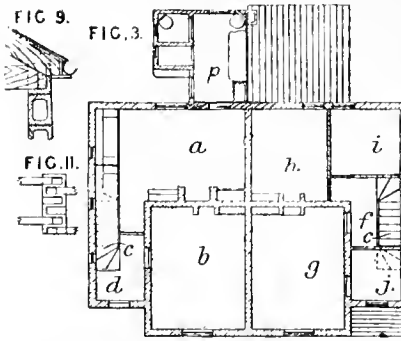
Mr. Linn White, civil engineer for the South Park Commissioners, Chicago, has arrived at the following conclusions as to bituminous concrete: (1) Bituminous concrete and bituminous macadam of equal thickness require the same amount of bitumen per square yard. (2) Considering the total thickness of wearing surface and base, and disregarding first cost of plant, the only difference in cost between bituminous concrete and bituminous macadam is the difference in labour, amounting to generally less than 10 cents per square yard. (3) Old macadam is a difficult and uncertain proposition to penetrate with poured bitumen on account of dirty stone, and generally requires a new top layer of stone to produce a successful bituminous macadam, but if of substantial thickness may be utilised as a base for bituminous concrete. (4) The mixing and laying of bituminous concrete may be carried on during damp and cool weather when it would not be practical to construct bituminous macadam. (5) Bituminous concrete is of even thickness and even composition, and, consequently, wears more evenly than bituminous macadam, no matter how well made, and costs less for repair and maintenance. In all these respects the advantage of comparison is in favour of bituminous concrete, except in the one of first cost.

Mr. A. Dryland, the county surveyor of Surrey, has received an increase of salary

PATENT COTTAGES.

The following plans have been patented by Mr. J. S. Fairfax, Holborn Hall, Gray's Inn-road, London:—

Cottages, either semidetached, as shown in Fig. 3, or detached, are formed on the ground



floor with a front room, *b*, and a back room, *a*, of equal width, but not necessarily of equal lengths, the lengths being at right-angles; an entrance-hall, *d*, in the angle between the rooms, and a staircase, *c*, starting with three railed-in winders, and having a side partition forming a cupboard beneath and continued into the room *a* to form a larder.

The first floor comprises three bedrooms, *g*, *h*, *i*, and a small room, *j*, each with a separate entrance from a landing, *f*. A scullery, *p*, a coal cupboard, and a closet are provided at the rear of the kitchen.

The walls are built of hollow blocks, shown in Fig. 9, and approximately 7in. by 9in. in cross-section and 12in. long, so that the walls may be either 7in. or 9in. thick. Special recessed blocks are provided to receive the floor and ceiling joists, as shown in Fig. 11, and the top blocks are cut away to take the rafters.

For angles and cross-walls, L-, T-, and X-shaped bricks are used. The hollow walls may be used for ventilation and heating, and glass bricks may be used for lighting.

OBITUARY.

We regret to have to announce the death of Mr. Charles Mewès, Diplômé par le Gouvernement Français, Arbitre près le Tribunal de Commerce, S.C. Mr. Mewès was the senior partner of the firm of Messrs. Mewès and Davis, architects, 39, Maddox-street, Hanover-square, W. He also practised in Paris and Cologne; in the latter town he was in partnership with Monsieur Alphonse Bischoff. With Mr. Arthur J. Davis, F.R.I.B.A., he was responsible among other work for the following buildings, etc., in England:—The Ritz Hotel, Piccadilly (illustrated in our issue of March 3, 1905; half-a-dozen specially designed keystones in the principal facade were shown in our number for June 1, 1906); the "Morning Post" offices, Strand; the Royal Automobile Club, Pall Mall (Mr. E. Keynes Purchase, F.R.I.B.A., was joint architect for this building, which was illustrated by plans and elevations in our issue of April 23, 1909); decoration of s.s. "Aquitania" for the Cunard Steamship Co., Ltd., consulting architect to the Cunard Steamship Company, for their new building in Liverpool; decorations of s.s. "Amerika," for the Hamburg-American Line; new theatre and boxing hall for the National Sporting Club, Ltd.; the Cavalry Club, Piccadilly (extension); the Cunard Steamship Company's offices, Coekspur-street; the Carlton Hotel, remodelling and decorating interior; the Hyde Park Hotel, internal alterations and decorations; extensive alterations and decorations at No. 1, Belgrave-square; S.W. for Mr. W. Koch, 49, Belgrave-square, for Mr. Otto Boll; 8, Grosvenor-square, for the Hon. Henry Coventry; 37, Grosvenor-square, for Mr. Robert Fleming; 18, Grosvenor-square, for Mrs. John Astor; Luton House, Luton, for the late Sir Julius Wernher, Bart.; Polesden Lacey, Dorking, for the Hon. Mrs. Ronald Greyville; Coombe Court, Kingston Hill, Surrey, for the Most Hon. the Marquis

of Ripon; Glanusk Park, Brecon, for the Right Hon. Lord Glanusk; also decorative work at 11, Portman-square, W., for His Grace the Duke of Beaufort; 27, Portman-square, W., for Mr. Ernest Cunard; Stafford House, for Cora Countess of Stafford. Mr. Mewès executed the following works from his office in Paris:—The Ritz Hotel, Paris; Palais des Congrès International Exhibition, Paris, 1900; Chateau de Rochfort; Credit Foncier, Rue Cambon (now in course of erection); house for M. Jules Ferry; house for M. Lucien Guity; extensions Grand Magasins du Louvre; block of flats in the Clamps Elysées, etc. In Spain Mr. Mewès carried out, in conjunction with Mr. Landeche:—The Ritz Hotel, Madrid; Esplanade San Sebastian. From his office in Cologne, in partnership with Monsieur Bischoff:—House for Herr Oppenheim; Esplanade Hotel, Hamburg; house for Herr von Guillaume; fittings and decoration of s.s. "Kaiserin Augusta," s.s. "Imperator," and s.s. "Vaterland," for the Hamburg-American Line. Together with his partner, Mr. A. J. Davis, Mr. Mewès took an active and personal interest in the organisation and work of the First Atelier in London, of which he and his partner were joint patrons. Mr. Mewès had for some years been a widower.

To our notice last week of the death of Mr. John Brooke, F.R.I.B.A., the senior partner in the firm of John Brooke and Eleock, of Manchester, we may add that Mr. Brooke was a pupil of Mr. Frederick Bakewell, architect, of Nottingham, and on the completion of his articles went to Manchester at the age of nineteen. For a few years Mr. Brooke was a partner in the firm of Corbett and Son, of Manchester, but at an early date he began practice on his own account in Exchange-street, Manchester, where he remained for over thirty years. In 1912 he assumed as partner Mr. C. E. Eleock, F.R.I.B.A., of Glasgow and Liverpool. Mr. Brooke's ability was recognised by his appointment as assessor of many important competitions and arbitrations. He had been a member of the Constitutional Club, Manchester, and of the Old Rectory Club, and was a member of the Lancashire Cricket Club, in which he took a great interest. He had been a widower since 1902 and leaves four children: Mrs. Robertson Duncan, of Shanghai; Mr. T. Wynyard Brooke, A.R.I.B.A., of Messrs. Davis and Brooke, architects, Shanghai; Mrs. Arnold Wolf, of Hale; and Mr. F. R. R. Brooke, Royal Artillery, Woolwich, the well-known Lancashire cricketer.

Mr. Robert Francis Harper, Ph.D., Professor of Assyriology at Chicago, has died suddenly in London, in his fifty-ninth year. A native of Ohio, Dr. Harper had been instructor at Yale University from 1886 to 1892, when he was appointed Professor of Assyriology at Chicago, where he graduated. In 1906 he became Director of the American School of Archaeology at Jerusalem. He published the texts of the Assyrian Letters and Reports of the reigns of Sargon, Sennacherib, Esarhaddon, and Ashurbanipal, preserved in the British Museum. Thirteen volumes have been published, and Professor Harper was finishing the fourteenth at the time of his death. A fifteenth volume, dealing with Assyrian Paleography, had been planned, and these two final volumes will be duly edited by others and issued.

Mr. J. H. Harris, of Chatham, has been appointed borough surveyor and inspector of nuisances to the Penryn Town Council.

Mr. R. Angus has been appointed to the post of inspector of roads and streets under the Aberdeen Town Council. The salary is £200 per annum.

The Weston-super-Mare Improvement Bill, sanctioning the provision by the urban district council of a new water supply, the acquisition of land for cemetery extension, and other important schemes, has received the Royal Assent.

The town council of Ryde has rejected a proposal to tar-spray some of the principal thoroughfares in the borough, as the members consider that the yellow gravel now used on the roads contributes to the bright appearance of the town.

Currente Calamo.

The R.I.B.A. and the Architectural Association are promptly to the fore with suggestions for national help, as will be seen by the two communications from Mr. Ernest Newton and Mr. Maurice Webb, which we print elsewhere. The suggestions are practical, and we hope there will be a hearty response at the meeting of the R.I.B.A. which is to be held this afternoon at 9, Conduit-street. The second suggestion tabulated by the President of the R.I.B.A. is an eminently timely one. Fraternal co-operation will effectively facilitate that which at the moment should be the chief aim of all of us just now—namely, the maintenance in full force and energy of "Business as usual," as Mr. H. E. Morgan happily phrases it.

We are glad to find that our anticipations last week with regard to the possible effects of the war on our own industries were not unduly optimistic. The seven-months' dispute in London has been settled on terms creditable to both sides. The terms last submitted by the London Master Builders' Association to the several trades-unions have been accepted, with a reservation of the clauses relating to disability and to foremen, as well as the rate of wages to timbermen, and alteration in overtime rates for labourers, for the Augmented National Conciliation Board's final decision. That, of course, has ended the possibility of any general lock-out throughout the country. During the week work has been resumed in London as fast as the seven-months' hindrances in various directions would allow, and it now only remains for all concerned to pull together heartily to keep things going.

Pessimists last week suggested that unemployment would be increased by the suspension during the crisis of building and engineering operations provided for in the estimates of the Office of Works recently approved by Parliament. We did not believe for a moment that any such action would follow, and we are glad the First Commissioner of Works quickly announced that his Department will proceed with all services, employ as many men as possible to carry out such services, and develop and expedite the Government's building programme in any way practicable. We very earnestly endorse the First Commissioner's appeal to private individuals, companies, firms, and contractors to spare no effort to follow the policy of the Government in this matter. We trust also that all concerned will encourage all manufacturers and merchants who are doing their best to maintain the necessary supply of material of every description. There are few, if any, branches, in which this will be found impossible, and buyers hereafter will not forget the enterprise of firms which rise to the occasion.

The reintroduction of the Housing Bill by the Government—which, it will be noticed, is creditably pushing ahead with its other building work—is a right step. As Mr. Samuel very aptly remarked last Saturday, it will enable assistance to be given in any direction which is necessary, and is in no sense £4,000,000 devoted to the relief of distress. It will be spent to build houses which will exist at the end of this crisis, and

bring in revenue. It is a desirable and profitable investment and in no way a mere charitable grant. It is also prudent and proper that the Local Government Board does not contemplate setting up in London a branch for letting contracts or building houses in Manchester or Liverpool. What will be done is to arrange with the public utility societies and the local authorities for taking the necessary measures to provide for the necessities of their own districts. It remains now for other bodies to supplement the initiative of the Government to the utmost.

Manchester is setting a good example to all local authorities. The Manchester and Salford House Famine Committee, at a meeting last Monday night, recommended the city and borough councils immediately to proceed with schemes for erecting houses for the working classes. The resolution pointed out that these schemes would not only provide work, but would be "a valuable contribution to the solution of the housing problem, and would make a permanent addition to the assets of the community." The Manchester sanitary committee have one housing scheme which has been approved by the city council, and now awaits the approval of the Local Government Board. It provides for the erection of forty tenements in St. Michael's Ward. The committee will also present to the next meeting of the city council a proposal for the building of 130 cottage flats on the Temple-street estate, Cheetham Hill. Both these schemes, with the goodwill of the council and the Government department, might very soon be put in hand. There is, further, the extension building scheme for the Blackley estate. Some time back the sanitary committee was authorised to obtain competitive plans for the building there of fifty semi-detached cottages to let at rents varying between 5s. 6d. and 7s. 6d. The competition has taken place and the awards been made, and there is no reason why this scheme should not be accelerated.

It is stated that the Metropolitan Asylums Board has suspended permits to fish in its reservoirs. Undoubtedly a wise precaution at the present time, and one, we are inclined to think, from our own acquaintance with and observation of one of the largest near town, which might be maintained, except in rare cases, in the future. Mr. Ernest Phillips, in a recently published book on "Trout in Lakes and Reservoirs," points out that where fishing is permitted in reservoirs there is some chance of contamination. Worms and gentles are frequently used, and ground-bait of an unsavoury character. The possibility of pollution by the excrements of fishermen is certainly not to be overlooked. It is quite possible that a typhoid carrier might thus pollute the water near the outlet of a reservoir. Dr. Houston tells us that "if a typhoid carrier micturated in the river above the intakes (say from a boat), the typhoid germs, in the absence of storage, would be carried directly on to the filters, with consequences which could hardly be other than calamitous. Even if water is polluted with as much as from 0.001 to 0.0001 per cent. of crude sewage, the chances of typhoid bacilli being uniformly present are extremely remote . . . but a water polluted with extremely small traces of typhoid urine would probably suffice to produce a serious epidemic." Fishing certainly should never

be allowed without the sanction of the water authority's bacteriologist.

Our Canadian contemporary the *Contract Journal* comments severely on a competition scandal at Vancouver. It declares that "it has remained for the city of Vancouver to provide, in one flagrant example, an embodiment of all the evils attendant upon engineering and architectural contests." Last spring the Vancouver City Council invited competitive plans for the new causeway and seawall at Coal Harbour, and designs were received from twenty-three competitors. In the conditions sent out the competitors were asked to provide sufficient details to enable the city engineer, Mr. Fellowes, to check the designs in regard to the strength and stability of the proposed work. It was stipulated that the designs should conform in line and grade with the plans supplied by the city engineer. Competitors were requested to withhold their names from the plans, specifications, and estimate. A clause was inserted to the effect that disregard of the conditions would entail disqualification. The rate at which the successful engineer would be recompensed was stipulated carefully.

In the end, it seems, the plans of the city engineer have been approved and accepted by the Vancouver City Council—and this in the face of strenuous objection on the part of the Canadian Society of Civil Engineers and the Architectural Institute of British Columbia, to say nothing of a united protest from the twenty-three competitors. From the evidence offering, our contemporary says, "We do not hesitate to commit ourselves unequivocally in condemnation of the fact that the city engineer compiled the regulations governing the competition, assumed the part of technical expert in judging the designs, and finally became a competitor, thereby, in the last-named regard, violating one of the essential parts of the competition." We have, of course, no knowledge first hand ourselves, and it is right to say that in defence of his own work and of the council's selection, the Vancouver city engineer urges that the modified plans submitted by him were conceived and prepared before he had examined the competitive designs, and that he had no previous knowledge of their structural arrangements. If that is so, it is the more shameful that twenty-three men were put to the cost of four or five thousand pounds in the aggregate to prepare designs for work which the city had determined its own engineer should carry out.

We hope it is hardly necessary to advise architectural students, if they would avoid arrest on charges of espionage, to be careful where they sketch and photograph. A too-zealous policeman or Territorial officer might occasion them considerable inconvenience while the war lasts. From South Hampshire we have received a well-authenticated narrative—not from the correspondent of a halfpenny London evening newspaper of a young man who, while sketching from near a railway bridge, was seized by a county constable and conveyed to the police station. There it was found that the artist's sketch-book was full of innocent views of meadows and Gothic architecture, so he was soon released. But his adventures should act as a warning to others.

PARLIAMENTARY NOTES.

THE HOUSING BILL (No. 1).—In the House of Lords, on Saturday, the Housing Bill was passed, after the insertion of an amendment moved by Lord Lucas, President of the Board of Agriculture, applying the provisions of the measure to the case of all persons in the employment of the Government, and not only to those employed on Government works. The measure received the Royal Assent on Monday.

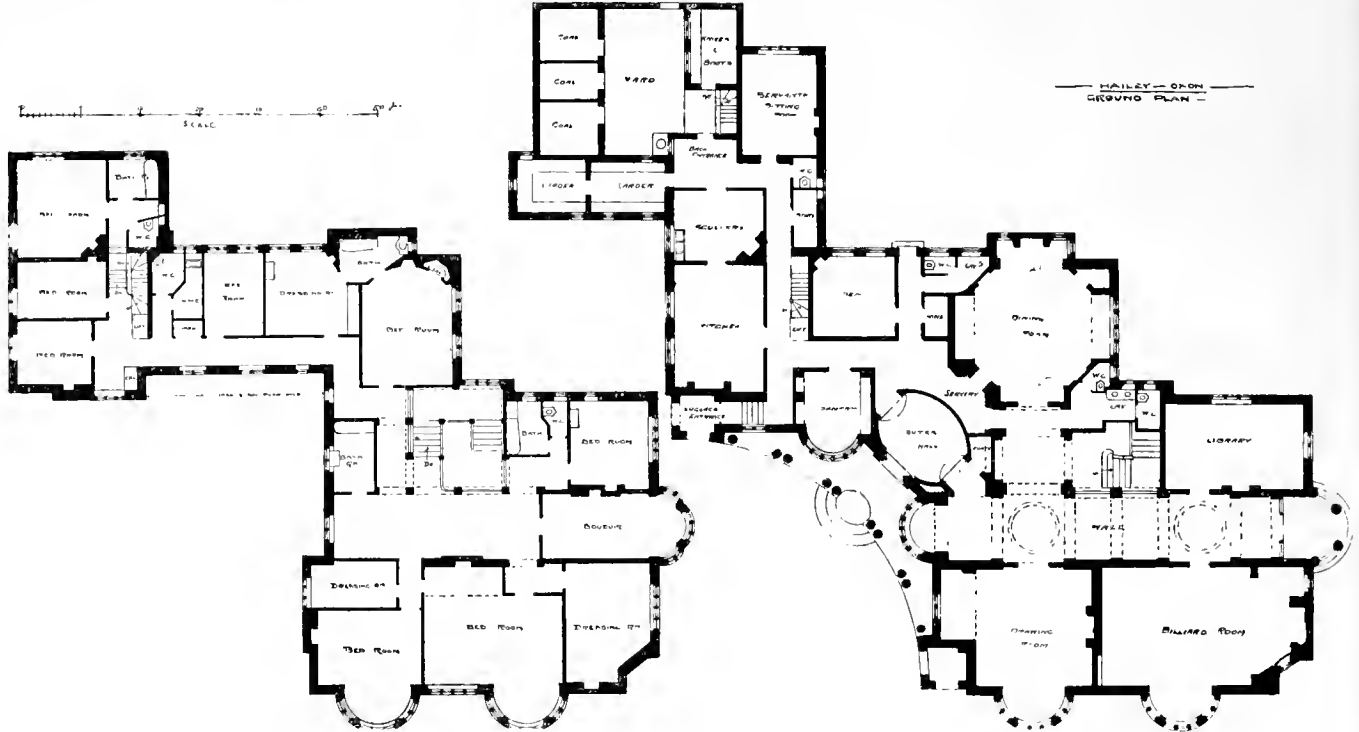
HOUSING (No. 2) BILL: EMPLOYMENT FOR THE BUILDING TRADE.—In the House of Commons, on Saturday, the Right Hon. Herbert Samuel, President of the Local Government Board, asked leave to introduce a Bill to

time.—The second reading of the Bill took place on Monday evening.—Mr. Herbert Samuel, replying to various questions and suggestions by Mr. Walter Long, Lord Robert Cecil, and others, stated that it was not the intention of the Government Departments concerned themselves to build where they could get the work undertaken either by local authorities or public utility societies. He was ready to accept an amendment providing for full local inquiry. It was the intention that houses and cottages should be let at economic rent. But he wanted to make it plain, in view of the fact that it might be difficult at this juncture to borrow money at the usual rates of interest, and if local authorities were pressed to undertake

Our Illustrations.

GRAND ORIENTAL HOTEL, COLOMBO, CEYLON.

This well-known hotel is now being reconstructed in sections, from the designs of Messrs. Stevens and Gregson and Co., Bombay, Colombo, Rangoon, and 32, Victoria-street, London. The hotel has frontages to three streets—namely, Church-street, York-street, and Princes-street, with a façade totalling 725ft. to these streets. The reception-rooms are of a magnitude and



HOUSE, "HAILEY," OXON.—Mr. FRANK L. PEARSON, F.R.I.B.A., Architect.

give the Board of Agriculture and Fisheries in agricultural districts, and the Local Government Board elsewhere, powers with respect to housing, and to make similar provision for Scotland. He said it was thought advisable at this juncture to pass this Bill as a temporary measure to be applicable only for one year. It was considered that, in case there should be considerable distress from unemployment in this country, it might very likely extend to the building trade, and it would be absurd in such circumstances to expend great sums of public or even private money in giving relief to persons out of work instead of setting the men to work in their own trade to make good the deficiency in housing accommodation which had long been admitted to prevail, both in the town and in the country. While he thought there would be general approval of the principle of the Bill, he desired to make it clear that the Local Government Board did not contemplate setting up a new branch in London, with architects and the necessary staff, for the purpose of letting contracts and itself building houses wherever the need might occur. What he contemplated was to arrange with the public utility societies and local authorities for taking the necessary measures to provide for the deficiency that might exist in their districts. The Board of Agriculture would proceed with plans that had already been made for providing houses in rural districts. Mr. Henry Law said the Opposition thoroughly approved of the course which the right hon. gentleman had taken. The opposition would do all in their power to facilitate the passage of a measure which would give employment when it was needed. Mr. Hayes Fisher asked whether the £4,000,000 to be expended under this Bill would be in addition to the £100,000,000 already voted by Parliament. Mr. Samuel replied that the £4,000,000 would be in addition to the vote of credit. At the same time, it must not be regarded as £4,000,000 devoted to the relief of distress. The £4,000,000 would be spent on the building of houses which at the end of this crisis might result in bringing in revenue, and therefore it was rather in the nature of an investment than a charitable grant.—The Bill was introduced and read a first

building at once, that it might be necessary to consider temporary measures with regard to the rate of interest. The whole operation of the Bill was for one year only, when it would be subject to the review of the House of Commons.—After further debate the Bill was read a second time. The Bill passed through Committee, with amendments, and was read a third time. On the same evening the measure expeditiously passed through all stages in the House of Lords, and after a brief suspension of the sitting received that night the Royal Assent.

IRELAND AND THE HOUSING BILL.—Mr. Birrell, Chief Secretary for Ireland, introduced on Monday a Bill extending the Housing (No. 2) Bill to Ireland, which was read a first time.

The annual meeting of the Cambrian Archaeological Association, which was to take place at Dolgelly next week, has been abandoned.

A Local Government Board inquiry has been held at Newport, Mon., into an application of the Monmouthshire County Council for permission to borrow £2,300 for extending the council offices at Newport, including the provision of furniture. The plans have been prepared by Mr. W. Tanner, the county surveyor.

The annual report on the work of the London County Council during 1913 will be described in four volumes, and the first, now issued, deals with rating, traffic, and public protection. During the year 207 members of the Fire Brigade were injured while on duty, and there were three deaths. The pecuniary loss caused by fires was £357,000, while the latest record shows that the value of property insured was £932,598,000.

The Provisional Order empowering the corporation of Rotherham to construct further tramways has now been confirmed by Parliament. The tramways committee recommend that tramway No. 1 (from Westgate along Market-place, Corporation-street, and Frederick-street to Eflingham-square) be constructed in accordance with the powers obtained, and that application be made to the Board of Trade for sanction to borrow £3,760 10s. to carry out the work.

elegance hitherto unknown in the East, and are situated on the ground and first floors. Upon the upper floors are some 400 bedrooms and bathrooms. The reception-rooms and salons have been decorated with a Renaissance treatment in marble and plaster. The building is a steel-framed structure, with fireproof floors of reinforced concrete, covered with Conolite. The building is faced on its street frontages with Porebunder stone from North-West India and Bombay bluestone. The whole building, when complete, will have cost about £200,000. The contractors for the building are Messrs. Ralph Macdonald and Co., of Colombo.

"HAILEY," IPSDEN, OXON.

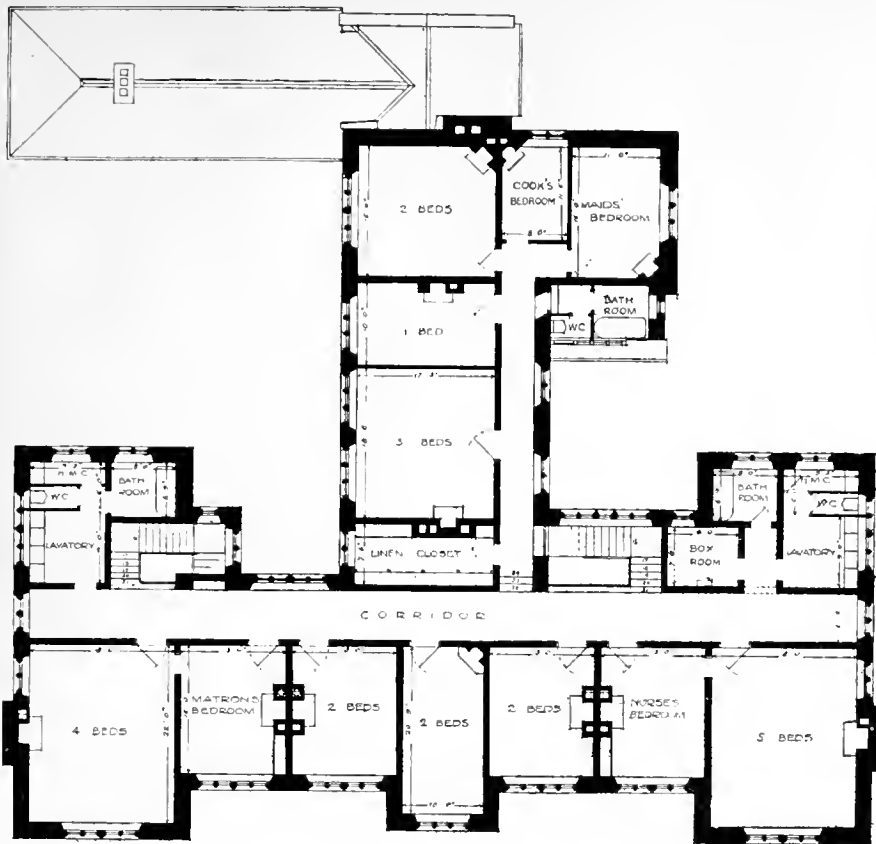
This house, which has just been completed from the design and under the superintendence of Mr. Frank L. Pearson, architect, is situated on high ground on the edge of the Chilterns. It is built of Marcham rubble with Clipsham stone dressings, and the roof is covered with Colleyweston slates. Most of the interior fittings are of hard wood. The main staircase is of oak, carved and enriched. The dining and billiard rooms are panelled in oak, and the library in figured Java teak. The gardens are laid out from the designs of the architect to harmonise with the house.

XLIII. GREAT PORTLAND STREET.

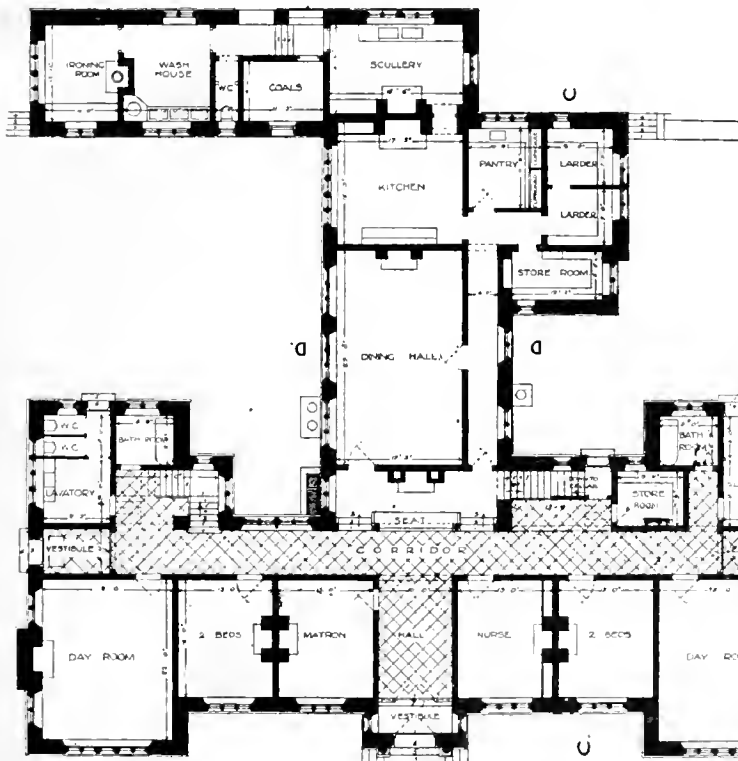
The broad, simple treatment of this street façade speaks for itself and calls for little description. It has been carried out in Portland stone. The windows have wrought-iron frames, and the roof is covered with Spanish tiles. The architects are Messrs. William and Edward A. Hunt, F.R.I.B.A., of Donnington House, Norfolk-street, Strand.

RATHBONE CONVALESCENT HOME, PARWICH, DERBYSHIRE.

This building, of which we give a view with plans, has been erected as a con-



FIRST FLOOR PLAN



GROUND FLOOR PLAN

RATHBONE CONVALESCENT HOME, PARWICH, DERBYSHIRE.
Mr. W. R. MOSLEY, Architect.

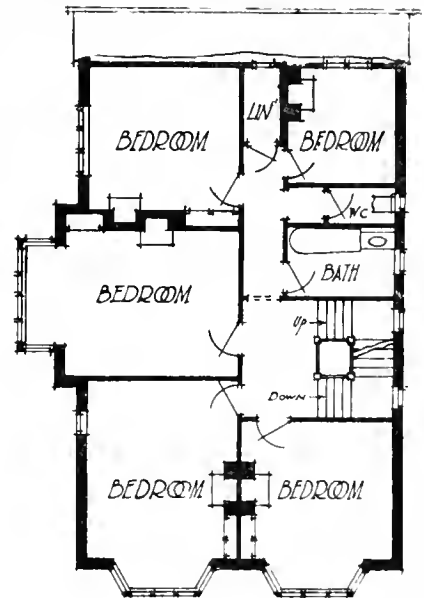
valescent home for women and children. It is built of local fossil limestone, with stone dressings. The roof is covered with thick Westmoreland slates, with stone ridging. All the opening windows have steel casements and leaded glazing is used throughout. The site on which the Home has been erected is much elevated on a hillside above the village of Parwich, which lies between Ashbourne and Buxton, and commands a grand view of Derbyshire dale scenery, which the principal

rooms face. The design is an adaptation of the style prevalent in Derbyshire country manor-houses of the Jacobean period, and it was desired to avoid the appearance of a public institution, in order to insure a home-like character. The building is planned for the accommodation of twenty-five patients, a matron, nurse, and three domestics; but the funds in hand did not permit of the whole building being completed at once, the east wing being left over, and the scheme will be

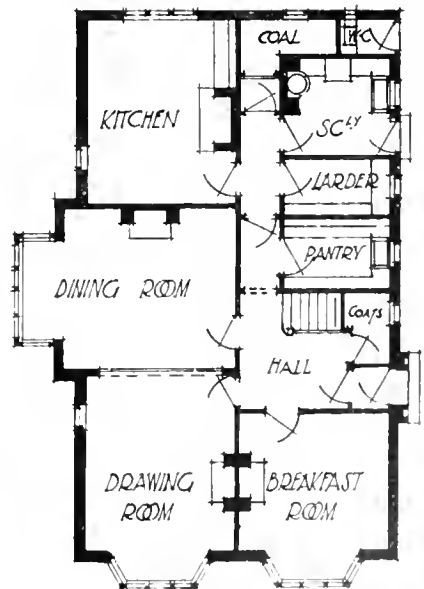
finished in due course. The premises are heated throughout by a low-pressure hot-water system, with radiators fixed against the external walls. All the rooms have fireplaces fitted with the patent "Heaped" fire, and all rooms have inlet and extract ventilators. The first floor has been made fire-resisting, and maple floorboards have been laid, same as in the sitting-rooms and bedrooms on ground floor. The dining-hall floor is of maple-wood blocks. The staircases are of Hopton Wood stone, and the corridor on ground floor is paved with Hopton Wood stone laid diagonally. The Home is lighted with the "Litz" safety petrol air-gas. The building contractors are Messrs. Walker and Slater, of Derby. Mr. W. R. Mosley, of Slough, is the architect.

HOUSE, FIELDS PARK, NEWPORT, MON.

Subject to a few modifications, this house has been erected for Mr. A. J. Wilson Jones, of Newport. Owing to a somewhat exposed



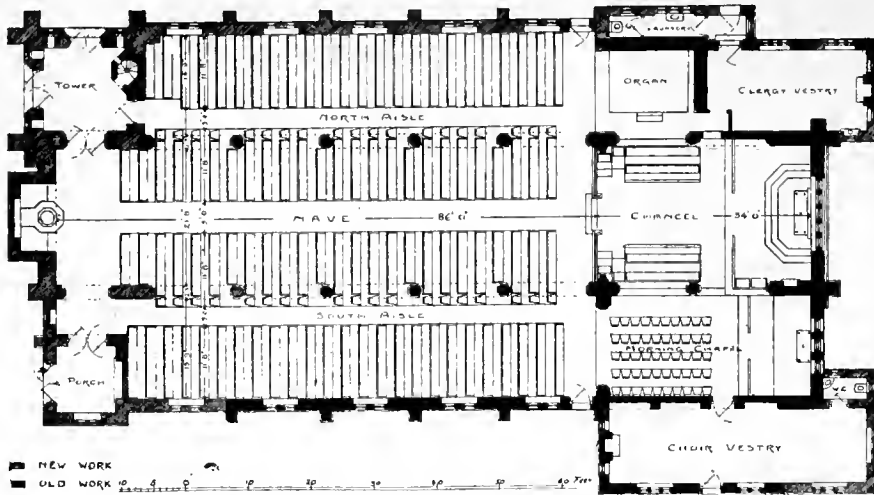
FIRST FLOOR PLAN



GROUND FLOOR PLAN

VILLA, FIELDS PARK, NEWPORT, MON
Messrs. ALFRED SWASH and SON, Architects.

situation the plan was kept with as few breaks as possible and the roofs mostly hipped. Ease in the working of the house was also aimed at. A folding screen between



ST. MARK'S CHURCH, BUSH HILL PARK, ENFIELD

COMPETITIONS.

MIDDLETON TOWN HALL.—At the meeting of the Town Council of Middleton, Lanes, on Wednesday in last week, the report and award of Mr. G. Hastwell Grayson, M.A., F.R.I.B.A., of Liverpool, the assessor appointed to advise the council on the relative merits of the designs for the new town hall, were formally adopted and confirmed as follows:—First, premium £100 (merged in commission), No. 39; second, £50, No. 89; third, £25, No. 8. There were 107 sets of plans received. The names of the three successful competitors were made known yesterday. They were: 1, Mr. Alick G. Horsnell, 9, Gray's Inn-square, W.C.; 2, Messrs. Briggs, Wolstenholme, and Thornley, Blackburn; 3, Messrs. Clapham and Symons-Jenne, Norwich House, Southampton-street, Bloomsbury, W.C.

DONCASTER.—Mr. L. P. Abercrombie, of the School of Architecture, Liverpool University, has been invited to act as assessor in the competition for the Doncaster Corporation housing scheme.

Mr. John Stanley Sawdon, deputy borough surveyor of Margate, has been appointed engineer to the St. Anne's-on-the-Sea Urban District Council.

It has been decided to postpone for the present the exhibition of oil-paintings which was to have been opened on September 15 at the Manchester City Art Gallery, and would have remained open during the autumn.

The English Forestry Association state that they will do everything possible to organise supplies of native timber and forest produce from the various districts in the British Isles, and assist collieries and industries where necessary to obtain timber which they require. All communications should be addressed to the Honorary Secretary, Farnham Common, Slough, Bucks.

The agenda at the last meeting of Chesterfield Town Council contained recommendations regarding a series of thirteen street-improvement schemes under the new local Act of Parliament; but, in view of the war, all work entailing the expenditure of large sums was deferred sine die. The acceptance of contracts for a number of private street-improvement works was also indefinitely postponed.

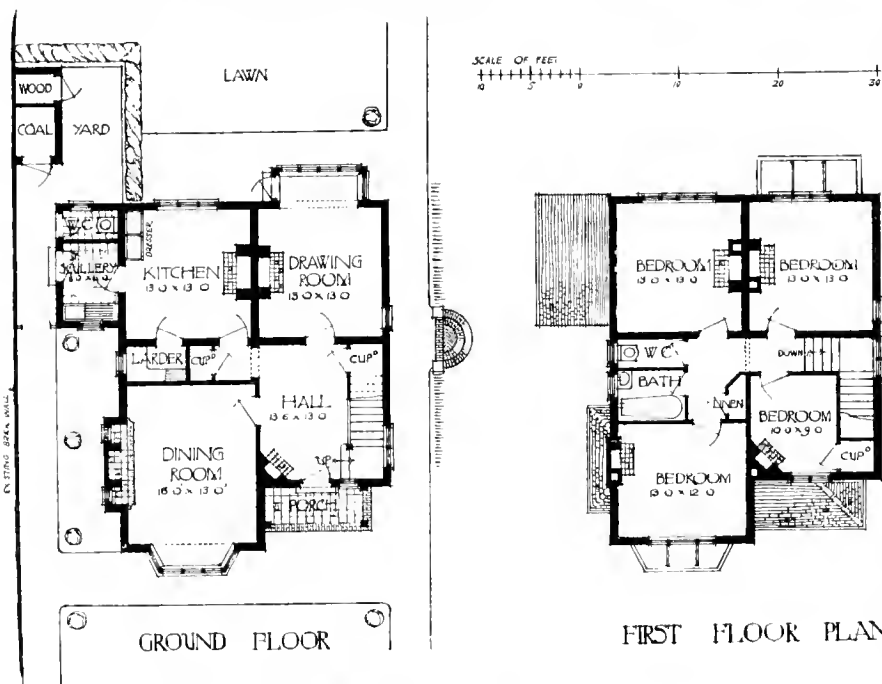
Mr. William Edward Lucas, of Park House, Bexley, Kent, a partner in Messrs. Dann and Lucas, auctioneers and surveyors, of Budge-row, Cannon-street, E.C., who died on June 4, aged fifty-two, left £41,736. He appointed his son to be a partner in the business, and gave to him his share and interest therein. The residue of his estate he bequeathed to his wife and children.

At Cardiff a Local Government Board inquiry has been held by Mr. P. M. Crosthwaite, inspector, respecting an application from the city council for sanction to borrow £50,497 for a new trunk water-service main from Lisvane to the Heath filter-beds, and thence to the city, and for additional filtering appliances and storage facilities. There was no opposition to the application.

On Thursday week, at his residence, 11, Downfield-road, Bristol, Mr. Walter Sturge expired, in his eighty-fourth year. The deceased was a member of the firm of Messrs. J. P. Sturge and Son, land agents and surveyors, Corn-street, Bristol. Mr. William Sturge, who was for some years land steward to the Bristol Corporation, and Mr. Robert Fowler Sturge, present member of the firm, were brothers of the deceased.

A new Constitutional Club, the converted residence of a recently-deceased alderman, was opened at Above Bar, Southampton, on Wednesday week. The work of building a new billiard-room and carrying out the alterations as well as the decoration was entrusted to Mr. H. Cawte, of Church-street, Shirley, from plans and specifications supplied by Mr. A. P. Gutteridge, L.R.I.B.A., of Portland-street, Southampton.

According to a patent by A. P. Percival, Bodawen, Portmadoc, North Wales, and F. E. Matthews, 7, Staple Inn, London, the colour of slates is modified by roasting them, preferably in an oxidising atmosphere, the temperature being gradually raised to about 500-700 deg. C. The roasted slates may be stained with an iron salt solution, or with solutions which react and form precipitates within the pores, the solutions being forced in if necessary. If desired, the slates may be again roasted.



HOUSE AT TWICKENHAM, SURREY.—Mr. STANLEY P. SCASE, Architect.

the dining- and drawing rooms enables these apartments to be combined for special occasions. Externally mixed red brickwork, with cement roughcast coloured cream, were used, wooden casement windows, and roofs of Rosemary tiles in mixed shades. The contractor was Mr. G. Fred Leadbeter, and the architects were Messrs. Alfred Swash and Son, F.R.I.B.A., of Newport.

The roofs are covered with red sandfaced tiles. The square entrance-hall is panelled in oak, with ceiling-beams exposed. The accommodation is shown on the accompanying illustrations. Mr. Stanley P. Scase, of 32, Southdown-road, Wimbledon, S.W., was the architect, and Mr. R. Miller, of Twickenham, was the builder.

ST. MARK'S CHURCH, BUSH HILL PARK, ENFIELD, N.

Owing to the considerable amount of building which has taken place in the neighbourhood during recent years it has been found that the accommodation provided is not sufficient, and for some time the vicar and a committee have been working to secure funds for enlarging the church by the addition of a new aisle, the lengthening of the nave and south aisle, and vestries, etc. The additions will be carried out in local red bricks and stone dressings. The work will probably be started within the next month or two. The architects are Messrs. Cutts Davis, and Boddly, of 11, Southampton-street Strand, W.C.

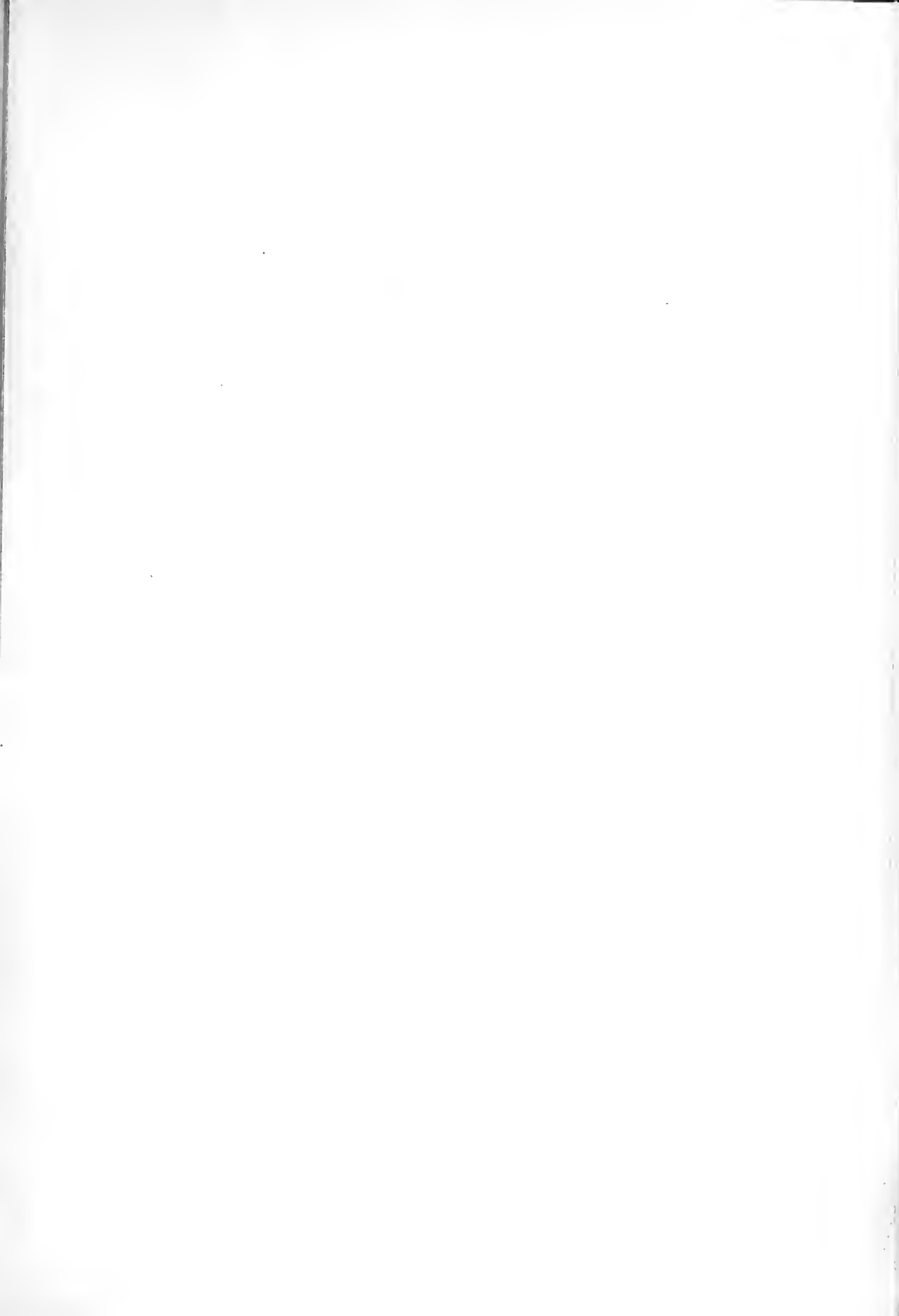
The urban district council of St. Anne's-on-the-Sea have received the sanction of the Local Government Board to borrow the sums of £28,061 and £1,039 for sewerage works.

At Basingstoke a Local Government Board inspector has held an inquiry into the application of the corporation for sanction to borrow £7,200 for the purchase of land and the erection thereon of working-class dwellings. The plans have been prepared by Mr. F. R. Phipps, the borough surveyor.

The city surveyor, Mr. J. Ashurst, attended the St. Albans City Council meeting on Thursday evening in last week in uniform as lieutenant and transport officer attached to the Eastern Mounted Brigade of Field Ambulance (Territorials) which has been called up. Lieutenant Ashurst, who had been given leave by his colonel to attend the meeting, explained the circumstances. The members formally consented to his abstention from the duties of his municipal office, and decided that his salary should continue less the amount of his military pay. The mayor, on behalf of the council, wished their surveyor every success and good wishes and a safe return.

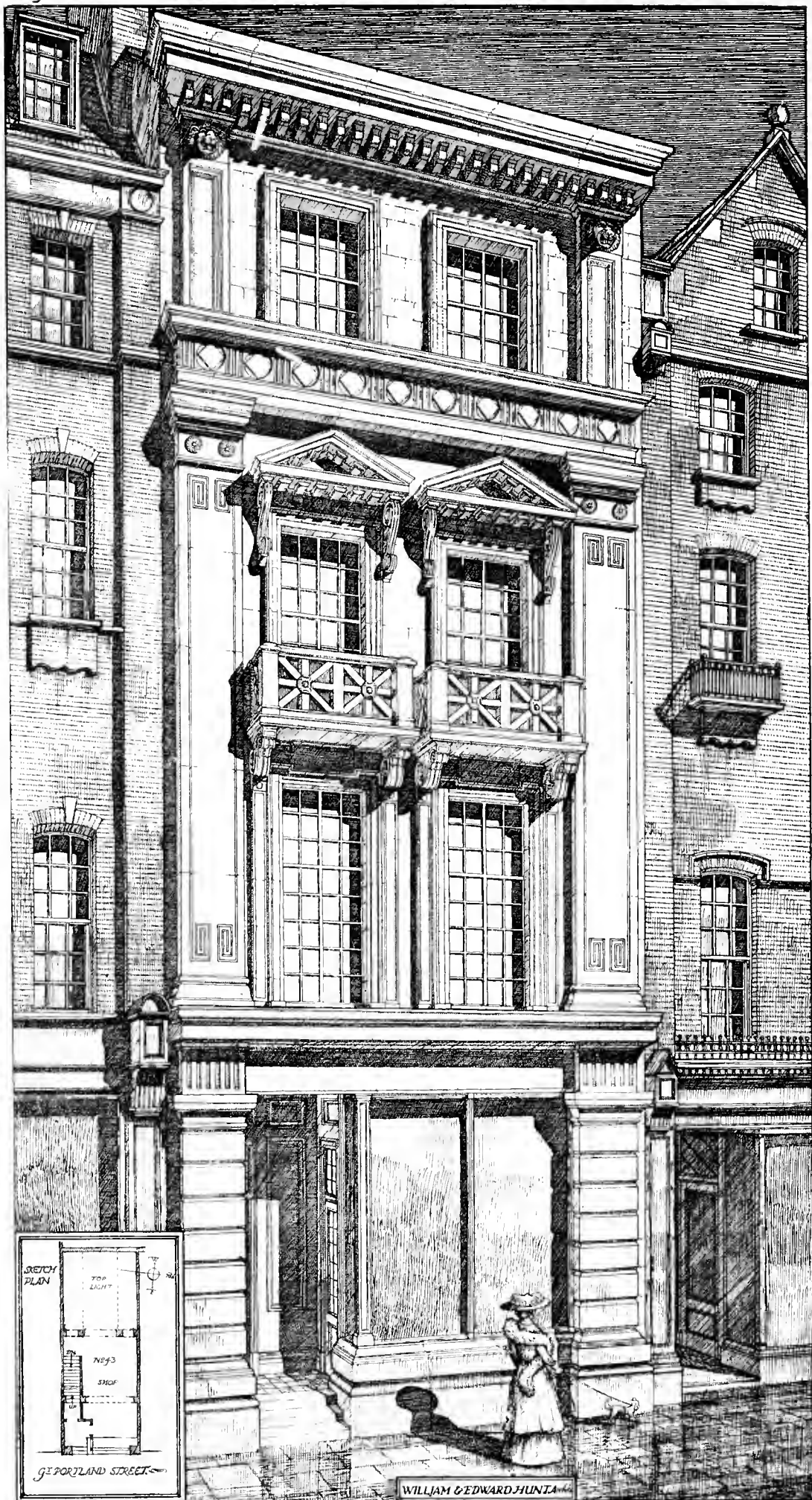
HOUSE AT TWICKENHAM

This house has been erected in London road, Twickenham, Middlesex, for Mr. J. W. Bennett. The walls up to ground floor sills are built of red sandfaced bricks, and the walls above are stuccoed, finished dead white.



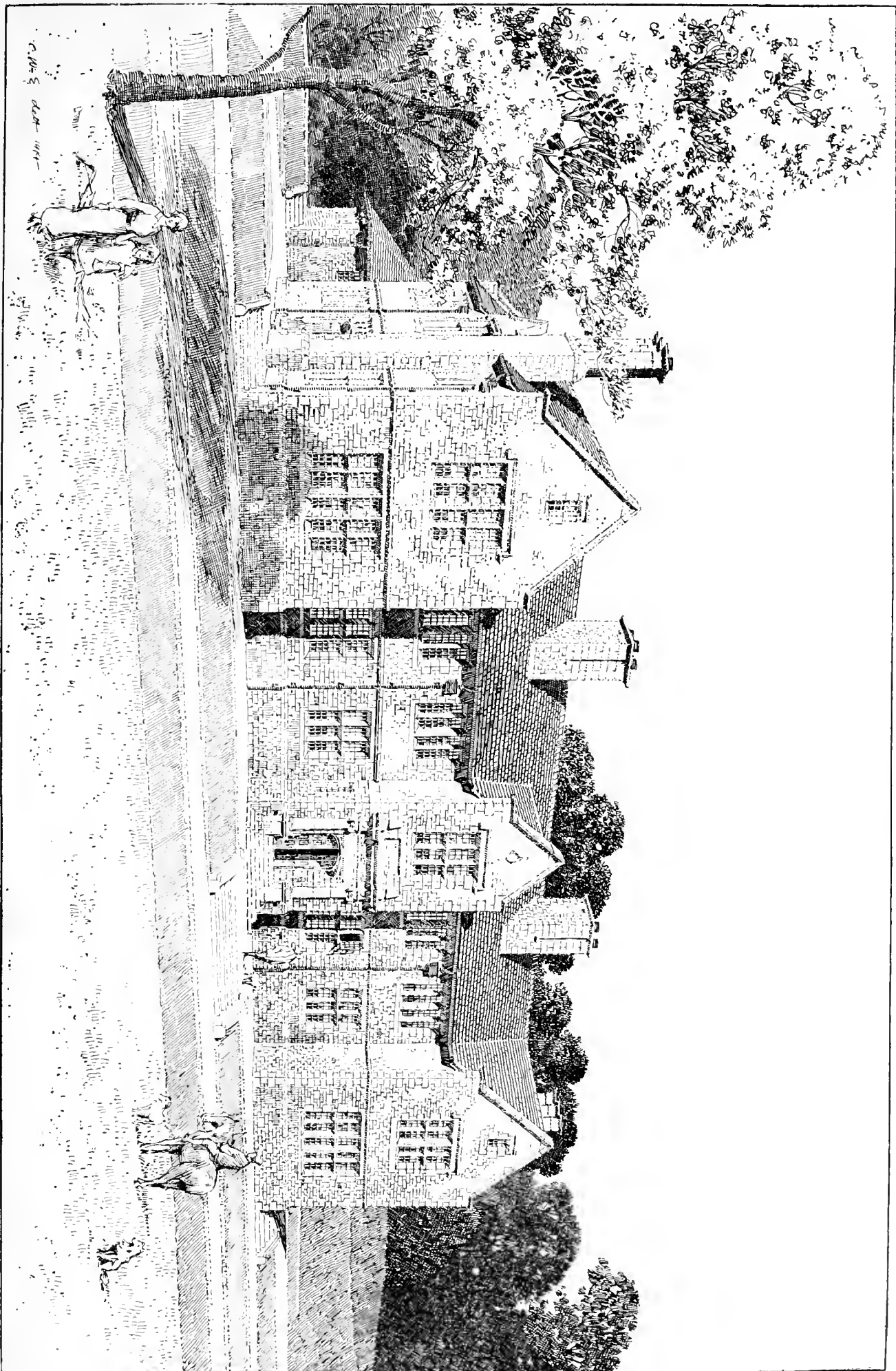


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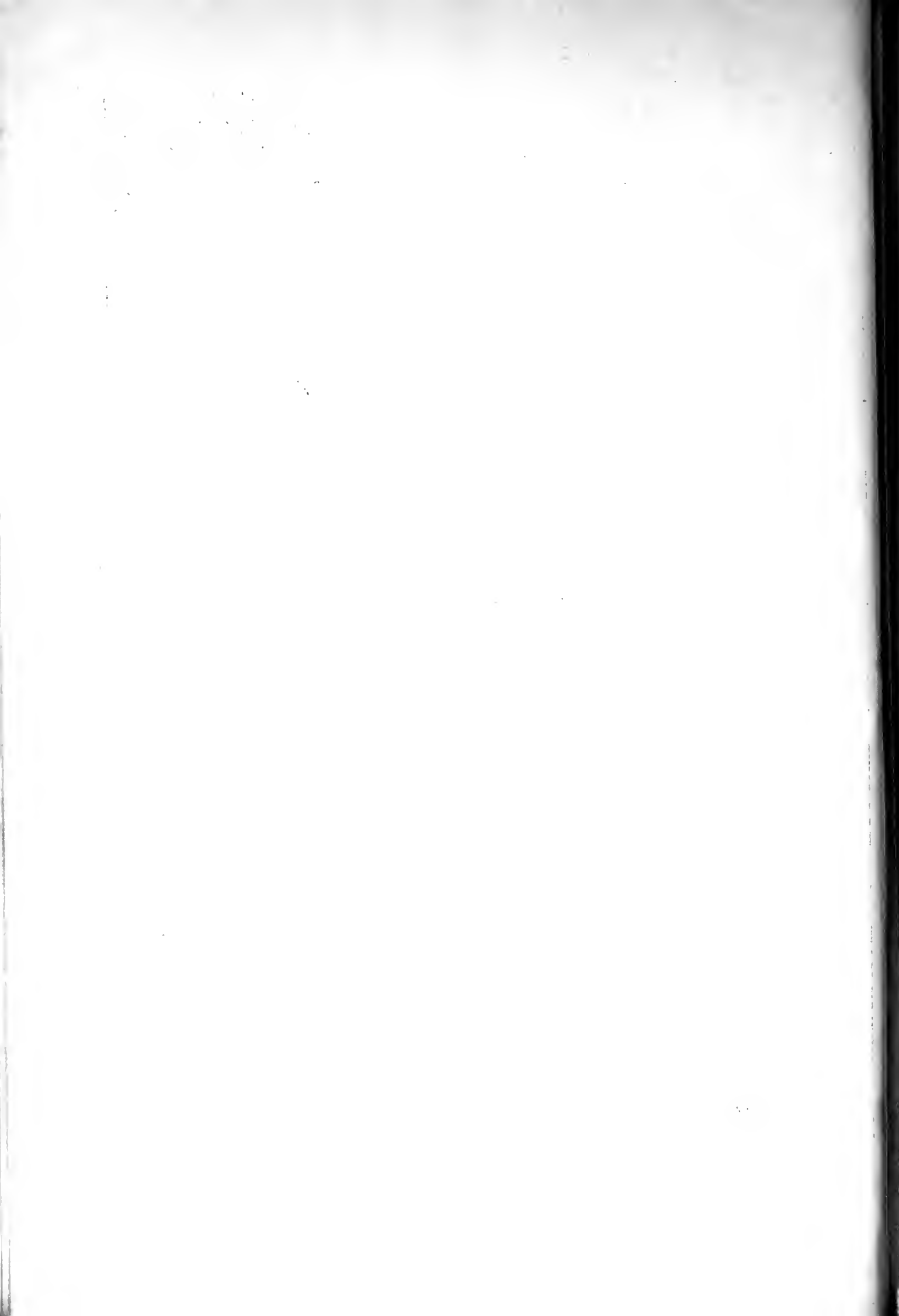


No. XLIII. GREAT PORTLAND STREET, LONDON, W.
Messrs. WILLIAM and EDWARD A. HUNT, FF.R.I.B.A., Architects.

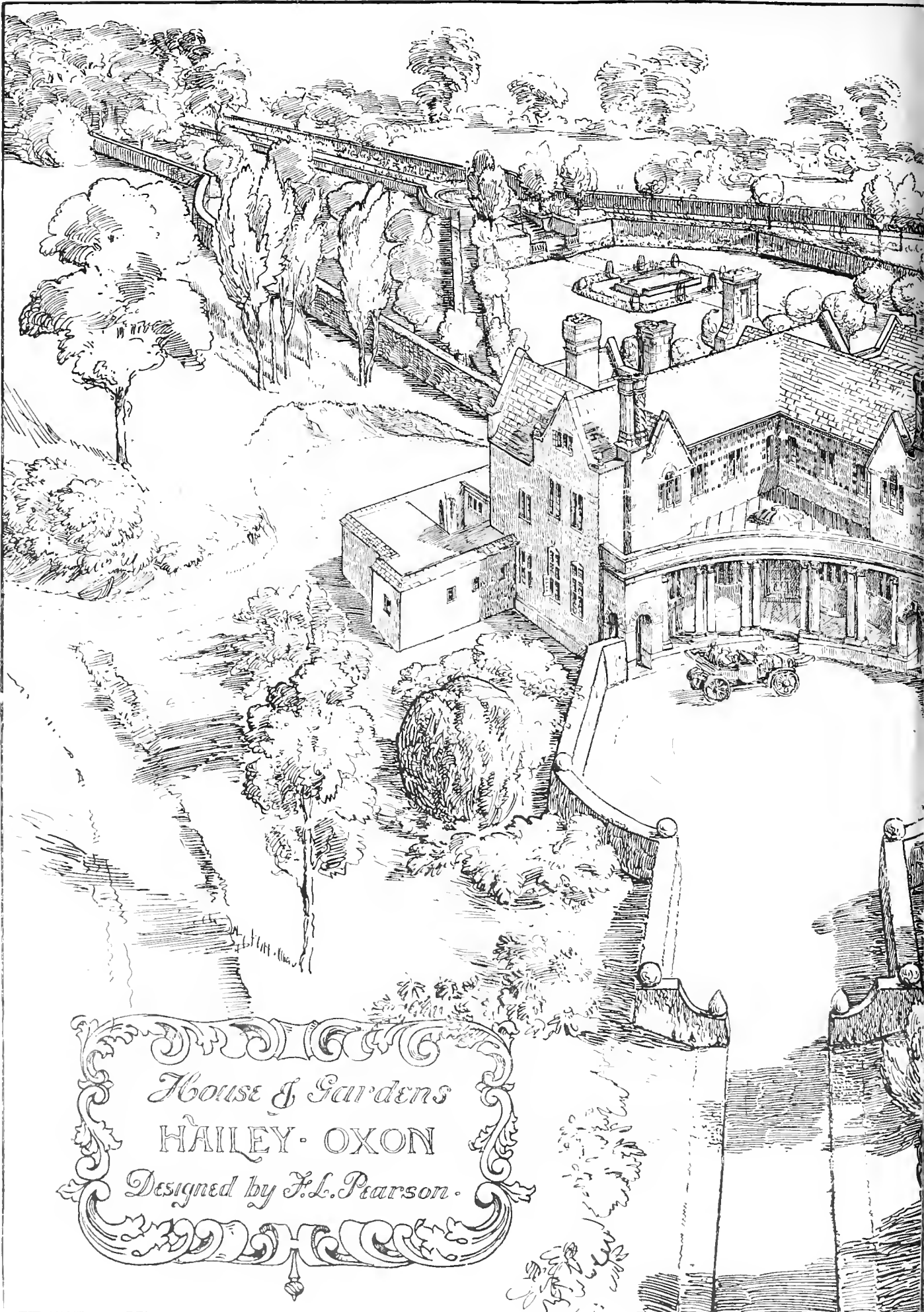
THE BUILDING NEWS AUGUST 14, 1914.



RATHBONE CONVALESCENT HOME, PARWICK, DERBYSHIRE.—Mr. W. R. MOSLEY, Architect.

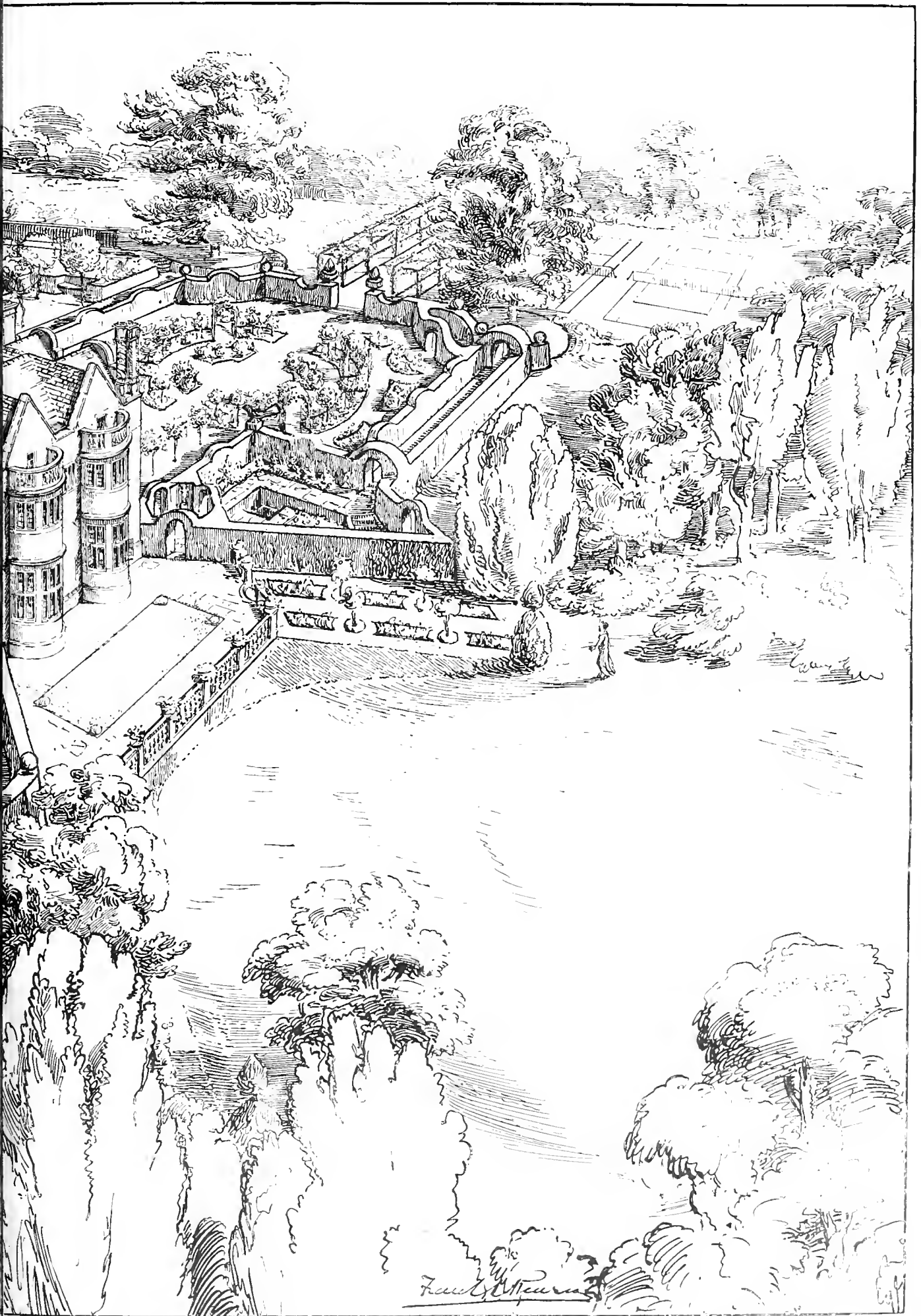


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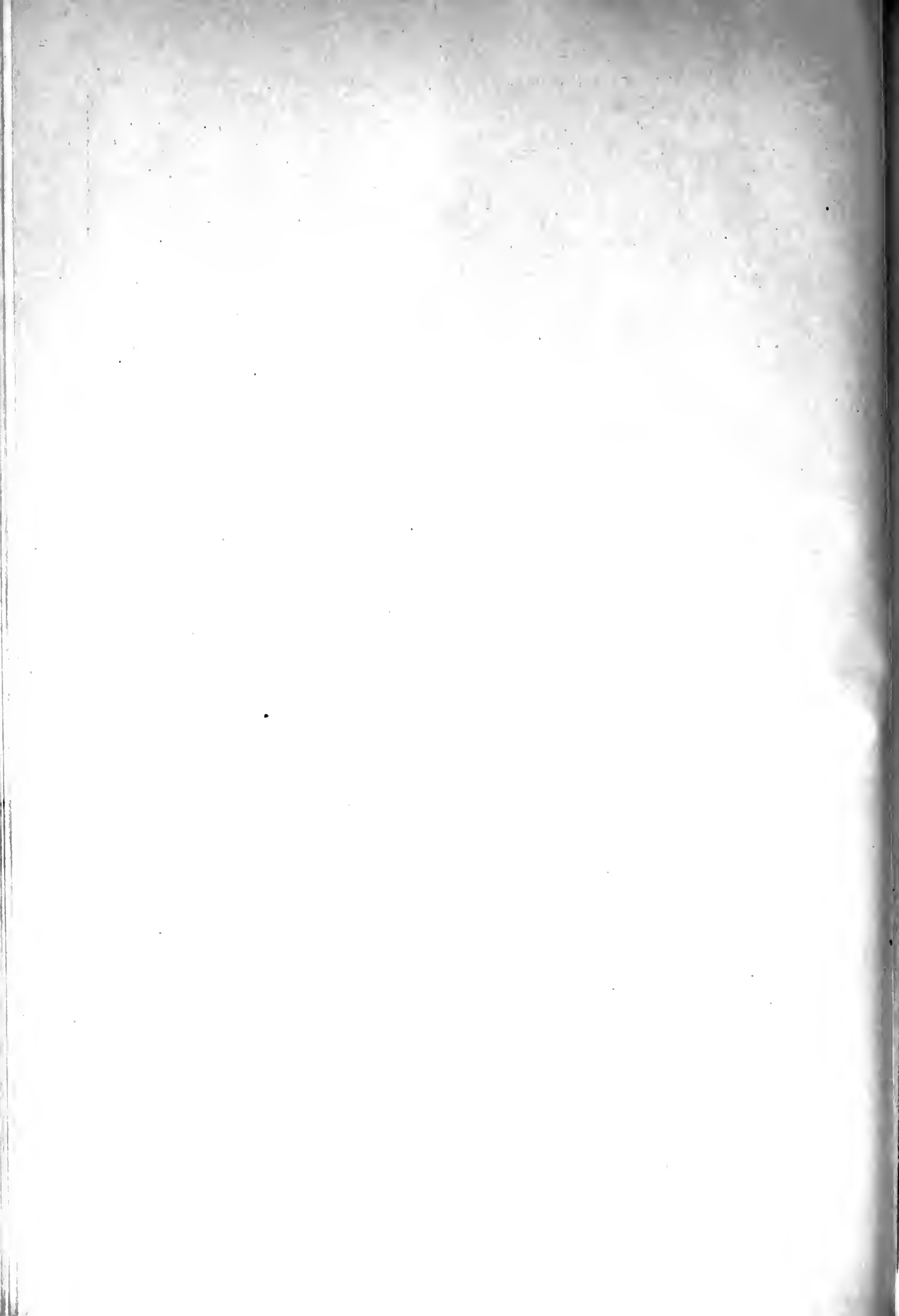


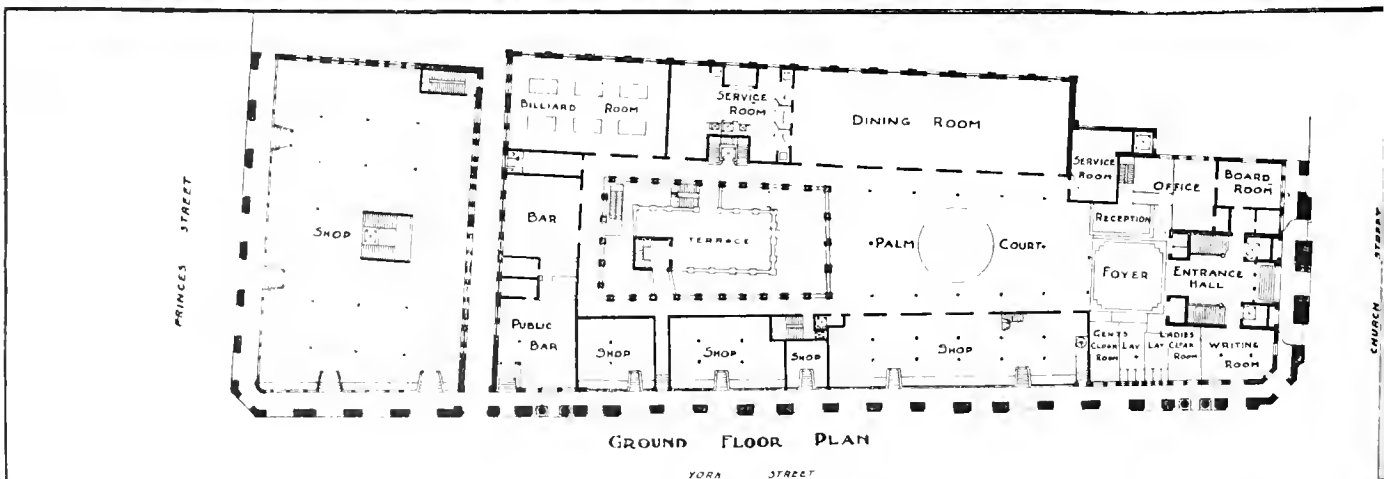
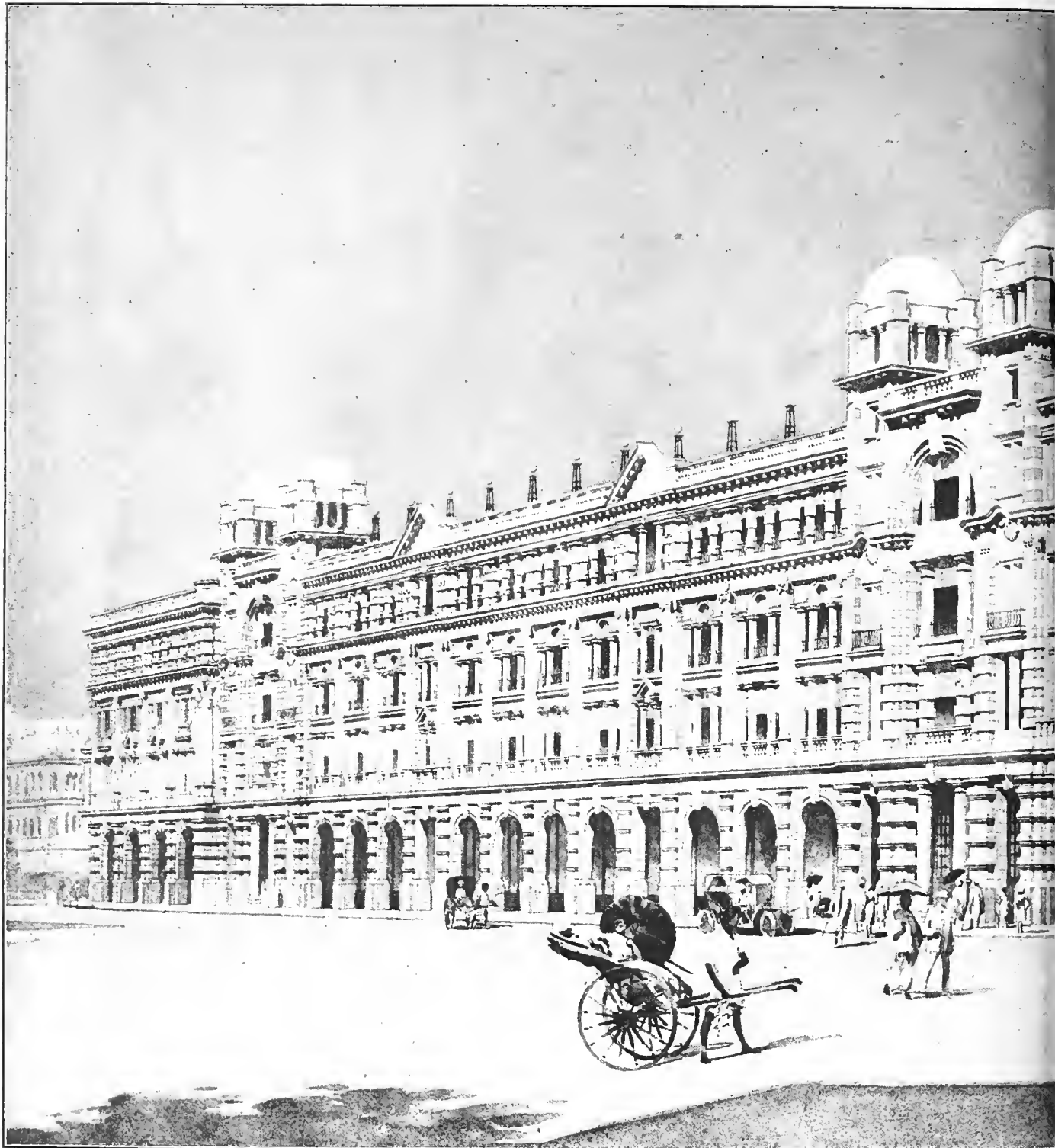
House & Gardens
HAILEY · OXON
Designed by F.L. Pearson.

AUGUST 14, 1914.

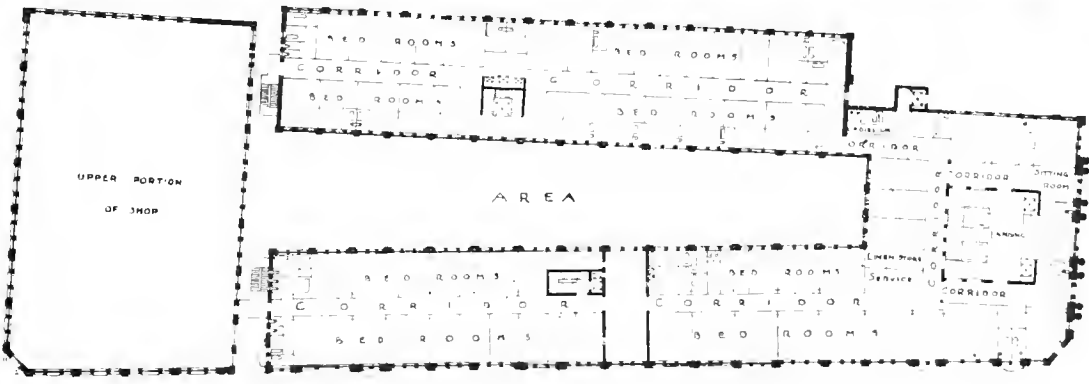


F.R.I.B.A., Architect.

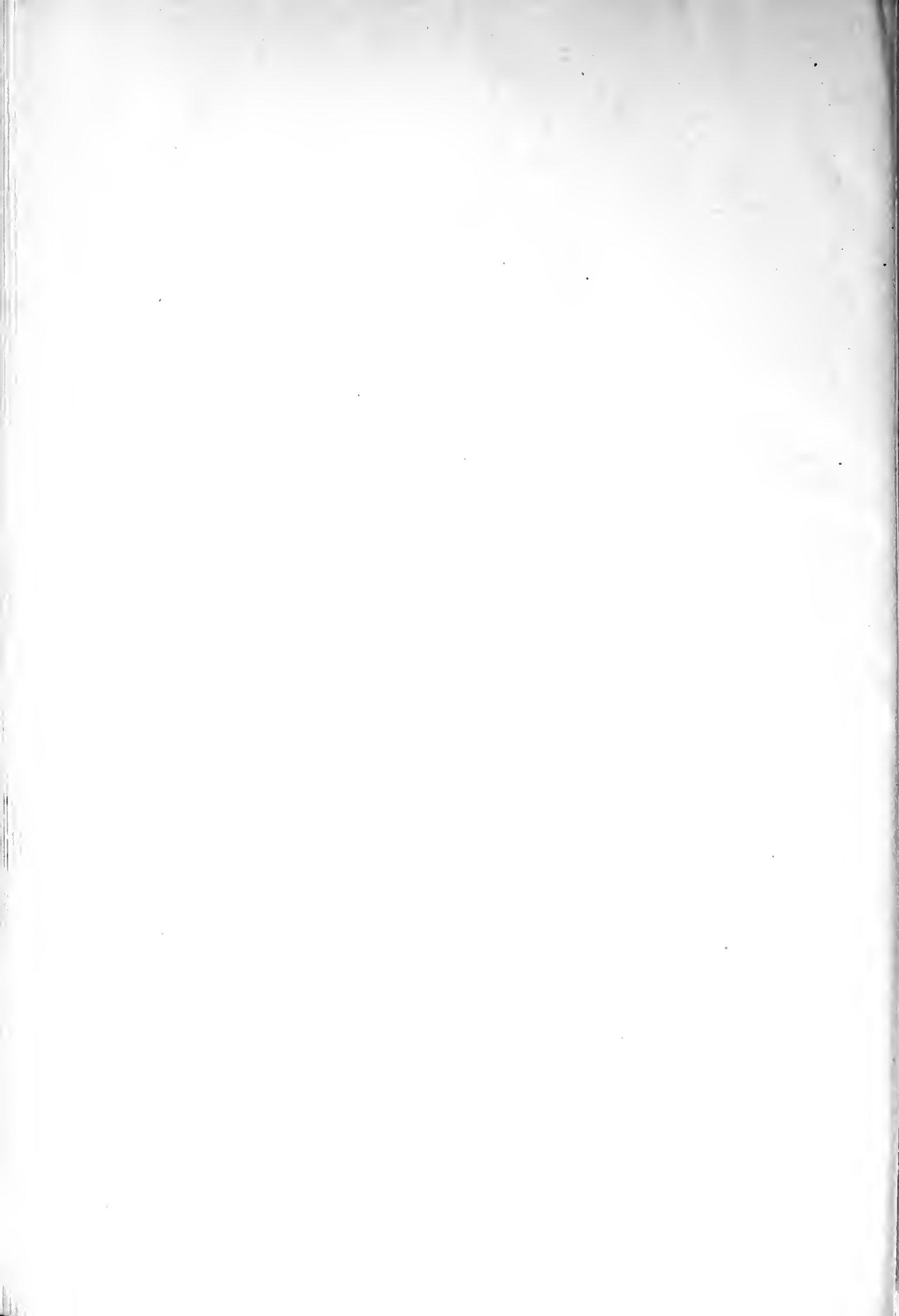


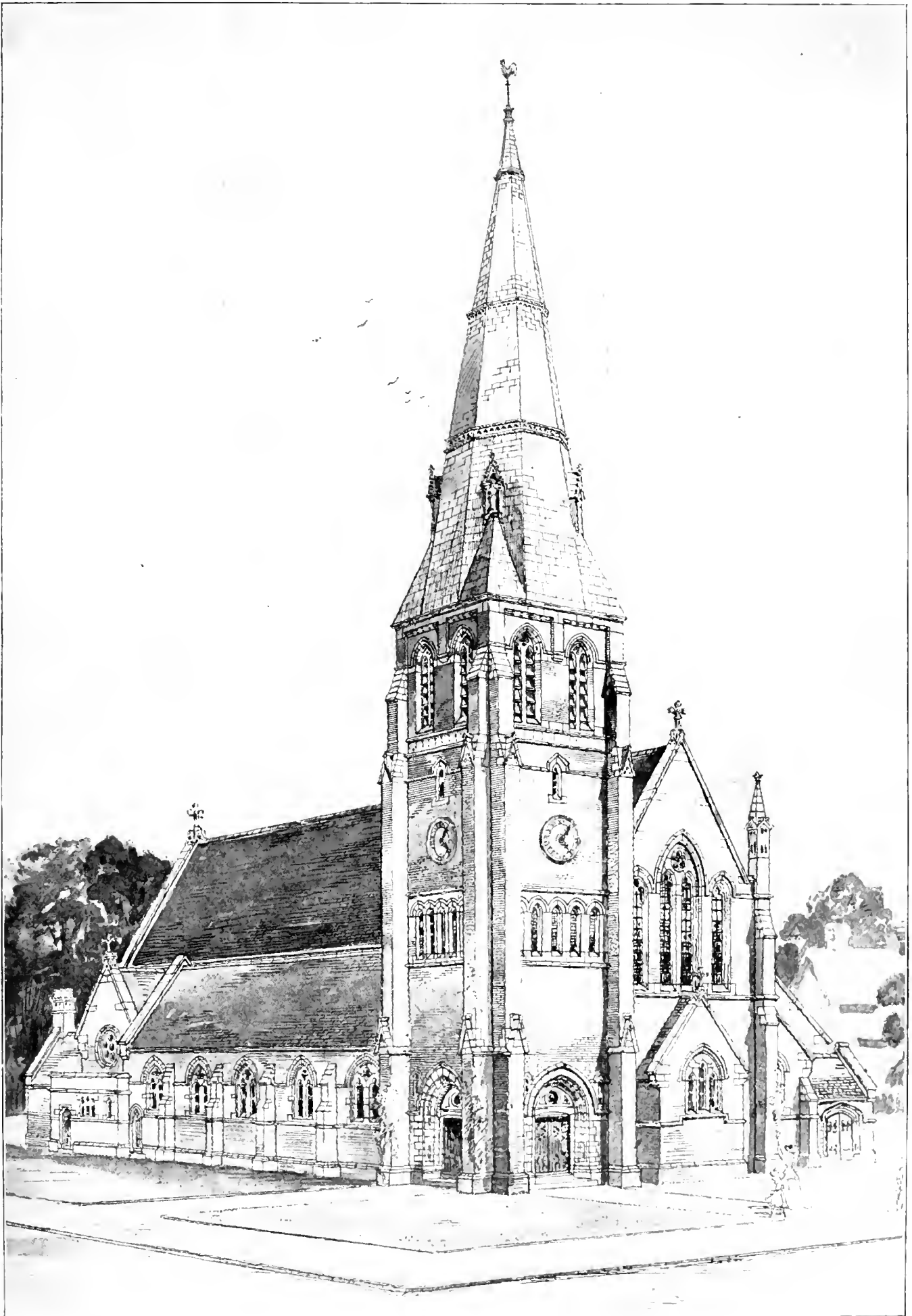


GRAND ORIENTAL HOTEL, COLOMBO, CE

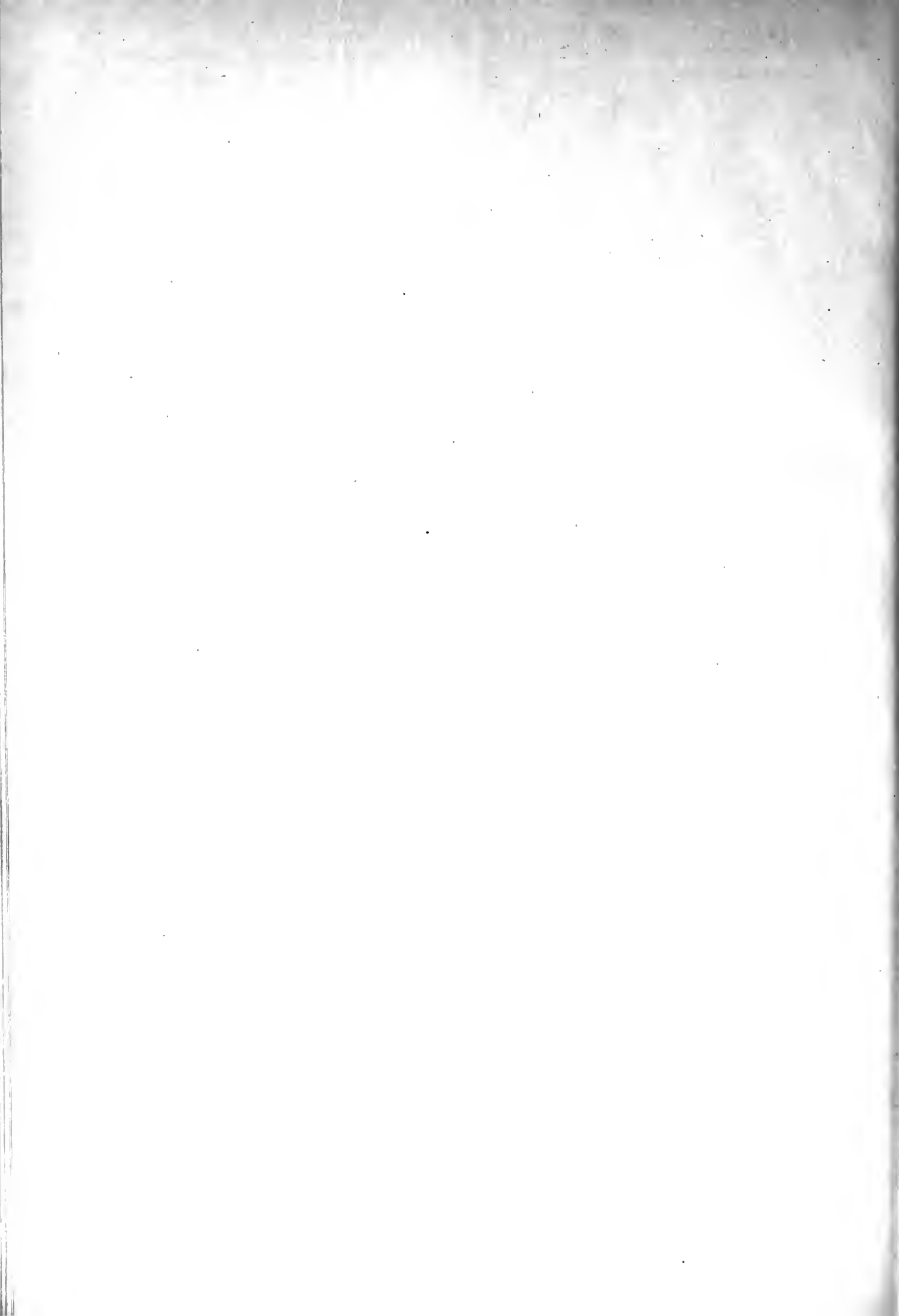


FIRST & SECOND FLOOR PLAN





ST. MARK'S CHURCH, BUSH HILL PARK, ENFIELD, N. Messrs. CUTTS, DAVIS, and Bonby, Architects.



Correspondence.

HOW THE R.I.B.A. CAN HELP.

To the Editor of the BUILDING NEWS.

SIR,—The following suggestions have been made to me of ways in which architects could be of assistance at the present time:—

1. By offering their services to the Government, either collectively or individually, in connection with the building, equipment, inspection, and maintenance of temporary barracks, hospitals, etc., or for any other kind of work which they are qualified to perform.

2. By arranging to look after the work of young architects who are already called out, or who contemplate joining the Forces.

3. It has also been suggested that a subscription list be opened to enable architects to contribute as a body to the Prince of Wales's National Relief Fund.

The Institute is proposing to act in conjunction with the Architectural Association, which is already moving in the matter. A meeting will be held at No. 9, Conduit-street, on Friday, August 14, at 4.30 p.m., for the consideration of these and any other suggestions.—I am, etc.,

ERNEST NEWTON, President.

The Royal Institute of British Architects,
No. 9, Conduit-street, Hanover-square,
London, W., August 11, 1914.

FORCE OF ARCHITECTS.

SIR,—At the present time all members of the architectural profession are anxious to know how to serve their country to the best advantage. Many of us are unable to leave our offices altogether as long as building work is in progress, but at the same time are anxious to train ourselves with a view to possible service later on.

With this object in view, the Association is hoping to raise a body of architects who are not at present in any Territorial force or otherwise trained. We shall be glad to receive names of those who would be willing to join us as and when their occupations permit. If the response, as we imagine will be the case, is sufficiently large, definite arrangements for training will be made forthwith and further information supplied.

At present part-time training only is contemplated, but we hope later to be in a position to offer ourselves in a body to the authorities as a trained unit for such service as they may require.—I am, etc.,

MAURICE E. WEBB, President.

The Architectural Association, 18, Tufton-street, S.W.

P.S.—It is not proposed to confine membership to members of the Association, but to include all members of the architectural and allied professions who care to join.

INCONSIDERATE URGENCY.

SIR,—During the war the building trade will be faced by difficulties which may induce many firms to close their works, and so increase unemployment, notwithstanding that they may have plenty of work in hand.

There will be difficulties in getting supplies of material, and trouble with labour, owing to leading hands and particular classes of tradesmen being called away to serve their country. In a time like this it behoves every one of us to act unselfishly in our business and private relations, and so reduce the difficulties which have to be overcome.

During the last few days builders will have been astonished to receive letters from firms with whom they may have dealt for many years, intimating that during this crisis they will give preference to those customers who pay cash with their orders. The letter goes on to say, with delightful irony, that customers will no doubt see the desirability of such proceedings; but, of course, when the war is over, the firm will be pleased to resume their normal business relations.

Such a letter was sent to me by a firm to whom I must have paid hundreds of pounds,

on receipt of an order from me amounting to less than £2.

In another case, a wealthy firm who have been the principal promoters of a ring to control the price of an essential article used in building, have issued a series of circulars to their customers. First of all, they say that in order to keep their hands employed during this time of trouble, they must have cash with all orders. Another circular follows, stating all accounts not paid at date must be paid before further orders can be executed; and another circular is evidently intended to impress these facts on the minds of their customers.

I can imagine nothing more discreditable and likely to do more mischief than this method of restricting business. In these times there are many individuals well-known to their builders who are temporarily short of the means of paying their accounts, and except under special circumstances the average country builder would not think of pressing for his account. Yet his means of continuing his business, and keeping his men employed, are to be hampered by firms who hold the control over the means of supply.

To take my own case, which is representative of the majority of country builders, I shall keep my business going and my hands at work as long as I can get supplies of material, even though I have to pay cash for them.

But, when these troubles are over, I shall not forget the firms who have behaved in such a selfish and unpatriotic manner.—I am, etc.,
A COUNTRY BUILDER.

[We have other letters of a similar nature for which we cannot spare space. The intimations referred to were perhaps sent out last week when some pardonable anxiety existed all round as to the general monetary position. Thanks to the action of the Government, that is at an end now, and there can be no reason for any denial of ordinary credit to any customer.—Ed. B.N.]

"BUSINESS AS USUAL."

SIR,—I believe one of the gravest necessities at the present moment is to keep before the commercial community the very old and commonplace phrase, "Business as usual."

May I take the opportunity of suggesting that if you have a spare inch in your paper, you print as boldly as may be possible—

Britain's Motto:
"Business as Usual."

For my own part, I am going to do my best to prevail upon all our clients to do their advertising as usual, and I think concerted action of this kind will prove beneficial to all of us.—I am, etc.,

H. E. MORGAN.

W. H. Smith and Son, 95, Fetter-lane,
E.C., August 10, 1914.

The Bristol Corporation Tramways Act, authorising the municipal authority to purchase from a limited company and work the local electric tramways, has received the Royal Assent.

The council of the Institution of Municipal Engineers have decided to abandon the week-end visit to Hunstanton which was announced to begin to-morrow (Saturday), also that to the South Metropolitan Gasworks.

The Land Union has issued a notice that all propaganda work is entirely suspended for the present. The union has offered to the State the temporary use of the bulk of its offices and the services of the majority of the staff, free of expense.

The finance committee of the Salford Corporation have drafted an amended schedule of duties for the position of borough engineer, and recommend the town council to invite applicants for the vacant post at a salary of £900 a year, rising to £1,100 per year.

A meeting is to be held in Rhyl to-day (Friday) of the parties interested in the proposed new road from Gronant to Rhyl. There is every likelihood of the road being made, the work to be started at an early date, as the Road Board has definitely promised £6,000 out of the £18,000 required. Urgent action is being taken to find work for unemployed men during the winter.

Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worth insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

All else being equal, brief replies will stand the best chance. We emphasise this, as some correspondents ignore the fact that querists want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

QUESTIONS.

[13147.]—BOX SEXTANT.—Can any of your readers give a few practical hints on the use of the box sextant in surveying angles? Thanking you in anticipation.—P. Scrimton.

WATER SUPPLY AND SANITARY MATTERS.

NEWPORT, MON.—The corporation of Newport, Mon., have under consideration a report by their waterworks engineer, Mr. H. Trembling, on the proposal to construct a reservoir at Henllys. Already the corporation has four reservoirs with a storage capacity of 675,000,000 gallons; but it is now proposed to construct a fifth reservoir to the south-east of Henllys Church. It will have a water area of 33 acres, while its greatest depth will be 60ft., and the top water-level will be 250ft. above Ordnance datum. The total storage capacity will be 290,000,000 gallons. The cost of this reservoir is estimated at £120,000.

SLEAFORD WATER SUPPLIES.—The water schemes before the Sleaford Rural District Council were referred to on Monday in letters from the Local Government Board. That Department declined to consider a loan for the Anwick scheme unless a pumping plant were provided, and with reference to the Ewerby combined scheme they considered that the design of the proposed water-tower was not altogether satisfactory. Suggestions were offered, and the Board asked for a statement showing how the figures of the apportionment were arrived at.

The Provisional Order No. 18 which provides for the amalgamation of the Three Towns—Plymouth, Devonport, and Stonehouse—received the Royal Assent on Monday.

The city council of Sheffield are endeavouring to raise a loan of £3,685 for works of private street improvement in Blast-lane, Cadman-street, Lumley-street, and Edmund-street.

Although in Manchester unemployment is increasing, employment in the building trade in the city is, we are glad to learn, unaffected, and it is good to learn that the construction of several big buildings and a number of houses is to be proceeded with.

At Paignton an inquiry has been held by an inspector from the Local Government Board into an application of the urban district council for permission to borrow £2,537 for an extension of the isolation hospital. Mr. C. O. Barnes, the surveyor to the urban council, has prepared the plans.

Mr. Barton Grainger, jun., eldest son of ex-Alderman Grainger, of West Hartlepool, has been appointed engineer to the Rhyd and Aber Valleys Gas and Water Company. Mr. Grainger received his training under Mr. Thomas Bower, M. Inst. C.E., general manager of the Hartlepool Gas and Water Company, whose chief assistant he has been since 1907.

In order to provide work for men during the coming winter, the urban district council of Rhyl have passed plans for the new amphitheatre, to cost £1,000, and have engaged the surveyor to at once prepare a full scheme of promenade improvement, while the plans for the new pier are to be submitted to a marine expert, so that this work also can be undertaken at an early date.

Our Office Table.

The Council of the Institution of Municipal and County Engineers are equally alert with the R.I.B.A. and the A.A., whose patriotic proposals are referred to on earlier pages of this issue, in outlining suggested services which they could render to the nation in the present crisis. These, now propounded by the President, are in furtherance of the intimation given by a deputation which a few years ago waited upon the War Office. The following are services which are suggested as coming within the power of the members of the Institution. To be prepared to point out suitable camping-grounds and temporary halting-places, having regard to water supply and sewage disposal, and for this purpose to co-operate with the water engineer of the district. It is further suggested that members should be prepared to improvise water supplies and to carry out sanitary measures in connection with camps, etc.; to facilitate transport by having all main roads free from obstacles, and any weak bridges made safe for heavy traffic; to be prepared to guard against possible interference with the supply of water or electricity by spies; to be prepared with suitable employment in case of distress, particularly bearing in mind that labour, and not material, should form the chief part of the work; to offer services gratuitously to adjoining districts from which a colleague has gone to the front; to urge upon employees the duty of acquiring a knowledge of ambulance work, and to give every facility and encouragement to them for so doing.

The Manchester Corporation Bill, which has received the Royal Assent, confers upon the city council powers of street widening, including authority for the removal of Cross-street Chapel, the carrying out of a number of tramway extensions, the construction of a new electricity generating station in Trafford Park, the construction of a new sewer in the Stretford district, the borrowing of £1,000,000 for the purpose of obtaining a further supply of water from Thirlmere by means of a fourth pipe, £300,000 for the extension of mains and other purposes in connection with the supply and distribution of water.

An inquiry into the application of the Sheffield City Council for sanction to borrow an aggregate amount of £19,600 was held at the town-hall in that city on Wednesday week, by Mr. H. Shelford Bidwell, a Local Government Board inspector. The sum is made up as follows: £3,615 for the purchase of property in West-street and Fitzwilliam-street; £6,200 for the purchase of Bowden Housteads Wood, Handsworth; £3,685 for works of private street improvement in Blast-lane, Cadman-street, Lumley-street, and Edmund-street; and £6,100 for laying out a part (comprising fifteen acres) of the Abbey-lane Cemetery. In respect to the first application, the town clerk (Mr. W. E. Hart) explained that the property was required for the purpose of widening West-street and Fitzwilliam-street. The property came into the market, being offered at public auction, and the improvement committee authorised its purchase.—Alderman Marsh said the corporation had of late spent a considerable sum of money in widening West street, and it was important to carry out a further improvement at the junction of Fitzwilliam-street and West-street. Dealing with the Bowden Housteads Wood application, the town clerk said the proposal was to purchase for £6,000 from the Duke of Norfolk about 100 acres of land just outside the city borders for public walks. The inquiry was concluded.

A recent return by the Local Government Board illustrates how evenly public authorities and private enterprise keep together in the provision of houses for the people. Since the passing of the Housing Act of 1909 loans amounting to £1,529,909 have been granted to boroughs and urban district authorities for the erection of 6,508 houses. £319,880 has been advanced for the erection of 1,516 houses—a total of 8,024 dwellings.

On the other hand, £1,497,491 has been lent by the Public Works Loans Commissioners for the construction of 8,783 houses by public utility societies. So that the latter have erected slightly more houses than the local authorities. These figures are for the period from 1910 to July 24 of the present year, and represent only a part of the good work made possible under the Act—for thousands of houses have been put into habitable repair. The fact that last year alone over 6,000 of the houses included in the total were erected is suggestive of the rapidity with which the work is being executed now that the procedure is better understood.

A White Paper has been issued dealing with the cottages and allotments under the Irish Land Act of 1903, as amended by the Labourers (Ireland) Acts, 1906 and 1911. The total number of cottages provided under the Act was 43,702 and allotments 562. Ulster taking 7,590 cottages and 113 allotments, Munster 17,988 and 195, Leinster 15,959 and 231, and Connaught 2,165 and 23. The rents reserved in the lettings were in some cases extremely low. Out of the 43,702 cottages 270 were unoccupied, and the same was true of nine out of 562 allotments. The rent of 17,150 cottages and 204 allotments was in arrear to the amount of £9,218 2s. 5d.

With a view to maintaining as far as possible the aggregate volume of employment, the Development Commissioners desire to do everything within their statutory powers to make immediately available the whole of the funds still unallocated, amounting to nearly a million pounds. They are prepared to deal as quickly as possible with any schemes put before them, and to make recommendations to the Treasury for loans or grants from the Development Fund to public authorities, universities, colleges, schools, or institutions, or associations of persons and companies not trading for profit for the purpose of immediately setting in operation works of improvement falling within the terms of the Statute. So far as the Development Fund itself is concerned the Commissioners are unable within their statutory authority, to deal with any applications for grants or loans to companies trading for profit or to individuals. They invite suggestions, especially with regard to works of improvement connected with agriculture and rural industries (including afforestation), fisheries and fishery harbours, land drainage and reclamation, inland navigations, and light railways. Such suggestions should be addressed to the Secretary to the Development Commission, 6A, Dean's-yard, Westminster. Applications for grants or loans should be addressed to the Secretary to the Treasury, Whitehall.

At a meeting of the Atherstone Board of Guardians, this week, the chairman (Mr. W. G. Phillips) said he was certainly opposed to carrying out the scheme for making extensive alterations at the workhouse at the present moment, because the condition of the country was such as would not warrant them in going to any additional expense under existing circumstances. Without showing any weakness towards the scheme recommended by the Local Government Board, he thought they must devote their energies and means to something more serious and much more urgent at the present time. The vice-chairman (Mr. T. Slack) said the Local Government Board would probably wish the guardians to press forward with the scheme in order to give work to the unemployed. The chairman said he believed there would be quite enough building work to find employment for bricklayers and carpenters for some time to come. The unemployment would arise from manufacturers having to close down owing to the stoppage of export trade. It was decided temporarily to suspend further action with regard to the building scheme. That is not creditable to Atherstone, and we hope the Local Government Board will intervene.

The San Francisco Chapter of the American Institute of Architects have adopted a report on competitions, prepared by a specially appointed sub-committee. The report deals largely with the matter of com-

petitions as participated in by members of the Institute. The closing paragraph is of general interest. It runs: "It is the conclusion of this committee that it is manifestly unfair for certain members of an organisation pledged to support a well-defined attitude towards competitions to participate in unauthorised competitions, while other members show a proper support by their refusal to compete. The Chapter should not be called upon for ever to warn its members of flagrant violation of its mandates."

The fifth report of the Royal Commission appointed to inventory the Ancient and Historical Monuments and Constructions of Wales and Monmouthshire has just been published. The Commissioners state that the inventories of Denbighshire are in the press, and will be issued in the course of the present year. The inspection of the monuments of Carmarthenshire has been completed, and the inventories are in preparation for the Press. The volume on this county will be taken in hand immediately on the publication of that for Denbighshire. The inspection of the antiquities in the county of Merioneth is in progress, and will be concluded this year. Satisfactory progress has been made in the examination of the tithe schedules and maps at the Board of Agriculture and Fisheries. Of this undertaking there remain unfinished only the schedules and maps for the counties of Cardigan, Glamorgan, and Monmouth, and of these the first-named is already in hand. The Commissioners continue to receive occasional reports of damage done to the monuments, as a rule to those of the prehistoric class, and, though without power of active interference in such cases, they endeavour to exert what influence they possess in the best interests of the public.

The Salem, Massachusetts, Rebuilding Commission is organising a housing exhibition and invites contributions from builders, architects, or property owners. Plans, sketches, photographs, or models of proposed or executed dwellings of any sort will be welcomed, as well as any special types of economic building construction. It is particularly desired to illustrate what can be done in the way of fireproof or semi-fireproof construction, with special reference to the needs of tenants who can pay only from 12dol. a month upward. Contributions can be sent to the City Hall, Salem, Mass., care of the City Messenger, and should be marked, "Salem Housing Exhibition." A premium of 500dol. has been offered for the best plan of a 2,500dol. house. Details of the competition can be obtained upon application to Mr. C. H. Blackall, advisory architect, Salem Rebuilding Commission, 20, Beacon-street, Boston, Mass.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY.—Royal Institute of British Architects. Special Meeting to Consider what Assistance can be Rendered to the Government. 9, Conduit-street, W. 4.30 p.m.

At a Local Government Board inquiry at Sheffield into an application by the corporation to borrow £19,832 for sewerage works, it was stated that during the last two years the price of pipes had gone up 50 per cent., labour 10 per cent., and team work 10 per cent.

The council of the Auctioneers' and Estate Agents' Institute of the United Kingdom, after consultation with the local committee, have decided to postpone indefinitely the annual provincial meeting at Newcastle-upon-Tyne, which had been fixed for September 2 to 5.

An abstract account of the Road Improvement Fund for the year ended March 31 last has been issued as a White paper. The receipts amounted to £3,573,552 10s. 2d. Grants for the construction of new roads amounted to £16,950, for the improvement of roads to £622,763, and loans for the improvement of roads to £296,892.

Arising out of an application to the Local Government Board by the rural district council of Watford, for sanction to borrow £11,000 for purposes of sewerage and sewage disposal for the parish of Aldenham, including works in the parish of St. Stephen's, Mr. R. G. Hetherington, M.Inst.C.E., a Local Government Board Inspector, held an inquiry at the Parish Hall, Watling-street, Radlett, on Wednesday week. Mr. W. H. Radford, M.I.C.E., of Nottingham, the engineer of the scheme, explained the plans and proposals.

Trade News.

WAGES MOVEMENTS.

EDINBURGH.—At a special meeting of the Edinburgh and District managing committee of the Amalgamated Society of Carpenters and Joiners held on Monday, the effect of the war on the building trades in the district was under consideration. In their desire to give every assistance possible in making provision for the care and treatment of the sick and wounded, they have decided to recommend the suspension meantime of the rule restricting overtime to twelve hours per man per week on such work as had been rendered necessary by the war, and which was being done under emergency orders from the naval and military authorities.

GOVERNMENT CARPENTERS' WAGES RAISED.—Carpenters in the Government factories at Enfield and Waltham Abbey have had their wages increased by 3s. 6d. per week, starting from April 1, making 43s. for a 48-hour week.

LIVERPOOL.—The appeal of the Lord Mayor of Liverpool to employers to maintain employment at its normal state has already met with a generous response. A stimulating lead has been given by the local Building Material Trades Association and the Plumbers' Merchants' Association, the members of which conduct their business in Liverpool, Birkenhead, and Wallasey. Employers in all sections of this important industry are urged to exert every effort to keep their men at work at full time as far as possible, and it is pointed out that by this means they will be contributing to the welfare of the working classes, and through them to the national interest. In order that this can be done, it is clear that all buildings in course of erection should be continued, and contemplated buildings be put in hand immediately; while the patriotic endeavours of the merchants also imposes on builders and public and private bodies the obligation to continue financial relations strictly in accordance with the usual credit terms of the trade.

Mr. Frank Jenkins, builder, of Cheltenham, died on Saturday last in the Cheltenham hospital after an operation for an internal complaint.

Lord Emmott, G.C.M.G., was on Friday sworn in as First Commissioner of Works in succession to Earl Beauchamp, now President of the Council.

Mr. Thomas Adams, who has been the head of the Town Planning Department of the Local Government Board since its establishment, is retiring in October, and will be succeeded by Mr. G. L. Pepler.

Mr. Morgan Bransby Williams, of Killay House, Killay, Swansea, chairman of the Rhondda and Swansea and Bay Railway Company, and formerly engaged in railway constructional work, who died on June 21, left £54,633.

In view of the war, and of the need for economy, the execution of the Guildhall improvement scheme, from the designs of Mr. E. Sydney Perks, city surveyor, recently adopted by the City of London Corporation, has been postponed.

Mr. C. H. Collins Baker has been appointed Keeper of the National Gallery in succession to Mr. Hawes Turner, who resigned some time ago. Mr. Baker has written many works on English art, including two volumes dealing with "Lely and the Stuart Portrait Painters."

The town council of Stourport have decided to serve the corporation of Kidderminster with statutory objections to the carrying out of certain sewage works at the corporation farm. This will enable the council to be heard when a public inquiry is held relative to the proposed loan to Kidderminster Council of £13,500 for carrying out the work.

The death of Mr. A. W. Blackburn, builder and contractor, of 35, Cannon street, E.C., occurred at his residence, Tewhurst, Furze-hill, Purley, near Croydon, on Thursday, the 6th inst. Mr. Blackburn, who was in his 57th year, succeeded to the old-established business of W. Hawtrey and Son. Deceased was a Liveryman of the Wax Chandlers' Company. The funeral took place at London-road Cemetery, Bromley, Kent, on Monday afternoon.

The rules have just been published of the newly-organised National Illumination Committee of Great Britain. This committee, which is affiliated to the International Commission on Illumination, and is constituted by co-operation of the Illuminating Engineering Society, the Institute of Electrical Engineers, the Institution of Gas Engineers, and the National Physical Laboratory. The secretary and treasurer is Mr. W. J. A. Butterfield, 66, Victoria-street, S.W.

LATEST PRICES.

IRON.

Table of iron prices including Steel Joists, Wrought-Iron Girder Plates, Steel Girder Plates, Bar Iron, good Flats, Do., Lowmoor, Flat, Round, or Square, Do., Welsh, Boiler Plates, Iron—South Staffs, Best Sreeshill, Angles 10s., Tees 20s. per ton extra, Builders' Hoop Iron, Ditto galvanised, Galvanised Corrugated Sheet Iron, Cast-Iron Columns, Cast-Iron Stanchions, Rolled-Iron Fencing Wire, Rolled-Steel Fencing Wire, Galvanised Cast-Iron Sash Weights, Cut Floor Brads, Corrugated Iron, Galvanised Wire Strand, B.B. Drawn Telegraph Wire, Galvanised Cast-Iron Socket Pipes, Pig Iron, Cold Blast, Lillieshall, Hot Blast, Wrought-Iron Tubes and Fittings, Standard Lists f.o.b., Gas-Tubes, Water-Tubes, Steam-Tubes, Galvanised Gas-Tubes, Galvanised Water-Tubes, Galvanised Steam-Tubes.

OTHER METALS.

Table of other metal prices including Spelter, Silesian, Lead Water Pipe, Lead Barrel Pipe, Lead Pipe, Tinned inside, Lead Pipe, Tinned inside and outside, Composition Gas-Pipe, Lead Soil-pipe, Lead, Common Brands, Lead Shot, Copper Sheets, sheathing & rods, Copper, British Cake and Ingot, Tin, English Ingots, Do., Bars, Pig Lead, in 1cwt. Pigs (Town), Sheet Lead, Genuine White Lead, Refined Red Lead, Sheet Zinc, Old Lead, against account, Tin, Cut nails (per cwt. basis, ordinary brand).

TIMBER.

CONSTRUCTIONAL.

Table of timber prices including Yellow Pine Deals, Spruce Deals, Red Deals, White Deals, Flooring, Pitch Pine, Lignum Vitae, Yellow Pine Logs, Birch, Oak, Mahogany.

FURNITURE AND HARDWOODS.

Table of furniture and hardwood prices including Teak, Oak Planks, Boards, Sequoia, Birch, Oak, Walnut, Mahogany, Satinwood, Rosewood, Lignum Vitae.

STONE.

Table of stone prices including Red Mansfield, Darley Dale, Red Corsehill, Closeburn Red Freestone, Ancaster, Greenhill, Chilmark, Hard York, Do. do. 6in. sawn both sides, Do. do. 3in. slab sawn two sides.

* All F.O.R. London.

Table of stone prices including Bath Stone, Portland Stone, Pimlico Wharf.

SLATES.

Table of slate prices including Blue Portmadoc, Blue Bangor, First quality, Eureka uufading, Permanent Green.

BRICKS.

(All prices net.)

Table of brick prices including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks for Facings, Flettons, Pressed Wire Cuts, Red Wire Cuts, Best Fareham Red, Best Red Pressed, Ruabon Facing, Best Blue Pressed, Staffordshire, Ditto Bullnose, Best Stourbridge, Firebricks, 2 1/2 in. Best Red Ac-cington Plastic Facing Bricks, 3 1/2 in. Accrington Best Red Plastic Facing per 1,000, 3 1/2 in. ditto Second Best Plastic ditto, Ditto Ordinary Secondary Bricks, Ditto Plastic Engineering Bricks, Sewer Arch Brick, 3 1/2 in. Chimney Bricks, 3 1/2 in. ditto through and through, 3 1/2 in. Beaded, Ovolo and Bevel Jamb; Octagons, 2 1/2 and 3/4 radius Bullnoses, Stock patterns, Accrington Air Bricks, Ditto, Accrington Camber Arches, 3 course deep, 4 1/2 in. ditto, 4 1/2 in. ditto ditto ditto, 5 ditto, 6 ditto, 3 ditto, 4 ditto, 5 ditto, 6 ditto.

Net free on rail, or free on boat at works.

GLAZED BRICKS.

Table with columns for Glazed Bricks, Hard Glazes (per 1,000), and various brick types like Stretchers, Headers, and Double Headers.

MOULDED BRICKS.

Table with columns for Moulded Bricks, Stretchers and Headers, and various brick types like Internal and External Angles.

Best Portland Cement... 36 0 to 4 0 delivered... Ground Blue Lias Lime... 21 0 per ton delivered...

Grey Stone Lime... 13 6 to 14 0 delivered... Stourbridge Fireclay in sacks... 27s. 0d. per ton at railway station.

TILES.

Table with columns for Tiles, Plain red roofing tiles, Hip and Valley tiles, Ornamental tiles, etc.

OILS.

Table with columns for Oils, Rapeseed, English pale, per ton, Ditto, brown, Cottonseed, refined, etc.

GLASS (IN CRATES).

Table with columns for Glass (in crates), English Sheet Glass, 15oz., 21oz., 26oz., 32oz., etc.

VARNISHES, &c.

Table with columns for Varnishes, Fine Pale Oak Varnish, Pals Copal Oak, Superfine Pale Elastic Oak, etc.

TRADE NOTES.

Under the direction of Messrs. Bateman and Bateman, architects, Birmingham, Boyle's latest patent "Air-pump" ventilator has been applied to Northfield Library.

At Messrs. Catesby's, Ltd., all positions will be kept open; all national insurance premiums will be paid until further notice; special treatment for credit customers, especially where husbands have joined the Imperial forces.

Messrs. Waygood-Otis, Ltd., state that they consider it the duty of all business houses to proceed, as far as possible, as though war did not now exist. This they are doing, and are prepared to give best prices and delivery as heretofore.

The stopping of Continental competition is resulting in further advances in Midland iron prices. A meeting of gas-strip manufacturers was held at Birmingham on Monday, when it was resolved to raise prices £1 a ton, owing to the higher cost and the difficulty of obtaining raw material.

The directors of Claridge's Patent Asphalt Co., Ltd., announce that they are paying to the wives of all men in their employ who are serving the country in any branch of H.M. Service the difference between their pay as combatants and their average weekly wages, in addition to keeping their positions open for the men on their return from service.

CHIPS.

The town council of Grantham have increased the salary of the borough surveyor by £25 per annum.

The Hull city council have agreed, in consequence of the war, to hold over the £100,000 housing scheme on which the Health Committee submitted a report.

The funeral took place at Cranbrook on Thursday in last week of Mr. Charles Poole, formerly surveyor to the old Cranbrook Highway Board, who died on August 1st at the age of 83.

Mr. Frank B. Dunkerley, of St. Ann's-square, Manchester, President of the Manchester Society of Architects, writes: "Any man who has the courage to build now, if only a pair of cottages, will be doing a patriotic action."

A Local Government Board inquiry has been held at Mountain Ash into an application of the urban district council for sanction to a loan of £40,000 for water supply works.

The Development Commissioners suggest to landowners in England and Wales that they should at once forward to the Agricultural College for their province particulars of any waste land which they are willing to place at the disposal of suitable authorities for improvement by such means as reclamation or afforestation.

Experimental sections of concrete roads are to be laid down on the Strood-road, near Gravesend. Four isolated lengths of 75 yards of the road will be taken up and relaid by concrete. The British Portland Cement Company will supply the material free of cost, and of the remaining expenditure, estimated at £500, one-third will be borne by the Kent County Council, and another third by the Road Board, the remainder being locally provided.

FOR

Olivers' Seasoned Hardwoods,

TO-

WM. OLIVER & SONS, Ltd., 120 Bunhill Row London, E.C.

TENDERS.

** Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ABERDEEN.—For erecting retail fish market, for the town council. Mr. W. Dyack, M.I.C.E., Town-house, Aberdeen, burgh surveyor:— Mason's work:— Cheyne, A. ... 4935 0 0

ALDERTON, GLOS.—For the erection of six cottages at Alderton, Glos., for the Winchcomb Rural District Council. Mr. Thomas Malvern, Licentiate R.I.B.A., 21, Winchcombe-street, Cheltenham, architect:— Jones, W., Gloucester ... 41,398 0 0

BARKING, E.—For painting the cottages at the northern outfall, for the London County Council:— Thorne, F. and T., Isle of Dogs... 4466 5 6

BASONBRIDGE, SOMERSET.—For the erection of four cottages, in pairs, at Basenbridge, for the Bridgwater Rural District Council:— Gallidge (accepted) ... 4745 10 6

CANNOCK.—For works of painting at Rawnsley Council Schools, for the Cannock Education Committee:— Hughes Brothers (accepted) ... 491 0 0

CHELTENHAM.—For additions to No. 15 Branch, Charlton Kings, Cheltenham, for the Gloucester Co-operative and Industrial Society, Ltd. Mr. Thomas Malvern, Licentiate R.I.B.A., 21, Winchcombe-street, Cheltenham, architect:— Burrows, H., Charlton Kings ... 4347 0 0

CROSSNESS, S.E.—For the execution of painting works at the southern outfall, for the London County Council:— Chandler, H. E., Belvedere ... 42,058 10 11

HAVERSTOCK HILL, N.W.—For the rebuilding of Haverstock Hill School, for the London County Council:— Wilson Lovatt and Sons, Ltd., Wolverhampton ... 428,275 5 0

Wolverhampton ... 428,275 5 0 Lawrence, W., and Son, Finsbury Circus ... 27,834 0 0 Fairhead, A., and Son, Epsfield ... 27,389 0 0

GRANTHAM.—For the erection of two workmen's cottages in Belton-lane, near the refuse destructor, for the town council:—

Read, F., Grantham (accepted)... £385 0 0

HEREFORD.—For the supply of ordinary and automatic meters, for the gas committee of the city council:—

Laidlaw, R., and Son (accepted), as per schedule.

LENHAM.—For the erection of a sanatorium at Lenham, for the Kent County Council. Mr. Edw. T. Hall, F.R.I.B.A., Bedford-square, W.C., architect:—

West Bros., Rochester (accepted) £20,850 0 0
(Lowest but one of twenty-two tenders received; the lowest, amounting to £19,860, was withdrawn.)

LLANDRINDOD WELLS.—For carrying out extensions and alterations to the Intermediate School at Llandrindod Wells, for the Radnorshire Education Committee:—

Meredith, A. (accepted) ... £1,176 0 0

MIDDLETON, LANCs.—For the supply of economies, for the electricity committee of the town council. Mr. William Rogerson, engineer:—

Green, E., and Son (accepted).

NANTWICH.—For constructing a sewer in London-road:—

Donell and Mideaster ... £280 0 0
Matthews, M. F. (accepted) ... 225 16 0

NEWINGTON.—For the extension and enlargement of the Newington gas-meter testing office, and also for the provision of heating apparatus to be installed therein, for the London County Council:—

Building work:—

Downs, W., Ltd., Waltham ... £1,783 0 0
Marstrand, J., & Sons, Waltham ... 1,728 0 0
Lolo and Co., Chelsea ... 1,675 0 0
Triggs and Co., Clapham ... 1,670 0 0
Rice and Son, Stockwell ... 1,583 0 0
Bowyer, J. and C., Ltd., Upper Norwood ... 1,552 0 0
Roberts, A., & Co., Ltd., Earl's Court-road, W. ... 1,550 0 0
Garrett, J., & Son, Balham Hill* ... 1,461 0 0

Heating apparatus:—

Cannon, W. G., and Sons, Ltd., London-road ... 275 0 0
Bradley, G. and E., Lever-street ... 269 0 0
Deac, E., and Beal, Ltd., Monument-street ... 241 15 0
May, J. and J., Lincoln's-inn* ... 207 0 0
* Recommended for acceptance.

NORTH ISLINGTON.—For remodelling Grafton-road school, for the London County Council:—

Appleby, J., and Sons, Ltd., Southwark Park ... £13,339 0 0
Wall, C., Ltd., Chelsea ... 12,850 0 0
Rowley Bros., Wood Green ... 12,545 0 0
Cheesnut, J., & Sons, South-place ... 12,509 1 2
Monk, A., Lower Edmonston ... 12,330 0 0
Blay, W. F., Ltd., Cannon-street ... 11,970 0 0
Bowyer, J., and C., Ltd., Upper Norwood ... 11,597 0 0
Willmott, J., and Sons, Hornsey ... 11,580 0 0
Wallis, G. E., and Sons, Ltd., Haymarket ... 11,549 0 0
McCormick & Sons, Ltd., Essex-road ... 11,392 0 0
Roberts, C. P., and Co., Ltd., Dalston ... 11,169 0 0
Maddison, W. J., Canning Town ... 11,161 0 0
Broad, Pettit, and Co., West Green-road (accepted) ... 10,955 0 0
Architect's estimate, £11,640.

SALFORD.—For the supply of car-bodies, trucks, and equipment, for the tramways committee of the town council:—

Contracts, amounting to £28,073, divided between the Brush Electrical Engineering Co., Ltd., the J. G. Brill Co., the British Westinghouse Co., Dick, Kerr, and Co., and Siemens Brothers Dynamo Works, Ltd.

SITTINGBOURNE.—For the construction of roads and footpaths and the erection of fencing at the Consumptives' Sanatorium, for the Sittingbourne and Milton joint hospital board:—

Bowes and Sons (accepted) ... £425 10 0

SNOWSHILL, GLOS.—For the erection of two cottages at Snowhill, Glos., for the Winchcombe Rural District Council. Mr. Thomas Malvern, Licentiate R.I.B.A., 21, Winchcombe-street, Cheltenham, architect:—

Jones, W., Gloucester ... £570 0 0
Simms, J., and Son, Oxford ... 495 0 0
Steward and Co., Broadway ... 478 0 0
Gill Bros., Bourton-on-the-hill ... 430 0 0
Burrows, H., Charlton Kings ... 400 0 0
Davies, G. C., Winchcombe* ... 391 0 0
* Accepted.

St. PANCRAS.—For building a new school in Exmouth-street, for the London County Council:—

Leslie and Co., Ltd., Kensington-square ... £26,772 0 0
Monk, A., Lower Edmonston ... 26,300 0 0
Blake, W. E., Ltd., Fulham ... 25,970 0 0
Holiday and Greenwood, Ltd., Battersea ... 25,863 0 0
Lawrence, W., and Son, Finsbury-circus ... 25,261 0 0
Fairhead, A., and Son, Enfield ... 24,938 0 0
Bowyer, J., and C., Ltd., Upper Norwood ... 24,871 0 0
Pathan & Fotheringham, Ltd., Islington ... 24,771 0 0
Wall, C., Ltd., Chelsea ... 24,721 0 0
Brand, Pettit, and Co., West Green-road ... 24,719 0 0
Wallis, G. E., and Sons, Ltd., Haymarket ... 24,184 0 0
Rowley Bros., Wood Green ... 24,338 0 0
McCormick & Sons, Ltd., Essex-road (accepted) ... 23,959 0 0
Architect's estimate, £24,790.

UTTOXETER.—For painting and decorating the town hall, for the urban district council:—

Phillips and Sons ... £127 14 0
Ward and Godbehere (accepted) ... 108 0 0

WANDSWORTH, S.W.—For the enlargement of the Southfield school, for the London County Council:—

Bendon, T., Ltd., Hammersmith ... £1,836 17 6
Willett, W., Sloane-square ... 1,769 0 0
Triggs and Co., Clapham ... 1,765 0 0
Rice and Son, Stockwell-road ... 1,749 0 0
Soole, S. N., and Son, Richmond ... 1,732 0 0
Markham & Markham, Victoria-street ... 1,709 0 0
Lole and Co., Trafalgar-square ... 1,704 0 0
Fletcher, F. W., Tooting ... 1,695 0 0
King, W., and Son, Vauxhall Bridge-road ... 1,648 0 0
Bowyer, J. and C., Ltd., Upper Norwood ... 1,636 0 0
Garrett, J., & Son, Balham-hill* ... 1,591 0 0
Architect's estimate, £1,640.
* Recommended for acceptance.

WEST MALLING.—For the construction of surface-water drains at West Malling, for the Malling Rural District Council:—

Langridge ... £123 0 0
Ballard ... 99 0 0
Davison ... 94 10 0
Price ... 88 14 4
Hodges ... 87 10 0
Wilford (accepted), with 125 beds ... 81 10 0

WINCANTON, SOMERSET.—For the erection of ward block at isolation hospital, for committee. Mr. A. J. Pietor, A.R.I.B.A., Bruton, Somerset, architect:—

Green, T., Wincanton ... £1,890 18 0
Merriek, F., & Son, Glastonbury ... 1,696 10 0
Webb, W., and Sons, Bath ... 1,612 10 0
Dodimead, S., and Sons, Shepton Mallet ... 1,598 0 0
Pittard, H., and Son, Bristol ... 1,598 0 0
Poole, A., and Co., Ilminster ... 1,559 0 0
Coles Bros., Peasdown, Bath ... 1,555 0 0
Stockham, T., Bridgwater ... 1,534 0 0
Duthorn, D. R., Glastonbury* ... 1,486 0 0
* Accepted.

An elementary school is in course of erection in Clarkson-street, Canning Town, from plans by Mr. W. Jacques, A.R.I.B.A., Fen-court, Fen-church-street, E.C.

Works of sewerage are about to be carried out in the village of Thurlwood for the Congleton Rural District Council. Mr. Wyatt is the engineer, and the estimated outlay is £2,150.

The rural district council of Llanfyllin have instructed Messrs. Berrington, Son, and Watney, of Wolverhampton and Westminster, to prepare a sewerage and sewage disposal scheme for Llanfair Caereinion.

Alterations and additions have just been executed at Congham Lodge, Norfolk, for Sir Everard Ffolkes, Bart., entailing an outlay of about £4,000. Mr. Herbert J. Green, of Norwich, was the architect, and the builders were Messrs. Dye and Allen, of King's Lynn.

There have been voted by the State Legislature of California 3,000,000dol. for the Capitol extension plan; 1,800,000dol. for University of California buildings; 1,260,000dol. for State buildings in Los Angeles; 1,000,000dol. for State buildings in San Francisco; and 700,000dol. for the enlargement of the State Fair.

A reinforced concrete poutoon landing stage has recently been put into use in the harbour of Sydney, Australia. The poutoon, which takes a live load of 150 tons, is 100ft. long, 43ft. wide at one end and 68ft. at the other, 7ft. 9in. deep, with a 32in. freeboard. The bottom is flat, and the sides and ends are sloped to an angle of 50deg. The poutoon, which weighed 650 tons, is divided into 48 water-tight compartments by solid reinforced concrete walls.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have become some time executed, except under special circumstances.

* Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

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Advertisements for the current week must reach the office not later than 3 p.m. on Thursday. Front-page advertisements and alterations or stop orders for serial advertisements must reach the office by Tuesday morning to secure attention.

RECEIVED.—P. and Co.—V. de T. A. Co., Ltd.—R. I. F. and Co., Ltd.—W. C. Co., Ltd.—H. R. D. F.—S. E. Co., Ltd.—N. B. and Son.—E. W. and Son.—C. A. Co., Ltd.—H. B. and E. Ltd.—R. M. and Co., Ltd.—L. and Co., Ltd.—S. A. S.—D. and Co., Ltd.—W. W. A.—H. and G.

A.—Yes.
R. G.—Not just now.
V. W.—Thanks; please send.

G. H. L.—We fear not; but really we think some people are needlessly nervous just now, and that some of those who disappait will not forget it by-and-by.

ORIGINAL.—The Royal Academy has been still supporting; but for twelve consecutive years in 1799 at cost King George III. some £1,000,000 in all out of his private purse to make a grand old gallery.

W. T. H. M.—We could only read your query, which is translated by the drawing sent with it, and the diagram section certainly led us to look that you proposed relining of a wood-lined with a stone lining, which to make the churning complete, a rounded face to the stone was intended. If you had had your stone lined will not carry, put an ordinary, retaining arch over the same.

LIST OF COMPETITIONS OPEN.

Sept. 7—Designs for Public Elementary Schools at Linda-street, York-road, Battersea; and Billingsgate-street, Church-street, Greenwich. (Mr. J. W. Simpson, F.R.I.B.A., Assessor)	L. Gomme, Clerk, Education Offices, Victoria Embkkt., W.C.
.. 15—Designs for Shakespeare Memorial National Theatre (Mr. T. E. Collcutt, P.P.R.I.B.A., Assessor)	500gs. (merged), and five of 150gs. The Secretary, 3A, Dean's-yard, Westminster Abbey, S.W.
Oct. 31—Laying Out Show Grounds, Wayville West, Adelaide ...	£500, £200, £100 The Secretary, Royal Agricultural Society of South Australia, 23, Weymouth-street, Adelaide.
.. 31—Drawings for Police Buildings and Fire Station, St. Helens. (Assessor)	£100, £50, £25. A. W. Bradley, M.I.C.E., Town Hall, St. Helens.
Dec. 31—Planning Workmen's Settlement, Campine Coalfield ...	£400, £240 M. le President de la Commission pour l'Amenagement des Agglomerations Industrielles, Rue de Louvain, Brussels.
No date—Plans for 20 Houses (Costing from £200 to £270), Gildersome	W. Wilby, Sur., Council Offices, Gildersome.
do. —School (900 places), Vale-road, South Tottenham	W. Mallinson, Clerk, Phillips-lane, South Tottenham.

LIST OF TENDERS OPEN.

BUILDINGS.

Aug. 11—Council School, Repairs to, Orchard-lane, Lye	Worcestershire Education Com.	A. V. Rowe, Archt., 30, Foregate-street, Worcester.
.. 14—Chestnuts Asylum, Repairs to, Walthamstow	T. Clayton	The Committee of Visitors, Asylum, Brentwood.
.. 14—Two Blocks of Three Houses, South Hiendley	Urban District Council	S. Shaw, F.R.I.B.A., Kendal.
.. 14—Houses (12), Main-street, East Ardsley	Urban District Council	J. Keeling, South Hiendley, near Barnsley.
.. 14—St. Mary's National Schools, Additions to, Cork	West Riding Education Com.	The Surveyor, Blackgates Council School, Tingley, near Leeds.
.. 14—School, Alterations to, Street-lane, Gildersome	West Riding Education Com.	B. O'Flynn, R.E., Archt., 56, Grand-parade, Cork.
.. 14—Workmen's Dwellings (168), Horden Colliery	Newbury Rural District Council	The Education Archt., County Hall, Wakefield.
.. 14—Billiard Hall and Shop, Northgate, Cleckheaton	National Electric Theatres, Ltd.	J. Hemilton, Archt., Blackhall Colliery Office, Castle Eden.
.. 14—Three Pairs of Cottages, Thatcham	Guardians	Clement Williams and Sons, Archts., Halifax.
.. 14—Electric Theatre, Wharf-street, Sowerby Bridge	Education Committee	Tubbs, Messer, & Poulter, Archts., Bank Chambers, Newbury.
.. 14—Farm Buildings, Hillhead Moor Whitcross	Durham County Council	E. Horsfall and Son, Archts., 22A, Commercial-st., Halifax.
.. 14—Infants' Home, Crosland Moor Workhouse, Huddersfield	Durham County Council	G. Bennett Mitchell, Archt., 148, Union-street, Aberdeen.
.. 15—Technical School Extension, Stockport	Town Council	J. Berry and Sons, Archts., 3, Market-place, Huddersfield.
.. 15—Pavilions (40 patients each), Sanatorium, Wolsingham	School Board	A. Lawton, M.A., Sec., Education Office, Stockport.
.. 15—Fire Station, Additions to, Cowan-street, Kirkcaldy	Elginshire County Association	T. Sharpe, A.R.I.B.A., Shire Hall, Durham.
.. 15—Public School, Cloakroom et, Ardailie	East Hutton Lodge	W. L. Macindoe, Town Clerk, Kirkcaldy.
.. 15—Harris Academy, Enlargement of, Dundee	Durham County Council	W. Davidson, Archt., Ellon.
.. 15—Drill Hall, Bogmoor	Elginshire County Association	J. H. Langlands, Archt., 31, Murray Gate, Dundee.
.. 15—Aged Miners' Homes (12), Kelloe	Durham County Council	C. C. Doig, Archt., Elgin.
.. 15—County Sanatorium, Additions to, Wolsingham	Elginshire County Association	J. Dixon, Kelloe Pit, Durham.
.. 15—Miniature Rifle Range, Fochabers	Territorial Force	T. Sharpe, A.R.I.B.A., Shire Hall, Durham.
.. 15—Parish Church, Additions to, Chorley	Town Council	C. C. Doig, Archt., Elgin.
.. 15—Drill Hall, Broadford, Skye	Jerusalem C.M. Chapel	W. & C. Basset Smith & R. Preston, 10, John-st., Adelphi, W.C.
.. 15—Public Shelter, Rosslyn-street, Gallatown, Kirkcaldy	Dwyer and Co., Ltd.	A. Ross and Son, Archts., Inverness.
.. 15—Minister's House, Ynysyowl	Evesham Rural District Council	W. L. Macindoe, Town Clerk, Kirkcaldy.
.. 15—Warehouse, Hanover-street, Cork	Corporation	E. I. Evans, Archt., 55, Dunraven-street, Tonypandy.
.. 17—Cottages (10), Cow Honeybourne	Secretary of State for War	Chillingworth and Levie, Archts., 11, South Mall, Cork.
.. 17—Greenhouse, Cemetery, Wakefield	Evesham Rural District Council	E. Holloway, Sur., Evesham.
.. 17—New Military Hospital, Ward at, Tidworth, Hants	Evesham Rural District Council	J. P. Wakeford, M.I.C.E., City Sur., Town Hall, Wakefield.
.. 17—Cottages (20), Bretforton	Evesham Rural District Council	The Director of Barrack Construction, 80, Pall Mall, S.W.

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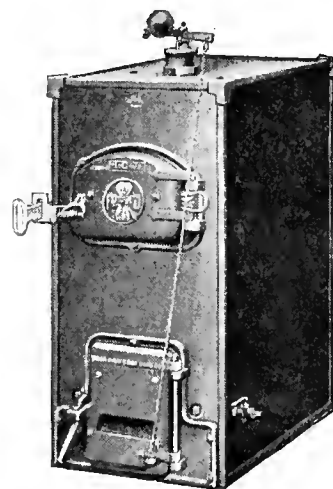
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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Strand, W.C.

OUR ILLUSTRATIONS.

The New Town Hall, Middleton, Lancs. Selected Design. View, elevations, sections, and plans. Mr. Alick G. Horsnell, Architect.
Grainger Picture House, Newcastle-on-Tyne. Views and plans. Messrs. Percy Browne and Glover, Architects.
Business Premises, Great Portland-street, W. View and plans. Mr. H. O. Cresswell, F.R.I.B.A., Architect.
Selected Design, St. James's-road Schools, Northampton. General drawing and plans. Messrs. Blackwell and Ridley, Architects.
"Sculpture" and "Architecture": Royal West of England Academy, Bristol.

A MODERN SUBURB.

We still call it "the village," especially those of us who are old inhabitants of some fifteen or twenty years. We cling to the idea that it is even now in the country. The words "Village Smithy" cut into brick over an ironmonger's shop strengthen the tradition. There is also what was once a village green, though now laid out with iron railings and tar-paved ways across, mostly given up to cats and naughty boys. Yet we talk of going to "London," though it is only some twenty minutes' railway ride, or forty by the ubiquitous electric tram. The older residents, who bought their houses, "freehold," as they tell you, thought they were settling in the country. So they left town, which then seemed far away. Now the town has come to them, and the glory of the countryside has departed. But what would you? This is an age of progress and building, and the people—even the upper and lower middle-class people—must be housed. So, although we do not at all admit being a part of Greater London, we are nearing the day when we shall be absorbed in what may be called Greatest London.

The prevailing opinion in the suburb is, that it is all the fault of wicked builders. Old inhabitants point to a row of red brick houses, and tell you that once—some few years ago—fine trees flourished there. A famous country lane, which is now but a green memory to our aged ones, has become a main tar-paved road, down which the awful red motor-buses run roaring their way, tearing up the surface, and adding heavily to our local rates. Fields that once existed and shimmered in the sunshine of their day are now covered with desirable semi-detached villas, all alike, and with equal gardens of the same length to an inch. Their only difference is to be found in the weird and wonderful names written on the fanlight. Fortunately, as the place grew, our local authority insisted on adding numbers, and this, though opposed as too towny, is admittedly convenient. Some owners, who spent a week in Wales, or had a relative in the Indian Army, have stuck up Welsh unpronounceable villages or Hindoo districts, as the titles of their castles. But the shops stick to the numbers, and leave the rest severely alone. The mysterious way in which our modern suburb grew to its present proud position out of the old village puzzles many people. It takes a builder to know when a plot of ground is "ripe," in the trade term, for development. The land seems to have ripened in rather a patchy manner. Site development and house-planning were not

known in those days. So some wicked speculative builder came along, bought, or got an agreement over, a likely bit of ground, and set to work to sow ground-rents in its soil which soon showed a crop of family residences. In this way the fields were eaten up, and the gardens to our old houses disappeared, after the houses themselves had been pulled down and sold to the knacker. Aged inhabitants tell the sad story to this day, as seriously as they would speak about the slow crumbling of an empire.

The natives are rather proud of the Domestic Architecture to be seen in our roads, though newcomers sometimes say that it may be Domestic, but it is not Architecture. To those who know that the basis of all building is ready money, the financial troubles of a generation of builders can be seen in the houses erected. Where a road stops short suddenly, and has not gone on again, it is obvious that the builder's money ran out, or the financier failed, and no one else has had the heart to go on with the broken job. In other places a road is found to have been well begun with good and large houses, for a certain distance. Then lower down we come upon a far inferior class of property. Here it may be that the original builder bolted, as they have been known to do: sometimes because they see disaster at the end, and no hope of a good bonus. Then the unlucky landowner had to get in another builder, and sought to save himself by putting up cheaper dwellings at much the same rents. But those who bought the first lot are always explaining why their road falls away so sadly in style lower down. In other parts of our suburbs the mark of the mortgagee is very plainly visible. It is, indeed, indelibly written upon the very fronts of the house, so that all who run may read. Dwellings meant to be let at £50 a year with their £10 ground-rent, which is, at all events, a certainty, have come down in the world, and are now fetching, say, £35, or even £30. This reduction of rent is somehow made manifest in the appearance of the dwellings themselves. Why has this happened? The usual history is that the builder could not sell, nor could he go on any longer paying the heavy ground-rent and mortgage interest. So the mortgagees took possession, and had to let the places for what they could get. Then do rents go down, and as mortgagees in possession of unsaleable property do not spend too much on repairs, the premises are apt to look neglected, if not dilapidated. So we who know from experience can often see the mark of the mortgagee as plainly as if

the fact and figures were crudely chalked upon the walls.

The best parts of our suburb look upon and lead off our Common. "The finest in England, sir!" according to the natives. Such avenues of trees. Ornamental water-pond, modernised by L.C.C., with horse-ride, swimming-bath, keepers, etc., all quite complete and up to date. The roads here were laid out more or less upon one coherent plan, and the architecture can really be so described. Detached and semi-detached villa residences: £75 to £125 were the original rents, though somewhat fallen in these degenerate days. Still, there they are, good houses, much varied, large gardens, shrubs, ivy, and green creepers everywhere—comfortable, yet pretty. One amazing thing is to find how many of them were built by the builder for his own occupation! This legend is still repeated by the proud purchasers of years ago, as proof of the sound way in which they were built and finished by the builder for himself to live and die in? Strange! for the same builder must have meant to live and die in so many of them that one's faith falters in working out the problem.

Then there is quite another class of property, more recently erected. This was on the site of our largest and oldest house with lawns, real gardens, and a paddock, and which looked like a country mansion. The owner came to grief, and sold the whole freehold land to one of those wicked speculative builders who once flourished in these parts. The puzzle of the new proprietor was to see how many ground-rents, of £5 each he could plant on so many feet super., after allowing for the necessary roads. Well, of course, the roads had to come first, then the remaining land was plotted out with much ingenuity. Red brick buildings grew up rapidly, based upon ground-rents, and the legal spaces were left behind the back addition. But something had to go, and, of course, it was the gardens, which our agents admit are small, but call "nice" and "pretty." In fact, there is about room for a central rose-tree and a dozen geraniums and a dustbin. The up-to-date builder does not let his houses: he sells them. So all these were for sale, and for sale only; and sold they were sure enough, and since sold again.

One advantage of this method is that the young man just getting married who buys a house of this kind, for which no rent is quoted, can get no figure on which to compare with other houses. So he pays the price asked; or, rather, he agrees to pay it to a Building Society during the coming twelve years or so. It is really the hire-

purchase system extended from furniture to dwellings, and is about as costly and extravagant in the end. But what would you? Builders must build and sell, and the middle classes must be housed in a modern suburb which clings to the country, and yet is an easy train or tram ride to the City. Thus, all parties are happy, and the world goes on! Yet architecture has not much to do with our newer classes of dwelling. The builder has his own well-tried plans and quantities; he knows his brickwork and his wooden stuff to an inch. So the houses go up and sell, and are pretty. All the rest is a matter of finance and figures, which are known only to him and his building owner and mortgagee, and, perhaps, later on, to his creditors. And of such are most modern suburbs that are covering up the country round the central life of London.

MIDDLETON TOWN-HALL COMPETITION.

In this competition, which was decided last week, as reported in our issue of last Friday, the corporation adopted the proper course of appointing the assessor, Mr. Hastwell Grayson, M.A., F.R.I.B.A., at the commencement, and allowing him to draw up the conditions, instead of, as is often the case, delaying his appointment until after the designs were received. The result has been a clear and simple set of conditions, in which only essential facts are stated, with a refreshing absence of the host of unimportant details and verbose legal phraseology with which some town-clerks appear to delight in obscuring the instructions they draw up. The vexed question, whether or not the promoters should definitely bind themselves to carry out the design placed first by the assessor, is dealt with in the following clause:—

It is the intention of the corporation to accept the award of the Assessor, and to entrust the carrying out of the work to the author of the design which the assessor may select, unless, in the opinion of the corporation, with the acquiescence of the assessor after consultation with him, there are imperative reasons to the contrary.

In this way the interests of the profession are safeguarded, while the corporation are not likely to have to entrust an important undertaking to an architect who, though able to submit the best design, might be in other ways obviously unsuitable to carry out the work. Premiums of £100, £50, and £25 were offered for the designs placed first, second, and third respectively, the author of the selected one to receive a further £100 should he not have instructions to proceed with the work within twelve months of the date of the assessor's award.

The drawings required were plans of each floor, three elevations and one section, to a scale of 1/6th. to lin., together with a perspective view. The maximum amount to be expended was £18,000, which included all fees, and £1,000 for furniture. The schedule of accommodation required comprised the following: Telephone exchange and porter's room, waiting-room, town clerk's general and private offices, treasurer's general and private offices, medical officer's general and private offices, health inspector's general and private offices, sanitary stores, education secretary's general and private offices, school attendance office and storerooms, surveyor's drawing office, private office, and plan-room. All the above were to be situated on the ground-floor. One committee-room could be either on the ground floor or on the first floor, as might be found most convenient, while the following were to be provided on the first floor: Council-chamber, mayor's parlour, serving room, two committee rooms, and an assembly hall about 64ft. by 38ft., with platform, crush hall, and gallery. This assembly hall

was to be arranged so that it could be let off separately, if desired, for concerts, etc. In addition to the above, there were to be the usual store-rooms, lavatories, heating-chamber, etc.

Middleton is an interesting little town, possessing a number of both old and new buildings of considerable merit, and the site is situated in a conspicuous position in one of the main streets. On the whole, the competition was a decidedly attractive one, and it was not surprising to find that as many as 107 designs were submitted. Out of these the assessor selected eight for further consideration, his final award being: First, Mr. Alick G. Horsnell, 5, Gray's Inn-square, London; Second Messrs. Briggs, Wolstenholme, and Thornely, Blackburn; Third, Messrs. Clapham and Symons-Jeune, London. The authors of the remaining five designs were: Messrs. Wallis and Bowden, London; Messrs. Honeyman and Keppie, Glasgow; Messrs. H. Townshend, Morgan, and Chas. Cowles-Voysey, London; Messrs. Cleland and Hayward, Wolverhampton; and Messrs. L. S. Sullivan and L. W. Bucknell, London.

DESIGN PLACED FIRST.

As only the eight designs mentioned above were exhibited, it is impossible to comment on the competition as a whole; but it may be unhesitatingly stated that Mr. Horsnell's design is easily the best of the eight. The plan is exceedingly simple and direct, the corridors are short, and the lighting throughout is excellent. The entrance hall is, perhaps, rather lavish for a building of this size; but the plan generally is so compactly arranged that a little extravagance here is permissible. The various departments on the ground-floor are conveniently arranged, while on the first floor, which comprises the council suite and committee rooms, the plan is equally satisfactory. The serving-room, with lift from basement kitchen, hardly fulfils the requirement that it should adjoin the mayor's parlour; but this could be overcome by a slight rearrangement of the rooms when preparing the working drawings. Externally, also, this is quite the best of the premiated designs, the elevations being to a good scale and treated on broad and simple lines. The main front, with the centre portion of stone flanked by plain masses of brickwork, forms a dignified composition and is well illustrated by an excellent wash drawing.

DESIGN PLACED SECOND.

This plan, although very similar in its general lines to the selected one, differs from it in that it has not been built right up to the limits of the site on each side. This has necessarily restricted the size of the central area, with the result that the lighting and ventilation of the corridor and rooms around the area, would not be so perfect as in the selected scheme. The planning of the basement is also not so good, but the arrangement of the council suite on the first floor is excellent. The elevations are interesting and well proportioned, and the drawings include a bold and effective perspective.

DESIGN PLACED THIRD.

This plan also has rather a small central area, with its consequent disadvantages. The scheme is on different lines to the other premiated ones, the assembly-hall being in the front of the building, with the council-chamber in a corner at the rear. The main staircase is badly placed, both in relation to the principal entrance and to the council-chamber, and the plan as a whole lacks the simplicity and balance of the other two. The upper portion of the main facade is really an admirable composition; but it is a pity that the fenestra-

tion on the ground-floor could not have been worked in more happily with that on the floor above.

THE R.I.B.A. AND THE WAR.

A special meeting (open to the whole profession) was held at the Institute on Friday, August 14, 1914, at 4.30 p.m., to consider the best way in which architects can offer their services in the present crisis. The President, Mr. Ernest Newton, A.R.A., was in the chair.

The President, in opening the meeting, said: The specific services to be suggested under No. 1 of the circular which you have received are intended as indications only. There are, of course, many others, which we as architects can offer, apart from those which we can give as citizens. We can, for instance, offer assistance in regard to the proposed housing and other schemes. It has also been suggested that, subject to the approval of the Council, we might offer our ground-floor galleries. The Architectural Association has already a good deal of information as to other work which we might do, and I will presently ask the President, Mr. Maurice Webb, to give you an outline of what they are doing. With regard to No. 2, no explanation is necessary. Many young architects have left their work, with nobody to look after it in their absence, and we must, of course, help them. I shall, presently, ask Sir Aston Webb to move No. 3, and I will, therefore, not anticipate him in saying anything about the proposal, except that I shall ask the Council to send a donation from the Institute. (Hear, hear.) I have not yet had an opportunity of learning if the Architects' Benevolent Society has adequate funds at its disposal, and whether an appeal for subscriptions should be made. It will be necessary, in order to carry out these proposals, to appoint a representative committee, which should have power to add to its numbers, and to form organising committees to deal with different branches of the work. I propose to call a meeting of this committee next Tuesday. I think it will simplify matters if we have formal resolutions covering suggestions 1, 2, and 3, and the appointment of this committee, and it will also save time if any gentleman who has suggestions to make will make them briefly now, and then send them at once, in writing, to the Secretary of the Institute, in order that they may be considered by the committee. I will ask Mr. Maurice Webb to give the meeting an outline of the valuable work which the Architectural Association has already done, and I shall then ask Mr. Hubbard formally to move the first resolution.

Mr. Maurice Webb: I should like, first, on behalf of the Association, to say that we are only anxious to help and assist the Institute as far as we possibly can in any proposals it may bring forward. As regards the actual work which we are doing at the moment, we are endeavouring to get into touch with all men who feel they would like to do something to help at the present time: men who can only give up part of their time, and also men who have tried to join the Territorial forces, but owing to the fullness of their ranks have not been able to get in at present. But we are not able to do anything, and we do not wish to do anything, which will interfere with the regular recruiting, either for the Army or for the Territorial forces later on. For this purpose we propose to affiliate ourselves with a central organisation, called the London Volunteer Defence Force, which, I understand, expects shortly to obtain Government recognition. Lord Desborough is the chairman, and it is supported by a very influential committee. Their scheme is to start training centres all over London, and we shall form one of those centres for men who can only give up part of their time, having drills and musketry practice every night, and at other times as may be arranged. For men who can give their whole time I hope we shall provide a fuller and better system, and that we shall

be able finally to supply a complete company of men who are willing to give up their whole services and affiliate themselves with the Artists' Rifles or with some Engineering Territorial battalion, as soon as we are allowed to go on. But at the present time there is no further recruiting for the Territorials, I understand. For the part-time men we shall have to go on until things develop a little more. At present we have the names of 250 men who are willing to do something, and more are daily coming in. We have rifle ranges at our disposal, a drill-hall and drilling grounds, and we have our own cricket ground at Elstree, which, later, we shall be able to use for week-end camps. As far as the Association goes, I think that is the best side of the work for us to tackle. All men over 30 and up to 45 are eligible, and I hope that later the younger men will be; but at present we cannot drill them if they are eligible for Lord Kitchener's Second Army. In addition, we are endeavouring to help the British Fire-Prevention Committee, for men who are less martial-spirited and who would like to join an Emergency Fire Force, and who are versed in fire work and dangerous structure work, for either part time or whole time. I cannot say anything further, except that our Secretary is here, and he has full particulars of what we are doing, and will be pleased to take the names of any who are willing to help us. (Applause.)

The President: I will now ask Mr. Hubbard formally to move the first resolution.

Mr. Hubbard: The resolution which has been entrusted to me is as follows: "That this representative meeting of the architectural profession offers its services to the Government in whatever capacity they can be most useful at the present time. Also that, subject to the consent of the Council, the R.I.B.A. offers to the Government the use of the Institute's ground-floor galleries, and that an intimation giving effect to these offers be forwarded to the proper quarters." I beg, Sir, to formally move that resolution.

The resolution was put and carried unanimously.

Mr. J. Alfred Gotch: I have much pleasure in proposing the second resolution: "That the architects who are in a position to assist young architects who are already embodied in, or who contemplate joining, the Forces, be asked to send their names to the Secretary of the Institute, and state what they are prepared to do." I do not propose to say anything in support of this, because it is so obvious. My view is that, as far as possible, everyone should endeavour to keep things in their normal state. If young architects have gone to join the Colours and left their business, we ought to depart so far from the normal as to help them as far as we can.

Mr. E. Guy Dawber having seconded, the resolution was put to the meeting and carried unanimously.

The President: I will now ask Sir Aston Webb to move Resolution No. 3.

Sir Aston Webb, R.A.: The resolution I have to propose reads: "That a subscription list be opened to enable architects to contribute as a body to the Prince of Wales's National Relief Fund." I hope the Institute will give a contribution, as from the Institute.

Mr. Lancheater: I will second the resolution. I understand that it says "Architects," not necessarily members of the Institute?

Sir Aston Webb: Architects; yes, certainly.

The President: I think Sir Aston Webb has made it quite clear. The idea is that a subscription list should be opened, so that architects may contribute as a body, more or less, and the Institute will be asked to give a donation too. It answers two purposes: one is to have as large a sum as possible given to the Prince of Wales's Fund—a large sum, we hope; and the other is to enable people who feel they can only give a modest sum to give it in this way rather than sending it direct.

The resolution having been put, was carried unanimously.

The President: The next resolution I was

intending to propose myself. I move "That a committee be appointed to deal with the matters connected with the foregoing resolutions, this committee to have power to add to its numbers, and to form such organising committees as may be required, the committee to report to the R.I.B.A. Council from time to time." If anyone will second that I shall be glad. I do not think I have anything to say in explanation of it.

Mr. E. Guy Dawber: I will second that.
Mr. Lancheater: Can we pass that, and then go on to the constitution of the committee?

The President: This meeting is so big that if we are going to constitute a committee meeting here I do not know how long we shall be at it. I think if anybody has views and will give the meeting the benefit of them with regard to the constitution, and if you will trust me to work in conjunction with the Council in forming a committee on the lines that I gather the committee should be formed, judging from the conversation in this room, I think that would be the best way of going to work.

Sir Aston Webb: I think the best committee would be formed by yourself, sir, on the understanding that it is not limited to members of the Institute, but that it will include representatives from all known architectural societies. I feel sure you have the confidence of everyone in this room that you will carry out that duty honourably and to the satisfaction of all of us. I should like to see it placed in your hands.

The President: That is putting a great responsibility on me; but I will undertake to do the best I can, with the assistance of my Council. I will, therefore, put that resolution, which I have proposed from the chair, and which Mr. Dawber has seconded.

The resolution was carried unanimously. The meeting then terminated.

THE ARCHITECTS' WAR COMMITTEE.

The first meeting was held on Tuesday, August 18, 1914. Present: Mr. H. V. Lancheater (in the chair), Messrs. Walter Cave, Thomas E. Collett, G. Leonard Elkington, Claude Ferrier, H. M. Fletcher, L. Rome Guthrie, Edwin T. Hall, Gerald C. Horsley, Sir Thomas Jackson, Bart., Ralph Knott, F. S. Leslie, R. Goulburn Lovell, Edwin L. Lutyens, Sir Alexander Stenning, Sir Henry Tanner, Percy B. Tubbs, Paul Waterhouse, Adam F. Watson, Sir Aston Webb, Maurice E. Webb, John E. Yerbury, C. Stanley Peach (honorary secretary), Ian MacAlister (secretary).

In the unavoidable absence of the President of the R.I.B.A., owing to a domestic bereavement, Mr. H. V. Lancheater took the chair.

MEMBERSHIP OF THE COMMITTEE.

The Chairman stated, on behalf of Mr. Ernest Newton, that, in accordance with the resolutions passed at the representative meeting of the architects held at the R.I.B.A. on August 14, the gentlemen whose names he read had been invited to serve upon the committee, and that the following gentlemen regretted their inability to accept the invitation: Mr. H. B. Measures, Mr. F. B. Dunkerley, Mr. Gilbert Fraser, Sir William Emerson, Mr. A. B. Burling. It was thereupon resolved that the following gentlemen be also invited to serve upon the committee: Mr. J. E. Still, Mr. P. H. Wrench, Mr. Walter Gordon, Mr. Geoffrey Norman, Mr. S. D. Topley, Mr. H. A. Welch, Mr. Herbert Shepherd, Mr. W. Alban Scott, M.S.A., Mr. T. Wallis, M.S.A.

It was then resolved that the committee be called "The Architects' War Committee," and that the following members of the committee be appointed as honorary officers: Chairman, Mr. Ernest Newton, A.R.A., P.R.I.B.A.; vice-chairmen, Mr. George Hubbard and Mr. Percy B. Tubbs; honorary secretary, Mr. C. Stanley Peach.

The Secretary then submitted to the committee the resolutions passed at the meeting of the profession on August 11. The acting chairman stated, on behalf of Mr. Newton, that the question of the use of the R.I.B.A. galleries would be discussed at a meeting of the R.I.B.A. Council the same afternoon. He

also read the following statement drafted by Mr. Newton: "I hope to have an interview at an early date with Mr. Herbert Samuel, M.P., to discuss the question of the special employment of architects during the war. Mr. Samuel has already informed me that he will be glad to avail himself of our services if occasion arises. With regard to resolution No. 3, I propose this afternoon to ask the Council of the R.I.B.A. to make a substantial donation immediately to the Prince of Wales's Fund. With regard to the distress which may arise in the profession owing to the war, I propose to summon a special meeting of the Architects' Benevolent Society council to consider the situation, and, if it is found necessary, to send out a special appeal to the profession to contribute to a special war relief fund for the benefit of architects and those dependent upon them who may be in difficulties owing to the war.

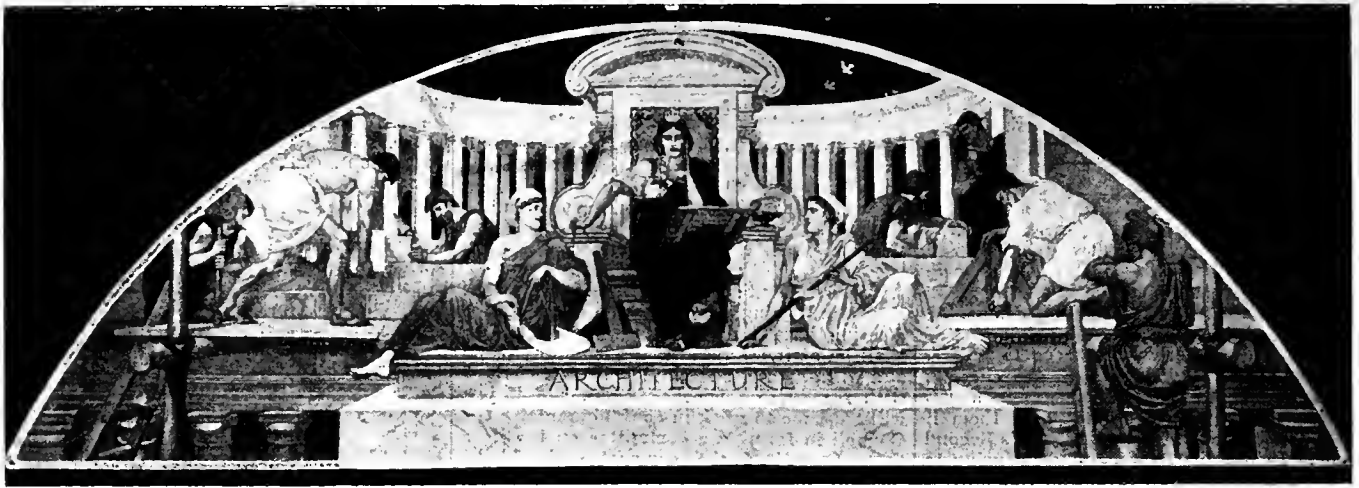
It was resolved that the following gentlemen be invited to act as an executive and general purposes committee, with power to add to their numbers: Chairman, the President; vice-chairmen, Mr. George Hubbard and Mr. Percy B. Tubbs; honorary secretary, Mr. C. Stanley Peach; Mr. H. V. Lancheater, Mr. J. Alfred Gotch, Mr. Maurice E. Webb, Mr. H. Chatfield Clarke, Mr. Claude Ferrier, Mr. Edwin T. Hall, Sir Aston Webb, Mr. W. E. Riley, Mr. Ralph Knott, Mr. L. Rome Guthrie, Mr. Paul Waterhouse, Mr. E. T. Richmond, Mr. H. M. Fletcher; and all the provincial members of the general committee to act as correspondents for the executive committee; and that all suggestions received from architects and others with regard to the action to be taken by the profession should be referred in the first instance to this committee for consideration.

It was then resolved that the executive and general purposes committee be instructed to draft and despatch to the Right Hon. J. Pease, M.P., who has been entrusted by the Cabinet with the duty of receiving all offers of assistance in connection with the war, a letter embodying the general offer of help expressed in the resolutions.

It was resolved that the following gentlemen be invited to act as a Selection Sub-Committee or sub-committees, with power to add to their numbers: Sir John Burnet, Sir Aston Webb, Mr. J. Alfred Gotch, Col. F. S. Leslie, Mr. E. Guy Dawber, Mr. G. Leonard Elkington, Mr. Reginald Blomfield, Mr. Max Clarke, Mr. H. A. Welch, Mr. Sydney Perks, Mr. T. Edwin Cooper, Mr. Wm. Woodward, Mr. John E. Yerbury, Mr. Henry T. Hare, Mr. G. T. Hine, Mr. John Slater, Mr. R. Goulburn Lovell, Mr. Gerald C. Horsley, Mr. Alan E. Munby, and all the provincial members of the General Committee to act as correspondents for the selection sub-committee, and that the following memorandum, prepared by the chairman, be adopted as a basis for the work of this sub-committee, which should report to the executive and general purposes committee: "This sub-committee would be asked to compile lists of architects, with particulars of their qualifications, so that we may be in a position to give useful information to the Government or to any of its departments in connection with emergencies arising out of the war. The sub-committee would also act as an information bureau to help young architects who are called out for service in the manner suggested by Resolution No. 2. In doing their work it would be largely guided by the advice and knowledge of the provincial members of the general committee, who would be asked to act as its correspondents in dealing with applications from various districts."

It was resolved that the executive and general purposes committee be instructed to open a subscription list, to enable architects to contribute as a body to the Prince of Wales's National Relief Fund, or (b) a special fund.

It was resolved that the following gentlemen be invited to act as a General Sub-committee, with power to add to their numbers: Sir Robert Lomax, Sir Alexander Stenning, Sir Ernest George, Sir Henry Tanner, Sir Thomas Jackson, Mr. A. W. S. Cross, Mr. H. W. Wills, Mr. H. Aston Hall,



ARCHITECTURE. BY COMMENDATORE WALTER CRANE.

Mr. H. M. Fletcher, Mr. E. C. P. Monson, Mr. Herbert Baker, Mr. Walter Cave, Mr. Thomas E. Collcutt, Mr. Edwin L. Lutyens, Mr. Leonard Stokes, and all provincial members of the general committee to act as correspondents for the benevolent sub-committee.

The acting-chairman stated that after consultation with the War Office, the Architectural Association had decided for the present to take no action in regard to their military training proposals.

It was finally resolved that the executive and general purposes committee be requested to consider the following points: (a) The desirability of issuing to the profession or to the public an appeal to carry on building work to the utmost extent during the progress of the war. (b) The desirability of urging the Government to make arrangements to allow the railways to carry building materials.

"SCULPTURE" AND "ARCHITECTURE". ROYAL WEST OF ENGLAND ACADEMY, BRISTOL.

In our Double Number, published on January 2 last, we gave the two lunettes painted by Commendatore Walter Crane, R.W.S., which were the first pair executed in the central hall of the Royal West of England Academy under the Dome and illustrating "Painting" and "Craftsmanship." The remaining lunettes, which will also face each other, represent "Sculpture" and "Architecture."

The designs were chosen in public competition when Professor Lethaby, Professor Beresford Pite, and Professor Moria, all of the Royal College of Art, acted as assessors. Complete and suggestive as the original small scale studies were, all four of the

schemes, which are each 24ft. long by 7ft. high, have been elaborated in execution. One of the conditions of the competition was that the cost should not exceed £500.

The two lunettes (now exhibited in the large studio of Leighton House, by kind invitation of the committee, Mr. Crane's own studio being too small for their proper display) are part of a set of four, designed for the new building of the Royal West of England Academy, or, rather, the addition to the old building by Mr. S. S. Reay.

Two of these are already in position at Bristol, their subjects being "Painting" and "Craftsmanship." Sketches for them (to $\frac{3}{4}$ in. scale) may be seen in the room. It should be understood that these lunettes are to decorate the four sides of a dome. "Painting" and "Craftsmanship" face each other, and the two lunettes now shown, "Sculpture" and "Architecture," will also be placed opposite each other. In the one the Genius of Sculpture stands in the centre of the composition, holding a small golden statuette of Victory. On each side are symbolic figures of Grief (to the spectator's right), Fame, and Love, as being the principal supporters of the art of Sculpture. Further to the right is a young sculptor at work upon a bust he is modelling in clay. His sitter may be supposed to be an eminent poet or savant. Reliefwork is suggested by the figure with the medallion, and the Pegasus indicated behind the head of the sitter. On the other side a sculptor is seen at work upon a marble sphinx, and bronze work is suggested by the figure of a faun which the lady is admiring just beyond. The scene is an Italian garden, with steps, pedestals, balustrades, and cypress trees. On the steps at the feet of Sculpture is a cluster of emblems indicating the various departments of life and thought to which Sculpture contributes or adorns—such as Civic Life

and Government, Law and Justice, Religion, and the Honour of the World.

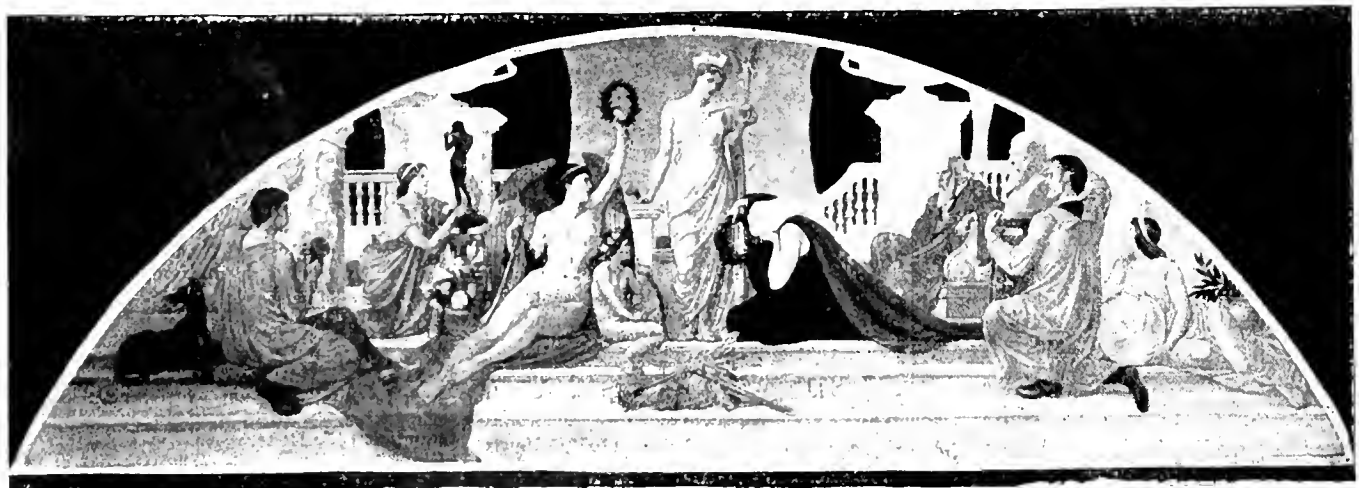
Architecture.—The Genius of Architecture in a purple robe, and wearing a mural crown, is seated upon a marble chair or throne of Late Renaissance design, with a designing-board on her knee, and compasses and measure in her hand, pondering a plan. Her supporters either side are figures representing Geometry and Proportion respectively. Builders and labourers are at work on a scaffold beside them, and a building is in progress under their hands, upon whose skill and energy all architectural design must finally depend. A curved colonnade of the Doric Order controls and completes the composition, while it suggests the historical basis of Classical architecture.

The paintings are executed in matt oil-colour, using rectified petrol spirit as a medium. It must be understood that they will be seen, when placed in their proper position in the building, at a much higher level—about 18ft. from the floor.

The architect of the reconstruction of the building was Mr. S. S. Reay, F.R.I.B.A., late of Bath, and now of the War Office, Pall Mall, S.W.

The last section of the subway for pedestrians across Cannon-street by the Mansion House Railway Station leading to Bow-lane was opened on Friday by Mr. A. C. Morton, M.P., on behalf of the streets committee of the Corporation of London. The first portion of the subway was opened on December 2 by the Lord Mayor.

The West Riding Rivers Board, at their meeting at Wakefield on Friday, resolved to ask all local authorities having sewerage or sewage disposal schemes in progress or in contemplation, to proceed with the work as soon as possible, so as to provide useful employment in their respective districts, and that the Local Government Board be asked to expedite all schemes submitted to them.



SCULPTURE BY COMMENDATORE WALTER CRANE

THE BRITISH ASSOCIATION.

THE AUSTRALIAN MEETING.

The meeting of the British Association in Australia this year seems to have been a successful one, notwithstanding the diversion of general interest there, as here, by the outbreak of war. The Presidential Address, by Professor William Bateson, M.A., F.R.S., on "Hereditarity," delivered in two parts, at Melbourne and Sydney, on August 14 and 20, was one of the most valuable of recent years. A verbatim report will be found in the issues of our other paper, the *English Mechanic and World of Science*, of August 14 and 21.

Of the Sectional Presidential Addresses, we give, as usual, that delivered to the Engineering Section, by Professor E. G. Coker, M.A., D.Sc., M.I.C.E., and also some other matter within our scope. Professor Coker's subject was

STRESS-DISTRIBUTION IN MATERIALS.

The subject of stress distribution in materials, which I have chosen for this address, is not one which an engineer can claim as his peculiar province, for it has been, and still is, a fruitful field of investigation for the mathematician, the physicist, and the geologist, and has always been so since the commencement of scientific inquiry. Indeed, it must have been the source of speculation and controversy ever since mankind emerged from a primitive state and began to fashion dwellings, weapons, and tools from the materials at command. The development of architecture from the earliest dwellings of savage races to the great temples of Egypt and Greece, the bridges and aqueducts of the Romans, and the Medieval buildings of Europe, all bear witness to the accumulation of practical knowledge of the properties of materials, and of the stress distribution in structures, which we cannot fail to admire, although we know far too little of the way in which these ancient structures were planned and constructed. The magnificent arched and domed buildings of the Roman period, and the stately cathedrals of later times, with their wealth of architectural form—tower and spire, flying buttress and vaulting—all show how considerable was the practical knowledge of stress distribution possessed by the master builders who planned and carried out these great structures. We, who inherit these buildings as a precious legacy of bygone ages, have at our command far greater resources in the accumulated knowledge of centuries of scientific discovery and invention, and can build more complex structures—great bridges of steel, towering frameworks covered by a thin veneer of masonry, and floating arsenals of the most bewildering intricacy. All these we can show to our credit as the result of the steady increase of scientific knowledge applied to practical ends; but even now knowledge of the stresses which come upon these complex structures and machines is relatively small. Scientific investigations of engineering problems of stress still lag behind constructive ability, and defective knowledge is obscured more or less by approximate theories, and buttressed by factors of safety, which serve in one instance, perhaps, but show in others that they have merely given a sense of fancied security with no real basis, and are more properly factors of ignorance, to be discarded at the earliest moment. Who, for example, can say with certainty what is the stress distribution throughout the compression members of a great bridge, built up of complicated steel shapes and plates, united by stiffening angles, gusset plates, and innumerable rivets. There is probably good reason for the belief that a great strut is relatively weaker than a small one, when both are designed according to the same approximate formulae now used in current practice, and engineers are unwilling to take the responsibility for such members in a great structure, without providing a very ample margin of safety to cover the contingencies arising from lack of precise knowledge of the strength of these members. So numerous are the problems which arise in the design and construction of machines and structures, that it is perhaps not unprofitable to devote a short hour to the consideration of some of the available means which an engineer can use as a guide for his applications of science to construction, since of whatever kind are the professional activities he pursues, his place in the scheme of affairs mainly depends on his ability to make machines and structures for directing and modifying natural sources of power in known ways, or applying them to new purposes as scientific discoveries advance the boundaries of knowledge. The power to do this depends to no small extent upon the ability to determine the distribution of stress in a structure, and the skilful manner in which material can be disposed for the required purpose.

It is of some help to our appreciation of the

achievements of the great constructors of past ages if we remember that they probably all held the erroneous view that materials of construction are perfectly rigid bodies, and, indeed, we know that, as late as 1638, Galileo Galilei was of that opinion, and that he came to an entirely wrong conclusion as regards the stress distribution in a loaded cantilever.

It required the genius and insight of Robert Hooke to make a really great step with his celebrated theory of the linear relation of stress to strain, and we can appreciate the glow of pride and satisfaction which he must have felt at his great discovery when he records, in 1675, that "his Majesty was pleased to see the experiment that made out this theory tried at Whitehall, as also my spring watch."

Hooke had, in fact, discovered the fundamental principle upon which a theory of the elasticity and strength of materials could be based, and it would be interesting to trace the great advances which were rapidly made from this new vantage-ground, whereby the main facts of the distribution of stress in simple members of structures became known, and a foundation was laid for the great advances of the mathematical theory. If I am silent upon the enormous developments of the modern theory of the strength of materials, it is not from lack of appreciation, but because I do not deem myself adequately fitted to discuss the great work of the elasticians, which all engineers admire, and so few are equipped to follow with the full battery of mathematical tools which have been pressed into service in the pursuit of this great science.

Among the greatest of the services rendered by early pioneers was that of Young, who was the first to notice that the elastic resistance of a body to shear was different from its resistance to extension or contraction, and this led him to define a modulus of elasticity for materials in compression. As Professor Love remarks, "This introduction of a definite physical concept, which descends, as it were, from a clear sky on the readers of mathematical memoirs, marks an epoch in the history of the science."

From the standpoint of the engineer, nothing is of more practical importance than the great discoveries of Hooke and Young that bodies like metal, wood, and stone are "springy" and have a simple linear relation between stress and strain. It is probably within the mark to say that nine-tenths of all the experimental investigations on stress distributions in structures have been entirely based on the fundamental principles which they enunciated, and new uses are continually arising. The recent application of the steam-turbine to the propulsion of ships produced a profound change in marine-engine practice, and incidentally involved an entire reconstruction of methods for obtaining the horse-power developed, which had been gradually perfected from the time of Watt, but were absolutely useless for the new system of propulsion. Hooke's discovery of the essential springiness of metals enabled engineers quickly to devise new instruments capable of accurately measuring the infinitesimal angular distortions of propeller-shafts, and from these to determine the horse-power transmitted by the aid of an appropriate modulus. The construction of tall buildings affords another example where advantage has been taken to determine the loads upon columns by measuring the minute diminutions of length as the structure proceeds, thereby affording a valuable check upon the calculations for these members, and a reliable indication of the pressures supported by the foundations.

The distribution of stress in buildings constructed of composite materials like concrete reinforced with steel has also been examined by similar methods, and much data for guidance in future constructional work has been obtained, especially in the United States of America. The still more difficult problems involved in the determination of the stresses in joints and fastenings of complicated structures have often been investigated by purely mechanical measurements of strain, and the experimental investigations of Professors Barraclough and Gibson and their pupils upon the distribution of stress due to riveted joints and curved plates of boiler-shells afford a notable example of the successful application of the measurement of small strains to a stress problem of great complexity. That "science is measurement" is here sufficiently obvious, and it seems only due to the memory of that great engineer, Sir Joseph Whitworth, to refer to his great mechanical achievements of a true plane and well-nigh perfect screw, which enabled him to measure changes of one-millionth of an inch, and thereby gave experimental investigations of strains a new impetus, which is reflected in subsequent work on the subject. Nor must we forget the no less important exposition, by Kelvin and Tait, of the scientific principles of instrument construction which have

done so much for the design of instruments for the precise measurement of strains.

Mechanical measurements cannot, however, completely satisfy all our modern requirements, since they are essentially average values, and fail to accommodate themselves to many of the problems which press for solution. In the quest for exact experimental knowledge, the measurement of stress at a point becomes of paramount importance, and we may, therefore, inquire what further means the researches of pure science have placed at our disposal for the determination of stress distribution in materials. It is well known that many materials, when tested to destruction, show a considerable rise of temperature at the place of fracture, especially in very ductile materials; but Weber was the first to discover that a metal wire when stretched within the elastic limit is cooled by the action of the load, and this result was deduced later from the laws of thermo-elastic behaviour of materials by Lord Kelvin, who showed that tension and compression loads produce opposite effects, and that materials which have the property of contracting with rise of temperature show thermal effects of the reverse kind. Although the changes of temperature produced by stress are small within the elastic range—less than 1 degree C. for most materials—yet their effect upon a thermo-couple is readily measurable if the equilibrating effects of surrounding bodies are neutralised or allowed for, so that stress distribution can be determined by thermal measurements at a point. The correction for such disturbing causes is usually an important factor, and is generally so large that experimental work is more suitable for the laboratory than the workshop; but if all necessary precautions are taken a linear relation of stress to strain can be shown to hold up to the elastic limit of the material, while above this point the break-down of the structure causes a rise of temperature of so marked a character that it has been utilised by several investigators as an indication of the yield point.

Experiments upon members subjected to tension compression, and bending, show that thermal phenomena afford trustworthy indications of the stress in materials so diverse as a rolled-sheet section, a block of cement, and beams of stone and slate. Although no attempt appears to have been made to investigate stress distributions of any great complexity, it seems not unlikely that thermal methods of investigation will ultimately prove of considerable value. The transparency of metals to Roentgen rays is another phenomenon which has often been suggested as likely to be of service for work on stress distribution. Mr. Howgrave Graham and I have examined a number of rolled metals under stress up to the breaking-point, without, however, discovering any change in the appearance of the material, as seen on a fluorescent screen. Although our experiments showed no perceptible change, it is, of course, not impossible that an effect may have escaped our notice. Another and still more fascinating field of research on stress distribution is afforded by the doubly refractive properties of transparent bodies under stress, a discovery made by Sir David Brewster almost exactly one hundred years ago, and but rarely made use of since by engineers, although Brewster himself immediately saw its value for experimental purposes, and suggested that models of arches might be made of glass, and the effects of stresses due to loading rendered visible in polarised light. Brewster carried his investigations further, by the invention of a "chromatic telemeter" for investigating the nature of strains, and consisting of plates or bars of glass subjected to flexure in definite ways for comparison with the body under stress. At a much later date (1841) Neumann developed an elaborate theory for the analysis of strain in transparent bodies due to load, unequal temperature, and set while, still later, the youthful genius of Clerk-Maxwell supplied an algebraic solution for the stress distribution in any plate subjected to stresses in its own plane. The early history of the development of this branch of science is, in fact, remarkable for notable contributions at long intervals of time, and the almost complete disregard by engineers of its practical importance.

The application of optical investigation to the determination of stress distribution in engineering structures and machines has, however, been hindered by causes which, although apparently insignificant, have been very real obstacles, and among these was the absence of a transparent material which could be fashioned into shapes suitable for investigating technical problems. It is not an easy matter, for example, to construct a glass model of a bridge free from internal stress, in the manner suggested by Brewster; and, moreover, glass is extremely fragile under load, especially in cases where the stress distribution in it varies very much, while the cost

of construction is very great. Happily there is now no necessity to employ glass for experimental investigation on engineering problems, since modern chemistry has supplied artificial bodies, such as the nitro-cellulose compounds used for many trade purposes, which have optical properties very little inferior to glass, are able to bear great stresses without injury, and also are capable of being fashioned with the ease and certainty of a wooden model. Photographic processes are also able to reproduce the brilliant colour effects caused by stress in transparent materials, so that permanent records can now be made for future reference. The construction of polariscopes for examining models on a large scale is very essential for technical research, and the great scarcity of Iceland spar of sufficient purity and size for use as Nicol's prisms has caused much attention to be paid to the construction of apparatus for producing plane polarised light by the aid of sheets of glass. Fortunately this presents little difficulty, and although the light is not nearly so well polarised as that obtained from a Nicol's prism it is sufficiently so for the purpose. Large quarter-wave plates of mica have also been constructed by my colleague, Professor Silvanus Thompson, F.R.S., for obtaining circularly-polarised light, and these have proved sufficiently exact and exceedingly useful for large models.

It is of importance to show that the stress distribution revealed by a polarised beam of light passing through an elastic transparent material in no way differs from that obtained by other means, and evidence is available in modern researches, especially by Filon, that the experimental results obtained with glass agree with those of the theory of elasticity, while a satisfactory agreement of a similar kind has also been obtained with nitro-cellulose compounds, although not in so complete and direct a manner. Such an agreement may be expected on theoretical grounds, since the values of the elastic constants do not affect the fundamental equations for stresses in a plane, and although for three-dimensional stress the effect of the stretch-squeeze ratio causes some difference, yet this is usually negligible. Most of the physical constants of glass have been determined with very considerable accuracy, but other transparent substances have so far received little attention, and their optical constants are not well known. The stress-strain relations of glass and nitro-cellulose have been determined with considerable accuracy, and a useful idea of their relations to metals may be gained from the values of the stretch-modulus, E , and the stretch-squeeze ratio, σ . The accompanying table shows some average values for a few important materials, and it is of interest to note that the stretch-squeeze ratios of cast iron and plate-glass are very similar, while the values of the stretch modulus are nearly as three to two. These two materials also possess other like characteristics: they are both very brittle, and possess well-developed crystalline structure, so that we may expect the properties of cast iron under stress to be very faithfully followed by plate-glass.

Material.	E	σ
Steel	30,000,000	0.25
Wrought iron	28,000,000	0.28
Cast iron	15,000,000	0.25
Plate-glass	10,500,000	0.23
Nitro-cellulose	260,000 to 300,000	0.40

The high values of the stretch modulus for steel and wrought iron are not, apparently, approached by any transparent material having similar ductile properties, but although nitro-cellulose has a stretch modulus of rather less than one-hundredth that of steel, its stress-strain properties are not unlike. In some recent experiments with a miniature testing machine fitted with an arrangement for recording the stress-strain relations of xylonite throughout the whole range of stress up to fracture, the main characteristics of steel appear on a very much reduced scale, and give additional confidence that the results of optical experiments on this material are applicable to metal structures. The complete analysis of stress distribution in a plate is not, however, a simple matter, and the analysis of Clerk-Maxwell was intended to provide a solution based on the properties of the isochromatic and isocline lines, coupled with the law that the optical effect is proportional to the differences of the principal stresses at a point, and to the thickness of the plate. A principal stress perpendicular to the bounding planes is assumed to have no optical effect, but since many cases have arisen where there are three principal stress components, it seemed desirable to examine such a case experimentally. It is a matter of some difficulty to arrange apparatus to stress a specimen in the direction of the incident beam, and at the same time observe the optical effect free from disturbing causes, since a transparent medium must be interposed for applying the required load,

and this will be subject to stresses which may interfere with the optical effect on the specimen.

Some observations on circular plates clamped at the edges and uniformly loaded over one face showed that the bending stresses produced in the plate caused very little optical effect, since the tension and compression stresses neutralised one another, while the shear effects also appeared to be practically negligible. The only remaining stresses of importance were those caused by the clamping plates at the boundary, which produced radial and circumferential stresses having circular symmetry, and as the optical effects of these latter disappeared at a small distance from the edge, a field of view was obtained in which the optical effects of load applied perpendicularly to the plate were quite small, even when the internal stresses were very great. Two circular plates clamped together to enclose a space between them may therefore be used as windows for observing the effect of a uniform pressure upon the transparent specimen, which latter may be a plate with its faces parallel to the end plates closing the chamber. If cubical compression is applied by a fluid, the principal stresses in the plane of the plate produce opposing optical effects, and any remaining effect is due to per-arrangement of experimental apparatus, therefore, took the form of a pair of transparent windows separated by an annular disc, and firmly clamped together by collars. The central chamber so formed was subjected to pressure of air, or other fluid, up to about one thousand pounds per square inch, and afterwards the specimen was introduced and the same pressure applied; but no visible change of effect could be observed. Finally, the specimen was set in the field of view outside the chamber, and pressure again applied by the fluid, but still no change was apparent. In all three cases the optical effects produced were small, and practically alike, so that the experimental evidence appears to warrant the conclusion that a principal stress in the direction of an incident beam of polarised light has no optical effect in a thin plate, or at any rate is so small that it may be neglected.

That the retardation between the ordinary and extraordinary rays is proportional to the stress difference perpendicular to the incident beam within the elastic limit of the material may, therefore, be taken as reasonably accurate, although future research may show that it is only an approximation, or even that it is more accurate to commence from a fundamental strain equation; but according to present knowledge there appears to be no warrant for such a procedure. A more pressing difficulty arises with regard to the optical constant connecting the wave-length retardation with the stress difference. The recent researches of Filon on glass show that the value of this constant is curiously dependent on the previous history of the material, especially as regards its heat treatment. Until further knowledge is gained on this matter it appears to be necessary to guard against errors in stress measurement from this cause by a careful selection and treatment of the material used, since for other artificial bodies we may find that the variation in the constant is not less in magnitude, and is at least as complex as in glass. In some instances the stress optical coefficient may be dispensed with, and Filon has shown, in cases where a theory of stress distribution has been worked out and it is desired to compare it with the results of optical measurements, that the isocline lines offer many advantages, since they are independent of photo-elastic constant, and the material need only be subjected to small stresses. The experimental analysis of stress distribution in a body depends on the possibility of finding the magnitudes and directions of the principal stresses at every point, and in practice it is found the simplest plan to determine the directions of stress from the lines of equal inclination obtained in plane polarised light, and to measure the stress difference by comparison with a wave-length standard, such as a Babinet compensator, or by comparison with a simple tension member set along one of the lines of principal stress, and loaded until the total effect produced is a dark field denoting a zero value. The difference of the principal stresses is then measured in terms of a simple tension. This alone is insufficient to determine the distribution unless one of the principal stresses is zero, and, in general, another independent measure must be obtained. This is very conveniently supplied by the change in the lateral dimensions of the plate under stress, since this change may be taken, in the absence of a third principal stress, as proportional to the generalised sum of the principal stresses throughout the thickness.

The determination of the lateral strains in a comparatively thin plate, forming part of a model of a machine or structure, necessitates measurements of extremely minute linear

quantities. If, for example, a plate of xylonite is taken, of the maximum thickness obtainable for optical work, a simple calculation shows that these strains must be measured to an accuracy of one to two millionths of an inch. Several instruments have been designed and constructed for this purpose, to fulfil conditions which appear to be essential for successful use. It is necessary to avoid all chance of injury to the surface of a transparent material, so that the measuring points of an instrument can only be pressed lightly against the surface, and the weight must, therefore, be supported independently of the model. In instruments so far constructed, the measuring mechanism is carried on a U-shaped frame, for convenience of movement from point to point of the specimen. One measuring needle is secured and operated by a calibrating screw, and the other is free to move a multiplying lever system, and thereby tilt a mirror to give an angular deflection, which latter is calibrated by reference to the standard screw when the instrument has been finally secured in place. In recent work the labour of accurately setting the instrument in a number of different positions has proved so great, that my assistant, Mr. F. H. Withycombe, has designed a useful adjunct in the form of a mechanical slide-rest, to effect the required changes easily and expeditiously. In one arrangement, a bracket carries the measuring instrument on a three-point support, and movement is effected by slides arranged to give displacements along three axes at right angles, and their amounts are measured by micrometer screws to an accuracy of rather less than one-thousandth of an inch.

These methods of stress determination avoid the difficulties of the Clerk-Maxwell analysis, which necessitates the determination of the equations to both families of isochromatic and isocline bands—usually a mathematical problem of considerable complexity. In some simple cases Mr. Scoble and I have verified the accuracy of the method of lateral measurements for determining the sum of the principal stresses by comparing the calculated stresses with the experimental values obtained in a plate of transparent material. We have lately carried these experiments a stage further, and have shown that the measured sums of the principal stresses in steel agree with the calculated values. This experimental solution, in fact, gives the stress at a point in a plate if the conditions are those assumed by the mathematical case of a plate where generalised equations of stress apply. It is at once obvious, if the utility of experiments on models of this kind is admitted, that experimental evidence is available on a variety of practical engineering problems covering a very wide field of practice, not merely qualitative, but quantitative, and approximating to the needs of the physicist and mathematician, and well within the known variations of the materials with which the engineer has to deal in his daily practice.

During the last few years much attention has been paid to the determination of the stresses in structural elements of primary importance; but only a small number of cases have been examined, since even the simplest problems have proved somewhat difficult, and much time and labour have been spent in perfecting optical and mechanical appliances to suit the special conditions required for investigations on transparent models. A simple example of a case easily examined and of practical importance is that of a tension member subjected to an eccentric load. The optical effects here show a linear distribution of stress due to the combination of direct pull and bending, while the neutral axis moves towards the tension side as the stress increases. Not only can these effects be measured, but if the specimen begins to fail, some indication is obtained of the way in which the stress distribution is changed to meet the new conditions, and there is found a tendency to an equalisation of the maximum stress at the boundary, although at present the form of the curve of distribution beyond the elastic limit is largely conjectural.

A case like that of a very short member subjected to direct compression is also not without interest, partly because it reveals unexpected difficulties. In the first place, it is not easy to apply a pure compression stress, and if the surfaces in contact are not of the same materials it appears to be practically impossible, since the lateral changes are unlike, and the shear stress is therefore produced at the plane of the surfaces in contact. In a short member this shear has a very important influence, and by interposing a thin layer of a material, such as indiarubber, between the pressure plates and the short transparent block, the artificial shear effect produced by the indiarubber is easily shown to influence the distribution throughout, and to increase the stress in a very marked way. Experiments on transparent materials show that

the increase of stress may be 20 per cent., or even more. Such an effect is known to take place when cubes of stone are crushed between lead plates, and optical investigations on models have enabled a quantitative measure of the effect to be ascertained in this and other cases, thereby confirming the theoretical investigations of Filon on the distribution of stress in such members under various practical systems of loading.

The local effects produced near the points of application of a load are usually of considerable importance, and their influence on the stress distribution in beams has been examined by Carus-Wilson. The stress effects produced by discontinuities in materials is also of considerable interest, and the cases arising from the necessities of construction are infinite in their variety. The practical importance of an accurate knowledge of the change in stress distribution produced by changes of section in a member is so thoroughly appreciated that it needs no insistence, and it has received much attention from a mathematical point of view. Thus the local effect of a spherical cavity in a member subjected to uniform tension or compression load has been shown by Love to double the intensity very nearly, while Kirsch has shown that a small cylindrical hole in a tension member trebles the stress intensity. If the hole is elliptical the increase of stress may be still greater, and Inglis has shown, among other interesting cases, that if the minor axis of the ellipse is parallel to the direction of the applied load in a tension member, the stress intensity is increased by an amount measured by twice the ratio of the axis of the ellipse. A crack, considered as the limiting case of an elliptical hole, is thus seen to give extremely great stresses at the ends, tending towards infinite values for an extremely fine crack.

Optical experiments afford an independent means of examining the alterations of stress intensity produced by discontinuities, and the results are found to agree remarkably well with those obtained from the theory of elasticity. The stress at the boundary of a small cylindrical hole in a plate has been found to be almost exactly three times the stress in the full plate, and the effects of holes comparable with the width of the tension member have also been examined in some detail. In the case of a rivet just filling the hole and exerting no tangential effect at the boundary, there is a lessened tension stress across the minimum section at the boundary hole, accompanied by a marked radial tension. These effects have been recently confirmed in a mathematical discussion by Suyeiro. Other cases give satisfactory agreement with calculation, and we may therefore feel some confidence that experimental investigation will prove useful in some of the very complicated cases arising out of engineering practice where analysis is difficult, if not impossible.

The effects of overstress in materials may also be examined by optical means, and although the laws relating to stress distribution in overstressed transparent material are not known, the general effects observed in simple cases are fairly evident. If, for example, a tension member of glass is stressed, there is no ductile yielding of the material, and the stress will therefore rise very rapidly at the boundary of a small hole, and fracture will therefore occur with a moderate load. If, however, a ductile transparent material is employed, and the material shows signs of failure at the hole, the breakdown of the structure spreads outwards as the load is increased, until we may have a condition in which within the elastic limit the curve of stress intensity at the minimum section accords with calculation; but at the overstressed part the stress tends to equalise, and the curve of intensity tends to become horizontal near the hole. The mean value of this part of the stress distribution may be inferred from the difference between the total load and the measured values below the region of failure; but the true distribution of the overstress has not been accurately determined, so that the shape of this peak is largely conjectural. The effects of groups of rivets such as occur in bridges, boilers, and structural members of all kinds afford ample scope for further inquiry; but before more exact knowledge can be gained of the condition of stress in a complicated riveted joint, it appears necessary to examine thoroughly the very simple cases. Mr. Scoble and I have examined the case of the load applied by one rivet to a plate with various amounts of overlap, and the stresses around the rivet-holes have been measured with fair accuracy. Other interesting cases of discontinuity in structure are afforded by the engine hatchways, gun-turrets, funnel openings, and the like in ships' decks, and some progress in this direction has been made by experiments on model decks subjected

to loads like those produced when a vessel meets the waves due to a head sea.

Even if the utility of transparent models is left out of account, it is generally acknowledged that many engineering problems are often simplified by the use of models of machines and structures on a small scale where circumstances forbid experimental examination of the actual work. No defence of their use is, I think, necessary, since the employment of models is a characteristic feature of British methods, not limited to engineers. Kelvin did not disdain their use, and his successors, who have done so much to advance knowledge of the ether and the atomic dust, have freely employed their great ingenuity in the construction of mechanical models and diagrams to explain their views, as in the Lodge cog-wheel diagram of the ether, the planetary systems of atoms of J. J. Thomson and Rutherford, and the grouping of elements by Soddy. Engineers have not the same great difficulties which confront those who are advancing the boundaries of pure science; their models are very much what they please to make them; but, even then, problems arise which are sufficiently difficult to tax all the resources of applied science. The behaviour of models considered as similar structures is, therefore a subject which engineers are bound to investigate in order to determine the effects of fixed and moving loads, the action of wind, the pressure and frictional effects of steam and other fluids, and many other problems. In the majority of cases the simplest and the most direct method is the experimental study of a model, from which to obtain the data required for calculating effects on a full-sized structure, and hence the laws of similarity have received a very close scrutiny. Although most valuable information can be obtained from models, their usefulness is clearly limited. The effects of the dead weight of a structure are proportional to the cube of the linear dimensions, and are, therefore, not usually measurable on a model except in exceptional circumstances, as, for instance, where elastic jellies are employed, as in the well-known investigations of Pearson on the stress distribution in reservoir dams. Nor are questions of stability easy to solve, since the forces producing instability are proportional to the size of the model. On the other hand, stress effects due to applications of load may be measured by the strains produced in a model of the same material, if the loads are proportional to the squares of the linear dimensions. The effects of applied load are studied even better in a model constructed of transparent material, since the variation of stress from point to point can be studied with much greater ease and certainty. As detailed models of this latter kind present some variations from the usual laws of similarity, it may be of interest to indicate their nature. Questions of deformation clearly involve the elastic constants of the transparent material and their relation to those of the proposed structure, while stress distribution in the solid is influenced by the value of Poisson's ratio. This latter effect is quite small for glass, but may become appreciable with other substance. It is negligible in a model of any material which approximates to a thin plate stressed by forces in its own plane. The optical effects for any given load are, moreover, independent of the thickness of the material, and depend upon the stress difference, so that colour effects are obtained which may be regarded as pictures of shear stress throughout the model. Modern researches on ductile materials like structural steel indicate that such materials fail at some limiting value of shearing stress, and since the places where these limiting values are reached in the model are visible to the eye, the weak places in the design of a structure can be ascertained and a faulty design corrected by purely experimental means. In this connection it is of interest to mention that M. Mesnager, the chief engineer of bridges and roads to the French Government, has recently constructed an elaborate model in glass of a design for an arched bridge of about 310ft. span. This investigation was considered advisable for a work of this magnitude constructed of reinforced concrete, in order to check the calculations, especially of maximum stresses in the arched ribs, which latter were assumed to be fixed at the ends.

The effects of reinforcements were allowed for by determining equivalent sections of glass for the members of the model. Many difficulties had to be overcome in the production of a model free from optical defects, but these were all successfully surmounted. The stresses in the model were determined by aid of a Babinet compensator, and formed a valuable check upon the calculations for a structure of this great magnitude and somewhat unusual design. In this brief and incomplete account of a small branch of applied science relating to engineering, the

fundamental importance of discoveries in pure science is manifest. The discoveries in pure science and their innumerable applications to practical ends are ever a potent factor working for the common good, and the value which the British Association places upon applied science was most cordially voiced by Professor Bateson in his Portsmouth Address when he said: "To the creation of applicable science the very highest gifts and training are well devoted," and, "The man who devotes his life to applied science should be made to feel that he is in the main stream of scientific progress. If he is not, both his work and science at large will suffer. The opportunities of discovery are so few that we cannot afford to miss any, and it is to the man of trained mind, who is in contact with the phenomenon of a great applied science, that such opportunities are most often given"; and, again, "If we are to progress fast there must be no separation between pure and applied science. The practical man with his wide knowledge of specific natural facts, and the scientific student ever seeking to find the hard general truths which the diversity of Nature hides—truths out of which any lasting structure of progress must be built—have everything to gain from free interchange of experience and ideas." Engineers who are more immediately concerned with the problems of directing the great sources of power in Nature for the use and convenience of man are indeed grateful to our president for these inspiring words, and trust that the ties which unite investigators in pure and applied science will never slacken, but will knit together more closely for a joint advance to a more perfect understanding and utilisation of the laws of Nature.

IRRIGATION WORKS IN ITALY.

By Professor Luigi Luggi, D.Sc., M.Inst.C.E.,
President, Italian Society of Civil Engineers.

The ordinary tourist who visits Italy and admires the splendid orange-groves round Sicily and Calabria, the industrial flower-gardens of the Ligurian Riviera, the luxuriant vegetable-gardens and orchards of Tuscany and Campania, or the extensive green meadows of exuberant trefol and lucerne of Lombardy and Lower Piedmont, if he has at all a tinge of poetry in his veins, will be apt to raise a hymn of praise to Providence, who has bestowed upon Italy such great blessings, and will grumble against its inhabitants accused of the sin of "dolce far niente." And, really, Providence has been very good in giving Italy a mild climate, with plenty of sunshine—although even in excess in some parts; but, besides this, Providence has not done much more than for any other nation of Southern Europe, if it were not that it has also given to Italy a very hardy race of people, full of resources, very thrifty, content with little, and ready to till the land cheerfully from dawn to dusk in the hope of getting good crops, notwithstanding the numerous drawbacks of a rather poor soil, of a very irregular rainfall—in excess during the winter months, and nearly absent for seven or eight months, during which a fierce sun would scorch the land and dry up all vegetation if the industry of man did not overcome these natural drawbacks. And, in fact, the prosperity of agriculture in the regions just mentioned—which are the most prosperous in Italy—is due exclusively to the incessant work of men who, far from enjoying much "dolce far niente," have applied, and are extending continually, the art of irrigation, which in Italy dates back from the time of the Etruscans, and has reached, indeed, a great perfection in our days. Without irrigation, the marvellous orange-groves, the bountiful orchards and vegetable-gardens, which give such valuable products for exportation to Central Europe and North America, would give but a scanty revenue to their owners; but especially the luxuriant and extensive meadows of the valley of the Po, which are intensely green all the year round, and give even seven or eight crops of fodder per year—could not exist, and barely one or two cuttings of grass could be raised, because the land during the five to seven months of the hot season remains generally without a drop of rain from the sky, and the vegetation is exposed to a pitiless sun; while during the winter months many regions of Italy would be flooded by the torrential rains. It is the work of the hydraulic engineer and the intelligence and persistence of the agriculturist that, by regulating the natural watercourses, impounding the water in reservoirs, or raising it from the subsoil or from the natural streams, and then distributing this water intelligently over the land at the proper time—that is, by scientific irrigation—that the waste sandy plains of Lombardy are transformed into the most fertile meadows of Europe, and the orange-groves around the coasts are so plentiful and beautiful as to induce Goethe to give to Italy the name of "the land where the

orange blooms." As the climatic conditions of Australia are very similar to those of Italy, it may be interesting—and, it is hoped, useful—to the citizens of the Commonwealth to know how Italians manage to get the best of the natural conditions of their native land, which, owing to the prosperous condition of agriculture from time immemorial—which leaves a good surplus for improvements and comfort—has made Italy the land of music, of poetry, and of arts. After this introduction, showing that irrigation is the principal factor of the advanced state of agriculture, and the principal source of revenue for the Italian nation, the author described the different ways of getting water for irrigation, and how it is distributed over the cultivated fields. When only small quantities are required, as for the orange-groves and flower-gardens, the water is generally raised from the subsoil, either by very primitive means, such as water-buckets (cicogne) moved by men, or norias, or rosary-pumps, moved by animals, as in Southern Italy, or by small but very modern centrifugal pumps moved by oil or electric motors, as one can see along the Ligurian Riviera and in many parts of the valley of the Po, where hydro-electric plants are very common. The cost of the water raised electrically—especially during the daytime, when the electric current is distributed at lower rates than at night—varies from 0.10 to 0.25 franc per cubic metre (from 43d. to 11d. per 1,000 gallons), and it is considered very cheap, for if raised by animals, or, worse still, by men, its cost would be respectively eight to seventeen times higher. And still the products grown with irrigation realise such high prices that this expenditure is justified, and also a very fair profit is left to the growers of oranges, early vegetables, and flowers, which find a ready market in Central and Northern Europe, especially during the winter months. The revenue of a good orange-grove varies from 2,000 to 3,000 francs per hectare (£36 to £54 per acre) per year. For irrigation on a large scale—that is, for fairly large farms of some 50 to 100 acres in extent, where ordinary vegetables, fruit-trees, vines, olives, etc., are cultivated—this price of water would be prohibitive, and, besides, the quantity would be insufficient. Then recourse is had to the rainfall—which, on the average, varies from 36in. in North Italy to 15in. in the South—by storing it up in reservoirs. These vary from the modest cistern of some few hundred cubic metres capacity to large artificial lakes of many million cubic metres formed in some valley of the Alps or of the Apennines by dams built either of earth, rock-fill, or masonry, the latter being generally preferred. There are already many large reservoirs, especially in Northern Italy, such as the Lagastrello, Brasimoro, Gorzente, Devero, Adamello, and others; but the largest of all is now in construction in Sardinia, across the River Tirso. The dam, of masonry, is 55 metres high (179ft.), and is of gravity section. It will impound 350 million cubic metres (12,250 million cubic feet) of water, sufficient to irrigate from 20,000 to 30,000 hectares (about 50,000 to 80,000 acres) of land capable of being cultivated for early vegetables, fruit, oranges, olives, vines, and such good-priced products. Several other dams are to be built soon in Southern Italy, the most important being on the rivers Bradano, Sila, Simets, and Fortore. The latter will be 75 metres high (243ft.), and will impound 410 million cubic metres (14,350 million cubic feet) of water, and irrigate about 100,000 acres. The water from all these artificial lakes is generally used first for motive power in some hydro-electric installations—which in Northern Italy are very plentiful, and this helps much in lowering the price of the irrigating water, and afterwards it is distributed by means of canals to the different farms at the price of about 0.005 to 0.01 franc per cubic metre (from 1d. to 1d. per 1,000 gallons), or at the "lump sum" or "annual rate" of from 80 to 120 francs per hectare (£1 10s. to £2 10s. per acre per annum). These prices, however, are still too high for ordinary irrigations, especially of meadows; and, besides, for very large extensions of land, the quantity of water that can be impounded in an artificial lake is always comparatively rather small. From a few cubic metres per inch to 20 cubic metres per inch in the Tirso district, and to 24 in the Fortore valley. In this case the water is obtained from rivers fed generally by some natural lake like the rivers Lucino, Adla, Oglio, Mincio, or by some glacier which, melting in the summer season, acts practically like a lake of frozen water, and in this condition are the rivers Zaira, Po, Dora, Orca, Adige, and many others. The engineering works consist of a submersible dam of very substantial masonry built across the river, and capable of raising the level of the water to that of the country to be irrigated; of some controlling sluices at the canal head; and of a main canal,

with lateral distributing ditches, provided at their intake with some apparatus for measuring the water to be delivered. Generally, the "Gipelett Weir," or some such overall weir, is used. No mechanical meters are adopted, except for very small deliveries. Many of these irrigation canals date back from the Middle Ages. For instance, the "Naviglio Grande" was built in the twelfth century, and is used also for inland navigation—in fact, it is a feature of these canals called "Navigli" to serve both for irrigation and navigation purposes. The "Naviglio Grande" is about 50 miles long, and has a capacity of 55 cubic metres (2,275cu.ft.) per inch; and in order of date come the "Muzza" with 60 cubic metres, the "Cremona" with 30 cubic metres, and scores of smaller ones. Of the canals of modern times, the most interesting, also from the point of view of the engineering features, are the "Villoresi" with 44 cubic metres, the "Marzano" with 30 cubic metres, the "Veronese" with 15 cubic metres, the "Zegliamento" with 17.5 cubic metres per inch. They are really models, both from the engineering point of view and the perfection of their administration; so much so, that many engineers come from all parts of the world to study them. The largest and longest of all is the "Cavour" canal, with a capacity of 110 cubic metres (3,850cu.ft.) per inch, and a development of fully 100 miles. It was built in 1855-65 by a private company that failed, and was bought over by the State. This canal, the most important in Europe, was the means of transforming an almost barren region of 250,000 acres of sand and gravel—useful only for growing timber and bushes—into the most fertile ricefields and meadowland of Italy, where the best Parmesan and Gorgonzola cheeses are produced. A still larger canal is about to be started, the "Emiliano" canal, with a capacity of 300 cubic metres (10,500cu.ft.) per inch, 120 miles long, and estimated to cost £12,000,000. The author described the most salient engineering features of some of these canals—i.e., their head-works—one of them at the "Ombrone" inlet is capable of receiving 600 cubic metres (21,000cu.ft.) per inch—and the numerous aqueducts and siphons over and under existing canals or rivers; pointing out that the irrigation canals of Italy are the life-blood of the national agriculture. He described also how the water is applied to the crops, the "rotations" or periods of irrigation used according to the nature of the land, its permeability, and the crops to be raised; concluding with the results obtained by irrigation, which are most satisfactory from the agricultural point of view. But the rent of the irrigated fields is more than double or treble the others, and from a financial point of view, with very rare exceptions, the results are most disappointing. It is not sufficient to build a canal carrying a large volume of water, it is necessary to sell this water in order to pay for the original cost of the canal and its ordinary expenses. But in order to use the water, it is necessary for the farmers first to prepare their own distributing ditches, then to level properly their fields, and learn how to apply the water to the land at the moment, and in the proportion most convenient, to decide which crops are the most profitable, and—where the land is not very permeable—it is also necessary to prepare drainage ditches in order to get rid of the surplus water that otherwise might damage the vegetation or produce an excess of parasitic plants. All this requires experience, time, and capital, and thus the irrigating canal is not in a condition to sell all its water for many and many years. In the best conditions it takes from twenty to thirty years—and sometimes even more—to dispose of all the water of a large canal. The "Marzano" crosses the province of Cremona, where irrigation has been adopted since the Middle Ages, and all the distributing ditches were already made when the main canal was built; in fact, its function is that of increasing the flow of the older irrigation canals; and yet it took fully thirty years before all its 30 cubic metres per inch of water were disposed of, although the conditions were most favourable. The "Villoresi," also in a region where irrigation is pretty well developed, after forty years has not yet disposed of all its water, and the financial conditions of its administration are far from being prosperous. This is the reason why the State considers it as its duty to help all these undertakings. Irrigation puts under cultivation large tracts of land of very little value, and almost sterile, and part of the population can thus find useful employment in the cultivation of land otherwise nearly useless. Italy has an increase of population of almost one million souls per year, and some 500,000 to 600,000 people are obliged to emigrate, especially to North America, or Central Europe, while some 100,000 go to Argentina, and 50,000 to other countries round the Mediterranean. To moderate this exodus, which is not beneficial to the country, the State encourages irrigation by granting a subsidy of three per cent. per year for

a period of ten years on the capital spent in the construction of the main canal and its principal branches, two per cent. per year for the following ten years, and one per cent. for another period of ten years. Then the subsidy ceases. But if the canal is arranged in such a way as to help to control the flood water of rivers, as when an impounding reservoir is also built—then some subsidy is also granted on the capital in the proportion of 20 per cent. to 50 per cent. of the expenditure. For instance, for the Tirso reservoir and canal, estimated at about thirty million francs (£800,000), the State pays three million francs for the beneficial effect on the state of the river, and grants a yearly subsidy of 150,000 francs (£6,000) for fifty years for the canal. After 99 years all the works become the property of the State. The conclusion is that irrigation is very beneficial to the individual farmer, when he can get the water by paying 30 to 50 francs per hectare per year (11s. to 17s. per acre), but not to the administration of the canal during at least the first thirty years; so the undertaking requires a great help from the State during this trying period. But in the meantime the State, in the form of taxation, and in the increased welfare of its citizens, reaps a large benefit from these works, which is more than sufficient to repay amply all the sacrifices made for this purpose. Without irrigation Italy would not be able to feed two-thirds of its present population; as it is, with its wonderful network of irrigating canals, it has become the "garden of Europe," and is now preparing to extend irrigation in order to be able in thirty years' time to feed a population of fifty to sixty million inhabitants. These are the miracles accomplished by scientific irrigation, and this explains also the reason why the Italian State encourages and helps financially all such undertakings.

THE DYNAMIC INCREMENT OF A SINGLE ROLLING LOAD ON A SUPPORTED BEAM.

By Professor H. Chatley, B.Sc.

The author suggested the use of the following formula for the dynamic increment of a single concentrated rolling load on a beam supported at both ends, the load being at the centre,

$$\delta F = W \left[\frac{1}{1 - \frac{2c}{L}} - 1 \right]$$

He showed that this is a close approximation to the solution of the complex differential equation which states the conditions of dynamic equilibrium in the given case. The dynamic increment is due to the vertical accelerations experienced by the load as the result of the deflection of the beam, and is, of course, liable to a "compound interest" effect. The latter will not ordinarily more than double the effect due to the static deflection alone. δF = the dynamic increment of the load W ; V = the horizontal velocity of the load; L = the span of the beam; E = the modulus of elasticity of the material of the beam; I = the moment of inertia of the beam section, assumed constant; g = the gravitational acceleration; $c = WV^2/L/gEI$.

A return issued from the Estate Exchange states the sales for last month at £1,499,195, compared with £1,495,830 for the corresponding period of last year.

The special fire service force of the British Fire Prevention Committee may shortly require for service 18 steam fire-engines with gear (horse-drawn or motor, with or without mechanics), 12 manual fire-engines or hose-vans, 12 landaulette motor-cars (with or without drivers). Offers to lend these should be addressed, with full particulars in writing, to Lord Londesborough and Mr. Edwin O. Sachs, at 8, Waterloo-place, S.W.

The sub-committee of the East Riding County Council appointed to deal with the question of the widening of the main road between Beverley and Hull recommend that the required land be purchased from the North-Eastern Railway Company at the price of £600 an acre, and that the county surveyor, Mr. J. Bickersteth, be instructed to prepare detailed plans and specifications for the proposed improvement.

The Middlesex County Council has decided to proceed immediately with the construction of the Great Western-road just authorised by special Act. Direct labour will be employed as far as possible. The council has also decided to put in hand improvements to road surfaces, and to begin the erection of a new sanatorium without delay. The Great Western road, 80ft. wide, and between five and six miles in length, will connect Chiswick High-road with the main Bath-road near Lavender Cottage via Brentford, Lampton, and Sutton. It will cost about half a million sterling, of which 75 per cent. will be provided by the Road Board, and a time-limit of seven years is allowed for its construction.

Building Intelligence.

PARK PREWETT.—At the last meeting of the Hants County Council, held at Winchester, the joint asylums committee reported that the six outer patients' blocks at the new county council asylum in course of erection at Park Prewett are well in hand; practically all of them are up to first-floor level, and part of one block is ready for the roof. Some of the one-story workshops are ready for roofing, and the water tower is now about 50ft. above the ground. The architects are still of opinion that the progress is not as good as it ought to be if the work is to be completed within the stipulated time. There appears to be considerable difficulty in obtaining an adequate supply both of materials and labour. The contractors (Messrs. Mussellwhite and Sapp, of Basingstoke) had, however, written assuring the council that the work would be completed within the contract time. Sixteen attendants' cottages were practically completed. One lodge had been completed, and another was needed for the asylum engineer, at a cost of £630. The report was adopted, and by 31 votes to 21 it was decided to build the engineer's cottage. The asylum will accommodate 1,600 patients, and the estimated cost is £253 11s. per head.

Mr. J. T. Wilson, surveyor to the Oakengates Urban District Council, has resigned, and is succeeded by Mr. V. Wilson.

Mr. Thos. Turbull has been appointed assistant chief engineer of the Canadian Northern Railway, with headquarters in Winnipeg.

The Indianapolis Architectural Club has elected the following officers for the ensuing year:—Mr. Elliott B. Hadley, president; Mr. Walter Sholer, vice-president; Mr. Clyde Stoughton, secretary; Mr. J. E. Woodard, treasurer; Mr. W. D. Leonard, chairman of current work; Mr. R. N. Williams, chairman of entertainment committee; Mr. John Parish, librarian.

Work upon the Alberta and Great Waterways Railway, now under construction from Edmonton to Fort McMurray, is advancing steadily, according to a recent report made by Mr. R. W. Smith, chief engineer, who has made an inspection of the line as far north as Lake La Riche, accompanied by Mr. Norman L. Harvey, Secretary of the Provincial Department of Railways, and Mr. E. H. Ellison, Divisional Engineer. It is expected that the grade will reach the lake this autumn.

Engineers of the Canadian Dominion Public Works Department hope to complete this autumn the survey of the Saskatchewan River, on which they have been engaged for three years. They are planning a new means of transportation in the form of a 5ft. waterway from the Rockies to Winnipeg, which would be sufficient for barge traffic. The cost is estimated at approximately three millions sterling, the principal items of expenditure being a series of locks along the river.

According to a recent consular report, the export of teak from Java during 1913 totalled 41,078 cubic metres, or about the same as in 1912. Owing to the rapid extension of the principal towns in Java, the demand for teak for building purposes has been very large, and prices have risen to such an extent that cheaper timber is being used by builders wherever practicable. British India has taken a fair quantity of Java teak, the exports of undressed logs to that country having been more than doubled. The demand in Europe has also been well maintained, and good prices have been realised.

The Deputy-Minister of Public Works for Alberta states, in his annual report, that 316 wooden bridges and 16 steel spans were constructed by the department in Alberta during 1913, and that 98 bridges were repaired. Eleven ferries were built and installed, and six ferry scows were replaced with new craft. Sixty ferries are now in operation in the province. A large amount of trunk-road work was completed. The department also reports the completion of the Parliament Buildings in Edmonton, the erection of the Government House in Edmonton, the Land Titles Building in Edmonton, and agricultural schools at Olds, Claresholm, and Vermillion. The work in the surveys branch showed an increase over previous years.

COMPETITIONS.

DUBLIN TOWN - PLANNING COMPETITION.—His Excellency the Lord Lieutenant of Ireland has decided that in consequence of the various difficulties arising from the present situation, created by the war, to postpone the time for sending in plans, etc., for this competition until April, 1915.

SUNDERLAND SECONDARY SCHOOL.—The result of the competition for this school, which is to be built on the Barnes Estate, is as follows: First, Messrs. Wm. and T. R. Milburn, of 19, Fawcett-street, Sunderland; second, Messrs. Crouch, Butler, and Savage, of Birmingham; and third, Mr. Aleck G. Horsnell, Doughty-street, W.C. The premiums were £100, £50, and £25. Mr. Edwin Cooper, F.R.I.B.A., was the assessor appointed by the President of the R.I.B.A. The Bede Collegiate Secondary School is to accommodate 450 boys at once, and to provide for a future extension by 150 places; the stipulated limit of outlay has £45 per scholar.

PROFESSIONAL AND TRADE SOCIETIES.

BEAUX ARTS ATELIER.—The Beaux Arts Committee at its meeting on August 19 decided that the work of the atelier should proceed as usual. The Esquisse for the first monthly competition will be held on Sept. 5 and 6, in accordance with the programme, and the first exhibition and criticism of the session will be held on Oct. 7, as previously arranged.

CHIPS.

At Ryhope, County Durham, a new council school has been formally opened. It has been built at a cost of £4,100, from plans by Mr. J. J. Eltringham.

The Shardlow Board of Guardians have adopted plans for alterations to the workhouse to be carried out at an estimated outlay of £7 650.

The rural district council of Great Ouseburn have requested Mr. E. J. Silcock, M.I.C.E., of Westminster and Leeds, to report upon the sewerage and sewage-disposal of Acomb.

Good progress is being made in the construction of the new filtration plant at Montreal, the cost of which will approximate 160,000dol. The general contractors, F. J. Jago and Co., have the foundations in.

The urban district council of Whickham County Durham, have received the sanction of the Local Government Board to the borrowing of the sum of £1,364 for works of sewerage at Dunston.

Burton-on-Trent Town Council have decided that an application be made to the Local Government Board for sanction to borrow £30,000 for the duplication of the sewage rising main.

A Midland Agricultural and Dairy College is about to be built at Sutton Bonington, about half a mile from Kegworth Station on the Midland system. The architects are Messrs. Everard, Son, and Pick, of Millstone-lane, Leicester.

Messrs. C. E. Deakin, Ltd., Montreal, have obtained the contract for the construction of a Roman Catholic orphanage on Decarie-avenue, Notre Dame de Grace, Montreal, plans for which have been drawn by Mr. Alphonse Piche, of that city. The building will be of stone and brick, with concrete floors, and is estimated to cost £35,000 sterling.

Work on the construction of the New Union Station for Toronto has commenced. Preliminary work includes the erection of a board fence around the Front Bay, and Yonge-street sides of the site, and excavation has been started. The foundation for the erection of the field office, at the corner of Bay and Front streets, is in course of excavation. This temporary building is intended for the accommodation of engineers, architects, and office staff. On behalf of the Board of Architects, Mr. H. Ferguson, who had charge of the building of the Chateau Frontenac, Quebec, and the Grand Trunk depot in Ottawa, will supervise the work. The P. Lvall Construction Company, who are the general contractors for the construction of the station, will be represented by Mr. Griffith. The cost of the buildings will be approximately 2,000,000dol

ARCHÆOLOGICAL.

THE ABBOT'S HOUSE AT ARBROATH.—At a meeting of the Arbroath Town Council the other day, the town clerk reported that he had written to the Secretary of His Majesty's Board of Works that the difficulty with regard to the board taking over the Abbot's House, which adjoins the Abbey ruins, seemed to be removed by the powers which had been given to the Commissioners of Works under the Ancient Monuments Consolidation and Amendment Act, 1913, to purchase any monuments which appeared to them to be desirable, and he had forwarded a copy of the memorial sent to the Treasury and had appealed on behalf of the magistrates and council to the Board of Works to carry out the proposed arrangement. The Board of Works had replied stating that though the Act of 1913 had empowered the Board to purchase as an ancient monument such a building as the Abbot's House, the funds at their disposal had not been increased to an extent commensurate with their increased responsibilities, and the Board regretted that while they would welcome such an improvement of the surroundings of the Arbroath Abbey as would result from the demolition of the old buildings and the formation of an ornamental pleasure-ground on the site, they were unable to assist the scheme in the manner suggested. The town clerk further reported that he had since been in London, and had seen the Secretary of the Board of Works, who promised to ascertain whether any payment could be made out of the annual sum voted by Parliament for the maintenance of the Abbot's House for a term of years in place of purchasing the building; but a letter had subsequently been received from the secretary stating that it was found that such a proposal would not be allowed by the Treasury. The council agreed to let the house for a term of years in the hope that the Government would purchase the building at a future date.

Mr. J. W. Croxford, surveyor to the Brentford Urban District Council, has had his salary advanced to £300 per annum.

Mr. R. O. N. Anderson, State Engineer, Perak has been promoted to the office of Director of Public Works, Federated Malay States.

Mr. T. Groves has been promoted to the office of State Engineer, Public Works Department, Negri Sembilan, Federated Malay States.

Technical schools are about to be built at Cookstown, Co. Tyrone, from plans by Messrs. Fennell and Clarke, Wellington-place, Belfast.

Mr. Gordon R. Folland, chief assistant to the county surveyor, Northern Division, Devonshire, has been appointed assistant county surveyor to the Somerset County Council.

The Clutton Rural District Council have instructed Mr. Davey, C.E., to prepare plans and a scheme for the severing of High Littleton and neighbouring parishes.

The Local Government Board has formally sanctioned the raising of a loan by the Croydon Town Council for its share of the cost of constructing the relief road from Thornton Heath to Purley.

The town council of Eye, Suffolk, has adopted plans prepared by Messrs. Morgan and Buckingham, architects, Norwich, for the erection of four cottages in two blocks on the Town Farm at Cranley. The estimated cost is £740.

The Road Board have made some changes in the organisation of their staff, and Mr. H. P. Maybury, late county surveyor of Kent, who became chief engineer to the Board in November last, has been appointed to a new post with the title of "Manager and Engineer."

Mr. R. G. Hetherington, M.Inst.C.E., held an inquiry at the Town Hall, Stoke-on-Trent, on Wednesday week, as to an application by the Stoke-on-Trent Corporation to borrow various sums for public works, consisting of £3,122 in respect of alterations to Loughton Town Hall; £1,050 for the purchase of land in Cromer-road, Hanley, for the purposes of a refuse destructor; and £11,113 for works of paving and surface-water drainage in Waterloo-road, Wedgwood-street, and Scotia-road, Burslem. The proposals were explained by the town clerk (Mr. E. B. Sharpley), the assistant borough surveyor (Mr. J. R. Heath), and Mr. J. H. Beckett, architect of the Loughton Town Hall alterations.

Our Illustrations.

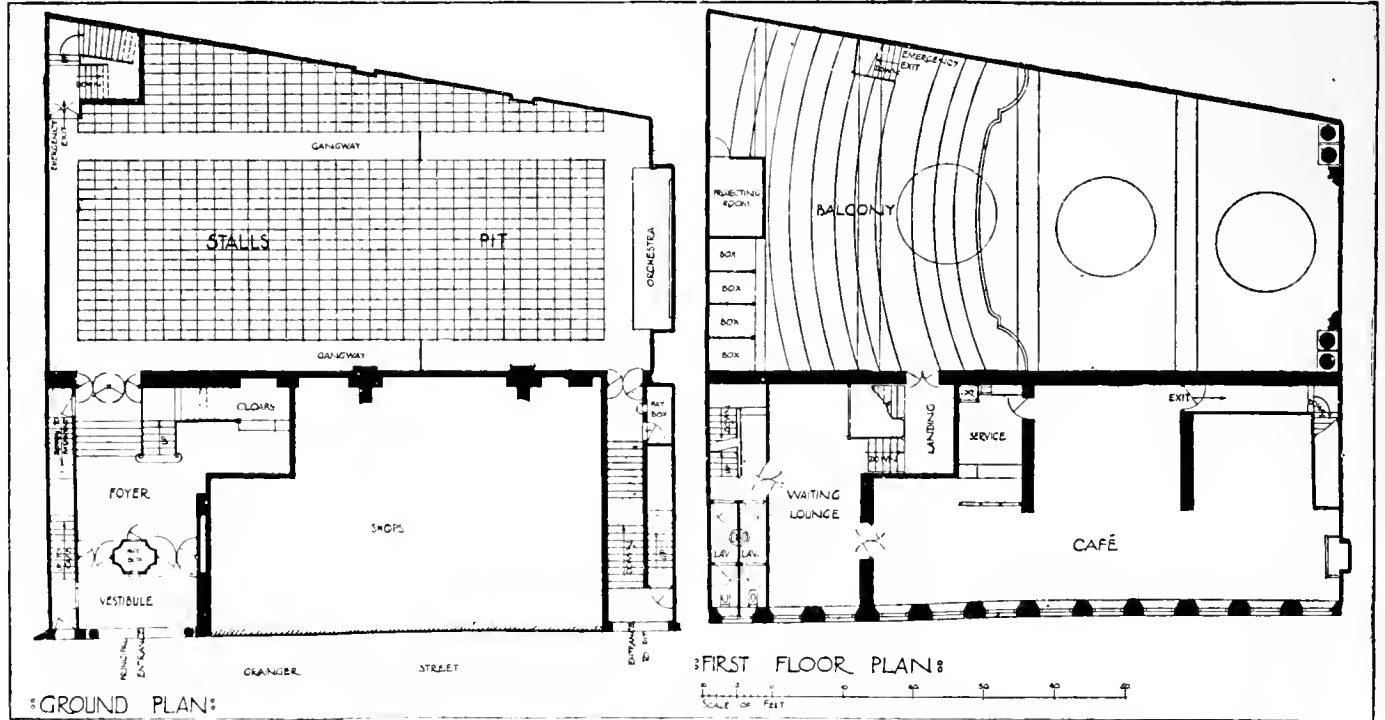
THE NEW TOWN HALL, MIDDLETON.

We illustrate the design placed first in this competition, for which 107 sets were submitted. The successful competitor is Mr. Alick G. Horsnell, of 5, Gray's Inn-square, W.C. The simple treatment of the exterior should harmonise well with the adjoining interesting half-timber building, the Old

BUSINESS PREMISES, GREAT PORTLAND STREET, W.

These buildings, which have recently been erected on a site at the corner of Great Portland-street and New Cavendish-street, are for business purposes, the lower floors being occupied as showrooms and offices by the Studebaker Motor-Car Company, and the upper floors as showrooms by various firms. The ground-floor showrooms have their own separate entrance at the angle, and have car-lift to the basement for their own exclusive

buildings standing on a part of the site have to be preserved intact, together with the out-offices and playgrounds, until some portion of the proposed new schools is ready for the accommodation of the children attending the temporary school. The following points have had a considerable influence in the motif of this successful design:—(1) Aspect; (2) desirability of getting all main entrances from principal thoroughfares; (3) large, airy, and open playgrounds; (4) the possibility of completing the whole of the boys' and girls' departments and



GRAINGER PICTURE HOUSE, NEWCASTLE-UPON-TYNE.—Messrs. PERCY BROWNE and GLOVER, Architects.

Boar's Head Inn—a factor of apparently considerable importance in this competition. The council chamber, mayor's parlour, and committee rooms are arranged en suite on the first floor, and have been given the principal position to the main front. These rooms are linked up with the assembly-room, which has also a separate entrance. The drawings indicate the materials and their general disposition.

THE GRAINGER PICTURE HOUSE, NEWCASTLE-ON-TYNE.

This building, comprising a theatre and café-restaurant, is situated in one of the principal streets of Newcastle-upon-Tyne. The premises were previously occupied as a large draper's shop, and it was necessary to gut the whole of the interior. The main entrances are built of Portland stone and granite, and the vestibule is lined with marble. All woodwork, except in the café, is in mahogany. The theatre seats about 960 people. It is in Neo-Classical style, and an effort was made to obtain a restful and refined colour scheme, the colours used being white and grey, with a little gilding. There are, it will be noticed, two entrances to the pit, one at each end. The café-restaurant is in the "Adam" style, with "Empire" detail in parts, and the whole is decorated in blue, white, and gold. The grate is bright steel, with Dutch tiles; "Adam" mirrors, designed by the architects, hang on the walls. Through open plaster grilles in the spandrels of the arches the music played in the theatre can be heard in the café. The kitchens, etc., are on the floor above the café, while a series of shops are built below the latter. The heating is by the Gould accelerated system, and ventilation by electrically-driven fans. The general contractor was Mr. S. F. Davidson, of Newcastle, and the architects were Messrs. Percy L. Browne and Glover, Pearl Buildings, Newcastle.

use; the upper floors have main entrance in Great Portland-street, with staircase and passenger-lift to all floors. The elevations are faced with Portland stone, with ground story of grey Cornish unpolished granite, and are of fireproof construction throughout. The top story has asphalt flat on top, with sloping front faced with green Westmoreland slates. The buildings are warmed throughout with low-pressure hot water, and lighted by electricity, with separate circuits to each floor. The Studebaker Co.'s showroom on ground floor has white ceramic mosaic floor, ornamental plaster ceiling, and is panelled throughout in Italian walnut, the finish of the rest of the suites on various floors being of the plainest description. The general contractors for the work were Messrs. Rice and Son, of Stockwell. The lifts are by Waygood-Otis, Ltd., of Falmouth-road, S.E. The architect was Mr. H. O. Cresswell, F.R.I.B.A., 17, Buckingham-street, Adelphi, W.C.

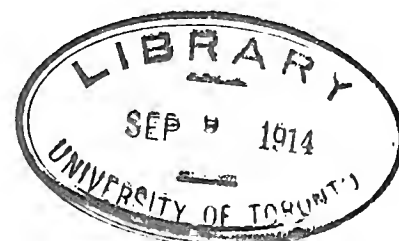
SELECTED DESIGN, ST. JAMES'S ROAD NEW COUNCIL SCHOOLS, NORTHAMPTON.

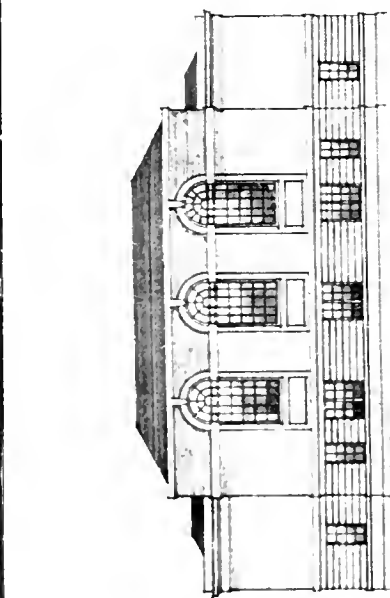
A competition, confined to architects practising in the borough and county of Northampton, was held for these schools. In all thirty-two designs were sent in, the whole of which were submitted to Mr. J. Osborne Smith, F.R.I.B.A., of Westminster, who placed design No. 1 A, submitted by Messrs. Blackwell and Riddey, of Kettering, first; Design No. 22, by Mr. Charles Hale, of the firm of Messrs. Talbot-Brown and Fisher, Wellingborough, second; and Design No. 16, by Mr. Alexander E. Anderson, of Northampton, third. The design placed first has been adopted by the Education Committee, and has received the preliminary approval of the Board of Education. We give the plan and general drawings thus chosen. The problem set to competitors was not an easy one to solve, owing to the position and nature of the site; moreover, the temporary school

their offices without disturbing the temporary buildings on the site; (5) the importance of getting all the ordinary classrooms away from the noise of the main thoroughfares; (6) complete supervision of the playgrounds from teachers' rooms. The special-subjects blocks have been placed near to the main thoroughfare, so that scholars from other schools in the borough, and the scholars from continuation schools attending these centres, may have easy access to their departments without disturbing the work of the school and without opening up any portion of the school playgrounds after ordinary school-hours. The building throughout is to be kept of a plain but substantial character, and will be built of hollow-brick walls (11 in. in thickness) above floor level, having glazed-brick dados on all internal walls and plastered above dado height. A natural system of ventilation will be adopted throughout, and every classroom has means of cross-ventilation. The estimated cost of the scheme as sent in in competition amounted to £15,371. The total accommodation will be for 1,200 children in three departments, and special-subjects blocks for the teaching of manual instruction, laundry work, cookery, and housewifery.

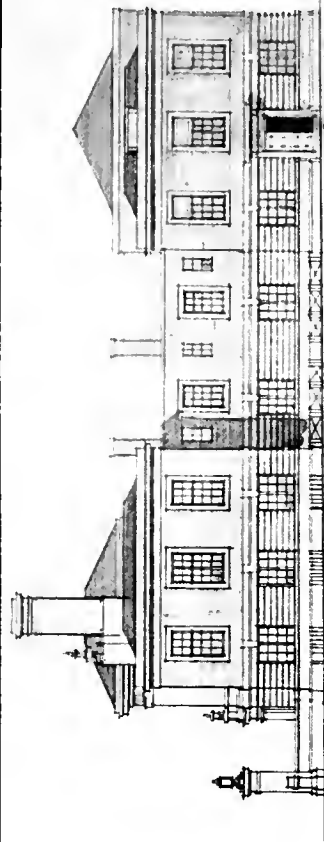
* In our description last week of the illustration of the Rathborne Convalescent Home at Parwich, the name "Rathborne" was printed "Rathbone," and "Parwich" was printed "Parwick."

At the meeting of the Bristol Sanitary Committee on Friday, the city engineer presented a list of roads which it was proposed to widen or improve subject to a satisfactory grant from the Road Board. The estimated cost of the whole work would be £17,500. The list was approved of, and it was agreed that application be made to the Road Board. This amount would be increased to £30,000 if there were included in the list works which might probably be put in hand under certain circumstances.

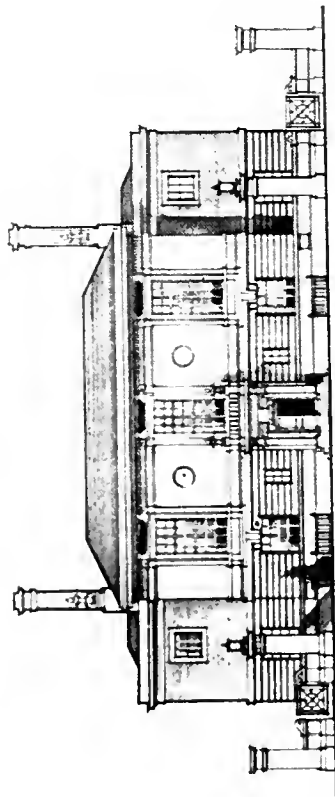




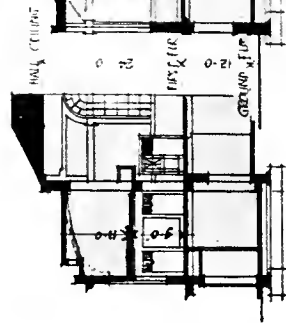
WEST ELEVATION



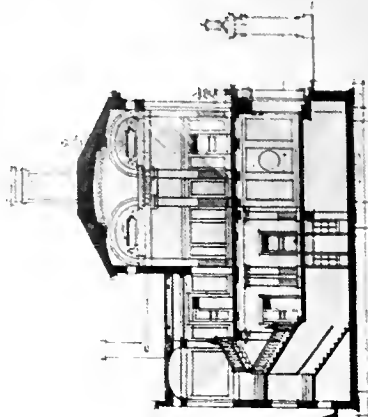
NORTH ELEVATION



ELEVATION OF LONG STREET



SECTION OF GALLERY
IN ASSEMBLY RM.

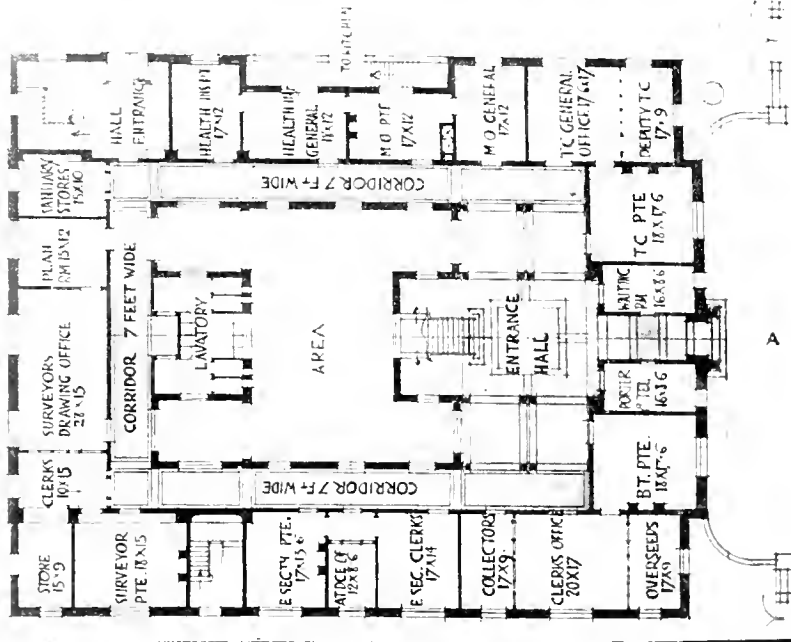


SECTION ON LINE A A

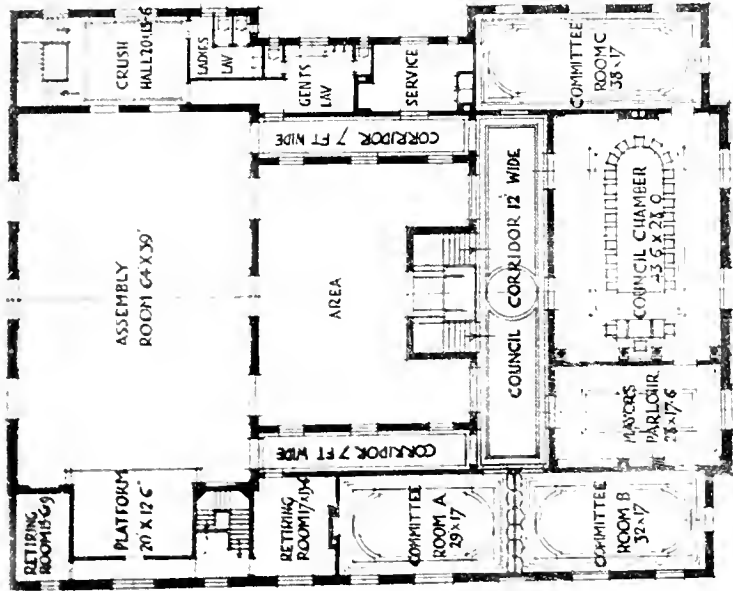




PERSPECTIVE VIEW FROM THE JUBILEE PARK



FIRST FLOOR PLAN



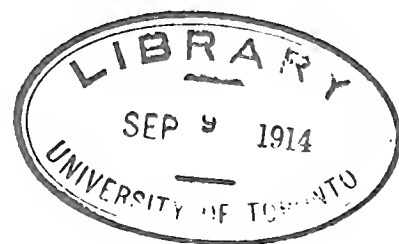
BASEMENT PLAN

THE NEW TOWN HALL, MIDDLETON, LANCASHIRE: SELECTED DESIGN.—By Mr. ALICK G. HORSNELL.

R. Bank, Ltd., Manchester, Photo.

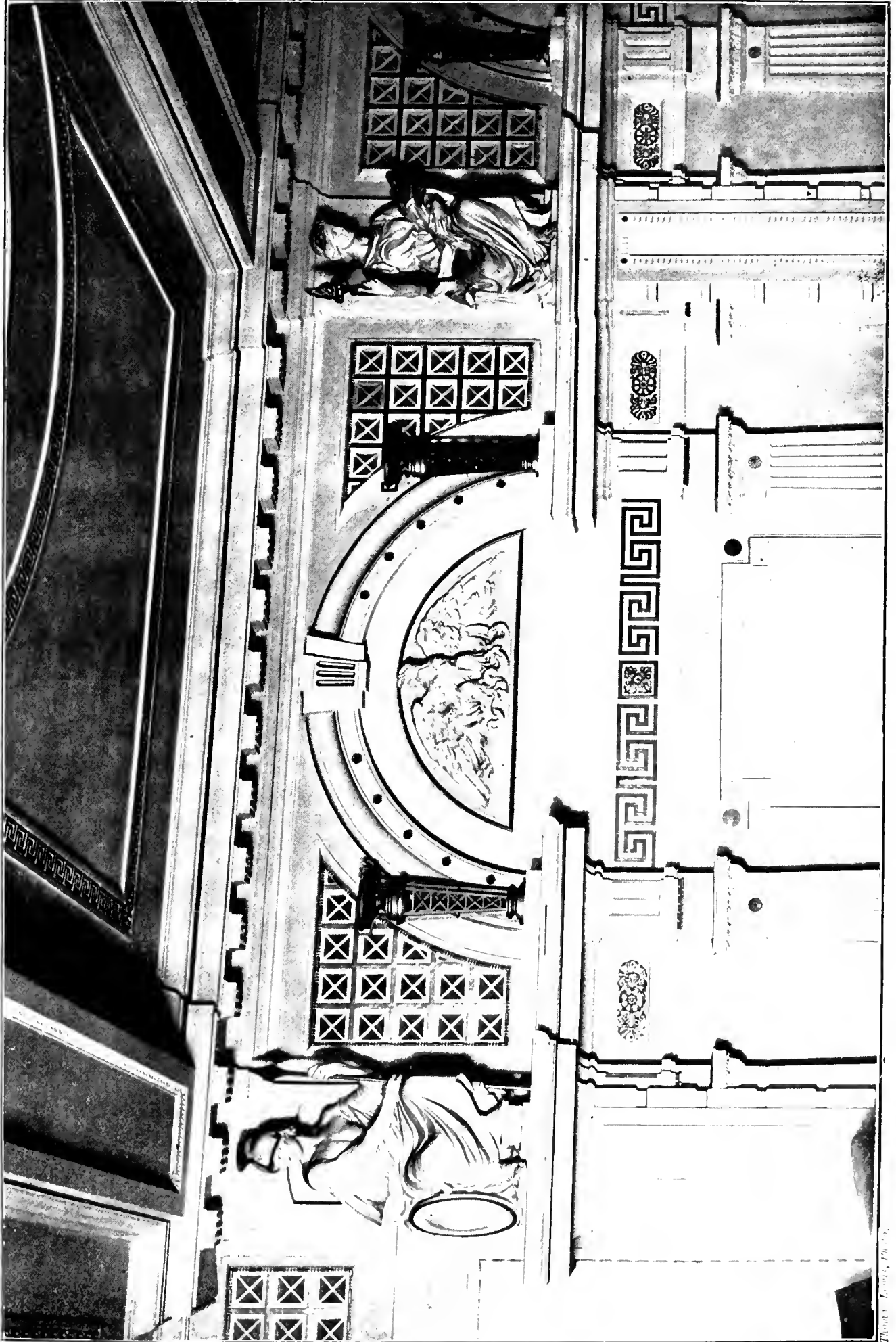


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THE BUILDING NEWS, AUGUST 21, 1914.





GRAINGER PICTURE HOUSE, NEWCASTLE-ON-TYNE.—Messrs. PERCY BROWNE and GLOVER, Architects.

Thorn & Co., Newcastle, Photo.

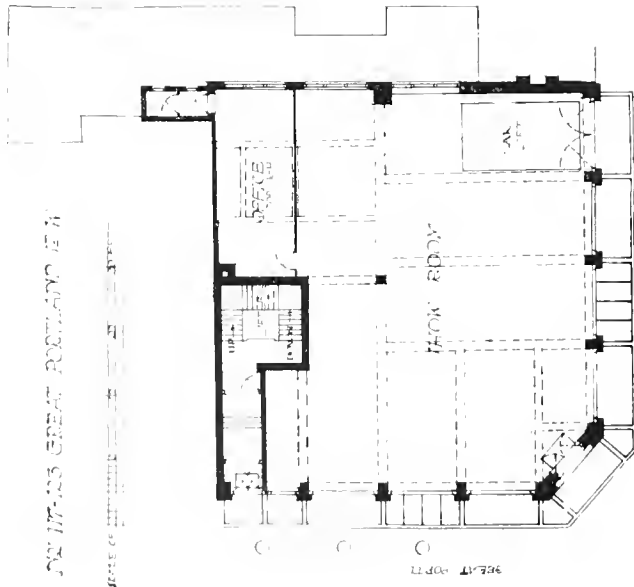


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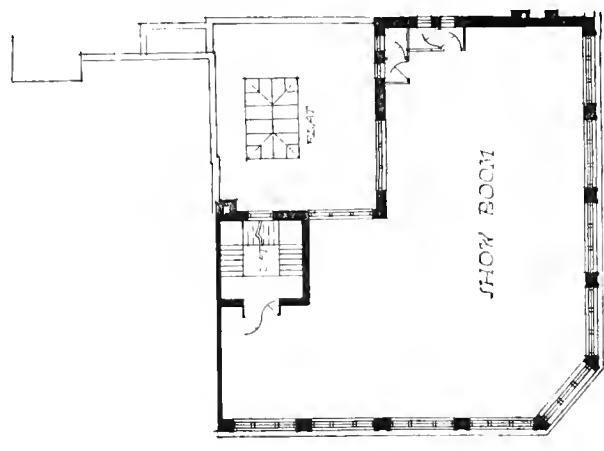


THE BUILDING NEWS, AUGUST 21, 1914.

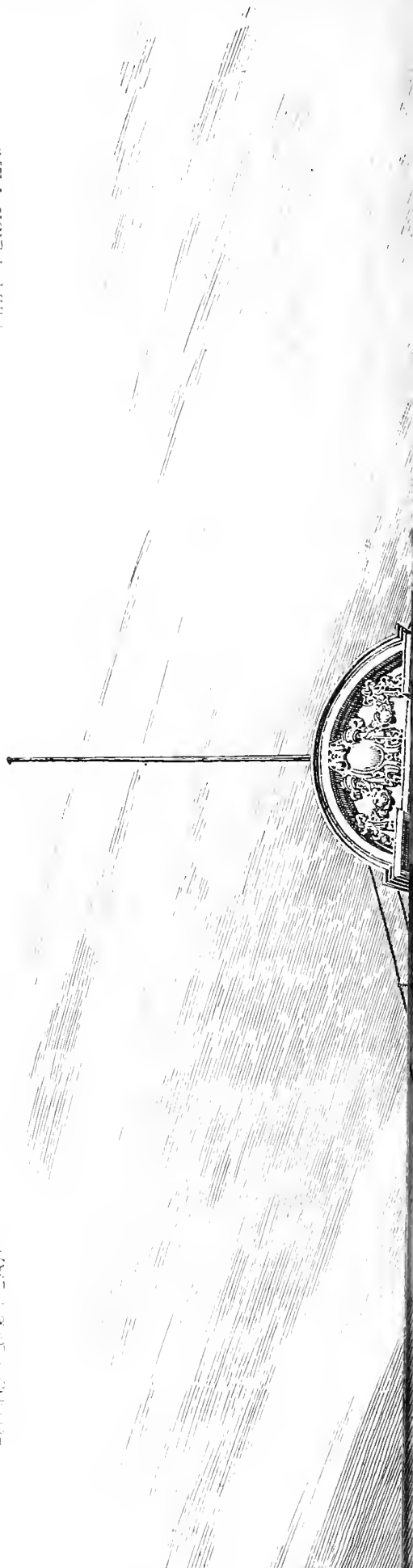
BUSINESS PREMISES
GT. PORTLAND ST. W.
H. O. CRESSWELL, F.R.I.B.A., ARCHITECT.

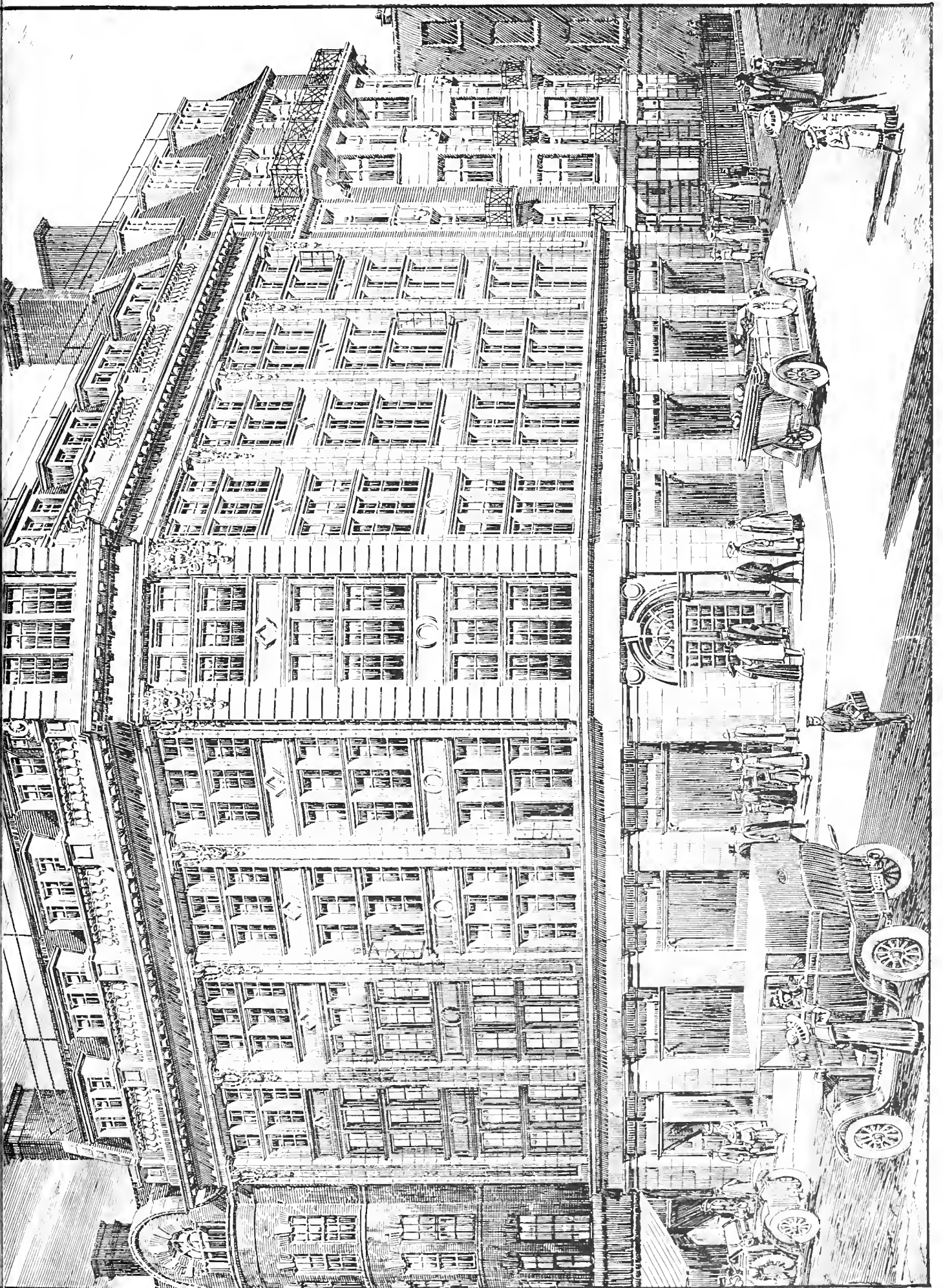


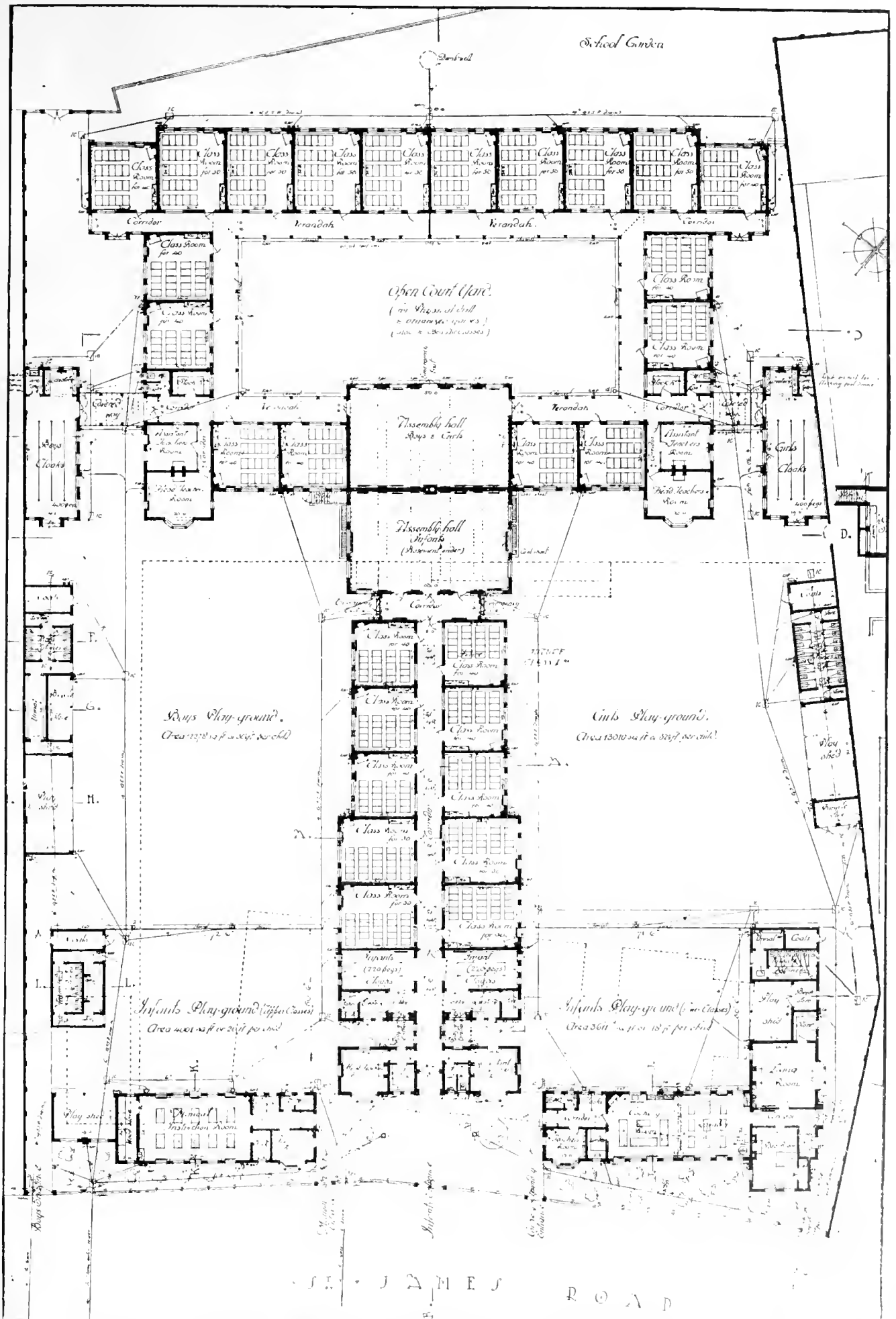
GROUND FLOOR PLAN



FIRST FLOOR PLAN



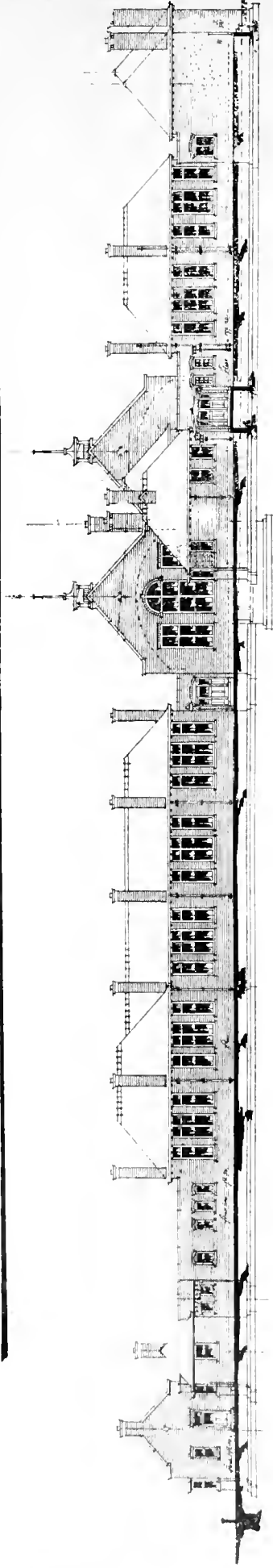




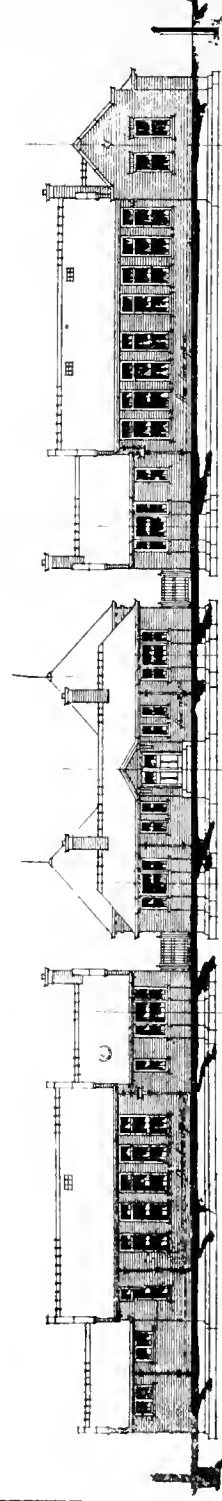
SELECTED DESIGN. ST. JAMES'S ROAD SCHOOLS, NORTHAMPTON.—Messes. BLACKWELL & RIDDEY, Architects.

THE BUILDING NEWS, AUGUST 21, 1914

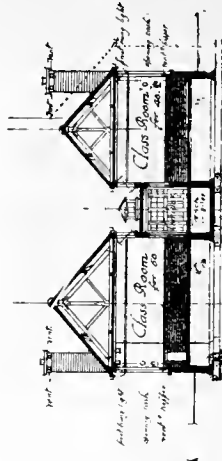
NEW SCHOOL · ST. JAMES' ROAD · NORTHAMPTON :



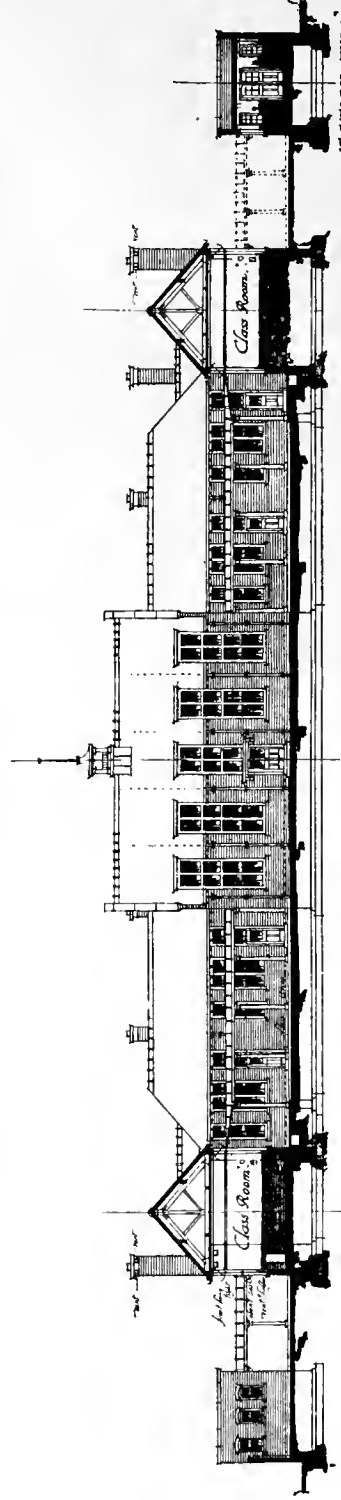
: NORTH · WEST · ELEVATION :



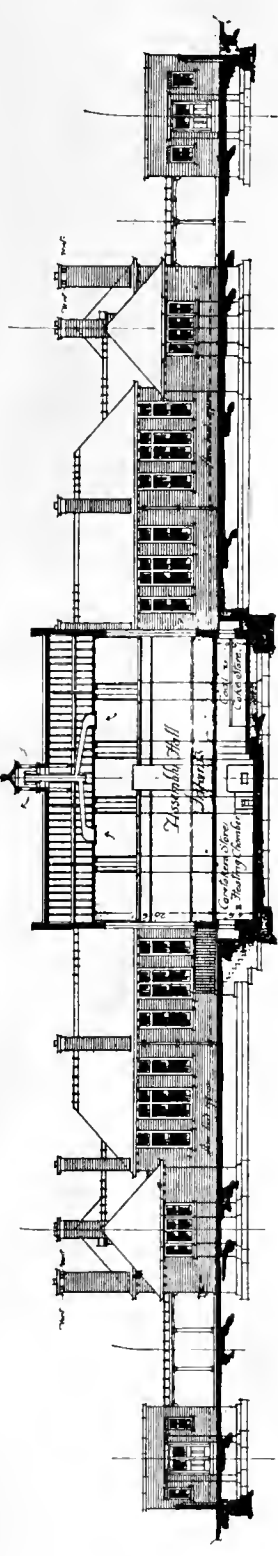
: ELEVATION · TO · ST. JAMES' · ROAD :



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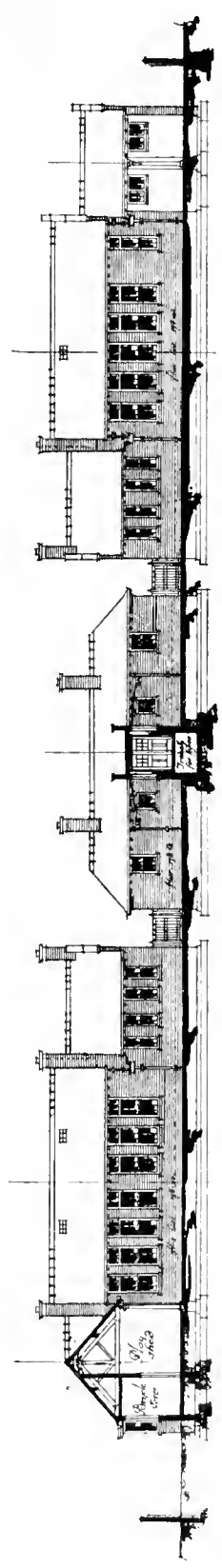


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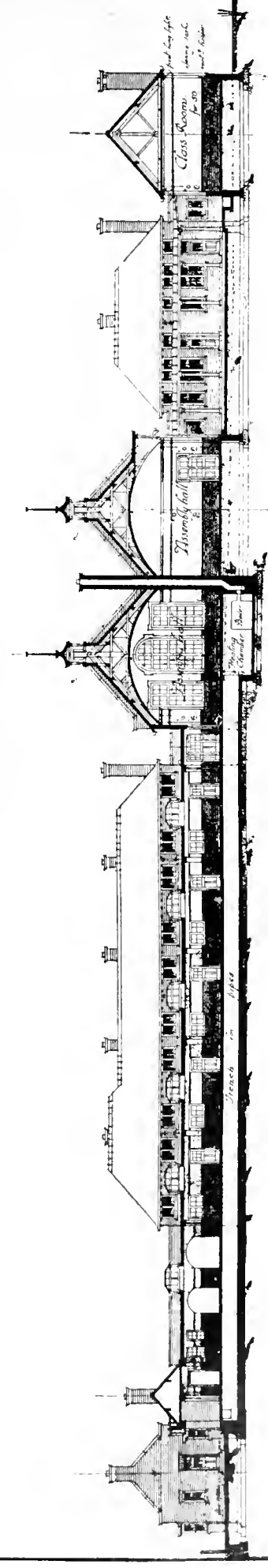


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feet.

Currente Calamo.

At the special meeting of the Royal Institute of British Architects, held at 9, Conduit-street, W., last Friday afternoon, Mr. Ernest Newton, A.R.A., the President, in the chair, to consider in what way architects could assist the Government at the present, the following resolution, proposed by Mr. George Hubbard, was adopted: "That this representative meeting of the architectural profession offers its services to the Government in whatever capacity it can be most useful at the present time; also that, subject to the consent of the Council of the R.I.B.A., it offers the use of the Institute's ground floor and galleries, and that such intimation be forwarded to the proper quarters." Two other resolutions were agreed to—one proposed by Mr. J. A. Gotch, of Kettering, pledging members to look after the work of younger men who have joined, or may join, the colours; the other, moved by Sir Aston Webb, establishing a subscription list for architects for contributions to the Prince of Wales's Fund. The first meeting of the War Committee was held on Tuesday. We report both meetings elsewhere, and heartily congratulate the R.I.B.A. and all concerned on the promptness with which a businesslike start has been made.

Welcome evidences multiply that the building trade will suffer very slightly, if at all, by the war. The Government is still urging activity on all, and setting the best possible example in all its own departments. Capital is also evidently alive to the considerations we ventured to urge a fortnight ago, and we are confident that as soon as the holiday season is over, we shall see a solid and lasting revival of our industries, which will give an impetus to trade and employment in every branch which has long been anxiously hoped for. Now, therefore, is the time for all concerned to keep the ball rolling. Given the prosperity of agriculture, and the restoration to full work of the great group of trades that bulks next thereto in British work, and we believe that when peace is restored and the statistician counts up our national gains and losses, it will be found that the solid additions of real wealth to the capital of the country have more than balanced any temporary falling-off in ordinary commerce, while securing meanwhile full work to the millions who otherwise would have been dependent on the nation's charity. It is worth noting that the one trade which last week had not come into line with the rest did so last Friday, when the National Association of Operative Plasterers signed the working rules of the London Master Builders' Association. The whole of the trade societies concerned in the dispute have now come to terms with the Master Builders' Association under a working agreement.

The acceleration of building works by the Government to prevent unemployment is on every hand most welcome and satisfactory. The Board of Education have been requested by the Central Advisory Committee for the Prevention and Relief of Distress, which has been established at the Local Government Board under the chairmanship of Mr. Herbert Samuel, to call the attention of local education authorities to the desirability of making preparation to carry out as much building work as possible

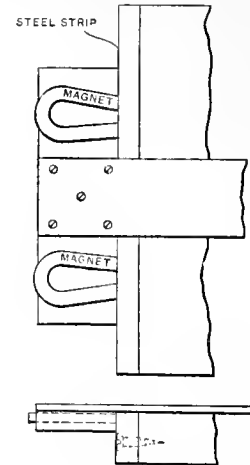
in areas where an exceptional amount of unemployment is anticipated. The Board are confident that the authority will see the importance of making arrangements which will enable them to provide employment quickly if and when an emergency arises, so that the demands on the funds available for the relief of distress may be kept down. The Board will use their best endeavours to accelerate the consideration of plans submitted by or through local education authorities for the erection of new school buildings, or the improvement of existing school buildings, and have instructed their officers to assist the authority and their architect by every means in their power. The Board are assured by the Local Government Board that so far as they are concerned they will co-operate in this matter by accelerating as far as possible the consideration of applications for sanction to loans and of questions of sanitation, which fall particularly within their province. We do not believe many authorities will fail to second the Government's efforts; but wherever—as in the case we regretted to report last week on p. 228—the local authority shirks its plain duty, public-spirited citizens should at once draw the attention of the Government Department interested to the matter.

Mr. G. Topham Forrest, the county architect of Essex, has come in most timely fashion to the help of the builders who find difficulty in obtaining credit for building materials, owing to the attitude adopted by various firms. He has made arrangements with his committee (the Essex Education Committee) to issue certificates for work carried out on all current contracts every fortnight during the crisis, when a cheque will in due course be forwarded by the county accountant in accordance with such certificates. This arrangement will assist the builders most materially in keeping their contracts moving, so that as much work as possible can be kept going during the present time. We trust many will follow this admirable precedent, and we shall be glad to give publicity to any intimation that it is being done. We may add that the needless refusal of credit and anything like inflation of prices is being carefully noted by official and unofficial architects, and will not be forgotten hereafter.

We have thought many times ourselves that a new bridge is badly needed at Bristol to relieve the congestion at Bristol Bridge and facilitate transit from the city to Temple Meads Station. Mr. Samuel J. King publishes a sketch in the *Western Daily Press* of the 13th inst., which is evidently the outcome of careful study. He proposes the erection of a bridge over the Floating Harbour between Freshford lane and Welsh Back, in a direct line with Bell-avenue, Queen-square, so as to permit of the diversion of the large volume of heavy traffic that now passes through Baldwin-street and over Bristol Bridge, direct through Portwall and Freshford-lanes to the Temple Meads railway station. Compared with the manifold advantages, the cost would be comparatively nominal as the gradients are in every way suitable, being practically level the whole length of the suggested route. It is stated that the idea has the unanimous approval of the principal shipping firms, carrying agents, and transport-working unions, and if that is so, certainly now is the time to carry it

into execution, helping Bristol artisans and the prosperity of the city simultaneously, and earning the help the Government has promised to all similarly laudable objects.

T-squares will slip. A friend has sent us a cutting, showing an arrangement which he says is used in the draughting-room of the Stockbridge Machine Co., Worcester, Mass., U.S.A., and which, though simple, is found to work very effectively. The illustration explains the device, which is a magnetic



arrangement for keeping the T-square in place against the edge of the drawing-board. This is especially to be desired when the T-square is to be used in one position for a considerable length of time. The head is mortised so that two ordinary horseshoe magnets can be securely held in it. On the edge of the drawing-board is screwed a steel strip against which the T-square bears. Thus the magnets, and consequently the T-square members, always have an attraction for the end of the drawing-board.

The report of the Select Committee appointed to consider that perennial grievance, the heating and ventilation of the House of Commons, is a very tentative one. No extensive alterations are recommended until experimental trials have been made of a number of minor alterations which are detailed. Among those suggested are air trunks to be constructed beneath the floor of the galleries all round the House, and hot-water pipes under all benches, as is now the case under front benches. The effect of these experiments should be noted and a fresh committee appointed to make a full report next session. The Committee add that the rooms occupied by the Press at the rear of the Press Gallery are most inadequately ventilated, but they are convinced that no alterations would be of any material benefit without the removal of certain party-walls. So the Fourth Estate must wait till it is seen whether the rest of our four-hundred-pounders appreciate the hot air they are now to share with the occupants of the front benches—a doubtful benefit, we fancy!

Even amid our other obligations it is not too soon to remember that with war always comes pestilence. Cholera is already reported in the Serbian and Austrian armies. It is almost inevitable, if that is true, that the disease should take a terrible part in the war. The mortality among the stricken is always over 50 per cent. In times of peace and order cholera can be avoided with certainty by boiling all water and everything

that water may have touched. In war-time that is almost impossible. The infection is always water-borne, and if it is in the armies in Eastern Europe it may flow down the rivers into Western Europe. A river infected with cholera is literally a poisoned stream. It was the pollution of the Elbe with the cholera virus that brought the great epidemic to Hamburg in the nineties. At all our ports, doubtless, ordinary vigilance is being exercised; and, as trade grows, especially in foodstuffs from the neutral countries adjacent to the scenes of combat, it will be necessary that no precaution be omitted.

The Board of Trade has started a campaign to help British manufacturers to capture trade from the Germans, Austrians, and Hungarians. Architects and builders must help by ceasing to specify or use German-made materials and appliances. We have been surprised this week, during a visit to Somerset House, to find where the profits go to in certain British-registered companies. Readers, therefore, should do as we have done, if in doubt, and consult the names and addresses and holdings of the directors and shareholders. The advertisements of these German-dominated firms will not be found in our pages, and it is a matter for inquiry whether their appearance anywhere else is not accessory to trading with aliens. It is also a matter for consideration whether the professional and trade societies should not so search the register at Somerset House and issue confidentially to their members the information the latter may lack.

The Council of the London Society show courage at the present juncture in advocating a forward policy in effecting Metropolitan improvements. In the current issue of their "Journal" it is stated that the influential and practical committee who were appointed a short time ago to consider the feasibility of constructing a south-side Embankment to the Thames have prepared a preliminary report on their investigations. The committee are in complete agreement on one point at least—that Charing Cross railway-bridge must go, for its position on the south side of the river is one of the keys to the development of the whole of that quarter. It is suggested by the Editor of the "Journal" that a complete scheme should be prepared by the authorities and should be carried out in instalments as opportunities occur. In an article on "Railway Concentration South of the Thames," Mr. H. J. Leaning makes some drastic proposals, which are unlikely to come to fruition until the Money Market is a great deal easier. He deals chiefly with the rival lines to various districts in the suburban area served by the South-Eastern and Chatham railway systems, which were amalgamated ten years ago, but which still maintain six termini—two at the West-End and two in the City—and a useless network of independent lines. Disregarding for the present the alternative routes of the London and Brighton system, Mr. Leaning suggests that on the systems of the two first-named companies four termini and many intermediate stations might be closed and some twenty-nine miles of trunk line—entire sets of tracks—removed, the latter being replaced by 8½ miles of new underground railway. To provide the necessary capital to effect these changes and construct the new lines, he suggests that a loan might be issued with a

Government guarantee. The scheme is illustrated by a carefully-drawn map, but no estimates are forthcoming as to the probable expenditure that would be involved.

By a stupid "lapsus calami" on this page last week we credited the Metropolitan Asylums Board with the very proper precautions the Metropolitan Water Board has taken with regard to its reservoirs. The error was obvious.

F. McNEILL AND CO.'S "COMBINITE" ROOFING.

Architects and builders who may be unaware of the advantages secured by the use of "Combinite" roofing should send at once for a copy of the new catalogue, illustrating its method of application, just issued by Messrs. F. McNeill and Co., Ltd., Lamb's-passage, Bunhill-row, E.C.

"Combinite" is composed of several thicknesses of McNeill's "Lion" brand mastic asphalt, welded together and forming a homogeneous, flexible, and elastic layer, about ½ in. thick, of extraordinary strength, durability, and imperviousness. It is guaranteed for a long term of years, and photographs of some of the important buildings upon which it has been used will be found in the catalogue. They embrace all kinds of structures whereon the cost of maintenance and repair has been reduced to a minimum. It undoubtedly secures an absolutely watertight covering, and may especially be recommended where efforts otherwise to render leaking roofs impermeable have failed.

How often, by the way, do the residents of congested areas complain that they have no garden, and that because there is no room at home the children are forced to play in the streets, with their many dangers, and yet there is space above every building which would be available if, instead of pitched roofs, flat roofs were constructed. The adoption of flat roofs would not only reduce the capital outlay, but, with the use of "Combinite," render the whole roof available for gardens and other recreative advantages.

Mr. N. T. Gray, State engineer, Pahang, Federated Malay States, has been transferred to Perak; and Mr. J. E. Jackson has been promoted to the office of State engineer at Pahang, Federated Malay States.

On the North River, New York, a new pier is to be constructed, 1,050ft. long and 150ft. wide, and a corresponding half-pier, giving slips 360ft. wide, and having a depth of water of 44ft. Preliminary work has already made considerable headway, a cofferdam having been constructed on sheet steel piles, encircling an area of 800ft. by 300ft., so as to allow excavation of rock on the site to proceed in the dry.

The pollution of the river Stour at Fordwich with untreated sewage from Canterbury has recently been the subject of strong complaint to the Kent County Council. Dr. Greenwood's report to that authority, submitted at its last meeting held at Maidstone, show that a sufficient plant is now in course of erection at the Canterbury Sewage Works; but the County Council decided to write to the Canterbury City Corporation requesting them to give directions which will insure that there will be in the mean time no further pollution.

At the last meeting of the Malling Rural District Council, the surveyor submitted his annual return of the cost of roads in the district during the past year. This stated that the gross cost in respect of the 140 miles of roads and the nine miles of footpaths in the district, amounted to £8,655 (the estimate having been £8,377), and the net cost to £8,600, or £61 2s. 5½d. per mile, showing a serious increase in the expenditure on maintenance. In previous years the cost was as follows:—1902-3, £53 1s. 6d. per mile; 1903-4, £52 1s. 6d.; 1904-5, £53 7s.; 1905-6, £53 13s. 3d.; £1906-7, £46 8s. 9d.; 1907-8, £43 5s. 10d.; 1908-9, £44 3s. 4d.; 1909-10, £44 3s. 3d.; 1910-11, £49 11s. 6d.; 1911-12, £49 2s. 1d.; 1912-13, £53 17s. 7d. The Kent city surveyor's annual report, also just published, shows that in the Ashford division there are 103 miles of roads, which cost last year £13,725, or £132 per mile, while in the Maidstone division there are 87 miles of roads, costing £39,890, or £454 per mile.

Correspondence.

AMERICAN ADVERTISERS AND AMERICAN BUILDING CONSTRUCTION.

To the Editor of the BUILDING NEWS.

SIR.—It will not surprise you, but it may be gratifying to receive some confirmation of the remark you made in the above editorial in your issue of August 14—viz.: "The sun never sets on the well-placed advertisement in the BUILDING NEWS," and that "it is as well known in Australia, Canada, and India as in London." Our advertisements in this paper have brought many replies from all our Colonies, so much so that we are now giving our colonial agents' names in all our bigger advertisements.

I do not know who writes these editorials, but the writer has a most facile pen, and although I advertise in twenty different periodicals, I always read your leader. It is so extremely interesting, even when you talk about rubble-wall and such technical questions which can only concern architects. The article must have taken a terrible lot of trouble to compile, and every one of your advertisers should study your résumé of the American method of advertising building materials. The whole keynote to their advertising seems to be comprised in the word "specialise." An architect himself cannot specialise in every trade, some of which involve many years' study to obtain the best and most economical results. In many cases many experiments have to be made. I know that I myself have had to not only make hundreds of experiments, but to pay for expert tests in waterproofing cement, to enable me to suggest the most economical method for each condition of work. For instance, a 3 in. Pudloed cement rendering will not keep back water so well as 6 in. of Pudloed concrete, and yet in some cases 1½ in. of concrete will often secure the same watertight results as if 6 in. had been used. It all depends upon the conditions and the purpose for which the work is required, and these results have only been obtained by long study and experiments which an architect cannot possibly do. Now and then I hear from an architect who has made a special study of waterproofing by cement, and then we see eye to eye immediately. It is not surprising that we here and there find a specification where an architect has specified broken brick as an aggregate for a flat roof. A moment's thought generally shows him that that is a most porous aggregate, as indeed are sandstone, furnace-slag, and coke-breeze.

As you say, the advertiser who would attract all trouble-savers (and the one who is likely to obtain the co-operation of architects by relieving them of any anxiety when a contract is finished) is the one who "recognises the fact that every situation requires individual study, in order to determine what is best suited to meet the local conditions."

—I am, etc.

J. H. KERNER-GREENWOOD,
King's Lynn.

A secondary school is about to be built at Farnworth from plans by the county architect for Lancashire, Mr. Henry Littler, of Ribblesdale-place, Preston.

The corporation of Manchester have instructed the sanitary committee to consider and report upon the need for building municipal cottages in the Miles Platting.

Mr. L. D. Thompson, deputy county surveyor for Lancashire, has been appointed the county surveyor for Cornwall, in succession to Mr. A. E. Brooks. There were sixty applicants, and seven appeared before the Highways Committee.

The London and North-Western Railway Company are making very good progress with the work of constructing a subway under their line at Mossley Hill, Liverpool. This underground roadway represents the last connecting-link in the great circular boulevard—Queen's drive—which, for a distance of seven miles, will girdle the city on its outer confines.

Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worth insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

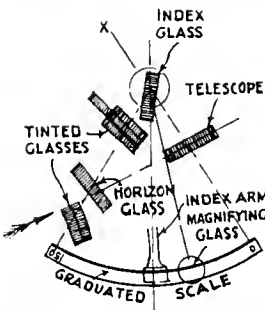
All else being equal, brief replies will stand the best chance. We emphasise this, as some correspondents ignore the fact that querists want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

We divide the guinea equally between the senders of the four replies printed.

REPLIES.

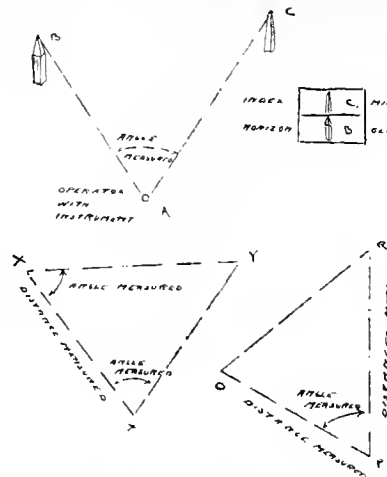
[13147.]—**BOX SEXTANT.**—This instrument is used for measuring both vertical and horizontal angles up to 120°, giving the actual angle between any two objects to a single minute. Before one can readily grasp the idea of its use, and how easily and accurately angles are obtained, its construction and manipulation must be entered into and properly understood by the operator. The accompanying diagram shows in line the plan of a



box sextant. The index glass, which is silvered behind, is perpendicular to the face of the instrument, and is fixed to the index arm, which carries a vernier at its extremity that reads on the graduated scale, of which 30 divisions on the former coincide with 29 divisions on the latter. The divisions are 10' each, and these are sub-divided into 10" by the vernier from 0 to 150. The spaces on the index arm vernier denote each 30 minutes, or half a degree. From this scale the values of the observed angles are obtained. A magnifying glass is provided to assist the observer in readily reading the vernier. Now, any movement of the index glass casts a reflection into the horizon glass, which is rigidly fixed. The upper half of this glass is clear, and the lower silvered; this should be parallel with the index glass when the index points to 0°. The motion of the index arm is termed the plane of the instrument. Smoked or tinted glasses (in the writer's sextant, one of Stanley's, red and green) of various shades are provided for use in strong or sunlight. The angle of two objects in the horizontal plane is obtained by placing the sextant in the left hand, and then by operating the index glass and reflecting the image of the right-hand object upon the same point with the left hand, the reading of the scale will give the angle between the two. For the vertical plane the sextant is held in the right hand, and the image of the upper object reflected down by adjusting the screw attached to the index glass, till it meets the image of the lower object, and then the angle may be read off. If the sextant is provided with a tangent screw, the index arm is clamped, and the screw used for the final adjustment of the objects. For instance, a ray of light coming from the direction of the arrow on plain passes through the clear portion of the horizon glass down the magnifying telescope to the eye, while from X it strikes the index glass, and is reflected to the horizon glass. For setting off long offsets or right-angle lines, set the index to 90°, and walk along the station line with the horizon glass to the eye, till the staff or object is reflected. The perfect adjustment of the instrument is absolutely necessary, and this should be carried out in the first place to find the index error, if any. Let the zero cut, holding the sextant vertically and looking at the horizon glass, moving the index backwards and forwards on either side of zero, and if one perfect orb is seen, the horizon glass is perpendicular. If otherwise, it must be adjusted by the key provided on the instrument for this purpose. The difference between zero on the vernier and zero on the graduated scale will be the error, which is either added or deducted from the altitude.—Chas. A. Longley, 52, Ivanhoe-road, Denmark Park, London.

[13147.]—**BOX SEXTANT.**—This little instrument is most useful where a theodolite is impracticable, such, for instance, as a busy street, where the continuous traffic would make it impossible to set the instrument. At the same time, the sextant as thus used has not the accuracy of the theodolite, but for general purposes is sufficiently accurate, greater exactitude being obtained

by constant practice. The box sextant is very similar to the sextant, but only about half the size (3in. diam. as compared to 7in. diam.), and not being generally used for solar work is contained in a box, the lid of which when taken off is screwed on underneath to form a base or handle. A silvered arc, upon which are marked the degrees and sub-divisions up to 140°, is placed on the



top of the instrument, over which the index arm, with its vernier and magnifying glass, is worked by a screw having a rack and pinion motion to the index mirror inside, recording the angle between the selected points from a given station over which the operator stands. The angle having been ascertained, and also the length of the lines containing same being known, the remaining side and angles can be worked out, or two angles and the length of the side common to both will give similar results. A second mirror, or index-glass, which is silvered only on the upper half, is fixed perpendicularly to the instrument, and opposite the plate having the eye-aperture or telescope, if such is provided. The transparent glass enables the operator to view the required object, and to manipulate the screw of the index arm and its mirror until the second object is exactly over the first, when he will read the number of degrees, &c., that the angle makes. There are two important rules as to adjustment which require particular attention:—(1) The two mirrors must be parallel to each other when the zero on arc and vernier coincide. (2) The horizon glass to be perpendicular to the instrument. The former is connected by a nut and key on the top of the instrument; the latter—when incorrect will give two horizons (i.e., both figures should appear as on one horizon)—by a screw at the side, although there are variations according to the maker's speciality.—K. H. Read, Lecturer on Building Construction, Gloucester and Stroud Technical Schools.

[13147.]—**BOX SEXTANT.**—The following hints are useful when surveying with the box sextant. I think, in the first place, the instrument should be tested. (1) See that the horizon and object-glasses are in good condition—i.e., that the silvered edge of the horizon glass has a clean-cut line at its edge, and that the silvered portions of both glasses are in good condition. (2) That the rack and pinion of the index arm works smoothly, for if there is any jerking, trying to do accurate work is useless. (3) Adjustment of glasses. The index glass is adjusted by the maker, but can be tested by setting the index at about 60°, and looking at the image of the limb of instrument when the real limb and image should be in one continuous curve; if not, the instrument should be sent to the maker. The horizon glass to be in adjustment—i.e., perpendicular to plan of instrument. Place index at 0°, and sight to a well-defined object. If in adjustment, the reflected and direct images should be in one straight line; if not, there is "index error," which can be adjusted by causing the horizon glass to rotate by means of adjusting screw, until the objects appear in the same straight line. If the adjustment is not done, care must be taken to allow for index error on all observations. When the vernier is at zero, the two glasses should be parallel. After the above adjustments have been done, next comes the use of the instrument. This instrument is very handy for filling in detail on a survey, and has been found to be fairly accurate when work has to be done in a hurry. Its usefulness has been found when surveying in streets where there is a lot of traffic, and where a theodolite would be in the way, and also on fairly level ground; but on hilly ground great accuracy cannot be aimed at. When taking the angles clear-cut objects should be observed, such as buildings, posts, &c., and the work done on a clear day, as it will be found to be a nuisance if the weather is wet and foggy, when the glasses get misty, and the objects observed are not clear. When sighting to objects the instruments should, of course, be held immediately over the survey station. This can be done by hanging a plumb-bob suspended from hand on the underside of instrument and guiding it between the feet on the station. For greater accuracy a stand with ball and socket-joint should be used. In order that the angle measured should be the horizontal angle, the objects observed and eye should be on the same level; if not, the correct angle will not be taken. If one object is too high, a pole should be fixed in line between station and object, and the instrument sighted to pole. If one object is less distinct than the other, the less distinct object should be looked at direct, and if the other object lies to the left, the instrument should be turned upside down. For greater accuracy in reading the angles an instrument with a reflecting circle should be used, when the readings of the different verniers can be averaged, and error greatly diminished.—John Lamond, C.S.O., Town Hall, Manchester.

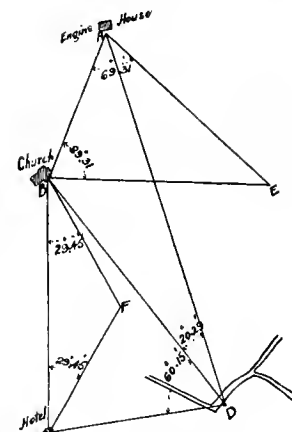
[13147.]—**BOX SEXTANT.**—It is assumed that F. Seroton is conversant with the mechanism and the

working of the box sextant. If so, then I think that the following will be of service. To use the sextant it should be held up to the eye by the right hand, so that (see sketch 1) the line of sight is in the direction of the tower, the operator standing exactly over the station X, and the vertical axis of the instrument is directly over its centre. With the left hand the milled-headed screw is manipulated so that the index mirror, being gradually turned in the direction of Z, shall reflect the image of the cross at this point, so that its centre is coincident with that of the tower Y, as in sketch 2. Thus the vernier will record the number of degrees and sub-divisions contained in the angle Y X Z. If the instrument, having been set at zero, does not show the object to which it may be directed to be exactly in the same vertical plane with the horizon and index glasses, it must be adjusted by a key being applied to the key-hole (specially for that purpose only) and turned right or left until the reflected images coincide exactly. The necessary rules to be observed with the adjustment of the sextant are:—1st. That the two mirrors are parallel to each other when the zero of the vernier coincides with that of the graduated arc. 2nd. That the horizon glass is perpendicular to the plane of the instrument. "How to ascertain your position on a plan of any ground by



Sketch 1.

Sketch 2.



Sketch 3.

the aid of the box sextant." In sketch 3 the position of the objects observed, that is, the chimney-shaft of the engine-house at A, the steeple of the church at B, and a final in the centre of the hotel roof at C, are as placed on one of the 1 in 2,500 scale maps of the Ordnance Survey. The angles subtended by the objects named were measured by a box sextant from the position D, which is, let us suppose, as yet undetermined on the map, the angle ADB being 20° 29' and BDC 60° 15'. The solution required is as follows:—Join AB by a straight line, upon which, as a base, construct the isosceles triangle ABE by setting off the angles ABE and BAE equal to half the supplement of twice the observed angle ADB, that is—

$$180^\circ - 2(20^\circ 29') = 69^\circ 31'$$

as shown. Again join B and C for another base, and, as before, construct an isosceles triangle BCF, setting off the angles BCF and CBF, determined as before from the observed angle BDC, that is—

$$180^\circ - 2(60^\circ 15') = 29^\circ 45'$$

as shown. With the apices E and F of these isosceles triangles as centres, and the length of their respective legs as radii, describe circles (inadvertently omitted in sketch 3), and the point D where their circumferences intersect determines upon the map the position of the observer when he took the observations, and as so found, it may be as well to say, as this is an actual case, quite agrees with his position, relative to other features of the ground shown on the map. In case the centres E and F coincide, the problem is intermediate; hence the advisability of taking more than two angular observations. A station-pointer is generally used in practice for the solution of this problem.—James Bromley, Rothwell Estate Office, Miller Arcade, Preston, Lancs.

A Royal Decree has been passed at Madrid approving a new project for reconstructing the La Galera mole at the port of Algeciras, the estimated cost of which is 1,409,170 pesetas (about £52,200).

Construction is to start immediately on an office building at Winnipeg, estimated to cost 600,000 dol., for the Prudential Trust Company, Ltd. The building will be thirteen stories high of stone, steel, and reinforced-concrete construction. The architects are Messrs. Ross and Macdonald, of Winnipeg, and the builders Messrs. Carter and Halls-Aldinger, of the same city.

LEGAL INTELLIGENCE.

A DISPUTED VALUATION AT BROMLEY, KENT.—Mr. H. M. Cobb, Official Referee, has given his reserved decision in the appeal of "Hall v. Commissioners of Inland Revenue" respecting a provisional valuation under the Finance Act, 1910, the objections to which were heard in London on July 17. The appeal referred to the property known as Nestdale, 13, Elmfield-road, Bromley; and the appellants, Mrs. Emily Hall, contended that the total or market value placed by the Land Valuation Department—viz., £1,350—was insufficient, having regard to the fact that it cost £2,100 to build in 1876, including £350, the cost of the land. Precisely similar property—the adjoining house, Eversleigh—realised £2,500 in 1905. From this had to be deducted £630, the price of an additional 90ft. of frontage, which left £1,807 as its value. The appellants contended that Nestdale was worth at least £1,700. For the Commissioners it was argued that what a house cost to build was no guide as to the price it would fetch in the open market. The official valuation was supported by Mr. Frederick Payne, auctioneer and surveyor, of Messrs. Baxter, Payne, and Lepper. The Referee has decided that the total value of £1,350 was correct, and he orders the appeal costs of the Commissioners to be paid by the appellants.

RE E. I. RICHARDSON, BUILDER, OF 7, HIGH-STREET, BOGNOR, SUSSEX.—A statement of affairs prepared by Messrs. Oscar Berry and Co., chartered accountants and auditors, 151 and 152, North-street, Brighton, was presented at the meeting of creditors held at Bognor on August 13, when the chair was taken by the largest trade creditor. The fully-secured creditors hold a charge on a freehold property in Park-road, Bognor, recently built by the debtor. The property is not quite completed; but it is estimated that £25 will cover the cost of completion, and that it should realise £1,500 when finished. These creditors also hold a life policy, the surrender value of which is £58 10s., and is issued to the wife under the Married Women's Property Act. It has been arranged for the wife to give up her interest in the policy subject to the matter being carried through under the deed. Thus the assets will be increased by £58 10s. The assets also include the sum of £331 9s. claimed to be due under a contract. This amount is at present disputed, and the matter will be one for the serious consideration of the committee. The furniture is claimed by the wife, and there appears to be no doubt the same is in order. There are no other assets. The debtor appears to have ceased work on the contract referred to on the 26th ult., and, having no other work on hand, he closed up on that day. One creditor had taken proceedings, and it became necessary for the protection of the estate that a deed of assignment should be executed. The debtor appears to have done a great deal of building during the nine years he has been in business at Bognor, but he has kept no "prime cost" books. An approximate deficiency account was put before the meeting. It was resolved that, subject to the wife giving up the life policy referred to above, the estate should be dealt with under the deed of assignment, for the benefit of the creditors, to Mr. Oscar Berry as trustee, a strong committee being appointed of the five principal trade creditors. The committee will meet next week to discuss fully the best method of dealing with the estate, particularly in reference to the amount claimed under the contract. The total liabilities are £2,450, and the estimated assets £1,499 17s., after deducting preferential claims amounting to £61 13s.

A David Clarke memorial hall is to be built at Borriskane, Co. Tipperary, from plans by Mr. T. J. Cullen, of Suffolk-street, Dublin.

The Plympton St. Mary Board of Guardians have received the sanction of the Local Government Board to the extension of the workhouse infirmary at a cost of £2,975.

Mr. Herbert Graham Dunlop, of Mar Lodge, Elgin, vice-president of the Moray Arts and Crafts Society, who died on January 11 last, aged thirty-eight years, left personal estate in the United Kingdom valued at £2,899, of which £2,342 is Scottish estate.

Teotative plans have been prepared for the erection of an "all-men" hotel at the north-west corner of New York-avenue and 17th-street, Washington, D.C. at an estimated outlay of £60,000 sterling. It is proposed to connect the new building with Knickerbocker Hotel on New York-avenue, opposite the Corcoran Art Gallery. Preliminary drawings have been prepared by Messrs. Ward Brown and H. A. Peaslee, architects, of Washington City, D.C.

Our Office Table.

The Institution of Mechanical Engineers, through the president, Sir H. Frederick Donaldson, have offered to the Prince of Wales the use of the vacant top floor of the extension building in Storey's Gate, Westminster, free of charge, during the continuance of the war for the administrative purposes of the Prince's Fund. The offer has been cordially accepted; but the Institution has been asked to allow the rooms to be used by H.M. Office of Works for the purpose of accelerating the designs and specifications for many public works which it is intended to put in hand as quickly as possible, in order to give employment. As this work is quite in character with the object of the Prince's Fund, the Institution has gladly fallen in with the suggestion.

A joint meeting of representatives of the Nottingham master builders and of employes was held on Monday night, to adopt any steps possible to prevent unemployment, and the following agreement was come to: "That with a view to spreading employment over as large a number of men as possible, the ordinary working hours of the trade shall be for the time being not longer than from 8 a.m. to 4.30 p.m., and that overtime be paid outside these hours as per present working rules. This agreement shall come into operation for all trades except painters on Wednesday next, the 19th inst., and for painters on Monday next, the 24th inst. This agreement is not to constitute a precedent."

The annual report of the city engineer and town surveyor of Newcastle (Mr. W. J. Steele) for the year ended March 31, 1914, states that the number of dwellings erected during the year (each flat being counted as a separate dwelling) has been 111, as against 145 in the previous year, which was then the lowest number recorded since 1882. In 1898, 91 per cent. were in flats, whereas last year 16 per cent. were in flats. Prior to 1909 it seemed evident that in several years more dwellings were erected than were necessary to meet the natural increase of population; but the rapid decline in building since that year has filled up the voids at such a rate that unless there is a marked increase in the number of new dwellings in the near future the shortage of houses will become a serious problem.

Dr. Meredith Young, M.D., D.P.H., the Medical Officer of Health for the County Palatine of Chester, and Chief School Medical Officer of the Chester County Council Education Department, has submitted his two reports for 1913 to the respective authorities concerned. They are, as usual, voluminous and interesting. The notes on housing in the former are worth attention. Among the appendices to the latter is a valuable special report on the use of dust-preventives in schools. Four preparations were tested. Two of these were compounds of sawdust, one containing calcium chloride, and both being impregnated with more or less volatile aromatic odouriser. The two others were light-coloured oils. Dr. Meredith Young is more favourably impressed with the possible benefits of the oils, the cost of which is less; but the ideal system for schools, as for houses, to his mind is vacuum cleaning; although, he remarks, it promises to be some time before a reliable one-man machine at a reasonable price will be available.

A composition patented by G. Lizieri, 5, Oakland-road, Newcastle-on-Tyne, for covering floors, walls, and roofs, and for lining reservoirs, cisterns, baths, etc., consists of one part of Florentine magnesite cement (made by calcining and grinding a volcanic rock found in Tuscany) and three parts of a mixture in about equal proportions of sawdust, ground cork, asbestos, and pumice, and, if desired, ground paper, the whole being mixed with a solution of soft soap.

At Lyons an artificial wood has been devised, consisting in transforming straw into a solid material having the resistance of

oak. The straw, after being cut into small pieces, is reduced by boiling to a paste, to which certain chemicals are added. When the paste has been reduced to a homogeneous mass it is put into presses, and planks, beams, laths, and mouldings of all sizes are readily made. This new material can be sawn like natural wood. As a fuel it emits a bright flame and little smoke. It is further stated to be adaptable to the manufacture of match-stems.

To make a waterproof, cleanable white-wash, 1lb. of glue is dissolved in 3½ pints of water. To this is subsequently added 3oz. of bichromate of potash dissolved in half a pint of hot water. These two ingredients are thoroughly mixed, and enough whitening then added to secure the right consistency. The mixture is applied to walls or roofs in the usual manner, and dries rapidly, while the action of the sun upon the potash and glue serves to render it waterproof. Such a white-wash adheres firmly to slate, glass, metal, masonry, or plaster, care being taken, if on plaster, to rub it well in with the brush. It not only affords an excellent protection from the effects of the sun's rays in hot weather, but acts as an admirable waterproofing to walls exposed to driving rains. When desired, it can be cleansed with a hose and cold water, or washed with a sponge.

According to the official returns of the United States Geological Survey the total quantity of Portland, natural and puzzolana cement produced in the United States last year was the greatest in the history of the cement industry, amounting to 92,949,102 barrels, valued at 93,001,169dol., compared with 83,351,191 barrels, valued at 67,461,513dol. in 1912. The total production of Portland cement in 1913 was 92,097,131 barrels, valued at 92,557,617dol.; the production for 1912 was 82,438,096 barrels, valued at 67,016,928. The quantity of Portland cement produced, 92,097,131 barrels, is equivalent to 15,623,620 long tons. Of the 113 producing plants in the United States in 1913, twenty-three were in the State of Pennsylvania, whose output was 28,701,845 barrels of Portland cement, the largest quantity produced by any one State. The second greatest production came from Indiana, with 10,872,574 barrels; and California was third, with 6,159,182 barrels. The natural cement produced in the United States in 1913 amounted to 744,658 barrels of 265 pounds each, valued at 345,889dol., compared with an output of 821,231 barrels, valued at 367,222dol. in 1912, a decrease in 1913 of 76,573 barrels and of 21,333dol. in value. The United States has a comparatively small export trade in cement. In 1913 the total quantity exported was only 2,964,358 barrels, most of which was Portland cement, valued at 4,270,666dol., compared with 4,215,232 barrels, valued at 6,160,361dol. in 1912.

Mr. C. F. Gettings, the Worcestershire county road surveyor, has appointed a "roller gang" staff to help farmers where desired. There are about four hundred such men.

Mr. R. Keeley, housing inspector to the corporation of Wolverhampton, has been appointed to a similar post under the Lancashire County Council at £225 a year. His colleagues in the health department have presented him with a handsome timepiece and pocket-wallet.

The death has taken place at Torquay, where he had lived for many years, of Mr. Alfred John Jukes Brown, F.R.S., F.G.S., the distinguished geologist. He was a member of the staff of the Geological Survey from 1874 to 1902. He was author of several students' handbooks on geology and a work on "The Cretaceous Rocks of Britain." In 1901 he was awarded the Murchison Medal.

A considerable number of the married men in occupancy of dwelling-houses at Rosyth hut village have rejoined the colours as Reservists. Messrs. Easton Gibb and Son, Ltd., the dock-yard contractors, have intimated that the wives and families of the reservists may remain in occupancy of the huts rent free during the absence of the breadwinners. In addition, Messrs. Easton Gibb and Son have indicated their willingness to provide the families so affected with a weekly supply of household coal.

MEETINGS FOR THE ENSUING WEEK.

MONDAY.—Opening of Fifty-Ninth Annual Exhibition of the Royal Photographic Society at the Suffolk-street Galleries, Haymarket, S.W. Exhibition closes Saturday, Oct. 3. Mondays, Wednesdays, and Fridays, 11 a.m. till 6 p.m.; Tuesdays, Thursdays, and Saturdays, 11 a.m. till 10 p.m.

Mr. S. O. Stephenson, of Tipton, has been appointed gas engineer and general manager of the Worthing Gaslight and Coke Company.

The late Mr. Alexander Dowell, aged 92, of 13, Palmerston-place, Edinburgh, auctioneer and valuator, left personal estate amounting to £25,681.

The plans of Mr. J. S. Alder have been adopted for the first portion of a church at Flower-lane, Mill-bill, Hendon. The estimated cost is £4,500.

A Local Government Board inquiry was held at Scarborough on Tuesday as to the application of the corporation for sanction to borrow £16,070 for improvements to the South Cliff Gardens.

At the meeting of Glasgow Corporation held yesterday (Thursday) it was reported that properties in London-road, Summer-street, and Charles-street, Bridgeton, have been purchased as the site for a new public hall for the district.

The compulsory purchase order required by the Okehampton Rural District Council to give effect to their housing scheme for Chagford was received at Saturday's meeting of the rural council, and it was decided to approach the Devon County Council (the owners of the property) inquiring their selling price.

The Thornton Travelling Scholarships, offered to workmen on co-partnership garden suburbs, have this year been won by Messrs. L. C. Godfrey, Hampstead; William Pullen, Ealing; and Sidney N. Cartwright, Liverpool Garden Suburb. The projected tour to Germany has been abandoned, and the scholars will visit British town-planning centres instead.

In order to spread work out amongst the workmen and stave off unemployment as long as possible, the York Master Builders and Contractors' Association have decided, as from Monday in this week until further notice, to reduce the existing working hours from 6 a.m. to 5 p.m. to 8 a.m. to 5 p.m., with one hour for dinner. On Saturday the working hours are to be from 8 to 12 noon.

The private view of the annual exhibition of the Royal Photographic Society, to be held at the Gallery of the Royal Society of British Artists, in Suffolk-street, Haymarket, S.W., takes place to-morrow (Saturday). The exhibition will be open to the public from Monday next until Saturday, October 3, and a series of popular lantern lectures will be given on Tuesdays and Saturdays at 8.30 p.m.

The annual excursion of the Architectural Association was to have been held this week, with headquarters at Devizes, opening on Saturday last, the 15th inst., and closing to-morrow (Saturday). An attractive programme had been booked, with visits to Marlborough, Avebury, Lacock Abbey, Corsham, and Bradford-on-Avon among other well-known sketching centres; but, owing to the war, the meeting was perforce cancelled.

In order to meet the large amount of unemployment at Grimsby, the corporation has decided to push on with relief works. The mayor reported on Monday night that Sir George Gibb, of the Road Board, had promised a grant of £5,000 towards the Welby-road improvements on condition that the corporation put the work in hand at once. The mayor said he had visited the Treasury with regard to finding financial assistance towards the construction of a new fish dock, and the suggestion had been favourably received. These works will cost over half a million pounds.

A Local Government Board inquiry has been held at Dartford by Mr. R. G. Hetherington into an application by the West Kent Main Sewerage Board for sanction to borrow £35,300 for sewage-disposal, £1,275 for the construction of a light railway at Long Reach, Dartford, and £650 for redemption of title rent charge on the site of the works. The secretary, Mr. A. B. Coomber, stated that the total quantity of sewage treated per year at the present time was estimated at 3,321,135,000 gallons. The cost of treating 1,000,000 gallons of sewage, inclusive of the maintenance of all sewers and outfall works, all establishment charges and loan payments was £6 7s., which was easily the lowest of all town sewerage boards, the average being £17 12s. 1d.

Trade News.

WAGES MOVEMENTS.

BRISTOL.—The Bristol building trade dispute has been settled, and work was resumed on Monday. The master builders, following a meeting of their association, offered the operatives 3d. per hour advance in wages, to take effect immediately, and a further 3d. advance to take effect on January 1. A meeting of operatives to consider the offer was held at Olympia, Carey's-lane, on Friday, and it was resolved to accept the terms.

CANNOCK.—The strike of carpenters and joiners has been abandoned by the men, who have received a promise from the Cannock and District Master Builders' Association to reconsider the whole question of wages and hours six months hence. The strike had lasted three weeks.

EXETER.—The builders' strike at Exeter has come to an end, the men having accepted 3d. an hour increase.

KIRKCALDY POTTERS' STRIKE.—A settlement has taken place in this dispute, Mr. J. Lovatt, National Potters' Union, having written the employers accepting their offer to hold the dispute in abeyance during the war, short-time work being given the men.

OXFORD.—The award of Sir George Askwith, of the Board of Trade, with respect to the Oxford building trade dispute has just been published. Sir George met seven representatives of the men and their secretary and two members of the Master Builders' Association in London on August 10, and has given the following award:—That the rate of wages shall be as follows: Masons (banker-hands), 9d. per hour; masons (fixers), 9 3/4d.; bricklayers, 8 3/4d.; carpenters and joiners, 8 3/4d.; plumbers, 8 3/4d.; plasterers, 8 3/4d.; painters, 7 3/4d.; labourers, 6d.; scaffolders and stone-sawyers, or when working in water, 3/4d. per hour extra. That an advance of 3/4d. per hour to all aforementioned mechanics and labourers shall be made for the first full week of January, 1915, and thereafter. No overtime shall be worked except in cases of necessity. All overtime worked at the request of the employers shall be paid at the rate of time and a quarter for the first three hours from the end of the working day, following three hours at the rate of time and a half, and after six hours double time until starting next day; Sundays, Christmas Day, Good Friday, and Bank Holidays, double time. No alterations to be made by either employer or employed in any foregoing rules or existing rate of wages without giving to the other notice in writing, to be given on the first day of November in any year, and containing full particulars of the proposed alterations, but no notice to be given prior to November, 1915. Any alterations made to come into force for the first full week in the following May and thereafter.

Mr. Chadwick, of Maidenhead, has been appointed surveyor to the Faringdon Rural District Council.

The Salford Town Council on Wednesday defined the status of the borough engineer, for whom it was decided to advertise at a beginning salary of £900 a year.

A garden suburb is to be laid out on Castle Farm, Porthkerry, near Barry, Glam., from plans by Mr. T. Arthur Lloyd, architect to the Welsh Housing and Town Planning Association.

A party of members of the South Wales Institute of Architects visited last week the quarries of the Yockney and Harinam Park Stone Co., Ltd., and were shown round by the management. They afterwards proceeded on a tour of inspection of Castle Coombe, Corsham, and Lacock Abbey.

The Commissioners of Inland Revenue have decided to extend the time for giving notice of objection in the case of all provisional valuations served on or after or within 60 days previous to the 4th inst., until 60 days subsequent to a date to be notified hereafter to each person on whom a provisional valuation is served.

According to Inspector Duff, of the Local Government Board, who has visited three north-western counties, inquiring into the state of depression, Ellesmere Port is the hardest-hit town he has touched, and the whole well-laid machinery of that town, equipped for dealing with distress, is to be utilised at once. The urban district council are pressing the Local Government Board to grant them loans to enable them to push forward the making of new roads, and widening of existing roads, under the scheme of town planning.

LATEST PRICES.

IRON.

Table of iron prices including Steel Joists, Wrought-Iron Girder Plates, Steel Girder Plates, Bar Iron, good Staffs, Do., Lowmoor, Flat, Round, or Square, Do., Welsh, Boiler Plates, Iron—South Staffs, Best Suedehill, Angles 10s., Tees 20s. per ton extra.

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton. Galvanised Corrugated Sheet Iron—No. 15 to 20. No. 22 to 24

Table of galvanised sheet iron prices for 6ft. to 8ft. long, inclusive Per ton. Best ditto, Wire Nails (Pointe de Paris)—3 to 7 8 9 10 11 12 13 14 15 B.W.G. 8/3 8/9 9/3 9/9 10/3 11/ 11/9 12/6 13/6 per cwt.

Table of cast-iron column prices Per ton. Cast-Iron Columnne, Cast-Iron Stanchione, Rolled-Iron Fencing Wire, Rolled-Steel Fencing Wire

Table of cast-iron sash weights, cut floor brads, corrugated iron, and galvanised wire strand prices.

Table of B.B. drawn telegraph wire prices.

Table of cast-iron socket pipe prices.

Table of cold blast and hot blast prices.

Table of wrought-iron tubes and fittings prices.

Table of gas tubes, water tubes, steam tubes, galvanised gas tubes, and galvanised water tubes prices.

Table of other metals prices including Spelter, Silesian, Lead Water Pipe, Lead Barrel Pipe, Lead Pipe, Tinned inside, Town, Lead Pipe, Tinned inside and outside, Composition Gas-Pipe, Town, Lead Soil-pipe, Tin, Over 4 1/2 in., Lead, Common Brands, Lead Shot, in 35lb. bags, Copper Sheets, sheathing & rods, Copper, British Cake and Ingots, Tin, English Ingots, Do., Bars, Pig Lead, in cwt., Pigs (Town), Sheet Lead, Town, Genuine White Lead, Refined Red Lead, Sheet Zinc, Old Lead, against account, Tin, Cut nails (per cwt. basis, ordinary brand).

OTHER METALS.

Table of other metals prices including Spelter, Silesian, Lead Water Pipe, Lead Barrel Pipe, Lead Pipe, Tinned inside, Town, Lead Pipe, Tinned inside and outside, Composition Gas-Pipe, Town, Lead Soil-pipe, Tin, Over 4 1/2 in., Lead, Common Brands, Lead Shot, in 35lb. bags, Copper Sheets, sheathing & rods, Copper, British Cake and Ingots, Tin, English Ingots, Do., Bars, Pig Lead, in cwt., Pigs (Town), Sheet Lead, Town, Genuine White Lead, Refined Red Lead, Sheet Zinc, Old Lead, against account, Tin, Cut nails (per cwt. basis, ordinary brand).

TIMBER.

CONSTRUCTIONAL.

Table of timber prices including Yellow Pine Deals, Quebec, per standard, Spruce Deals, St. Johns, Miramichi, Boards: Swag, Red Deals: Archangel 1st quality, St. Petersburg, Wyburg & Uleahorg Gede, Gothenburg, and Stockholm, White Deals: Crown, Seconds, Flooring: White and Planed—1st and 2nd quality mixed, 1st, 2nd, & 3rd quality mixed, Red Planed, 1st quality, Pitch Pine: Prime Deals and Boards, Lignum Vite, Yellow Pine Logs (waney board), Pitch Pine Logs, Birch: Quebec Logs, Oak: Anstrian Wainecot, Mahogany Gaboon.

FURNITURE AND HARDWOODS.

Table listing furniture and hardwoods including Teak (Burmese, Java), Oak Planks (U.S.A., Boards), Sequoia, Birch, Oak (Austrian, Prime boards), Walnut, Greenheart, Cedar, Satin, Mahogany, African, Lagos, Sekondi, Gaboon, West Indian, Rosewood, Lignum Vitae.

STONE.

Table listing stone materials such as Red Mansfield, Darley Dale, Red Corsehill, Closeburn Red Freestone, Ancaster, Greenshill, Chilmark, Hard York, Dn. do. 6in. sawn both sides, Portland Stone, Bath Stone, Beer Stone, Ditto, Portland Stone, Whit Bed. Base Bed.

SLATES.

Table listing slates including Blue Portmadoc, Blue Bangor, First quality, Enreks unfading, Permanent Green.

BRICKS.

Table listing bricks including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks, Facing, Flettons, Pressed Wire Cuts, Red Wire Cuts, Best Fareham Red, Best Red Pressed, Ruabon Facing, Best Blue Pressed, Staffordshire, Ditto Bullnose, Best Stourbridge, Firebricks, 2 1/2 in. Best Red Ac-crington Plastic Facing Bricks, Ac-crington Best Red Plastic Facing, Ac-crington ditto Second Best Plastic ditto, Ditto Ordinary Secondary Bricks, Ditto Plastic Engineering Bricks, Sewer Arch Brick, Chimney Bricks, Beaded, Ovolo and Bevel Jambes, Ac-crington Air Bricks, Ac-crington Camber Arches.

GLAZED BRICKS.

Table listing glazed bricks including White, Ivory, and Salt Glazed, Buff, Cream, Other, Best, Seconda. & Bronze. Colours, Stretchers, Headers, Quoins, Bullnose, Double Stretchers, Double Headers, One side and two ends, square, Two sides and one end, square, Splays and Squints, Plinth and Hollow Bricks, Double Bullnose, Rounded Internal Angles.

MOULDED BRICKS.

Table listing moulded bricks including Stretchers and Headers, Internal and External Angles, Sill Bullnose, Majorica or Soft Glazed Stretchers and Headers, Compass bricks, Camber arch bricks, Stretchers cut for Closers and Nicked Double Headers, Thames Sand, Pit Sand, Thames Ballast, Best Portland Cement, Ground Blue Lias Lime, Grey Stone Lime, Stourbridge Fireclay.

TILES.

Table listing tiles including Plain red roofing tiles, Hip and Valley tiles, Broseley tiles, Ornamental tiles, Hip and Valley tiles, Rnabon red, brown, or brindled, Ornamental ditto, Hip tiles, Valley tiles, Selected Perfecta roofing tiles, Ornamental ditto, Hip tiles, Valley tiles, Staffordshire (Hanley) Reds or brindled tiles, Hand-made sand-faced, Hip tiles, Valley tiles, Hartshill brand plain tiles, sand-faced, Pressed, Ornamental ditto, Hip tiles, Valley tiles.

OILS.

Table listing oils including Rapeseed, English pale, Ditto, brown, Cottonseed, refined, Olive, Spanish, Seal, pale, Coconut, Coclin, Ditto, Caylon, Ditto, Mauritius, Palm, Lagos, Ditto, Nut Kernel, Oleine, Sperma, Lubricating, U.S., Petroleum, refined, Tar, Stockholm, Ditto, Archangel, Linsed Oil, Baltic oil, Turpentine, Putty (Genuine Linsed Oil), Pure Linsed Oil, "Stority" Brand.

GLASS (IN CRATES).

Table listing glass including English Sheet Glass, Fourths, Thirds, Fluted Sheet, Hartley's English Rolled Plate, Figured Rolled and Repousse.

VARNISHES, &c.

Table listing varnishes including Fine Pale Oak Varnish, Pale Copal Oak, Superfine Pale Elastic Oak, Fine Extra Hard Church Oak, Superfine Hard-drying Oak, Fine Elastic Carriage, Superfine Pale Elastic Carriage, Fine Pale Maple, Finest Pale Durable Copal, Extra Fine French Oil, Eggshell Flattening Varnish, White Copal Enamel, Extra Pale Paper, Best Japan Gold Size, Best Black Japan, Oak and Mahogany Stain, Brunwick Black, Berlin Black, Knotting, French and Brush Polish.

CHIPS.

Mr. G. Bell, borough engineer of Swansea, has resigned. The services of Mr. Bell are to be retained as consulting surveyor.

The War Office have informed the city council of Winchester that they propose to erect 120 married quarters in the city, and to commence 80 of the same about the beginning of October.

A Local Government Board inquiry has been held at Felixstowe into an application by the urban district council for sanction to borrow £4,363 in order to provide and lay out a cemetery.

The Hartley Wintney Rural District Council have decided that the surveyor, Mr. J. R. Sistreron, who had expressed his desire to retire, should continue in office for one year. Mr. Sistreron is 73 years old, and has been in the service of the council for thirty-three years.

At a special meeting on Monday of the Evesham Joint Hospital Board, plans and estimates of proposed enlargements and improvements to the administrative block were considered and adopted, and it was agreed to apply to the Local Government Board for a grant in aid of the cost and for sanction of a loan.

At Monday's meeting of the Evesham Rural District Council, Messrs. Espley and Co., Ltd. wrote that they had stopped work on their Littleton housing scheme contract, owing to inability to purchase timber. The council considered that the contractors must be required to carry out the contract.

Owing to the existing conditions, an important and unanimous resolution has been agreed to by all the leading timber importers of London and Liverpool to the effect that only drafts for timber shipments against ocean bills of lading, with English or American marine policy, including war risks attached, be accepted.

The Metropolitan Asylums Board, at an emergency meeting held on Monday to consider the measures necessary in consequence of the war, decided, in order to facilitate employment during this period, to proceed forthwith with the execution of large building works to the value of nearly £200,000, for which tenders have already been accepted, and to expedite the progress of other building schemes in hand.

Mr. W. Redfern Kelly, J.P., M.Inst.C.E., has resigned the post of engineer-in-chief to the Belfast Harbour Commissioners on completion of fifty years' service. Mr. Kelly will act as consulting engineer to the trust for one year. Mr. Kelly entered the services of the Harbour Board as an apprentice under the late Mr. Wm. H. Lizards in 1864. In 1904, on the sudden death of Mr. G. F. L. Giles, previously engineer to the Southampton Harbour Board, he was appointed chief engineer. Mr. T. S. Gilbert, the present assistant engineer, will succeed Mr. Kelly.

The Hauenstein Tunnel on the Basle-Olten line in Switzerland has been pierced, and military troubles permitting, will be opened in June next. The tunnel is 5 miles 94 yards in length, and was commenced on February 1, 1912. When completed, it and its approach lines will replace the existing line between Sissach and Olten. On the latter line there is a tunnel 1 mile 968 yards in length, constructed in 1854. There is practically no difference between the lengths of the old and the new routes, the reason for the construction of the new line being to secure an easier gradient. On the new route the maximum gradient will be 1 in 95, and in the tunnel the gradient will be 1 in 133 for about 1/2 miles, and 1 in 666 for the remaining distance. As a result of the improved gradient, twenty minutes will be taken off the time of the journey between Basle and Olten. The contractors for the new tunnel were the Julius-Berger-Tiefbau Company, of Berlin, and the price was £792,709. The tunnel has been pierced about eighteen months in advance of contract time.

TRADE NOTES.

Claridge's asphalt is being used on the new building of the Institute of Chemistry, Russell-square, W.C.

Under the direction of Mr. Arthur J. Stedman, L.R.I.B.A., architect, Farnham, Surrey, Boyle's latest patent "Air-pump" concealed ventilators have been applied to Bentley Schools.

We understand that all the concrete floors in the basement of the Nurses' Home, South Manchester Guardians, Withington, have been treated with the powder Pudlo—which makes cement waterproof—to prevent rising dampness.

Messrs. Doulton and Co. Ltd., the Royal Doulton Potteries, are supplying the seven specially made "down-draught" stoves for the Burton-on-Trent Infirmary, under Messrs. Henry Beck, architects, Burton-on-Trent. These are glazed pottery stoves with fireclay interiors.

Messrs. Carter and Co., Ltd., of Poole, and 29, Albert Embankment, inform us that it is their intention to exert every effort to keep their factories running during the war, and to provide work for all their workpeople. They will greatly appreciate the support of architects and contractors.

The town council of Nelson, Lancs. have adopted plans for public abattoirs to be built at an estimated cost of £14,000.

The borough council of Lambeth have adopted proposals for improving Providence Wharf at an estimated outlay of about £10,000.

The Deal Town Council have appointed Mr. Barwood Cullen, of Western-road, Deal, water surveyor. Mr. Cullen was formerly assistant under his father, Mr. J. F. Cullen, the late water surveyor.

At the meeting on Monday evening of the town council of Okehampton the resignation of Mr. F. J. Worden, borough surveyor, was accepted, and instructions were given to advertise for a successor.

Mr. Douglas Thomas Franklin, J.P., of Thaxted and Bishop Stortford, auctioneer and estate agent, who died at Brighton on May 29, aged fifty-five years, intestate, left estate of the gross value of £5,802.

At Montreal plans are in progress preparatory to the construction of a stadium on Pine-avenue for McGill University at an estimated expenditure of 100,000 dol. Messrs. Nobbs and Hyde, Montreal, are the architects.

Well over a million gallons of tar were used last year on the surfaces of Kentish roads. The county council used 956,625 gallons on the main roads under its control, and 22,086 gallons on the repair of footpaths. The council also paid over £7,000 for tar used by urban authorities in the county. Tar-painting proper cost the county council in all £33,332 4s. 10d.

The decoration of St. Andrew's Chapel at the Roman Catholic Cathedral for Westminster, the gift of the Marquis of Bute, will be completed by the end of the present year. The mosaics from the designs of Mr. Schultz are being prepared by Signor Gaetano Meo, with the aid of six mosaic-workers. The style is Byzantine, in consonance with the work of the late Mr. J. F. Bentley.

The engineer in charge of the Mozambique-Nyasaland Railway has been authorised to spend some £37,000 on commencing work. The line will be about 342 miles long, of which only 62 miles will be in British, and the remainder in Portuguese territory. The cost is estimated at about £3,500 per mile. There will be two bridges over 300ft. long, and several smaller ones. It is proposed to complete the line in five years.

TENDERS.

*. * Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ABERSYCHAN.—For supply of a motor fire-engine, for the urban district council:—
Merryweather... .. £990 0 0
(Recommended for acceptance.)

ACTON.—For erection of a park-keeper's lodge, &c., at the North Acton public playing fields, for the urban district council:—
Mitchell, F. W., Ltd. (Accepted) ... £827 0 0

AXMINSTER.—For constructing sewage-disposal works, and laying about four miles of sewers, for the Axminster Rural District Council. Messrs. Phillott and George, 31, Promenade, Cheltenham, engineers:—
Thompson, B., Peterborough ... £11,553 0 0
Riley, J., Cheltenham ... 9,572 13 6
Hyslop, A. and T., Manchester ... 9,373 17 2
Pollard, Ltd., Taunton ... 9,236 12 0
Fothergill, Ltd., Exeter ... 9,130 11 9
Sherdlow, J., Leicester ... 9,040 4 4
Wilkinson, T., Poole ... 8,951 0 0
Saunders, S., Bournemouth ... 8,911 0 0
Ewart, J., jun., Taunton ... 8,412 19 8
Harrow, H., Exeter ... 8,393 5 4
Harris, E., Glaston Hydon ... 8,137 0 0
Grounds and Newton, Bourne-
mouth (accepted) ... 8,084 2 4

AYR.—For works at Loch Finlas, for the corporation:—
Paton, W., and Sons, Ayr... .. £1,858 17 0
(Accepted in place of R. C. Brebner and Co.,
withdrawn.)

BARNOLDSWICK.—For paving in Skipton-road and Gisburne-read, for the urban district council:—
Bradley, J. (accepted) £575 1 6

BARNOLDSWICK.—For road works in Rainhall-road, for the urban district council:—
Morphet, J. W. £592 4 5
(Recommended for acceptance.)

BARNESLEY.—For completing the following streets, for the corporation:—
Milton-street:—
Hood, J. £164 10 2
William-street:—
Hood, J. 251 19 1
(Recommended for acceptance.)

BLYTH.—For erecting workshops, stores, &c., for the urban district council. Mr. R. Grieves, Seaford-road, Blyth, architect. Quantities by Messrs. Savage and Rowe, Newcastle-on-Tyne:—
Cork Bros. £1,219 1 0
Robson and Waddle 1,100 3 0
Hedley and Sons 1,081 0 0
Baxter, R. (accepted) 1,045 0 0
All of Blyth.

BO'NESS.—For the construction of footpaths, for the corporation:—
Hardie, J. £324 2 7
Begg, J. R. 323 19 9
Sneddon, R. 305 18 0

BROMLEY CROSS.—For the supply, delivery, and erection or laying of overhead lines and underground cables, for the Turton Urban District Council. Mr. F. C. Sprigg, electrical engineer:—
Dewhurst Engineering Co., Ltd.,
Sheffield £2,354 5 0
Siemens Bros. 1,749 0 0
Callender's Cable and Construction
Co., Ltd. 1,725 3 6
Western Electric 1,720 0 0
Glover's, W. T., Manchester ... 1,691 9 3
Johnson & Phillips, Charlton ... 1,670 0 0
Heny's, W. T., London 1,655 0 0
British Insulated and Helsby
Cables, Ltd., Prescott, Lancs* ... 1,588 7 10
* Accepted.

BUCKFAST.—For the laying of 408yds. of 3in. cast-iron water main in Grange-road, Buckfast, for the Buckfastleigh Urban District Council. Mr. W. J. Goode, surveyor:—
Petherbridge and Sons, Buck-
fastleigh (accepted) £140 0 0

CAMBRIDGE.—For painting the exterior and interior of the pumping station, for the corporation:—
Scott, W., and Sons, James-st. 492 3 9
(Accepted.)

CAPEL, MID KENT.—For the rebuilding of Five Oaks Bridge, Capel, near Tonbridge, for the Kent County Council:—
Middleton, W., Peckham Bush,
Tonbridge (accepted) £192 10 0

CHARTHAM.—For building, at the county lunatic asylum at Chartham, a new bakery, for the Kent County Council:—
Elliott, Reginald, and Co.,
Margate (accepted) £1,100 0 0

CHELSEFIELD.—For carrying out repairs at council school, Chelsheld, for the Kent Education Committee. Mr. W. H. Robinson, M.S.A., Sessions House, Maidstone, architect:—
Baugh, W. E. £105 0 0
Peaster, M., and Son 105 0 0
Smith, J. 96 0 0
Knight, F. J. 93 0 0
Taylor, W. R. 75 0 0
* Provisionally accepted.

CUNTON.—For summer repairs to Cuxton Council School, for the Kent Education Committee. Mr. W. H. Robinson, M.S.A., Sessions House, Maidstone, architect:—
Norman, E. £108 0 0
Brown, E. W. and G. 102 2 6
Swain and Stanley* 89 11 0
* Provisionally accepted.

CONWAY.—For provision of cooking and hot-water apparatus, for the board of guardians:—
Killick and Cochran (accepted) ... 4640 0 0

DARTFORD.—For carrying out summer repairs at council school, Westhill, for the Kent Education Committee. Mr. W. H. Robinson, M.S.A., Sessions House, Maidstone, architect:—
Beaven, E. E. £395 0 0
Bayliss, W. 373 1 0
Knight, T. 359 0 0
Blay, W. F., Ltd.* 328 0 0
* Provisionally accepted.

DEWSBURY.—For a hot-water installation, for the joint hospital board:—
Milan, Huddersfield (accepted) ... £180 0 0

DONCASTER.—For extensions and alterations to the Hyde Park Council schools, for the education committee:—
Boncher and Pearson, Doncaster 4400 7 11
(Accepted.)

DULWICH.—For the erection of a house in Overhill-road. Mr. E. H. Chandler, architect:—
Cook, H. J., & Sons, Green-lane,
Penge (accepted) £470 0 0

FARNBOROUGH.—For erecting bungalow at Farnborough Park, for Mr. T. W. K. Clarke. Mr. A. H. Dunsay, M.S.A., M.R.San I., Alpha Chambers, Alexandra-road, S. Farnborough, Hants, architect:—
Seward, J. B., Wokingham ... £827 0 0
Ewins, E., Farnborough 678 10 0
Smith, T. G., Farnborough ... 616 0 0
King, W. W., Camberley 600 0 0
Hoskins and Jacob, Camberley... 532 18 6
Love, R., and Co., Sunninghill ... 524 0 0
Bundey, W., Farnborough* ... 522 0 0
Jones Bros. Farnborough* ... 518 0 0
* Accepted. † Received too late for inclusion.

FINCHLEY.—For erection of workmen's dwellings, for the urban district council:—
Markham and Markham £35,435 0 0
Street and Herbert 35,235 10 0
Bosworth and Lowe 28,200 0 0
Rowley Bros. 26,666 0 0
Reader, T. and J. R. 26,500 0 0
Gibson and Sons 26,421 0 0
Bolton and Norris 23,183 0 0
Monk, A. 22,350 0 0
Consideration deferred.

FOCHRIN.—For erection of a new council school, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., Cardiff, county architect:—
Hamilton & Millard, Caerphilly £4,202 0 0
(Accepted.)

FONEST TOWN.—For erection of a school, for the Notts Education Committee:—
Greenwood, J., Mansfield... .. £2,633 0 0
(Recommended for acceptance.)

GAINSBOROUGH.—For additions to the council school, Roper-road, for the Lindsey County Council Education Committee:—
Elms, Gainsborough (accepted) ... £1,735 14 11

GLOUCESTER.—For laundry extension at the work-house, for the guardians:—
Builders' Work:—
Jones, W., Gloucester (accepted) 4875 0 0

GRANTHAM.—For erection of two workmen's cottages in Belton-lane, for the corporation:—
Read, F. (accepted) £385 0 0

GREAT YARMOUTH.—For building a new council school at Newtown, for the corporation:—
Harman, J. D. (accepted) £11,530 0 0

GUILDFORD.—For works at the new borehole, for the corporation:—
Tribe and Robinson (accepted) ... £97 15 0

GUILDFORD.—For erection of 20 cottages in Old Farm-road, for the corporation:—
Higgs, T., Northampton (accepted) £4,119 0 0

HARLECH.—For repairs to Pencraig Cottage, for the Merionethshire County Council:—
Roberts, M. (accepted) £216 0 0

HARROW.—For sewer construction from Kenton-road to Sheeppote-road, for the urban district council:—
Willis and Powis, Wembley ... £341 3 0
(Accepted.)

HASTINGS.—For supply and erection of the extended promenade at the shore end of the pier, for the corporation:—
Braithwaite and Kirk, Lime-
street, E.C. (accepted) £16,000 0 0

HASTINGS.—For the supply of 2,000 tons of broken granite, for the corporation:—
St. Keverne Stone Co., Helston, 13s. 6d. per ton.
(Accepted.)

HEMEL HEMPSTEAD.—For erecting a block of six cottages, for Mr. P. T. Atkinson. Mr. G. Harvey, Hemel Hempstead, architect:—
Sears, W. W., Hemel Hempstead £1,381 0 0
Harrowell, Chesham 1,314 0 0
Payne Bros., Garston, Watford... 1,297 0 0
Timberlake, King's Langley ... 1,215 0 0
Higgs, Northampton 1,196 0 0
Halse, King's Langley 1,179 0 0
None finally accepted. Architect's estimate, £1,160.

HENDON.—For painting and repairs at the infirmary and clerk's offices, for the guardians:—
Hollowell (accepted) £115 15 0

HERNE BAY.—For works at the council school, for the Kent County Council:—
Chase, C. (accepted) £224 0 0

HOVE.—For street works in Holland-road, for the corporation:—
Parsons, J., and Sons (accepted) £359 0 9

INCE.—For the supply of 200 tons of granite setts, for the urban district council:—
Brooks, Ltd. (accepted).

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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CONTRACTS AND THE WAR.

Our long peace in Europe of just 100 years since the struggle with Napoleon has made us forget all about the trouble that war may bring to us in business matters. Now that Fleets are in our narrow seas, and our coasts are guarded, and soldiers are everywhere, we realise that war is in our midst, and that the State of War must come into our commercial dealings. As regards building and the building trades generally, the thing is not so serious. Most of these matters will go on as usual, at all events so long as we escape actual invasion, which we are fairly certain to do. It is in reference to foreign trade and shipping that the war might make havoc, though even there it may not be so bad as might have been expected. But there are certain legal principles as to our trade position in regard to alien enemies, which, after being so long forgotten, now suddenly become practically applicable. The London Chamber of Commerce has appointed an expert committee, which has issued a circular, Aug. 15, on matters affecting trade and the effect of the war on business transactions, giving advice and information thereon. (*Times*, Aug. 17.)

Primarily, the making of contracts with an alien enemy is illegal while a state of war lasts. The basis of this rule is that we should do nothing which can be of advantage to the enemies of the country. On the other hand, it is quite lawful to trade with such if they are licensed by his Majesty to carry out business dealings. Beyond this it appears to be clear that if alien enemies are allowed to remain in this country, contracts with them in the ordinary way of business, involving no extensive operations which might lead to conflicts of national duty, are probably permissible. In business life most people will settle this point for themselves, and trade or go on trading with alien enemies carrying on business here as they may find expedient. With regard to foreign trade, our merchants who get their goods from abroad will doubtless find difficulties settling themselves in the form of questions as to prices, war risk, and the rate of insurance under Lloyd's policies—points upon which we cannot enter now, but which will be dealt with by those closely concerned in shipping and the like. The whole commerce of the world has been shaken by the war, but is somehow getting itself done notwithstanding. When we come to the performance of an existing contract and the payment thereunder, other considerations arise. Where money was owing by British traders to alien enemies at the outbreak of the war, it may be said generally that it should not be

paid until the war is over. Meanwhile, strictly speaking, payment would be illegal, as tending to assist our enemies. In short, while the war lasts, the carrying out and completion of contracts may be regarded as suspended. Certainly they cannot be practically enforced, either through British or foreign courts of law, quite apart from their illegality. Even where foreign or other bills have been drawn for money due upon contracts entered into before the war, and these are presented while it is proceeding, it seems clear that they should not be paid. This rule would apparently apply, although these bills were presented by British agents, because, either way, the money might be used for the enemy to our disadvantage. But although this is so theoretically, it may often become a question for individual traders whether or not they would do better to pay and so maintain their credit for future use. In reference to bills given in the ordinary course of business dealings at home, although with alien enemies trading here, it becomes still more a matter of discretion and expediency. The enforcing of such payments through our courts, however, would certainly present some difficulties if it were attempted. At all events, except where such dealings were, expressly or inferentially, with licensed aliens.

As to the completion of contracts existing when the war began, with others than alien enemies, cases may arise where this has become, in fact, impossible. For example, in regard to goods coming from abroad, their delivery may be prevented, and a contractor be unable to get the work done in the agreed time, or perhaps at all, for want of the materials required, such as marble, or a special stone, or timber as specified. If communication abroad, and especially with an enemy's country, is cut off, and the carrying out of the contract is thus rendered physically impossible, the contractor should not be held liable. Indeed, this would seem to come within the class of what are known as the "Coronation Cases," where the performance of contracts became legally impossible owing to the sudden illness of the King, Edward VII. Claims of that kind were adjusted upon the basis that agreements could not be completed owing to the happening of an event unforeseen and beyond the control of the parties. So it is believed that where the war interferes with and makes impossible the carrying out of a contract as to building in regard to time or otherwise, the contractor would be excused. But the whole subject is one of much difficulty, and in this country there are few authorities or precedents by which

we can be guided. Then again the form of each agreement and the facts of each case would have to be construed and considered. It is indeed possible that when the war is over there will be some litigation as to the rights and liabilities of the parties, which will then have to be ascertained by the practical application of rules and legal principles which, so far, are now mainly theoretical.

On the whole, it cannot be said that the present state of war necessarily cancels all contracts already entered into with alien enemies. But if performance is impossible, that would amount to a release, at least while the war continues. It is not likely that the building trade will be much affected by the state of war directly as to their contracts, although, of course, it may be very bad for business generally. The erection of buildings under contract in the United Kingdom should not be interfered with by the war, unless in the way of the supply of material coming from abroad, or possibly in a shortage of men owing to so many Territorials being called away for active service. In cases of this kind there may be delay, and something might depend upon the wording of the contract as to liability. War is so rare an event in this country that provision is not usually made for the risk of its occurrence, as is done with regard to strikes, by means of a special clause. But if the evidence proved, as a fact, that the war was the effective, though possibly the indirect, cause of the delay, we doubt if such a breach would even legally carry a liability for damages, which few judges or juries would be found willing to award in fact.

With regard to building and engineering contracts to be carried out abroad, some larger questions might arise. If these were to be completed in an enemy's country, they would practically become void by reason of the state of war itself. Even those in neutral territory would be suspended while the war continued if communication was cut off, or if from any other cause the doing of the work became impossible. Indeed, a state of war, while it may not actually make void all contracts with alien enemies, or in an enemy's country, does so practically, at least, for the period while the war lasts. The indirect effects of the war upon home contracts would depend for their legal bearing upon all the facts of each case. Where alien enemies in the United Kingdom have contracts with British traders to be carried out here their performance is strictly suspended during the war. They would not be enforceable at law; but in many cases it may be to our advantage that they should be completed. Doubtless in that

event this will be done, as it is certainly to our benefit that business should be carried on as usual. Probably in such cases it will be necessary to make special terms as to payment owing to the uncertainty of liability.

The Timber Trade Federation of the United Kingdom, which is much concerned with the foreign trade, recently passed a resolution, "That the Government be petitioned to declare that all payment for wood goods bought from ports north or east of the Hook of Holland, viz.: Russia, Finland, Sweden, Norway, and which are not loaded, be suspended until the end of the war." These countries are friendly or neutral, and so they would not come in under the law which stops all payment under contract with alien enemies. In fact, this resolution asks for a moratorium in the timber trade as regards money owing to foreign friendly or neutral firms. Possibly some declaration of this kind will be made. But it would doubtless have to be one extending to all other similar trades in the same area. The Federation further resolved, "That it is undesirable that the present terms and system of credit in the wood trade, should be unreasonably curtailed." This is certainly sound sense and is really the application of what should be our main motto, "Business as usual," to which we can afterwards add, during alterations to or extension of premises, as may happen. Assuredly reasonable credit must be maintained as far as is possible between all parties to every commercial transaction from the top to the bottom, or there will be collapse and general disaster. In fact this short and sensible resolution applies to many trades and business in the country. We all depend upon one another to make a common profit out of our work and industry. Although divided into classes as manufacturers, merchants, dealers, and retailers, we are still a great nation of shopkeepers, kept together by that business knowledge and confidence which is shortly known as "Credit," and is the basis of trade and livelihood.

THE ROYAL PHOTOGRAPHIC SOCIETY'S EXHIBITION.

The fifty-ninth annual exhibition of the Royal Photographic Society, which opened on Monday at the Gallery of the Royal Society of British Artists in Suffolk-street, Haymarket, and will remain on view until Saturday, October 3, comprises a more numerous collection than has been seen of recent years, although we miss the work of some members hitherto very active workers. The general standard is high, and the eccentricities sent in several recent years seem to have been wisely excluded by the selecting and hanging committee.

About 800 exhibits have been hung, in addition to those shown in a separate section by trade firms. In consequence of the closing of foreign ports by the war, there is a marked falling off in the works by Continental amateurs; but this is compensated for by the brilliant examples shown in the American invitation collection displayed in the north-eastern room. A poetic rendering of a river bend is No. 4—one of five sent by Edward Dickson, of Newark, N.J., and next to it is No. 5, where boats in the still water of a New Jersey fiord show up against a precipitous bank. The best of the five seascapes shown as multiple platinum prints by Karl Struss, of New York, is No. 11, "Near Anahli." The same worker's "East Side, New York," would delight the heart of Mr. Joseph Pennell, for it is a veritable exposition of "The Wonder of Work," pictorially rendered, four tall, circular steel chimneys, all emitting trails of smoke,

stand up over the riverside against a background of skyscrapers; the outlines are so contrasted as to produce a pleasing effect. No. 16, "Twilight on the Beach," by Herbert Wheaton Congdon, of Brooklyn, is a dexterous rendering of a flat coast and shimmering sea. A surf and snow landscape is "Winter," No. 22, by George H. Seeley, of Stockbridge, Mass. In No. 31, "Portrait of a Child," by Francesca Bostwick, of New York, the reflections of a netted curtain on the face and white dress impair the effect. Near by is another work by a lady, No. 37, "The Kittens' Party," by Miss Ema Spencer, of Newark, Ohio; a chubby boy of three is pouring milk into one of a circle of saucers, all differing in pattern; the guests have not yet arrived. Alvin Langdon Coburn, now of Hammondsmith, sends a remarkable series of five photographs of three- and four-masted clippers under sail, No. 52 to 56. Perhaps the finest of these is No. 54, "In Her Stride," in which a four-master is bearing towards us, on the starboard tack, with topsails and flying jib set, bellied out by a stiff breeze; No. 56, "Braced Sharp Up," is coming towards us, bows on. No. 64, "Lower New York," by Richard M. Coit, of Brooklyn, shows the sharp angle of a many-storied business house; the treatment of the terminal tower and spire provides a satisfactory sky-line. "Julius Cæsar Augustus," No. 81, by F. Holland Day, of Norwood, Mass., depicts in clear definition the head and shoulders of a full-blooded negro lad, and the tone contrasts, pose, and accessories contribute to make up an artistic portrait.

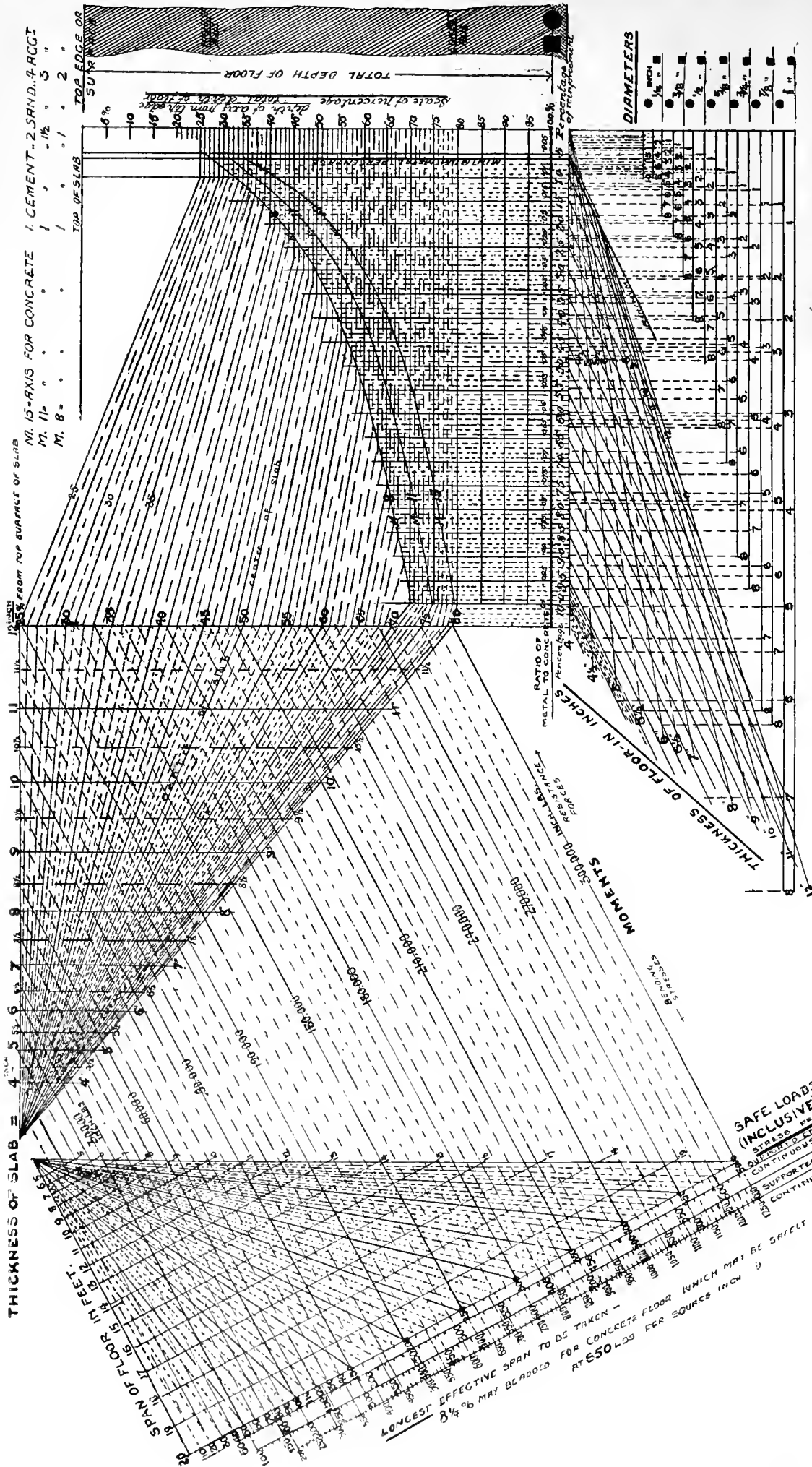
The central hall is well and not too closely hung, and contains the pick of the year's work by our leading amateur photographers. A striking and characteristic portrait is that of Mr. W. L. F. Wastell, member of council, a bromide by Halksworth Wheeler, No. 83, and next to it, No. 84, is a new rendering of a favourite subject from the West Sussex Downs, "Fittleworth Mill," midway between Pulborough and Petworth, also a bromide. In the same medium is "The Approach to Middleburg Abbey," a brilliantly-lighted courtyard enclosed by brick buildings, of the usual seventeenth-century Dutch character. It is by D. de Jongh; another, and less successful treatment of the same subject is No. 201, a bromide by George B. Clifton. Three new platinotype interiors of "Westminster Abbey," by Frederick H. Evans, are among the finest of the architectural exhibits, and are masterly in their detail and management of light and shade: "Henry the Seventh's Chapel," is a view from the Confessor's Chapel, looking across the north ambulatory to N.W.; No. 90, "Henry the Seventh's Chapel," is taken from the bronze gates at the entrance, and shows early sixteenth-century stalls and their misereres, and the new and garish emblazoned silken banners of the Knights of the Bath overhanging them; the third view, No. 92, shows the comparatively Late Purbeck marble clustered piers between the nave and its south aisle, taken from near the west end of the aisle. Another platinotype, also by F. H. Evans, is No. 93, "A Mountain Shoulder," and depicts the large, rounded mass of broken stone, Great Gable, as seen from below near Wastwater, over a dry wall of masonry that gives scale to the picture. Next to it is No. 94, "Below Bridge," a bromide of the Pool; a tug has just drawn a string of barges between the uplifted cantilevers of the Tower Bridge. No. 96, "In the Dock: Evening," another riverside subject in bromide, by C. Mackford Hamilton, depicts the imposing masses of the Mersey Offices and Royal Liver Buildings. Of quite another order is No. 97, the flat, marshland solitude of "Walterswick," looking towards South-

wold, by R. Dixey. "The Old Mill," by T. H. Greenall, No. 100, is also a desolate scene; the white cone of a dismantled and sailless windmill stands up across the rank grass of the marshes. "The Swan," sailing with partially upraised wings along a stream, No. 108, a bromide, by E. T. Holding, is effective in its contrasts of soft white plumage and rippled water. No. 109, "Meditation," by James Shaw, is a girl seated on the steps of a north-eastern chapel in a cathedral. The process, vellum-platinotype, lends itself well to the subject. Under the too ambitious title, "Nature in All Her Glory Dressed," No. 111, by F. Humpherson, shows in a carbon print a couple of elms in August foliage on the curving bank of a river slowly flowing towards us. No. 113, "The Beach, Staithes," by Herbert Bairstow, is a bird's-eye of that picturesque and odoriferous Cleveland fishing-village; children are playing on the steep foreshore under the cliffs, and the deep shadows of the protective piles and boards driven into the shingle provide an excellent foreground. A storm-tossed seascape on a rockbound coast is depicted in "Wind versus Tide," No. 114, a bromide by W. C. S. Fergusson. No. 116, "Midnight," is a view of St. Paul's from across the Thames at Bankside, a carbon by Basil Schön. Five Chinese subjects are portrayed by Horace Jackson; No. 119, "A Street in Peking," in oil, shows a narrow, unpaved lane, with shops and projecting signboards and overhanging stories of dilapidated cottages calculated to fill any district surveyor or sanitary inspector with indignation and despair; every conceivable building and health regulation seems to be contravened. No. 120, "My Little Son," a platinotype by the same worker, is a pleasing portrait of a proud Chinese father in pigtail and silk jacket, holding up in his arms, and obviously admiring, a bouncing twelve-months' old boy—the likeness in features of the two generations is very marked. No. 124, "Dinant," by B. E. Stacey, is just now of topical interest, it illustrates from across the River Meuse the picturesque range of houses and the twin Western towers and north side of the thirteenth-century cruciform church against the inland cliff above. "The Seven Sisters," the green-capped chalk cliffs between Seaford and Beachy Head, are shown, apparently from the deck of a Newhaven and Dieppe turbine steambot, in an excellent bromide by William Rawlings, No. 130. A number of reproductions from old portrait negatives, by David Octavius Hill, are of considerable interest, especially No. 134, that of William Henning, the sculptor, and No. 139, of John Ruskin, apparently, if we may judge by the check trousers and swallow-tail coat, dating from about 1860. A still more valuable series of a dozen old photographs are those of Old Edinburgh, made in 1854 by Dr. Thomas Keith, and just printed by Alvin L. Coburn; they show some narrow wynds and closes off the Canongate, now happily swept away, and a tomb in Greyfriars Churchyard, having against it a board inscribed "For Sale." The tomb is of considerable architectural pretensions, having an entablature carried by passable Corinthian columns, and above a shield bearing a coat-of-arms. "The Old Harbour, Hull," No. 145, a bromide transfer, is an admirable example of the work of Fred Judge, of Hastings. No. 146, "From Norman Days," is the rich Transitional Norman doorway at the east end of St. Katherine's Chapel, Ely Cathedral, and is a bromide by R. H. Lawton. "An Impression at Peterborough," No. 148, by Miss Jessie F. Harvey, shows the south choir aisle of that cathedral. "The Staircase, Ashburnham House," No. 152, is a clever rendering in bromide of a difficult architectural subject, by A. Halcrow Verstage.

A.R.I.B.A., the district surveyor for Sydenham, well remembered as a former Cates prizeman and Godwin bursar in his student days. "Sunrise on the Aig Verte," No. 154, by Roland Gorbald, shows from below a dome rock partially veiled in snow. "Le Charron," No. 158, a bromoil, by George B. Clifton, shows a wheelwright kneeling at his craft. One of the most charming child studies is No. 161, by W. Harold House, "Baby Sister," a small boy gazing at an infant, both children in white. A number of stolid and homely Saxon maidens and hobbledeboys set in hillside landscapes are the gum-bichromates, Nos. 162-6, by Hugo Erfurth, of Dresden. An impressionist treatment of the well-known "Sta Maria della Salute" is No. 168, by Dr. J. Ruzicka; the cupola of the great church is seen across the lagoon, over a foreground of gondolas and a fishing-boat. There are, as usual, several illustrations of Rotherburg: No. 170 is a gum-bichromate, by Albert Meyer, of the market-place of that picturesque city, and No. 184, by Albert Gottheil, shows one of the lesser gateways. "Ants" is the suggestive title of No. 173, one of several street scenes in New York by John Wallace Gillies; this one is a bird's-eye from a lofty office building of a busy street reduced in apparent width to an alley by the high-soaring buildings on either side. An equally effective view, by the same photographer, also from a high level, is that looking down on "Brooklyn Bridge," No. 174. In "The Way Through the Fields," No. 202, by Charles F. Inston, a peasant-girl is walking on the edge of barley ready for the reaping-machine. "The Beguinaige at Bruges," No. 205, is a well-worn subject, here luminously portrayed in carbon by Thomas H. B. Scott; and yet another study from Bruges is No. 227, by B. E. Stacey, illustrating one of the numberless canal bridges. Alvin L. Coburn depicts for us in a platinum, No. 212, "Frank Brangwyn, A.R.A.," the president of the Royal Society of British Artists, at work upon a figure study in fresco. A recent visit to Northern Italy is admirably perpetuated by John H. Gear, in "Les Iles Borromées," No. 220, looking across Maggiore towards the mountains behind Baveno; and in 221, "Venezia," No. 222, a platinotype, by J. R. H. Weaver, is a view in the south aisle of Segovia Cathedral, so characteristic an example of the sixteenth-century Renaissance of Northern Spain. Close by these exhibits a series of half a dozen works by Frank H. Read, notably Nos. 230 and 232, "Thames Wharves," and "Birches by a Mountain Lake," have almost the richness, artistic effect, and finish of mezzotints. Three bromide views across the Thames in London, by J. Dudley Johnston, are hung together: No. 242, "Somerset House," with the level lines of the western parapet of Waterloo Bridge as a foreground; No. 244, "St. Paul's," from the same viewpoint; and No. 243, "Westminster," in which, looking across from Lambeth Pier, the Victoria Tower of the House, the south side of the Abbey, and Lanchester's square Wesleyan Hall dome appear across the river, with the old and new Embankments and gardens as a defining line. In "An Alsatian Farm," No. 248, by Bertram C. Wickison, a half-timbered homestead is visible beyond a squalid and ill-kept courtyard. "The Transept, York Minster," No. 251, by G. T. J. Walford, is a platinum print taken in the south transept looking south-east. A problem-picture is attempted by J. B. E. Wellington, in No. 251, "The Letter," where a middle-aged man, standing near the refreshment counter in a ballroom, thrusts an open letter into the hands of a girl in décolleté dress; but the poses are forced. No. 264, "The Suppliant," by William Archer Clark, has as its subject a peasant-woman before an altar. No. 260,

by J. C. Warburg, shows "The Forth Bridge" in sharp perspective on the left, looking across to the East Fife coast, and another good subject in this gallery is No. 290, "Loch Achray," by G. T. J. Walford. In Section III. are displayed a number of scientific and technical photographs, including negatives and prints of spectra of Rontgen rays, for which a medal has been awarded by the Council to the Duc de Broglie, fresh demonstrations, by A. E. Bawtree, of the insecurity of dependence for the protection of banknotes from forgery by printing in yellow tones, and a fresh method of protection devised by the same worker, in which a hidden design is incorporated in the printing of the document, and can only be seen by means of a special screen in the possession of the banker. There are also astronomical photographs from the Yerkes and Mount Wilson Observatories, and others of insects, birds, reptiles, and plants. A large number of transparencies in colour and monochrome are exhibited; but all are by one of the three well-known processes, the Autochrome, the Dufay, and Paget methods—and show but little technical advance on those exhibited in recent years. The only novel exhibits are the photographs in natural colour on paper by the Polychromide process, and printed without the use of inks, dyes, or any artificial colouring. The colours are formed by chemical reactions in the gelatino-silver emulsions, and are at present crude and startling in effect. There is also a series of colour-prints executed by Frederick Hollyer from water-colours by Turner, Corot, and Monet; these certainly give a close approximation to the original works, but they are by no means inexpensive; in fact, they would exceed in cost the work of most well-skilled copyists. Some interesting carbon- and oil-pigment prints done at the School of Pictorial and Technical Photography, under the tuition of John H. Gear, the principal, are hung in the entrance-room. As in previous years, a series of popular lectures, illustrated by lantern views, is being delivered in the main gallery on three nights a week, commencing at 8.30. The programme is as follows: Saturday, August 29 (to-morrow).—"Birds of Loch and Moor." By Miss E. L. Turner. Tuesday, September 1.—"Through Birdland with a Camera," and gramophone records of the songs of the nightingale. By Oliver G. Pike, F.Z.S. Thursday, September 3.—"Life on the Lower Deck of a Dreadnought." By H. Nevil Smart. Saturday, September 5.—"St. Paul's Cathedral." Tuesday, September 8.—"In the Western Highlands." By G. Lamley, F.R.G.S. Thursday, September 10.—"Spore Dispersal by Past and Present." By F. J. Hall. Saturday, September 12.—"Rambles in Donegal." By H. Selby. Tuesday, September 15.—"Stalking African Big Game with the Camera." By A. Radcliffe Dugmore, F.R.G.S. Thursday, September 17.—"A Short Sketch of Gothic Architecture." By Henry W. Bennett, F.R.P.S. Saturday, September 19.—"Wild and Garden Flowers," illustrated with autochrome slides. By H. Essenhigh Corke, F.R.H.S. Tuesday, September 22.—"A Mercian Minster and Its Memorials." By E. W. Harvey Piper. Thursday, September 24.—"The King's Highway." By A. H. Blake, M.A. Saturday, September 26.—"X-Rays, What They Are, and What They Do." By Dr. G. H. Rodman. Tuesday, September 29.—"Wonders of Rock and Pool." By F. Martin-Duncan, F.R.M.S. Thursday, October 1.—"Algeria." By C. Atkin Swan, B.A. Saturday, October 3.—"The Romance of Bird Life." By W. Bickerton, F.Z.S. Mr. A. W. Brightmore, inspector under the Local Government Board, has held an inquiry at Penzance respecting an application by the Burial Board for a loan of £2,000 to enlarge the cemetery.

THE PRACTICAL APPLICATION OF REINFORCED - CONCRETE CONSTRUCTION.—III.
By WM. G. SHIPWRIGHT, Licentiate R.I.B.A., M.C.I., Chartered Surveyor (by Exam.)
The point at which reinforced concrete stands at a great disadvantage as compared with the old type of steel joist and concrete floor section is in the facility with which the latter may be applied. A reference to the manufacturers' lists, combined with a calculation of the total load, does all that is required, or if this calculation process is not desired, a reference to the diagrams published some time back in the BUILDING NEWS, will show at a glance the suitable sections for any given superficial load and area of floor.
Reinforced-concrete design is, however, another matter entirely; no lists are published, or, for that matter, even possible, when it is considered that every fractional part of an inch in the spacing or depth of the rods in the floor produces different capacities of resistance, resulting, in conjunction with the innumerable available sections of metal, in an infinity of gradations in strength, which entirely prevent anything approaching an effective tabulation. The designer has, therefore, to calculate each unit of the structure separately, which, assuming he has become fully acquainted with the somewhat involved reasonings and deductions, he will do by first tackling the formulæ
$$u = \sqrt{m^2 r^2 + 2mr} - mr$$
as a preliminary measure, in order to determine the position of the neutral axis.
Taking an example for the purposes of illustration, and assuming that a floor slab with a span of 12ft. has to carry 100lb. superimposed load per foot. The weight of the floor varies according to the thickness, so for a hazard assume that a 5in. floor will be the depth, and again at a hazard assume that five 5/16in. rods will be required. The weight of the floor will be 5/12 × 12 × 5 × 1.1. (If tables showing the weight of rods are available) = 46 2/3 + 5 1/2 = approximately 52lb., making a total weight of 152lb. per foot super. Proceeding from this, we find that, based on the accepted formulæ, the neutral axis may be found by the following expeditious and facile process of calculation—viz., the distance of the neutral axis from the compressed edge equals the square root of the sum of the modular ratio of elasticity of steel and concrete, multiplied by the ratio of their respective areas, and twice those areas from which result is deducted the product of these two figures. Thus—
$$n = \left[\frac{\text{mod. ratio} (15)^2 \times \text{area ratio}^2 + 2mr - mr}{d} \right]^{1/2}$$
The area ratio (r) = $\frac{2 \times \frac{5}{16} \times 1.1 \times 7861 \times 5}{12 \times 5} = \frac{1.5}{60.0} = .025$ approx.
or 2 1/2 per cent. Including this and the various constants, the formulæ become
$$N = \sqrt{15^2 \times .025^2 + 2 \times 15 \times .025 - 5 \times .025} \times 5$$
$$= \sqrt{225 \times .000625 + 30 \times .025 - .375} \times 5$$
$$= \sqrt{14.0625 - .75 - .375} \times 5$$
$$= \sqrt{12.9375} \times 5 = (3.59 - .375) \times 5$$
$$= 3.215 \times 5 = 16.075$$
The figures illustrated, which omit all the workings of the multiplication and division, including a long square-root process, make a tolerably good start, and after arriving at this conclusion we find that the next step is to determine the lever arm between resistances, by taking the total depth and subtracting from it
$$\frac{n}{3} \text{ or } \frac{5 - 2.81}{3} = 5 - .946 \text{ or } 4.054 \text{ in. approx.}$$
Then the tensile resistance equals area of metal × 4.05 permissible tensile working stress, and the compressive resistance equals area of concrete × 1.05 permissible compressive working stress,
$$= 1.5 \times 4.05 \times 16,000 = 97,200 \text{ in. lb.,}$$



SCALE OF PERCENTAGE FOR VARYING SIZES AND NUMBERS OF RODS
IN VARYING THICKNESS OF SLAB.

DIAGRAM FOR REINFORCED CONCRETE FLOORS.

Showing sections required for loads from 10 to 1250 lbs. per super foot (inclusive).—

SAFE LOADS PER SUPER FOOT
(INCLUSIVE) CONCRETE 600 LBS
STRESS PER SQUARE INCH 1000 LBS
SUPPORTED ENDS REINFORCED ONE WAY ONLY
CONTINUOUS REINFORCED IN BOTH DIRECTIONS
SUPPORT ENDS CONTINUOUS

and—
 $12 \times 2.84 \times 4.05 \times 600 = 41,407.21b.$, respectively,
 which is in itself an evidence of wastage in the steel. The bending moment should be based on the formulae

$$w l^2, \text{ and } = \frac{12 \cdot 152 \times (12 \cdot 12)}{8} = 32,832lb,$$

being less than either resistance, showing that the assumption proves to work only moderately near the mark. The whole calculation, from the very start, has to be gone through again and again, until a suitable section has been secured—a truly stupendous task. In the case illustrated we should find, after repeated calculations, that a 5in. floor with 1.3 per cent. (.013 ratio) reinforcement would be suitable. This would be approximately secured by six 3/4in., four 1/2in., or three 3/8in. bars in each foot-run, which would mean a very sensible reduction on the previous calculation.

For this reason it appears eminently desirable to secure some diagrammatic form which will enable the required section of floor to be determined on inspection, and with this object in view I have designed the diagram shown in Fig. 26, which shows any floor loading from 10lb. to 500lb. per foot super, for spans up to 20ft. The combination of these loads, whether on supported slabs continuous floors reinforced one or both ways, gives resulting moments graduating from nil up to 300,000 inch-lb., and are shown on the left side of the diagram. These resultant lines cross the lines of thickness of floor slab, and incidentally show the maximum capacity in resisting the bending moment which each slab possesses, as, for instance, the 4in. floor maximum (10 per cent. reinforcement) equals about 33,000 inch-lb., the 4 1/2in. about 42,000 inch-lb. The 12in. slab has a maximum of 300,000 inch-lb. and a minimum of about 120,000 (.05 per cent. reinforcement).

On the right-hand side of the diagram is shown what is virtually the other side of the scale to the bending moments, or, in other words, the moment of resistance. It will be seen that a series of rods ranging from 3/4in. to 1in. both square and round, from 1 to 8 per foot are graduated on polar lines, representing floor thickness. The diagonals show the percentages given by the various rods on different thickness of floor (from 4in. to 12in.). The corresponding ratio is also given, varying respectively from .005 to .1 (.5 to 10 per cent.). The minimum ratio of metal to concrete should be ordinarily just above .006, and this percentage is shown with a thick black line. These ratios or percentages give varying positions of the neutral axis, according to their value, and these positions of the axis are shown by the positions where the vertical lines representing the percentages cut the curved lines M8, M11, and M15, representing the respective values of the concrete, composed of—

1 cement	2 sand	4 coarse material	M = 15
1 "	1 1/2 "	3 "	M = 11
1 "	1 "	2 "	M = 8

On the right and left are corresponding scales, which show the percentage in the height of the floor which this axis occupies. The position of this axis determines directly the strength of the floor; therefore, the position where the lines representing the height of the axis in the floor intersect the lines of floor thickness, shows the resistance moment produced.

To check the example already quoted of a 5in. floor with five 3/4in. rods as reinforcement over a 12ft. span, with a load of 152lb. We find five 3/4in. rods on 5in. floor gives .025 ratio (2.5 per cent.) reinforcement, which, followed up, gives the position of the neutral axis as = 56 per cent. of the depth from top (M15., giving a moment of just under 42,000 inch-lb., which will be seen to have a value of about 190lb. per foot over 12ft. span, or 40lb. per foot more than is required, looking in the other direction, and taking a load of 150lb. on 12ft. span, we get a moment of something about 33,000 inch-lb., which would demand an axis 45 per cent. of the depth (from top) on a 5in. floor, 57 per cent. on 4 1/2in., about 80 per cent. on a 4in. Following the lines on diagram, it will be seen those floors would

respectively require about .012, .025, and .1 as a ratio of reinforcement. This may be supplied by seven 3/4in. round, six 3/4in. square, four 1/2in. round, three 1/2in. square for the 5in. floor. Seven 3/4in. round, six 1/2in. square, five 3/4in. round, four 1/2in. square, or three 3/4in. round for the 4 1/2in. floor, whilst the 4in. requires as much as seven 3/4in. square or 1in. round, or five 1in. square rods in every foot.

It will be seen that the diagram above shows the thicknesses of floors suitable, and that 5in. is the most economical section. It will be seen that a 6in. floor would be too deep, but a 5 1/2in. would just work on economic lines, with a neutral axis approximately .35 of the depth from the top, a ratio of .006 being adequately supplied by, say, three 3/4in. round bars.

The diagram, in short, shows the capacity of each thickness of floor, and the possible range of floors suitable to each superficial load, with sufficient accuracy for all practical purposes, and, which is more important, the most economical way of arriving at what each individual case requires, without the necessity of innumerable repetitions of

$$u = \sqrt{m^2 r^2 + 2 m r} - m r, \text{ \&c.}$$

[THE END.]

NATIONAL HOUSING.

On Friday morning, August 21, 1914, the President of the Local Government Board received a deputation of representatives of the National Housing and Town Planning Council, including the following members of the committee: Councillor Harold Shawcross, J.P. (chairman, Rochdale), Alderman W. G. Wilkins, J.P. (ex-mayor of Derby), Alderman J. P. Spencer, J.P. (Tynemouth), Councillor T. R. Marr (Manchester), Major C. P. Lovelock (Carshalton), Councillor F. M. Elgood, J.P. (Ruislip-Northwood Urban District Council), Mr. E. R. Abbott (Ruislip-Northwood U.D.C.), Mr. Raymond Unwin, F.R.I.B.A. (Hampstead), Mr. B. Seebohm Rowntree, J.P. (York), Councillor S. Smethurst, J.P. (past-president, Federation of Building Trade Employers), Mr. Albert E. Cave (London), Mr. A. W. Shelton (Nottingham), and Mr. Henry R. Aldridge (secretary).

Mr. Noel Kershaw, assistant secretary, Local Government Board, was also present.

The chairman and secretary briefly introduced the deputation and placed before the President of the Board the following memorandum. The chairman specially emphasised the fact that the members of the committee were unanimously of opinion that the rate of interest for housing loans under the new Act was a point of fundamental importance.

We gladly recognise that the Government, acting through the Local Government Board, wish to do all within their power to stimulate the building of houses by local authorities and by public utility societies during the war period.

We believe this policy to be a wise one for two special reasons:

(1) That the supply of private capital for financing building operations will be greatly restricted during the period, and there may be a great lack of employment in the building trade with consequent distress.

(2) That it will be better to keep the building trade supplied with useful work than to allow conditions of bad trade to arise with all the consequent waste of money on costly and more or less ineffective relief works.

We believe that many local authorities will be willing to take action in regard to the building of houses where a shortage can be shown to exist, and that facilities given by the Government to secure this end will be welcomed and consequent action taken.

Two points are, however, of fundamental importance, viz.:

(a) While recognising the difficulty which the Treasury may have in financing housing schemes at the present time, we are convinced that any proposal which involves the payment of interest by local authorities at a rate higher than was current before the war would meet with little response from them.

(b) The procedure for granting housing loans should be the one familiar to local authorities, viz.: for periods of sixty years for building, and eighty years for land.

We desire to add that, in the opinion of the majority of the members of our committee, it is most important that the Government should stimulate local authorities in undertaking housing schemes by making capital grants in aid of the expenditure upon such schemes. We also suggest that arrangements should be made for the granting of housing loans to public utility societies at rates of interest current before the war during this exceptional period, and that the proportion of the loan to the value of the property should be raised from two thirds to nine-tenths. The Government may, in making these loans in war time, have to make some sacrifices — for example, the difference between the rate at which they can borrow and the rate at which they lend to local authorities. In return we think the Local Government Board should stipulate for several special features in the various housing schemes submitted by local authorities. Thus we would strongly urge that, wherever possible, houses built in urban districts should be built under town-planning conditions with a limitation of houses to the acre of from twelve to sixteen.

We would urge that in rural areas provision should be made for each house having a site area of a quarter of an acre, or that, if it is decided to build on less than this area, in no case should there be more than eight houses to the acre, and that provision should be made for those tenants who wish to obtain extra land for allotments close to their homes. We think that local authorities should also be required to adopt a good standard of housing—for example, the sizes of rooms should not be less than those recommended by the Small Holdings Committee, and three rooms in addition to the living room should be provided. We would press upon the Government the desirability, if this be possible, of allowing such houses to be built with concessions in the width of roads in a simple form of town-planning scheme applicable to the area on which the houses are to be built.

REPLY OF THE PRESIDENT OF THE LOCAL GOVERNMENT BOARD.

Mr. Herbert Samuel, in replying, said that the great interest shown by the Government in the points raised by the deputation, could be seen from the fact that the Government had before adjourning on August 10, passed a Bill providing for the issue of £4,000,000 for the purpose of housing. The Government had, of course, realised that a point of fundamental importance in regard to housing loans under the new Act, was that of the rate of interest for these loans.

A conference to consider this point had been held, at which he had met representatives of the Treasury and of the Public Works Loan Commissioners, the Secretary for Scotland, and other gentlemen advising him in the matter. As a result of this conference, and with the approval of the committee on urban housing recently appointed, he had sent a circular to the local authorities. In this circular he stated that it was the intention of the Government that such sums as might be made available under the new Housing Act should be utilised for the joint purposes of providing and improving housing accommodation for the working classes, and of preventing or mitigating unemployment in the building trades. The Treasury would be prepared, so far as circumstances might permit, to consider advances to local authorities of money for approved schemes of building which would meet the above objects at the rate at which the Government might be able to borrow.

In regard to the proposal that loans should be granted at a fixed rate per cent., say 3, — during the war period, he wished to point out that no one could possibly forecast what the rates of interest would be for several years after the war. Many great nations were consuming capital at the rate of millions of pounds per day, and this would produce a scarcity of capital at the end of

the war. If in addition we had in this country a trade boom, the rate of interest would be high as a result of the great demand for capital.

In closing, Mr. Samuel again expressed his earnest desire to do all that he could possibly do to stimulate housing action by local authorities in this period of national need.

In the discussion which followed Mr. Samuel again made it clear that in cases under the new Housing Act the Government would lend local authorities money at the rate of interest which the Government had to pay, that the money thus lent would be lent for periods of sixty years for building and eighty years for land. He thought that, if at the end of the war period, or at subsequent periods, local authorities could borrow money at lower rates of interest, they would be allowed to use it to extinguish the loans granted during the war period. Mr. Samuel also stated that the Treasury had consented to the granting of loans to public utility societies for nine-tenths of the value of the property, as against the two-thirds provided for in the Act of 1909. The question of the rates of interest to public utility societies and the periods of the loan was, however, still under consideration.

Mr. Unwin and Mr. Shawcross raised points as to the possibility of securing the co-operation of local authorities and public utility societies for the purpose of building. Mr. Samuel promised to consider these fully if Mr. Shawcross and Mr. Unwin would place before him in writing the precise schemes which they had in mind. In regard to the question of the planning of the land to be built on, he had already given consideration to this matter, and he proposed to communicate with local authorities at a later date. It had, however, been thought better not to deal with the question in the circular already issued.

Councillor Marr and Alderman Wilkins raised the question of the possibility of using part of the £4,000,000 provided for in the Housing Act for the purpose of grants in aid.

Mr. Samuel, in replying, stated that it was not the intention of the Government to use this £4,000,000 for the purpose of grants in aid. If they began to do this, every local authority borrowing money would expect to get a grant. Their great aim was to induce local authorities to undertake housing schemes.

THE ARCHITECTS' WAR COMMITTEE. SUPPORT FROM THE SOCIETY OF ARCHITECTS.

The Council of the Society of Architects, at its meeting on August 20, unanimously decided to support the movement initiated by the R.I.B.A., by every means in its power, and to place at the disposal of the Architects' War Committee the Society's premises and staff at Bedford-square, for the use of any of the sub-committees. They further voted a first grant of 100 guineas as a contribution to a fund to be formed for providing paid work for architects whose means of livelihood is stopped by the war, and undertook to appeal to members of the Society and their friends for generous contributions towards this fund. The Council has suggested to the Architects' War Committee that a professional employment sub-committee of that body should be at once formed to deal with the administration of this fund; firstly, in determining those architects in actual need of financial assistance in consequence of the war, and, secondly, in evolving schemes of a useful nature by which these men may be temporarily employed, such, for instance, as offering small fees for measured drawings to be made of buildings of historical and architectural interest, schemes for the improvement of arterial traffic, or town planning improvements, etc., etc. The main object of this sub-committee would be not to distribute benevolent aid, but to enable a man to earn a small weekly sum in such a manner that at the end of the war the community would benefit by the work done.

The copyright of these drawings should belong to the man producing them; but the

original or copies should be deposited with the Architects' War Committee for subsequent exhibition or publication.

The Council further suggested the desirability of a common appeal being made to architects by the Architects' War Committee, but that this appeal should be circularised by each architectural society amongst its own members, with a covering letter of support. The Society of Architects is willing to bear the entire cost of circulating the appeal and collecting the contributions to the fund from its members and their friends.

SALT-GLAZED WARE PIPES.

The Engineering Standards Committee have issued "Notes on Publication No. 65, British Standard Specification for Salt-Glazed Ware Pipes." The desirability of standardising "stoneware," sewer, and drain pipes, was urged upon the committee at different times from various quarters, and more particularly by the Institution of Municipal and County Engineers, which body appointed a committee for the purpose of obtaining information from their members with regard to their requirements for a standard specification. The data thus collected was then summarised by that institution in the form of a draft specification and placed at the disposal of the Engineering Standards Committee. A representative and well attended conference of users and manufacturers was called early in 1911 to consider whether the standardisation of this class of pipe was desirable, and the opinion of the meeting being unanimously in favour of such a proceeding, the main committee formed those attending the conference into a sectional committee under the chairmanship of Sir Maurice Fitzmaurice, C.M.G.

At an early stage of the work it was found desirable to discard the use of the term "stoneware" as being difficult of definition, and to adopt the term "salt-glazed ware," which was sufficiently descriptive of the pipes, the quality being safeguarded by the imposition of an absorption test.

In drawing up their recommendations for salt-glazed ware pipes, the committee were able to avail themselves of the draft standard specification drawn up by the Standardisation Committee of the Institution of Municipal and County Engineers previously referred to, and of a draft specification based on the proposals of that institution which was subsequently submitted by the pipe manufacturers on the sectional committee as the result of a long series of conferences amongst the manufacturers. These drafts were of material assistance in forwarding the work of the committee, and were of very great help in leading up to the formulation of the standard specification forwarded herewith. The question of putting forward a standard form of socket, which would produce in unskilled hands better alignment than the form in most general use, occupied the attention of the committee for some considerable time; but, in view of the importance to the industry of not materially increasing the cost of salt-glazed ware pipes, it was not found practicable to proceed with the matter, and therefore, as regards the sockets, only the minimum mean thickness and minimum internal depth and a minimum jointing space have been specified.

The specification divides the pipes into two classes—namely, British Standard Pipes, which are made with the intention of complying with the specification, but of which only a percentage are required to be submitted to the hydraulic test, and British Standard Tested Pipes, that is to say, pipes which have been individually subjected by the manufacturer to the hydraulic test laid down in the specification. Amongst the other points dealt with are the absorption test, permissible limits of deviation from thickness, standard diameter, and straightness, and a standard mark for all pipes complying with the British Standard specification. The specification is one that should be in the hands of all municipal engineers and architects.

The price of the report is 5s. 2d., post free, and it may be obtained from any bookseller, or direct from the Offices of the Committee, 28, Victoria-street, Westminster. It is published for the committee by Messrs. Crosby, Lockwood and Son, 7, Stationers' Hall-court, Ludgate Hill, E.C.; and 5, Broadway, Westminster.

OBITUARY.

We regret to announce that Mrs. Rosa Cates, widow of the late Mr. Arthur Cates, F.R.I.B.A., died on Wednesday in last week from heart failure, after a short illness, at her residence, 12, York-terrace, Regent's Park. Mr. Cates, who, it will be remembered was for many years surveyor to H.M. Woods and Forests, and was Vice-President of the Royal Institute of British Architects from 1888 till 1892, and acted as chairman of the Board of Examiners from the establishment of the compulsory examination for Associates in 1882 until January, 1897, and as chairman of the Tribunal of Appeal from 1884 till 1901, died on May 15, 1901, in his seventy-third year. Mrs. Cates followed her husband's example in her generous donations to the Institute library of valuable works and an extensive collection of architectural photographs. The memorial service was held at St. Marylebone parish church on Monday morning, and was followed by cremation at Brookwood.

Mr. Arthur Charles Bulmer Booth, A.R.I.B.A., for many years a partner in the late firm of Hudson and Smith, Godliman-street, E.C., died a short time since, aged seventy years. Mr. Booth was a pupil of the late Mr. Joseph Springbolt. Afterwards he entered the office of the late Professor Aitchison, B.A., R.A., as assistant, remaining until he joined Mr. William Hudson. Later he became a partner with Mr. Hudson, jun., the practice being carried on under the title of Hudson, Son, and Booth until the death of Mr. William Hudson. Then it was continued by the remaining partners, and subsequently by Mr. Booth alone, at 113, Queen Victoria-street. The firm has carried out a large amount of important work in the City and suburbs. Just before his death, Mr. Booth had taken into partnership his chief assistant, Mr. G. Morris Viner, by whom the practice will be continued at 113, Queen Victoria-street. Mr. Bulmer Booth was one of the senior members of the Architectural Association, which he joined as long ago as 1863; he took for many years an active interest in its work, and often figured in the cast of the annual plays, and as a tenor singer in musical entertainments. He had been an Associate of the Royal Institute since 1881.

The late Mr. Haynes Bradford, of Clough-villas, Clough-road, Rotherham, of the firm of Messrs. Chadwick and Co., builders and contractors, left £28,007 gross, and net personalty £21,190.

A Roman Catholic Church of Our Lady of Lourdes is to be built at Greencastle, near Killeel, Co. Louth. The architects are Messrs. E. and J. Byrne, of Waring-street, Belfast.

The lady architect is coming to the front under the Southern Cross. The New Zealand Institute of Architects admitted as an Associate at their last general meeting Miss L. A. Greenish of Wellington.

Mr. C. H. Eyles, Local Government Board Inspector, has held an inquiry at Blackwell, Derbyshire, into an application by the rural district council for sanction to borrow £20,000, in order to carry out a housing scheme.

Mr. R. H. Hooper, M.Inst.C.E., has held a Local Government Board inquiry at the Town Hall, Middleton, Lancs, into an application by the council to borrow the sum of £7,610 for extensions at the electricity works. Mr. S. Pauls, the borough electrical engineer, explained the proposals.

Messrs. Hodgson, King, and McPhalen Bros., of Vancouver, B.C., have secured the contract for trunk sewers to be laid in Vancouver to the value of 309,052dol. Mr. Geo. W. Phipps is the engineer of the work, which is in connection with the Vancouver and Districts Joint Sewerage and Drainage Board scheme.

COMPETITIONS.

DECORATIONS OF AUSTRALIA HOUSE.—A competition has been arranged in connection with the mural decorations of the new Commonwealth of Australia building, Australia House, now in course of erection in the Strand and East Aldwych, from the designs of Messrs. A. Marshall Mackenzie and Son, and illustrated in our pages on July 4, 1913. In all twelve paintings are required. The sketches are to depict incidents in Australian history, or features of its scenery or productive activity. The competition is open to all artists born in the Commonwealth, or who have lived there five years and upwards, or who are now resident in Australia. The sketch designs must be forwarded to the High Commissioner's Office, London, not later than January 15, 1915, and will be judged by a committee appointed in London. The winners of the premiums will receive commissions to paint pictures at the following prices: Group I.—Two pictures at £1,100 each; Group II.—Two pictures at £1,200 each; Group III.—One picture at £600, two at £400, and two at £250 each; and Group IV.—One picture at a lower figure.

POTTON.—In the competition for a housing scheme at Potton, Beds., the committee have recommended that the laying-out of the land and erection of houses be carried out from plans prepared by Messrs. Homer and Lucas, architects, 62, Oxford-street, W. The houses are to be according to the design of those prepared by Messrs. Homer and Lucas for Sandy and Beeton, Beds., and which have been approved by the Local Government Board.

SOUTHPORT.—The replies to competitors' questions issued this week in regard to the Competition for Technical Schools at Southport, clear up several important points with respect to the area available for the new premises, and also the rights of light incidental to "Crown House" and "Brunswick Villa," adjacent to the Glaciarium on the land. These points are now more definitely particularised, and, besides, the restrictions belonging to the property leased by Messrs. Kiddie and Co., at the end of the skating-rink hall are also more exactly stated. The problem is materially complicated by all these limitations thus set out, while having to provide for Scheme A at a definite cost of £16,000, including practically the whole of the accommodation mentioned in the schedule, a further consideration hampers the project, inasmuch as some of these rooms may be temporarily housed in the present front block. This block will ultimately, however, give place, under an alternative scheme, B, for an important extension, though no particular sum has been determined with regard to its cost. The comparative estimate of competitors' schemes for the proposal B (other than the initial outlay of 16,000), "will be taken into account by the assessor." This allowance permits of no little uncertainty. Moreover, we learn that "within reason" the competitors may use their discretion as to the number of stories to be employed in order to get the essential provision of all the scheduled accommodation in Scheme A. From the areas so asked for we observe that no serious departure is permissible. This is definite enough, so far, and the available amount of building site is fairly clear; but it remains doubtful whether so hampered a problem can be really a suitable one for an open competition of this character, which includes the rebuilding of the rear part of the Glaciarium, and for adapting the front building, which ultimately will be rebuilt, this intention at the outset making the final arrangement (Scheme B) of the utmost consequence. "If this can be designed so as temporarily to use the front building in a satisfactory manner, such a design will have preference." The competitors are also told that if they "consider it inconsistent with the best arrangement to make Scheme A an instalment of Scheme B" they are "at liberty to submit a Scheme B unrelated to Scheme A." In such a case the schemes A

and B will be virtually alternatives to one another." Mr. Paul Waterhouse, F.R.I.B.A., the assessor, will, therefore, have not a few details as well as general instructions to take into account and bring them into harmony prior to any exact adjudication. If some overmastering scheme should prove to claim a pre-eminence on its merits, such a result will be only possible by ignoring some of these details to which several cross-references occur. Such a multiplicity of conditions will no doubt hamper other competitors who try to bring into unison various conflicting points, as set out in the instructions and official replies. The date for sending in the drawings is October 14 next. The advertisement gave "no date," and we repeated this fact in our competition list, issued from week to week; but when the project was originally mentioned it was understood that plans would be required by the end of the year; consequently we gave the date at the outset as Dec. 31. This was a misconception. Premiums of £75, £50, and £25 are to be awarded.

The Waterford County Council have decided to allow the retiring county surveyor the superannuation he was legally entitled to—viz., two-thirds of his salary.

Mr. H. A. Chapman, an inspector under the Local Government Board, held an inquiry at Harwich on Monday into the application of the town council for sanction to borrow £2,140 for the purchase of land and the erection of working-class dwellings.

Mr. F. H. Tulloch, one of the Local Government Board inspectors, held an inquiry at the town hall, Rochdale, on Thursday in last week, relative to the application of the corporation for sanction to borrow £1,665 for the purchase, fencing, and laying out of a recreation-ground at Spotland.

An emergency Local Government Board inquiry has been held at High Wycombe to consider an application for £11,200 for the erection of 54 workmen's dwellings on land purchased from the Marquis of Lincolnshire for £880. The scheme will facilitate local employment during the war.

The executive council of the Municipal Employees' Association at a special meeting on Saturday unanimously decided to pay the contributions of all the members who have joined the colours, and of those who may volunteer to take part in defence of the country. The decision affects more than 2,000 men.

Mr. R. S. Hetherington, an inspector under the Local Government Board, held an inquiry at the Municipal Offices, Southampton, on Tuesday, into an application by the corporation of that borough for sanction to borrow sums amounting to £36,500 for works of water supply, including the construction of a reservoir in Glen Eyre-road, Bassett, and other works at Otterbourne.

It was reported at the meeting on Tuesday of the Billericay Rural District Council that several claimants had come forward for a house built by an old lady named Mrs. Elizabeth Somerville, who was killed by falling from a tree. The house had been condemned, but the old lady had chased away the inspectors with an axe. Owing to the war, house property would not fetch much if sold, and this house had been valued at 30s.

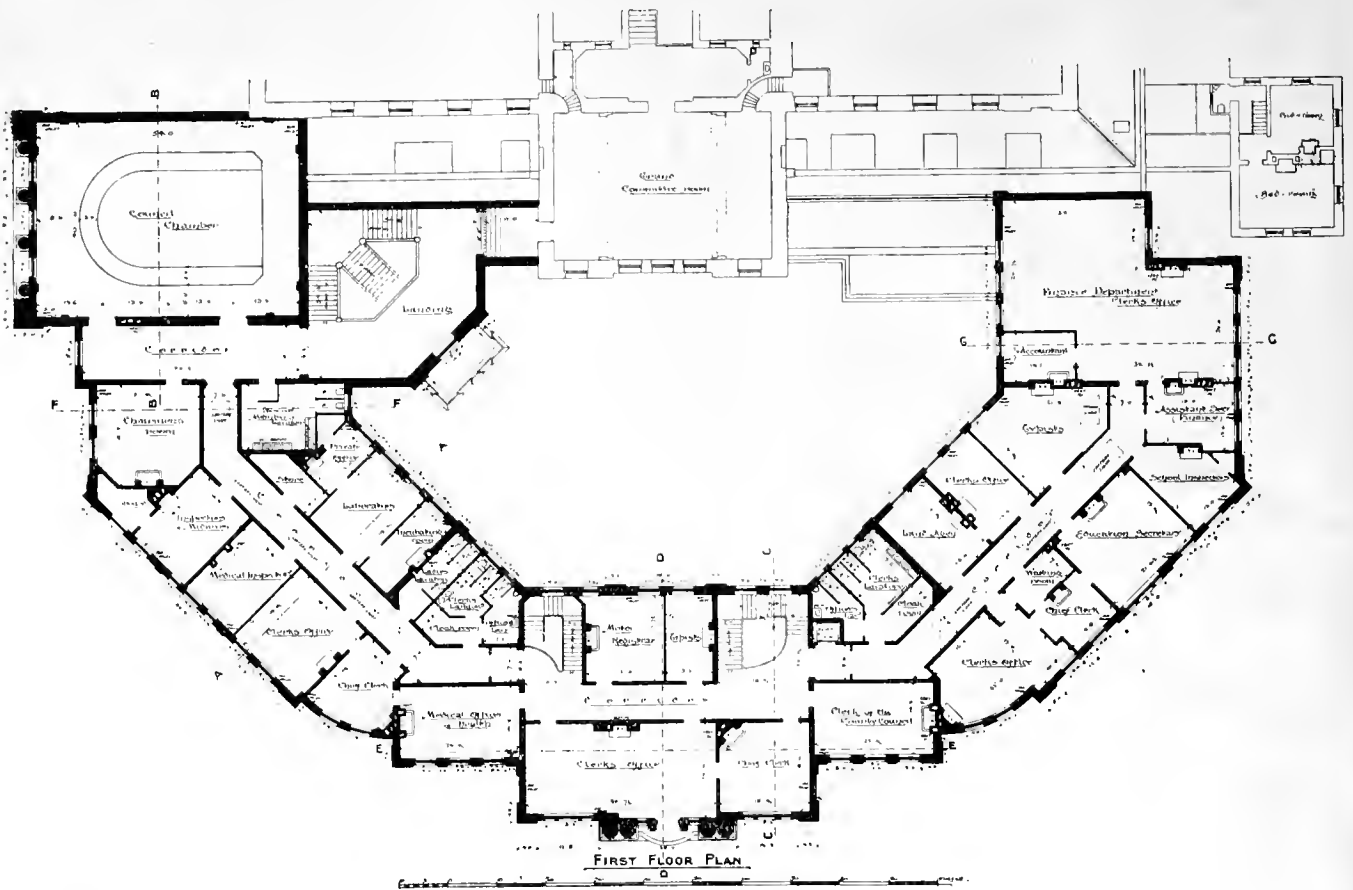
A collection valued at £4,000,000 has been bequeathed to the Louvre by Baron Schlichting, a prominent member of the Russian colony in Paris, who died recently. It comprises pictures, bronzes, objets d'art, and furniture. Among the pictures are some of the finest-known examples of Rubens, Boucher, Fragonard, Nattier, and Watteau. There are 142 snuffboxes, for which the late Mr. J. Pierpont Morgan once offered £480,000. One of them, painted by Fragonard, is alone valued at £20,000.

At the last meeting of the Spalding Rural District Council it was reported that the Local Government Board had written giving sanction for the loans of £523 for purchase of land at Pinchbeck and £3,852 for erecting houses thereon. It was stated that a local firm who held housing contracts under the council were reported to be unable to carry them out on account of financial difficulties, and that the Quinding contractors, Messrs. Johnson and Son and Mr. Thompson, were prepared to take over the firm's contracts at the same prices. This was considered satisfactory, and it was decided to ask the firms named to send in formal tenders.

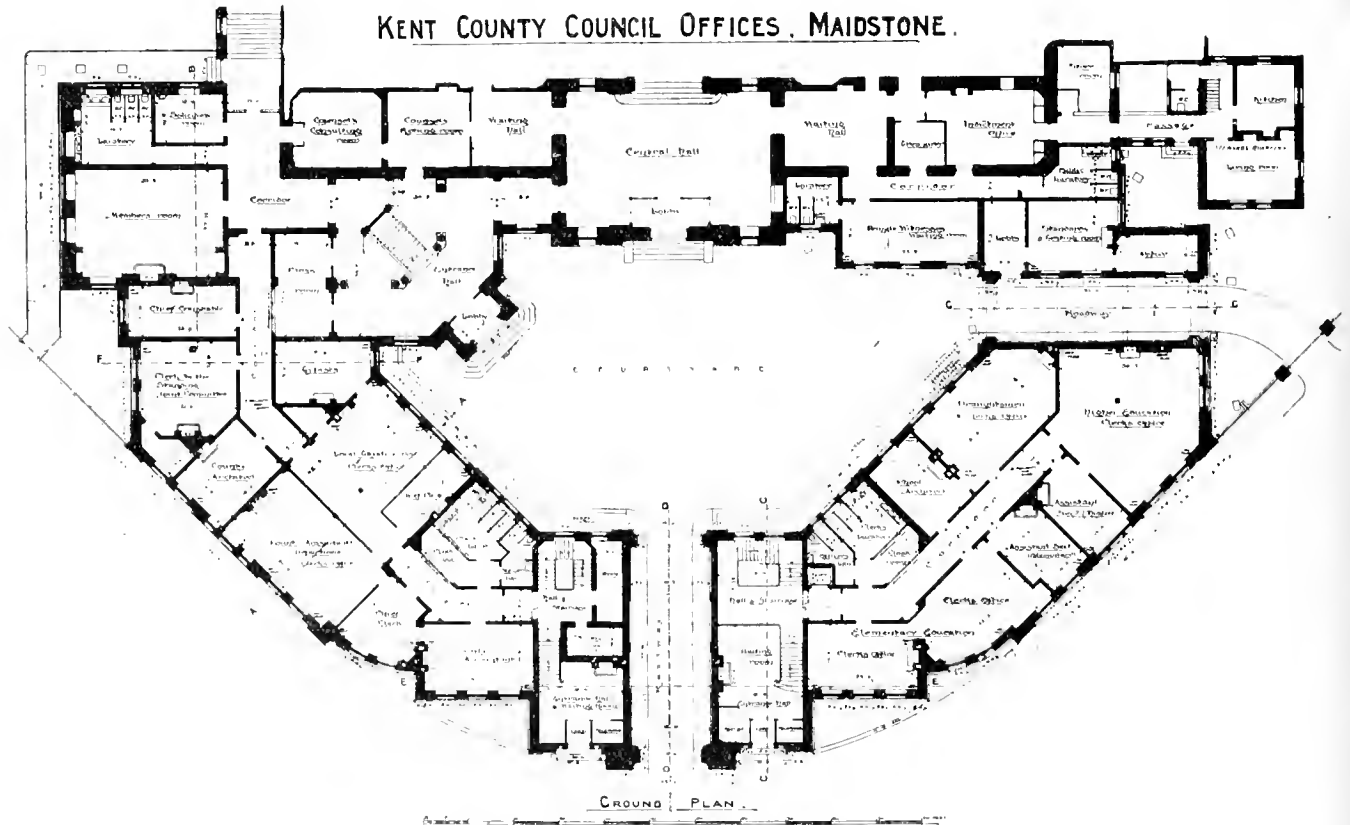
Our Illustrations.

NEW COUNTY OFFICES FOR KENT, MAIDSTONE.

This building has lately been completed from the designs of Mr. Frederick W. Ruck, the county architect for the Kent County Council. The new council chamber (54ft. by 40ft.), which will seat 104, is placed at the north corner of the site on the first floor. It is approached by a stone staircase, the lower flight of which faces the entrance vestibule, and from the landing there are two flights, one leading to the council chamber and the other to the grand committee room by a landing and corridor 12ft. wide. The floor of the council chamber is in stages, the difference in level of the several tiers of seats being 7in., making the floor in the centre of the chamber 1ft. 9in. lower than at the two entrances. The chamber is lighted at the north end by the windows, and also has a central lantern. Immediately opposite the entrance to the council chamber is situated the private room for the chairman of the council and chairmen of committees (22ft. by 16ft.), with a private lavatory adjoining. Next the spacious entrance-hall on the ground floor is a members' cloakroom, and by passing through the archways beneath the staircase the private room for the members of the county council is reached. It is 30ft. by 27ft., and is provided with a lavatory. All the offices on the ground floor have been arranged on the same level as that of the entrance-hall, which is 8ft. above the level of the ground at the entrance gates. By this arrangement a central carriage entrance through the building is rendered possible without interfering with the upper floor. As this carriageway severs the building on the ground-floor level, two entrances are necessary on either side of it, with separate staircases to the first floor. The right hand entrance is the principal one, and is that by which the whole of the building will be approached, except the county accountant's department, which is in the left wing on the ground floor. The entrance leads through a vestibule to a general waiting-room adjoining the porter's office. The ground floor of the right wing is entirely occupied by the department of the Education Committee and rooms for the schools' architect and his staff. The left hand entrance serves only the county accountant's department. On the first floor the office of the clerk of the county council is placed at the end of the wide corridor, his staff being in the centre building adjoining. The Education Secretary's office is in the right wing, with the general office and finance department beyond. Two rooms for the county land agent have also been provided in this wing. The left wing, with the exception before mentioned, is occupied by the department of the medical officer of health, and contains laboratory, incubating room, etc. On the second floor about half the area is allocated to the stores department of the Education Committee. The two remaining rooms (40ft. by 24ft. and 28ft. by 19ft.) have been provided for the county analyst. By locating them on the top floor special ventilation and top light have been obtained. A basement is formed under the greater portion of the building. The centre block contains the staircases, strong room for the clerk of the county council, two stokeries, and coke stores. In the right wing the Education Department has a large strong room, a storage room for stock, and a general filing-room. A common room for the whole of the clerks, with kitchen attached, is also provided. In the left wing a bicycle store is conveniently placed for the use of all the clerks, and is approached by a sloping way from the back of the main entrance. The record room (46ft. by 30ft.) is placed at the end of the corridor, and is easily accessible either from the secondary staircase or from the lift by the corridor in the sub-basement. There are also in this wing two rooms occupied by the medical officer of health. As the main entrance severs the general level of the basement, it is necessary to carry the



KENT COUNTY COUNCIL OFFICES, MAIDSTONE.

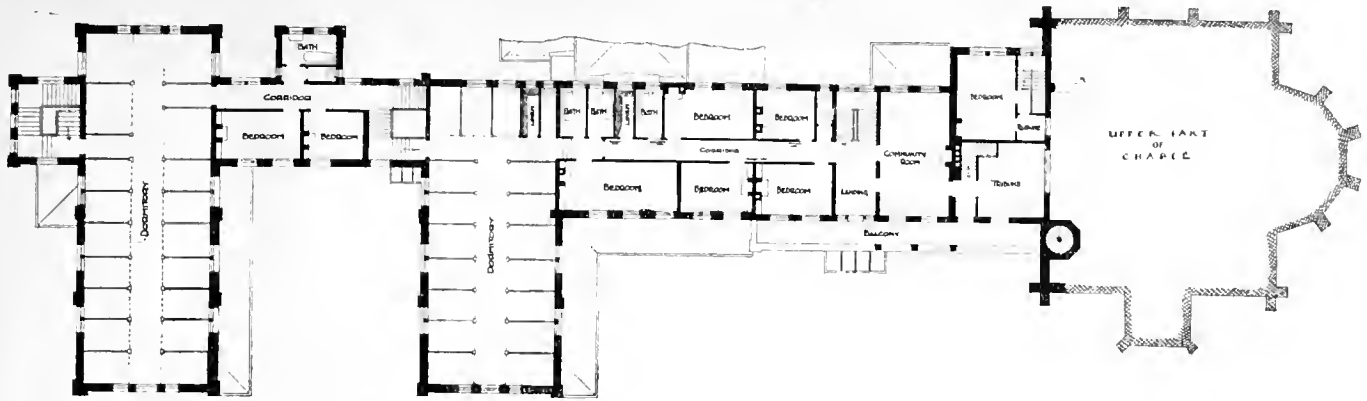


Mr. FREDERICK W. RUCK, County Architect.

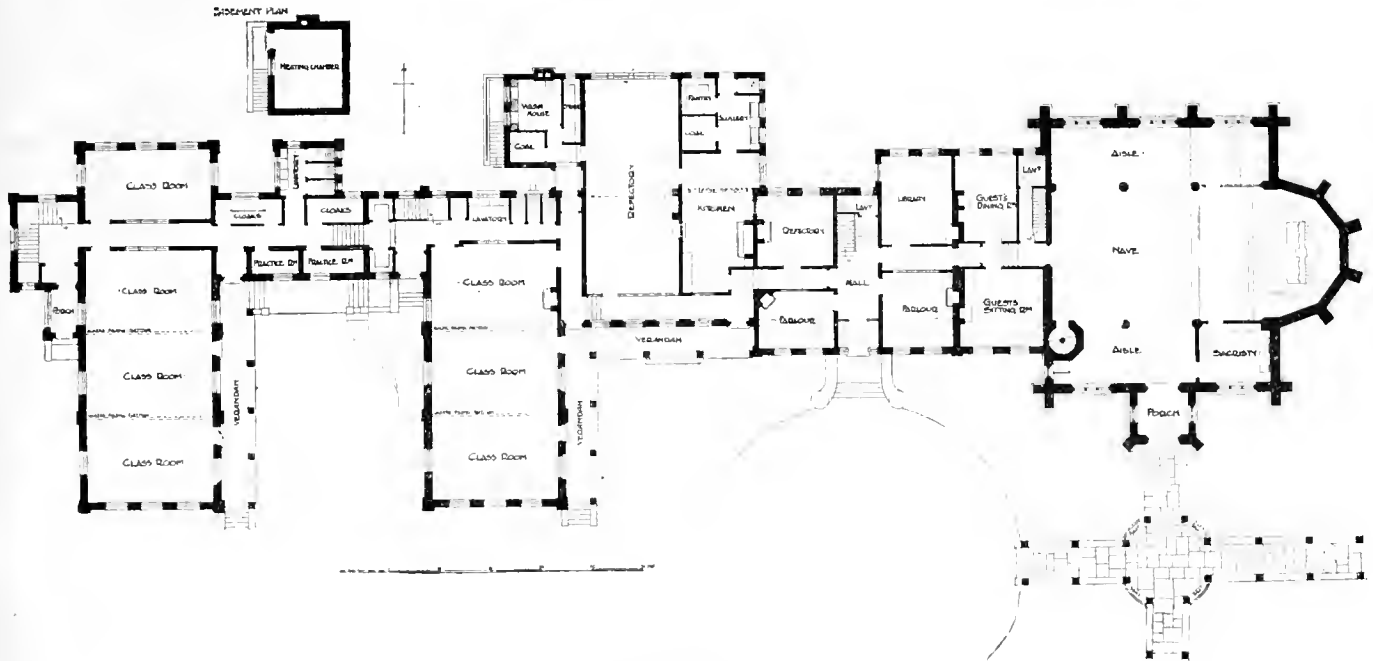
stokeries and fuel stores to a lower level, and form a second, or sub-basement, behind them to provide a corridor communicating between the lift and the record room. The coal store opens on to this corridor and is close to the lift. The office of the inspector of weights and measures is placed next the secondary entrance to the courtyard. Ample lavatory and cloakroom accommodation has been provided. The old offices of the clerk

of the county council have been converted into a caretaker's residence. The building is designed in a Renaissance style, so as to harmonise with the old Sessions House which adjoins. The rusticated work surrounding the archways and the plinths up to the ground floor is in grey granite, the central three-storied portion is faced with Portland stone, and the wings of the building and the whole of the fronts facing the inner court

is in Kentish rag and Portland stone. The building is of fireproof construction internally, the floors being in reinforced concrete and the staircases in stone. Each room is separately ventilated with inlet-tubes and exhaust flues. Fireplaces are provided in each room, but the warming is augmented by hot water on the low-pressure system. The cost of the building, including the alterations to the original waiting-halls



First Floor Plan.



Ground Plan.

OUR LADYE'S CONVENT, BEXHILL-ON-SEA, SUSSEX.—Mr. J. S. D. HICKS, Architect.

to the courts, treasurer's, and indictment offices, etc., has been about £64,000.

OUR LADYE'S CONVENT, BEXHILL-ON-SEA.

This building has been erected on a site of about four acres, in a central position in Bexhill, on rising ground, facing south, and having extensive and beautiful views of the Channel and surrounding country. The work was commenced in March, 1913, and the larger portion of the convent buildings are now completed, together with the day school adjoining. Local bricks have been used throughout, and roughcast. The roof is covered with dark-red tiles. Built for the Sisters of Providence of the Institute of Charity, one of the well-known Catholic teaching Orders in England, it has been dedicated and opened by the Bishop of Salford as a high-class boarding-school for girls, and, apart from the day-school, will accommodate 100 scholars when completed. The chapel and west wing will be built in the near future. The builders are Messrs. Banks and Gearing, of Bexhill, and the architect is Mr. John S. D. Hicks, of 28, Magdalen-road, St. Leonards-on-Sea.

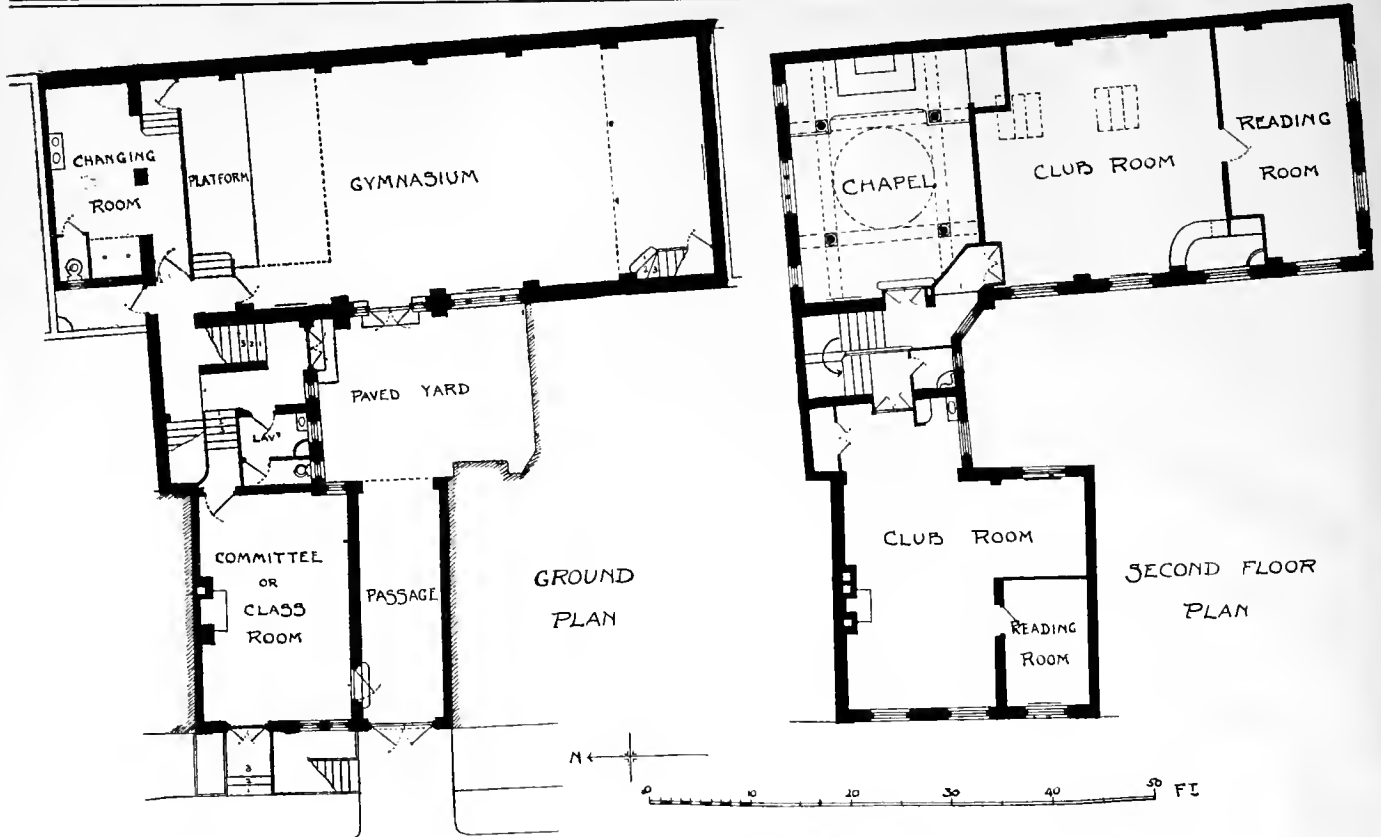
THE DINING ROOM, THE RED COTTAGE, HOLMBURY ST. MARY, SURREY.

In the BUILDING NEWS for June 19 last we gave the two plans and exterior view of this country house. We likewise printed some particulars about the work, and in course of our descriptive notes, sent us by the architect, Mr. Arthur H. Moore, A.R.I.B.A., a reference was made to the panelling and treatment of the dining-room, of which we now give a pen-and-ink perspective, drawn by the architect.

YARDLEY ROAD SANATORIUM, BIRMINGHAM.

The new buildings erected at Yardley-road depart from the general design adopted in the majority of sanatoria built up till now, as no protection whatever is afforded in front of the verandahs from the wind. The block is deep enough to enable the beds to be wheeled back to avoid rain, even during windy and boisterous weather. This special feature is partly the result of experience gained in the treatment of Birmingham consumptives; but it is mainly due to visits paid to Miss Hunt's Sanatorium at Baschurch, where children have been very successfully treated for many years in a climate quite as rigorous as that at Yardley-road, Birmingham. Miss Hunt's very simple and efficient arrangements have stimulated many authorities to adopt similar principles. At Northfield, crippled children from Birmingham, for example, have been kept in open-fronted wards during the winter without discomfort. Experience at Yardley indicates that for all but those acutely ill the largest amount of exposure to fresh air is an advantage. We give a detailed plan and section, which illustrates this principle as carried out at Yardley-road. The patients in this block will be kept out on the terrace night and day when the weather is settled, so as to obtain the open air unimpeded by any obstruction. During unsettled weather the beds, at night, will be under the glass verandah, and when stormy weather comes on the beds can be wheeled back to the wall, as shown on the plan, where they will escape all rain. Such an amount of exposure requires that suitable arrangements must be provided, otherwise life might at times become intolerable. Dressing-rooms in the proportion of one for

four or five patients have been provided, and bathrooms of one to every ten inmates. These are situated immediately behind the beds, so as to be convenient of access. Under each bed there is a rack to hold a dressing-gown and a pair of slippers, so that the patient may put these on when going to the dressing-room. In whatever position the bed may be these necessary comforts will be at hand, because they are moved with the bed. Drying rooms are provided and also linen stores. The women's block allows for seventy-five beds, capable of being used for women only or of being divided for use on one side for women and on the other side for men. The children's block of forty-four beds is similarly divided for the sexes. An observation block provides for ten cubicles. The administration block completely supervises the patients—thirty-six beds will be seen at any one time. This is of extreme importance in the treatment of consumptives, as well as in the matter of economical administration. A nurses' day-room, properly fitted up, is provided for each thirty-six beds. No heating whatever is provided. Experience assuredly indicates that heating is unnecessary and useless. Provision on the most liberal scale is made for a supply of hot water bottles, and ample through ventilation is insured. Each dressing-room contains an expanded-metal wardrobe, with padlock, a lavatory basin with hot and cold water, and the necessary provision for separation of tooth-brushes, etc. The terrace at the back of the building is arranged with rest chairs for use in hot weather, so that the patients may be in the shade. All the patients who are well enough to leave their beds have all their meals in the dining room, which is used for concerts and services. Care is taken to keep the food hot and served in the most appetising



THE MAGDALEN COLLEGE MISSION, SOMERS TOWN, N.W.—Mr. RONALD P. JONES, M.A., Architect.

manner. The observation block is used by children for a fortnight before being transferred to the main block. In this way a diagnosis can be made certain, and the chance of importing other infectious complaints greatly diminished. The laundry is equipped to deal with the clothing of the whole institution, and contains also a disinfecting apparatus for bedding, etc., and means of disinfecting and cleansing sputum-cups. The medical and nursing staff have accommodation in the administrative block, and the kitchen serves for both old and new portions of the building. The architect is Mr. W. H. Ward, Licentiate R.I.B.A., of 30, Paradise-street, Birmingham. He is also erecting a new sanatorium at Chesterfield. The Yardley buildings were carried out by Mr. Harvey Gibbs, builder, of Birmingham.

SANDY SHOOT, BURLEY, HANTS.

This house is built on the top of a slight hill a little north-west of the village of Burley. There are attractive views to the south, and also to the north, looking over a part of the Forest. The placing of the dining-room looking north was to take advantage of this. The house is built with hollow walls covered externally with rough-faced plaster, the pilasters at the angles being of narrow red bricks from Brockenhurst. The chimney-stacks are carried out in the same bricks. The gables are covered with oak weather-boarding, and the roofs with stone slates from Gloucestershire. The contractor for the work was Mr. H. Holley, of Lyndhurst. The architect is Mr. C. M. Oldrid Scott (Messrs. J. O. Scott and Son).

THE MAGDALEN COLLEGE MISSION, SOMERS TOWN, N.W.

This building, which was opened by H.R.H. Princess Christian a short time ago, was erected by subscription from past and present members of Magdalen College, Oxford, to house their Mission in Somers Town, which had for some years been conducted in various temporary quarters in the neighbourhood. It occupies the site of No. 5, Clarendon street, and an adjoining mews, and consists of a front building on the street and a gymnasium building at the back, connected by a block containing the staircase serving both. The front block contains on the ground floor a committee- or lecture-

room, with separate entrance from the street, and the open passage leading to the small yard in front of the gymnasium. Below the committee-room is the furnace-room, and a passage to the area, as an emergency exit from the gymnasium. The two upper floors contain each a clubroom, with a recess for a small billiard-table, and a reading-room adjoining. The gymnasium is 52ft. by 24ft., with an expanding platform at one end and a gallery at the other, which is large enough to be used for a technical class, if required. There is also provision for fixing a curtain and footlights for theatricals, etc. The changing-room has hot- and cold washing-basin and shower-bath supply, and is fitted with lockers. Above the gymnasium is a large clubroom and reading-room, with a self-contained refreshment counter, with cupboards, washing-sink, and water-boiler. In the design of the chapel it was desired to obtain as great a contrast as possible to the ordinary clubrooms, so as to emphasise the special purpose of this part of the building. A simple vaulted treatment was adopted, with a central dome carried on four columns, and side barrel-vaults. The columns are at present of unvarnished pine, stained brown; but it is hoped at some future time to replace them by oak, and to have corresponding pilasters and oak panelling on the walls. The exterior to the street is carried out in two shades of red sand-faced brick, with the college arms, carved in brick, over the centre windows. Terrazzo dadoes are used in the gymnasium, changing-room, and staircase, and all the other rooms have matchboarded dadoes. The internal woodwork and the fixed bookcases, cupboards, etc., are stained green and flat-varnished, and the rooms on the ground floor have wood-block flooring. The building is heated by radiators throughout, and by gasfires in the clubrooms. The architect was Mr. Ronald P. Jones, M.A., Licentiate R.I.B.A., a member of the college; the building, sanitation, and heating were done by Mr. J. A. Hunt, of Hoddesdon, Herts.

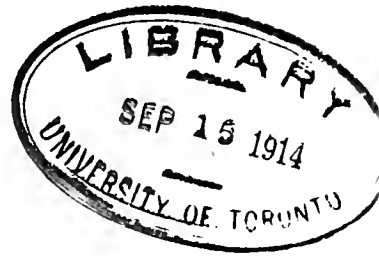
The Eastbourne Town Council unanimously adopted on Monday a housing scheme, which provides for the erection of 236 houses at a cost not exceeding £60,000. The Duke of Devonshire has provided the sites at a very moderate price, and has also granted allotments free for one year to about 150 workmen.

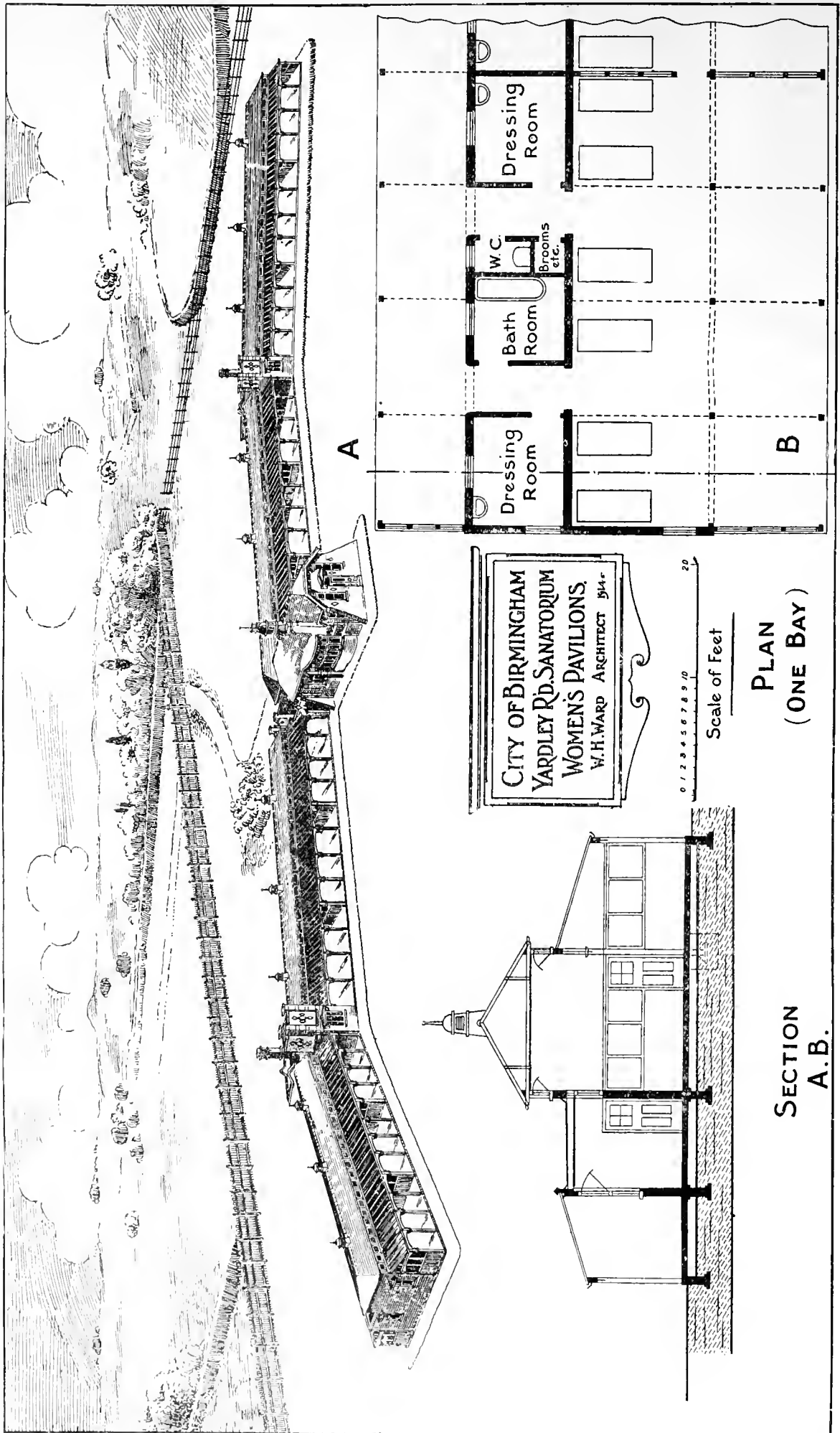
Building Intelligence.

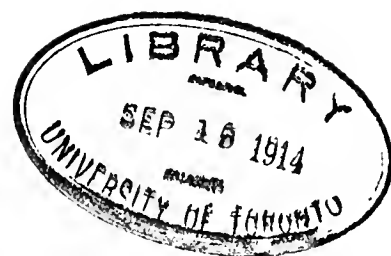
BRISTOL.—The condition of the tower of St. Stephen's Church, Bristol, has for several years been a source of great anxiety, and some months ago the vestry had the building examined. The architects (Messrs. Paul and James) agreed that the danger had been chiefly caused by the excessive amount of smoke poured into the city air, which has eaten away the face of the stone to a dangerous extent, and stated that only by complete and thorough restoration could the structure be preserved. An approximate estimate of the cost of restoration of the tower and south porch was placed at between £3,500 and £4,000; but the architects could not give a close estimate at the time, as they could not say definitely what amount of stone would have to be cut out. In response to a private appeal the vestry committee have received £1,950 from the Ringers' Society, and £500 from the Society of Merchant Venturers, to which the vestry added a contribution of £200. Under the circumstances it has been decided to proceed with the restoration of the tower, in order to provide immediate work, and it will be continued so long as funds will permit.

A joint committee of the New York Chapter of the American Institute of Architects and the Architectural League, acting as a jury, have awarded to Mr. Bertram Grosvenor Goodhue the commission to complete the designs and plans for the proposed New York City building at the Panama-Pacific International Exposition to be opened early next year. The final plans for Denmark's pavilion at the Exposition have been completed by Professor Anton Rosen, architect, of Copenhagen, and work on the building will be started in the early part of September.

An inquiry was held at the Council House, Birmingham, on Wednesday by Mr. T. C. Ekin, on behalf of the Local Government Board, into an application by the Birmingham Tame and Rea District Drainage Board for sanction to borrow £61,560. The money is required for works of sewerage and sewage-disposal, including the execution of works in the parish of Solihull. Later in the day Mr. Ekin also held an inquiry into an application by the Birmingham Corporation for permission to borrow £33,000 for works of sewerage and surface-water drainage at Erdington.

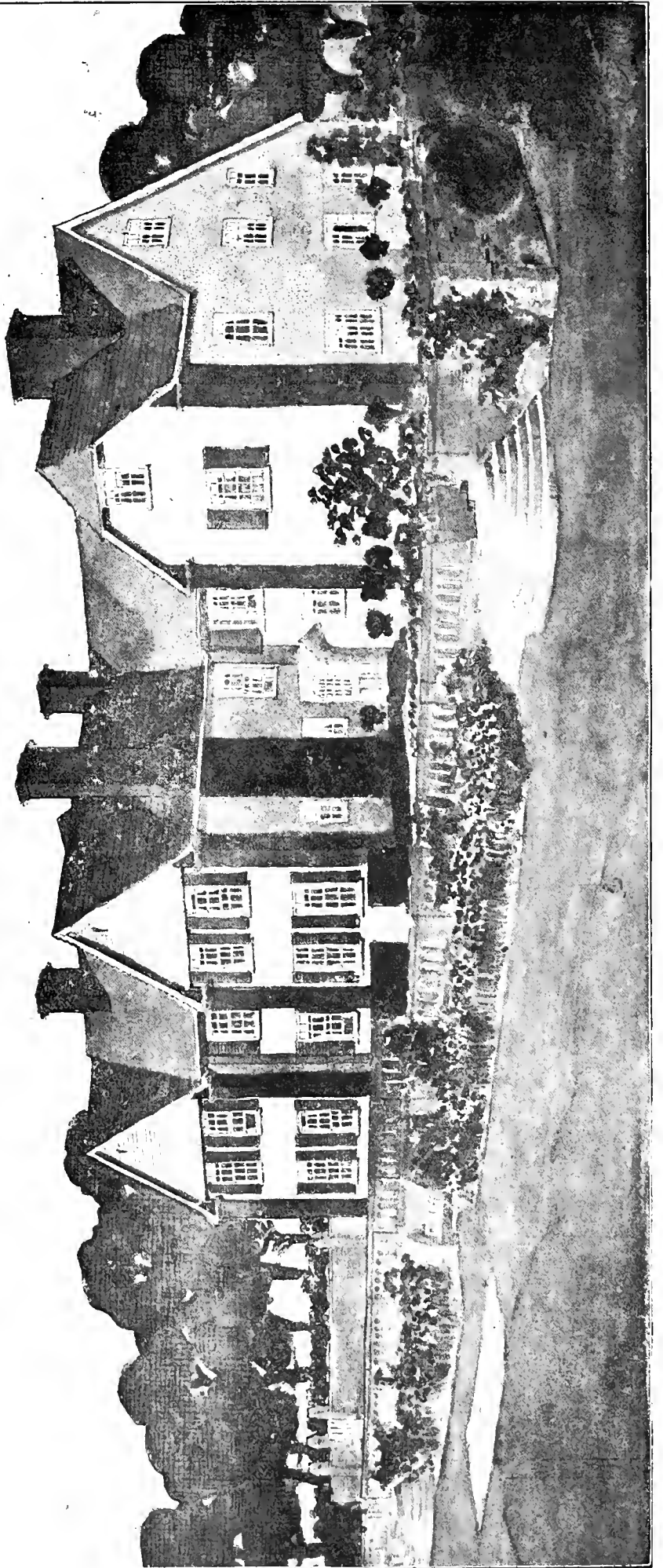








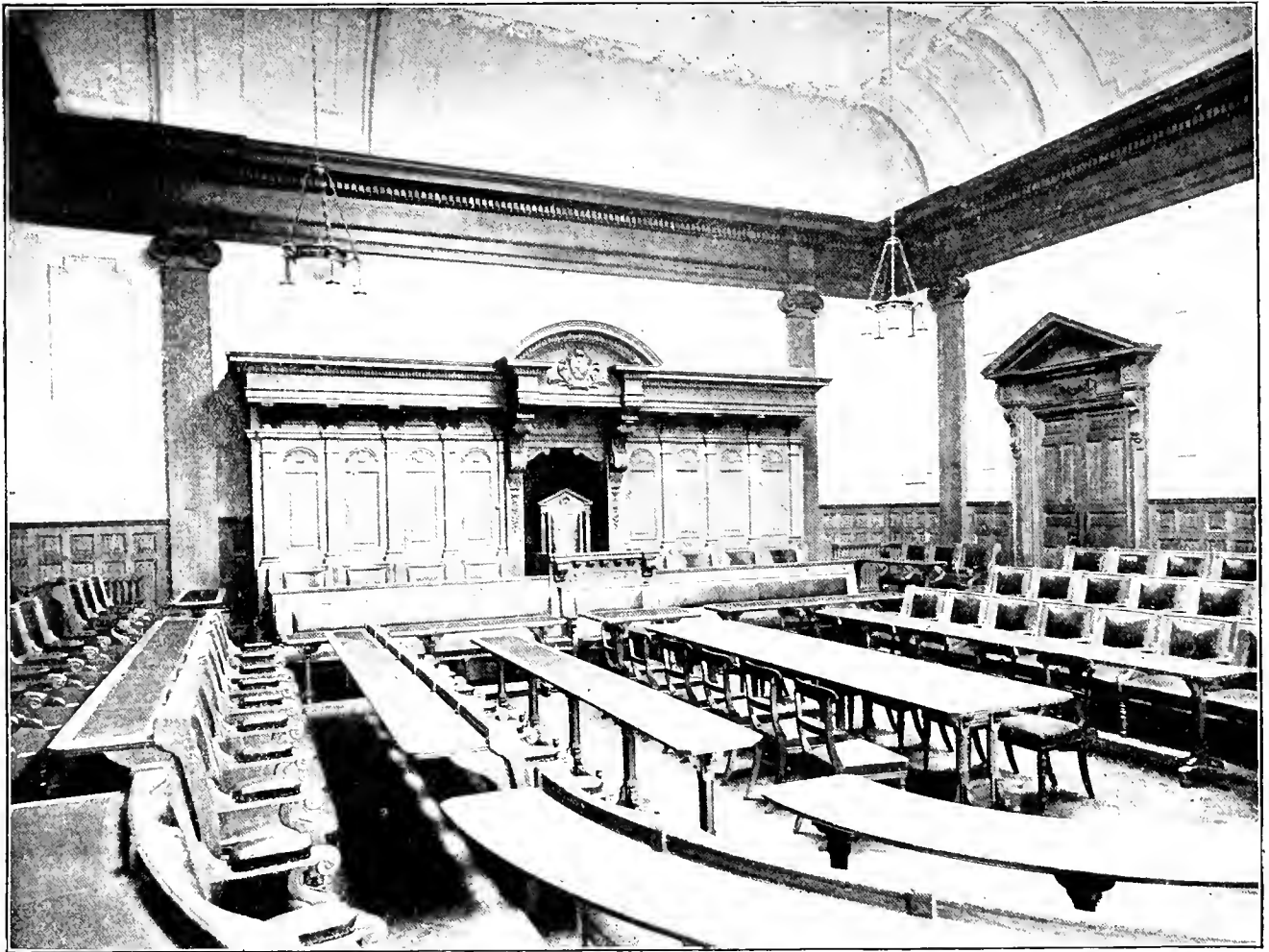
HOUSE AT BURLEY, HANTS.
ON DESIGN GIVEN BY MR. C. C. M. OLDRID SCOTT, ARCHITECT.
BY WILLIAM BERRY, ARCHITECT.



HOUSE AT BURLEY, HANTS.—Mr. C. C. M. OLDRID SCOTT, Architect.

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De'Ath and Dunk, Photos.

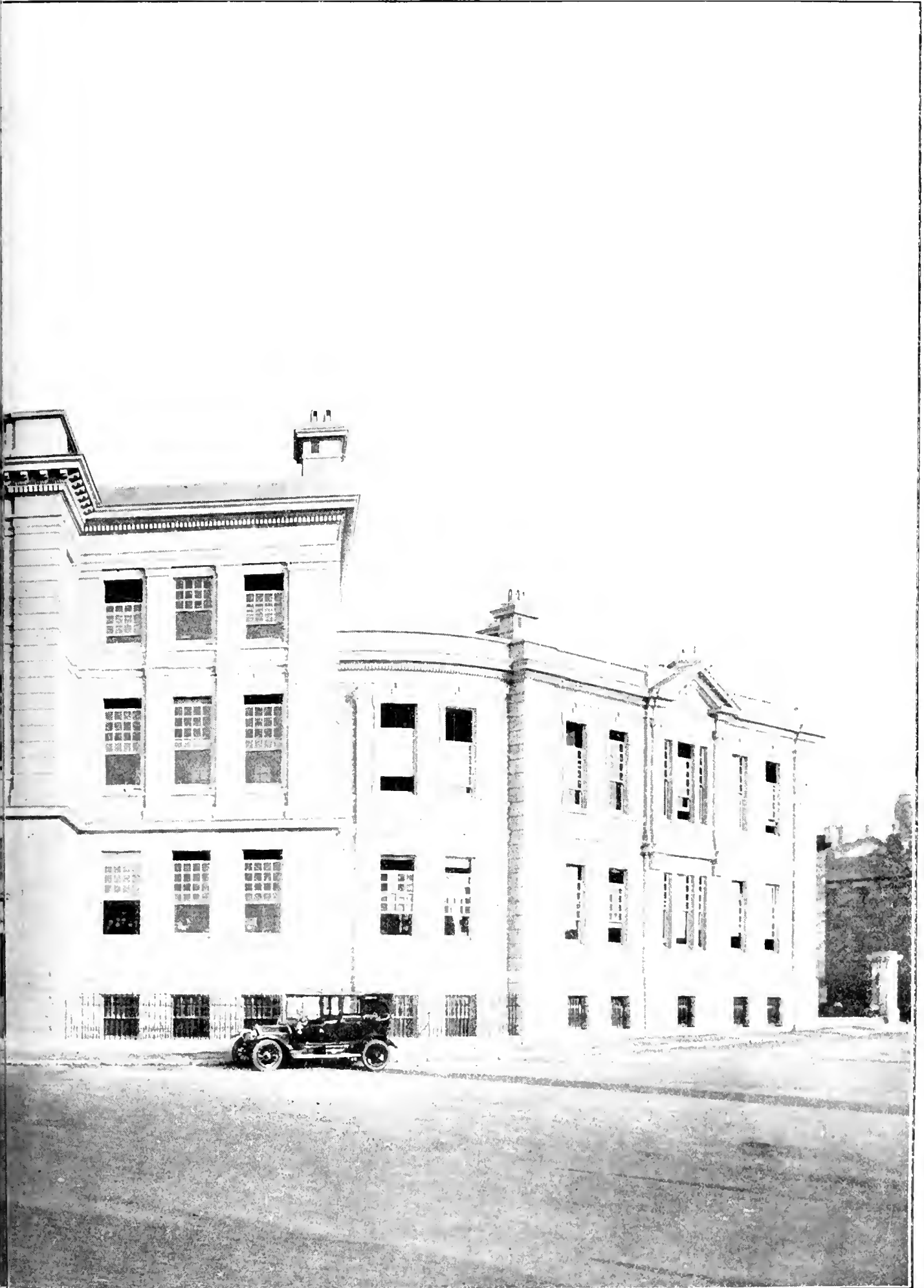
NEW COUNTY OFFICES FOR KENT, MAIDSTONE: COUNCIL CHAMBER AND GRAND STAIRCASE.—Mr. FREDERICK RUCK, County Architect.

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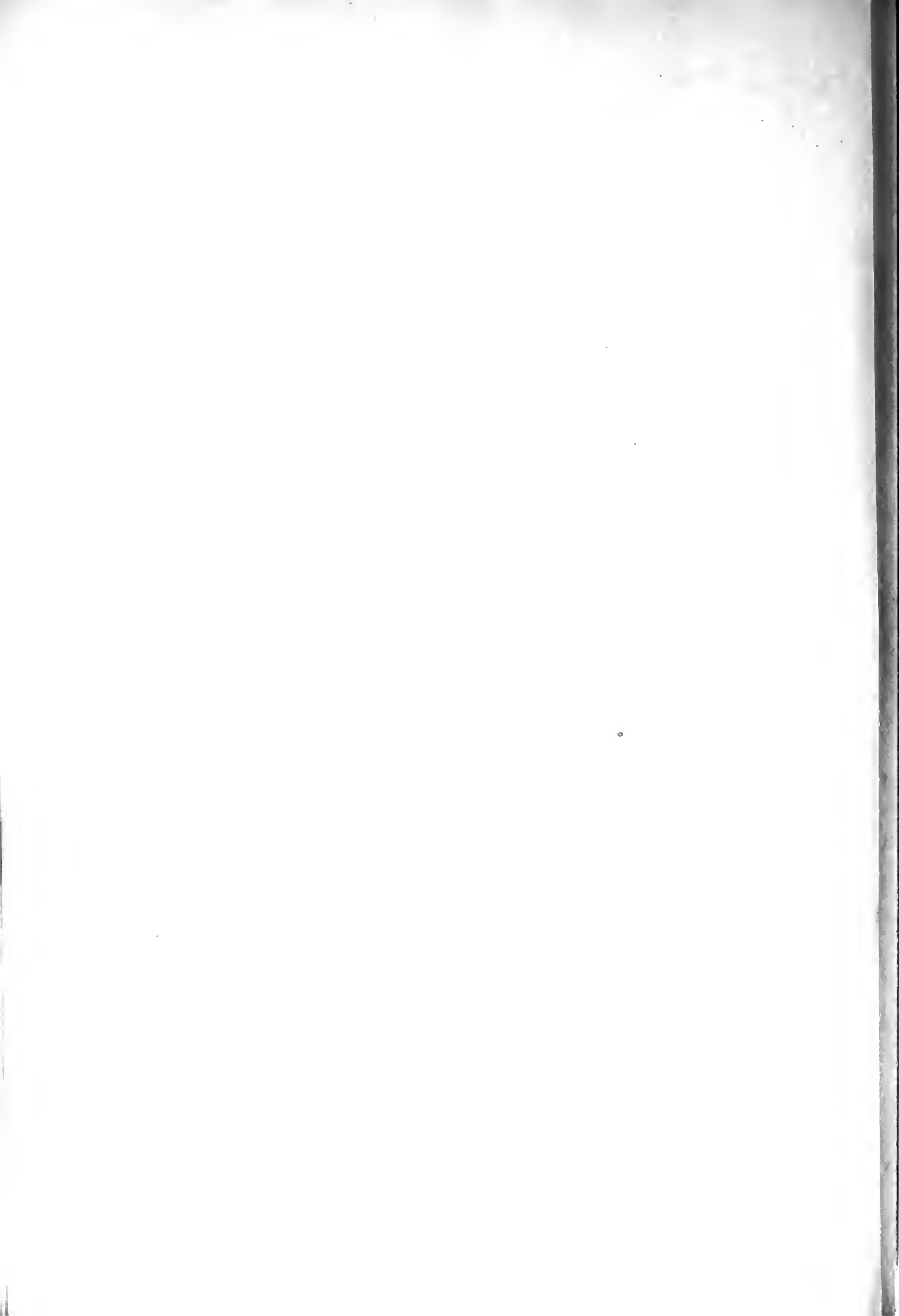




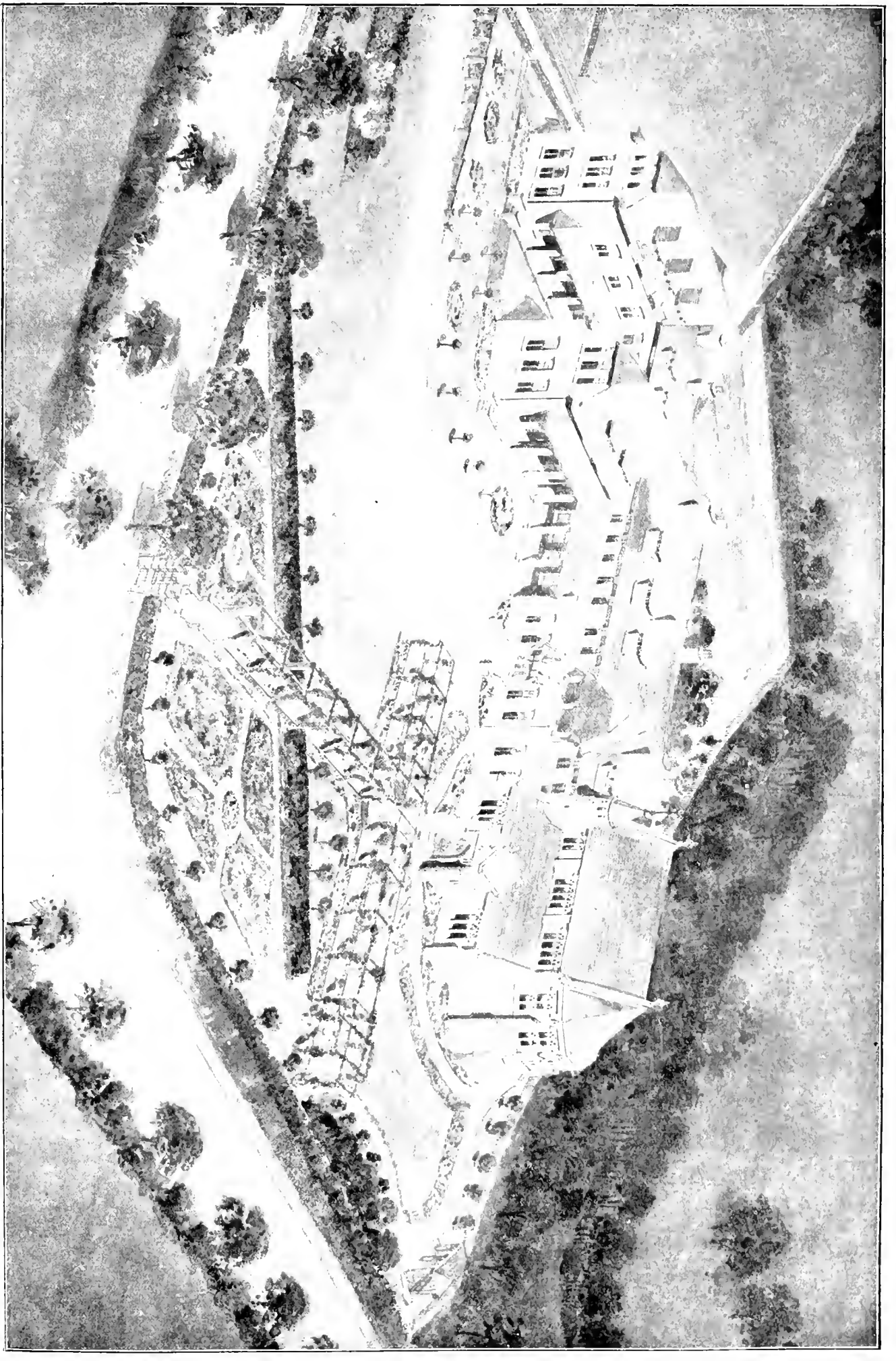
De'Alb and Dand, Photo.



ONE.—Mr. FREDERICK W. RUCK, County Architect.

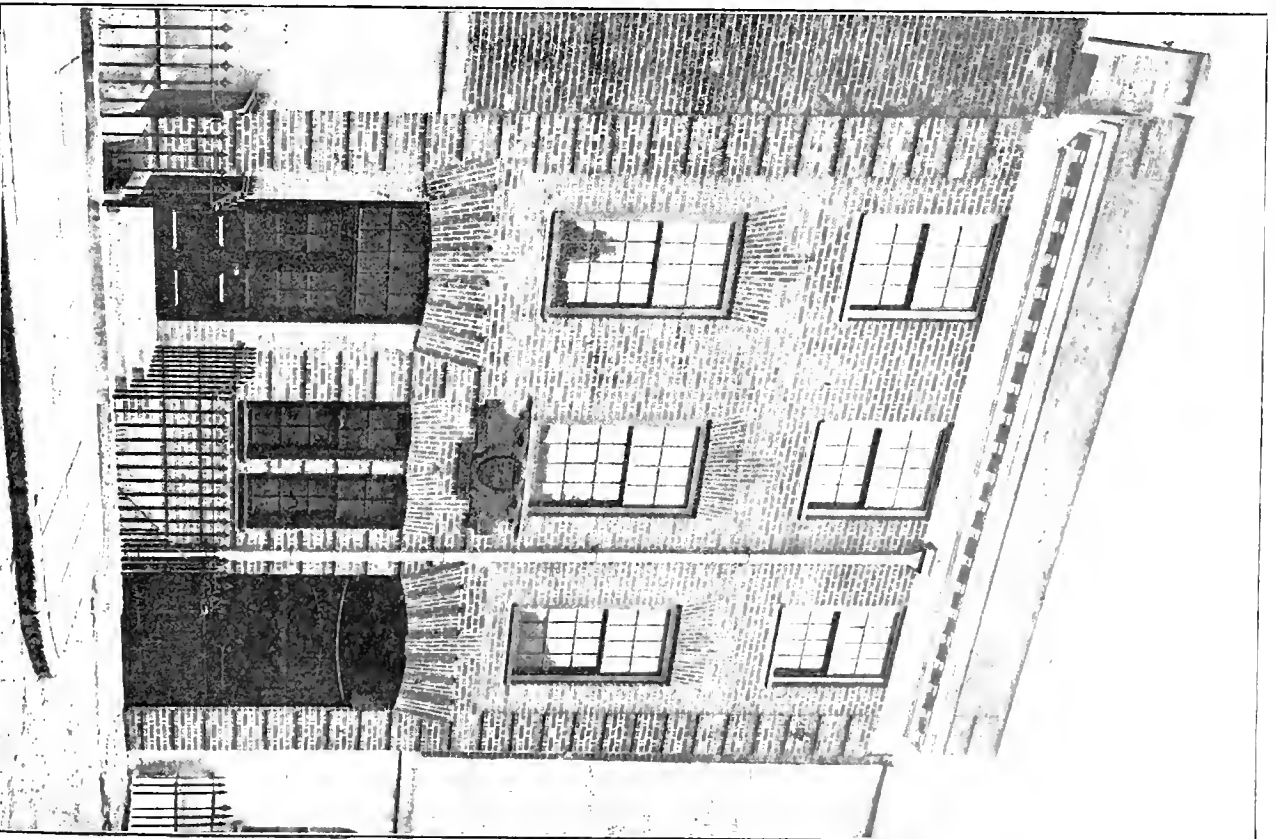
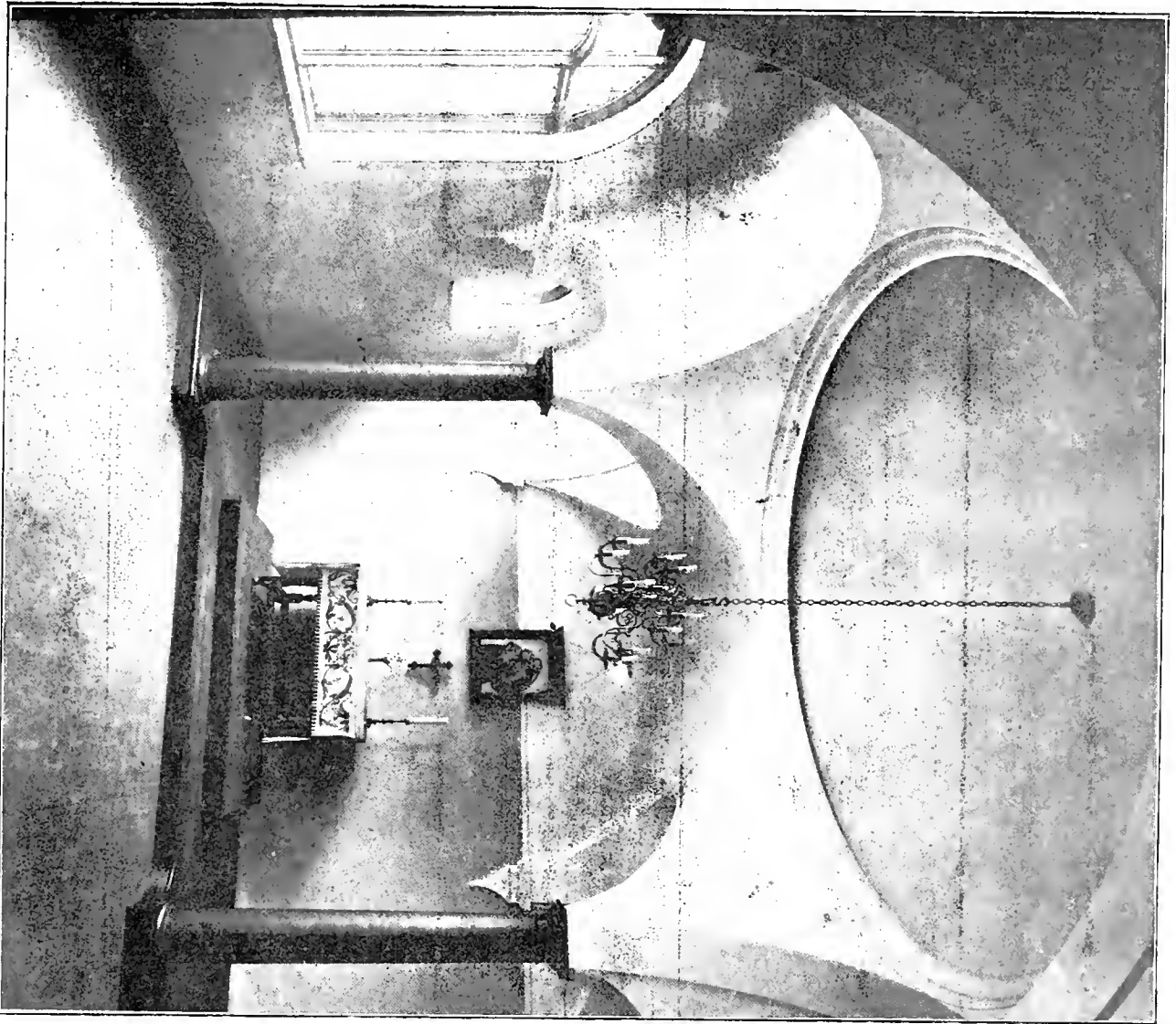


THE BUILDING NEWS, AUGUST 28, 1914.



OUR LADY'S CONVENT, BENHILL-ON-SEA, SUSSEX.—Mr. J. S. D. HICKS, Architect.

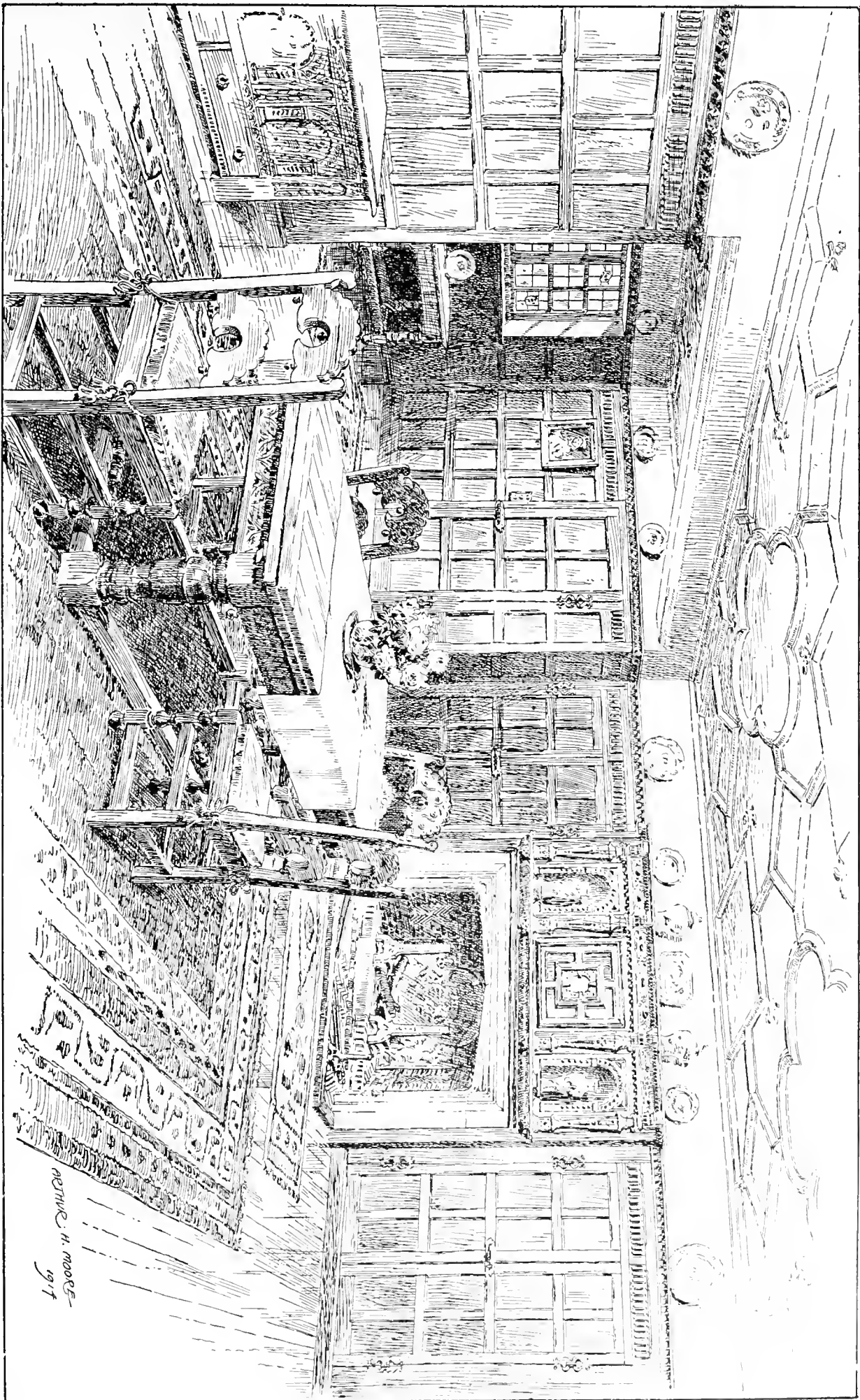




MAGDALEN COLLEGE MISSION, SOMERS TOWN, N.W.—MR. R. P. JONES, Architect.



THE DINING ROOM, THE RED COTTAGE, HOLMBURY ST. MARY, SURREY.—MR. ARTHUR H. MOORE, A.R.I.B.A., ARCHITECT.



ARTHUR H. MOORE
1914



Currente Calamo.

The moratorium, to put it mildly, is not helping builders, and representations to that effect have been made in proper quarters, which we hope will have consideration. Meanwhile we urge on all clients that it is unfair and unwise to defer payments on certificates, and that any attempts to enforce time-penalty clauses, where employers are unable to carry on for want of funds, will be most reprehensible. It is also the occasion, we think, for a compulsory release of retention money immediately on completion of contracts. Payment of these balances would in many cases help firms to carry on who may otherwise have to stop partially or wholly. It may also be desirable for Government to fix maximum prices, as it has done with regard to food. War prices have certainly been put up, in some cases, beyond reasonable limits, and if proper inquiry is made it will be found that there is as yet no actual shortage. Where there is shortage it is mainly in German materials, and we are pleased to know that in several instances really British firms have promptly supplied, at fair prices, material of better quality and manufactured here. We hope architects, builders, and clients will remember this by-and-by, when "British" firms "made in Germany" will doubtless be again to the fore.

The Local Government Board has issued a circular to town councils, district councils, and public utility societies, inviting them to take action under the provisions of the Housing (No. 2) Act of the present session of Parliament. The Board state that it is the intention of the Government that such sums as may be made available under the Act shall be utilised for the joint purpose of providing and improving housing accommodation for the working classes and of preventing or mitigating unemployment in the building trades. The Treasury will be prepared to consider advances of money to local authorities on approved schemes of building, and any advance made will be repayable in the usual period, sixty years in respect of substantial buildings, and eighty years in respect of land purchase. The circular continues: "It is clearly desirable that the President of the Local Government Board and of the Board of Agriculture and Fisheries should be in possession at the earliest practicable date of full information as to districts in which further housing for the working classes is required, and in which, in the opinion of the local authority, unemployment exists or is likely to arise which the undertaking of building operations might prevent or mitigate. It is also necessary that they should know how far in every such case the local authority will be able and willing to submit schemes for housing the working classes forthwith and to undertake the execution of these schemes within a short period. It is not essential that the unemployment or likelihood of unemployment should exist in the precise area in which housing accommodation is required, provided that the area in which the building is to be undertaken is readily accessible by labour from the district in which the unemployment exists or is anticipated."

Mr. Harold Farmer, a member of the firm of Messrs. Leopold Farmer and Sons, who are specialists in the letting of factory

sites, states in an interview with a representative of the *Daily Telegraph*, that active measures are being taken by British manufacturers to equip themselves for an extension of their business. A large number of firms are seeking factories for the purpose of opening up industries hitherto carried on with success by Germany or Austria. That this is so we have full and satisfactory knowledge ourselves. Much depends, however, Mr. Farmer points out, upon whether the banks will help traders by advancing money on their orders instead of on securities. Notoriously in Germany traders have had, in addition to Government support, financial assistance from the banks on orders obtained, and that has enabled commercial concerns to carry on and extend business. In this country the first question asked by a bank is: What security do you offer? It is imperative that steps be taken without delay to enable manufacturers to prepare for a trade boom by building factories and laying down the necessary plant. If only the banks will afford reasonable facilities there may be great developments in the immediate future, and every indication points to the fact that they may do so with safety and profit.

There should be a good field now for British decorators and furnishers in Russia. The British Vice-Consul at Kharkov reports recently as follows:—"During my recent visit to Moscow I heard of an interesting method of selling furniture, adopted by a German manufacturer. His agent, an employé of the firm, is both architect and designer, and offers his service for every kind of artistic and decorative work. This includes designing furniture and house equipment generally, as also wall papers and stucco-ceilings suitable for house-owners and retail shops. The firm supplies him with drawings and even complete sets of model furniture on a miniature scale and he adapts these to the varying circumstances. The firm sends German workmen for fitting the furniture and wainscoting, also upholsterers and workers in plaster, and hands over the rooms quite ready for use. I am told that the firm is successful in its work, the designs and workmanship being excellent and the prices comparing favourably with those of Russian first-class makers. The agent's circle is spreading, and he is now extending his work to St. Petersburg."

Through art journals, more particularly German ones, taking up the subject of house-decorating, and through foreign architects insisting on specially designed furniture, the better class house-owners realise that it is better to engage designers and spend more money on the decoration of their homes than formerly. As yet this new mode of furnishing is confined to the principal cities, St. Petersburg, Moscow, and perhaps Warsaw; but work could undoubtedly be found on the big estates and in provincial towns. Before exporting furniture and upholstery material to Russia the Russian Customs tariff should be carefully consulted. Thus, for instance, inlaid wood and carving of all kinds pay a heavy duty, and should be forwarded separate from the furniture. Silk materials or materials interwoven with silk, are excluded through the prohibitive tariff. Boards at the back of cupboards and unvarnished on the other side, pay a lower duty, and can occasionally be packed separately with advantage. Probably now we are so closely

allied in the field, representations by our own Government would induce a revision of the tariff in favour of British firms.

In appointing a receiver and manager of a pianoforte company with a German name, Mr. Justice Shearman, in the Vacation Court on Wednesday, said the Receiver must undertake not to remit any money or goods to a hostile country. He did not think a business which was being owned beneficially by foreign enemies could be carried on at all in this country without the license of the Government. He was informed that the Government would not give the authority unless they were satisfied that no money would be remitted to an alien enemy. It must all remain in this country. We think Mr. Justice Shearman is right, and that this adds another to the risks all Englishmen are running who enter into any business relations with Germans, or who, if they have had past dealings with such, pay them any money for accounts owing.

Mr. H. C. Stephens, the veteran ink and stain-maker, makes a novel and really most advantageous offer to his world wide customers. He has cabled all abroad, and all shipping agents, that he will replace free of cost, any consignments of Stephens' inks seized or destroyed by the enemy. Thus, as all buyers will be indemnified against loss, they will be able to order unhesitatingly the best ink made here or anywhere, and so help one of the oldest British manufacturers to keep his hands employed and retain his share of British trade. We are sure this example might be advantageously followed by others, and have little doubt it will be. One thing there is neither Mr. Stephens nor any one else can do. Black as the familiar blotch on his well-known wall advertisement may be, and enduring as his stains are acknowledged to be by all users, they are outdone, and must remain so to all time, by the foul stain on the German name and the irremovable blot on German honour that scrupled not to inflict barbarous and treacherous war on the brave Belgian people who have so manfully maintained their neutrality in the face of such long odds, and at the cost of so much blood and treasure, against the truculent invader who has defied the guarantees of Europe and outraged humanity.

The meeting of advertising men at the Cannon-street Hotel last Tuesday should convince advertisers that they are wrong and unpatriotic in cutting off advertising. The resolution passed requested the Press to do its best to convince the public of the stability of trade. We believe confidence would soon be restored if traders bravely went on advertising as usual. One point made was that an advertising campaign might help the movement to capture German industries. British manufacturers who can make things as well as the Germans should seize the opportunity of telling the public so, and thus do good all round. One suggestion was the compilation of a list of British substitutes for the excluded German goods. The fact was also emphasised that a good deal of advertising has been stopped owing to panic, and not to necessity. That should be borne in mind. As we have already stated, with drawal of advertisements has undoubtedly been regarded by some of our readers as a tacit confession of inability to supply, and

this in cases where such an impression was quite unfounded.

Therefore—Advertise. — The following paragraph, from an article by Andrew Lang, is worth remembering just now by hidlers of their light under bushels. "When a goose lays an egg," says Mr. Lang, "she just waddles off as if she was ashamed of it—because she is a goose. When a hen lays an egg—ah, she calls heaven and earth to witness it. The hen is a natural-born advertiser. Hence the demand for hens' eggs exceeds the demand for goose eggs, and the hen has all the business she can attend to."

Engineering Notes.

IPSWICH.—The town council have decided to purchase property from Messrs. Fison at the corner of Bridge-street and Dock-street, in order to effect an improvement in connection with the proposed reconstruction of Stoke Bridge, the lowest one spanning the river. The bridge is to be constructed in ferro-concrete, with a span of 70ft. and a headroom of 7ft. 10in. above high-water spring tides, and by the acquisition of the property mentioned a minimum width of 45ft. between the parapet walls will be possible. The total estimated cost of the entire scheme is £16,000.

PARLIAMENTARY NOTES.

HOUSING ACT FOR IRELAND.—In the House of Commons on Tuesday, Mr. Birrell, Chief Secretary for Ireland, moved the second reading of the Bill to extend the Housing Act of the present session to Ireland. The motion was agreed to without discussion, and the Bill was referred to Committee of the whole House instead of a Grand Committee. The measure passed through Committee without amendment, and was read a third time on Wednesday.

PROVISIONAL VALUATIONS.—Mr. Lloyd George, Chancellor of the Exchequer, informed Mr. Protheroe on Wednesday that the Commissioners of Inland Revenue had decided to extend the time for giving notice of objection in the case of all provisional valuations served within sixty days before the mobilisation of the British troops or afterwards up to a date to be notified in the future.

The death is announced, after a short illness, of Mr. James Crofts Powell, a member of the firm of James Powell and Sons, of the Whitefriars Glassworks.

The Thurrock, Grays, and Tilbury Joint Sewerage Board have appointed Mr. L. D. Holgate, of Tiverton, sewage-works manager in place of Mr. S. Flinn, resigned.

An inquiry was held at Ince-in-Makerfield, yesterday (Thursday), before Mr. A. G. Drury, an inspector under the Local Government Board, respecting an application from the urban district council for leave to borrow the sum of £17,500 for works of sewage disposal.

A council school, which has been built by the Durham County Education Committee, at a total cost of £12,531 1s. 9d., has been formally opened by Mr. W. Rushworth, F.R.I.B.A., of Durham, the county architect, prepared the plans, and Mr. C. Groves, of Chester-le-Street, was the contractor.

It is officially announced that the partnership hitherto existing between A. S. Barley and J. S. Escott, builders, contractors, and decorators, at Westcliff, Southend-on-Sea, under the style of Barley and Escott, has been dissolved. It is also announced that the partnership heretofore subsisting between T. J. Knight and L. R. Knight, builders and contractors, Chertsey, under the style of Thomas Knight and Sons.

The Corporation of Manchester have decided to immediately proceed with the making of a road leading from Slade-lane to Cheadle, the total cost of which will be £171,500. The road will be nearly five miles in extent and 80ft. in width, and will provide employment for Manchester's unskilled labour for many months to come. The rural district council of Northwich have received the sanction of the Local Government Board to the borrowing of the sum of £127,000 for the provision of working-class dwelling-houses in the township of Eddisbury.

Correspondence.

ASSISTANCE TO THE ENEMY.

To the Editor of the BUILDING NEWS.

SIR.—Right glad were we to read your suggestions for architects' guidance so that they may cease to specify goods which will enrich the enemies of our country.

As makers of metal casements and leaded glass, we have for years consistently used only British materials; but by the apparent apathy of architects our British buildings are here, there, and everywhere fitted with windows made of German steel, and no trouble is taken or questions asked in regard to same. But many will say, "How are architects to know, and what is the remedy?" Truly a very simple one: Ask manufacturers to produce invoices of bars from rolling mills, and they would then find out, and put a stop to giving a privileged position to the users of foreign steel which makes no better or more watertight windows.—We are, etc.,

Croydon.

FAIRPLAY.

AMERICAN ADVERTISERS.

SIR.—In case any of your advertisers are fired with enthusiastic desire to emulate the advertisements of their American friends, I cull one or two gems from a pile of American journals before me. I think you hardly picked the plums in your leader of Aug. 14. Here is a Milwaukee plaster-mixer maker's irresistible appeal:—

"I am a new thing in the world—the best ever born—the one you want. I've been a long time coming—but I have arrived. I'm as much needed on your job as you are—I mix your plaster as you have never had it mixed before—no lumps, no uneven mixture—a good, pure, healthy, solid mix—a pudgy mix—that will please your plasterers and make no waste. I mix plaster that is plaster—get that—not the plaster that you mix in the old-fashioned hand-hoe way, but a good solid pudgy—that holds together and makes no waste. You need me in your work, for I mix a three-sack batch in from four to five minutes—thirty-six sacks an hour. CAN YOU BEAT IT?"

Here is the less florid effusion of a Wisconsin maker, who actually quotes a British peer to hammer his stuff into the brains of his readers:—

"Rosebery says: 'International' in the end—why not now? Here is a mixer that is the biggest asset that any contractor can possibly secure. Built especially for the work that requires the most—and for the contractor who wants the best. Be sure you get our catalogue and prices."—I am, etc.,

Brighton.

LEONARD FOSTER.

SOUTHAMPTON HARBOUR BOARD.

SIR.—In your last number, under "Chips," the late Mr. G. F. L. Giles is stated to have been engineer to this board. This is not correct. The office was held from 1881 to 1897 by the late Mr. J. G. Poole, and since and at present by yours faithfully,

E. COOPER POOLE.

Harbour Offices, Town Quay, Southampton,
August 24, 1914.

A Local Government Board inquiry was held at Ipswich into an application of the corporation for permission to borrow £8,000 for the extension of the isolation hospital built a few years ago on the Foxhall-road.

In the report of the committee on ancient earthworks and fortified enclosures just issued by the Congress of Archaeological Societies, the absence is regretted of any power in the Ancient Monuments Consolidation and Amendment Act to compensate an owner for pecuniary loss through the application of the Act to an ancient monument on his property. Without such power the committee fear it will not be possible to avert the destruction of such places as the burgh of Edward the Elder at Wilham, Essex, which are being demolished for the sake of profit.

Our Office Table.

The Newcastle-under-Lyme corporation has asked for the sanction of the Local Government Board to a loan for the erection of twenty-nine workmen's dwellings on land in the Lower Green district, which was cleared of slum property a few years ago. The inquiry held by a Local Government Board Inspector last week, revealed a curious state of things in reference to cottage property. There was a consensus of opinion that the demand for this class of property in Newcastle has for some years been very great, and the lack of it a source of extreme inconvenience and a cause of serious overcrowding. Yet all the efforts of the corporation to sell the land they now propose to build on were unsuccessful. A local property-owner stated that houses in that locality were always tenanted, and he would rather have cottages there than anywhere else in the town. He had recently had thirteen applicants for one house immediately it became vacant. The law that the demand controls the supply has not operated here, and the council have had to undertake to supply the demand themselves. They have the advantage of being able to borrow on favourable terms, they do not desire a profit, and in the event of a loss it will fall on the ratepayers. Their position is, therefore, materially different from the private trader, who builds for a profit and cannot afford to risk a loss. But the striking fact remains that builders find it impossible to erect workmen's dwellings at a profit to meet an abnormal demand. At the inquiry it transpired that in the houses to be built by the Newcastle corporation, no parlour will be provided. There will be on the ground floor a large living-room with scullery and domestic offices behind and a lean-to roof. The front door will open into a passage partitioned off from the living-room.

A company is being formed for developing the Admiralty land at Rosyth, which, by arrangement with the Local Government Board for Scotland, will erect some 8,000 houses at Rosyth, at an estimated cost of £1,000,000. The Local Government Board are empowered to advance to the utility company sums to the extent of £900,000, as may be required as the work proceeds. The remaining £100,000 will be subscribed by the public to the utility company, and the latter proportion of that amount has already been arranged for. The money will be advanced by the Government to the company at a reasonable rate of interest, and the whole sum, it is stipulated, will be repaid within sixty years. The company is to be limited to a dividend of five per cent. There is no restriction as to the amount of shares to be held by any individual holder. The houses are to be erected under conditions which will conform to the town-planning scheme adopted by the town council of Dunfermline, and now submitted to the Local Government Board for approval. It is hoped that work at Rosyth will be begun within the next few weeks.

The calendar of the Royal Technical College, Glasgow, for the session 1914-1915 has just been issued as an octavo volume of 508 pages, handsomely bound in purple cloth. Sections are devoted to architecture and building, chemistry, electrical engineering, mining engineering, civil and mechanical engineering, and to a number of other crafts and sciences in which instruction is given. The extent and character of the courses of study are so indicated as to enable students to gain an idea as to how much ground they may cover during a session, while the specimen examination papers which are appended should prove extremely useful. The calendar includes a history of the college, and a description of the scheme by which it became affiliated with the University of Glasgow in March of last year. The Glasgow School of Architecture has as its director Professor Eugene Bourdon, B.A., with Professor

Charles Gourlay, B.Sc., A.R.I.B.A., as head of the Architecture and Building Department at the Technical College, and Mr. J. S. Boyd as lecturer. A companion volume to the calendar is a guide to the affiliated evening classes in science and technology conducted in the burghs surrounding Glasgow, and to the ordinary evening classes of the College.

In our issue of August 14, on page 229, we reproduced a statement from the *Newcastle Daily Chronicle* of August 7, to the effect that Mr. Thomas Adams, who had been the head of the Town-Planning Department of the Local Government Board since its establishment, was retiring in October, and would be succeeded by Mr. G. L. Pepler, of the firm of Messrs. Pepler and Allen, architects and surveyors, of Howard House, 4, Arundel-street, W.C. We are informed by Messrs. Pepler and Allen that the statement is incorrect, and we notice that a paragraph to the same effect appears in our *Newcastle* contemporary of Wednesday last.

There have recently been driven for Halifax harbour works what were thought to be reinforced-concrete piles of record length—viz., 77ft., 20in. square; but these have since been exceeded by those at Havana. Now we have tenders called for a pier in San Francisco in which 91ft. piles are required to be constructed. The depth of water varies from 4ft. at the shore end of the pier to 56ft. at the outermost point. The 91ft. piles will be 20in. square, weighing 15 tons each, and are specified to carry, in addition to their weight, a load of 40 tons. The concrete used in the piles will be in proportion of 1 to 5. The piles are required to be allowed to set for forty-five days before being driven.

A 10ft. concrete-lined steel pipe recently built in Baltimore to deliver water from the Loch Raven reservoir to the Loch Raven-Montebello tunnel at a point just below its gatehouse is described by Ezra B. Whitman, president of the Water Board, in the monthly journal of the Engineers' Club of Baltimore. It was estimated that this pipe could be constructed, and that the relining of one mile of the old 12ft. tunnel could be done for an estimated cost of about 300,000dol., as compared with the estimated cost of 480,000dol. for a new 12ft. tunnel 6,340ft. long joining the old tunnel one mile below its upper end. The pipe is made in alternate inside and outside telescoping lengths 15ft. long and of 10ft. minimum inside diameter. Changes in grade and alignment are effected by bevelling the ends of the section. The pipe is made of soft open-hearth rivet steel intended to have sufficient ductility to stretch rather than crack in case of unusual strain from water-hammer or settlement. The metal is 7-16in. thick, although a thickness of less than 3in. would theoretically suffice for the stress developed. The pipe is supported on concrete cradles intermediate between the riveted joints and having a radius slightly greater than that of the pipe surface.

Building operations in United States towns for May, 1914, as shown by the returns just to hand, indicate that there was a substantial increase over the corresponding month last year. Permits were taken out in eighty-eight leading cities for the construction of 21,994 buildings, involving a total estimated cost of 71,118,570dol., according to official reports by surveyors, as against 22,553 buildings, involving 68,788,890dol., for the same month a year ago, a decrease of 559 buildings, and an increase of 2,329,680dol., or 3 per cent. Of the 88 cities there were gains in 43 cities and losses in 44; but this does not give the true colour to the situation, inasmuch as practically all of the larger cities all over the country show large gains, while a large number of small places in which the figures were abnormally large last year, show a material falling off because of the fact that they are returning to normal conditions. The one particular exception among the larger cities in Chicago, where the brick strike almost put an end to

construction for a time, shows a decrease of 22 per cent. as compared with the same month a year ago.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY.—London Salon of Photography. Private View, 11 a.m. to 6 p.m., 5a, Pall Mall East, S.W. Open daily until Oct. 17.

SATURDAY (SEPT. 5).—Royal Photographic Society's Exhibition, Suffolk-street Galleries, Haymarket, S.W. "St. Paul's Cathedral, Past and Present," by F. J. Hall. 8.30 p.m.

CHIPS.

Hull Corporation have decided to borrow £14,438 for the erection of a sanatorium and hospital at Cottingham.

The meetings of the Municipal Waterworks Association, which were to have been held at Liverpool this year, have been abandoned in consequence of the war.

The Wisbech Town Council have accepted the tender of Messrs. Wilkinson and Co., of Elm, amounting to £2,500, for the erection of houses in connection with the Leverington-road housing scheme.

The jubilee of the opening of the Primitive Methodist chapel at Bevois Town, Southampton, has been marked by the erection of Sunday-school premises, which were opened on Wednesday week. Mr. Ingalton Sandels, of Southampton, was the architect.

The annual report by the Board of Trade states that the total number of cases under the Bankruptcy and Deeds of Arrangement Acts in England and Wales during 1913 was 5,769—a decrease of 582 as compared with the preceding year. The largest aggregate liabilities are, as usual, shown in the case of builders, with a total of £404,279.

The Development Commissioners have offered to the trustees of the River Glenn, Lincolnshire, a grant of £35,000 and a loan of £40,000 at 3 per cent. for the improvement of the river by a scheme which would provide relief work for the unemployed. Conditions of the grant are that the work should be begun at once, and that men out of work should be engaged as far as possible.

It was reported at Sheffield on Saturday that the Local Government Board have decided, without holding an inquiry, to sanction a loan of £68,900 for the extension of the Sheffield City Hospitals for Infectious Diseases at Lodge Moor. A portion of the hospital accommodation has now been set aside to meet the requirements of the military authorities.

A new ferro-concrete bridge has been built over the River Ebbw about two and a half miles from Newport, Mon., on the Cardiff main road. It is of three arches of monolithic type, each about 20ft. span and 10ft. 6in. in width. The bridge was designed by Mr. William Tanner, F.S.I., county surveyor of Monmouthshire, and the contractors were Messrs. E. Turner and Sons, Ltd., of Cardiff.

The rural district council of the Isle of Wight have decided to commence practically at once the carrying out of their £50,000 scheme for re-surfacing with granite the rural main roads in the island. The Local Government Board, the Road Board, and the Development Commissioners will, as far as possible, facilitate the making of grants, and the granting of loans for such public works.

The Committee of the Exhibition of Modern Spanish Art, of which the Duke of Wellington is honorary vice-president, have decided that the proceeds shall be devoted to the Prince of Wales's National Relief Fund. The exhibition will open at the Grafton Galleries on October 3, and will include the whole of the 250 works shown this summer at the Brighton Public Art Galleries, with the addition of some 50 more.

For some years the St. Asaph Rural District Council has been discussing the question of an additional water supply for the district of Llandulas, a resort between Abergele and Colwyn Bay. The Local Government Board are now pressing the matter forward, and held an inquiry on Tuesday into an application from the rural council for sanction to borrow £2,000 for carrying out the scheme.

There was no opposition at an inquiry held at Sleaford the other day on behalf of the Local Government Board to the urban district council's proposal to borrow £2,300 for the purchase of private rights and tolls of the Sleaford market. The council, it was stated, are paying twenty-five years' purchase on the income which the Marquis of Bristol at present received from the lessee of the market-place, which was distinct from the cattle market.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Miscellaneous metals and timber we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

	Per ton.	Per ton.
Rolled Steel Joists, English	£7 10 0	to £7 12 6
Wrought-Iron Girder Plates	7 0 0	.. 7 5 0
Steel Girder Plates	7 2 6	.. 8 2 6
Bar Iron, good Staffs	6 5 0	.. 8 10 0
Do., Lowmoor, Flat, Round, or Square	22 0 0	.. 0 0 0
Do., Welsh	5 15 0	.. 5 17 0
Boiler Plates, Iron—		
South Staffs	8 0 0	.. 8 15 0
Best Soedsbill	9 0 0	.. 9 10 0

Angles 10s., Tees 20s. per ton extra.

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—

No. 18 to 20.	No. 22 to 24
6ft. to 8ft. long, inclusive	Per ton.
gauge	£13 0 0
Best ditto	13 0 0

Wire Nails (Points de Paris)—

3 to 7	8	9	10	11	12	13	14	15	B.W.G.
5/3	8/9	9/3	9/9	10/3	11-	11/9	12/6	13/6	per cwt.

	Per ton.	Per ton.
Cast-Iron Columns	£6 17 6	to £8 10 0
Cast-Iron Stanchions	6 17 6	.. 8 0 0
Rolled-Iron Fencing Wire	8 5 0	.. 8 10 0
Rolled-Steel Fencing Wire	7 5 0	.. 7 10 0
Galvanised	8 15 0	.. 9 5 0
Cast-Iron Sash Weights	5 0 0	.. 5 5 0
Cut Floor Brads	9 15 0	.. —
Corrugated Iron, 24 gauge	16 0 0	.. —
Galvanised Wire Strand, 7 ply, 14 B.W.G.	14 5 0	.. —

B.B. Drawn Telegraph Wire, Galvanised—

0 to 8	9	10	11	12	B.W.G.
£10 10s.	£10 15s.	£11 0s.	£11 5s.	£11 15s.	per ton.

Cast-Iron Socket Pipes—

3in. diameter	2 6 to	£6 7 0
4in. to 6in.	6 0 0	.. 6 5 0
7in. to 24in. (all sizes)	5 7 6	.. 6 0 0

[Coated with composition, 5s. 0d. per ton extra. turned and bored joints, 5s. per ton extra.]

Pig Iron—

	Per ton.
Cold Blast, Lillieshall	10s. 0d. to 117s. 6d.
Hot Blast, ditto	70s. 0d. .. 75s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—

Gas-Tubes	75 p.c.
Water-Tubes	71½ ..
Steam-Tubes	67½ ..
Galvanised Gas-Tubes	65 ..
Galvanised Water-Tubes	61½ ..
Galvanised Steam-Tubes	55 ..

SLATES.

	in.	in.	£ s. d.	per 1,000 of 1,200 at r. stn.
Blue Portmadoc	20	10	12 12 6	..
" " "	16	8	6 12 6	..
Blue Bangor	20	10	13 2 6	..
" " "	20	12	13 17 6	..
First quality	20	10	13 0 0	..
" " "	20	12	13 15 0	..
" " "	16	8	7 5 0	..
Eureka unfading green	20	10	15 17 6	..
" " "	20	12	18 7 6	..
" " "	18	10	13 5 0	..
" " "	16	8	10 5 0	..
Permanent Green	20	10	11 12 6	..
" " "	18	10	9 12 6	..
" " "	16	8	6 12 6	..

TILES.

	s. d.	Divrd. at
Plain red roofing tiles	42 0	per 1000 ry. sto
Hip and Valley tiles	3 7	per 1000 ..
Broadley tiles	50 0	per 1000 ..
Ornamental tiles	52 6	..
Hip and Valley tiles	4 0	per doz. ..
Ruabon red, brown, or bridled ditto (Edwards)	57 6	per 1000 ..
Ornamental ditto	60 0	..
Hip tiles	4 0	per doz. ..
Valley tiles	3 0	..
Selected "Perfecta" roofing tiles; Plain tiles (Peake's)	46 0	per 1000 ..
Ornamental ditto	48 6	..
Hip tiles	3 10	per doz. ..
Valley tiles	3 1	..
"Rosemary" brand plain tiles	48 0	per 1000 ..
Ornamental tiles	50 0	..
Hip tiles	4 0	per doz. ..
Valley tiles	3 8	..
Staffordshire (Hanley) Reds or bridled tiles	42 6	per 1000 ..
Hand-made sand-faced	45 0	..
Hip tiles	4 0	per doz. ..
Valley tiles	3 6	..
Hartshill "brand plain tiles, sand-faced	50 0	per 1000 ..
Pressed	47 6	..
Ornamental ditto	50 0	..
Hip tiles	4 0	per doz. ..
Valley tiles	3 6	..

STONE.*

Table listing various stone types and their prices per foot cube, including Red Mansfield, Darley Dale, and Portland Stone.

BRICKS.

Table listing various brick types and their prices per 1,000, including First Hard Stocks, Second Hard Stocks, and Accrington Air Bricks.

Net free on rail, or free on boat at works.

GLAZED BRICKS.

Table listing various glazed brick types and their prices per 1,000, including White, Ivory, and Best Salt Glazed bricks.

Table listing cement and lime products and their prices, including Best Portland Cement and Grey Stone Lime.

TRADE NOTES.

Boyle's latest patent "air-pump" ventilators have been applied to the town-hall, Newport, Salop.

Mr. Beresford Pite has removed his residence from 2, York-gate, Regent's Park, to 21, Willow-road, Hampstead, N.W., as from midsummer, 1914.

Messrs. C. Jennings and Co., 952, Pennywell-road, Bristol, inform us that their works are running full time manufacturing woodwork of every description as usual.

We are asked by the proprietors of Pudlo to state that this material is British throughout: every one of its ingredients is British.

CHIPS.

The Failsforth Urban District Council have appointed Messrs. Woodhouse and Howard, of Manchester, as architects for the new public baths.

At Nether Stowey parish church on Monday the whole peal of bells which has been rehung and recast, was rededicated by the Suffragan Bishop of Taunton.

The Co. Mayo Lunatic Asylum at Castlebar is about to be enlarged by a wing for 250 patients, from plans prepared by Messrs. Doolin and Butler, of Dawson-street, Dublin.

Mr. F. H. Tulloch held a Local Government Board inquiry at Colchester into an application by the corporation for their sanction to borrow £8,325 for works of paving.

The rural district council of St. Austell are recommending the county council of Cornwall to proceed with the maining of Par Moor-road and the road from St. Denis to St. Austell.

The extension of the Cliftonville Parade and the construction of the Hedges Gap Bridge at Margate have just been carried out from plans by the borough engineer, Mr. E. A. Borg.

The contract has been let for the carcass of the warehouse and offices and garage to be erected in Salford, Manchester.

A Local Government Board inquiry has been held at Blaenavon by Mr. E. Leonard into an application by the urban district council for sanction to a loan of £13,350 for the purchase of land and the erection thereon of fifty dwellings for the working classes.

St. Joseph's Roman Catholic Day Schools, erected in the Steelhouse-lane district of Wolverhampton at a cost of £6,600, were formally opened on Monday by the Archbishop of Birmingham, Dr. Halsey.

FOR

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Seasoned

Hardwoods,

WM. OLIVER & SONS, Ltd., 120 Bunhill Row London E.C.

TENDERS.

Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

ABERDEEN.—For supplying and equipping six additional pay-as-you-enter cars, for the Tramways Committee. Accepted tenders:—

Brush Electrical Engineering Co. £2,742 0 0
Motors:—
Brush Electrical Engineering Co. 1,080 0 0
Electrical Equipment:—
British Westinghouse Electric & Manufacturing Co. 462 0 0

AMESBURY.—For erection of the Newton Tonly Bridge, for the rural district council:—
Sturgees Bros., Ludgershall £136 10 0 (Accepted.)

ASHFORD, EAST KENT.—For the inside painting of the workhouse, and for repairs to the board room, for the board of guardians:—
Knock, H. (accepted) £98 15 11

ASHINGTON.—For the making of a bowling-green at Hirst Park, for the Ashington Urban District Council. Mr. G. Besty, surveyor:—
Lacey, W., 16, Gordon-avenue, Gosforth, Newcastle (accepted) £639 1 11

BEDFORD.—For tar-paving, tar-painting, and repairing works to the playgrounds of certain Council schools, for the Bedfordshire Education Committee. Mr. R. K. Ellison, surveyor:—
Val de Travers Co., Birmingham £435 3 6
Kershaw, H. M., Keigbly 432 7 0
Hobman, A. C. W., and Co., Ltd.
Bermoudsey... 374 8 10
Wilmott, W. G., Rusden... 350 16 8
Cole, A., Luton... 343 12 2
Smart, J., and Son, London... 284 17 8
Scudamore & Co., Northampton 262 2 5
Laing & Co., South Tottenham 261 0 0
Constable, Hart, & Co., London* 244 15 2
* Accepted.

EARLESTOWN.—For building repairs required to be done at the union offices, 67, Market-street, Earlestown, for the guardians:—
Bidder, S. P., and Co., Manchester (accepted)... £103 0 0

ENFIELD.—For the enlargement of St. Mark's Church, Bush Hill Park. Messrs. Cutts, Davis, and Boddy, 14, Southampton-street, Strand, W.C., architects:—

Godson, G., and Sons... £4,568 0 0
Brown, H. ... 4,549 0 0
Collins and Godfrey... 4,339 0 0
Fairhead, A., and Son... 4,287 0 0
Monk, A. ... 4,265 0 0
Knight, H., and Son... 4,198 0 0
Bentley, J., and Sons... 4,198 0 0
Newby, C. J., and Bros.*... 4,440 0 0
* Accepted.

ERITH.—For erection of a public elementary school at Lower-road, Belvedere, for the urban district council:—

Ellingham, J. W., Dartford... 9,169 10 0
Kazak, L., Belvedere... 9,169 0 0
Friday and Ling, Erith... 8,974 0 0
Gunning, G. H., and Son, The Mount, Erith (accepted)... 8,749 0 0

EYE, SUFFOLK.—For erection of workmen's dwellings, for the Hartismere Rural District Council. Messrs. Winkworth and Winkworth, 23, Great Coleman-street, Ipswich, architects:—

Theobald and Sons, Needham Market... £470 0 0
Hogg, R., and Son, Cony Weston, Bury St. Edmunds... 465 0 0
Andrews, H. A., Botesdale, Diss... 458 15 0
Scott, R., Old Newton, Suffolk... 407 0 0
Trudgett, J. W., Colchester... 394 0 0
Howes Bros., Ixworth, Bury St. Edmunds*... 384 15 0
* Wortham.
Theobald and Sons... 490 0 0
Andrews, H. A. ... 461 2 6
Hogg, R., and Son... 458 0 0
Scott, R. ... 447 0 0
Howes Bros.*... 405 10 0
Trudgett, J. W. ... 402 0 0
Wyverstone.
Theobald and Sons... 485 0 0
Hogg, R., and Son... 465 0 0
Andrews, H. A. ... 463 2 6
Scott, R. ... 407 0 0
Trudgett, J. W. ... 402 0 0
Howes Bros. ... 388 15 10
Thorndon.
Theobald and Sons... 500 0 0
Andrews, H. A. ... 461 2 6
Scott, R. ... 447 0 0
Howes Bros.*... 424 4 2
Trudgett, J. W. ... 402 0 0
Thrandeston.
Theobald and Sons... 480 9 0
Andrews, H. A. ... 461 2 6
Scott, R. ... 447 0 0
Howes Bros.*... 405 10 0
Trudgett, J. W. ... 402 0 0
* Provisionally accepted.

EAST LANCING.—For sea-defence work between groynes 32 and the harbour mouth, for the Sea Defence Committee:—
British Steel Piling Co. (accepted) £2,161 1 0

GLENBURN.—For installation of heating apparatus at the new school, for the Moulton and Prestwick School Board:—
Boyd and Sons, Paisley ... £311 0 0
(Recommended for acceptance.)

GOSFORTH.—For taking up the existing asphalt footway in Kenton-road and laying new flag footway, for the Gosforth Urban District Council. Mr. G. Nelson, A.M.I.C.E., engineer and surveyor:—
Simpson, G. E., Newcastle-on-Tyne ... £432 15 6
Henderson, J. W., Gosforth ... 364 19 11
Tulip, W., Gosforth (accepted) ... 341 2 4

KILMARNOCK.—For concrete work in connection with new generating station at Kilmarnock, for the corporation:—
Train, J., and Taylor ... £41,536 0 0
(Recommended for acceptance.)

LETCOMB REGIS.—For the construction of six workmen's dwellings in three pairs, for the Wantage Rural District Council. Mr. J. W. Harris, East Challow, Wantage, engineer and surveyor:—
Cox and Sons, Abingdon ... 1,480 0 0
Bunce, H., Letcomb Regis, Wantage ... 1,448 0 0
Wheeler, G., Abingdon ... 1,350 0 0
Sims and Son, Oxford ... 1,292 0 0
Berritt, J. P., West Hanney, Wantage ... 1,270 0 0
Stacey, C., Aldbourne, Wiltshire (accepted) ... 1,156 0 0

MARDEN.—For the reconstruction of the Plain Bridge at Marden, for the rural district council of Maidstone:—
Burrows, W. T., Maidstone ... £214 0 0
Stanley and Co., Marden ... 196 10 0
Martin and Newman, Maidstone* ... 97 10 0
*Accepted.

POLEGATE.—For executing the drainage scheme, for the Hailsham Rural District Council:—
Streeter, A., and Co., Ltd., Guildford (accepted) ... £4,933 4 2

PORTSMOUTH.—For alterations to Staveshaw pumping station, for the corporation:—
Davis, G. J., and Son ... £1,050 0 0
Evans, W. W., ... 990 0 0
Springs, E. and A. ... 860 0 0
Tanner, J.* ... 841 10 6
*Recommended for acceptance.

PORTSMOUTH.—For supply of a steam boiler, &c., in connection with hot-water system at the town hall, for the corporation:—
Shervell, Ltd. ... £372 0 0
Davis, H. and W. ... 361 0 0
McKinlay and Co., Ltd. ... 359 0 0
Vosper and Co., Ltd. ... 350 0 0
Wilkes and Co., Ltd.* ... 337 0 0
*Recommended for acceptance.

QUEENSTOWN.—For the construction of an outfall sewer at Queenstown, for the urban district council. Mr. P. H. M'Carthy, B.E., 39, Westmoreland-street, Dublin, engineer:—
Fitzpatrick, J., Kanturk ... £670 0 0
Collins, D., Cork (accepted) ... 523 0 0

SAFFRON WALDEN.—For making-up new road, for the corporation:—
Custerson, J. (accepted) ... £133 0 0

SCARBOROUGH.—For heating and lighting alterations at the workhouse, for the guardians. Accepted tenders:—
Brightside Engineering Co. ... £4,841 0 0
Jaram ... 1,123 0 0

SOUTHBOROUGH.—For painting and repairs required at the Southborough Council School, for the Kent Education Committee. Mr. W. H. Robinson, M.S.A., architect:—
Stokes and Son ... £377 0 0
Harmer and Holt ... 194 10 0
Carrick, J., Ltd. ... 175 0 0
Parker, A. J. ... 168 15 0
Pankhurst, P. F.* ... £168 0 0
*Provisionally accepted.

SITTINGBOURNE.—For council school summer repairs, for the Kent Education Committee. Mr. W. H. Robinson M.S.A., architect:—
Monk, T. ... £221 0 0
Tidy, H. J.* ... 178 0 0
*Provisionally accepted.

STURBITON.—For drainage of the cemetery site, for the urban district council:—
Limpus and Son, Kingston Hill ... £1,913 0 8
Lingwood, W., Jun., Romford ... 1,583 10 0
Road Maintenance and Stone Co., Ltd., Cannon-street, E.C. ... 1,533 6 2
Wood, T., and Sons, Swanley ... 1,625 16 3

SOUTH KYME.—For the South Kyme water supply, for the Sleaford Rural District Council:—
Emery, Aston ... £1,639 0 0
Williams and Co. ... 1,360 0 0
Leggott and Speight ... 1,347 0 0
Lansley, Kirton ... 1,249 0 0
Sykes, A., Nottingham ... 1,140 8 0
Blaze, W., Sleaford ... 1,086 0 0
Banks, J. J., Sleaford ... 1,071 0 0
Pattinson and Son ... 1,065 0 0
Barnes, J. T., Sleaford (accepted) 1,030 0 0

SWANSEA.—For supply of switchgear, for the corporation. Accepted tenders:—
Main generating station switchgear:—
British Westinghouse Co. ... £1,377 0 0
Sub-station switchgear:—
Ferguson, Pailin, and Co. ... 547 0 0

TETBURY.—For sinking a new well, for the urban district council:—
Johnson Brothers (accepted), as per schedule of prices, estimated at about £750.

TIPTON.—For the conversion of existing closets at the Tipton Green and Ocker Hill Council schools into water-closets, and connecting same to the main sewers, for the education committee. Mr. W. H. Jukes, surveyor:—
Jackson, C. ... £276 12 9
Edwards, J., Dudley ... 258 9 9
Sisman, J. ... 250 0 0
Kendrick, W. A. ... 239 17 10
Bennett, E. and W., Ocker Hill* ... 225 0 0
Engineer and surveyor's estimate, £260.
*Accepted. Rest of Tipton.

TIPTON.—For making-up, sewerage, kerbing, and channelling and paving of footpaths in Leech-street, Horseley Heath, Tipton, for the Tipton Urban District Council. Mr. W. H. Jukes, M.E., surveyor:—
Kendrick, W. A., Tipton ... £217 8 8
Edwards, J., Dudley ... 167 17 5
Guy, W. F., Tipton ... 158 14 6
Jackson, C., Tipton (accepted) ... 158 8 5
Engineer's estimate, £157 11s. 10d.

TURTON.—For construction of overhead lines and underground cables, for the urban district council:—
Dewhurst Engineering Co., Ltd., Sheffield ... £2,354 5 0
Siemens Bros. and Co., Ltd., Woolwich ... 1,749 0 0
Callender's Cable and Construction Co., Ltd., London ... 1,725 3 6
Western Electric Co., Ltd., North Woolwich ... 1,720 0 0
Glover, W. T., and Co., Ltd., Trafford Park ... 1,691 9 3
Johnson and Phillips, Charlton Henley's, W. T., Telegraph Works Co., Ltd., London, E.C. ... 1,655 0 0
British Insulated and Helsby Cables, Ltd., Prescott* ... 1,588 7 10
*Accepted.

UTTOXETER.—For painting and redecorating the interior of the town hall, for the urban district council:—
Ward and Godbehere (accepted) £108 0 0

WANSTEAD.—For the Aldersbrook-road improvement, for the Wanstead Urban District Council. Mr. C. H. Bresser, F.S.I., surveyor:—
Widening:—
Jackson, W., Forest-gate ... £1,300 0 0
Blaker, Leatherhead ... 1,274 16 0
Adams, T., Wood Green ... 1,258 2 10
French, W. & C., Buckhurst-hill* 1,165 10 6
Anderson, G. J., Poplar ... 1,151 2 5
Jackson, D. T., Barking ... 1,074 0 0
Resurfacing:—
Limmer Asphalt Co., Westminster ... 4,010 6 0
Highways Construction Co., Finsbury-pavement ... 3,459 17 4
Smith, H. V., and Co., Victoria-street, S.W. ... 3,420 11 0
Blaker, S.W. ... 2,594 18 0
Roadman Co., Ltd., London-wall, E.C. ... 2,712 17 0
Tarmac, Ltd., Westminster* ... 2,712 17 0
*Accepted.

WEDNESBURY.—For the erection of an ambulance shed, for the corporation. Mr. E. Martin Scott, borough surveyor:—
Bradbury, T. ... £98 15 0
Summerhill and Jellyman ... 98 0 0
Harding, E. ... 89 12 10
Smith, F. J. (accepted) ... 88 0 0
All of Wednesbury.

WEST ASHFORD.—For inside painting at the workhouse, for the rural district council:—
Knock, H., Ashford (accepted) ... £98 5 11

WEDNESBURY.—For the erection of electricity buildings, for the town council. Mr. E. M. Scott Town Hall, Wednesbury, borough surveyor:—
Smith, F. J. ... £470 0 0
Summerhill and Jellyman* ... 460 0 0
Bradbury, T. ... 432 12 6
All of Wednesbury.
*Accepted.

WINCANTON.—For the erection of a new ward block, for the Isolation Hospital Committee. Quantities by Mr. A. J. Pictor, Bruton, Somerset architect:—
Green, T. ... £1,860 18 0
Merrick, F., and Son ... 1,696 10 0
Webb, W., and Sons ... 1,612 10 0
Dodimead, S., and Sons ... 1,598 0 0
Pittard, H., and Son ... 1,598 0 0
Poole, A., and Co. ... 1,559 0 0
Coles Bros. T. ... 1,555 0 0
Stockham, T. ... 1,534 0 0
Dunthorn, W. H., Glastonbury* 1,486 0 0
*Accepted.

YALDING.—For the rebuilding of Pike Fish Bridge, Yalding, for the Maidstone Rural District Council:—
Burrows, W. T., Maidstone ... £358 0 0
Stanley and Co., Marden ... 196 10 0
Martin and Newman, Maidstone* 127 0 0
*Accepted.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Elingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

* Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

Telephone: Gerrard 1291.
Telegrams: "Timeserver, Estrand, London."

RECEIVED.—A. Ltd.—E. and R., Ltd.—B. of S.—J. G. K. and Son.—W. H. S. and Son.—T. T. G. and Co.—J. C. S.—R. T. L., Ltd.—C. T. and Co.—M. and Co., Ltd.

ROVER.—No.

F. T. L.—Please send.

FRID.—Yes, if brief.

W. JOHNSON.—English. See our back page this week.

NORTHERN.—If the building is constructed on their system, we certainly think you require a license.

H. P. GREEN, A. Claymore, W. Benwell, and others desirous of having their free situation advertisements repeated will kindly note that the advertisement must, in all cases, be sent. We have no time to hunt up previous issues.

F. W. M.—The principal shareholder is a German. Quite apart from possible penal consequences to himself, a British architect or engineer who at this time uses German systems or goods is certainly exposing his clients to considerable risks.

UNCERTAIN.—If you owe any accounts to German firms certainly do not pay them, at any rate while the war lasts, as you will only be financing the King's enemies. Leave them to their legal remedy. Note a case at the City of London Court on Wednesday, where a German was not only non-suited, but his court-fees were retained by the Assistant Registrar. Note also Mr. Justice Shearman's decision in the Vacation Court the same day, to which we refer elsewhere.

LIST OF COMPETITIONS OPEN.

Sept. 7.—Designs for Public Elementary Schools at Linda-street, York-road, Battersea; and Billingsgate-street, Church-street, Greenwich. (Mr. J. W. Simpson, F.R.I.B.A., Assessor) ... L. Gomme, Clerk, Education Offices, Victoria Embk., W.C.

.. 15.—Designs for Shakespeares Memorial National Theatre (Mr. T. E. Collcutt, P.P.R.I.B.A., Assessor) ... 500gs. (merged), and five of 150gs. The Secretary, 3A, Dean's-yard, Westminster Abbey, S.W.

Oct. 14.—Technical Schools and Education Offices, Southport (Mr. Paul Waterhouse, M.A., F.R.I.B.A., Assessor) ... £75, £50, £25 ... T. E. Jarratt, Town Clerk, Town Hall, Southport.

.. 31.—Laying Out Show Grounds, Wayville West, Adelaide ... £500, £200, £100 ... The Secretary, Royal Agricultural Society of South Australia, 23, Waymouth-street, Adelaide.

.. 31.—Drawings for Police Buildings and Fire Station, St. Helens. (Assessor) ... £100, £50, £25 ... A. W. Bradley, M.I.C.E., Town Hall, St. Helens.

Dec. 31.—Planning Workmen's Settlement, Campine Coalfield ... £400, £240 ... M. le President de la Commission pour l'Amenagement de Agglomerations Industrielles, Rue de Louvain, Brussels.

o date.—School (600 places), Vale-road, South Tottenham ... W. Mallinson, Clerk, Phillips-lane, South Tottenham.

LIST OF TENDERS OPEN.

BUILDINGS.

Table listing building tenders with columns for date, project description, tendering authority, and contractor details. Includes projects like Workmen's Dwellings, Post Office extensions, and various schools.

ELECTRICAL PLANT.

Table listing electrical plant tenders with columns for date, project description, tendering authority, and contractor details. Includes projects like Switchboard Panels, Electric Motors, and Light Installations.

ENGINEERING.

Table listing engineering tenders with columns for date, project description, tendering authority, and contractor details. Includes projects like Heating Greenhouses, Steam Heating Asylum, and various bridge and machinery tenders.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

- A Dining Room in a Country House. Mr. H. Davis Richter, R.B.A., Architect.
- Houses in Wimpole-street, W. View and plans. Mr. F. M. Elgool, F.R.I.B.A., Architect.
- Restoration of the Hall of an Old Manor House. By Mr. G. Wortley Chilton.
- Church of St. Thomas-on-the-Bourne, Surrey. View and plan. Mr. H. S. Sidebotham, Architect.
- Dene Lodge, Ash, near Aldershot, Surrey. View and plans. Mr. H. O. Cresswell, F.R.I.B.A., Architect.
- Old Beaupré, Cowbridge, Glam. View of the Porch, and details. Drawn by Mr. W. Eaton, A.R.U.B.A.
- Selected Design, Cottages for Housing Scheme, Pottou, Beds. Messrs. Homer and Lucas, Architects.

SELLING AND LETTING HOUSES.

The best business for a builder when a house is finished, is to sell it, and to sell it at once, while hot, as they say. Fresh in its paint and papering, new and beautiful, with the bloom on it. For, in our climate, the freshness, newness, and bloom only too quickly go off and pass away. In the good times houses were so sold, like hot cakes, long before they were finished, and often when they had been but just begun. The builder is always himself his own best agent, whether for selling or letting. No one else has so keen an eye for a likely buyer, or so clear a view of a probable tenant. He knows the points of his property, and he is artful as to the ways of women. For it is always the lady who, in the end, really decides whether a house shall be bought or taken. It is usually quite easy to talk round a mere man. Appeal to him as one who knows the world and the City; run off a few figures, show him what looks like a good bit of wood-work, and the thing is done. Then the wife, or the intended, comes along, and other means have to be used. The price asked does not touch her, nor the rent, if it is a letting. It is rather the rates or taxes and the chimneys and cupboards as facts, to which she gives her close attention. The builder who has fitted in cupboards in all possible corners, and made the kitchen as full of lockers as a cabin, has his reward when the masterful woman comes round to see if the plans will do. Then there are pretty stoves, and blue tiles, occasional bits of fretwork anywhere, that have been known to work wonders with the artistic temperament of many ladies.

But although the builder's object is, and must be, to sell his houses as soon as possible, and so enable his financier to turn the money over quickly, and lend it out to him again, there are many properties that are not readily sold, and have to be let. These are the larger desirable detached or semidetached residences, with ambitious elevations, or varying gabled roofs, a wonderful bay, or square windows. These are not so often sold red-hot, though when they are, it is the very best business. Men of the upper middle class are not so fully persuaded of the advantages of owning your own house as are those lower down the social scale. They know more about it. They have friends who, in the slang of the day, have "had some," and are now, as it were, hung about with houses bought in the days of a trade boom which are not now worth the money for which they have been mortgaged. So these comfortable, if not commanding, villas have to be let on the best terms possible,

while new, by their enterprising builder. It is here that fashion comes in with its inscrutable decrees. A suburban locality is suddenly found to have sprung into the limelight of popularity. Then there is a good harvest for the bold builder who sells what he can, and lets the rest on repairing leases. The thing wants doing well. One point is to bring out clearly that Sir Somebody has just bought the corner house, while a certain retired General or Admiral has taken one on the other side. This gives a character to the "Gardens" or "Avenue" which no mere building or decoration could ever confer, and is especially fetching with the best ladies!

The points of the house itself are also of great importance. For instance, there is the carriage-drive with two gates, which works all right, with care, and is quite safe for a Bath-chair. Then there is the Garage, which should always be printed red in any particulars. Now, this garage has done wonders of late years. It really seems to modernise a house which has already passed its prime. "Of course you will want a garage?" says the builder to a likely tenant, whom he sums up with one glance of his eye. "Oh, of course," answer man and wife emphatically together, though the motor-car is still a hope in the future. Then the garage, a plain red brick building, run up by the builder on his own simple and cheap plan, does the trick and binds the deal. The parties may all know that, for the present, at least, it will be used as a toolhouse, with garden-hose, roller, bicycle, and perambulator complete. But that is nothing: there is the garage, and in these days it is as certain a sign of respectability as keeping a gig was said to be in former times. Where this essential of modern life does not actually exist, a builder or agent who has to let the house promptly promises to put one up, and does so "while you wait?"

In many places old-fashioned gardens have come into fashion, and an enterprising builder who picks up an ancient cottage with a really large piece of land round it, may make money. If the cottage be enlarged, and its character kept by not being over-modernised, a very decent dwelling can be put together. There must, of course, be extensions and additions in the same style of Domestic architecture; but this can be done under proper guidance. Inside there will have to be proper sanitation, bathroom, etc. There must also be added to the primitive structure a good many bedrooms. But the whole job need not cost much, and if a suitable plan is well carried out, the result should be effective and successful. Where the place is in a pretty countryside, a

really charming home may be put together. Here again there will, of course, be a garage for a car to take the occupier into town and back again. Still, the old-fashioned garden, especially if it has a fair lawn, some fruit-trees—either standard or growing on a solid old wall—is generally the best point in such a property. It pleases the ladies, and its age gives an air of ancestry to the whole place. An orchard is also a great asset in such cases, and if an old well can be discovered, and got up with some antique stone, it will be an added distinction. An old sundial, put in the proper place has been known to work wonders, and a green pond, with a legendary pike, goes far to sell such premises. Architects know very well how to transform a broken-down cottage into a straggling country house. Gables anywhere are good, and a Gothic porch with side seats is almost essential, whatever may be the general style. So completed, and made quite correct and comfortable inside, we have the "little place in the country" that women love and that men like to talk about. It does so well for bringing down a few friends for the weekend in the motor-car, and the garden and country round about are, of course, "so good for the children."

Properties of this kind can either be let or sold, with proper and tactful pushing, and good profits may be made either way upon the original price of purchase and cost of the improvements. But there are other classes of houses which are only suitable for selling. Indeed, they are built upon that basis, and one condition of their working out well financially is that they shall be sold soon, and at all events before the inevitable and expensive repairs have to be incurred. These properties are to be found in most modern suburbs, whether Metropolitan or provincial. They are usually villas, either semidetached or in terraces. There must be a pretty front, or, as some would say, an elegant elevation. Stone facings and trimmings are important, and so are bay windows. They generally appeal to the saving young man—clerk or the like—especially if about to be, or only lately, married. These are the people who still believe in the policy of buying a house for occupation. As they get older, they are apt to find out that, as an economic principle, there is not much in it. But the idea of not having to pay a yearly rent, say, of £35 controls their financial view of the transaction. So they purchase the leasehold through a building society, to whom the builder introduces them in the most friendly manner as being sound and reliable. To be sure, there is the ground-rent of about £5, and the monthly instal-



FRONT ELEVATION

SELECTED DESIGN, COTTAGES FOR HOUSING SCHEME, POTTON, BEDS., FOR THE BIGGLESWADE R.D. COUNCIL.

Messrs. HOMER and LUCAS, Architects.

ments to the building society, which look easy enough, in the future. So, say, with £50 down, they become owners of their pretty, brand-new houses. The husbands and wives talk lightly of "our own house, you know," and all is well—for a time. If, however, the monthly payments to the society are not always ready, trouble comes. If they want to sell, it is found that cash values are strangely low; to which is added the queer way building societies have of keeping their accounts. For when it is proposed to redeem one of these mortgages, it really looks as if nothing much had been paid off, although many months' instalments may have been punctually met. This, of course, is owing to the interest for the whole term having been added on to the actual sum advanced. It is indeed quite surprising to see how difficult it is to get it off, and how much of it still has to be paid at the completion.

There is another line in which some enterprising builders have been doing pretty well. This is in the transforming a large, out-of-date house into two compact and convenient flats, or, more prettily, mansionettes! There are streets of houses in the West End, and elsewhere, which were built for big families and high rents. "Commanding residences," with front steps and stone portico, breakfast-room, and basement all complete. What is to be done with them? The owner, or often the mortgagee in possession, gets tired of seeing them empty, and of paying the heavy ground-rent. A brisk builder comes along, buys some cheap, and sets about the work of transformation. By neat adjustment the trick is done. There are two entrances, with separate halls to the upper and lower flat. Then they are let at good rents, including all rates, taxes, and water, and a losing property is turned into a paying speculation. To be sure, some of the rooms seem to be too large and lofty in their way, and the seeing eye can judge of what has happened. But the hall-house has a good address, and is quite of the West End, and so they go off fairly well. The cost of sanitary changes and another kitchen, etc., is not heavy to a builder who knows his way about, and the tenants who take such places are so charmed with the inclusive rent, and the name of the road on their notepaper, that they bring in a good return for the first outlay.

In letting houses where a lease of 7, 14, or 21 years is taken up, the tenants usually get some legal advice, and are fairly safe. But in regard to the smaller class of new dwellings, the builder generally has his own printed agreement. It is quite plain and simple, and very neatly got up. You just fill in the names and the term—say of three years, then it is signed, and the transaction completed. Nothing is said about repairs in the document, or by the builder. Now, although the law of landlord and tenant is the very oldest law of the land, coming down to us from Feudal times, the popular ignorance about it is entire and amazing. There is a general and pervading impression that a landlord must repair, anyhow, the outside. Yet, legally speaking, a landlord who has not agreed to do so is not liable for any repairs whatever. Some builders carry this to extremes, and do nothing; others sell the house as soon as it is well let. But, of course, many owners of property who want to retain tenants find they must keep the premises in fair repair. There is one small point about these simple little agreements which often causes confusion to the unwary. A house may be let, as the printed form plainly provides, for the term of "one year certain, and so on from year to year." This looks innocent enough; but it means a letting for two years, at least. The effect of these artless words is, in law, that, at the end of the one year certain, a yearly tenancy begins, which can only be ended by six months' notice expiring at the end of the second year. From this it follows that, if the proper date for giving this notice is overlooked, the letting goes on for a third year. This is a matter of every-day occurrence. The law as to yearly tenancy has existed as it now is for some centuries, and yet there is still no more common error made in legal matters than about this question as to the proper mode of ending a yearly tenancy.

SELECTED DESIGN FOR THE HOUSING SCHEME AT POTTON, BEDS.

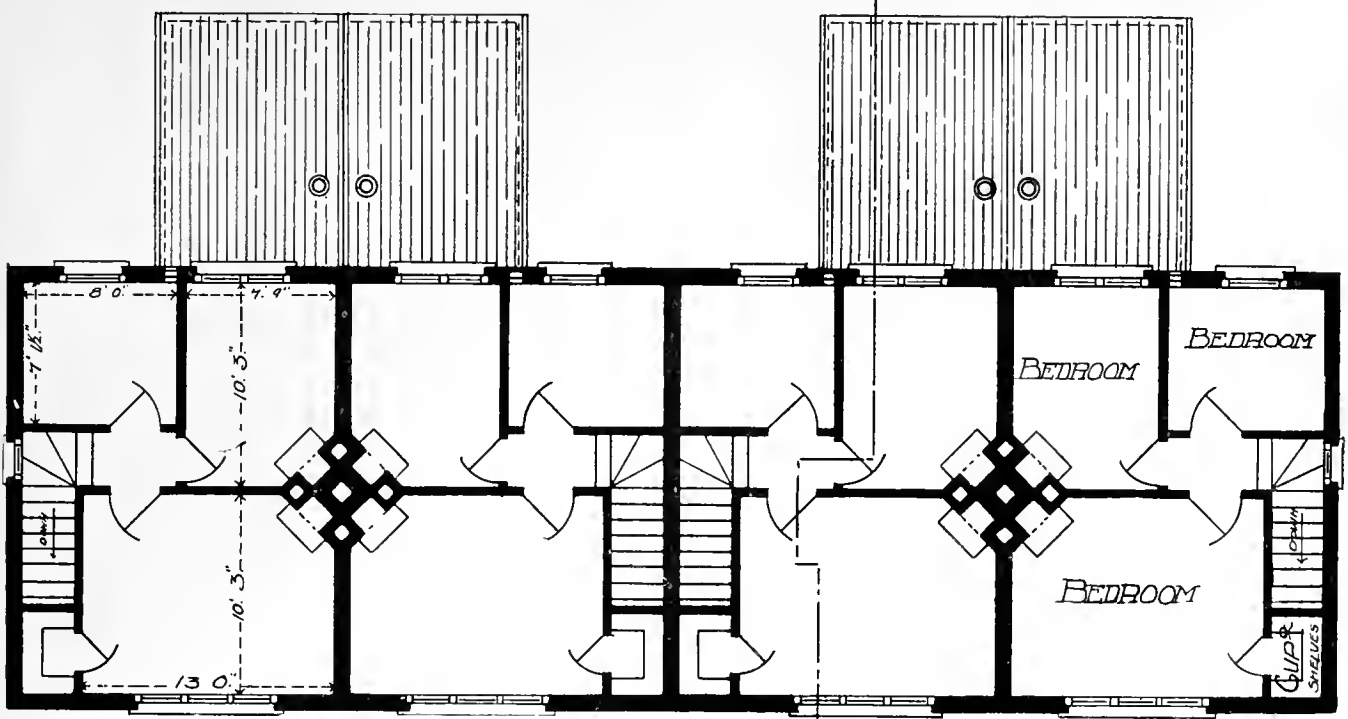
As we announced last week, the Biggleswade Rural District Council has decided upon the plans submitted in the late competition, and have chosen those prepared by Messrs. Homer and Lucas, architects, of 62, Oxford-street. Other cottages to be built at Sandy and Beeston will correspond in

character and plan. Their scheme has been approved by the Local Government Board. The site has a frontage in Horselow-street, Potton, and the high-road curves round in front of the property on its way to Gamlingay. In the opposite direction it leads to Everton. A cross-set cart-road is laid down in a straight line through the land to give good access, and at right-angles a central path also communicating with the back of the garden allotments laid out behind the thirty-six cottages, and making the most of the available space thus enclosed. Some of the gardens measure 139ft. by 17ft. 6in.; others work out at an average of about 82ft. by 26ft., while a few scale 93ft. by 31ft., these last dimensions being next to the cottages facing the curved frontage at the extremity of the site. There is a private road forming an approach to the dwellings on one side of the property, and it has a turning-round space at the termination of this cul de sac. All the cottages correspond in design. The lighting depends upon rear and front windows, in order that these blocks of four dwellings may be placed very compactly together. Each tenement is contrived so as to allow of an economical arrangement in their disposition as a whole, and the out-buildings are devised so as to accommodate this repetition arrangement. The height of the rooms on both floors is 8ft. from floor to ceiling, and each block measures 60ft. 6in. from out to out. The plans given herewith show both floors, and thus fully illustrate their design, while the elevation of the cottages shows how red brick is employed for the walls of the ground stage, the walls above being roughcasted, with brick quoins at the angles. No expense has been incurred on ornament of any kind.

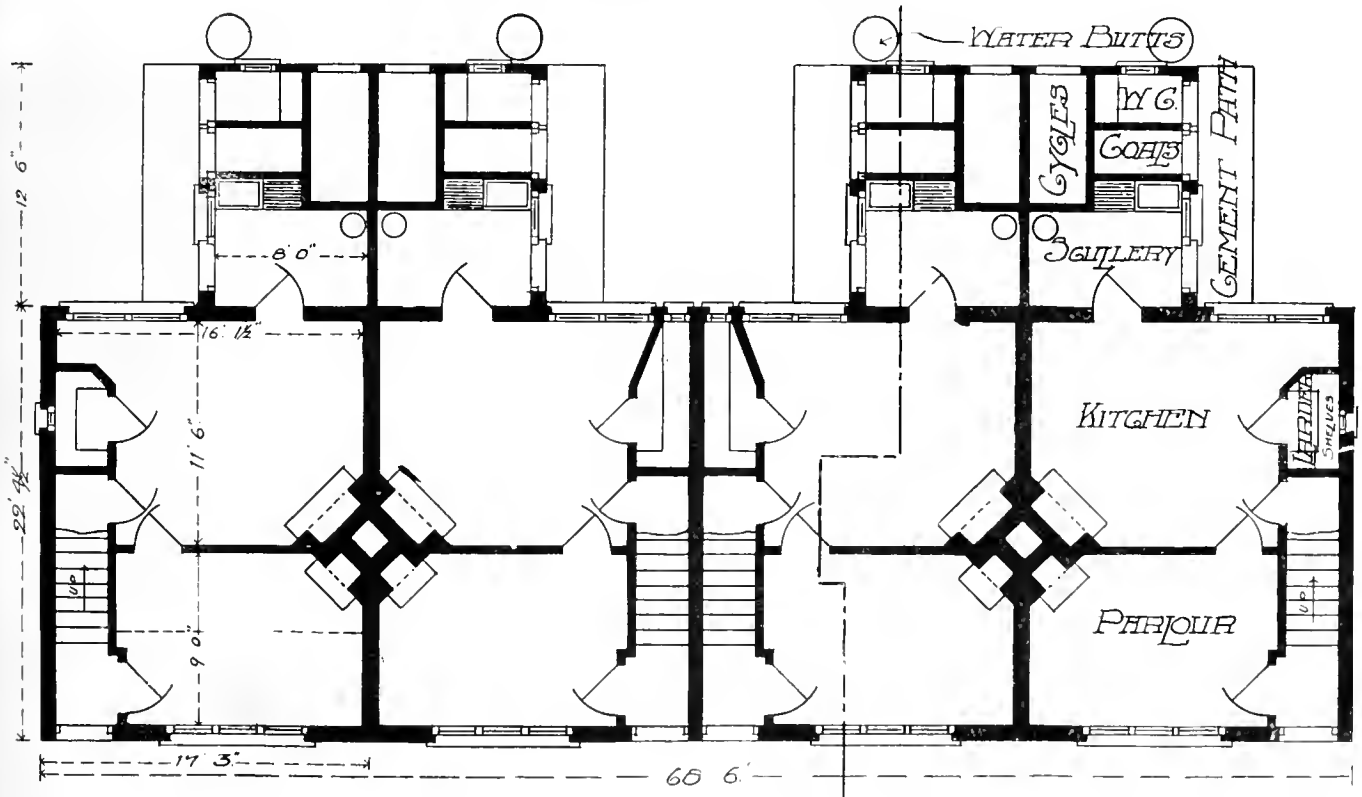
LOUVAIN AND MALINES.

Hundreds of our own readers have the pleasantest memories of Louvain and Malines, where the German armies have set themselves to rival Attila and his Huns, and the later atrocities of the Duke of Brabant. One—perhaps vainly—hopes that the stories of massacres and destruction are exaggerated, and that the pleasant towns, which have few rivals in Europe in interest, may once again rise from their ashes and regain their prosperity.

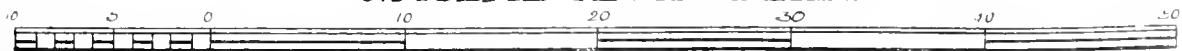
In the 14th century, while as yet Brussels was little more than a third-rate city, Louvain was the capital of Brabant, with a population, it is said, of at least a hundred thousand inhabitants, whose chief source of employment was clothmaking, its guild of weavers alone numbering two thousand



FIRST FLOOR PLAN



GROUND FLOOR PLAN



SCALE OF FEET

SELECTED DESIGN, COTTAGES FOR HOUSING SCHEME, POTTON, BEDS. Mosses, HOMER and LUCAS, ARCHITECTS.

members. Jealousy of the growing power of the trader citizens on the part of the nobles led to broils, which culminated in 1379 in the massacre of seventeen magistrates and nobles, who were thrown from the windows of the Hotel de Ville and impaled upon the

spears of the populace. Then the heavy hand of the Dukes of Brabant fell upon the city. Multitudes of the weavers were driven from Louvain. Thousands went to Holland; many found their way to England, and there established their handicraft. Duke Wenceslaus

nearly made an end of the manufacturing activity, but another Duke—Duke John IV.—started the city on a new career as a centre of learning. He founded its University in 1423, and from that date Louvain has been the chief seat of Belgian collegiate life. Since

1679 the University has been lodged in the old Clothmakers' Hall, a building dating from the early part of the 13th century. It had suffered from the hand of the restorer, but retained untouched the work of the old builders in the ground story.

The more beautiful monument of the labours of the Mediaeval craftsmen, the Hotel de Ville, was built between 1448 and 1463, under the charge of the master mason, Matthieu de Layens. Each of the three stories of which the building consisted contained ten canopied windows, while the space between them was covered by decorated niches filled with sculptured figures, some of historical personages, others of allegorical figures. In all there were more than 250 of these statues, each in its decorated niche. The corners of the building were crowned with octagonal turrets, terminated in pinnacles decorated with carving. All this has been ruthlessly destroyed by one of the Kaiser's commanders in a moment of passion to cover the blunder of his own men.

Gone, too, is the Late Gothic church of Saint Pierre, begun in 1425, and finished a century later. The interior of this church was lighted by ninety large windows, and it contained many examples of the carver's art—notably the organ, dating from 1556, and the pulpit, wrought in 1742 by Bergé, with its representations of the Denial of St. Peter and the Conversion of St. Norbert—as well as numerous Mediaeval paintings, among them a Last Supper, by Dierick Bouts, painted about 1467. There was also the Tabernacle, 40ft. high, executed in stone in 1450 by De Layens, the builder of the Hotel de Ville.

Besides these buildings, Louvain possessed the Church of St. Michael, erected in 1650 by Faid'herbe, a fine example of Belgian Baroque; of the Church of St. Jacques, dating from the 15th century, with its Gothic tabernacle wrought by Van den Bruyne in 1538; and the Church of St. Gertrude, the oldest of them all, begun in the 14th century, and added to in the 15th century.

Nor is it only in Louvain that these precious relics of the past have been, or are being, destroyed. In their bombardment of Malines on Thursday week the Germans did much damage to the Cathedral of St. Rombold there, a building whose beginning dates from about the year 1290, and destroyed its famous peal of bells, while it is stated that they wholly destroyed the Hotel de Ville and the Church of St. Pierre.

Our own past volumes teem with illustrations of Belgian art. Among them we may mention those at Louvain of a Panel in St. Gertrude's Church, Dec. 6, 1895; Sketches of the Cathedral, May 31, 1895; Church of St. Jacques, Nov. 22, 1889; The Wrought-Iron Lock in the Church of St. Pierre, June 8, 1881; South-East View of the Church of St. Pierre, April 9, 1886; Turret of the Church of St. Pierre, Feb. 6, 1885; and Gables in Half Maart-street, Dec. 22, 1882.

Of work at Malines will be found: Gables of Windows, Aug. 2, 1907; Sketches of the Palais de Justice, and others, Nov. 2, 1900; Grand Place, July 30, 1897; Quaint Flemish Houses, Oct. 12, 1894; Plan of the Cathedral, June 9, 1893; Convent des Carolites, Aug. 21, 1891; Church of Notre Dame, Nov. 22, 1889, and May 22, 1891; a Fleche, March 30, 1888; Houses in the Grand Place, April 9, 1880, and The Market Hall, Dec. 19, 1879.

OLD BEAUPRÉ, GLAMORGAN.

[WITH ILLUSTRATIONS.]

Beaupré Castle or, rather, Old Beaupré, as it is commonly called, to distinguish it from the more modern residence, New Beaupré—is pleasantly situated in a well-wooded district, and occupies a strong natural defensive position on rising ground, overlooking the River Thaw, near Cowbridge, Glamorgan, the river curving gently as it approaches the castle.

The South of Wales is thickly studded with castles, the majority of which are in ruins, having for the most part been built in Norman times; but Old Beaupré is much

later, the greater portion of it having been erected during the reign of the Tudors.

There is nothing particularly attractive about the Castle, which is now a picturesque ruin, except the beautiful Renaissance porch and entrance gateway, which are both in an excellent state of preservation, and are objects of considerable interest both to the architect and archaeologist, having several times been visited by the chief archaeological societies of England and Wales. The porch is of exceptional interest, and will bear favourable comparison with some of the best examples in England, except, perhaps, such samples as the porch of Kirby Hall, the details of which are more refined, and which is superior in general proportions. The cornices, carving, and heads at Beaupré are in an excellent state of preservation, the majority of the mouldings being as clean as the day they were first worked. Gwilt, in his "Encyclopædia," describing English Renaissance architecture from James I. to Anne, says: "The use of the Orders became more general. In Glamorganshire, at Beaupré Castle, which has a front and porch of the Doric Order, we find a composition including that just named, the Ionic, and the Corinthian, wherein the capitals and columns are accurately designed and executed."

The porch is square on plan, and stands out its full length from the front wall of the Castle, measuring about 9ft. by 9ft. internally, and 36ft. in height from the ground line to the top of the pediment. The proportions and detail of the ground-floor story are excellent; but the upper portion is not so satisfactory, the mouldings and detail lacking boldness, and the composition as a whole not being altogether of equal merit. A four-centred Tudor arch forms the main entrance, and at the back a similar arch is employed, the spandrel and the lintel over the head being relieved with shields. The door itself is of oak, strongly studded, and hung with ornamental wrought-iron hinges, whilst the internal faces of the wall are of stone, the vertical and horizontal joints being rebated and sunk.

The arms of the Bassett family, together with their alliances, are represented on the shield in the panel on the first story, and under the same is the well-known inscription, spelt, "Gwell angay na Chwilydd"; but this is incorrect, and should be "Gwell angau na Chwilydd," meaning, "Better death than dishonour," this being the motto adopted by one of the Welsh regiments.

Immediately above the lower cornice are three carved panels in line, with the inscription cut in Roman letters, without capitals, and reading as—

SAY, COWLDST THOV E
VER FYND OR EVER HEA
RE OR SEE WORLDLY WRET
CHE OR COWARD PROVE

A FAYTHFVLL FRYNDE
TO BE RYCHARDE
BASSETT HAVING TO WYFE
KATHERINE DOUGHTER TO

SIR THOMAS JOHNS KNIGHT
BWYLT THIS PORCH WITH
THE TONNES IN ANO 1600
HIS YERES 65 HIS WIFE 55

Various surmises have been made as to the meaning of the word "tonnes," some persons reading it as towers; but it has been translated by one authority as meaning wedding dowry.

In all probability the space between the mullions and transom on the second floor, which are now blocked up, was at one time filled in with leaded lights, and it is also certain that the circular panel under the pediment was originally intended for a clock; but whether one was ever placed there is not by any means clear. The whole of the

mouldings, ornament, and details of the porch are based upon the Italian Renaissance in design, with the exception of the four-centred arch and the Tudor Rose, the latter of which is used in one or two cases in the frieze above the columns.

Over twenty years ago this porch was in a very precarious condition, and would certainly have fallen but for the timely efforts of the present representative of the Bassetts, who went to considerable expense and trouble in renovating the structure and putting the masonry in a sound structural condition.

The entrance gateway is not such a fine piece of work as the porch, neither in size nor design, some of the detail being, in fact, very commonplace. It is of much earlier date, having been built about fourteen years anterior to the erection of the porch. Over the cornice, above the Tudor arch, is a shield enclosed in a panel, with fluted pilasters at either side, and it contains the Bassett arms as well as the family motto, "Gwell Angay na Chwilydd"; but this, again, is not correctly spelt, and should be as previously stated.

Immediately below the upper horizontal cornice and in the centre above the panel is the date 1586, enclosed in an Ionic cap, and on the right-hand side are the initials "R. B.," while on the left hand occur the initials "C. B.," "C. B." These, however, are very indistinct and almost obliterated. In what is presumed to have been the banqueting hall is a large fireplace deeply recessed, with a flat stone head 2ft. 3in. deep, panelled and filled in with shields, the whole surmounted with a string mould of Classic profile, while the mouldings of the jambs are Late Gothic.

There are very few other interesting features about Old Beaupré, with the exception of a cusped pointed window in the gable end of one of the farm buildings attached to the Castle. One of the rooms, occupied by a caretaker, is, however, finely panelled in oak. Some Welsh genealogists affirm that Old Beaupré once belonged to Systylyt, ancestor of the Ceceils, and state that John Systylyt, son and heir of Robert Systylyt, sold Maes-Essylyt, or Beapré, the principal manor of St. Hilary, to Philip Bassett after the Battle of Lincoln in 1140, to pay his ransom, being taken prisoner there. Other accounts marry the Systylyt heiress to Adam Tuberville, and their heiress to Bassett; but all this depends upon very fragmentary evidence.

In many of the manuscript pedigrees of the Bassetts it is said that Sir Phillip, Lord of St. Hilary and the first of the family at Beaupré, was the person who originally arranged and drew up the copy of the Magna Charta, which King John was obliged by the barons to sign in Runnymede, and that many of these worthies met at Beaupré to assist in this plan and the arrangements adopted for its execution.

Sir Phillip Bassett was Chancellor to Robert Fitzroy, Lord, or Prince, of Glamorgan, and as he held this office about the time of King John, there is some likelihood that this account is trustworthy, and as the signing of Magna Charta was so great an event in the history of England, it is not at all surprising that some mention of such an important episode should be handed down from generation to generation in this family's records.

The perspective sketch of the porch here given was awarded the first prize at the Royal Welsh National Eisteddfod for the best drawing in black and white of any antiquarian object of interest in Wales.

W. EATON, A.R.I.B.A.

The new bridge over the Hellgate Inlet at New York now under construction will have the largest span of its type in the world—that of a cantilever, anchored to counterweights. The span of the arch is 117ft., 307ft. high from water-level, with two-hinge trusses 143ft. deep. The width is 193ft., so as to accommodate four railway tracks. The lower chords of the spandrel-braced two-hinge arched trusses, 60ft. apart on centres, are parabolic curves with a rise of 220ft. and a span of 117ft.

CEMENT JOINTS IN SEWER-PIPE.

The following contribution is submitted to the *Engineering News* by Mr. W. S. Lea, the Montreal consulting engineer, who writes:—

I have had some experience with cement-mortar joints made in three different ways: (1) where a gasket was not used; (2) where a gasket was inserted against the shoulder of the bell in the usual way; (3) where the gasket in the finished joint was at the entrance to the bell all the way round, caulked flush with, or a little inside the outside edge of the bell. In all cases, the bottom third of the bell was lined with mortar before inserting the pipe. When no gasket was used, pipe 12in. and over was centred by two small wooden chips. These chips were also used with the gasket in laying the larger sizes, 18in. and over. Ordinarily, no difficulty was experienced in centring the 8in. and 10in. pipe without chips, whether a gasket was used or not. In every case the joints were pointed from the inside for all pipes 15in. and over. In methods (1) and (2) the joints were protected with a burlap or cheesecloth band for pipe 18in. and over.

So far as my experience goes, I am of the opinion (1) that the lower part of the bell should be filled before the spigot of the succeeding pipe is entered, and with more mortar than is needed in that part of the joint; for safety the mortar should appear on the inside; (2) that it is important to use a gasket, not only to assist in centring the pipe, but I believe that the clogging, or slitting up of a gasket caulked tightly into the bell is a considerable factor in preventing leakage in either direction through the joint, where the cement mortar itself is defective; (3) that while no doubt it can be dispensed with, it is safer to use chips to prevent the larger pipes settling at the spigot end; (4) that while it is proper to give the joint a finished appearance by a moderate bevel, the so-called generous bevel is, if anything, worse than useless with the larger sizes, as it tends to sag away from the sides of the pipe; (5) that with the larger sizes, the joint should be supported by a strap of burlap, etc., unless a gasket is inserted at the face of the bell after the joint has been filled up the sides and over the crown.

Moreover, the third method of joint-making has appeared to insure the tightest work so far as I have seen it used. This joint is made by lining the bottom third of the bell in the usual way, covering the gasket, which is placed along the outside edge of the bell. The gasket is long enough to encircle the pipe, and the two end sections are brought out of the bell after passing clear of the mortar in the bottom. The spigot end of the pipe is then entered with its crown guided against the bell, worked down to centre at both ends and bedded. After the joint has been completely filled with mortar, the free end sections of the gasket are caulked into the bell working from the bottom toward the crown. The gasket is driven flush with, or a little within, the face of the bell, the bevel applied, the joint pointed on the inside where accessible, and the surplus mortar cleaned out. There is not very much mortar driven through, particularly with the smaller pipe.

This feature of the mortar forcing through is occasionally objectionable in a way that is hard to avoid. The 12in. pipe and under cannot be pointed from the inside, and if, as sometimes happens, the plane of the spigot end is not perpendicular to the axis of the pipe, there may be a considerable space at the crown of the joint between the spigot end and the shoulder of the bell; and the mortar filling this space sometimes drops to the invert after the pipe-laying has proceeded some distance in advance.

When laying 12in. pipe, this feature has to be watched; it rarely happens with 8in. pipe, or with the larger sizes where the joints have been pointed from the inside. With the joint made in this way the mortar is firmly held in the bell, and even if the bevel does

sag, it cannot carry the mortar out of the bell with it.

I have not found the chips objectionable in the way Mr. Begg suggests; perhaps more mortar was placed in the bottom of the bell; at any rate the chips did not keep the pipe off the mortar; they were practically buried in it, near its upper edges. The chips were placed in this position so that they could be easily moved a little higher, or lower, when occasionally required; moreover, with the chips in this position, any inequalities in either the pipe or the chips do not raise or lower the spigot end so much as if the chips were placed lower down, opposite a diameter approaching the vertical. However, there is no doubt that with the chips omitted, the gasket will generally be fitted tighter in the bottom, and that is a desirable feature.

The consistency of the mortar is an important matter, and not at all easily controlled. The tendency is to have the mortar too soft, as it is easier for the pipe-layer to handle. Unless quite stiff initially, the mortar which has been hurriedly mixed becomes sloppy on further handling, and cannot be easily compacted or retained in the bell. The man who mixes the mortar often has too many other things to look after. The mortar should be mixed in very small batches, and kept thoroughly stirred some time before being used. This permits the mixture to absorb more water, and the proper consistency can be better gauged by the mortar man as further handling does not affect it; moreover, the mortar appears to be tougher, and works smoother.

Mr. Begg has adopted a good specification at Edmonton. Clause (e) which specifies that no joint is to be completed until at least two joints have been bedded and graded in advance is to be particularly recommended. In reading his well presented article, I had hoped to find the detailed description of the work extended to include the method or the procedure followed in bedding the pipe. It is in connection with this that the most serious difficulties arise in laying sewer-pipe. It requires considerable skill and patience to bed a pipe firmly, and at the same time have it lying true to grade and alignment. It is true that once the pipe is in the right position it can be held and supported by tamping proper filling around it with a thin-bladed tool. In this operation lies the greatest risk of lifting the spigot end slightly from the mortar in the bottom of the bell.

It has been the writer's practice to defer tamping immediately around the joint until after the mortar has set up; but in bright, hot weather, at least, the joints were covered with loose earth. Before back filling the trench the following day, some of this filling was removed, before the tamping was completed. Possibly this was not a good system; care certainly had to be taken to maintain the compacted filling at the same level on both sides of the pipe, so as to avoid jarring it slightly off the line. It is surprising how easily this can be done with even a very light tamping-iron.

MANUFACTURE OF CEMENT FROM SUGAR BY-PRODUCTS.

The Canadian Trade Commissioner at Leeds (Mr. C. Dyer), in a report submitted to the Dominion Government, draws attention to the fact that, in European countries where sugar beet is grown, a systematic study has of late been made by beet factories as to ways and means of utilising the by-products. One successful method of using waste matter is said to have been perfected by a French firm. In the process of sugar-boiling—in the early stages of the refining process—a considerable amount of seum is produced. This is bulky, and partakes somewhat of the character of molasses; however, it is not rich in saccharine matter, but, on the contrary, contains chiefly water and lime in the form of carbonate. Hitherto this seum has been useless; but, having regard to the fact that carbonate of lime can be reduced to its crystalline form, when it becomes very fine powder, it was thought it might be found valuable in the manufacture of cement.

It has been shown that out of 70,000 tons of beet treated for production of sugar, 9,000 tons of seum is produced, which leaves a solid residue of 4,000 tons, 5,000 being moisture and saccharine. To this 4,000 tons of carbonate of lime, 1,100 tons of clay is added. This gives the primary bulk of 5,100 tons, and when this raw material has been treated 3,162 tons of excellent cement results.

The method of procedure is approximately this. The seum is pumped from the sugar boilers into large tanks; it is then in the form of a viscous mass. This is allowed partly to dry in the tanks, when the clay is finely divided, and this or powdered schist is added. The mixture is then run into special receptacles with beating mixers, where it is amalgamated for about an hour. Samples are then taken, and any deficiency of lime or clay is made good, and the process goes on until a satisfactory mixture is obtained. Then the mixture passes by means of continuous belts to a rotary furnace which is lined with refractory bricks. Some economical method of heating the furnaces must be effected in order to reduce the cost of production.

The burning of the cement is a comparatively short process, though it is one of some nicety, as the process must not be carried too far. When sufficiently burned the clinker is removed from the furnaces to pulverisers, where it is reduced to as fine a powder as possible. As above stated, there is a loss of nearly 2,000 tons out of 5,000 tons, this being represented partly by moisture and partly by irreducible solids. These, however, may be utilised for rough mortar. The cement is found to be well appreciated on the market and to fetch a fair price. The process is stated to be a mere manufacturing one and not a patent, and the plant necessary for such manufacture is not elaborate or costly.

BUREAU OF STANDARDS FURNACE FOR TESTING BUILDING MATERIALS.

What is said to be the most efficient furnace for the testing of the fire-resisting qualities of building materials ever constructed in this country is being completed by the United States Government at the Pittsburgh, Pa., station of the Bureau of Standards. It is also to be used for load-testing under immense heat. The furnace is in the form of a parallelogram, and is built of firebrick, two big piers of solid brick taking up the lower part of the interior. There is an ingenious system of flues, the heat being applied by burners in which natural gas, mixed with compressed air, is burned. One side of the enclosure is open, and here a panel 8ft. by 6ft. is built up of the material which is to be tested, the panel, held in an iron frame suspended from I-beam travellers, forming, in fact, the other wall of the furnace. By suspending it the panel may be moved away from the furnace and tested for the action of water, which is sent against it through a hose of several streams.

A feature of the work will be the testing of safes and filing cabinets to see whether papers contained in them are damaged by fire. Any manufacturer may send such objects and have them tested free, if such testing is in line with the work being done by the Government.

For the testing of loads under high heat the material to be tested a column of concrete, cement, etc.—is placed on the brick piers, and on top of the material hydraulic jacks of great power are set. These jacks exert both a downward and an upward pressure, the upper pressure being against a heavy steel beam.

The furnace is to be in charge of Mr. Walter A. Hull, expert in testing fire-resisting qualities of building materials. Mr. P. H. Bates is head of the Bureau of Standards branch at Pittsburgh.

H.M. Board of Works are pushing forward the scheme for the pointing and strengthening the ruins of Lindisfarne Priory. The work will extend over five years.

A FRENCH EXPERIMENT FOR PREVENTING FOGS.

The municipality of Lyons has set aside a certain sum to carry on experiments for preventing local fogs, proposed by M. Georges Onofrio, Director of the Fourvière Observatory of that city. In contradistinction to general fogs that often cover plains of the North of France, and the sea fogs that envelop many of the coast towns, the Lyonnaise fogs are altogether local. Frequently in winter the fog rises and filters through the streets, shutting out sunshine and causing discomfort to the inhabitants.

This fog is really an anomaly, because at a comparatively short distance away from the city there may be absolutely no fog. A strong wind will often clear the town of mist and bring a return of clear weather, whereas in cases of a general fog extending over a vast area a wind may be slow in bringing about a return of normal atmospheric conditions. Owing to the heights along the rivers, this fog cannot escape except at one side, towards which a part rolls, thins out, and often disappears. In consequence, much confined, the fog thickens and increases in volume over the rivers, quays, and thoroughfares, and becomes injurious to health and interferes with traffic. Certain measures have already been suggested, such as great blowing-machines from the heights above the city, and also the use of Hertzian waves. The project formulated by M. Onofrio consists in pouring oil on the rivers some distance above the city at a point where the fogs usually collect, so that the surface of the streams will be covered with a thin oil-film for a distance sufficient to prevent the rise of vapours within the fog area.

Various facts have been collected from different points, showing the efficacy of the oil-coats in reducing the roughness of water, escape of unhealthy odours, and the prevention of rapid evaporation. Experiments have been made on a small scale with a long vat, at the end of which very hot water was introduced. At the other end there was an opening, so that there was a rapid and regular current. From the entire surface thick steam constantly rose. At about one-quarter of the distance from the inlet a dividing partition was let down in the form of a double sieve holding tow moistened with a small quantity of oil. Following the current, an oily coating extended over the lower three-quarters of the vat, and immediately vapour ceased to rise. It is estimated that a coating of oil one 1-100000 millimetre (the millimetre equals .029in.) in thickness is sufficient to cause the disappearance of the vapour from the boiling water.

This experiment was carried out with water at the temperature of about 185deg. F., whereas the temperature of the two rivers on which Lyons is situated averages about 59deg. F.; so it is believed that an exceedingly thin sheet of oil will be still more efficacious when spread over a cold surface, even should it attain the thickness of 1-200000 millimetre. The thickness proposed for the rivers is 1-150000 millimetre, which will require about 8 of a gallon for about every 460,000 square metres. The oil best suited to this work has not yet been determined. Trials are being made with as many as fourteen different oils—animal, vegetable, and mineral—to find one that will come nearest to fulfil the required conditions. It should be an oil that will spread rapidly and easily over the surface of the water, and at the same time it must be an oil with the strongest possible power of resistance and tenacity.

An oil-film that will readily break on the water is of little value. These two qualities are more or less opposed, and it will require some study to find the oil that will spread most easily and still not break. It is thought that an animal or vegetable oil will be found preferable to a mineral oil, though the mineral oils would probably be a good deal cheaper. It is not possible to give the probable cost of keeping the entire city free of fog before an effective oil has been determined upon, although a rough estimate for both rivers puts the expenditure within £6 a day for the oil season.

At the last meeting of the Board of Guardians for Bromley, Kent, a letter was received from the Local Government Board with reference to the new workhouse infirmary scheme, recommending, inter alia, that it possible the pavilion should be so designed that a nursing unit of not less than thirty-six beds should be eventually arranged for, and also that accommodation for twenty children should be provided in a separate block on the main corridor of the new infirmary. It was, after some discussion, decided by a majority to ask the board's architect, Mr. Dunby Smith, to prepare new plans in accordance with the Local Government Board's recommendations.

OBITUARY.

We much regret to announce the death of Mr. Edward Ingress Bell, F.R.I.B.A., who passed away at his residence, St. Stephen's, Winchester-road, West Worthing, on Sunday, in his seventy-eighth year. Mr. Ingress Bell was for many years on the architectural staff of the War Office, and in later years, in collaboration with Sir Aston Webb, won several competitions of the first importance. In 1884, in the competition for the new Admiralty Offices, in which 128 architects took part, Messrs. Webb and Bell sent in a design of great merit, one certainly second to none in happy planning, which was awarded the third premium, and appeared to us at the time to be worthy of a still higher position. This design and its plans were illustrated in our issues of August 15 and 22, 1884. Competitions which were gained by Messrs. Webb and Bell include the Victoria Courts at Birmingham (shown in our pages, August 13, 1886, July 24, 1891, January 1, 1892, and January 13, 1893), built at a cost of £113,000, and now about to be enlarged by the city council at an outlay of £30,000; the United Service Institution, Whitehall (June 2, 1893); Christ's Hospital Schools, Horsham (June 22, 1894, and Oct. 22, 1897); and Birmingham University (September 12, 1902). Among the many smaller works carried out by Mr. Bell may be mentioned insurance offices in Moorgate-street, village schools at Windlesham and Bagshot, schools in the Borough, and houses at Sheen, Richmond, and other riverside districts. Mr. Bell, who retired from practice five years ago, joined the Royal Institute of British Architects in 1866, but did not become a Fellow until 1894. The requiem Mass was held at Our Lady of the Angels Roman Catholic Church, Worthing, on Wednesday morning, and the interment took place at Broadwater Cemetery.

The death is announced, in his seventy-ninth year, of Mr. Thomas Frederick Wright, head of the firm of Messrs. T. F. Wright and Son, surveyors, of Bank Plain, Norwich. Mr. Wright was born in North Walsham. On leaving school he entered a civil engineer's and surveyor's office in London, and afterwards became associated with his father, who was in practice as a surveyor at Norwich. For many years the younger man was away from England through commissions which came to him from the Governments of Spain, Portugal, Holland, Russia, etc. Later he was engaged in many important engineering undertakings in this country and Ireland. About eighteen years ago he ceased his more active life and accepted the position of estate agent for the Melton Constable estate, a post from which he retired a few years ago. He leaves two sons and three daughters. The eldest son, Mr. T. H. Gordon Wright, succeeds his father in the business at Bank Plain.

Mr. Alfred Dowson, C.E., late of Westminster, has died at Fleet, Hants, aged 68 years. He was for many years engaged in the design and construction of engineering works on the sea coast, including piers and landing stages at New Brighton, Hunstanton, Redcar, Cleethorpes, Wallasey, and St. Ann's-on-the-Sea. He was also consulted on the improvement of the harbour of St. Heliers, Jersey, and much of the work subsequently carried out followed the lines he had advocated. Mr. Dowson had made a study of coast erosion; he constructed breakwaters and other coast defence works at various parts of our sea shore, eventually bringing out a novel system of open groynes, which he patented, and applied at the mouth of the River Ribbles, and at Brighton. He carried out several tramway schemes in this country and in India. For some years he was manager of the Economic Gas Power Company at their works at Basingstoke. In conjunction with his brother, Mr. J. Emerson Dowson, he published, in 1875, a treatise on "The Construction of Tramways."

A new school costing £1,800, has been opened at Newton Hill, Wakefield.

Engineering Notes.

NEW ROAD THROUGH STAFFORD.—Rapid progress has been made in the construction of the new road from the Lammascotes to the Lichfield-road, Stafford, under the supervision of the borough surveyor (Mr. W. Plant). One of the principal obstacles which had to be faced was the filling-in of the dead river on the site, for which purpose thousands of loads of material have had to be drawn from the Lammascote building estate. The River Sow has also been bridged over. In addition to ferro-concrete culverts for each of the three brooks over which the road passes, there are two other culverts of similar construction for dealing with the volume of water which comes down the river valley in times of flood. The roadway is raised about six feet above the meadows, and the material required for this purpose has been obtained by lowering the level of the field abutting on the Weston-road through which the road passes. For present purposes a carriage-way, 20ft. wide, will be provided, with a 6ft. grass margin and 9ft. footway on either side. Both sides of the road will be fenced with unclimbable iron fencing 5ft high. It is anticipated that the road will materially assist in the development of the large area of building land on the eastern side of the town, which at present is practically isolated from the south end of the town by the low-lying flood land which intervenes. The road will reduce the distance from Messrs. Siemens' works to the Lammascote and Coton Field Estates by more than half a mile. The position of the road was selected with a view to extension, at some future date, across the Green Common to the Styelfields Estate, thus linking up the whole of the eastern side and forming, in conjunction with Corporation-street, a secondary road through the town. The work of metalling and completion of the road, which is 50ft. wide between the fences, will be undertaken by the corporation.

CHIPS.

St. Hugh's College, Oxford, is making good progress from plans by and under the supervision of Messrs. Buckland, Haywood, and Farmer, of Birmingham. The outlay will be about £24,000.

Mr. Harold Cordon, second son of and assistant to Mr. R. C. Cordon, surveyor to the rural district council of Belper, has been appointed surveyor to the Freebridge Rural District Council, Norfolk.

The rural district council of Hemsworth have adopted a housing scheme, part of a still more extensive undertaking under contemplation, which provides for twenty houses in each of the parishes of Great Houghton, Shafton, Hemsworth, South Kirby, South Elmsall, and South Hindley; forty houses in Brierley and Grime-thorpe; and ten in Rylhall.

The pre-Reformation chapel in Langley Castle, Northumberland, the seat of Mr. C. Bates, has been restored at the cost of the owner, and rededicated for Roman Catholic services. Langley Castle was built in 1350 by Sir Thomas de Lucy, Baron of Tynedale, as a defensive fortress in the troublesome days of border warfare. It has been converted from a ruin into a residence since 1882 by the late Mr. Bates and his widow.

The tender of the Central American Construction Company has been accepted at 210,000dol. for the construction of steelwork, concrete walls, and roofs for Dry Docks Nos. 15 and 16 at the Cristobal terminals of the Panama Canal. This was the lowest tender received, others being from Messrs. R. W. Hebard and Co., Messrs. Lombard and Co., and W. E. Weigl Company, for the amounts of 230,000dol., 232,952dol., and 239,800dol. respectively.

The Pugliese Aqueduct, in Lombardy, which delivers water for various purposes, is 152½ miles long, and has just been finished, after fifteen years' work by ten thousand men. Sixty miles of this length are cut through the mountains of the Eastern Apennines at Venosa. The supply is divided into three branches, with an aggregate length of about 1,000 miles, while 500 miles of piping are required. There are 152 reservoirs, each holding more than 5,000,000 cubic feet. The total cost has exceeded £6,000,000.

Currente Calamo.

As will be seen by a letter we publish elsewhere, the R.I.B.A. has decided not to proceed further at present with the application to the Privy Council for the new Charter. That, we think, is a wise step. Possibly the fact was known to the writer of another letter which we also print, in which a suggestion is made for the amalgamation of the R.I.B.A. and the Society of Architects on lines which, while not absolutely novel, have not yet been fully discussed by the general body of architects, attached or unattached. We should be glad to publish any opinions thereon—for or against—that may reach us.

In the House of Commons last Monday night Mr. Lloyd George explained the Government's intentions as to the moratorium. The Government, he said, had come to the conclusion that, considering the whole position, and although the majority of traders were in favour of bringing it to an end, it would be much too risky at present to end it on September 4. They had come to the conclusion that they must extend the moratorium for another month in its present form. There were classes of debts on which the moratorium might have to be prolonged beyond that period, it might be until the end of the war. These included bills of exchange. We have little experience of bills of exchange ourselves. We had hoped the moratorium would not have been extended; for, as far as our observation carries us, its effect has been to stop ordinary credit, while doubtless relieving big speculative financiers. We are all bound to believe the Government is doing its best every way; but past experience of Mr. Lloyd George's finance prompts the hope that, somehow, it is as well advised at the Treasury as it is by Lord Kitchener at the War Office. There is not the same feeling of public confidence in the one case as there is in the other, however.

The Government is still doing its best to help us by speedy payments. It is announced that, as regards interim payments made before the completion of contracts, the War Office, where the contractor so desires, will make these payments at fortnightly instead of monthly intervals; the Admiralty have arranged for weekly payments on their overseers' certificates, and the Office of Works for fortnightly or weekly payments when desired. The War Office have decided to make interim payments on building contracts on a higher scale than heretofore. The Office of Works are prepared to reduce the value of work to be done before advances on account are made, if contractors desire it. The General Post Office and the Office of Works have decided to expedite the payment of all accounts received, and particularly in cases where the payment of an account might ordinarily have been delayed on account of a dispute as to one or more items, to settle at once so much of the account as is not the subject of dispute. It is hoped that local authorities and other public bodies will be able to make similar arrangements, in order to assist contractors in carrying on their business. We have already mentioned some that have done this. We have made inquiries of others, but from some have received no replies, while others have refused information. That is not wise, and we may have to mention the names of such.

We are glad that many of our advertisers are doing their best to educate the public to the use of a British-made article. Our readers will have seen in our columns during the last few weeks that emphasis has been placed by advertisers upon the use of British instead of German-made goods. We notice, too, the restraint with which many advertisers have worded their announcements. They have not referred to the word "German" or "Germany," probably through sensitiveness; but when the fact is considered that every shilling's worth of British-made goods purchased means support for British supremacy, we think there should be no diffidence in withholding the fact. How many readers who have used German iron, German glass, German dies, lamps, asphalt, and cement waterproofing materials and liquids realise that when they buy these there is some profit made on the material, and that profit goes to Germany. A proportion of that profit is then paid in taxes to support the German army and navy, which is now fighting against us. Before the war we did not say one word against the use of German-made goods when they were as good as English and the price was lower, as in the struggle for existence every man must buy in the cheapest market, although to-day, even for the sake of cheapness, we must not buy German-made goods, if we wish to beat the enemy.

We have certainly known thoughtless architects specify German-made goods. They have had no knowledge as to whether they have come from Germany, and they have not known that the goods have been German. It has simply been the persuasion of an English agent appointed by a German firm, or an English traveller appointed by a German firm that the architect has used their product. We know of British materials which are much better, by all practical and chemical tests, than German products, and yet we know of architects who have thoughtlessly specified the German product. In some cases the Germans have formed a branch in this country, and to hide their nationality, or to distinguish it from the German company, they have given it the title "British." No architect should be led astray by the word "British," because it is a well-known fact that when a foreign company establishes a sub-company in this country it is customary to supplement the name of the parent company by the word "British," to form the title of the sub-company. Once again we earnestly urge to all architects the strong advisability of inquiring where the product is made, and to boycott it during the war, and when that is over to satisfy themselves, if they are asked to specify it, that the quality is as good as a British-made article.

The Board of Trade warns all joint stock companies and their officers that: 1. No dividends or interest declared, or becoming due, after the outbreak of war should be paid during the war to, or in accordance with instructions from, any person resident in enemy territory. Such dividends or interest should be paid into a separate account at a bank, to be disposed of after the conclusion of the war. 2. No transfer of any shares or debentures from any person resident in enemy territory should be registered during the war. This is wise, as far as it goes, but is it sufficient? Unless further steps are taken, we doubt whether "should be paid" will stop dividends going to German share-

holders in companies where German holdings are overwhelmingly predominant, as in the case of companies we have already referred to but the names of which we have not yet mentioned.

In connection with the campaign undertaken by the Board of Trade, on the advice of their Advisory Committee on Commercial Intelligence, to assist British manufacturers and merchants to secure trade formerly in the hands of German or Austro-Hungarian firms, the Board have received a very large number of inquiries for names of sellers or buyers of articles of which sources of supply or markets have been interfered with by the war. Special arrangements have been made in the Commercial Intelligence Branch of the Board of Trade for dealing with the inquiries, and lists are being prepared and circulated of articles which inquirers desire (a) to purchase and (b) to sell. The first lists are now ready, and may be obtained on application to the Branch. Firms interested in any of the goods mentioned, either as buyers or sellers, should communicate with the Director. An enlarged sample room will also be established very shortly, for the purpose of exhibiting samples of German and Austrian or Hungarian goods or materials which have competed with British products at home or abroad, especially those which are necessary for the continuance of British manufacture, but which it is now impossible for them to obtain from their previous sources. Firms who may wish to exhibit goods are invited to make application to the Commercial Intelligence Branch. It should be expressly understood, however, that the exhibition is intended exclusively for samples of goods which have formerly been obtained in Germany and Austria-Hungary alone, and which firms may now desire to purchase in the United Kingdom. Notice will be given of the opening of the exhibition. A catalogue library will also be opened, and firms who may not desire to exhibit samples are invited to furnish catalogues of goods formerly received by them from Germany and Austria-Hungary; these catalogues to be classified by trades in order to be readily accessible to inquirers. The address of the Commercial Intelligence Branch is 73, Basinghall-street, London, E.C.

According to the annual report of the paving, sewerage, and highways department of the Manchester Corporation, submitted to the city council on Wednesday, during the past year 36 103 square yards of new granite pavement have been laid on 6in. concrete foundation. This work has been principally on the roads where the increasing traffic, both in regard to speed of vehicles and weight of loads carried, is having such destructive effect on the old pavements that the committee are of opinion there is no alternative to complete reconstruction, early as it will be. Asphalt pavement is being substituted in many cases for the old set pavement. Granited rock asphalt is the noiseless pavement which the committee have decided to lay in front of four schools. The wood pavement in St. Ann-street is to be taken up and granited rock asphalt pavement substituted. On the question of granited rock asphalt the committee have had letters from contractors stating their inability, on account of the war, to obtain the material specified in their contracts, which usually comes from German and French mines, and asking to be allowed to use

similar material obtained from other sources. The committee have acceded to the request on conditions.

In Canada, one effect of the war seems to be a considerable impetus to land buying. The Saskatoon Building Trade Weekly News Letter says: Since the outbreak of hostilities the remarkable number of land inquiries received by local dealers from all over Canada, and from many sections of the United States, would seem to imply that the war has resulted in what is likely to become the first really important back-to-the-land movement. To many whose sources of livelihood have been most seriously affected, if not entirely suspended, there comes the tardy recognition of the fact that it is impossible to starve out the mixed farmer, and that of all men he is most thoroughly independent of every or any crisis or cataclysm. This is because it is his business to raise food. The man who, in the morning, can raise his window-blind and look out upon even a small and humbly-stocked farm of his very own is indeed to be envied. That his position actually is envied, the present marked awakening of interest in our lands would seem to confirm. Further, within the past ten days, several important parties of land buyers have arrived from the States and elsewhere, and business has been encouraging. This more especially as all of such buyers have been mixed farmers and stockmen.

The death is announced of Mr. R. Innes, whose landscapes have been a prominent feature of the exhibitions at the New English Art Club.

The creation of a new permanent appointment of Assistant Superintendent, Archaeological Survey, has been sanctioned by the Government of India.

Tenders are about to be invited for the 100,000-dol. warehouse which is to be erected at Montreal by the Harbour Commissioners. The architect is Mr. F. W. Cowie, Montreal.

The estate and property committee of Newcastle-on-Tyne Corporation decided on Monday to advertise for tenders for the erection of baths at Heaton, Benwell, and Walker, the tenders to be sent in and adjudicated upon by Tuesday in next week.

At Sheffield on Thursday next a Local Government Board inquiry will be held into an application by the corporation for sanction to a loan of £24,214 for the provision of public baths in Langsett-road, Hillsborough, and Merton-lane, Winebank; of public washhouses and conveniences in Daniel-lane, Uppertorpe; and of a central laundry near Penistone-road.

An inquiry was held on Tuesday by Mr. R. H. Bicknell, inspector to the Local Government Board, at Ashington, concerning an application by the urban district council for powers to borrow £5,000 for works of water-supply, principally for increasing the carrying capacity of mains. Mr. C. Alderson, clerk, and Mr. G. Beaty, surveyor, appeared for the council. There was no opposition.

An extension of the *Daily Chronicle* premises, which will bring the floor area to over six acres, is being carried out by Messrs. Vigers, the builders. The editorial main entrance, which at present is in Whitefriars-street, will be through a new office in the widened part of Fleet-street, almost opposite the *Daily Telegraph*. The elevation is being designed by Mr. E. L. Lutyens, F.R.I.B.A., but the general architect for the building being Fleet-street, except the elevation is Mr. T. H. Smith.

Mr. H. S. Stewart, A.R.I.B.A., Local Government Board inspector, held an inquiry at the public hall, Westerham, into an application by the Sevenoaks Rural Council for sanction to borrow £2,000 for the purpose of carrying out a housing scheme. Eight cottages are proposed to be built on an acre of land at the back of the gasworks, in Rysted lane. The estimated cost of the cottages was £1,700, and the price of the land £200. The cottages, let at 5s. 6d. per week each, were estimated to produce £114 8s. per annum, and the expenditure was set down at £113 0s. 6d.

PROFESSIONAL AND TRADE SOCIETIES.

BEAUX ARTS ATELIER.—The Beaux Arts Committee give notice that the work of the Atelier at 16, Wells-mews, Oxford-street, W., is proceeding as usual. The time for executing the June projet has been extended to Sept. 30. The new session commences to-morrow (Saturday) when the esquisse for the first monthly competition will be held. In order to facilitate arrangements it is asked that members who wish to make use of the Atelier during the coming session will notify the secretary at once. The Sous-Patron, M. Chaires, is at present serving with the Army of France. During his absence his duties will be undertaken by a competent deputy.

R.I.B.A. EXAMINATIONS.—The Final Designs Approved.—The Board of Architectural Education announce that the designs submitted by the following students, who are qualifying for the final examination, have been approved:—

SUBJECT XV.

(a) Design for a Museum (detached) in the Park of a Country Town.—P. J. Adams, W. Alison, W. Allison, J. R. Armstrong, W. A. Batty, C. J. Brooks, J. M. Brown, J. Burford, P. Butt, J. Carey, L. E. Carreras, C. C. Cheek, W. L. Ching, A. D. Clare, G. A. Cossar, A. Cullen, J. K. Currie, W. R. Davison, B. Donaldson, T. W. Dowsett, R. A. Duncan, T. C. Evans, S. Fernyhough, A. S. Forbes, L. S. Ford, R. Frater, F. E. Gooder, H. F. Gossling, R. D. Graham, H. V. Hague, A. B. Hamilton, T. Herford, G. H. G. Holt, J. Hossack, G. B. Howeroft, J. H. Jacob, L. F. Jones, W. O. Jones, A. B. B. Jopling, H. Z. Kassem, M. D. N. Koch, C. Lancaster, G. S. Leadam, H. A. Lister, S. H. Loweth, R. H. Maddock, R. S. Moore, W. N. J. Moscrop, D. J. Moss, J. J. Nathanielsz, C. L. Pace, J. Palmer, G. A. K. Robertson, H. A. Ryan, C. D. St. Leger, T. A. Sanders, G. Sheustone, A. T. Spence, K. Takekoshi, J. A. C. Taylor, J. B. M. Welch, P. Whitehead, F. Wilkinson.

(b) Design for an Open-Timber Roof to a School Hall.—W. A. C. Adams, J. R. Armstrong, C. H. Aslin, G. A. Booker, R. Cawkwell, C. W. Craske, J. S. Fyfe, G. H. Gray, C. Grellier, E. C. Lavender, W. V. Lawton, A. L. MacMillan, J. Moore, C. S. Pictou, W. G. Pidsley, M. Robertson, A. Smith, J. C. P. Toothill, G. Vinden, D. H. Walker, H. F. Walker, C. H. Wright.

Designs for other subjects from the following candidates have also been approved:—

J. Burford, D. A. Carmichael, A. B. Hamilton, A. L. Mortimer.

THE SOCIETY OF ARCHITECTS.—The following is the "house list" of nominations for officers and Council of the Society for the ensuing session, 1914-15:—President: E. C. P. Mounson, F.R.I.B.A., F.S.I., London. Vice - Presidents: Edwin J. Sadgrove, F.R.I.B.A., London, and A. Alban H. Scott, M.R.San.Inst., London. Past-Presidents: Albert E. Pridmore, F.S.I., London, and Percy B. Tubbs, F.R.I.B.A., London. Hon. Secretary: George H. Paine, London. Hon. Treasurer: P. M. Beaumont, A.M.Inst.C.E., Maldon. Hon. Librarian: Gilbert A. Harrison, Oxford. Council: Henry Adams, M.Inst.C.E., London; B. D. Cancellor, Winchester; Henry A. Cooper, Kettering; R. Cecil Davies, Chester; George E. Dickens-Lewis, Aberystwyth; Herbert O. Ellis, London; Herbert Freyberg, F.S.I., London; Harry Gill, Nottingham; T. Stewart English, London; R. A. Jack, London; Col. F. S. Leslie, R.E. (retired), Woolwich; Herbert W. Matthews, London; F. C. Moscrop-Young, London; Edward J. Partridge, F.S.I., Richmond; J. Herbert Pearson, London; Charles E. Salmon, Reigate; Noel D. Sheffield, London; Alfred J. Taylor, Bath; B. R. Tucker, M.R.San.Inst., London; and Thomas Wallis, London. Additional nominations for Council and officers may be made by any three members who shall send in their nomination, properly signed, to the Council, before the first day of October, and the names of such nominees shall be incorporated with the list proposed by the Council, which shall be arranged alphabetically. The annual meeting of the Society will be held on Thursday, October 22.

The Scarborough Town Council have decided to apply to the Local Government Board for sanction to borrow £16,070 for the purposes of improving the South Cliff Gardens.

A tower of Portland stone is being added to St. Mary's Roman Catholic Church, Donnybrook, Dublin. Messrs. W. H. Byrne and Son, of Suffolk-street, Dublin, are the architects, and Mr. M. J. Green, of Donnybrook, is the contractor.

COMPETITIONS.

NEW MUNICIPAL OFFICES, GUILDFORD.—The plans of Mr. T. R. Clemence, M.S.A., of Guildford, have been placed first in a limited local competition for the new municipal offices. The assessor, Mr. J. H. Norris, of Godalming, states that the chief merits of the plans were the way in which the architect had adapted them to the gradation of the site. He had provided a lower ground floor, and an upper ground floor, making use of the rise of the land. The lower ground floor would be used as the sanitary inspector's offices, stores, and a strong-room, and the upper ground floor as a town clerk's office and the rate collector's office, and the floor above as the surveyor's department. Another good feature of the plan was the excellent way in which the corridors were lighted, and also the splendid drawing office which had been provided. The front elevation was good and the back elevation also. These were the merits, but there were some drawbacks. He felt it rather inconvenient that the main entrance of the building was to be at the south-east end. Another drawback was that the strong-room occupied a position near an outside wall and close to the heating chamber; but perhaps these details might be rearranged. In other respects the planning was very satisfactory. In addition to the main entrance there was also an entrance at the north end, and probably in practice this would be most largely used by the public. The estimated cost of the building is £4,266.

The council of the Royal Institute of Public Health has placed its laboratories at the disposal of manufacturers and others who wish to avail themselves of the institute's bacteriologists and chemists.

A White Paper issued on Tuesday shows that the total receipts in respect of the land registry for the year ended March 31 last were £56,995 3s. 10d., as against £56,697 16s. 2d. in the previous year, whilst the expenditure amounted to £51,872 10s. 1d., as against £51,558 10s. last year. Of the surplus of receipts (£56,697 16s. 2d.) over expenditure (£51,558 10s.) in the previous year—viz., £5,139 5s. 10d.—£5,130 7s. was transferred to the Land Registry Insurance Fund.

In February the Bradford Corporation's electricity committee accepted a tender of the Adnil Electric Company, Ltd., of London, to supply and erect a turbo generator of 5,000-kilowatt capacity, manufactured by the Bergmann Electrical Works, Berlin, the price agreed upon being £9,370. The generator was nearly completed when war broke out. The committee met on Tuesday, and decided to relet the contract to the British Westinghouse Electrical Manufacturing Company, of Manchester, who stated that they put in a specially low tender in order to find employment for their workmen.

The Under-Secretary for Home Affairs, Mr. Ellis Griffith, presided at the annual meeting of the Welsh Housing Association, held on Friday night at the Westminster Palace Hotel. Lady Boston, the president, said they desired more funds, in order to proceed with the erection of cottages, so as to provide work for the unemployed during the year. Mr. A. T. Davies, of the Board of Education, suggested that as the building trade would be the first to feel the pinch of the war, the work of repairing and re-modelling cottages should be taken in hand at once, and that owners who could not bear the expense should hand them over to the association to undertake the work.

At Friday's meeting of the Foleshill Rural District Council, the housing committee reported further with respect to the proposal to erect thirty houses at Foleshill, and an equal number at Bedworth. They had considered tenders for the work, and recommended the acceptance of the two lowest—that of Mr. John Smith, Bedworth, at £6,000, for the Bedworth scheme, and that of Messrs. William Train, Ltd., Nottingham, at £6,597, for the Foleshill scheme. They further recommended that application be made to the Local Government Board for a loan of £14,250, for carrying out the schemes. The clerk explained that it was proposed to erect houses with three bedrooms, to be let at 7s. weekly, and it was estimated the net yearly income would be £1,064 10s. It was anticipated that at the proposed rental there would be neither a profit nor a loss on the undertaking. The tenders were accepted, and it was decided to proceed forthwith with the work.

Our Illustrations.

A DINING-ROOM IN A COUNTRY HOUSE.

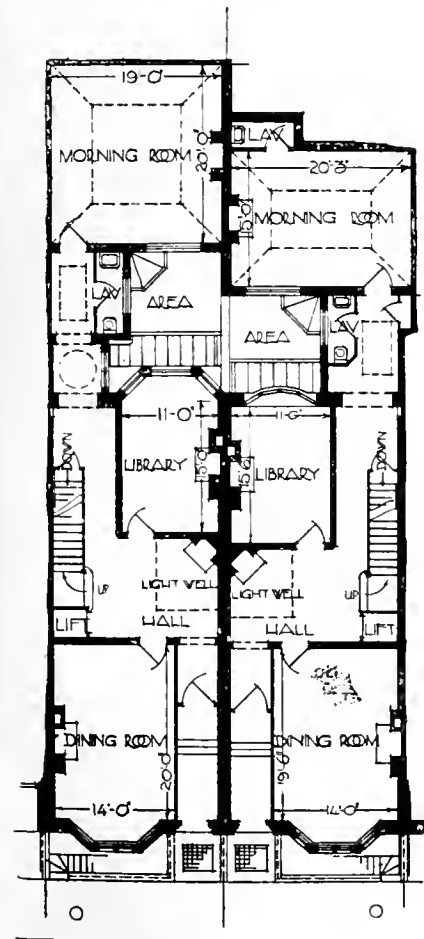
The intention of Mr. H. Davis Richter, R.B.A., in preparing this scheme has been to obtain a bold decoration effect in the manner of the Inigo Jones period. The walls are broadly panelled with wide, carved mouldings, projecting beyond the face of the framework. The plaster ceiling is enriched with a border of ornament, the centre portion being upon a higher plane, in the manner characteristic of the style herein adopted by the artist.

HOUSES IN WIMPOLE STREET, W.

These houses have been erected with Portland stone façade with steel casement windows and leaded glazing. We give the chief plans of Nos. 30 and 31, Wimpole-street. The ground floor is planned to provide as much accommodation as possible, and especially to suit the requirements of a medical practitioner; at the same time an attempt has been made to depart from the stereotyped plan of narrow passage and staircase fronting the entrance, by providing a central hall, top-lighted. The floors of the principal rooms and the staircase and joinery are of oak. The builders were Messrs. D. Prosser and Son, and the architect was Mr. F. M. Elgood, F.R.I.B.A.

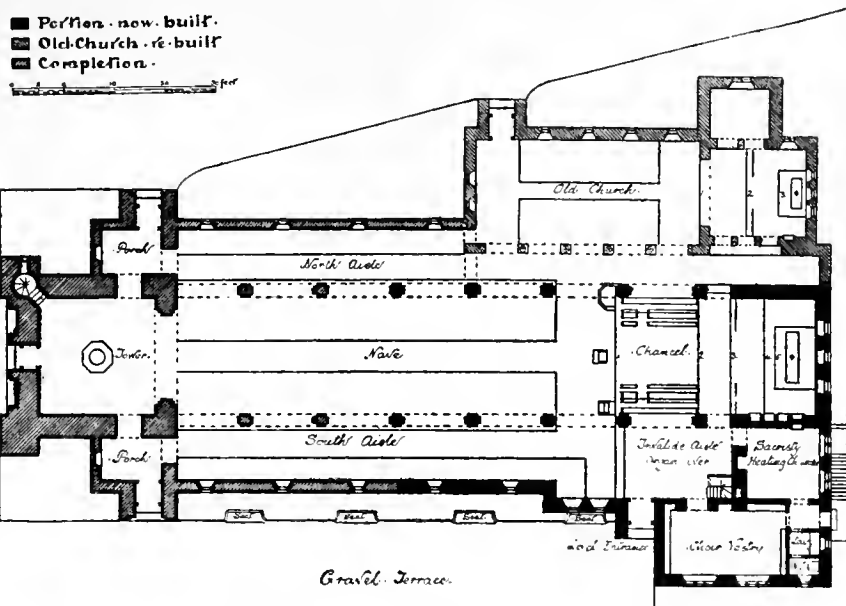
RESTORATION OF THE HALL OF AN OLD MANOR HOUSE.

This drawing, which forms the subject of one of our illustrations, is intended by the artist rather as a suggestion of the resources for interior work latent in the Mediaeval style than as an actual restoration or design. It is an assemblage of characteristic parts, and conserves the picturesque charm, the romantic air, of the 14th century. The stone floor and mullioned screen, the oak-ribbed



Ground Plan.

HOUSES, WIMPOLE STREET, W.—Mr. F. M. ELGOOD, F.R.I.B.A., Architect.



CHURCH OF ST. THOMAS-ON-THE-BOURNE, SURREY.

Mr. H. S. SIDEBOTHAM, Architect.

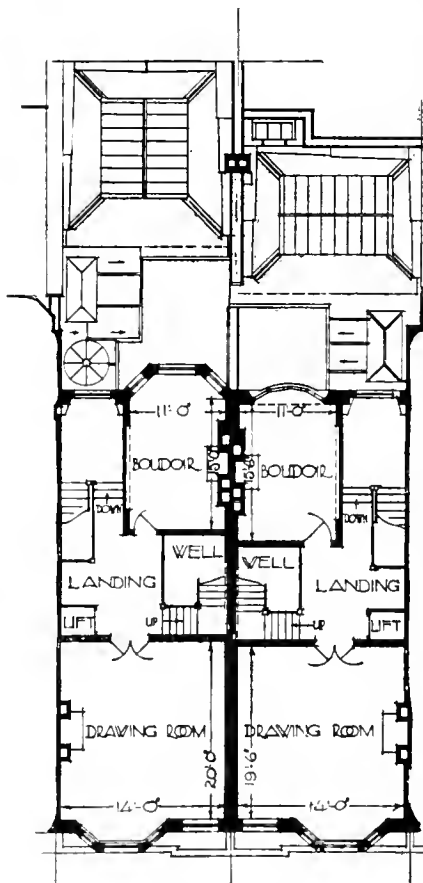
ceiling, the carved heraldry of the chimney-piece, with its line of emblazoned shields, indicate the picturesque age of building. Here and there pieces of furniture and small domestic matters affirm the occupation as a living-room. The original was exhibited at this year's Royal Academy by Mr. G. Wortley Chilton, of Watford.

THE CHURCH OF ST. THOMAS ON-THE-BOURNE, SURREY.

This work was begun in 1910, and the chancel, with the vestries, are structurally complete. Three bays of the nave were also built; but these have not yet their

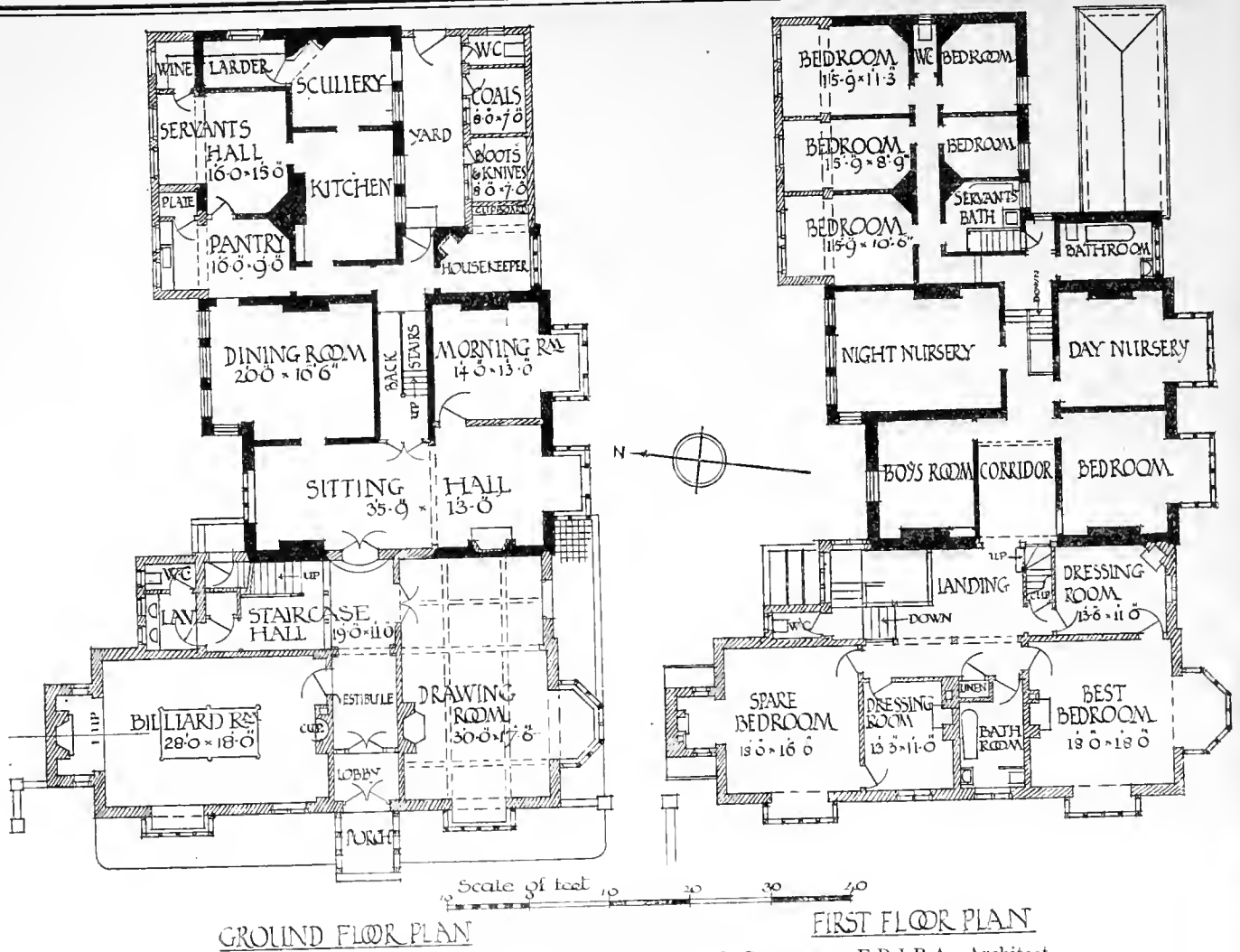
clerestory windows, and a temporary iron roof covers both nave and aisles. A feature of the plan is the invalids' aisle, into which they can be wheeled in their chairs by the level entrance, and they are also level with the altar-rails' step. This aisle is beneath the organ-loft, which has a soundproof floor. The church is built of Bargate stone, with Douling stone dressings, the interior of the walls being of brick, plastered and whitewashed, and prepared for mural subject paintings. When complete, the church will have a very massive western tower. The materials of the old church, when pulled down, will be utilised on the new site, as a Lady-chapel. The church stands on a commanding site of two acres, on the top of one of the Surrey hills. The builders were Messrs. Mardon and Mills, of Farnham, and the architect is Mr. Henry S. Sidebotham, of Guildford.

"DENE LODGE," ASH, NEAR ALDERSHOT.



First Floor Plan.

The illustration shows the additions and alterations which have recently been carried out to this house for Mr. R. E. Bellios. The original house was a small, plain, box-like structure, covering, roughly, the position now occupied by the dining-room, sitting-hall, and morning-room. Some few years ago a servants' wing was added on the east side, and again at a later date the bays towards the garden on the south. The original structure was of red brick, with slate roof, the slates on the roof of the servants' wing being of a particularly aggressive and ugly colour. The problem was to provide the additional accommodation required, and at the same time to cover up, as far as possible, the exceedingly ugly features of the old house. The means adopted were to add a new wing on the west side of the house, projecting it sufficiently far to the north to hide the unsightly servants' wing behind it, as shown on the plan, and to mask the ugliness of the old north front (which was the side by which the house was originally approached), the old servants' wing was brought forward and an overhanging upper story in half-timber work was added, which served to hide in great measure the dullness of the old slate roof, while providing for much-needed accommodation to the servants' quarters. The walls of the new portion of the house were executed in local red brick, with dark headers to match old, and the roofs covered with grey-green Delabole slates of varying colour and size. The half-timber work was executed in English oak, slightly darkened and oiled, and the spaces filled in with cream-coloured plaster, left with a rough face. Internally the walls



"DENE LODGE." ASH, NEAR ALDERSHOT.—Mr. H. O. CRESSWELL, F.R.I.B.A., Architect.

of the sitting hall, staircase hall, and vestibule up to the new front door were panelled in oak for a height of 7ft., and the floors of the new rooms were laid with oak boards in narrow widths. During the time that the works were in progress an opportunity occurred to purchase additional land on the west side of the property, and by this means a new approach was formed from the main road on the west side, instead of the old one from the north, and the square forecourt shown in the sketch was added to give more dignity and importance to the entrance. The architect was Mr. H. O. Cresswell, F.R.I.B.A., of 17, Buckingham street, Adelphi, W.C.

OLD BEAUPRE, COWBRIDGE, GLAMORGANSHIRE.

(These sketches and details, with which we have been favoured by Mr. W. Eaton, A.R.I.B.A., will be found described on p. 300.)

The Long Eaton Urban District Council have decided to commence the erection of a new filter-bed at the sewage farm at a cost of £500 and the improvement of the main sewer in the Sawley-road district at a cost of £200.

The rural district council of Pennington have received the sanction of the Local Government Board to loans of £11,575 for work of covering at Milford, and of £5,345 for similar work at Pennington.

At the annual meeting of the South Carolina Chapter of the American Institute of Architects recently held at Charleston the following were elected officers for the ensuing year: President, Mr. Charles C. Wilson, of Columbia; vice-president, Mr. E. V. Richards, of Bennettsville; secretary and treasurer, Mr. James D. Benson of Charleston. On the same day, the South Carolina Association of Architects met and elected new officials as follows: Mr. A. W. Fohl of Charleston, president; Mr. J. B. Crumhart of Columbia, vice-president; Mr. J. H. Sam-

Building Intelligence.

EDINBURGH.—The schools under the control of the Edinburgh School Board reopened on Tuesday. As is the custom, a number of the schools have been overhauled during the summer vacation. The work is done by rotation, and five schools—Gilmor-place, Torphichen-street, Bristo, Davie-street, and the old section of the Royal High School—have been dealt with. Four schools have also been redesked. Internal structural alterations were carried through at Dalry and St. Bernards. In consequence of the conversion of the Canonball House into classrooms, it was necessary to make some alterations on Castle-hill School. The only new school in course of erection is King's Park, which is expected to be ready within a few months.

SIDMOUTH.—The tower of Sidmouth Parish Church, Devon, is undergoing a process of overhauling; the belfry windows are being renewed, and the stonework of the large west window, which contains some rather good modern glass, is being repaired. Mr. R. W. Sampson, M.S.A., is the architect supervising the restoration. It is proposed to enlarge the vestries at the east end of the building, we understand, but for this there does not appear to be a site without diverting the public paths and interfering with the graves of the old burial-ground. The old tower has not suffered so much from incursions work as the rest of the church, which has long been much denuded of its historic character. The blue-centre panel of the pinnacles quarrels badly with the vicious blue of the east window coloured glass erected some years ago.

STAFFORD. Extensive alterations have just been completed at Messrs. Riley's large boot factory from plans by Mr. C. W.

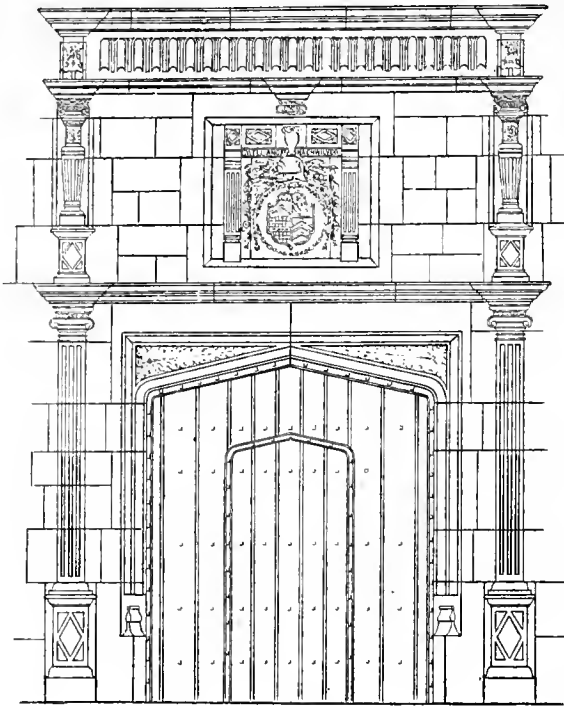
Millen, architect, of Stafford. The principal feature of the alterations is the conversion and extension of the ground floor into one large room, so as to bring the whole of the bottoming department into one. The floor space is 124ft. by 108ft., the roof is in one span, 22ft. high. The whole of the five departments can be supervised from any position in the room. On the first floor a number of small rooms have been gutted and the space utilised for offices. On the same floor there is a stockroom, arranged with compartments and tiers of shelves for boots, and facilities have been provided for the despatching and packing of goods from the same floor. The clicking and machine rooms are located on the top floor, divisional walls having been removed and the chimney stack, which formerly ran through the centre of the building, built outside, so as to throw this into one room. The machine room, which accommodates over 100 females, is lighted both from the sides and the top. The ventilation is by electric fans, and a new electric hoist is being installed. Two unoccupied cottages adjoining the factory are shortly to be demolished, and a leather storeroom will be erected. The building work has been carried out by Messrs. J. Jervis and Sons, of Stafford.

The new office building of the Quebec Harbour Commissioners, which was opened three weeks since, is Classic Renaissance in style; it is built of Desechambant limestone, while the roof and clock-tower are covered in copper. The building was erected from plans prepared under the supervision of Mr. Thos. Reid Peacock.

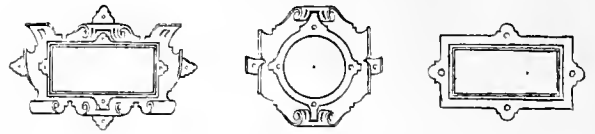
Excavating is in progress for the new police-station which is to be erected at Regina, Alberta, at a cost of nearly 150,000dol. The building is to be four stories high, of stone, brick, and reinforced-concrete construction. Messrs. Clomesh and Portnal are the architects, and Messrs. Frid Lewis, and Co. the general contractors—both Regina firms.



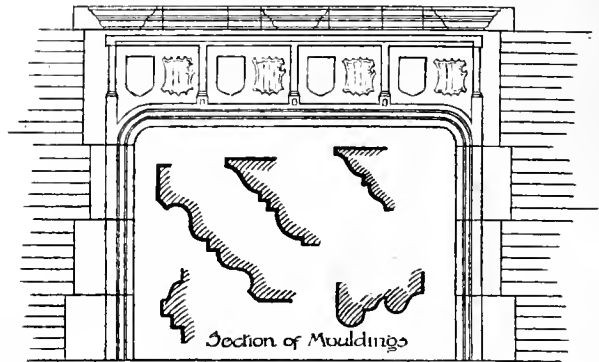
DETAILS OF OLD BEAUPRÉ Glamorganshire



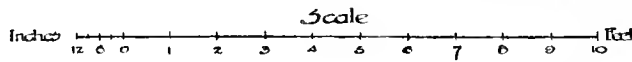
Elevation of Front Entrance



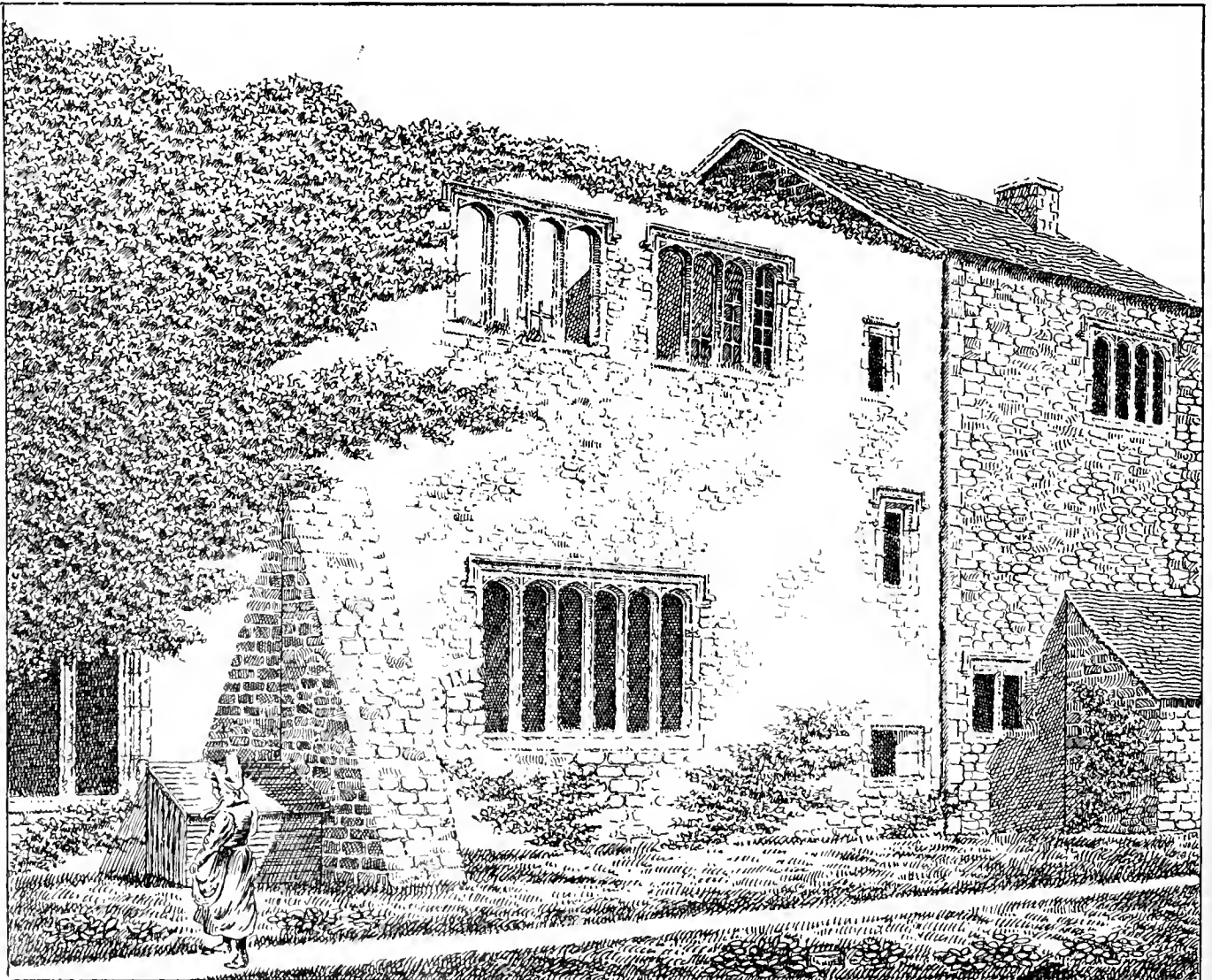
Panels to Porch



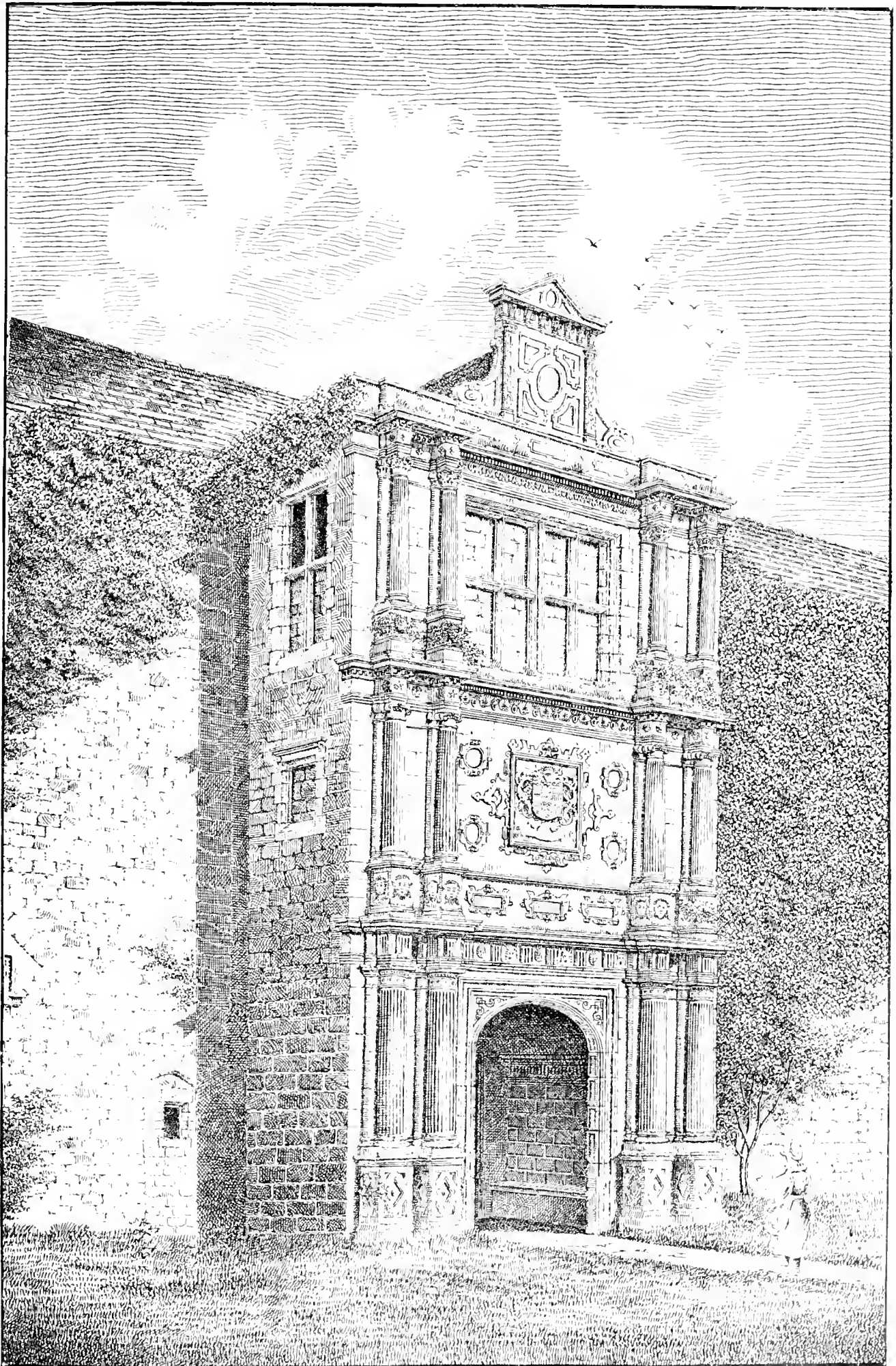
Elevation of Fireplace



Measured and drawn
by W. Eaton A.R.I.B.A.

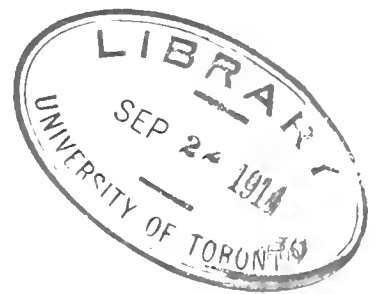


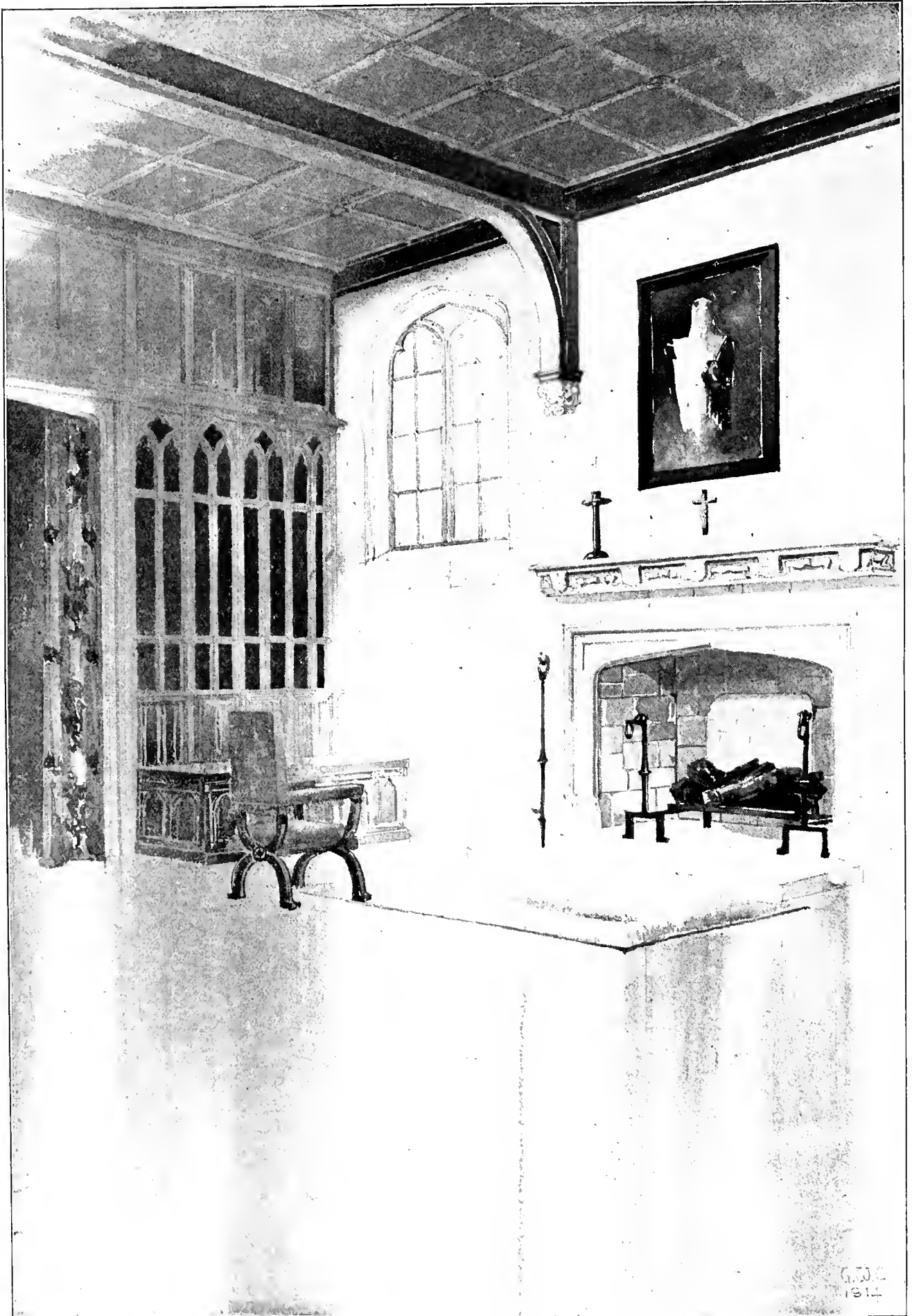
Sketched by Mr. W. Eaton, A.R.I.B.A.



THE PORCH, OLD BEAUPRE, LOWTRIDGE, E. GLAMORGANSHIRE. — Sketched by Mr. W. FADON, A.R.I.B.A.







RESTORATION OF THE HALL OF AN OLD MANOR HOUSE.

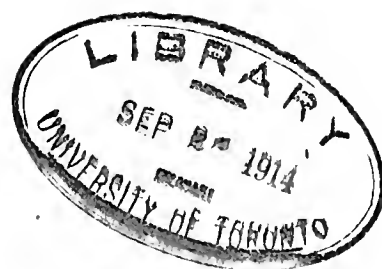
By Mr. G. WORTLEY CHILTON.





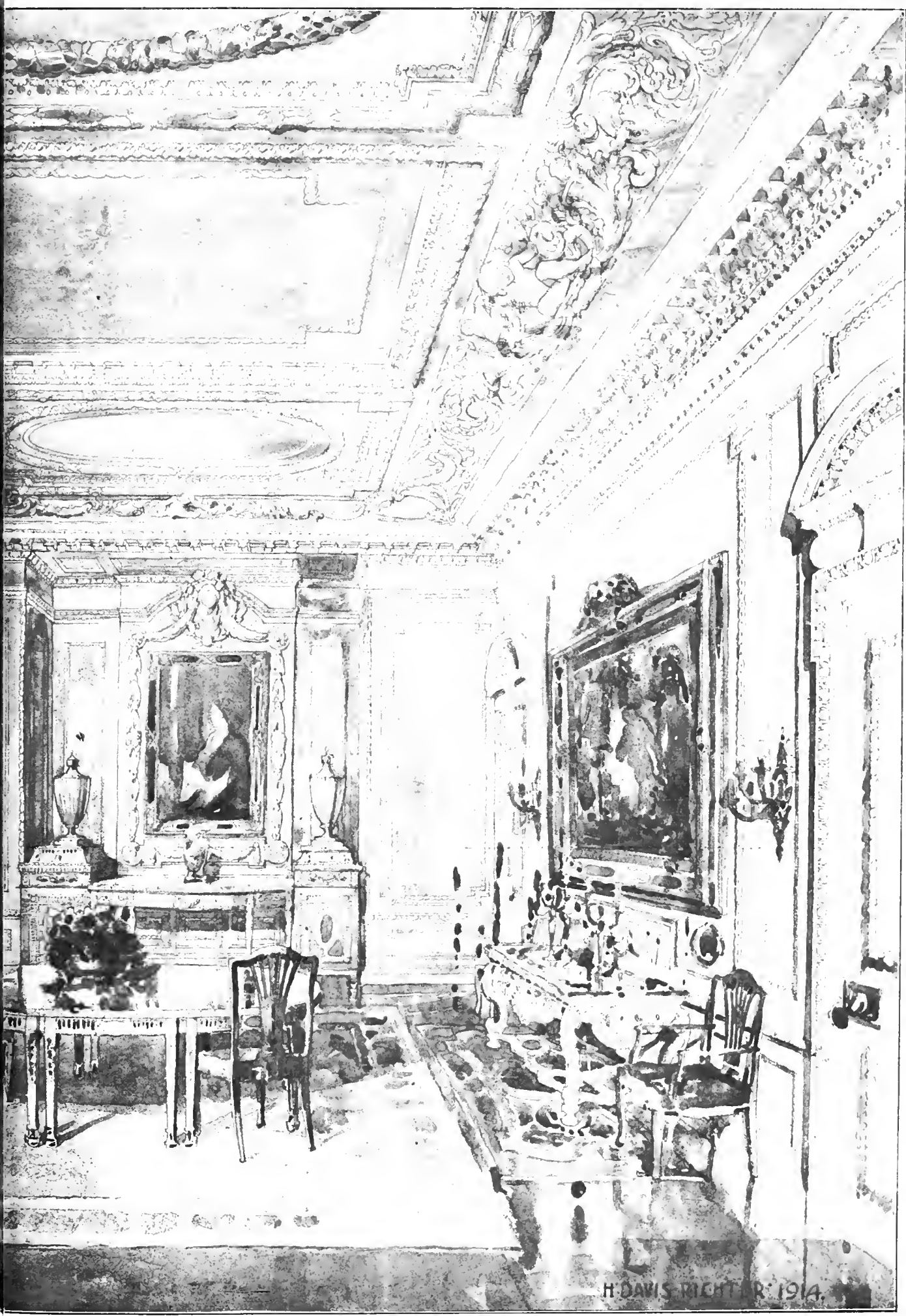
HOUSES IN WIMPOLE STREET, W.—Mr. F. M. ELGOD, F.R.I.B.A., Architect.

315-318





A DINING ROOM IN A COUNTRY HOUSE



H. DAVIS RICHTER 1914.

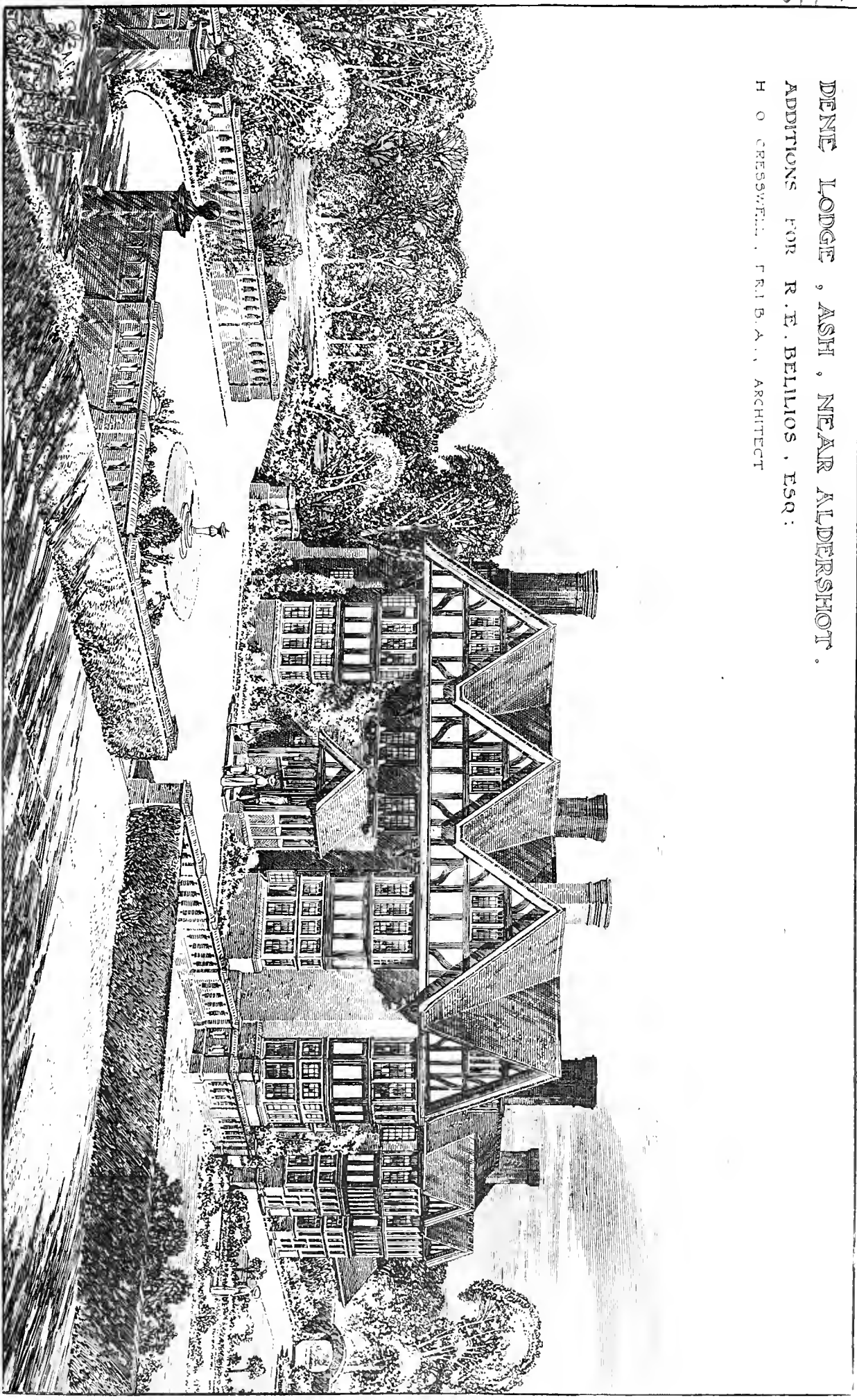
E.—Mr. H. DAVIS RICHTER. R.B.A., Architect.



DENE LODGE, ASH, NEAR ALDERSHOT.

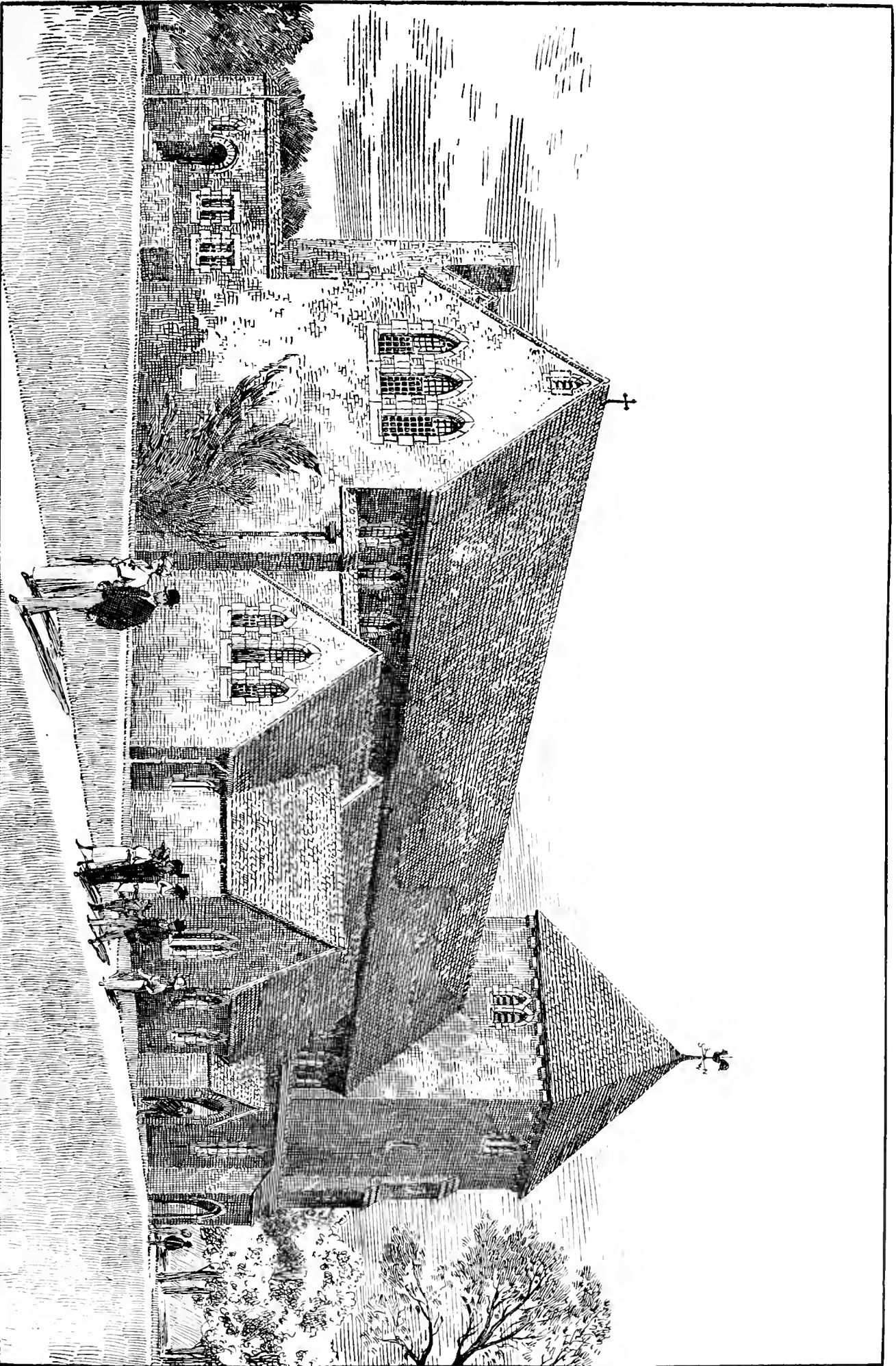
ADDITIONS FOR R. E. BELLIOS, ESQ.:

H. O. CRESSWELL, F.R.I.B.A., ARCHITECT.



DENE LODGE, ASH, NEAR ALDERSHOT.—Mr. H. O. CRESSWELL, F.R.I.B.A., Architect.





CHURCH OF ST. THOMAS ON THE BOURNE, SURREY.—MR. H. S. SIDEBOTHAM, Architect.



Correspondence.

THE R.I.B.A. PROPOSED NEW CHARTER.

To the Editor of the BUILDING NEWS.

SIR,—The Licentiates' Provisional Committee (London) having been formed, with a view to safeguarding the interests of Licentiates and others, and also with a view to co-operating with other like-minded committees already in operation elsewhere, has been concerned as to the present position of this matter, as affected by the war. I have, therefore, approached the President, and I append his reply.—I am, etc.,

J. EDWARD STILL (Chairman).

[Copy.]

Royal Institute of British Architects,
August 10, 1914.

Dear Sir,—In reply to your letter of the 6th inst., you may take it for granted that the Council of the Institute will not be occupied with the consideration of the New Charter, or take any steps in connection with it at the present time.—Yours faithfully,

ERNEST NEWTON, President.

IF NOT NOW, BY-AND-BY?

SIR,—I was pleased to see in your last issue that the Society of Architects is loyally facilitating the efforts of the R.I.B.A. War Committee by all means in its power. The main purpose, of course, is the chief thing to think about and work for at present; but I am glad to think that, working together, the members of both bodies will probably get to know and appreciate each other more than they have done in the past.

Hoping this, and remembering how this war has effaced all other feuds and rivalries, might not all concerned ask themselves and each other whether the proposal for amalgamation might not be revived, instead of, or previous to, application by the R.I.B.A. for the new Charter?

If an "Amending Bill," as in the case of Ireland, is necessary, I respectfully suggest that the union of hearts and forces might be on some such basis as this: All members of the Society to retain their present titles and to pay their present subscriptions to the R.I.B.A. and to be entitled to all the privileges of corresponding members of the R.I.B.A., but no more M.S.A.'s to be made. Premises and assets and officers of the Society to be taken over by the R.I.B.A. and the whole administration of the Society.

I am sure details on these lines could be easily arranged, and then, in a very few years, the amalgamated societies, *one de facto*, would become *so de jure*, and the one really strong and representative organisation of the profession might ask, without fear of refusal, for the regulation of its interests and the guardianship of entrance to its ranks.—I am, etc.,

ALTER IPSE AMICUS.

RE ENLISTING.

SIR,—For the convenience of all members of the architectural and kindred professions who wish to respond at once to Lord Kitchener's appeal, it has been arranged that all men enlisting at Whitehall, in the various branches of his Majesty's forces, through the Architectural Association, will be kept together and sent to whichever regiment they may choose, provided that such regiment is not recruited to its full strength.

Two batches of our members have already been accepted for the Royal Engineers, where their technical training should stand them in good stead; but those who prefer to join the cavalry, artillery, or infantry can do so, and it remains for the men to say to which branch of the Service they will go.

As I am arranging to send up batches from time to time, will those wishing to enlist communicate with me as soon as possible?

Mr. Maurice E. Webb, President of the Architectural Association, has enlisted as a private in the Royal Engineers.—I am, etc.,

ALAN POTTER.

Hon. Sec. Architectural Association
War Service Bureau.

18, Tufton-street, S.W.

ASSISTANCE TO THE ENEMY.

SIR,—I have read with much interest the letter of "Fair Play" in your last week's issue, and I think wherever architects can, they should exclude all building materials, fittings, and decorations which emanate from German firms.

In a small way, in consequence of the war, I have just had the opportunity of using glass electric-light shades of English make, instead of German. I find, on comparing the two specimens, that the English is far superior, and my clients are quite willing to incur the extra expenditure, which, by the way, is very small.

I may add that before the war I should have passed the German glass without any comment, simply because the contractor included for such in his estimate.—I am, etc.,

WM. WOODWARD, F.R.I.B.A.

13, Southampton-street, Strand, W.C.,
Sept. 1, 1914.

THE WAR AND RELIEF WORK: THE USE OF WASTE SPACES.

SIR,—It is strange that, among the innumerable suggestions that have recently been made for alleviating the terrible distress which would appear to be inevitable, one of the most obvious has never even been mentioned. I refer to the laying out of public parks and gardens in and around those large centres of population where it is certain to be most acute. Twenty years ago, during the distress which then prevailed, owing to the slackness of trade, a great deal of this sort of work was done, with the most beneficial results, for not only does it provide for the employment of a very large proportion of unskilled labour, but it also produces results of the highest permanent value, an advantage which most relief works lack.

During the time to which I refer parks were laid out at Sheffield, Hanley, and Burslem in the Potteries, Newport in Monmouthshire, Rawtenstall in Lancashire, and many other places too numerous to mention, partly by municipal effort and partly by philanthropy, and if there is any regret in the minds of the promoters, it is that these works were not undertaken more generally and on a larger scale while the opportunity existed to do so with such beneficial results. It is interesting to realise that of the parks laid out during the last sixty years more owe their existence to adversity than to prosperity.

What I would propose would be a similar combination of public and private effort at the present time. In various parts of the country, and especially in rapidly growing districts, there must be domains covering several acres, which, charming at one time, are now so surrounded by factories or mean suburbs as to be no longer even commercially valuable for their original purpose, and the owners would be doing an inestimable service in either giving them or offering them at a specially reasonable purchase price to the municipalities, on the understanding that they were to be maintained as an open space for ever. The work thus automatically created would go far to relieve distress without pauperisation, for the average unskilled labourer by which I mean practically all those unable to find employment in their own craft after a week or so of careful supervision, can use a spade and enjoy his work thoroughly. There are men in the districts to which I have referred who to-day bless the misfortune which compelled them to turn from an indoor occupation to wield a spade in the open air for weeks, and who, in consequence, not only obtained a love for open air exercise which has never left them, but an increased physical stamina which has altered the whole tenor of their lives.

There is one great difference, however, between the conditions twenty years ago and those which prevail to-day. In those days the park was considered solely as a unit in itself, whereas to-day we realise that it is only one aspect of the greater problem of city planning and that not only in it but around it many works will be necessary to

form out of the heterogeneous elements at present existing a unified composition. What I would therefore suggest is that every town which has in hand at present a town-planning scheme—and there are many of these—should hurry the work forward so far as to make sure that when relief works are required they will be prepared with the necessary data to allow of road making, levelling, and such work as the planting of waste spaces and spoil heaps, so that they may have the assurance that nothing will have to be redone through lack of foresight and haste in putting the work in hand. The more expensive work, such as the provision of fencing and architectural details, might be left until later.—I am, etc.,

THOMAS H. MAWSON.

High-street House, Lancaster, Aug. 25.

[We heartily agree. Our own illustrations of Mr. Mawson's work at the time he mentions are well remembered by all interested, and his good counsel, coming as it does from the most prescient pioneer in the movement for parks and open spaces, and still without doubt the leading authority thereon, is most valuable.—Ed. "B.N.]

THE ROLL-CALL: VETERAN MEMBERS R.I.B.A.

SIR.—This abstract of the serial numbers of the Fellows anterior to the figures of 400, as recorded in the present "Kalendar," in this day of reckonings, may be of interest. Messrs. Edward R. Robson, F.S.A., 74; John MacVicar Anderson, 97; W. B. Dawson, 99; Rowland Plumbé, 105; Fred Chancellor, 115; F. R. Kempson, 118; Edward Drury, 137; R. P. Notley, 139; Sir Wm. Emerson, 140; W. Parslow (Liverpool), 161; J. Donglass Mathews, 166; R. E. Edwards (Strand), 174; Sir Alexander Stenning, 190; G. T. Hine, 192; Charles Clegg (Manchester), 195; R. Phene Spiers, F.S.A., 196; H. Heathcote Statham, 213; John Wynne (Manchester), 218; H. L. Florence, 220; T. E. Collett, 223; W. Lister Newcombe (Newcastle-on-Tyne), 244; Sir Ernest George, A.R.A., 263; S. E. Smith (Leeds), 265; J. W. Common (Leeds), 269; F. W. Waller (Gloster), 276; John Slater, 281; W. Harvey, 285; H. T. Gordon (Finsbury), 284; B. Ingelaw, 295; J. Clarke (Liverpool), 302; J. Hall Morton, 306; Charles Lynam (Stoke-on-Trent), 307; Swinfen Harris, 315; Alexander Payne, 316; Sir Aston Webb, R.A., 321; J. Dunn (St. James's), 336; F. Wheeler, 343; J. Conder, 344; E. T. Hall (Bloomsbury), 347; George Weymouth, 351; Horace Cheston, 355; Keith D. Young, 356; George Edwards, 359; G. C. Inskip (N.S.W.), 362; Hubert Bensted (Maidstone), 363; H. D. Searles-Wood, 364; Fredk. Clere, 365; F. E. Jones, 367; W. Samuel Weatherley, 368; J. Crocker (Exeter), 369; W. L. Vernon (N.S.W.), 372; Arthur Ashbridge (Marylebone), 374; E. H. Harbottle (Exeter), 377; A. Conder, 378; A. N. Bromley (Nottingham), 379; Maurice B. Adams, 381; J. Alfred Gotch, F.S.A., 382; J. S. E. Ellis, 389; Charles H. Samson (Rugby), 391; Fredk. Bath (Salisbury), 397. The Fellows thus elected were added to the R.I.B.A. membership during the twenty-one years from 1860 to 1881. Mr. Alfred Goodridge, an Associate, elected in 1852, seems to be "the Father of the House," as his serial is No. 5, and Mr. F. Holyoak Moore, of Warwick, another Associate, is No. 43. I am, etc.,

ONE IN THE RANKS.

The baths committee of the Manchester City Council recommend the expenditure of £17,530 for the provision of further public wash-houses. The scheme provides for forty washing-stalls at Moss Side, twenty-six washing-stalls at Gorton, thirty washing-stalls at Newton Heath, and forty-six washing-stalls at Osborn-street.

Mr. James Williams Hobbs, of Norbury Hall, Norbury, builder, who was responsible for the erection of the Hotel Cecil, the Hotel Victoria, the Hyde Park Hotel, and Whitehall-court, was twice Mayor of Croydon, and in 1893 was sentenced to penal servitude for his connection with the Laborator failure, died on June 22 last, aged seventy-one, leaving estate valued for probate at £3,757 16s. 2d. gross, and net personalty £2,683 5s. 10d. He left all his property to his children.

Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worth insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

All else being equal, brief replies will stand the best chance. We emphasise this, as some correspondents ignore the fact that queries want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

QUESTIONS.

[12148.]—WEIGHT ON BEAMS.—Three pitch-pine beams, 7in. by 7in., are placed 1ft. apart, and carried by two strong R.S.J.'s, 13ft. 4in., centre and centre. It is proposed to place a crane on the beams to lift heavy stones. Required, to find out what weight the beams will safely carry.—Simple Method.

Plans submitted by Messrs. Worsfold and Hayward, of Dover, for building a new wing to the Royal Victoria Hospital, Dover, have been passed by the Dover Town Council.

The death occurred at Broadway, Peterborough, on Sunday, of Mr. James Hicks, builder and contractor. The deceased, who was forty-seven years of age, had been ill for some months.

To-morrow (Saturday) the Canadian Northern Railway will run the first through train over the link between Sudbury and Port Arthur, which is now ready for traffic. This gives the company a complete system from Quebec to Edmonton.

Tenders are invited by the Whitby Urban District Council for the provision and scheme of a cliff tramway, or a lift from the beach to the top of the cliff. The undercliff measures, at probable position of tramway or lift, about 250ft. horizontal, and 130ft. vertical.

At Ledbury an open-air swimming-bath, near the Hereford-road, has been formally opened. It measures 75ft. by 21ft., and has twelve dressing-boxes. The bed and walls are of reinforced concrete. The works have been carried out from plans by Mr. R. G. Gurney, surveyor to the urban district council. The contractors were Messrs. David Smith and Sons, of Ledbury.

A Local Government Board inquiry is to be held at Belfast by Mr. P. C. Cowan on Tuesday, the 15th inst., into application by the corporation for sanction to loans for the purposes of (£6,000) extending the Purdysburn Fever Hospital, (£36,117) erecting working-class lodging houses under the Housing of the Working Classes Acts, and (£10,600) extending Purdysburn Lunatic Asylum.

At a meeting of the Gwyrfa Rural District Council (Garnarvonshire), on Saturday, six tenders were opened for the erection of thirty-six workmen's dwellings in the quarry villages of Elenzer and Clwythont, where there is considerable overcrowding as the result of the scarcity of houses. The tender of Messrs. Williams Bros., of Brynithir and Llanberis, amounting to £6,977, was accepted.

Lord Egerton of Tatton has decided to give up thirteen acres of land at Knutsford, for a great road scheme, which is to cost more than £100,000 and employ nearly 3,000 people. The road will open up new districts near Cheadle and Gatley, and join the Wilmslow-Crewe main road, one of the most important in Cheshire. The Road Board has announced its intention of giving £60,000 towards the scheme, and the work is to be pushed on at once.

By direction of the Local Government Board, Mr. W. H. Collin, one of their inspectors, has held an inquiry in the Council Chamber of the Municipal Offices, Southampton, relative to the application of the corporation to borrow £11,923 for the purchase of land at Hollybrook Farm, Harrison-road, and Broadlands-road, as sites for the erection of working-class dwellings under Part III of the Housing of the Working Classes Act, 1890, and also for consent to their appropriation of lands at Bitterne Park, vested in the council for the purposes of the same Act

LEGAL INTELLIGENCE.

BUILDING DISPUTE ARBITRATION.—The award has been given by Mr. W. H. Daw (surveyor and valuer, of 98, Cheapside, E.C.) as sole arbitrator in the matter of "Datchet Copartnership Housing and Allotment Society v. Lane," which he heard in London on July 7 and 15. The reference arose out of a contract entered into by Messrs. T. B. Lane and Son, builders and contractors, of Colnbrook and Brands Hill, near Slough, Bucks, with the society to build twenty-eight cottages at Datchet Common, and the arbitrator was asked to determine the amount to be paid to the respondents in respect of work not completed by them under the contract, which had been, in fact, executed by another contractor, Mr. Bowyer, at a cost of £359 14s. 3d., and whether the society had power, in the circumstances, to enforce a penalty clause in the contract. Messrs. Lane and Son counterclaimed for commodities changed by the society and for extra work done. In his award the arbitrator decided that the society should be allowed to deduct from money in their hands (being part of the moneys under the contract) certain sums for change in commodities, and £40 as a penalty for not completing the contract within the specified time. The society did right in calling in another contractor to complete the work, and he allowed certain items in Mr. Bowyer's account. The respondents were entitled to payment for certain works claimed as extras, but not for carting sand, increased cost of drainage, or increased labour in consequence of the premises being set back. The parties were ordered to pay costs in equal moieties.

AN ARCHITECT'S THREEFOLD POSITION.—**HOTEL COMPANY'S ACTION IN THE HIGH COURTS.**—Sitting in the Vacation Court of the High Courts of Justice on Wednesday, August 26, Mr. Justice Shearman resumed the hearing of the case of the Piccadilly Hotel, Ltd., v. Waring and Gillow, Ltd., and Lockwood. It was a motion to restrain Waring and Gillow, as contractors, from going to arbitration under a contract, and also to restrain Mr. William Lockwood, the architect, from acting as arbitrator. Mr. Terrell, K.C., appeared for the plaintiffs; Mr. Green was counsel for Waring and Gillow, and counsel also represented Mr. Lockwood.—Mr. Justice Shearman remarked at the outset that the architect occupied a much-discussed and anomalous position. He was practically employed and paid by the building-owners, and was, in a certain sense, their servant. In a certain sense he owed duties to the contractors as well, and in another way he was a species of arbitrator. The fact of his being an arbitrator was subject to discussion and decision; but it was quite clear that he owed duties to both parties. It was his duty to protect an employer in these matters. His Lordship did not understand in what way the bill for the work had been swollen so enormously, unless it was due to alterations which had got to be justified.—Mr. Green: There is no question about that. The alterations were very large indeed. That appears from Mr. Lockwood's letter, and was perfectly well known to the plaintiffs at the time. It is not in evidence, but it will not be disputed, I think, that this was a contract for the construction of a hall-room of two stories below the ground—below the Piccadilly Hotel grill—and the alterations were due to the fact that water was encountered, which almost involved two entire architectural works.—Mr. Terrell: I don't agree with that at all.—Mr. Green said he would read Mr. Lockwood's explanatory letter of January 23 last. What plaintiffs had been asking for was some general explanation of a £4,000 certificate which, according to their story, had come to them as a surprise. What they said was, "We don't want details. Give us some general idea of how this large sum has been incurred." Counsel read the letter of Mr. Lockwood to plaintiffs in which he stated that after their conversation he failed to see the matter from their side, and he had already explained the position to Messrs. Waring and Gillow's representative. Plaintiffs (Mr. Lockwood continued) did not realise the extent of the original work. As a matter of fact, the contract sums had not been exceeded to any appreciable amount. The troubles encountered, necessitating what was practically a new building, in his (Mr. Lockwood's) experience were unprecedented, and could not be foreseen, and he thought everyone concerned was fully cognisant of them. Learned counsel, proceeding, said that after the letter plaintiffs made demands for more detailed particulars—accounts and that kind of thing—and Mr. Lockwood's answer was, "I am getting the accounts ready; they will be ready in a short time." On February 5 plaintiffs' solicitors wrote suggesting that he declined to give them information.—Mr. Justice Shearman: There is another letter

of January 20 in which plaintiffs complain. It reads: "I see expenses, and think it very extraordinary that a certificate was issued before you had brought the matter to my notice in any way whatever, particularly as these certificates represent a large amount, and particularly as the greater part are for additional work, authorisation for which has not been proved."—Mr. Green: It was not his business before certifying to say, "This is the amount I am going to certify for." He was put in a position of trust towards each. If they did that, building contracts would be much more onerous than they are. Proceeding, counsel said it was not till February 6 that any demand was made for specific particulars, and then plaintiffs' solicitors asked for a list of all additional works to be delivered by the first post on the Tuesday following. That letter, presumably, was received by Mr. Lockwood on the Saturday morning. The particulars asked for were of a voluminous and complicated character, and Mr. Lockwood replied that it was impossible to give them the information asked for in the time. Upon that plaintiffs served him with a writ. Counsel contended that plaintiffs had endeavoured to build up a case of suspicion against their own architect, and his Lordship was invited to say that he had been acting in a kind of underhand manner, keeping things up his sleeve, and refusing to perform his duties to his employers, and upon that his Lordship was asked to inflict a very serious hardship on his (counsel's) clients.—Mr. Justice Shearman: I observe that on the 23rd Mr. Lockwood sent a summary of the additional works executed to the secretary of the Piccadilly Hotel.—Counsel for Mr. Lockwood said he would like to put a few facts before his Lordship in regard to the conduct of the architect. In July a notice was delivered by Messrs. Waring and Gillow upon the architect with respect to the arbitration. On July 21 Mr. Lockwood had a letter from the solicitors of the plaintiffs in which they said they had received a letter from Waring and Gillow's solicitors advising that they had delivered notice about calling an arbitration in accordance with the terms of the contract. The letter went on to say that plaintiffs saw no reason for the arbitration, hearing in mind the action brought by Waring and Gillow. Mr. Lockwood answered that letter on July 23, pointing out that notice had been delivered to him, and adding: "I feel it my duty to take up the reference and proceed with the arbitration. I shall wait upon my clients and contractors and inform them of my intention in due course."—Mr. Justice Shearman: It is unusual to me that Mr. Lockwood should be made a party to this application. It is possible he can try this claim. That he should take a line claiming to try it makes one regard him with some suspicion.—Counsel: He doesn't desire me to say a single word that would cause your lordship to come to one conclusion or another. He does not want one single argument raised as to whether he should enter upon this arbitration or not. I ask that Mr. Lockwood be released from the action at the earliest possible stage.—Mr. Terrell: I don't propose to trouble your Lordship with any remarks.—Mr. Justice Shearman said he felt that, whatever happened, it was extremely difficult not to do some injustice to somebody. The order he made might very well result in doing persons entitled to a sum of money out of it. On the other hand, if he were to allow the arbitration to proceed, he did not think the building-owners likely to get an unbiased trial, in all the circumstances of the case. However unfortunate it was that people should have to stand out of their money, the ultimate thing in those matters was to see that people got complete justice. He could not help bearing in mind that Messrs. Waring and Gillow had brought an action on the certificate, being well aware that there were disputes between Mr. Lockwood and the building-owners. They proceeded on that, he thought, without sufficient material, and they could not go on with that litigation by getting summary judgment. It was quite clear to his mind that if they had proceeded with that action they could have incorporated any other claims, and in the course of the case it was stated that some months ago an offer was made to remit the dispute to some gentleman who had had experience of building contracts. That offer, if he recollected rightly, was repeated in court. At any rate, the action was subsequently dropped, and at that time the building-owners were bringing an action alleging negligence against Mr. Lockwood, but not alleging fraud. Some very large items—extras of thousands of pounds—seemed to have been ordered by Mr. Lockwood on his own initiative, without the consent of his clients, and it seemed to his Lordship that, by his unwillingness to give information when demanded, Mr. Lockwood had disqualified

himself in bringing a fair and impartial mind to bear upon this dispute. His Lordship intimated that he should make an order restraining the arbitration, and proceeded to remark that Mr. Lockwood was one of the most important witnesses to be dealt with, and his evidence must be taken by the tribunal that took the case. It would be difficult, his Lordship thought, to decide this dispute without Mr. Lockwood being cross-examined as to the part he had taken in the matter.—Mr. Green: Will my friend agree to the dispute being submitted to an independent architect?—Mr. Justice Shearman: It appears to me you want somebody with some legal knowledge.—Counsel for Mr. Lockwood asked that this gentleman should be dismissed from the action.—Mr. Justice Shearman: I have no power to dismiss you. You will have to proceed by summons, I think.—Counsel: There may be an appeal, and in that event my client would have to go to the higher Court. I therefore suggest that the costs against Mr. Lockwood should be reserved.—Mr. Justice Shearman agreed to that.

PARLIAMENTARY NOTES.

RISE IN BUILDING MATERIALS.—Mr. Runciman, in answer to Mr. Tyson, in a Parliamentary reply, said that attention was being given to the complaints of increase of the price of building material. Owing to interruption of trade with the Baltic, it was not possible to avoid an increase in the prices of most descriptions of timber.

HOUSING BILL, No. 2, EXTENSION TO IRELAND.—In the House of Lords on Thursday this measure, brought up from the Commons as an unopposed Bill, passed through all stages. On Friday it received the Royal Assent.

ALIEN ENEMY SHAREHOLDERS.—Mr. Hunt (U. Ludlow) asked the Prime Minister on Monday last whether, in view of the fact that the subjects of countries now at war with the British Empire were shareholders in companies registered in the United Kingdom, or in our Oversea Empire, he could take steps which would prevent these alien enemies from receiving dividends from these companies, either directly or through agents within the British Empire, during the period of the war?—Mr. Runciman (President of the Board of Trade), who replied, said: I am issuing to the Press a notice from the Board of Trade, directing joint stock companies that dividends or interest becoming due after the outbreak of war should not be paid to persons resident in enemy territories, or in accordance with their instructions.

The Warwickshire Education Committee have recommended the county council to erect a secondary school for girls at Sutton Coldfield at an estimated cost of £10,000.

At the meeting on Friday of the Wrexham Town Council, it was decided to apply to the Local Government Board for sanction to borrow £1,000 for the purchase of a motor fire-engine. A further resolution was adopted in favour of applying for leave to borrow £1,660 for the acquisition of land in Holt-road for the erection thereon of houses for the working classes. The borough surveyor submitted plans and estimates for the building of forty-four houses on the land in question, but consideration of these was deferred.

The palace of the Bishop of Llandaff, at Llandath, about two miles from Cardiff, was totally destroyed by fire at midnight on Monday. The damage exceeds £6,000. Llandaff Court was built about 1750, by Admiral Thomas Mathews, to replace the old family mansion, which he ordered to be demolished while he was with the Fleet in the Mediterranean. He died in 1751. Llandaff Court was acquired by the diocese of Llandaff during Bishop Ollivant's tenure of the See (1840-1882). Previous to that the Bishops of Llandaff had not had an episcopal residence since some time about 1630, when the palace at Mathera, near Chepstow, fell into decay.

Mr. W. M. Cross, M. Inst. C. E., Local Government Board inspector, conducted an inquiry at the Institute, Hammerwich, Staffs, on Thursday in last week, with respect to the Lichfield Rural District Council's application for sanction to a loan of £1,930, for the purpose of sewerage and sewage-disposal works for the contributory place of Hammerwich. The Brownhills Urban District Council also applied for sanction to the communication of the proposed sewers to their portion of the district, which had been agreed upon by the Lichfield Rural Council. The scheme had been prepared and was described by Mr. C. O. Rawstrom, engineer to the Lichfield Rural Council.

Our Office Table.

Mr. Percy W. Lovell, the secretary of the London Survey Committee (27, Abingdon-street, S.W.), is seeking for information as to the whereabouts of the rate-books kept by the overseers of the poor for (a) the parish of Hammersmith (originally a chapel-of-ease of Fulham) and (b) the parish of St. Pancras. The books that are in the possession of the borough councils do not, in the former case, go back earlier than 1795, and in the latter are certainly not earlier than 1800.

The Engineering Standards Committee has issued Report No. 66, British Standard Specification for Copper-Alloy Three-Piece Unions for Low- and Medium-Pressure British Standard Screwed Copper Tubes (primarily for domestic and similar work). The unions dealt with are intended for use with Tables I, and H, of the British Standard Specification for Copper Tubes (primarily for domestic and similar work), Report No. 61, which was issued in 1913. The price of the Report is 5s. 2d., post free, and it may be obtained from any bookseller, or direct from the offices of the Committee, 28, Victoria-street, Westminster. It is published for the Committee by Messrs. Crosby Lockwood and Son, 7, Stationers' Hall-court, E.C., and 5, Broadway, Westminster.

The Manchester City Council on Wednesday sanctioned a number of departmental schemes which have either been devised or expedited for the sake of providing public employment now and in the immediate future. These projects include a new south road from Longsight to the Cheshire boundaries of Manchester, and the purchase and conversion into a park of the Barlow Hall estate, near Chorlton-cum-Hardy. The council also approved of the decision of the gas committee to give £10,000 out of its reserve fund to public purposes connected with the war—part of it to the equipment of the new Manchester Battalion and part to the Local Relief Fund; also of the proposal of the education department to adapt Bank Hall, Heaton Mersey, as an open-air residential school, at an estimated cost of £3,834. Then they sanctioned the proposal of the rivers department to go forward with certain main drainage works, at a cost of £15,000. Approval was expressed also—although by but a small majority, which was gained on a technical point—of a housing scheme for artisans on the Temple estate, Chorlton, costing over £30,000. A proposal to spend £16,500 on extending the lake in Heaton Park was, by general consent, postponed. The highways committee's proposal to spend over £14,000 in sewerage, levelling, and paving work was sanctioned.

The corporation of Stoke-on-Trent have resolved to commence forthwith the execution of various public works in the federated towns at a total estimated cost of £52,150. The aim is to provide three days' employment per week to applicants at a rate of 3s. 3d. per day of eight hours. The following are the works to be undertaken under the scheme:—Tunstall: Private street works, estimated cost of labour, £564; diversion of sewer, Scotia-road, £300; diversion of sewer, Victoria-road, £140; public park, Goldenhill (subject to consent from one landowner), £6,710. Burslem: Widening of High-lane, £514; new road, Federation-road, £4,171; private street works, £1,170; levelling tip, Porthill-road, £536; paving and storm-sewers, Waterloo-road, Wedgwood street, and Scotia-road, £1,648; storm-water drainage scheme, park districts, £3,544; reconstruction of sewer, Back Sych, £100. Hanley: Private street works, £28; removal of spoil-heap, electricity works, £154. Stoke: Widening and storm-sewers, Trentham-road, £760; private street works, £106. Fenton: Private street works, £316; new park, cemetery-road, £11,502. Longton: Diversion of Stone-road by Florence Colliery, £1,600; private street works, £502. Sewage Departments: Renovation of bacteria-beds at Burslem, Hanley, and Longton, £800. The works will be carried out under the direction

of an advisory committee of three members of the corporation from each of the towns.

The City and Guilds of London Institute announces that students of technological classes and others preparing for any of the examinations of the Institute's Department of Technology will not, so far as possible, be prejudiced in competition for certificates and prizes, if they have been prevented from fulfilling the Institute's regulations as to attendance at classes or otherwise, by reason of their having joined the military forces of the Crown, or having accepted temporary civil employment in connection with the defence of the country.

The Associated Portland Cement Manufacturers (1900), Ltd., have issued the following notice:—Portland House, Lloyd's-avenue, London, E.C.—Notice to Single Men.—Any unmarried man between the ages of nineteen and thirty is urged at once to offer himself as a recruit to his Majesty's forces under Lord Kitchener's appeal. In the event of his being accepted, the company will add to his pay from the Army 5s. per week during continuance of the war whilst serving with the colours, and work will be found for him on his return. Notice is further given that, owing to the restricted output of our works and the notice already issued that preference would be given to married men, the services of single men having no dependants entirely dependent upon them for support will have to be dispensed with after September 12 next. This notice applies to all men unmarried at the date of this notice.—By order of the Board, August 26, 1914.

The Bosch Magneto Company, Ltd., of Tottenham Court-road, and John A. Stevens, the secretary, were summoned at Bow-street Police-court on September 1 for refusing to permit an inspection of the company's register of shareholders. For the defence it was stated that when the complainants called Mr. Stevens was busy with Government officials over work for the War Office. The company dealt in magnetos for flying-machines, and their business was practically in the possession of the Government. Mr. H. D. Warner, who supported the summonses, said that when the complainants were ultimately allowed access to the register they found that of the 50,000 shares of the company all but two were held by Germans. The magistrate imposed fines and costs amounting to £8 4s.

It seems that Siberia, in the near future, may become a formidable rival to Canada in the supply of timber to the markets of the world. It is scarcely three years since a first consignment of Siberian pine, or cedar, as it is sometimes termed, made its appearance at Hamburg from Vladivostok. Since then the exports of pine timber from Siberia have increased rapidly, not only to Germany, but also to England, Australia, China, and to other parts of the world.

The closing of the Baltic ports and the shortage of labour in the Bordeaux district of France have greatly reduced the normal supply of pit-props. As the provision of an adequate supply of mining timber is of great importance, the Board of Agriculture and Fisheries, in co-operation with the English Forestry Association, are taking steps to stimulate the marketing of home-grown timber. The timbers most in demand are larch, Scotch pine, and spruce of 3in. diameter and upwards at the small end; but small hardwood timbers such as oak, coppice, and beech are used to some extent. The standard lengths of pit-props differ in the various districts. In view of the fact that the larger sizes of timbers may be more usefully employed for other purposes, it is probable that thinnings provide the most remunerative source of pit-props. Owners of extensive woods who may have timber which they consider suitable for this purpose, but who are in doubt as to the best method of marketing it, or of timing it with least damage to the future welfare of their plantations, are invited to communicate at once with the Secretary of the Board of Agriculture and Fisheries, or with the Secretary, English Forestry Association, Farnham Common, Slough, Buckinghamshire.

Bulkheads for tunnel-forms are always difficult to build because of the roughness of the rock profile. The Pneumatic Concrete Placing Company, of New York City, who are specialising in tunnel-laying work, have been experimenting to find a suitable way of building such bulkheads quickly and cheaply, and have found that cement-sacks three-quarters full of sand can be used successfully. The sacks are laid on top of each other in the same way as bricks in a wall, and can be fitted into all crevices of the rock, following closely the irregularities of the profile. One unskilled labourer placing sacks replaces two carpenters building forms. A bulkhead formed in this way is tight, and is left in place the same length of time as a wooden one. When the sacks are removed the concrete surface is rough and gives a good bond with the adjacent section.

Mr. George H. Blasgrove, writing in the R.I.B.A. Journal, states that he has been engaged for some months past in testing mild steel manufactured by various Scottish firms. He has selected, from nearly 300 tests, eleven made upon steel less than .3in. thick, and thirty-two made upon steel varying from .3in. to 1 1/2in. thick. In the samples under .3in. in thickness the ultimate tensile resistance in tons per square inch averaged 29.8, and the percentage of elongation in Sin. of length averaged 23.2; from .3in. to 1 1/2in. the average ultimate resistance in tons per square inch was 29.6, and the percentage of elongation was 25.9. So far as this evidence goes, it would appear that no advantage is gained in construction by employing several small-dimensioned members of mild steel in place of a few larger-sized ones, the latter being, of course, more economical.

Mr. R. F. Gilder has issued a catalogue of the remains discovered in the course of a survey conducted by him of a series of prehistoric dwellings in Douglas and Sarpy Counties, Nebraska. They were believed to be depressions caused by bison wallowing in the mud, but are now proved to be of human origin. Along the Missouri river as far as the Platte some forty ruins have been explored, and the specimens collected are now deposited in the Omaha Public Library Museum. The collection consists of numerous articles made of bone and deer-horn, pottery, prehistoric pipes, and various ornaments. The most remarkable object is a human head carved out of pink soap-stone, which is believed by some competent archaeologists to be unique among American collections.

Mr. W. W. Pearce, who was recently appointed City Architect of Toronto, was born in that city forty-two years ago. He took a five-year course in connection with the Ontario Association of Architects, on the completion of which, at the age of twenty-two, he went to New York. He obtained the degree of Bachelor of Science after a five-year course at Cooper Union, and also the post-graduate degree of Civil Engineer. Continuing his studies, he took a special three-year course in German methods of engineering. Amongst important buildings the structural work of which has been carried out under his supervision mention may be made of two armories in New York; the Traders and Importers Building, in that city, of eighteen stories; five theatres, of which two of the largest are the Broadway Theatre, Brooklyn, N.Y., and the Earl of Arundel, New York. He has acted as the engineer for some of the most prominent architects of New York, including Messrs. Ross and Goldstone, Messrs. Foster and Gady, Mr. Wm. B. Tabby, Mr. Elliott Lynch, and Messrs. Summerfeldt and Steckel. For the last-named firm of architects Mr. Pearce has carried on the engineering work connected with a number of the twelve, sixteen, and twenty-story buildings erected by them in New York.

A large water scheme is contemplated on a farm near Ventersdorp, in the Cape Province of South Africa. It is proposed to build a dam or weir across the Zuurberg Spruit at a cost of £15,000. It is anticipated that this will give all farmers below the dam water for 200 acres once a fortnight. The scheme has been favourably commented on by experts.

MEETINGS FOR THE ENSUING WEEK.

SATURDAY (To-morrow).—Royal Photographic Society's Exhibition, Suffolk-street Galleries, Haymarket, S.W. "St. Paul's Cathedral, Past and Present," by F. J. Hall, 8.30 p.m.
 SATURDAY (SEPT. 12).—Institution of Municipal Engineers. Meeting of the Northern and Yorks Districts at Harrogate.

Trade News.

WAGES MOVEMENTS.

QUARRYMEN'S WORKING DAYS.—The Oakeley Quarries, the largest quarries in Festiniog, have reduced the working days to three a week, and Llechwedd, the next largest, have reduced to four days a week. Some of the other quarries are working full time, but have been compelled to discharge a number of workmen. The Festiniog Board of Guardians has resolved to appeal to the Local Government Board to advance money by way of share capital to the slate quarry proprietors.

The French Government has purchased Mr. Cecil C. P. Lawson's picture, "La Sortie de Moscow, 1812," which was exhibited in this year's Salon.

The Ashford road for a considerable length close to Faversham is being widened, the work having just been put in hand by the county council, who are spending about £1,100 upon it.

The parks and baths committee of the Preston Corporation advise that authority be given to approve plans for the erection of new baths in Sault-street at a cost of £20,000.

Mr. James Wharton, of Grafton House, Grafton-road, Keighley, builder and contractor, mayor of the town in 1909, who died in August, aged 52, left £18,419 gross and £9,148 net personalty.

The Goole Urban District Council decided on Monday to proceed with the preparation of a large plot of land conveyed to the town by the Aire and Calder Navigation with a view of laying it out as a public park.

A new Roman Catholic church of St. Joseph, built in Tangier-road, Copnor, has been opened. The architects were the Very Rev. Canon A. J. C. Seobes and Mr. Raymond, of Basingstoke, and Mr. Farrall, of Southsea, was the builder.

At Southend-on-Sea, on Tuesday, an inquiry was held by Mr. T. C. Ekin, an inspector under the Local Government Board, into an application from the town council for sanction to borrow £60,000, for the extension of the electricity undertaking.

The work of re-hanging the bells in the parish church of Sandford-on-Thames on a new wrought-steel framework has been completed by Messrs. Webb and Bennett, of Kidlington, and a service of rededication took place on Sunday, when the Archdeacon of Oxford officiated.

New council schools in Lynnhurst-road, North End, Portsmouth, built at an outlay of £19,000, have been formally opened. Mr. J. W. Wilmsley, F.R.I.B.A., F.S.I., of King's-terrace, Southsea, was the architect, and Messrs. Tanner Bros., of Southsea, were the contractors.

The Rev. Canon Owen W. Davys, for fifty-five years rector of Wheathampstead, who died on Thursday, aged eighty-five, was formerly hon. secretary to the Cambridge University Architectural Society and to the St. Albans Archaeological Society. He was the author of "An Architectural and Historical Guide to St. Albans Cathedral," which has passed through several editions.

In pursuance of the Board of Trade scheme for assisting British manufacturers and traders to secure trade with British Possessions and foreign countries formerly in the hands of their German and Austrian or Hungarian competitors, bulletins on linoleum and oilcloth and on pumps and pumping machinery were issued on Wednesday by the Commercial Intelligence Branch of the Board, 72, Basinghall-street, E.C.

A local Act has been passed authorising the corporation of Weymouth to carry out public works of improvement, and, in accordance with the directions of the Local Government Board, they are to be expedited in order to provide employment during the winter and alleviate much of the distress resulting from the war. The first scheme to be proceeded with is a portion of the development of the Beckwater, a tidal estuary of 250 acres, by the construction of an embankment road across it, towards which the Local Government Council is finding nearly £14,000. The Weymouth Corporation is pushing ahead with this undertaking with all speed.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Miscellaneous metals and timber we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Rolled Steel Joists, English	Per ton.	Per ton.
Wrought-Iron Girder Plates	£7 10 0	to £7 12 6
Steel Girder Plates	7 0 0	" 7 5 0
Bar Iron, good Staffs	7 2 6	" 8 2 6
Do., Lowmoor, Flat, Round, or Square	6 5 0	" 8 10 0
Do., Welsh	22 0 0	" 0 0 0
Boiler Plates, Iron—	5 15 0	" 5 17 0
South Staffs	8 0 0	" 8 15 0
Best Sledshill	9 0 0	" 9 10 0

Angles 10s., Tees 20s. per ton extra.

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—

No. 18 to 20.	No. 22 to 24
6ft. to 8ft. long, inclusive	Per ton.
gauge	£13 0 0
Best ditto	13 0 0

Wire Nails (Points de Paris)—

3 to 7	8	9	10	11	12	13	14	15	B.W.G.
8/3	8/9	9/3	9/9	10/3	11/-	11/9	12/6	13/6	per wt.

Cast-Iron Columns	Per ton.	Per ton.
Cast-Iron Stanchions	£6 17 6	to £8 10 0
Rolled-Iron Fencing Wire	8 5 0	" 8 10 0
Rolled-Steel Fencing Wire	7 5 0	" 7 10 0
Galvanised	8 15 0	" 9 5 0
Cast-Iron Sash Weights	5 10 0	" 5 15 0
Cut Floor Brads	9 15 0	" —
Corrugated Iron, 24 gauge	16 0 0	" —
Galvanised Wire Strand, 7 ply, 14 B.W.G.	14 5 0	" —

B.B. Drawn Telegraph Wire, Galvanised—

0 to 8	9	10	11	12	B.W.G.
£10 10s.	£10 15s.	£11 0s.	£11 5s.	£11 15s.	per ton.

Cast-Iron Socket Pipes—

3in. diameter	£6 2 6	to £6 7 0
4in. to 6in.	6 0 0	" 6 5 0
7in. to 24in. (all sizes)	5 7 6	" 6 0 0

(Coated with composition, 5s. 0d. per ton extra, turned and bored joints, 5s. per ton extra.)

Pig Iron—

Cold Blast, Lillieshall	Per ton.	10s. 0d. to 117s. 6d.
Hot Blast, ditto	70s. 0d.	" 75s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2 1/2 per cent.)—

Gas-Tubes	75 p.c.
Water-Tubes	71 1/2 "
Steam-Tubes	67 1/2 "
Galvanised Gas-Tubes	65 "
Galvanised Water-Tubes	61 1/2 "
Galvanised Steam-Tubes	55 "

SLATES.

	in.	in.	£	s.	d.	per 1,000 of
Blue Portmadoc	20	10	12	12	6	1,200 at r. sta.
" "	16	8	6	12	6	" "
Blue Bangor	20	10	13	2	6	" "
" "	20	12	13	17	6	" "
First quality	20	10	13	0	0	" "
" "	20	12	13	15	0	" "
" "	16	8	7	5	0	" "
Eureka unloading green	20	10	15	17	6	" "
" "	20	12	18	7	6	" "
" "	18	10	13	5	0	" "
" "	16	8	10	5	0	" "
Permanent Green	20	10	11	12	6	" "
" "	18	10	9	12	6	" "
" "	16	8	6	12	6	" "

TILES.

	s.	d.	Dlvrd. at
Plain red roofing tiles	42	0	per 1000 ry. sta.
Hip and Valley tiles	3	7	per doz.
Broseley tiles	50	0	per 1000
Ornamental tiles	52	6	"
Hip and Valley tiles	1	0	per doz.
Rnabon red, brown, or bridled	57	6	per 1000
ditto (Edwards)	60	0	"
Ornamental ditto	4	0	per doz.
Hip tiles	3	0	"
Valley tiles	3	0	"
Selected "Perfecta" roofing tiles: Plain tiles (Peake's)	46	0	per 1000
Ornamental ditto	48	6	"
Hip tiles	3	10 1/2	per doz.
Valley tiles	3	4 1/2	"
"Rosemary" brand plain tiles	48	0	per 1000
Ornamental tiles	50	0	"
Hip tiles	4	0	per doz.
Valley tiles	3	8	"
Staffordshire (Hauley) Reds or bridled tiles	42	6	per 1000
Hand-made sand-laced	45	0	"
Hip tiles	4	0	per doz.
Valley tiles	3	6	"
Hartshill "brand plain tiles, sand-faced	40	0	per 1000
Pressed	47	6	"
Ornamental ditto	50	0	"
Hip tiles	4	0	per doz.
Valley tiles	3	6	"

STONE.*

Table listing stone types and prices: Red Mansfield, in blocks; Darley Dale, ditto; Red Coraehill, ditto; Closeburn Red Freestone, ditto; Ancester, ditto; Greenshill, ditto; Chitmark, ditto (in trunk at Nine Elms); Hard York, ditto; Do. do. 6in. sawn both sides; Lendinge, random sizes; Do. do. 3in. slab sawn two sides, random sizes.

* All F.O.R. London.

Table listing stone types and prices: Bath Stone, delivered on road waggons, Paddington Depot; Ditto, ditto, Nine Elms Depot; Beer Stone, delivered on rail at Seaton Station; Ditto, delivered at Nine Elms Station; Portland Stone, in random blocks of 20ft. average; Delivered on road waggons; at Paddington Depot; Nine Elms Depot, or; Pimlico Wharf.

BRICKS.

(All prices net.)

Table listing brick types and prices: First Hard Stocks; Second Hard Stocks; Midd Stocks; Picked Stocks for Facings; Flettons; Pressed Wire Cnts.; Red Wire Cnts.; Best Fareham Red; Best Red Pressed Ruabon Facing; Best Blue Pressed Staffordshire; Ditto Bullnose; Best Stourbridge Firebricks; 2 1/2 in. Best Red Ac-crington Plastic Facing Bricks; 3 1/8" Accrington Best Red Plastic Facing; 3 1/8" ditto Second Best Plastic ditto; Ditto Ordinary Secondary Bricks; Ditto Plastic Engineering Bricks; Sewer Arch Brick; 3 1/8" Chimney Bricks; 3 1/8" ditto ditto through and through; 3 1/8" Beaded, Ovolo and Bevel Jamb; Octagons; Accrington Air Bricks; Accrington Camber Arches; 3 course deep; 4 ditto; 5 ditto; 6 ditto; 4 ditto; 5 ditto; 6 ditto.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed brick types and prices: White, Ivory, and Salt Glazed; Buff, Cream, and Best; Other Colours; Second Colours; Stretchers; Headers; Double Stretchers; Double Headers; One side and two ends, square; Two sides and one end, square; Splays and Squints; Plinth and Hollow Bricks; Double Bullnose, Round Ends, Bullnose Stops; Rounded Internal Angles.

MOULDED BRICKS.

Table listing moulded brick types and prices: Stretchers and Headers; Internal and External Angles; Sill Bullnose, Stretchers, and Headers; Majolica or Soft Glazed Stretchers and Headers; Compass bricks, circular and arch bricks; Camber arch bricks; Stretchers cut for Closers and Nicked Double Headers; Thames Sand; Pit Sand; Thames Ballast.

Table listing cement and lime types and prices: Best Portland Cement; Ground Blue Lias Lime; Grey Stone Lime; Stourbridge Fireclay.

OILS.

Table listing oil types and prices: Rapeseed, English pale; Ditto, brown; Cottonseed, refined; Olive, Spanish; Seal, pale; Cocoonut, Cochín; Ditto, Ceylon; Ditto, Msuritina; Palm, Lagos; Ditto, Nut Kernel; Oleine; Sperm; Lubricating, U.S.; Petroleum, refined; Tsr, Stockholm; Ditto, Archangel; Linseed Oil; Baltic oil; Turpentine; Putty (Genuine Linseed); Oil; Pure Linseed Oil; "Stority" Brand.

GLASS (IN CRATES).

Table listing glass types and prices: English Sheet Glass; Fourths; Thirds; Fluted Sheet; Hartley's English Rolled Plate; Figured Rolled and Repoussé.

VARNISHES, &c.

Table listing varnish types and prices: Fine Pale Oak Varnish; Pale Copal Oak; Superfine Pale Elastic Oak; Fine Extra Hard Church Oak; Superfine Hard-drying Oak; Fine Elastic Carriage; Superfine Pale Elastic Carriage; Fine Pale Maple; Finest Pale Durable Copal; Extra Fine French Oil; Eggshell Flatting Varnish; White Copal Enamel; Extra Pale Paper; Best Japan Gold Size; Best Black Japan; Oak and Mahogany Stain; Brunswick Black; Berlin Black; Knoching; French and Brush Polish.

TRADE NOTES.

Boyle's latest patent "Air-pump" ventilator has been applied to the Baptist Chapel, West Hendon, N.W.

Claridge's asphalt is being used on the roofs of Preshaw House, Upham, Hants, and Great Oak, Goring Heath, under the instructions of Messrs. Crickmay and Sons, and Mr. F. L. Pearson respectively.

In harmony with other large employers of labour, Messrs. Robert Ingham Clarke and Co., Ltd., have decided to place on half-pay all employees and workmen joining the colours, and to reinstate them upon the termination of the war.

"Clarmic" is the description given to the slag tarmacadam which is being made by Clarmic Roads, Limited—a new company affiliated with Claridge's Asphalt Company, Limited. Roads in Clarmic have been laid at Southend-on-Sea, Coventry, and Newcastle-under-Lyme, with, we hear, very successful results.

A tower and spire are to be added to a church at Roscommon. The architects are Messrs. O'Callaghan and Webb, of South Frederick-street, Dublin.

The city council of Lincoln have received the sanction of the Local Government Board to a loan of £1,100, for the purchase of land adjoining the corporation depot.

The partnership hitherto subsisting between J. R. Webster and H. P. Hawkes, builders and contractors, Broomhall-road, South Croydon, under the style of Webster and Hawkes, has been dissolved.

The urban district council of Walthamstow have decided to apply to the Board of Trade for permission to expend £3,317 in carrying out tramway extensions in Chingford-road and Markhouse-road.

The parks committee of the Manchester Corporation have decided to extend the lake in Heaton Park by 6 1/2 acres, bringing the total area up to 29 acres. The cost is estimated at £16,000, of which 70 per cent. will be for labour.

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TENDERS.

** Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BALLYMENA.—For building engine house at workhouse, for the guardians, Mr. F. D. Brown, 93, Anan-street, Belfast, engineer:—

Table listing tenderers for engine house: Hewitt, R., and Son, Sandown-road Belfast; McKay, J., Ballymena; Dowling, W., Crownwell-road, Belfast (accepted).

BEDFORD.—For repairs at various council schools, for the education committee, Mr. R. K. Ellison, surveyor:—

Table listing tenderers for Bedford repairs: Allen, M. J., Safron-road, Biggleswade; Wade, W., Eaton Ford, Beds; Mayes, H., Eaton Socon; Laughton, Midland-road; Sharp, C., Flitwick; Wright, C., Langford; Allen, M. J.; Corby, J., and Son; Laughton, W.

Table listing tenderers for Bedford repairs (continued): Nicholls, S., Coppe; Allen, M. J.; Foster, S., Kempston; Freshwater, S., and Son; Dawes and Bowler; Corby, J., and Son.

BEDWORTH.—For building thirty houses for workmen at Bedworth, for the Foleshill Rural District Council:—

Table listing tenderers for Bedworth houses: Smith, J., Bedworth (accepted); Lowest tender received.

BEDWORTH.—For the construction of two detritus tanks, screening chambers, and sludge lagoons at the sewage outfall works, Marston-lane, Bedworth, for the Foleshill Rural District Council:—

Table listing tenderers for Bedworth sewage works: Kelly and Son, Foleshill; Gibson, T., Bedworth; Smith, J., Bedworth (accepted); Trentham, F.

BUNGAY.—For the supply of 345 tons of 1 1/2 in. Mount Sorrel Granite, for the urban district council:—

Table listing tenderers for Bungay granite: Lavender and Bateman (accepted); 12s. 11d. per ton.

CLWTYBONT.—For building thirty-six workmen's dwellings in the quarry village of Clwtymbont and Ebenezer, for the Gurfayal Rural District Council:—

Table listing tenderers for Clwtymbont dwellings: Williams, Brothers, Brynthur; (Accepted. Six tenders received.)

CWMSYFLOG.—For the reinforced concrete work in the construction of three reservoirs of 100,000 gallons, 240,000 gallons, and 100,000 gallons capacity at Cwmsyflog, Coedymoeth, and Cefn Rhydyddir (New Tredegar) respectively, for the Bedwelly Urban District Council. Mr. Dan H. Price, Aberbergoed, via Cardiff, engineer:—

Table listing tenderers for Cwmsyflog reservoirs: Hayward and Wooster, Bath (accepted).

EARLESTOWN.—For the materials and labour required in streets and passages within their district, for the Newton-in-Makerfield Urban District Council. Accepted tenders:—

Table listing tenderers for Earlestown streets: Webster and Winstanley, Wigan; Bennie & Thompson, Warrington.

EDGEMONT.—For alterations and additions to the workhouse laundry, for the guardians:—

Table listing tenderers for Edgemont laundry: Rowlett Bros., Palmers Green; (Recommended for acceptance.)

FOLSHILL.—For the erection of thirty workmen's houses at Foleshill, for the Foleshill Rural District Council:—

Table listing tenderers for Foleshill houses: Train, W., & Co., Ltd., Nottingham (accepted); Lowest tender sent in.

HAMILTON.—For alterations and additions to the administrative block at the county sanatorium, Louisa-road, Messrs. A. Cullen, Leith, and Brown Hamilton architects. Accepted tenders:

Table listing tenderers for Hamilton block: Maxwell, J., and Son, Falkirk; Shanks, W., and Sons, Ardrie; Johnston, D., Strathaven; Thom, M., and Co., Ardrie; Young, J., Bellshill.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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The Munster and Leinster Bank, Cork. Messrs. Arthur and Henry H. Hill, Architects.
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OUR ILLUSTRATIONS.

The "Hearts of Oak" Building Extensions, Euston-road, London. Messrs. Nicol and Nicol, A.A.R.I.B.A., Architects.

THE GENESIS OF DESIGN.

In a state of order, all things stand in reciprocal relation; law connects part with part, and part with whole. In practical design our drawing-boards insure, mechanically, correlation to a certain limited extent; for each horizontal drawn with tee-square is true to base, each vertical is at normal angle. In earlier days, no doubt, the designer wanting accurate mechanical aids would have needed to exercise his mind in maintaining true horizontal and vertical, just as the mason constantly applies line and plummet. It may be that this necessity for continual vigilance gave a certain nobility to the work of the designer in primitive times; that his self-reliance was fostered, and forcefulness and character were engendered. We need but casually look round to assure ourselves that our present-day excellence of instrument and appliance does little to open the eye to an understanding of true symmetry and grace of form; for assuredly we see no end to the production of disorderly and warped architectural mass. We may agree that the basis of design is order, and that order means correlation of part; but the worship of the so-called picturesque in place of quiet dignity, shows that in practice we frequently ignore fundamental principles to which, in theory, we profess allegiance. This is a matter of regret, since if we earnestly seek some main guiding rule in design, we may find it in the principle of correlation, whereby each thought and act in design has definite relation to some overruling master idea. Holding to this principle, we may be saved from wanton acts, destructive of unity, and make each thought observe a general thesis. Each act of design is then comparable to a line drawn with tee-square; it is made true to a base. In the sum, such acts correlate, are laid, as it were, course on course, to line and plummet.

If we inquire why mere geometrical correlation, mere placing of objects at equal distances, at certain angles, on certain balanced curves—why parallelism, co-ordination and concentricity alone, of themselves are causes of interest to the eye and convey a sense of beauty, we shall find these questions in great part answered, if we consider correlativeness as the essence of order, and order the genesis of design. Each part has reference to other; the whole is bounded and bonded by a common, all-dominating law. Whether it be jewelled pendant, concentric circle in rain-splash and ripple, or iso-curving wavelets in a wide-sweeping bay, beauty in major part seems to reside in the sense of order, the

existence of law, and the general subservience of part to whole effect. Geometry, as such, we may conceive to have no aesthetic import; but geometry as signifying law and order, and as indicating reciprocal relation of part, such as we see demonstrated in equidistant columns and the regular spacing of flutes, is no doubt the hidden cause—the fount and origin of beauty in architecture.

Geometry, as a concrete expression of order, appears rather an attribute than an entity in architecture. The display of severe elemental geometric form itself is not the aim. The orderliness and correlativeness of geometry runs through and through architecture as bond-entwining correlativeness—order; but if the end and aim of architecture were merely the exhibition of geometrical form, as such, and the ultimate effects were governed by this, plain iron sheds would be types of architectural beauty! When, therefore, we set so much store on order and correlativeness and the super-domination of the geometrical, we refer rather to an invisible warp and weft intermeshing and bonding part and part into unity.

There may be nothing of special interest, and, obviously, no novelty, in displaying the circle, as such; yet all objects of art founded on the circle possess its inherent beauty, and have an interest born of out-coming from—the circle. The relation of part to whole—the correlation, or sign of order, is here at its simplest: all refers to a centre, be it ring, wheel-window, or round moon. In the wheel-window the mullions may radiate, bringing another feature of design under one law; but the wealth of varied interest that the Mediæval builders threw into circular windows shows that, given the circle as frame, the greatest prodigality and play of line and curve, within the circle, do but add gravity of effect. This is but natural, and an affair of mutual enhancement. The four straight and square lines that define a marble panel are the foil and contrast whereby the utmost value is given to all its natural, asymmetric markings and figure.

These considerations suggest that even order—correlativeness—needs some counterfoil; that is to say, reciprocal relation may be heightened in value by the juxtaposition of something akin to disorder. It seems almost impossible to employ such a term in design; but wild asymmetry, as the figuring of marble, does unquestionably derive increased value from close proximity to severe and simple geometrical lines. We must allow a place in architecture to the grave and gay, just as we employ the bass and treble in music. If

we give too great heed to geometrical disposition; if our design is all right lines and right angles, we gain dignity, but lack variety. For the designer, this is a consideration of importance, for it shows that even order itself requires foil or contrast, and that the plumb and square parts of ruined architecture appear more so in the face of decayed and crumbling litter; and the spirit of the same principle we may see where right-angled leaden lights frame and empanel lace curtains and the flowering plants of cottager's window.

The principle of correlation induces us to render more pronounced and apparent geometrical form; but the need for variety and foil warns us not to carry the rule too far. If we never go outside our principle, or rather, if we never allow a little play of fancy and abandon, all lightness—the magic and charm of variation—would be stifled. All we need to see is that the change and variation does not occur in weighty matters; that we do not play with form in grave and serious main masses of building. It is in careless treatment of such building masses that want of respect for our principle of correlation—want of a high sense of order—is mainly evidenced. In the preservation of simple mass resides dignity. If we believe that order is reciprocal relation of part, we shall carefully avoid senseless break and change. Looking back into the ages, we shall find ample confirmation in support of these views. All great works convey an impression of a high sense of order, of overruling law, and, in each, a dominating theme or idea, to which every thought and effort of the designer has been subservient.

THE EXHIBITION OF THE LONDON SALON OF PHOTOGRAPHY.

The council of the London Salon of Photography have successfully overcome unprecedented difficulties in organising their international exhibition, which has just opened at the galleries of the Royal Society of Painters in Water Colours, 5a, Pall-mall East. Many of the Continental contributions have been withheld or unavoidably detained en route; one case of thirty prints in the oil process, the work of Demachy and Puyo, advised from Paris three weeks ago, have so far failed to be delivered, and a parcel of exhibits by leading American amateurs are missing, although they were consigned from New York six weeks since, and the covering letter and list of works and their authors came to hand a month ago. Further, the council decided to only hang one example of each German

and Austrian artist, and in no case to quote a selling price for these. Notwithstanding all these drawbacks, the display is an excellent and representative one; the number of accepted pictures—325 in all—falls short of recent years, but the works are better hung, and several screens are also utilised. There is a boldness, vigour, and healthy sanity about the exhibits, and foggy and indecipherable impressionist works are in a small minority. There is an exceptionally strong display of portraits, both by amateur and professional members. The colour prints on paper increase in relative numbers year by year, and now evince great delicacy and refinement; but no new process has come to the front this autumn. English and American works are well represented, and there is a fair show of French and Belgian photographic art.

The very first picture to catch the eye upon entering, No. 1 in the catalogue, is of a topical character, and is sure to awaken interest. It is entitled "The Empire's Watchdog," and is one of two seascapes by F. J. Mortimer; the ocean is lashed into fury by the gale under a darkening sky, and angry billows dash against the armed prow of a British cruiser, on which, behind the quickfiring guns, are a lieutenant and an A.B.; the latter, telescope to eye, is looking through the spray at a couple of destroyers in the offing. "Touch and Go," the same artist's second work, is a vessel under closely-reefed sails beating up against the wind. In this class may be placed No. 100, bearing the suggestive title, "England Expects—" by Hector Murchison; over the housetops we look upon one of the Leemings' square Admiralty cupolas, with its wireless masts and antennae, and beyond is the upper portion of the Nelson column, the whole well composed as a picture. No. 3, by A. E. Schnaf, "Pennsylvania-avenue," is a peep into a typical New York street on a rainy day. "The Smoky River," by J. Kauffman, No. 8, shows a liner and smaller vessels working up Port Phillip Bay towards Melbourne. No. 10, "Cloud Shadows," has a fine atmospheric effect; the clouds overhang a long and barren valley between limestone hills; it is the work of Kenneth C. Goodyear. "The Fountain," by Alfred G. Buckham, No. 14, has obviously had the cascade worked up, and the same criticism applies to No. 230, "Neptune's Fountain," a much more elaborate and ambitious work by J. C. Warburg; in the latter print a charming effect is gained by the dexterous delineation of symmetrically feathered spray from some finely-modelled tritons sporting themselves in a basin below a Classic portico. A. G. Buckham also contributes No. 15, "Overhead the Moon Sits Arbitress," a clever but indistinct night scene; the long stretch of white lane between the lamp-lit cottages would have been more artistic had it possessed a turning. "The Return from Flodden," No. 19, by John M. Whitehead, of Alva, N.B., shows a knight in armour standing on a hilltop waving a brand-new flag on a short staff. Other exhibits by this worker of much excellence are "Storm Clouds," and "A Moorland Farm," Nos. 20 and 22, the latter a white-walled homestead seen beyond the sand, sedge, and sludge of a dreary marshland. Four futurist works of considerable merit are Nos. 25 to 27 and 31, sent in by Hugh Cecil; perhaps the best is "The Snake Dance." A clever effect of low-lying plants in flower, foliage, meadow, and trees is obtained by Dr. R. E. Evans (No. 35). "Wedding the Cobbles, Dammie," by W. W. Smith, No. 36 is not a self-condemnatory explanation of the worker's occupation, as might be hastily surmised from the title, but merely a quiet scene in a Dutch village

street. We always expect good things from Mrs. Carine Cadby, and her "Ski-er," No. 37, is not disappointing; it shows a well-dressed maiden, in the flush of health, descending a steep snow-slope, while across the valley is a still more lofty glistening mountain. In No. 40, "A Member of the London Salon of Photography," Pierre Dubreuil, a French amateur, gives us a characteristic self-portrait, shown in the act of setting a camera. Another good print by Dubreuil is "Hours of Paris," No. 44, a rainy-day scene, looking along the Rue de l'Opéra towards the main façade of Charles Garnier's masterpiece; an open umbrella held over the photographer obscures the sky to the right, producing a unique but not unpleasing effect. In "A Friend of the Friendless," No. 51, W. J. Clutterbuck depicts a middle-aged dame walking along a dirty street on a miserable evening, and behind her slink three disreputable mongrels. No. 53, "Twilight, Chenies," by J. L. Tucker, shows with no small skill the bare trunks of pines and beeches above a still stream; the grain of the process is a little too prominent for our liking; and another quiet landscape by this artist hangs near it, "Autumn Afternoon, Chesham," No. 60. Bertram Park, the energetic secretary of the London Salon, is this year represented by three admirable platinotypes: No. 64, a "Profile" portrait; No. 65, a problem-picture, "The Sultan's Pleasure": a brunette in the flimsiest Oriental costume (à la Miss Maud Allan) shrinks against a pillar, while on the stairs and wall to the right appears the silhouetted shadow of the houri's despotic lord and master: his third work, "Laugh, laugh, Oh; Hotei" (No. 6) portrays a Japanese idol, the god of levity and pleasure, being tickled by a girl with a peacock's feather. No. 67, by J. B. Portway, sen., is a powerful representation of "Whitby Bay," and Fred Judge sends as one of five "A Whitby Yard," No. 91, one of the narrow courts off the hillside below the church. Alexander Keighley, of Keighley High Hall, contributes this year four Egyptian subjects, Nos. 67-70, all conveying the impression of a cloudless atmosphere and sharply-defined arid landscapes. In No. 72, "The Pottery Kiln," we see the clayworkers' sheds and bricks on the plain below a minaretted mosque. No. 85, "St. Paul's," by F. Seyton Scott, obtains a fine contrast between the lichen-clad protected masonry and the white surface of the Portland stone where exposed to sun and rain in a portion of the south portico of Wren's cathedral. No. 104, "Tothill-street," by A. H. Blake, M.A., is a clever birdseye looking down that busy thoroughfare upon the west front of the Abbey and a third metropolitan subject of uncommon merit, is "Constantinople in London," No. 109, also by A. H. Blake, in which, with the Duck Island in St. James's Park as a foreground, the artist dexterously groups the medley of minarets and turrets of Kent's Horse Guards, Webb and Bell's United Service Museum, William Young's War Office, Archer and Green's Whitehall Court, and Alfred Waterhouse's National Liberal Club into an harmonious Oriental mise-en-scène. No liberties are taken with the rearrangement of the buildings; all is simply effected by a careful selection of viewpoint and the camera does the rest. No village on the Lower Seine has been more often sketched and photographed than "Candebee." John H. Anderson, in No. 116, shows neither the Flamboyant open spire nor the riverside aspect, but depicts a narrow street, with dilapidated, timbered houses, cobble paving, and some carts and peasants. No. 127, "The Erlöser Church in Moscar," by S. Laurason, of that city,

gives us the uncouth cupola seen over a balustrade. The expression of the strong face of "Sir Ernest Shackleton" is well caught by Rudolf Dührkoop, of Hamburg (No. 132), and H. S. Ponting's work with Captain Scott's Antarctic Expedition is admirably illustrated in Nos. 205 to 208; of these four, the most impressive in its grandeur is No. 208, "The Castle Berg," in which a huge perpendicular snow-clad cliff of ice towers above a plain, along which a team of dogs drag an explorer in his sledge; "The Terra Nova Icebound in the Pack," No. 207, suggests the helplessness and solitude of the intrepid party. Ward Muir, in Nos. 150-1, brings before us "Edinburgh in Summer and in Winter," the former representing the Mound, and the latter Waverley Market. An unlovely vision of hard-lined skyscrapers is "Sixth-avenue, Pittsburgh," No. 161, by H. C. Torrance. Four pastoral scenes in Belgium are shown by Leonard Misonne, of Gilly; No. 165, "Lever de Soleil," indicates the dispersal of mist from a marshy woodland, and a neighbouring print, "Les Grands Peupliers," shows a flat riverside bordered by poplars and willows. Frederick H. Evans again takes us to Westminster Abbey, showing us in the "Buckingham Tomb" the effigies in profile of Sir George and Lady Villiers, by Nicholas Stone, in the centre of St. Nicholas Chapel; of a different class is his portrait of "Hubert," of the *Sunday Chronicle*, the late Hubert Bland (No. 197). William Rawlings, in "The White Cliff," No. 199, gives us the green slope and white chalk face of Beachy Head, as seen from the west, with the banded, toylike shaft of the new lighthouse on the foreshore below. Bertram Cox, in No. 215, "Lincoln from the South West," shows the long roofs and triple towers of the Minister and the Castle turret, as viewed from across the Witham Valley and river. Samuel Grimshaw succeeds in making an attractive picture of an uncompromisingly modern subject, "The Technical School, Aston-under-Lyne," No. 220, by taking its square tower in shadow against the sky on a wet evening, when reflections are produced by the puddles and wet paving sets. "The River of Toil," by Egon Ratibor, of Winnipeg, No. 235, is also a poor topic; but the treatment is flat and unsatisfactory from the pictorial standpoint. Four Dutch genre scenes by Richard Polak, of Rotterdam, No. 246-9, are exceedingly well-grouped, and the wealth of detail is brought out with the sharpness of definition of one of the worker's countrymen among the old masters; but it would have been better not to have engaged the same buxom woman as model in three instances, hung side by side, or otherwise the resultant prints should have been hung in different years. "Dusk in Kelvin-grove," No. 253, looks up to Sir Gilbert Scott's Glasgow University buildings, and is a good example of John D. Stephen's work, and Charles H. L. Emanuel makes the best of a picturesque topic in his "Corfe Castle," No. 265, seen from the green below the mound. One of the best Alpine scenes is No. 290, "Sunshine and Mist," by Elliott Peel, from a steep slope of snow we look across a fine-clad valley to still loftier peaks. J. Craig Annan gives in No. 286 the results of a visit to Toledo, with its narrow streets, round walls, and water carriers; and Alexander Hamilton, in No. 307, shows the main street, west front and twin towers of "Quimper Cathedral." Brittany, with a fine atmospheric rendering of the clouds above. Perched like an eagle's eyrie on the edge of a cliff overlooking a wide expanse of fair country is "The Kaiser's Chateau," No. 301, by Fred Boissonnas.

It will be seen that the display will well repay one or more visits. The entire

profits of the exhibition, which will remain open daily from 10 a.m. till 6 p.m.; also on Wednesdays and Thursdays till 8 p.m., for six weeks, closing on October 17, will be devoted to the Prince of Wales's National Relief Fund, and in order that this contribution may be worthy of its purpose, we understand various economies have been adopted, including the discontinuance of the popular evening lectures.

ST. PAUL'S CATHEDRAL. PAST AND PRESENT.

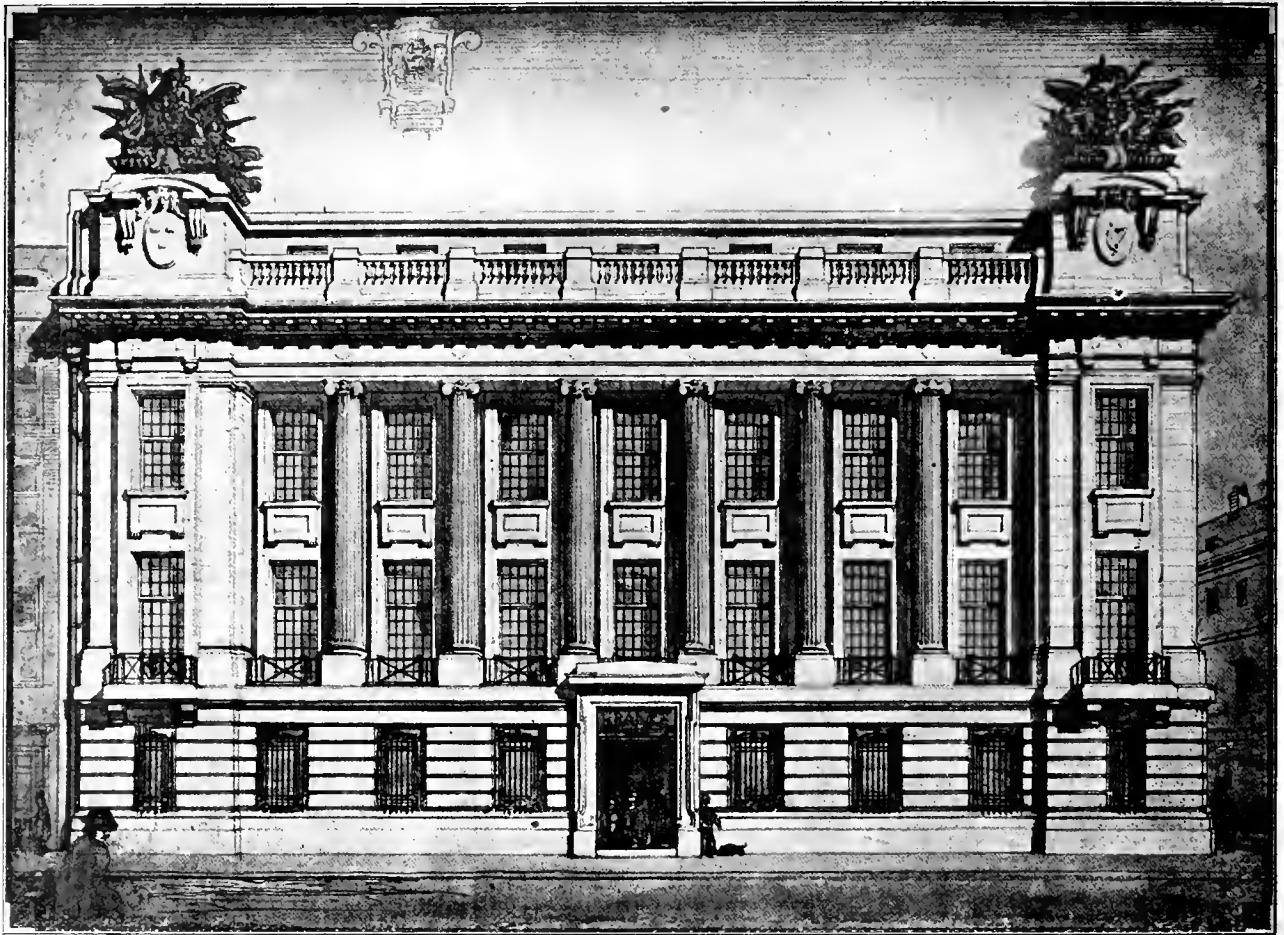
At the Royal Photographic Society's Exhibition in the Suffolk-street Galleries, Haymarket, S.W., on Saturday, a lecture on "St. Paul's Cathedral, Past and Present," was delivered by Mr. F. J. Hall. Mr. A. H. Lisett, treasurer of the society, occupied the chair. The lecture was copiously illustrated by photographs of the highest quality, all taken by the author, by permission of the Dean and Chapter, who granted special facilities to visit otherwise inaccessible places and also to reproduce many literary treasures in the library.

The first half of the lecture dealt with "Old Powles," the third cathedral on the site, of which the nave was Norman and the choir and Lady-chapel Decorated in style. The tall central spire, built of timber and lead, was not completed till 1315 and was finally burned down in 1561. The close wall, the outlying chapels, the cloisters, Paul's Cross, demolished in 1643, and other subsidiary structures, were described and illustrated. The interior of Old St. Paul's was, Mr. Hall remarked, no less magnificent than the outside, with its many beautifully decorated altars, shrines, and images, with its tombs of saints, kings, and heroes, and with places of pilgrimage well worn by the feet of the devout. Arcades of clustered columns divided the nave and choir from the aisles and ran the full length of the edifice. Separating the choir from the nave, which were of equal length, was a fine screen, ornamented with statues placed under canopies. No church in Great Britain was so highly decorated as was this cathedral, and the magnificent internal and external architecture, the splendour of the interior, and the graceful and lofty spire left little to be desired. The author sketched many of the important ceremonies which took place in the old cathedral, observing that it was not generally realised what a large part St. Paul's played in the making of England. The most magnificent piece of work in Old St. Paul's was the shrine of St. Erkenwald, which stood near the altar, and was very richly carved and gilded. The tomb of Sir John Beauchamp, son of the great Earl of Warwick, commonly but mistakenly called the tomb of Duke Humphrey, stood on the south side of the nave. Another tomb, with a bust above and skeleton beneath, was that of John Colet, the famous Dean 1505-19, and the builder and endower of St. Paul's school. Another curious monument, and the only one which has survived the Great Fire uninjured, was that of John Donne, Dean 1621-31, preacher, poet, and wit, and friend of Izaak Walton; it is a statue in a niche representing the Dean standing with a closely clinging shroud around him, and his feet resting upon an urn. Other monuments, now lost, described and illustrated from old engravings, were those of Sir Philip Sidney, poet and courtier; William Herbert, Earl of Pembroke, 1569; Bishop Robert de Braybrooke, 1381-1405; Canon Ralph de Hengham; Sir William Cokain, 1626, with his wife and eleven children; and Sir Thomas Heneage, 1594. Below the choir was the beautiful church of St. Faith, its low vault supported by ranges of clustered pillars. Old St. Paul's was unusually rich in obits and chantries, which were a great source of wealth to the Cathedral; but abuses grew flagrant, and the revenues gradually fell off during the fourteenth and fifteenth centuries. The increasing desecration of the buildings until and after the Reformation was sketched by the lecturer.

During the second half of the sixteenth century, before and during Elizabeth's reign, no repairs of any kind, either outside or within, were made to the building, which gradually fell into a deplorable condition of dilapidation and degradation. At length James I., moved by urgent representations, appointed a Royal Commission to deal with the renovation, and appointed Inigo Jones as the architect. He rebuilt, in incongruous fashion, the west front—against which he erected a Corinthian portico—and also the end walls of the north and south transepts. Close upon £100,000 had been subscribed towards the repairs; but before the money had all been expended, the Civil War broke out, and St. Paul's again fell into troublous times. The money in hand, amounting probably to £50,000, was seized by Parliament; everything that could be converted into cash—even the scaffolding—was taken away. Inigo Jones's portico was let out as shops, the carved stalls were burned, and the nave soon became a home for Cromwell's cavalry. At the Restoration, the public services were recommenced; but only parts of the Cathedral were in a fit state for use. One Dr. Christopher Wren, a son of the Dean of Windsor, was called in to advise, and among other recommendations he suggested the removal of the old central tower and the erection of a spacious dome or rotunda in its place, so as to provide more space. After long discussion, the plan and estimates for the repair of the building were approved on August 27, 1666; but six days later the Great Fire broke out, and the edifice was involved in the general conflagration.

Some attempts were made at restoring the building, contrary to Wren's advice; but after eighteen months' tinkering the columns at the west end fell down, and the clergy, the King, the nobility, and Parliament were of one mind in deciding to sweep away entirely the old building and to erect a new Cathedral which should be worthy of the Metropolis and of England. There was equal unanimity in the choice of the architect. Wren was the most accomplished man of his day in all branches of science and art, and, in the lecturer's judgment, the greatest architect the country has produced. If after the clearance effected by the Great Fire, London had been rebuilt according to Wren's plan, we should have had broad and well-planned streets leading to a wide open space all around the Cathedral. Much to the advantage of St. Paul's, Wren superintended the new building from start to finish, between 1675 and 1710; but his surprising genius and abounding patience were taxed to the uttermost. He prepared many designs, but had to alter them again and again to please one and then another. His favourite design showed a cross with four equal arms, and the model of it which he prepared is still to be seen in one of the upper galleries of the Cathedral. Eventually, however, the form of the Latin cross was adopted. In 1675 the plans were generally approved, and a Royal warrant issued for the beginning of the work. Wren obtained the King's authority to make such alterations in the scheme as from time to time he should think proper, and he availed himself of that opportunity to an incredible extent, so that the building he constructed resembled but little the approved or Warrant design. We wondered at Wren's audacity; but it gave us what was, so far as the exterior is concerned, one of the grandest and most beautiful churches in Europe. Unfortunately, Wren was not allowed to carry out his designs for the interior, or we should have had something far more handsome than that we now saw. The Commissioners proved very incompetent persons, and they were constantly at loggerheads with the architect. The greatest insult that Wren received was when the Commissioners withheld half his salary until the building should be completed, the insinuation being that he was unnecessarily delaying the work that he might the longer continue his salary—only £200 a year as surveyor. The lecturer exhibited photographs from the account for February,

1686, showing a payment of £16 13s. 4d. to Wren for his month's salary; also payments to labourers, some of whom received 1s. 6d. and others 1s. 4d. a day, and to watchmen at the rate of 8d. a night. A further photograph, from the accounts of June, 1702, demonstrated that Wren's salary had been reduced to £8 6s. 8d. a month; but the labourers received the uniform rate of 1s. 6d. per day, and the watchmen's pay had gone up to 1s. a night—perhaps there had been a strike. Wren protested against the reduction of his salary; but it was not until he petitioned the House of Commons that he was successful, and it was agreed that so far as he was concerned the building was finished. The suspended moiety of his salary was paid to him at the end of 1711, when he was in his seventy-ninth year. He lived till he was nearly ninety-three, and once every twelve months he came to London to gaze upon St. Paul's. The lecturer described the measures taken by Wren to lay his foundations on the brick-earth, and remarked that a representative body of architects, engineers, builders, and scientists had recently reported that the vibrations felt—which were distinctly experienced during the passing of motor-buses while the author was photographing the documents in the library—were in no way injurious to the structure. At the same time, they reported that little or nothing had been done in the way of serious structural repairs since the building was erected, and recommended that all the stone- and lead-work should be repaired, and especially that the four great piers which support the dome should be strengthened. The Dean and Chapter are, therefore, appealing for £70,000, that being the minimum amount which will suffice to insure the safety of the fabric. Mr. Hall pointed out that the upper of the two Orders into which the exterior treatment of the masonry is divided was merely a screen to conceal the flying buttresses, and argued that, so far from being an unmitigated sham, it was a justifiable device to support the great thrusts of the dome—undoubtedly the most noble and magnificent feature of the edifice. A sectional view of the three domes was followed by actual photographs of the crown of the inner cupola, of the little gallery above it, of the conical wall of brickwork, of the timbers supporting the outer shell—each the result of several days' exposure of a plate, and making the method of construction clear even to the uninitiated layman's eye. A fine view of the interior of the space under the dome, looking to north-east across the area, was shown at this point. This illustration, from Mr. Hall's negative, was published in our issue of September 2, 1910 (p. 327, Vol. XCIX.). The lecturer proceeded to describe and show on the lantern screen Bodley and Garner's reredos, erected in 1887-8; the carvings in the choir, by Grinling Gibbons; Tijou's ironwork, Richmond's mosaics, the newly-decorated chapel of St. Michael and George, next the south western campanile, and many of the more important monuments. An inspection of the Geometrical Staircase, the Library, and the Whispering Gallery followed, and a visit was then paid to the crypt. In conclusion, Mr. Hall quoted Thomas Carlyle's appreciation of the Cathedral contained in a letter written to his brother in 1824: "I was hurrying along Cheapside into Newgate-street, among a thousand bustling figures and the innumerable jinglings and rollings and crashings of many-colour Labour, when all at once, on passing from the abode of John Gilpin, stunned by the tumult of his restless compeers, I looked up from the boiling through a small opening at the corner of the street. There stood St. Paul's, with its columns and friezes and its many wings of bleached yet unwarmed stone, with its statues and graves around it, with its solemn dome four hundred feet above me, and its golden ball and cross gleaming in the evening sun, piercing up into the heavens through the vapours of our earthly homes." It was silent as "Tadmor of the wild-rose," gigantic, beautiful, enduring; it seemed to frown with a rebuking pity on the vain scramble which it overlooked. At its feet were tombstones,



MUNSTER AND LEINSTER BANK. NEW HEAD OFFICES, CORK.—Messrs. ARTHUR and HENRY H. HILL, Architects.

above it was the everlasting sky; within, priests, perhaps, were chanting hymns; it seemed to transmit with a stern voice the sounds of Death, Judgment, and Eternity through all the frivolous and fluctuating city. I saw it oft, and from various points, and never without new admiration."

MUNSTER AND LEINSTER BANK, NEW HEAD OFFICE, CORK.

This work, which is now nearly completed, is a rebuilding upon the same site of premises of one of the leading banks in Ireland. The illustration shows the exterior of the building, which is carried out in hard white Irish limestone from Irish quarries, and worked in the yard of Messrs. John Sisk and Son, the general contractors. The architects are Messrs. Arthur and Henry H. Hill, of 22, George's-street, Cork.

At Edmonton, Alta., the excavation for the new Central Police-station, which is to be erected at a cost of \$25,000,000, has been completed. The structure is to be four stories high, 190ft. by 60ft., in dimensions, of stone construction. The architect is Mr. A. J. J. J., and the general contractors are the City Construction Department.

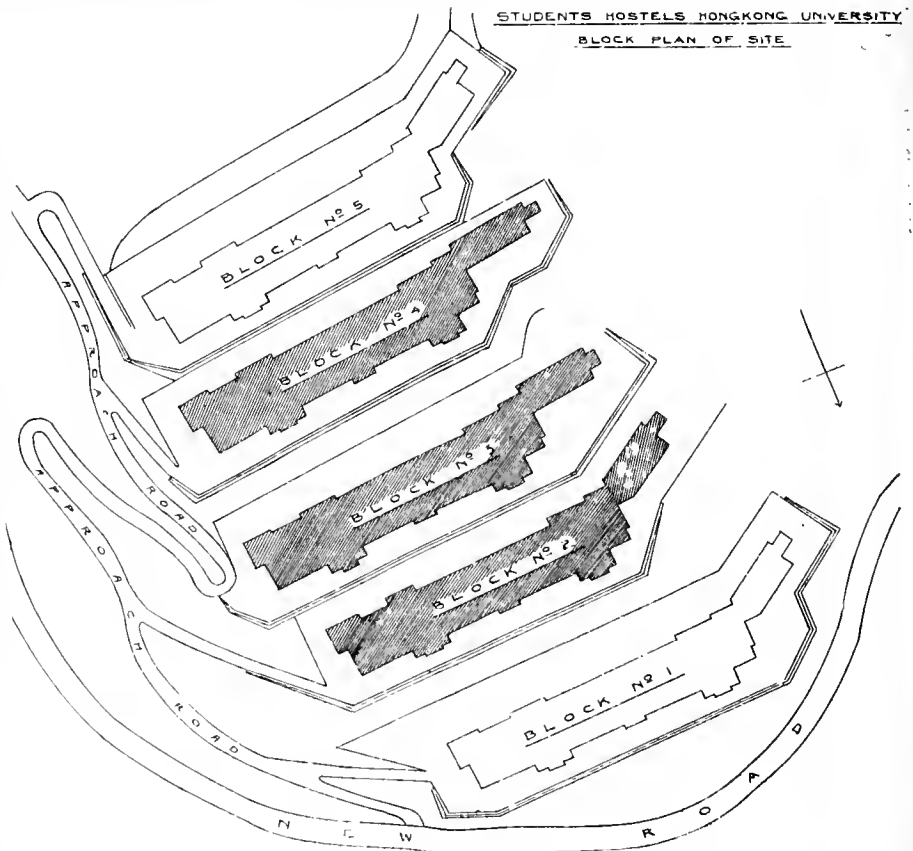
A new labour exchange is in course of erection in Lord Edward-street, Dublin, from plans by Mr. Andrew Robinson, M.V.O., of H.M. Office of Works, Dublin. It consists of a basement, first and second floor, has an area of 4,900 super feet, a frontage of 130ft. to the street, and a depth varying from 30ft. to 41ft. The front is of stone granite, with Portland stone cornice and balustrade. Messrs. Collier Bros. of East Wall, Dublin, are the builders.

The remains of an earthenware urn, believed to be the largest Early British vessel yet discovered in Lincolnshire, has been dug up on the Canwick sewage farm of the Lincoln Corporation. Among the fragments were found a few burnt bones, which appear to be human. The urn is about 16in. high, and is decorated along the rim with four lines of herringbone markings. It is ascribed to the period 1000-500 B.C. The remains are being reconstructed by Mr. A. Smith, curator of the Lincoln Museum.

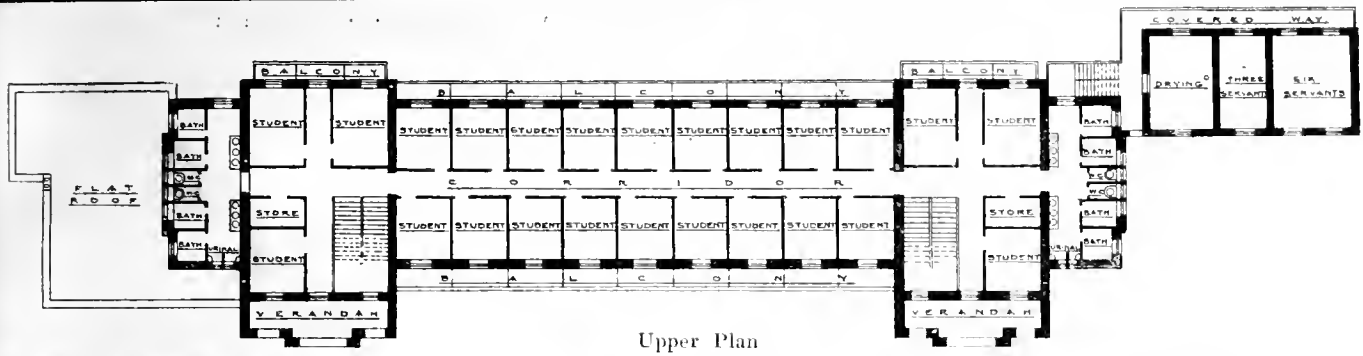
STUDENTS' HOSTELS, HONG KONG UNIVERSITY, CHINA.

These blocks of buildings provide for the housing of the Chinese students at the Hong Kong University, which has recently been completed. They are designed to

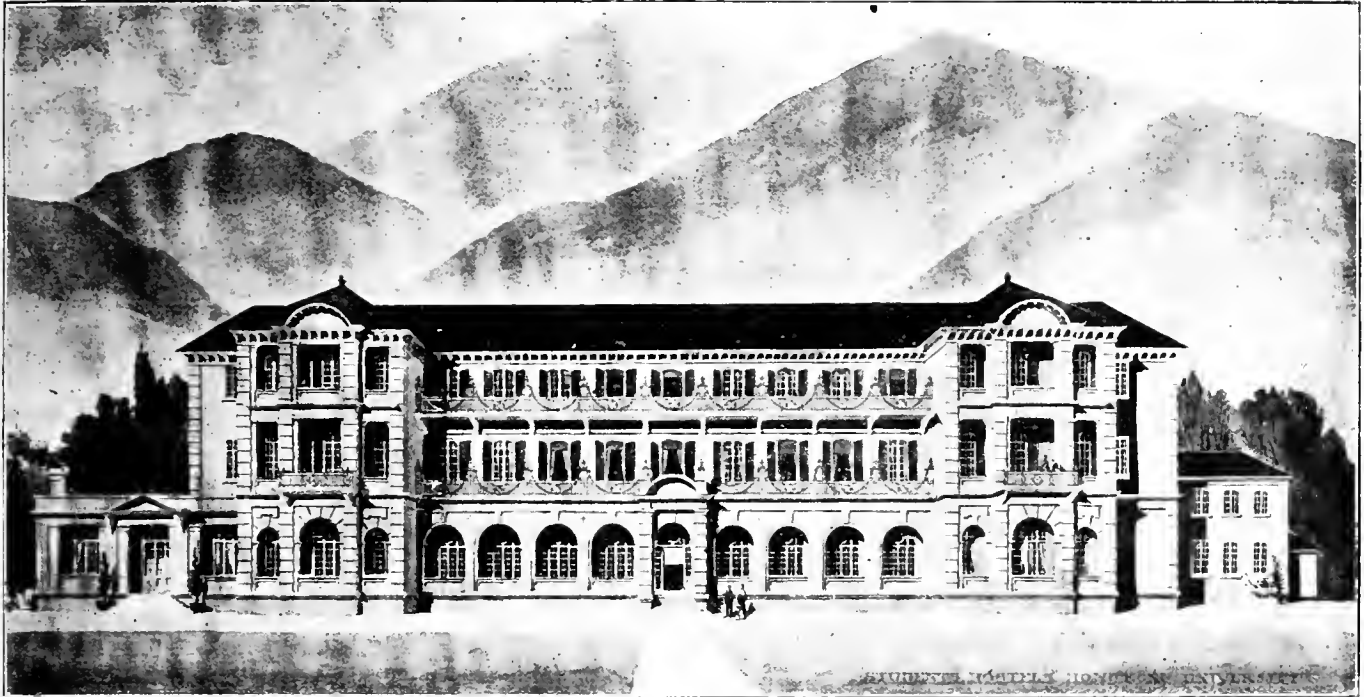
accommodate about fifty students in each block, and are built upon terraces cut out of the hill-side upon the north side of the island overlooking the harbour of Hong Kong and the hills of the main land of China. One block has been finished and two



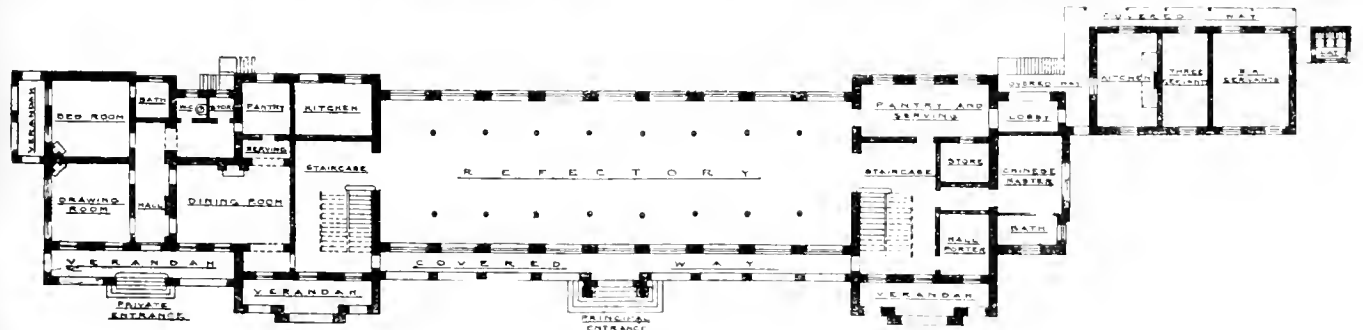
BLOCK PLAN OF SITE OF STUDENTS' HOSTELS, HONG KONG UNIVERSITY.



Upper Plan



STUDENTS' HOSTELS, HONG KONG UNIVERSITY, CHINA.— Messrs. DENISON, RAM, and GIBBS, Architects.



Ground Floor Plan.

are approaching completion. The walls are of brickwork with Amoy brick facings; floors throughout of reinforced concrete; and mouldings, etc., of artificial stone locally made. The buildings are being erected by Chinese contractors from the designs and under the supervision of Messrs. Denison, Ram, and Gibbs, architect and civil engineers, of Hong Kong.

CHIPS.

A public hall has been built at Ardahan, Co. Galway, at the sole cost of Mr. Edward Martyn, of Tullyra Castle. It is faced with limestone, and measures 78ft. by 34ft., and 30ft. in height. Mr. William Scott, A.R.H.A., is the architect, and Mr. William Emerson, of Dominick-street, Galway, the contractor.

A sewage scheme is about to be carried out for the parish of Bulkington, Warwickshire, at a cost of £8,500. The present sanitary arrangements are of a primitive character, and the Local Government Board, who recently sent down an inspector to the district, have called upon the council to carry out an up-to-date scheme.

The Primitive Methodist church at Bishop's Castle was reopened on Sunday after renovating and decorating. The architect of the church, the late Mr. J. Harris Pickard, of Whitechurch, Salep, prepared the specifications for the improvements, which have been carried out by a local contractor, Mr. W. S. Gwilt.

A new Association of Architects of Manitoba was formed recently, and a council of nine members was appointed for one, two and three-year periods. Mr. H. E. Mitchell was elected president, Colonel Mitchell, vice-president, and Mr. R. G. Hanford, secretary. The old association has been incorporated with the Manitoba Board of Examiners of Architects under an Act passed by the Provincial Legislature last session.

Leaks in a concrete pressure-conduit 1885ft. in length and 7ft. in diameter, which led from the basin to the pumping-station at the Bissels Point water-intake in St. Louis, were comparatively few, according to the annual report of the Water Commissioner. All concrete used for repairs is of gravel with cement and sand in such proportions that one sack of cement produces 4½ cubic feet of concrete; 12lb. of hydrated lime are added to each sack of cement, and the mixture is retained in a batch-mixer for three minutes.

A contract has been signed for the construction of the Central Essex Railway. The Essex County Council has stipulated that £15,000 shall be set aside for the construction of bridges to meet the heavy motor traffic.

The death took place on Friday of the Rev. Charles Edward Laing, vicar of Bardney, Lincolnshire. Mr. Laing was a prime mover in the excavation of Bardney Abbey, a Benedictine house, in his park, founded in 697 by King Ethelred and Queen Osthryl. It was rebuilt by the Normans. Through Mr. Laing's efforts the ground plan was laid bare. This shows the bases of Norman and Early English pillars, and many memorial slabs of the workmanship.

The Board of Trade have recently confirmed the following Orders made by the Light Railway Commissioners: North Devon and Cornwall Junction Light Railway Order, 1914, authorising the construction of a light railway in the County of Devon from Torrington to Halwill, including the reconstruction of part of the mineral line known as the Torrington and Marland Railway; and the Swansea Corporation Light Railways (Extensions) Order, 1914, authorising the construction by the mayor, aldermen, and burgesses of the borough of Swansea of further light railways in that borough.

EGYPTIAN TRADE IN BUILDING MATERIALS.

According to an article in the August issue of the *Journal* of the British Chamber of Commerce of Egypt, the value of the imports of building material into Egypt during 1913, was £E.2,311,885, of which the United Kingdom supplied goods to the value of £E.343,071.

The following table shows the value of the imports into Egypt during 1913 of some of the principal items of building material, the figures for 1912 being added for purposes of comparison:—

	1912.		1913.	
	Total Imports.	Share of United Kingdom.	Total Imports.	Share of United Kingdom.
	£ E.	£ E.	£ E.	£ E.
Timber	1,045,745	40	1,357,980	9,122
Bricks, ordinary, and fire-bricks ..	34,865	29,870	14,971	11,179
Tiles	4,133	833	5,544	21
Earthenware pipes ..	10,595	10,025	11,424	11,339
Worked building stone	10,054	51	16,382	4,631
Lime	40,795	—	44,995	—
Cement	168,210	53,683	107,869	31,458
Sanitary articles, earthenware and cementware ..	26,805	13,888	32,186	16,724
Window glass ..	31,155	6,125	39,709	6,401
Paints	63,211	31,005	59,661	22,366
Varnish	13,747	7,790	11,672	6,072
Cast iron	6,319	6,319	7,348	6,599
Cast-iron pipes ..	54,764	30,457	57,393	35,466
Wrought-iron and steel pipes ..	123,377	69,350	158,114	86,015
Rolled steel joists ..	106,193	11,966	101,990	13,474
Sheet iron, including corrugated ..	82,065	29,658	89,196	22,643
Locks, window fittings, &c. ..	124,821	18,506	110,925	28,503
Lead pipes ..	10,052	693	7,503	26

Joinery.—The United Kingdom supplies worked timber to a limited extent in the form of office furniture and high-class joinery, and it should be noted that there is a certain demand for good joinery—although, generally speaking, cheapness, not quality, is the principal recommendation to buyers in the building trade in Egypt—and a not insignificant trade might be done by English master joiners in good work, of well seasoned timber, at reasonable prices.

Lead Pipes.—During 1913 lead pipes to the value of £E.7,503 were imported, of which the United Kingdom supplied goods to the value of only £E.26. The principal suppliers were France £E.4,326, Algeria £E.1,497, and Germany £E.1,053.

Iron and Steel Pipes.—British wrought iron and steel pipes are acknowledged to be superior to any other, chiefly on account of the accurate threading of the ends, which always fit when jointed, and British makers will not depart from this accuracy for the sake of cheapness. During the year 1913 the United Kingdom supplied wrought-iron and steel pipes to the value of £86,015, Germany £E.52,271, United States of America £E.10,143, Holland £E.5,636, and Belgium £E.2,949. The demand for pipes for artesian wells has been extremely heavy since the latter part of 1913 (see *Board of Trade Journal* of May 7 last, p. 306).

Earthenware Pipes. The British manufacturer of earthenware pipes is supreme. A large increase in the demand should be looked for during the next few years until the new drainage scheme in Cairo is completed. Sewage disposal works, on a considerable scale, are also being carried out in Port Said, and important extensions in the drainage system of Alexandria are contemplated in the near future. Many of the more important towns in the interior will also probably undertake similar work as soon as funds permit.

Tiles.—The share of the United Kingdom in the imports of tiles is practically negligible, only amounting to £E.21 in 1913 nearly all the rest coming from France, to the value of £E.5,544. This is explained by the word "Marseilles," where corrugated

and many kinds of roofing tiles are made on the seaboard and shipped direct. As the United Kingdom succeeds in selling earthenware pipes, it is difficult to understand her inability to obtain a share in the trade of earthenware tiles.

Cement.—Portland cement of United Kingdom origin is being ousted in Egypt by brands of "Portland" cement made elsewhere, and the reason given is that the genuine British brands cannot be obtained because British manufacturers are too full of orders for other parts of the world to cater for the smaller Egyptian orders. This reason can hardly be accepted, and is probably offered by contractors as an excuse for supplying cheaper imitation Portland cement.

Belgium secures the bulk of the Egyptian trade in cement, although British cement holds its own as regards quality, and the falling-off in trade must be ascribed to the higher prices demanded by home manufacturers. Taking as a basis the quantities and values of cement imported from various countries during the year 1913, as given in the Customs statistics, the difference in prices would seem to be considerable, the average value per ton of British cement delivered in Alexandria being £E.2.291, followed by French at £E.1.828, Italian at £E.1.714, Belgian at £E.1.707, German at £E.1.653, and Austrian at £E.1.621. Austrian cement therefore works out at nearly 14s. per ton cheaper than British.

Steel-Joists.—Belgium heads the list of exporters of steel-joists to Egypt, followed by the United Kingdom. The appended table gives the figures for the imports from the various countries supplying Egypt with this description of building material during the years 1911, 1912, and 1913.

	1911.	1912.	1913.
	£ E.	£ E.	£ E.
United Kingdom	8,608	11,966	13,974
Belgium	77,208	89,794	84,718
Germany	7,137	4,433	1,432
United States	—	—	1,846
Total imports	92,953	106,193	101,990

Generally speaking, British steel for building purposes cannot be obtained in Egypt unless it is imported for special work; Belgian makes, on the other hand, are stocked. Certain non-British manufacturers state in their catalogues that, if requested, they will roll steel-joists to the British and American standard specifications, a sufficient proof that their ordinary standard of rolling is inferior to the British standard. Some of the Continental joists bear the standard mark "P.N." (profile normale), whereas in reality they are as much as 5 per cent. under the standard weight. This is taken advantage of by unscrupulous architects to the detriment of their clients. If, as in the case of the Belgian manufacturers mentioned above, British makers of steel joists offered greater facilities to their buyers or agents to hold stocks, it is probable that a greater share of Egypt's trade in this line might be obtained.

Ironmongery, Locks, Bolts, Etc.—There is much room for improvement of United Kingdom trade in shutter and window bolts of the "espagnolette" type. Scarcely an English bolt of this description can be seen. Notwithstanding the fact that the general demand is for the cheapest, and often the flimsiest, quality of hardware, United Kingdom ironmongery, which is always of a good class, should be more in evidence, there being a fair amount of building done for which good-quality fittings are specified.

Stoves.—The English stove, which is recognised to be of good quality, is not much in evidence. With all the facilities for manufacture in England and Scotland, this state of affairs seems to point to lack of enterprise and study of the local demand on the part of home manufacturers. The stove mostly in use is of the light type, not too light, with some white enamel front work. There is also a limited, but increasing, demand for firegrates.

In conclusion, it is suggested that in order to overcome the difficulty of obtaining British articles of hardware, more especially steel goods, for the building trade in Egypt, a

group of British non-competitive manufacturers of the various classes of building material should combine in forming a large depot at Alexandria; not a small office, but a warehouse, where articles in general demand for the building trade might be stocked, and samples of other articles be placed on view, and where transactions could be made and orders sent home. United Kingdom manufacturers, if they wish to obtain a fair share of Egypt's trade in building materials, should grant their agents as extensive facilities as possible, both as regards credit and by allowing them to maintain a fair stock, in order that they may be in a position to compete successfully with their foreign rivals. A careful study of the articles in demand in the Egyptian market which are at present supplied by other countries might lead to remunerative business.

COMPETITIONS.

BATLEY.—The local limited competition now being held in this borough for new council schools at Healey-lane (to be erected on a field site, next the cricket-club pitch, at a cost of £3,000, exclusive of furniture), is about to be settled. The drawings went in on the 1st of the month, and only three designs have been submitted. Architects in practice in the town of Batley were alone eligible to compete, and to tender really, because each architect had to state upon what inclusive terms he would be prepared to do the job and carry out the work, including quantities as well as for furnishing any incidental and necessary plans for all and various authorities, no extra remuneration whatever being contemplated. The committee, moreover, is left free to reject or not to accept either of the designs, and no premiums were offered; indeed, it was stipulated in the Conditions that no prize of this sort or other sum whatsoever would be payable for any of the designs. The school had to be of the pavilion type, following as closely as possible in order of preference A, the school at New Earswick; and B, the school at Bullershaw, Bradford. The layout should be T shaped, and must consist of six classrooms for forty scholars, each on the dual-desk arrangement. A central hall, available likewise as a gymnasium. Two teachers' rooms to be provided with cloak-rooms, lavatories, caretaker's stores, out-buildings, play-sheds, also boundary walls and fence to enclose the playgrounds. No motto or designating mark could be used, and no perspectives were allowed.

The partnership hitherto subsisting between J. Ormrod and E. J. Pomeroy, under the style of Ormrod and Pomeroy, at Acresfield, Bolton, in the county of Lancaster, in the profession or business of architects and surveyors, has been dissolved.

A start has been made on the office building which is to be erected at the corner of Adelaide and Toronto-streets, Toronto, by the Excelsior Life Association, at a cost of 500,000dol. The structure will be eleven stories high, of steel, terracotta, and brick construction. The architect is Mr. E. J. Lennox, Bay-street, Toronto, and the general contractors are the P. Lyall Construction Company.

The Bangor City Council some time ago ordered the demolition of a number of houses in Kyffin-square, which the medical officer had condemned as unfit for human habitation. The owners appealed, and the Local Government Board held an inquiry. The board have now reported to the Bangor Council that, after careful consideration, it has been decided that the demolition orders must be carried out, the cost of the appeal to be paid by the protesting owners.

At a special meeting of the Buckie Town Council, held on Friday night, it was agreed to give the contractors, Messrs. Charles Brand and Son, Glasgow, instructions to close the inner basin of the Cluny Harbour by cofferdam, to enable the excavation of the basin and the construction of the entrance of the new harbour to be made while the war was paralysing the herring fishing. The town council hoped the contractors would be able to reopen the harbour after a period of five months.

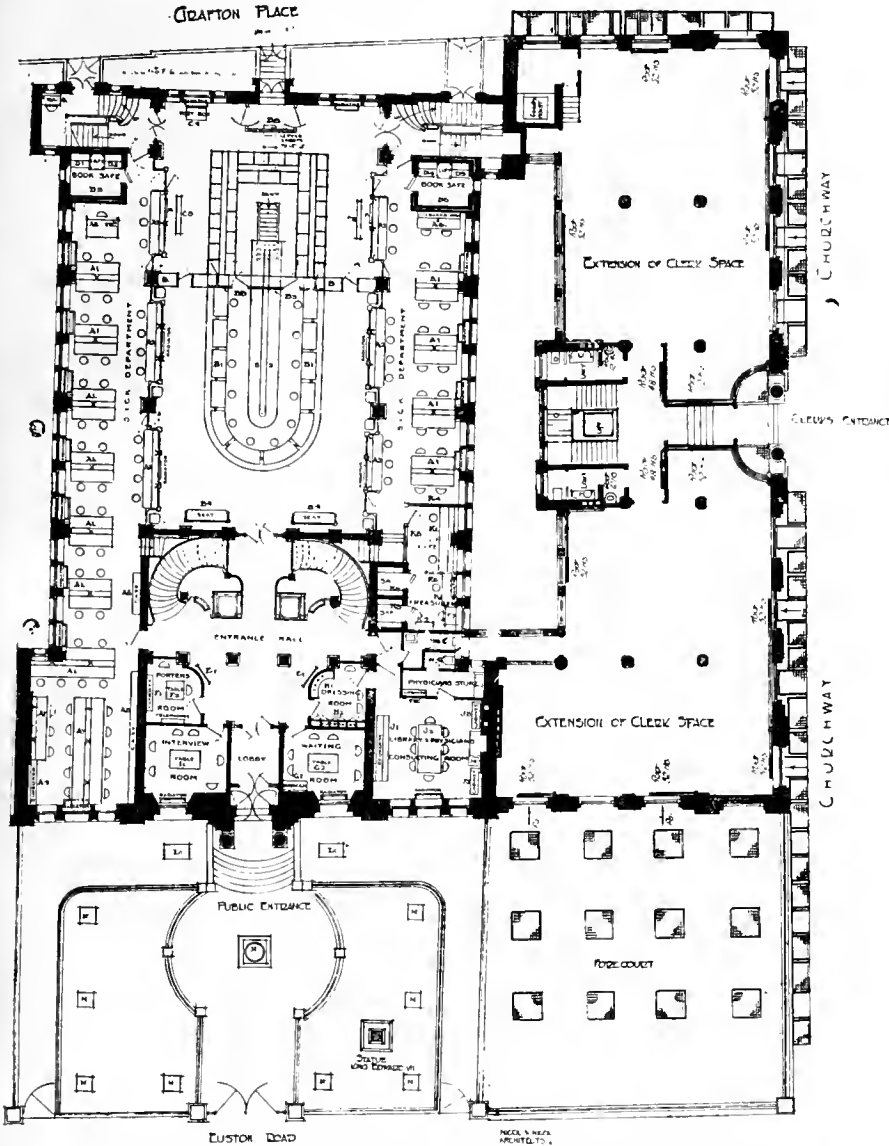
Our Illustrations.

HEARTS OF OAK BENEFIT SOCIETY'S BUILDINGS EXTENSION, EUSTON ROAD, LONDON.

The competition design chosen for this building was illustrated by us on August 23, 1902, and some other drawings were published on the occasion of the opening of the first section of this society's house by the late King

that building operations will shortly be started. The problem which the architects had to solve was how to group a new west wing, added to the central block already built and designed, to be flanked by two wings and still to keep up the dignity and continuity of the central feature. The illustration in perspective and the plan given today show how this has been done. The leading features of the façade have not only been continued along the Euston-road, but an equally imposing elevation has been ex-

Pembroke Works, Kilburn-lane, N.W. A special retaining wall and shoring had to be used to support the ground at the Euston-road end. The old building was underbuilt early in the spring, and as the works are now being advanced, it is confidently expected that the extensions will be ready for occupation at the end of next year. The architects are Messrs. Nicol and Nicol, of King's-court, Birmingham, and the quantity surveying is in the hands of Mr. C. W. Brooks, of Vernon House, Bloomsbury-square, W.C.



THE "HEARTS OF OAK" BUILDING EXTENSION, EUSTON ROAD, LONDON.
Messrs. NICOL and NICOL, A.A.R.I.B.A., Architects.

Edward, accompanied by Queen Alexandra, when the business of the society was removed from the Delegation Hall committee rooms and offices in the old buildings in Charlotte-street, Fitzroy-square, where for many years the official work, both for London and the provinces, was conducted. The site acquired has since been isolated on a third side by the formation of a new street called Churchway, from Euston-road to Grafton-place, partly on the site of a narrow lane adjoining the Women's Hospital, which was also called Churchway. The original design of the architects was a central block extending across the site with two wings forming a symmetrical elevation of the Euston-road. The west wing was to extend to the present London County Council Fire Brigade Station at the corner of Euston-square, and the east wing to the new roadway now constructed with a return elevation. The needs of this important fire brigade station led to negotiations for and purchase of the site of the west wing for an extension of this station, and we understand

tended along the Churchway frontage on the west. The main entrance from Euston-road has been supplemented by another correspondingly important entrance in the centre of the western façade. The new wing, consisting of eight stories in height, will be almost entirely occupied by the clerical staff in the sick benefit and industrial insurance departments. The two bottom stories will be used as filing departments and stores, extending under the forecourt to Euston road and under the footpaths in the Churchway. Messrs. Foster and Dicksee, of Rugby, are the general contractors for the work, including the Portland stone superstructure. The plan given is typical of the other floors, and shows that the large mixed staff now engaged will be principally accommodated in large open spaces, one or more floors representing a department. Considerable delay has been occasioned by the London building operatives, who were locked out for several months, the site being abandoned immediately after the general excavation was finished by Messrs. G. Godson and Sons, of

INTERIOR OF ST. MICHAEL'S CHURCH, GOLDSMITH'S GREEN.

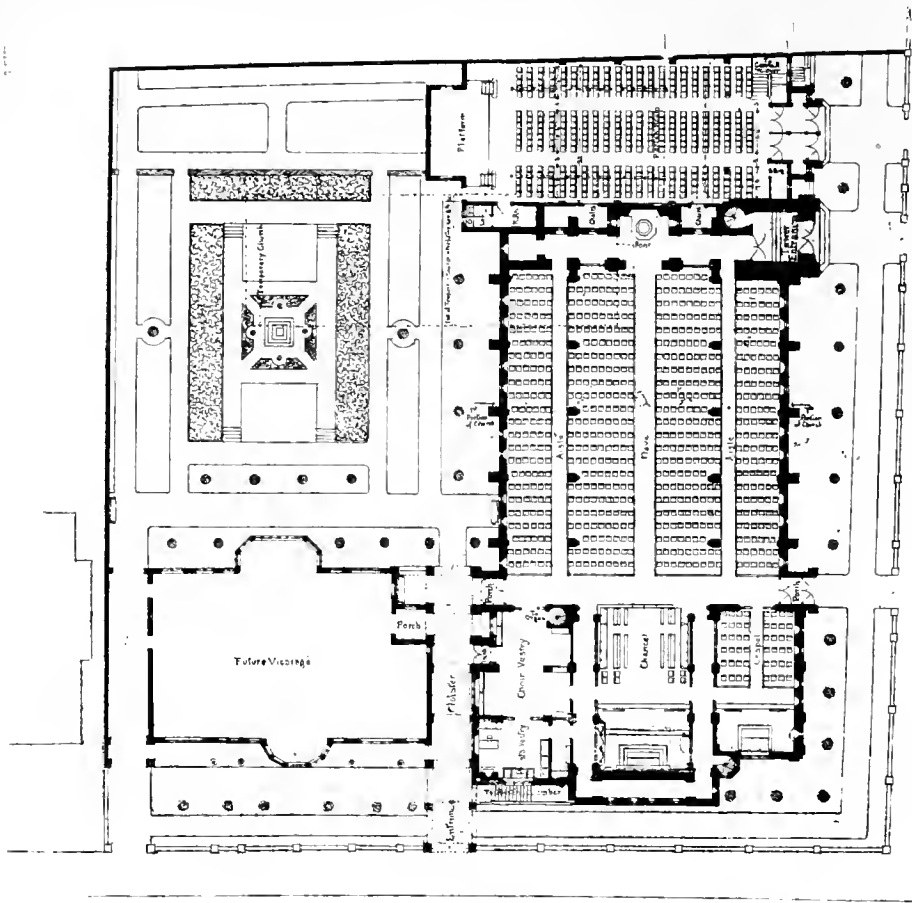
The church consists of a nave, with north and south aisles, a baptistry with tower and south-west porch, and a chancel with ambulatory and vestries on the south, and a chapel on the north. The ambulatory, which is carried up on each side of the chancel and over a part of the choir vestry to form an organ-chamber, with space for augmented choir, is approached by a turret from each side of the chancel. The total length of the church is 138ft. by 62ft. wide. Dignity of effect in the interior is provided by carrying up the enclosing arches of the clerestory from the nave floor to the roof, which is 35ft. 6in. to the springing and 42ft. to the apex. Arches are also provided across the entire length of the nave. Height is provided in the chancel by carrying up the ambulatory as a double arcade and providing a proportion equal to more than double its span. The interior includes a reredos which by its subjects illustrates the "Te Deum." The east window, 23ft. from the floor, in continuation of this idea, has in the centre light our Lord enthroned, seated on a rainbow, His feet resting on the earth, from which flow the four rivers of Paradise, with the subject above illustrating "To Thee all angels cry aloud"; "To Thee Cherubim and Seraphim continually do cry, Holy, Holy, Holy, Lord God of Sabaoth." Groups of figures, as follows, complete the window: At left top, "The goodly fellowship of the Prophets"; at right top, "The glorious company of the Apostles"; at left base, "The Holy Church throughout all the world"; at right base, "The noble army of Martyrs." The reredos, 21ft. 6in. by 20ft. wide, contains the following: In the centre St. Michael, in the right hand a sword, with the scales in the left with which he is weighing the good and bad souls. Beneath, the Recording Angel with open book on knees, on either side an angel blowing the last trump. Screens are proposed between the chancel and ambulatory, between the chapel and ambulatory, and from the chapel and vestries into the aisles as well as the baptistry at the west end. The chapel is to have a reredos 16ft. 6in. high by 8ft. 6in. wide, the centre compartment having the figure of a "Salvator Mundi," robed as King and Priest, with an angel on each side robed as a deacon and holding chaplets of olives and boughs of laurels, the three figures being supported on brackets with canopies over. It is hoped to have a pulpit with canopy over, an important feature being required on the north side of the nave as a counterfoil or balance to an overhanging organ on the south side where the lectern stands. The lower part of the pulpit is to include canopied figures representing with the reredos and lectern the seven angels which stand in the presence of God, viz., St. Michael, with the scales, in the reredos; St. Gabriel, in lectern, with lily; and in the pulpit St. Raphael, with pilgrim's staff; St. Uriel, with roll and book; St. Chamael, with cup and staff; St.aphael, with flaming sword; St. Zadkiel, with sacrificial knife. At the base of the chancel roof will be pictured the Hierarchy of Heaven. The lectern will be composed of the figure of St. Gabriel supporting the book bound bearing the sacred monogram with "Colum et terra transibunt," etc.; another, the Alpha and Omega with "In principio erat verbum," etc.; and the third, a St. Andrew's Cross with "Sicut verbum quod egredietur"; and at the base of the chancel roof the Hierarchy of Heaven. A Rood Beam is provided in the chancel arch, with the three figures and

emblems of the Passion beneath. Spaces are left in some of the windows for the subjects of "The Ascension," "Our Lord's Baptism," "The Transfiguration," "Our Lord's Final Victory," "The Church Militant," etc. The altar ornaments with reredos to be gilded and burnished. It is also hoped to provide in the cornices of both roofs shields with the emblems of the cardinal and theological virtues, the fruits of the Holy Ghost, and other emblems. The Litany desk is to have a

CLUMBER HOUSE, WORKSOP.

The greater part of the mansion was burnt down about forty years ago, when the south and east fronts were rebuilt by Chas. Barry. The west front was never finished. Our illustration shows this front completed by the addition of a porte-cochère, with entrance-hall and cloakrooms, etc., on the ground floor, and the addition of dressing-rooms and bathrooms to the Lincoln and Prince of Wales suites on the first floor. The eleva-

Baker that, in view of the fact that the price to be paid by the corporation for the property at Tuns-gate had now been settled by agreement, the amount of the deposit paid by the council should be increased to £350, being the amount of the usual percentage. It was resolved: That the recommendations of the sub-committee be approved and adopted, and that application be made to the Local Government Board for sanction to a loan of £9,000 to provide for the purchase of the property and the provision of offices, including cost of building architect's fees, legal costs, etc. Alderman Ellis, chairman of the committee, in moving the adoption of the first paragraph of the committee's report, said he thought the council would agree with him that the plans they saw that night formed altogether a very good exhibition of local talent. He thought that on all grounds—planning and elevation—design No. 2 was by far the best in every respect, and he felt that if they accepted his recommendation—which the committee unanimously endorsed—they would have as their municipal offices a convenient building and an edifice which would be fit to take its place by the side of the other public buildings of the town. The chief merit of that plan was the clever way in which the architect had adapted it to the gradient of the site. He had formed a sort of lower ground-floor and an upper ground-floor, making use of the slope of the land. The lower ground-floor would be occupied by the sanitary department, stores, and so on; and the upper ground-floor for the town clerk's offices. Another good feature of the plan was the very excellent way in which the corridors were lighted, and also the excellent drawing office which had been provided—a large room with a good north light, which was so essential. The front elevation was good, and the back elevation was also satisfactory. Of course, there were some drawbacks. They felt it was rather unfortunate that the main entrance of the building was to be at the south-east end. No doubt the architect would say that in the future some extensions would be necessary, and then possibly the entrance might be in the middle, though he (Alderman Ellis) was not sure of that. The other drawback was in the planning of the strong-room, which occupied a position on the outside wall and close to the heating chamber; but that, they thought, might be got over. In addition to the main entrance at the south-east end, there was also an entrance at the north-east end, and probably in practice that would be most largely used by the public, as it really gave access to the whole of the floors. The estimated cost of the building was £4,266. The assessor did not think it would be built for less. When they asked him whether it was likely to cost much more, he said, "I do not see any reason why it should cost more." The sub-committee and the Finance Committee were both unanimously in favour of adopting the report of the assessor, and he moved that. Colonel Lane seconded. The motion was unanimously agreed to without any discussion. The town clerk then opened the envelope marked No. 2, and announced that the author of the design was Mr. T. R. Clemence, 53, High-street, Guildford. Alderman Ellis said he was sure they all congratulated Mr. Clemence, and thanked those not successful for the very thorough way in which they had done the work. He thought all the plans reflected great credit on the gentlemen who sent them, and justified in the very fullest way the selection of the council made. On the motion of Alderman Ellis, the two other recommendations were also unanimously agreed to. Alderman Ellis remarking that he hoped it would not be necessary to spend the whole of the £9,000.



CHURCH OF ST. MICHAEL, GOLDS' GREEN, LONDON, N.
Mr. JOHN T. LEE, Architect.

representation of the Mercy Seat with the Ark and staves, surmounted by the two cherubim, their faces looking downward to the Mercy Seat and their wings covering it, with the Name of God in Hebrew surrounded by rays of glory, the whole enclosed in a border in which the words "Kyrie Eleison," "Christe Eleison," "Kyrie Eleison" are carved. The church was consecrated early this year. The builders were Messrs. Jos. Dorey and Company, Limited, Brentford, Middlesex, and Mr. John T. Lee, of 36, Tytherton-road, Tufnell-park, London, was the architect. The drawing was shown at the Royal Academy Exhibition.

REREDOS: ST. BARNABAS' CHURCH, TUNBRIDGE WELLS.

This reredos consists of a large painted panel of the Crucifixion, surrounded by smaller panels, in which are painted figures of saints. These are divided by shafts and buttresses, with tracery heads, and surrounded with a vine leaf running pattern, with shields at the angles. A large tester, with cresting and panelled soffits, completes the design. The whole is constructed of oak, which will be painted and gilded. The figures have been painted by Mr. T. Alham, of Great Portland-street, and the oak work has been carried out by Messrs. Bridgman and Son, of Lichfield. The architect is Mr. Percy M. Andrews, A.R.I.B.A., of Acton, W. The drawing which we reproduce was exhibited at the Royal Academy this summer.

tions are in stone, and were designed to harmonise with the old work. The contractors were Messrs. G. Trollope and Sons and Colls and Sons. The architect is Mr. Clyde Young, 6, Lancaster-place, Strand, W.C., and this drawing was exhibited at the Royal Academy.

NEW MUNICIPAL OFFICES, GUILDFORD.

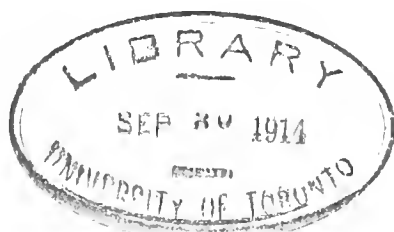
(SELECTED DESIGN.)

At the meeting of the Guildford Town Council on Tuesday week, the sub-committee of the Finance Committee made their report on the plans submitted by the three architects selected—Mr. E. Lunn, Mr. T. R. Clemence, and Mr. F. J. Hodgson—for the new municipal offices to be erected in the Tuns-gate. The plans were displayed in the Council Chamber. The Municipal Offices sub-committee reported that Mr. J. H. Norris, the assessor appointed to advise upon the plans submitted for the proposed municipal offices at Tuns-gate, attended their meeting and submitted his report. After careful consideration of the plans submitted by the competitors, the sub-committee unanimously approved the selection made by the assessor, and recommended its adoption by the committee, the approval of the sub-committee to be subject to alteration of the selected plan on some points of details as may be decided hereafter. The sub-committee further recommended that the council accede to an application made by Mr. F. J.

The Calgary University contract has been awarded to Messrs. Archibald and Co., Winnipeg. The estimated cost of the building is 100,000dol.

The late Mr. John Chew, of Blackpool, consulting gas engineer to the Blackpool Corporation, left estate of the gross value of £24,039 of which the net personalty has been sworn a £19,105

337-240



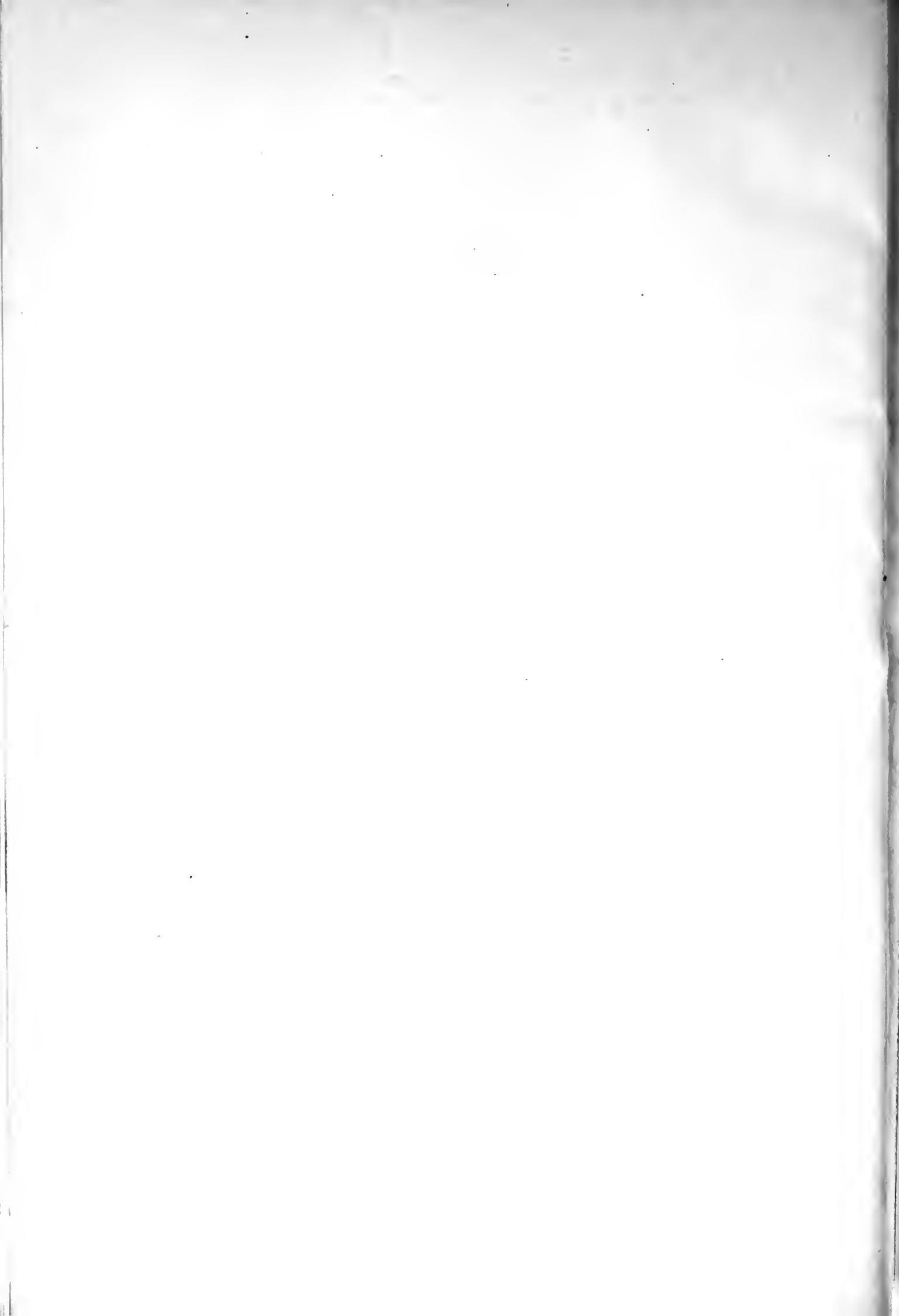


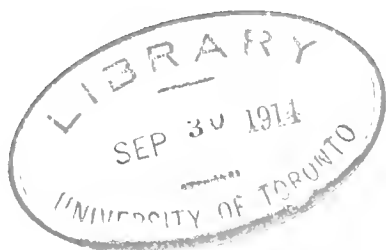
THE "HEARTS OF OAK" BUILDING EXTENSION, EUSTON

SEPTEMBER 11, 1914.

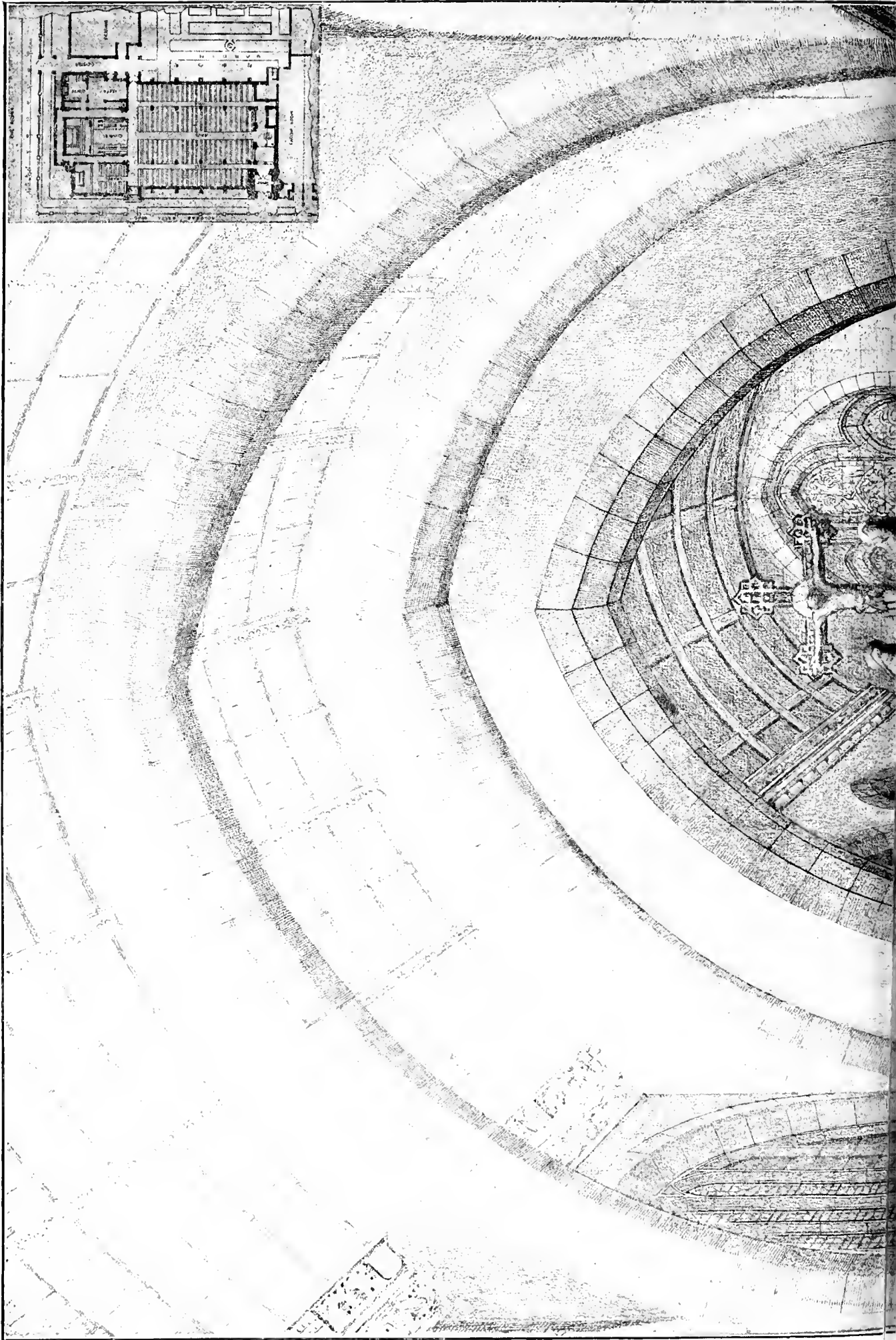


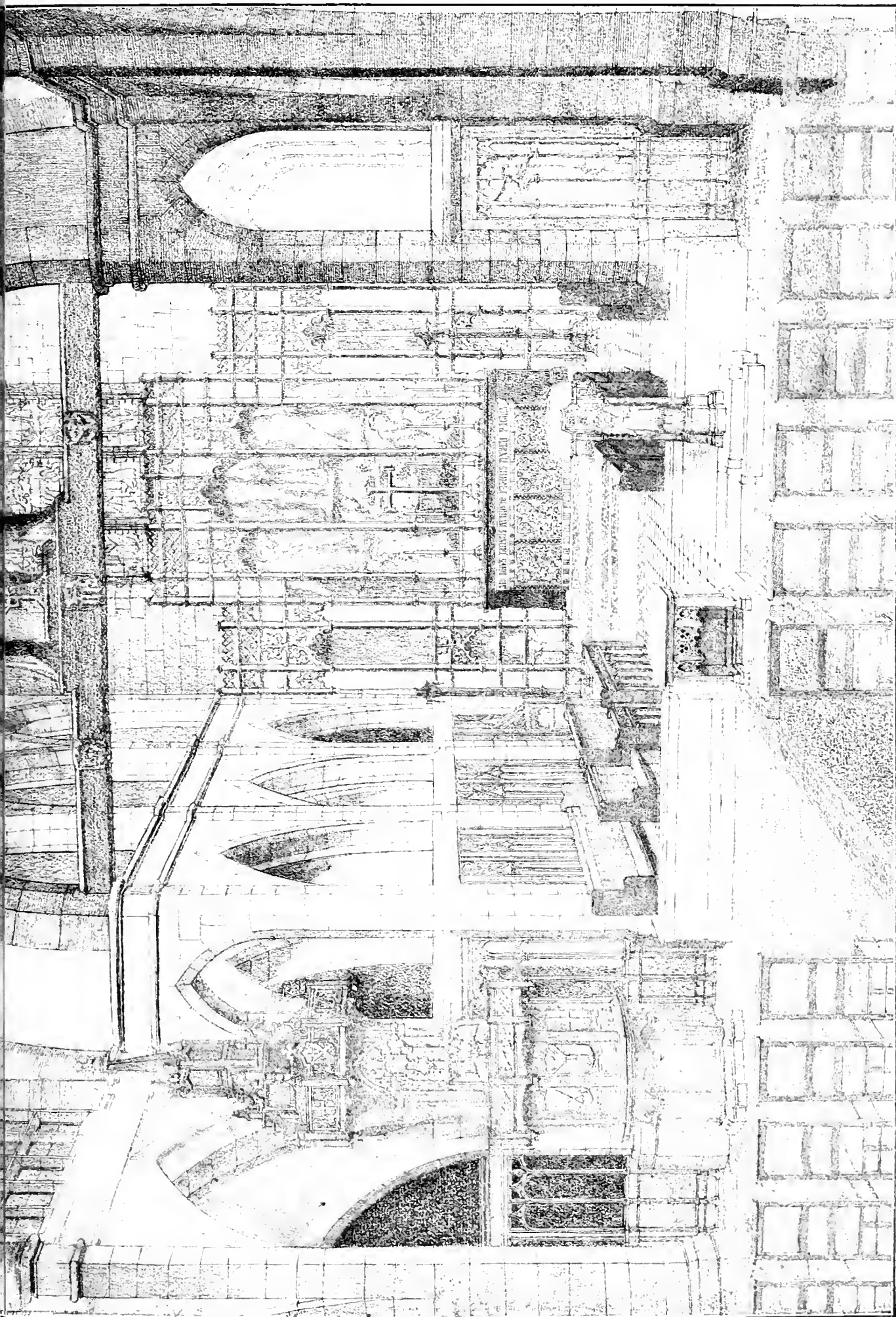
ROAD, LONDON.—Messrs. NICOL and NICOL, A.A.R.I.B.A., Architects.





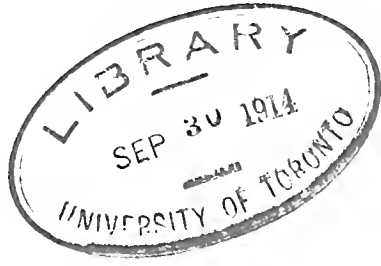
THE BUILDING NEWS, SEPTEMBER 11, 1914.



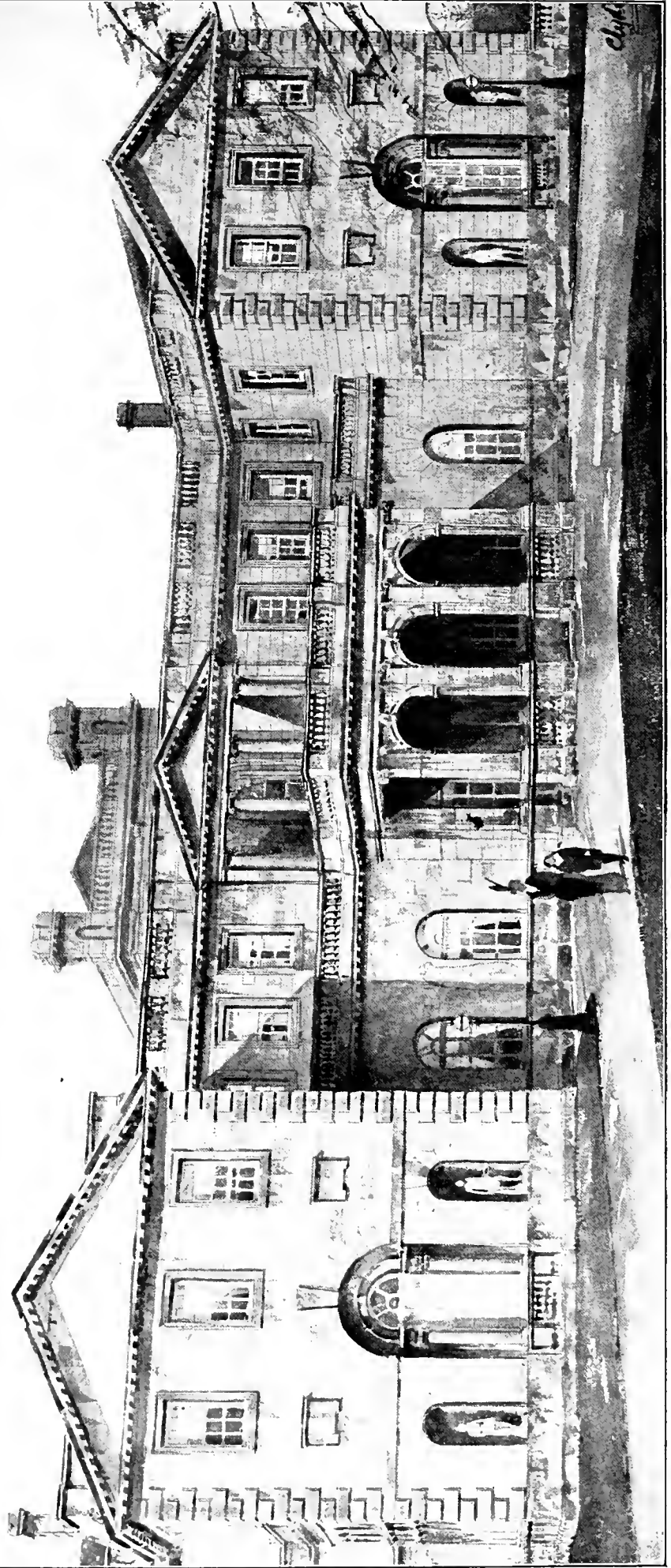
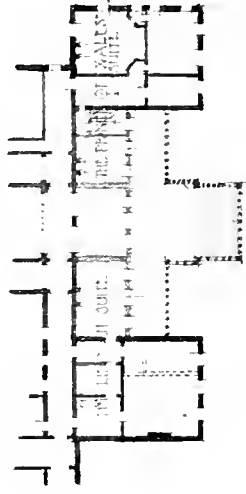


CHURCH OF ST. MICHAEL, GOLDERS' GREEN, LONDON, N. — Mr. JOHN T. LEE, Architect.

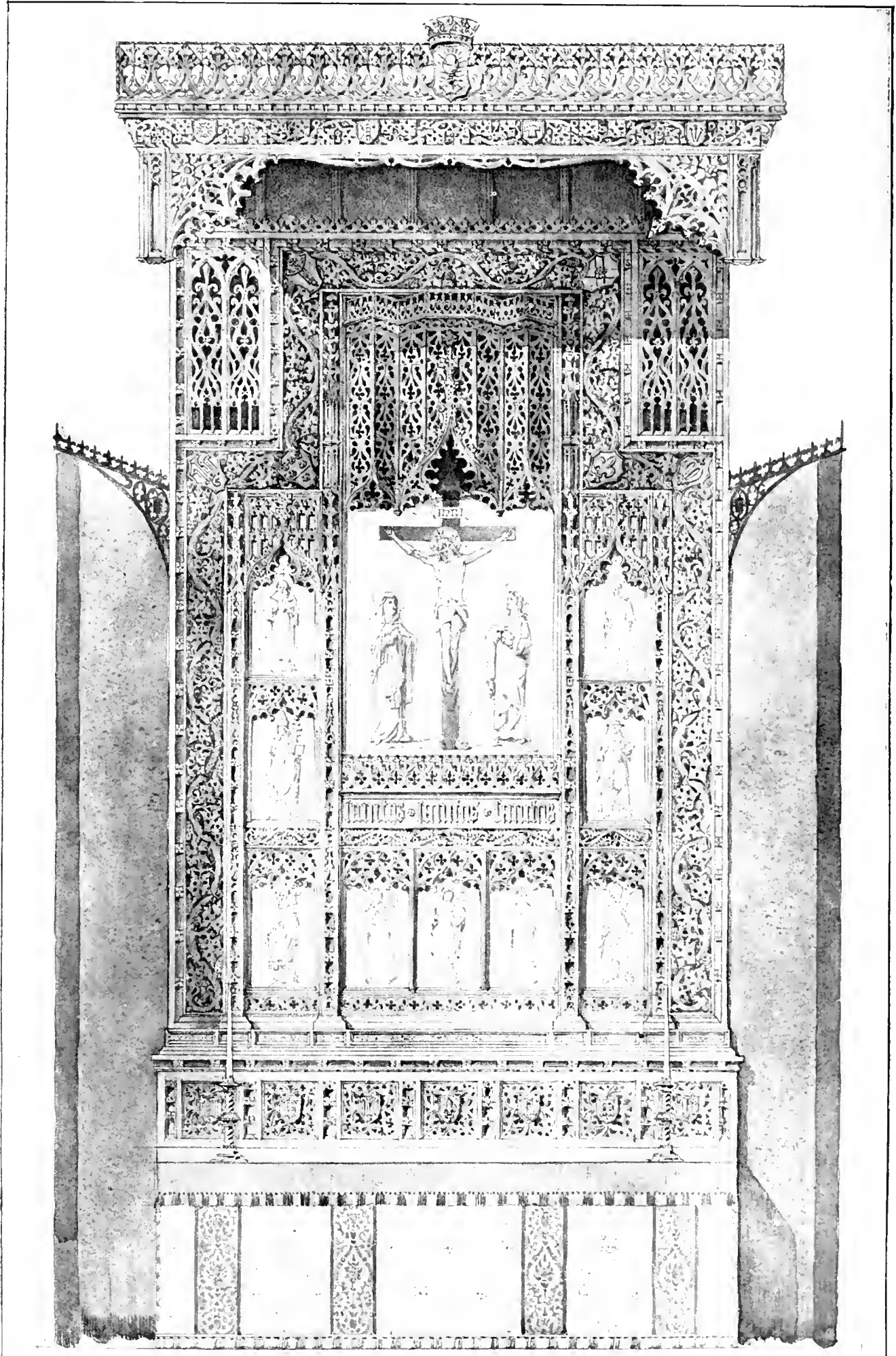




CLUMBER HOUSE
ADDITIONS TO WEST FRONT
FC.P. 115 GRAYCE THE
DUKE OF HENCASTLE



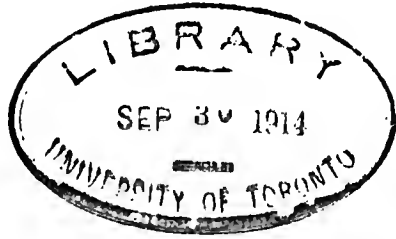
CLUMBER HOUSE, WORKSHOP: EXTENSIONS FOR THE DUKE OF NEWCASTLE.—Mr. CLYDE F. YOUNG, F.R.I.B.A., Architect.

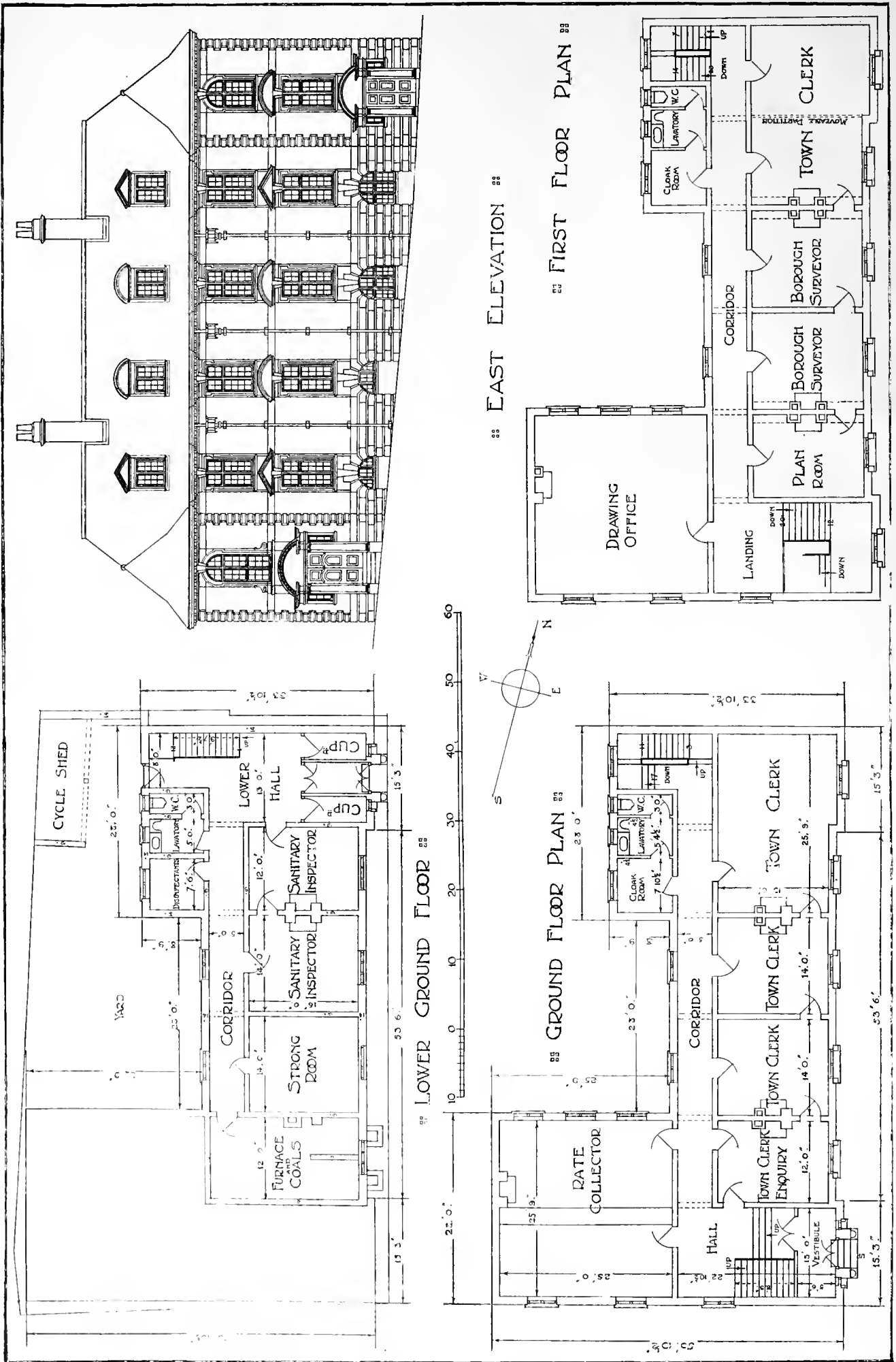


REREDOS, ST. BARNABAS' CHURCH, TUNBRIDGE WELLS.

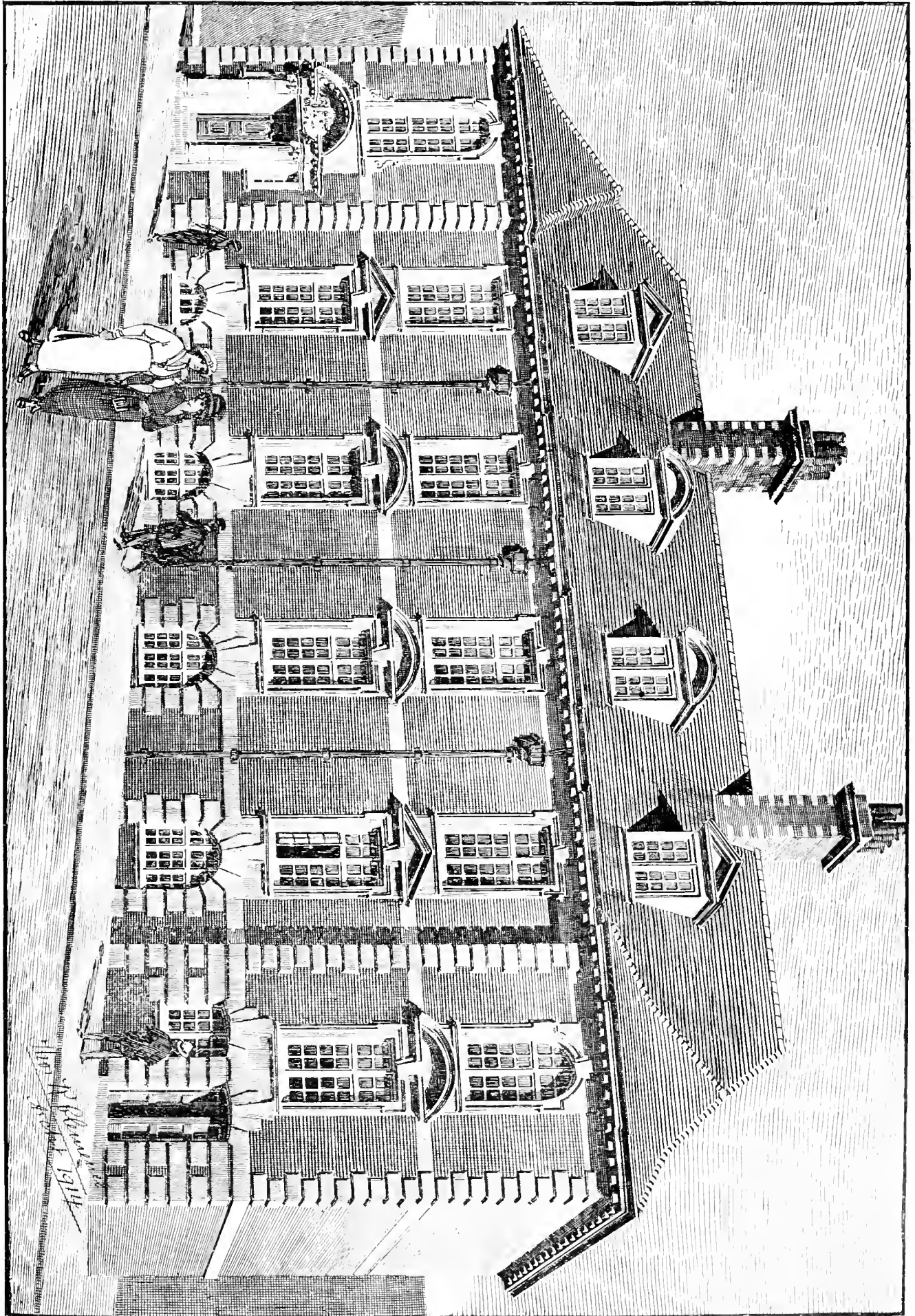
Mr. PERCY M. ANDREWS, A.R.I.B.A., Architect.







SELECTED DESIGN, NEW MUNICIPAL OFFICES, GUILDFORD.—Mr. THOS. R. CLEMENCE, M.S.A., Architect.



SELECTED DESIGN, NEW MUNICIPAL OFFICES, GUILDFORD.—Mr. THOS. R. CLEWENCE, M.S.A., Architect.



Corrente Calamo.

We hope readers and advertisers will get the Parliamentary paper Cd. 7595 for themselves, and not be contented with the extracts in the daily Press. It was issued just too late for us to comment on it last week. It contains reports from the British Embassy in Berlin "respecting the official organisation there for influencing the Press of other countries." Early this year a meeting, of which the secret has been well kept, was convened in the Ministry of Foreign Affairs, of which Dr. Hamann, the notorious head of the Press Bureau of the German Foreign Office, was the originator, and at which the Foreign Secretary himself was present. The meeting was attended by members of the leading industrial concerns of Germany—the North-German Lloyd, the Hamburg-America Company, the Deutsche Bank, the Disconto Gesellschaft, the Allgemeine Electricitätsgesellschaft, Siemens and Halske, the Schuekert Works, Krupp, the Cruson Works, etc. They formed a private company with the purpose of "furthering the German industrial prestige abroad"—a conveniently vague purpose. The company was financed by private subscriptions and by a Government grant. The sum at first suggested as a necessary revenue from private subscription was £12,500; but the company present at the first meeting was so enthusiastic that it definitely promised annual subscriptions amounting to £25,000. The Government promised £12,500 per annum—the whole Secret Service Fund, in fact, at the disposal of the Imperial Foreign Office for similar purposes (e.g., for the payment of subsidies to certain papers abroad). The company entered into an agreement with the "Agence Havas" that the latter would in future only publish news concerning Germany if supplied through "Wolf's Telegraphen-Bureau." The latter was to receive its German news exclusively from the new company. The company, so it was stated, intended to make a similar arrangement with Reuter's Telegraphie Bureau for those foreign countries in which Reuter controls telegraphic communications. If Reuter declined, the "Deutsche Kabelgesellschaft," a smaller German news agency supplying telegrams from certain countries (e.g., Mexico) and working in agreement with Wolf's Telegraphie Bureau, was to be financed by the new company to run a service in competition to Reuter's.

All the concerns agreed to "pool" their usual expenditure on advertisements in the foreign Press, a sum believed to be not less than £25,000 a year. The new company was to issue advertisements only to those foreign papers which published "German information" supplied to them by the German company. The foreign Press was to be "watched" by the company's agents, who were to be "journalists" specially despatched for the purpose. In the course of April and May the British Embassy reported a new system of "week-end telegrams" to the United States, Canada, South America, India, and most of the British Dominions. In June the "Deutsche Export Revue" betrayed the organisation of the scheme. The British Ambassador reported that high official quarters had given instructions that this article should not be reproduced or referred to, "as its inadvertent publication

was considered extremely inopportune and embarrassing." The article contained the names of the administrators and many other details, and concluded with the following paragraph, which, as Sir Edward Goschen remarks, is "of a certain refreshing ingenuousness": "The intended despatch of journalists, we believe, however, in any case to be a mistake, as it would certainly soon become common talk in the editorial offices in the several places abroad that they represent a syndicate officially supported by the German Empire. *If such things are intended, it would be better to fall back upon gentlemen who are already in touch with the respective editorial offices, and who could serve German interests without attracting so much attention as would journalists sent out for the purpose.*"

As a matter of fact the tactics referred to in the foregoing paragraph are of much older date than that mentioned. Our own readers must know it as well as we do. For several years past journals whose only other claims to attention have been their blatant proclamations of superiority to British contemporaries, have been busy trumpeting the claims of German methods and German materials, and have taken their wages in German advertisements which the rest of us have declined, or have inserted in ignorance of their real origin. "Gentlemen in touch with the respective editorial offices" have been subsidised and feted and testimonialised—not only they. If ratepayers are curious to know why German tenders and German "British" firms have been preferred to native ones in constructional and electrical work, let them ask those responsible to their respective authorities. Let readers and advertisers, when searching the register at Somerset House, as we have done, dig out some of the facts about certain "British" organs, as well as those concerning the "British" firms they have puffed and advertised for some years past, and, unless their memories are very short, they will give them a very wide berth in the future.

Mr. Lloyd George as yet is the only Minister who seems inclined to damp down the energies of local authorities, which the other Government departments are most properly encouraging. Replying to a deputation of the Municipal Corporations Association on Tuesday, he agreed that the money required by municipalities for carrying out works to relieve distress should be advanced out of the Government war loan at the same interest as the Government paid. "I am speaking as the Treasury," he continued. "The Local Government Board have their business of seeing that you go on spending. Our business is to see that you do not spend too much. Therefore, if you do not mind my putting this to you—purely speaking as the Treasury—we will find the money for you if there is any distress, but we do not want to find any money for you unless there is really actual insistent distress in the districts. It is very much better that you should get the people to work in the things that are normal if you can. Our trade is not going. The seas are ours, and they will remain ours. We shall get not merely our own trade, except that of European countries, but we shall get a good deal of the enemy's trade as well, and, of course, there is always the business which is necessary in order to keep the war going. So that there will be a great deal of

employment in the ordinary course of business, but there will be some districts that will be very hard hit. I do not want municipalities in districts which are not hard hit to spend money, because we want that money for fighting." We disagree entirely. We want money for fighting, of course, and shall get it; but "that money" which the municipalities are asking for is a comparatively trifling sum, and is asked for to keep home industries going remuneratively, and so make up for our temporary loss of foreign trade.

The pleasantly situated and picturesque villages of Termonde and Dinant, and, we fear, many another Belgian town, must be added to Louvain and Malines as monuments of the senseless barbarity and vulgar destructiveness of the German people and their drunken soldiers. Termonde, on the Dender, is best known to tourists as a junction; but it is the Dendermonde so often alluded to by Uncle Toby in his narrative of the siege of 1706, when it was surrendered to the English. The Late 14th-Century church of Notre Dame, now said to be destroyed, is familiar to architectural students on account of its quaint octagonal tower and its 12th-century square font of Tournai marble, of the type of those in Winchester and Lincoln cathedrals, and the churches of Meon and St. Peter, Ipswich. Every visitor to Belgium returns with pleasant memories of Dinant, so picturesquely situated under the limestone cliffs of the Mense, opposite St. Medard. The recently restored church is—or, rather, was—a cruciform edifice, with bulbous steeple, chiefly work of the 13th century, but containing archaic doorways dating back to the 10th or 11th century. The little hotel de ville near by was of considerable interest. A sketch of the town and the fortifications above, taken from across the iron bridge, appeared in our issue of August 21, 1891, on the occasion of the visit of the Society of Architects to Belgium and their reception by the late King Leopold.

Builders and bankruptcy have of late years been too closely connected. We are, therefore, very glad to note a large decrease in the number of failures during last year, as compared with the year before. Thus the return just issued for the period ending December 31, 1913, gives 160 builders as bankrupts, which is a good decline from the 201 of 1912. During the same period the figures for decorators, etc., fell from 72 to 60, while auctioneers and house-agents showed a still better result by declining from 40 in 1912 to 24 last year. This makes it seem as if there had really been more business doing, though some say, cynically, that it simply means there were no more left to fail! In the same way these official figures show that while in 1912, 24 architects and surveyors became bankrupt, only 13 had to go through the Court in 1913. This cannot surely be because that was all that was left of them, and so it must be a sign that more business was doing and more money made, which is certainly a preferable supposition. Again, builders' merchants show a decline from nine cases in 1912 to only three during last year, and this may be taken as a crumb of consolation and some sign of improving business. But as to what will happen during the present year of the Great War no man can say.

There is good news of the capture of one industry that was in great measure becoming

German—the glass trade. One London manufacturer is busy producing glass tubing for use in medical and other Government service. Another branch of the trade which English makers are trying to seize is that in the fine glass vessels used in chemical laboratories and for scientific purposes generally. There seems to be no reason, also, why the commoner glass used for windows should not be produced in this country almost entirely. There has also been severe Continental competition in table glass, large quantities of the cheap machine-made glass being imported, and the glass bulbs used for electric lighting are largely of foreign make. One difficulty in the making of certain kinds of glass is said to be that the potash used in the process is almost entirely a German speciality. We notice it is suggested that the revival of the kelp industry might provide employment in the West Highlands. Its failure has been mainly due to the importation of potash salts from Germany.

CHIPS.

Mr. Edward Sbarman, of Croyland Abbey, Wellingborough, head of the firm of Sbarman and Archer, architects, of Wellingborough, who died on July 28, aged eighty-five, left £16,208 gross.

The Havant Urban District Council have resolved to pay their surveyor, Mr. A. E. Stallard, an honorarium of £50 for his services as engineer to the Spring Lawn extension of the drainage scheme.

The new electric-tramway line constructed by the Liverpool Corporation from Edge-lane to Bowring Park, Roby, has been inspected by Colonel von Donop on behalf of the Board of Trade, and passed for traffic.

No auctions were held at Tokenhouse Yard last week, and negotiations which had been begun for one or two properties have been deferred for a while. There are reports of a brisk demand for furnished houses, chiefly in the suburbs, and the rents obtained are said to be satisfactory.

The Secretary of State for India in Council has selected the following candidates to be probationers for the Indian Forest Service:—John MacQueen Cowan, Tom Overton Gerard, Eric Stewart Hartnoll, Jal Ardeshr Master, Donald Francis Neilson, John Wilfred Nicholson, Charles Winter Scott, Herbert Cecil Smith, Harold L'Estrange Tyndale-Biscoe.

The Local Government Board has sanctioned the borrowing by Ashton-under-Lyme Town Council of £42,000 for extensions to the electricity works, £14,000 for improvements at the sewage works, and £426 for alterations to the Textile School. The council has decided to put the work in hand immediately, in order to alleviate unemployment.

A Local Government Board inquiry was held by Mr. R. H. Bucknell at Blyth on Friday with reference to the application of the urban district council for sanction to borrow £1,000 for the extension of the public cemetery on the Links-road. It was stated that the cost of the two acres proposed to be added to the existing ground was £175 per acre.

A Local Government Board inquiry was held at the Bradford Town Hall on Thursday in last week with regard to an application for borrowing powers for £7,002 required in connection with various schemes. Of this sum, £5,740 was for the construction of an open air swimming-bath in Lister Park, £750 for the purchase of a vacuum gully-emptier, £575 for the purchase of a steam motor-wagon, £420 for the extension of the Eekhill Recreation ground, and £117 for the extension of Victoria Park, Oakenshaw.

At Monday's meeting of the rural district council for Chipping Solihury the housing committee reported that they had had under consideration the building of a certain type of house in blocks of four, at a cost of £725 per block. Estimates of rentals had been prepared at 4s. 1d., 4s. 10d., and 6s. per week, and the scheme favoured was the one to let at 4s. 1d. per week, the occupier paying rates. It was decided that the sanitary inspector and the clerk should interview the Local Government Board and explain the plans, and invite their suggestions.

Building Intelligence.

TUTBURY.—One of the few Norman churches in Staffordshire—that of St. Mary, Tutbury, near Burton, has just been restored at an expenditure of £1,600, and the new work was dedicated by the Bishop of Lichfield on Wednesday week. Standing on a commanding eminence and almost under the shadow of the castle ruins, the church has a remarkable wealth of original Norman work, although, unfortunately, it suffered considerably under the hands of 19th-century "restorers." It was originally a cruciform building, with a central tower, but only the western arm of the cruciform now remains; the central tower has disappeared, having been replaced by another of later date, which stands at the south-west corner. This western arm, which forms the main body of the present church, has now been restored to very much nearer its original state than it was a few years ago, its modern roof and chancel notwithstanding. The exterior of the church has been repointed, and every effort made to preserve the carved arch over the western door. On the southern side, another fine specimen of a carved Norman doorway, which had been converted into a window, has been reopened. The work has cost about £1,550.

PROFESSIONAL AND TRADE SOCIETIES.

FIRST ATELIER OF ARCHITECTURE.—Several members of the Atelier have enlisted, but those unable to do so are carrying on the work as usual, and the first esquisse of the autumn session was held last Saturday. An exhibition of work done during the summer term and of holiday sketches and figure drawings will be held on October 7, when the Atelier medal awarded for work done during the past year will be presented to Mr. L. H. Bucknell. The sous-patron, Mr. Chaurès, being now with the armies of France, two of the senior working members, Mr. Adrian Berrington and Mr. L. H. Bucknell, have undertaken to help the members, and do all they can to compensate for Mr. Chaurès's temporary absence. The patron and the members of the jury will also visit more often as appears desirable. A revised subscription for working members has been adopted, which should prove more economical and convenient, and lead to an increase of membership.

The Clyde Harbour Trust have voted £20,000 from estimated current expenditure towards new docks.

To provide employment for men thrown out of work by the war, the Reading Town Council has adopted a scheme of road-widening which will cost £13,000.

Liverpool, this autumn, was to have entertained the Municipal Waterworks Association, which had decided to visit the city and to inspect the unique scheme of water supply associated with the district. The reunion has, however, been abandoned for this season.

Schemes which might be undertaken in Edinburgh in the coming winter to provide employment were considered at a meeting of the Town Planning Committee of the Town Council on Friday. The construction of a road from Ravelston to Blinkbonny is one of the projected operations, and other roadmaking in the same district is contemplated. Ordinarily this work would have been done under a town planning scheme; but the consent of proprietors will be sought to expedite the undertakings.

The spital or chapel of St. James's, in the parish of Wigginton, and just outside the boundary of the borough of Tamworth, which has been repaired and made suitable for the holding of services, has been dedicated by the Bishop of Lichfield. The chapel was built in the Norman period. Nothing of its history is known until early in the last century, when the late Bishop Stere, of the Universities' Mission to Central Africa, purchased the chapel as a centre for the brethren of the Guild of St. Alban. The chapel has been restored under the direction of Mr. C. Lynam, F.S.A., Stoke-on-Trent.

Correspondence.

ARCHITECTS ENLISTING.

To the Editor of the BUILDING NEWS.

SIR,—Your readers will, no doubt, be interested to know that recruiting, for the Royal Engineer and other branches of His Majesty's forces, of architects and surveyors and their friends has continued very briskly since your last issue. We have good news of those already joined, who hope to welcome many more drafts to their ranks in the near future.

Although the Royal Engineers temporarily stopped recruiting at the beginning of this week, on account of the rush of recruits, they are now enlisting again, and men wishing to join should send in their names at once. Our next draft will meet here at 5 p.m. on Friday, the 11th, and present themselves for medical inspection at 8.45 the following morning.—I am, etc.,

ALAN POTTER,

Hon. Sec. A.A. War Service Bureau.
The Architectural Association, 18, Tufton-street, Westminster, Sept. 9, 1914.

BRITISH, NOT GERMANS.

SIR,—We have noted with interest and approval the influence which is being exercised by the Press and others to insure the adoption of British goods, and the campaign which has been commenced cannot fail but be to the ultimate advantage of British industries generally. But it is very necessary that every precaution should be taken that wrong conclusions (based on pure assumption or the statements of interested parties having ulterior objects in view) should be avoided.

It has come to our knowledge that the statement has been made, or the impression exists, that this company is to some degree under German influence, and in this connection we would state:—

1. This company has carried on business in England for upwards of sixty years. We were established at Millwall prior to 1854 and a few years later we moved to the site of our present premises, which, with the progress of years, have been enlarged and improved.

2. There is not a single German connected with the company, either as shareholder, director, or employee. All are British born, bred, and educated, with the exception of a few experienced Italian asphalters, who are employed for special work, and which plan is adopted by all the responsible houses in the asphalt trade.

3. There is not a penny of German or other foreign capital in this company, the whole of the shares being held by English-born men and women resident in this country. Further, neither this company nor any member thereof has any connection with German or other foreign concerns.

4. For many years we have been contractors to H.M. Government for various materials, such as roofing felt, hair felt, asphalt, etc., and for the years 1910-11-12 we were successful in securing the War Office and Admiralty contract for asphalt work, the execution of which necessitated the admittance of our representatives and workmen to practically every fortification and depot of the War Office and Admiralty in the British Isles where our work was required, and to which foreigners are not admitted. This contract was given to us after the usual exhaustive inquiries in regard to the constitution of our company had been made by the War Office authorities.

5. All goods supplied by us are manufactured here at our works in Poplar.

Possibly your extended experience of our house in itself will substantiate what we are saying, and doubtless there are many architects, surveyors, and builders some of whom (although very probably now retired) have done business with us over half a century ago.

In conclusion, it might be pertinent to add that on an appeal issued to our factory em-

ployees by our managing director (who, we believe, rightly held the view that the seriousness of the present situation had not been fully recognised by at least some of our workpeople), several of our single employees have enlisted, the percentage of acceptances being over 80 per cent. of the applicants. Their places are being kept open for them, but in the meantime will be filled by married men, and it may not be necessary for us, ultimately, to dispense even with the latter's services.—We are, etc.,

ENGERT AND ROLFE, LTD.,
C. ENGERT,
Managing Director.
Poplar, E.

[Every word true, and every job we have known during the past sixty years a credit to this old-established house—the reputation of which is second to none.—ED. "B.N."]

Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worth insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

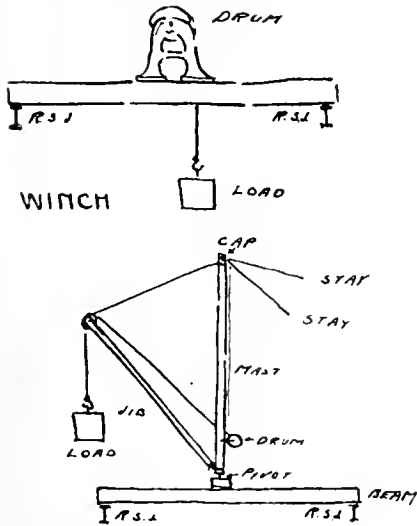
All else being equal, brief replies will stand the best chance. We emphasise this, as some correspondents ignore the fact that querists want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

We divide the guinea between Mr. K. H. Read and Mr. Chas. A. Longley.

REPLIES.

[12148.]—WEIGHT ON BEAMS.—The formula required for this problem is $W = \frac{c b d^2}{L}$. Where W = weight in cwt., c = constant, b = breadth in inches, d = depth in inches, and L = span in feet. The constant for pine is 3 for a breaking load in the centre when



DERRICK

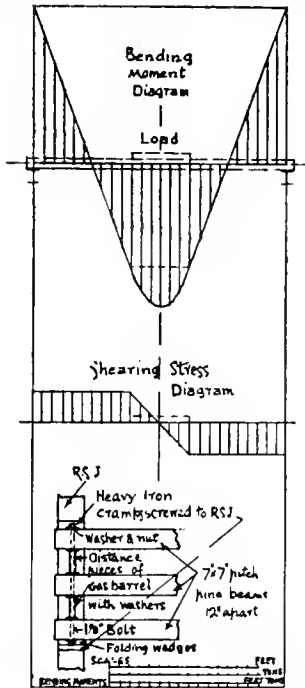
concentrated; so for a safe load it would be rather as one-fourth of that amount. Then—

$$W = \frac{3 \times 7 \times 7^2}{4 \times 13.3} = \frac{102.9}{53.2} = 19\text{cwt.}$$

so that 19cwt. \times 3 beams = 57cwt.; therefore load equals 2 tons 17cwt. Had the beams been bolted together they might have been treated as one beam, when on the same formula they would carry just over twice the amount—i.e., six tons. The load has been treated as a concentrated load at the centre, as this is the most likely place for the crane to be placed. If it is distributed over a portion of the beam, such load should be treated as acting at its centre of gravity. I would remind "Simple Method" that allowance must be made

for the weight of the crane itself, and also the men who will be working same, if they do so from the platform of beams. Also to see that his R.S.J.'s are of sufficient strength, by reference to a manufacturer's list of sizes and loads. Of what nature the crane will be we have no particulars. Is it a 10in., or a derrick with mast, jib, and stays? If the latter, a balancing weight to the base of the mast will be required, or else the load on the top of the mast may "kick" the base off the platform.—K. H. Read, Technical Schools, Gloucester.

[12148.]—WEIGHT OF BEAMS.—The accompanying diagrams show the method of ascertaining the combined crane load that the three 7in. by 7in. pitch-pine beams,

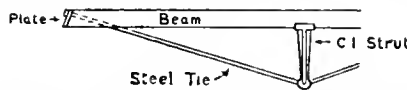


placed 12in. apart and over a clear span of 13ft., will carry. For the ordinary crane working central the load will be concentrated towards the centre, but will actually cover a space of 3ft. 6in.; so the load will be a live load distributed over an area of 3ft. 9in. superficial.

By the empirical formula, $W = \frac{c b d^2}{L}$, gives the breaking weight as 133cwt. per beam, which equals 19cwt. safe load, allowing a factor of safety of seven, taking into consideration the weight of the beams, crane, and crane staging, the possible loads in their most severe positions as regards stresses, and thus allowing for sudden jerks in lifting and lowering, including sharp turns. The three beams will safely support a crane to lift loads not exceeding 2 1/2 tons in and to any position. The three pitch-pine beams should be bolted together at their ends, and securely fixed and bolted to the rolled steel joists, as shown by the lower sketch plan.—Chas. A. Longley, 52, Ivanhoe-road, Denmark Park, London, Sept. 7.

[12148.]—WEIGHT ON BEAMS.—Firstly, find the breaking weight of one beam by means of the empirical formula $BW = \frac{k \times b \times d^2}{L}$, where BW = breaking weight

of beam in cwt., k = breaking weight in cwt. of a pitch-pine beam 12in. long and 1in. broad and 1in. deep



when centrally loaded and supported at ends. This has been found by experiment to be 5cwt., b = breadth of beam in inches, d = depth of beam in inches, and L = length of beam in feet.

$$BW = \frac{k \times b \times d^2}{L}, \text{ substituting } BW = \frac{5 \times 7 \times 7^2}{13}$$

Clear span may be taken as being 13ft. Then $BW = 131 \frac{1}{2}$ cwt., say 132cwt. The breaking weight of the three beams will be 132 \times 3 = 396cwt. As the load is intermittent it is not advisable to load to more than 1/10th of the breaking weight. Safe load is 396cwt. = 39.6cwt., say two tons. Of course this load includes weight of crane, etc. If it is desired to manipulate loads above this weight and still use the 7in. by 7in. beams, they may be strengthened by trussing, as in rough sketch.—H. J. Wilson, A.R.I.B.A., Cumbergate, Peterborough.

[12148.]—WEIGHT ON BEAMS.—By using Hurst's formula— $W = \frac{c b d^2}{L}$, where—

W = breaking weight in cwt.
 C = weight in cwt. required to fracture a bar 1in. square and 1ft. long, and which for pitch-pine = 5cwt.
 b = breadth in inches.
 d = depth in inches.
 L = length of span in feet we get—

$$W = \frac{5 \times 7 \times 7 \times 7}{13.33} = 125.65\text{cwt.}$$

Take F.S. of 4, giving 32.16cwt. safe load in centre of 7in. by 7in. p.p. beam over 13ft. 4in. span. Therefore the three beams will safely carry a centre load of

96.48cwt.—i.e., if the crane base is distributed on the beams at their centre. As a centre load produces the maximum bending moment, the load of 96.48cwt. could be placed anywhere between the supporting joists (R.S.J.), providing it is distributed on the three beams.—Ernest A. Salter, 8, Lock View, Bingley, Yorks.

[12148.]—WEIGHT ON BEAMS.—The safe load for pitch-pine beams is found by the following formula, which is applicable to all beams, and any system of loading:—

Bending moment (BM) = moment of resistance (MR)
 $MR = Z \times C$

$$Z = \frac{I}{y}$$

$$I = \frac{b d^3}{12}$$

$$y \text{ for rectangular beams} = \frac{d}{2}$$

Hence—

$$I = \frac{b d^3}{12} = \frac{b d^2}{6} \times \frac{d}{2}$$

BM for beams fixed at ends with distributed load—
 $= \frac{WL}{12}$

Z = modulus of section; C = coefficient of rupture; I = moment of inertia; y = distance from neutral axis to extreme edge of section; b = breadth of beam in inches; d = depth of beam in inches; W = total breaking weight; L = length of beam in inches. The coefficient of rupture is, according to Rankine, 15 times the weight required to break a strip of material 1ft. long, 1in. square section, centrally loaded. For pitch-pine this is about 5cwt., and multiplied by 15 gives a coefficient of rupture of 90cwt. Now—

$$BM = MR$$

$$\frac{WL}{12} = M \frac{1}{y}$$

$$W = 90\text{cwt.} \times \frac{1}{15} \times \frac{b d^2}{6} \times \frac{L}{12}$$

$$= \frac{90 \times 7 \times 7 \times 7 \times 12}{13 \times 12} = 396\text{cwt.}$$

Allowing factor of safety of 1/5, the safe distributed load = say, 4 tons. The three pitch-pine beams will, therefore, safely carry a distributed load of 12 tons. If the beams merely rest on the R.S.J., and are not fixed, the

$BM = \frac{WL}{8}$ —O. Lewis Abbott, City Surveyor's Office, Town Hall, Manchester.

[12148.]—WEIGHT OF BEAMS.—One of the simplest methods to find the weight which the beams will carry is by the following formula. In the case stated the weight will be a distributed load.

$$BW = \frac{8 k b d^2}{L}$$

which is arrived at by the following method—

$$BM = MR$$

$$\text{For all rectangular beams } MR = \frac{f r b d^2}{6}$$

$f r$ = modulus of rupture.

$$\therefore BM = \frac{f r b d^2}{6} = k b d^2 \text{ where } k = \frac{f r}{6}$$

For a distributed load—

$$BM = \frac{BWL}{8} = k b d^2$$

$$BW = \frac{8 k b d^2}{L}, \text{ or } SL = \frac{8 k b d^2}{15}$$

Where k = constant found by experiment. For P.P. 15 b = breadth of beam; d = depth of beam; L = length of beam in inches; S = factor of safety; SL = safe load in cwt. Substituting figures given—

$$SL = \frac{8 \times 15 \times 7 \times 7 \times 7 \times 3}{15 \times 12 \times 13} = 1.029$$

= 51 1/2cwt. nearly, or nearly 5cwt. per foot run.—John Lamond, C.S.O., Town Hall, Manchester.

STATUES, MEMORIALS, &c.

CITY.—There has been placed in position a piece of sculpture to complete the block of buildings recently erected in Lombard-street for the Royal Insurance Company. It consists of a colossal group of three figures in bronze, and is fixed over the granite hood of the main doorway in Lombard-street. The figures symbolise to some extent the main activities of the company—viz., Life, Fire, and Marine interests; but, subservient to its symbolism, the prime object has been kept in view of making the group an appropriate and harmonious portion of the fine architectural design as a whole. The central figure is a winged Sphinx seated upright, with its forepaws upon a globe. There are two subsidiary semi-draped female figures on either side of the Sphinx. On the right is a strong figure, alert in attitude and pose, with flying hair and turbulent drapery, grasping in the left hand a flaming torch, suggesting the latent power and energy of Fire. The figure on the left represents a Sea-nymph or Siren with a dolphin-twined anchor. The figure, as a whole, is intended to symbolise the mighty power of the sea for good or ill over our wide maritime interests. The group has been designed and sculptured by Mr. Francis Doyle-Jones, of Chelsea, acting under the instructions of Messrs. Gordon and Gunton, of Blomfield-street, the architects of the building.

LEGAL INTELLIGENCE.

THE QUANTITIES SURVEYOR'S CLAIM.—

A case was recently heard at the Leicester County-court, before Judge Cann, in which Hugh Carpenter, architect and surveyor, Gotha-street, Leicester, brought an action against the chairman (the Rev. Father Lindeboom) and committee of the Sacred Heart Church, Leicester, to recover £90 due to him for professional services in designing, planning, and preparing plans for a new church on the Mere-road, to seat four hundred, with three aisles, of a Roman (Classic) design. The plaintiff, reports the *Leicester Daily Post*, gave evidence that in 1911 he began to attend the Church of the Sacred Heart. At this time collections were being taken on behalf of the building fund for a proposed new church, about £400 having been contributed. One Sunday the Rev. Father Lindeboom asked him to get out plans for a new church to seat four hundred, and witness advised that the work should be carried out in sections. It was eventually decided not to start building until £1,000 had been raised. Witness took levels and measurements, and prepared a ground plan, as well as plans of the side elevation and the front elevation, the work involving twenty-two days. The plans were submitted to a parish meeting, and accepted, and two of the plans were exhibited in the church porch. At a subsequent meeting the Rev. Father Lindeboom asked him if he required payment, and when he told him "Yes" he flew into a temper and said he would pay out of his own pocket. It was decided, however, that his charges should be paid out of the proceeds of special collections. He sent in his bill for £90, and when it was submitted to a building committee which had been appointed, that committee got up and resigned. Cross-examined, plaintiff admitted that in 1905 he was made a bankrupt. He was then described as a boot and shoe dealer; but a manager was carrying on the business, which was in the nature of an investment. He was still carrying on his profession as a quantity surveyor. He denied that he was carrying on the business of an accountant in 1909.—What religion were you in 1909? asked Mr. Simpson. Were you a Primitive Methodist, Roman Catholic, or Church of England?—Church of England, replied plaintiff.—What church did you honour by attending in Leicester? I have attended several.—In answer to questions about his qualifications as an architect, plaintiff caused some laughter by remarking, "When you are apprenticed to a lawyer, you are a lawyer."—Re-examined, plaintiff declared he was asked to design complete plans, and Father Lindeboom never asked him for a rough sketch. He never said he would leave the amount of the bill an open question.—Mr. Simpson: Did I understand you to say you were sole architect for St. Augustine's Church, Leicester? I do.—Was not Mr. Goodacre, of Leicester, the architect for St. Augustine's? Yes; but I did the work.—Did you not work under him? No; with him.—Was not his name on the plans? Yes, with mine.—Two architects were called, who expressed the opinion that the plans were properly got out, and that the charge of £90 was a reasonable amount.—For the defence, Father Lindeboom said he asked defendant, who had been coming to him for religious instruction, to make rough sketches or drawings of a church to seat four hundred persons. Plaintiff promised to do so, but only produced two sketches. At the outset he did not understand that plaintiff was going to make a charge, and was surprised at the amount charged when the account came in. In cross-examination, witness said he expressed surprise when plaintiff produced elaborate plans.—Mr. Wm. M. Cowdell and Mr. A. H. Hind, two Leicester architects, expressed the opinion that £10 would be a fair price for the two sketch plans produced. The last named added that the sketches looked like the work of a novice.—Witnesses were called who gave evidence that it was understood at the outset that plaintiff proposed to make sketch plans without charge.—His Honour said that, considering all the evidence, and looking at the circumstances disclosed by the evidence, he was bound to come to the conclusion that the statement made by Father Lindeboom was substantially accurate. He dismissed the action, but suggested that the £10 paid into Court by the defendants be paid over to the plaintiff, though there was no obligation upon them to do this.

MR J F EBNER FINED FOR POSSESSING ARMS WITHOUT PERMISSION OF THE REGISTRATION OFFICER.—According to a report in the *South-Eastern Herald* of Sept. 1, at Greenwich Police-court, on Friday last, Joseph Francis Ebner, 66, of 9, Vauxhall park, Blackheath, black-floor manufacturer, and Hungarian subject, was charged, as an alien enemy, with having possession of a breech-loading gun, a

Winchester repeating rifle (stock missing), a revolver, and three sporting rifles, without permission of the Registration Officer. Mr. Solomon defended.—Div. Det.-Insp. Brown said that on Thursday evening he went with Insp. Pullen and other officers to prisoner's house. He said: "I understand you have some firearms in your house, and when you registered you failed to disclose that fact, and further stated that you had none when asked." Prisoner said, "I was not asked." Witness said he would take possession of the firearms, and prisoner conducted him to his son's bedroom and handed him the guns, which he said belonged to his son. Witness saw the revolver in the hall, and took possession of it. At the station prisoner said, "I was never asked if I had any firearms." Witness also took possession of four old-fashioned pistols which were in the hall. He found no ammunition.—Cross-examined: There was no concealment. He did not think the revolver was out of date, but it might be fifty years old. It was a pinfire revolver. One of the old pistols was a flint-lock, and they appeared to be trophies.—Insp. Robeson said that on August 14, when the prisoner registered, he was asked if he had any firearms, and witness read to him the section of the Act relating to the possession of firearms. The prisoner spoke rather strongly about being deprived of the use of the telephone.—P.S. Connor, 91R, said that, when he registered, prisoner said he was born at Budapest, Hungary. Witness read the order, and asked prisoner if he had anything to declare. He seemed to lose his temper, and described the Order as preposterous and ridiculous, saying he had lived in England forty-four years, and did not think he should come under that category.—Mr. Solomon: He felt the indignity of the position.—Mr. Symmons: It is not an indignity; it is only a proper precaution. His Worship pointed out that the telephone could be used if a permit were obtained.—Edgar Ebner, 27, son of the prisoner, said he was a British subject, born in England. The double-barrelled sporting gun and two miniature rifles belonged to him, and the other rifle to his brother Frank, who was also a British subject. He had seen the revolver hanging in the hall ever since he could remember. He had never seen any ammunition to fit it. His brother was an engineer in the P. and O. Company, and was in Bombay.—The prisoner, sworn, said he employed about three hundred men. He was married in England. On the day the notice was in the newspapers he went to a police-station to register, and was referred to Blackheath-road, where he went next day. The paper of regulations was handed to him to read, but he did not think it was read to him. He was asked if he had a motor-car. He was upset at the time about being unable to go to his bank without a special permit, and about the telephone. He had never used the revolver in this country, and it was used as an ornament. He had read in the daily papers of similar prosecutions to this.—Mr. Solomon said the revolver was obsolete, and ammunition for it could not be obtained in this country. It was merely an ornament. He suggested that there had been only a technical offence; but he asked his Worship not to inflict even a fine, for it would have a prejudicial effect on the prisoner as an employer.—Det.-Insp. Brown said, in reply to the magistrate, that he had no reason to suppose the prisoner kept the firearms with any sinister motive.—Mr. Symmons said the prisoner's defence was merely due to carelessness. He fined the defendant 20s.

EXETER BUILDER'S LOSSES.—At the adjourned bankruptcy examination, at Exeter, on the 3rd inst., of Walter Baker, builder, Magdalen-road, debtor said since the last examination he had filed certain accounts setting out his losses, but they were more or less guesses. He had no books from which he could make an absolutely accurate account. According to the summary he had lost £2,236 on three estates. The examination was closed.

In our description, with the illustration, on August 28, of the County Offices at Maidstone, we did not mention (because at the time we did not know) that Messrs. Carter and Co., Ltd. of Poole, and 29, Albert Embankment, S.E., carried out a good deal of the terrazzo and marble mosaic in the building.

The Commercial Intelligence Branch of the Board of Trade at 73, Baringhall-street, E.C., are desirous of hearing from firms who are prepared to send to them samples or catalogues of German and Austrian or Hungarian goods which have competed with British products at home or abroad. The Board of Trade propose to hold an exhibition of samples of this nature, and would welcome the co-operation of British manufacturers and traders.

Our Office Table.

A deputation from the National Housing and Town Planning Council had an interview on Friday with representatives of the National Federation of Building Trade Employers of Great Britain and Ireland and the Institute of Builders for the purpose of discussing the administration of the new Housing Act, 1914. The representatives of the council were assured that the National Federation and the Institute would recommend builders throughout the country to co-operate with local authorities in the administration of the Act, with a view to keeping down the cost of cottage building during the war. The question of the rise in the cost of building materials was discussed, and it was decided that the President of the Board of Trade should be asked to receive a joint deputation asking for definite action to be taken by the Government to regulate the prices of building materials, and especially of those required for the building of cottages under the new Housing Act.

The city council of Bristol devoted considerable time on Tuesday to the discussion of the housing scheme submitted by the health committee at the July meeting. The scheme provided for the acquisition of sites at Parson-street, Bedminster, and near Fox-lane, Stapleton-road, and the erection on the former of 120 self-contained houses and eight double tenements, to accommodate 136 families, and on the latter 45 self-contained houses and 35 double tenement houses to accommodate 115 families. The estimated cost of land and buildings was about £49,000. The rentals proposed were 5s. 6d. per week for the self-contained houses, and 3s. 9d. per week for each tenement. It was estimated that at first there would be a deficit of about £600 a year, but the committee thought the loss would gradually disappear. When the committee's report came before the council in July it was criticised on the ground that it did not touch the question of the slums, and meant subsidising wages from the rates. On the resumption of the debate on Tuesday, the altered conditions, resulting from the war, were thrown into the weight of opposition against the scheme. It was pointed out that the increase in the price of building materials had made it necessary to revise the estimates to the extent of about £20 per house, raising the total cost from £49,054 to £52,734; in addition to which, it was stated that it would be impossible to borrow the money at a lower rate of interest than 4½ per cent., instead of the absurdly optimistic original estimate of 2½ per cent., and the deficit would be increased from £600 to £1,740 per annum. A proposal was adopted, the effect of which is that the health committee are to purchase the Parson-street site, but that no expenditure for the erection of houses thereon be incurred for the present; the remainder of the housing scheme being referred back to the committee.

The housing committee of the Liverpool City Council has decided to obtain and place before the October meeting of the city council tenders for rebuilding in Gore-street, Jordan-street, and Sparling-street areas. The amount sanctioned for expenditure is about £25,000. Further, the committee instructed the surveyor to facilitate the acquirement of sites for rebuilding in Prince Edwin-street, Mason-street, Penrhyn-street, Ratliffbone-street, Blenheim-street, Saltney-street, and Dublin-street extension. These schemes will cost approximately £120,000. A deputation representative of St. Alban's parish was introduced by Mr. John Clancy, the object being to induce the committee to undertake building schemes to replace the cellar dwellings closed. Much valuable information was obtained, and the committee, after promising full consideration, resolved to ask the city surveyor to furnish a report dealing with the situation thoroughly.

In his annual report to the Belfast Corporation, Mr. Hector F. Gullan, M.Inst.C.E., the superintendent of works, states that during the year three miles of

streets were added, making the total mileage of public thoroughfares throughout the city 309 miles, including 144 miles of pebble-paved carriageways and back passages, 25½ miles of self-paved carriageways, 135 miles of macadam, 1 mile of wood-paving, 3½ miles of tar-macadam, and 39yd. of asphalt. The estimated expenditure on general repairs for the year was £30,000, and the actual expenditure £28,915. The cost per mile was £93.64 as compared with £118.07 ten years ago. For street cleansing the estimated expenditure was £31,950, and the actual expenditure £30,877. The cost per mile was exactly £100, as compared with £120.86 ten years ago.

The British Brush Manufacturers' Association has held a special meeting to consider the serious situation produced by the stoppage of supplies of bristles and other hair from Russia, Siberia, Germany, Poland, and France. The limited stocks of these materials in England are being rapidly used up, and the prices have consequently advanced enormously. Owing to smaller exports from the Far East, Chinese bristles have also risen in price very considerably. Other raw materials, such as timber, wire, etc., are also affected. The association officially announces that the prices of brushes and brooms have of necessity already been advanced, and that further considerable advances will be inevitable in the near future.

In a paper recently published in the Journal of the Western Society of Engineers an account is given of the system of concreting through open spouts now largely adopted in America. The concrete is mixed to such a consistency that it flows readily along these spouts and into the forms. If too wet, the water drains out and the spout blocks; and, similarly, if the concrete is too stiff, it will not flow. With the proper consistency, however, it flows readily, and it is claimed that the forms are filled more solidly than when a stiffer mixture is used and rammed. The system in question has, Mr. B. J. Sweatt states, been used for the concreting of a large arched bridge at Cedar Rapids, Iowa, constructed in reinforced concrete. The bridge, which is 308ft. long between abutments, has three spans of 96ft. each, the roadway being 48ft. wide, bordered by two footpaths, each of a clear width of 10ft. The whole of the concrete was distributed to the required positions from a high tower, from which the distributing spouts were fed. The system is claimed to be an ideal one where the length to be covered does not exceed 300ft. from the tower. From the discussion it appears that a gradient of 1 in 7 is a good slope for the spouting.

MEETINGS FOR THE ENSUING WEEK.

SATURDAY (To-morrow).—Institution of Municipal Engineers. Meeting of the Northern and Yorks Districts at Harrogate.

THURSDAY.—Royal Photographic Society's Exhibition, Suffolk-street Galleries. "A Short Sketch of Gothic Architecture," by Henry W. Bennett, F.R.P.S. 8.30 p.m.

An inquiry has been held at Lowestoft by Mr. A. W. Brightmer into an application to the Local Government Board for sanction to borrow £11,120 for works of sewerage in the borough and also in the urban district of Oulton Broad and the parish of Oulton. The borough engineer, Mr. G. H. Hamley, produced and explained the plans.

The British Standard Specification for Two- and Three-Plate Ceiling-Roses has just been issued by the Sub-Committee on Electrical Plant Accessories of the Engineering Standards Committee, who have had the assistance of the British Electrical and Allied Manufacturers' Association. The standardisation of two and three pin-plug fittings is being proceeded with; but it has been thought that it would be most convenient to issue separate specifications, so that standardisation, as far as it has gone, might be taken up at once. This report (No. 67) specifies the material to be used and the dimensions of all essential parts. The terminal-plates are of different shapes—a system which the committee consider more satisfactory than the use of different colours.

Trade News.

WAGES MOVEMENTS.

PERCENTAGES OF UNEMPLOYMENT IN VARIOUS TRADES.—The Board of Trade issues the following statement of unemployment:—In the trades compulsorily insured against unemployment (viz., building, works of construction, engineering, shipbuilding, vehicle-making, etc.) the percentage of unemployment at September 4 was 6.24. This is practically the same as the percentage a week before (6.20), and compares with a percentage of 3.34 a year ago. The growth of unemployment in the insured trades has therefore for the moment stopped. Indeed, in engineering, construction of vehicles, and sawmilling there is an actual decline of unemployment. This is counter-balanced by a slight seasonal increase of unemployment in building and construction of works.

WAGES IN VICTORIA, AUSTRALIA.—It is stated authoritatively that the Railway Commissioners of Victoria have agreed to concede the rate of wage laid down by the Wages Board award—from 8s. 8d. to 10s. 8d. per day—to the following men: Scaffolders, hod-carriers, plasterers' labourers, concrete-packers, and tackle hands. These men are at present paid from 8s. to 9s. per day. The wages of general handymen will not be altered. Owing to the proposed increases of pay, the expenditure on railway electrification work in Melbourne will be considerably increased.

OHIPS.

The death is announced of Mr. W. H. D. Horsfall, architect, of Low-street Chambers, Halifax.

Mr. T. H. Bishop, jun., of Leighton Buzzard, has been appointed surveyor to the Eaton Bray Rural District Council.

Mr. William R. Maxwell, C.E., burgh engineer and chief sanitary inspector, Dunfermline, has tendered his resignation.

Mr. E. P. Hooley, M.Inst.C.E., county surveyor of Nottinghamshire, is serving with the 5th Battalion of the Sherwood Foresters.

The Local Government Board have given their formal sanction to the borrowing by the city council of Oxford of £1,400 for the sewerage of the Headington Hill district of the borough.

The plans of Mr. P. J. Krouse have been adopted for a city-hall building to be erected at Meridian, Mississippi. Tenders will be opened for the work on Tuesday week, the 22nd inst.

A receiving order has been granted in the case of Frederick Bligh Bond, Glastonbury, carrying on business at Star Building, St. Augustine's-parade, Bristol, and at Glastonbury, architect.

The town council of Wallasey have under consideration a scheme for the erection of thirty-two workmen's houses and eighteen cottage flats on land between Poulton-road and Love lane, Poulton, at an estimated cost of £11,546.

The will of Mr. Walter Sturge, lte of 11, Downfields-road, Clifton, Bristol, land surveyor, who died on August 6 last, has been proved by the executors, Messrs. Francis Sturge and Theodore Sturge at £11,882 19s. 10d. gross, with net personality £10,343 5s.

The Southam Rural District Council have instructed Messrs. Taylor and Wallin, civil engineers, of Newcastle-on-Tyne and London, to prepare a scheme and report upon a water supply for the parish of Southam, with an extension for supplying the adjoining parish of Long Itchington. The water will probably be taken from a well, and pumping machinery will be required.

It was officially announced on Tuesday that out of sixty candidates for the assistant general secretaryship of the Amalgamated Society of Carpenters and Joiners, the following six have been selected for submission to a members' ballot:—Messrs. Cameron (Paddington), Dearnley (Huddersfield), Lindley (Sheffield), Robertson (Bolton), Wright (Glasgow), and Young (Clapham). The membership of the society was returned at 89,543.

The Calendar of the Glasgow School of Art, which is under the directorate of Mr. Francis H. Newbery, has just been issued. Students are trained as painters of landscape, the animal, the figure, and for mural decoration; as architects, as modellers and sculptors, as designers and decorative artists and workers in the arts and crafts, and as art masters and mistresses with special teaching qualifications.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Miscellaneous metals and timber we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Rolled Steel Joists, English	Per ton.	Per ton.
Wrought-iron Girder Plates	£7 10 0 to	£7 12 6
Steel Girder Plates	7 0 0	7 5 0
Bar Iron, good Staffs	7 2 6	8 2 6
Do., Lowmoor, Flat, Round, or Square	6 5 0	8 10 0
Do., Welsh	22 0 0	0 0 0
Boiler Plates, Iron—	5 15 0	5 17 0
South Staffs	8 0 0	8 15 0
Best Spedshill	9 0 0	9 10 0

Angles 10s., Tees 20s. per ton extra.

Bullders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—

No. 18 to 20.	No. 22 to 24
6ft. to 8ft. long, inclusive gauge	Per ton.
Best ditto	£13 0 0 to £13 10 0
	13 0 0 to 14 0 0

Wire Nails (Points de Paris)—

3 to 7/8	8/9	9/3	9/9	10/3	11/1	11/9	12/6	13/6	B.W.G.
									per cwt.

Cast-Iron Columns	Per ton.	Per ton.
Cast-Iron Stanchions	£6 17 6 to	£8 10 0
Rolled-Iron Fencing Wire	6 17 6	8 0 0
Rolled-Steel Fencing Wire	8 5 0	8 10 0
Galvanised	7 5 0	9 5 0
Cast-Iron Sash Weights	8 10 0	5 15 0
Cut Floor Brads	5 10 0	—
Corrugated Iron, 24 gauge	9 15 0	—
Galvanised Wire Strand, 7 ply, 14 B.W.G.	16 0 0	—
	14 5 0	—

B.B. Drawn Telegraph Wire, Galvanised—

0 to 8	9	10	11	12	B.W.G.
					per ton.
£10 10s.	£10 15s.	£11 0s.	£11 5s.	£11 10s.	

Cast-Iron Socket Pipes—

3in. diameter	£6 2 6 to	£6 7 0
4in. to 6in.	6 0 0	6 5 0
7in. to 24in. (all sizes)	5 7 6	6 0 0

{Coated with composition, 5s. 0d. per ton extra, turned and bored joints, 5s. per ton extra.}

Pig Iron—

Cold Blast, Lillieshall	Per ton.	10s. 0d. to 117s. 6d.
Hot Blast, ditto	70s. 0d.	75s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists l.o.b. (plus 2½ per cent)—

Gas-Tubes	75 p.c.
Water-Tubes	71½ "
Steam-Tubes	67½ "
Galvanised Gas-Tubes	65 "
Galvanised Water-Tubes	61½ "
Galvanised Steam-Tubes	55 "

OTHER METALS.

Spelter, Silesian	Per ton	£21 5 0 to	£21 7 6
Lead Water Pipe, Town	25 0 0	—	—
" Country	23 15 0	—	—
Lead Barrel Pipe, Town	26 0 0	—	—
" Country	26 15 0	—	—
Lead Pipe, Tinned inside, Town	27 0 0	—	—
" Country	27 15 0	—	—
Lead Pipe, Tinned inside and outside, Town	29 10 0	—	—
" Country	30 5 0	—	—
Composition Gas-Pipe, Town	28 0 0	—	—
" Country	28 15 0	—	—
Lead Soil-pipe (up to 4in.) Town	28 0 0	—	—
" Country	28 15 0	—	—
Over 4in. 4s. per ton extra.			
Lead, Common Brands	17 17 6	18 12 6	
Lead Shot, in 28lb. bags	24 15 0	—	—
Copper Sheets, sheathing & rods	75 0 0	75 10 0	
Copper, British Cake and Ingot	64 0 0	65 0 0	
Tin, English Ingots	143 0 0	144 0 0	
Do., Bars	146 0 0	146 10 0	
Pig Lead, in 1cwt. Pigs (Town)	20 5 0	—	—
Sheet Lead, Town	24 10 0	—	—
" Country	25 5 0	—	—
Genuine White Lead	31 15 0	—	—
Refined Red Lead	32 0 0	—	—
Sheet Zinc	29 0 0	—	—
Old Lead, against account	17 0 0	—	—
Tin	7 17 6	—	—
Cut nails (per cwt. basis, ordinary brand)	0 11 0	—	—

SLATES.

Blue Portmadoc	in.	in.	d.	per 1,000 of
	20 x 10	12	6	1,200 at r. stn.
Blue Bangor	16	8	6	12 6
	20	10	13	2 6
First quality	20	12	13	17 6
" "	20	10	13	0 0
" "	20	12	13	15 0
" "	16	8	7	5 0
Eureka unfading green	20	10	15	17 6
" "	20	12	18	7 6
" "	18	10	13	5 0
" "	16	8	10	5 0
Permanent Green	20	10	11	12 6
" "	18	10	9	12 6
" "	16	8	6	12 6

BRICKS. (All prices net.)

Table listing various brick types and prices, including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks, and various facing bricks.

Net free on rail, or free on boat at works.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed brick types such as White, Ivory, and Best Salt Glazed, with prices for different finishes and quantities.

MOULDED BRICKS.

Table listing moulded brick types like Stretchers and Headers, Sill Bullnose, and Majolica, with prices per 1,000.

Table listing various types of Portland Cement and Lias Lime with prices per ton.

STONE.

Table listing stone types such as Red Mansfield, Darley Dale, and Orey Stone Lime with prices per foot cube or per ton.

* All F.O.R. London.

Table listing various types of Bath Stone and Portland Stone with prices per foot cube.

TILES.

Table listing various types of roof tiles, including Plain red, Hip and Valley, and Selected Perfecta, with prices per doz. or per 1000.

OILS.

Table listing various types of oils such as Rapeseed, Cottonseed, Olive, and others, with prices per ton or per gallon.

GLASS (IN CRATES).

Table listing various types of glass sheets and plates with prices per square foot.

VARNISHES, &c. Per gallon.

Table listing various types of varnishes and finishes with prices per gallon.

A return by Mr. Alexander Walker, city assessor, shows a large decrease in the number of unoccupied houses in Glasgow for the year which ended in June.

The Rochdale Corporation health committee have authorised the medical officer to prepare a scheme for re-modelling an area about four acres in extent, and now containing a large number of dwellings either condemned and unoccupied or in very poor condition.

TRADE NOTES.

We understand that the new bath at the Kendal Grammar School has been treated with the powder Pudlo (to make the cement waterproof), and that the architect reports a very excellent result.

Under the direction of Mr. E. Guy Dawber, architect, 22, Buckingham-street, Adelphi, W.C., the Boyle system of ventilation (natural), embracing Boyle's latest patent "Air-pump" ventilators and air-inlets, has been applied to St. George's Church, Campden Hill, W.

The Northam and Islandshires Rural District Council (Northumberland) have instructed Messrs. Taylor and Wallin, civil engineers, of Newcastle-on-Tyne and London, to prepare a scheme of drainage for the colliery district of Sermerston. The scheme will be wholly by gravitation, and no pumping will be required.

Messrs. Pridie, Stacey, Brewster, and Trenchard have amalgamated their respective practices as from August 10, 1914, under the firm name of Pridie, Stacey, Brewster, and Trenchard, with the short title of "Pridie and Co." Mr. Gerald A. Stacey, as from the date of this notice, will discontinue the use of his office and telephone at 3, Lombard-court, E.C., and the new firm's address for the future will be 25-28, Crosby-buildings, London, E.C. Telephone, Central 9982.

FOR

Olivers' Seasoned Hardwoods, W.M. OLIVER & SONS, Ltd., 120 Bunhill Row London E.C.

TENDERS.

** Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ABERDARE.—For the erection of new engineering laboratories and mining laboratories at boys' county school, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., Cardiff, county architect.— Davies, T. D., Treycynon, Aberdare (accepted) ... £1,298 14 0

ABERKENTH.—For the erection of a new county school at Aberkenth, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., Cardiff, county architect.— Price, E. L., 106, Wyndham-crescent, Cardiff (accepted) ... £3,359 0 0

ABERTHAW.—For converting an old building into combined domestic science centre, for the Glamorgan County Council. Mr. D. Pugh-Jones, Cardiff, county architect.— Julian, A. W., Bonvilston-road, Yard, Pontypridd (accepted) ... £305 7 1

ANDOVER.—For repairs to the old engines, for the corporation.— Bibbie, Hobson, and Co. ... £90 10 6

ASHFORD.—For the construction of an ejector station, with pneumatic ejectors and air-compressing plant, and a set of sewage purification works, for the managers of the West London District Schools, Ashford. Mr. A. J. Martin, M.I.C.E., 7, Victoria-street, Westminster, S.W., engineer.— Kaynagh, S., and Co., Surbiton-Hill, S.W. (accepted) ... £2,488 9 11

GAZE and Sons, Ltd., Walton-on-Thames ... 2,270 0 0

AYLESBURY.—For construction of an electric-light station, for the urban district council.— Crook and Judd, Waddesdon ... £1,268 9 7 (recommended for acceptance.)

BARHAM.—For lighting the workhouse by Cox's air gas, for the Bosmere and Claydon Rural District Council.— Mann, Egerton, and Co. ... £311 0 0 (Accepted.)

BARRY.—For laying-out of grounds at the Barry Training College, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., Cardiff, county architect.— Rendall, H. S., and Sons, Barry. ... £3,012 7 5 (Accepted.)

BARWELL.—For the erection of an iron steam roller shed, for the Hinckley Rural District Council.— Davis Bros., Wolverhampton ... £108 10 0 (Accepted.)

BEVERLEY.—For erection of a school for 100 scholars at Minster Meorgate school, for the Managers of the Minster Schools, Beverley. Messrs. Howe and Foley, North Bar-street, Beverley, architects. Quantities by architects.— Lorenz, H. ... £1,200 13 0

Potts, R., and Sons ... 1,100 16 0 Pape, G., and Sons, Beverley* ... 1,098 0 0 * Accepted.

BURLEY.—For heating chapel and schoolroom, for the Primitive Methodist Soc. Trustees. Mr. C. Bailey, 23, Peel-place, Burley, architect.— Vincent, Roberts, and Co., Charnmouth-street, Leeds (accepted).

(Eight tenders received.)

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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The Founder's Chapel, St. Botolph's Church, Boston, Lincolnshire. New Screens, Altar with Triptych, and rearrangements. Mr. W. Samuel Weatherley, F.R.I.B.A., Architect.
House near Chelwood Gate, Sussex. View and plans. Mr. E. Brantwood Manfe, B.A.Oxon., A.R.I.B.A., Architect.
New Territorial Headquarters, Newark-on-Trent. Messrs. Brewill and Baily, F.F.R.I.B.A., Architects.
Trentham Hall, Staffs, the seat of the late Duke of Sutherland. Measured and drawn by Mr. Harold Goldstraw, A.R.I.B.A.

OUR ILLUSTRATIONS.

New General Offices, Metropolitan Railway, Baker-street Station, Marylebone, W. Mr. C. W. Clark, Architect.

HISTORIC DESIGN.

We are all busy "capturing trade" just now—or talking about it—and, so far as the endeavour proves a genuine outcome of a real awakening of the national consciousness, it is well. Even in the most mechanical avocations it will be something gained if we have learnt presently that to make for use and not for mere profit is a cardinal essential. To make for the uses, that is, of our buyers, with their many and diverse needs, and not merely according to our short-sighted persistence in the belief that British "solidity" must be taken with thanks, and paid for cash in advance, by our Colonial and foreign customers, who have deserted us, tired of our stereotyped methods, and attracted by the adaptiveness of rivals who have discovered that which we have in many instances been too blind to see, or too purse-proud to admit, that the first and indispensable task of the manufacturer is to ascertain and study the actual requirements of buyers, and to set himself in all earnestness to meet them. In many cases, as all must know who have carefully studied the reports which the Board of Trade is now issuing, it has been far otherwise. If the British manufacturer had set himself as industriously to make and sell what was wanted, instead of persuading his customers that what he persisted in supplying was as good—or quite good enough for them, he would have been less frequently ousted in the markets of our own great self-governing colonies, or forced to confess failure to find a footing in those opened up elsewhere by political and social changes.

If this troublous time has really taught some of us this stern lesson, if British valour in the field and on the seas, unhampered for once by official unreadiness, has proved to the world that the response of the race to the call of real patriotism was as ready and certain as by our forbears in Elizabethan days, let us humbly and thankfully remember that it might all have been futile, if, at the helm, our organisers had not been true students of what in Art some of us call "historic design," shackled as they have been by those who failed to recognise that courage, and self sacrifice, and all the traits and traditions of an Imperial race availed little against the ignorance of those who knew not that fitness was the first need in war, and that, given the real efficiency of the units, and proper equipment, the expansion of our forces in proportion to our needs was easy. With all our heart we trust that lesson will not be lost on those responsible; but that returning peace will see the steady and increasing insistence on the ability of the manhood of the nation to fit itself for defence, not by cast-iron compulsion on the lines of German militarism, but by means not merely submitted to but welcomed by

all the instincts of a free people. Given that, and the good guidance of those who to some purpose have studied "historic design" in War, we shall get a practically inexhaustible reserve of disciplined strength, which no enemy will treacherously provoke, or insult by the suggestion that it shall regard solemn obligations as "scraps of paper."

Moreover, we earnestly believe that this organisation of national defensive strength must and will bring with it proper and disciplined training in our ordinary work; because, accustomed to and benefiting by the one, the disciplined citizen will submit to no other. He will trust no teacher or master who cannot really teach or govern, but will bend all his energies to assimilate the experience of the one or to obey the intelligent orders of the other. By degrees he will evolve capabilities of resource which no mere man-machine can ever cultivate or exercise, and, almost insensibly, the faculties of the British workman will be developed on a higher plane than they have yet reached, and the national industrial output will benefit accordingly, not merely in mass, but in quality and suitability to purpose.

Surely in no field of industry are the prospects of properly disciplined efforts to effect this more promising than that covered by the crafts more or less connected with art. Hitherto most of us have failed to perceive that, ignoring all other considerations, no more wholesome betterment of individual welfare or extension of industry generally is likely than by the cultivation of real art in handicraft or manufacture. It may be and is argued by some that this is impossible while the average taste of the general public is so low. The answer to that is that in the first place the average public gets as good or as bad as it deserves, thanks partly to the failure of those who cater for it to awaken a desire for really better things, but also to the absence of any encouragement of art-appreciation in the curriculum of our national scheme of elementary education. Take the ordinary teaching of history and geography for instance. How many British boys and girls have had their interest awakened in the art productions of the peoples of the past—their own forbears included, or how these, and the culture of those for whom they were produced, improved and broadened accordingly. Surely, even in our lowest grade of schools, no teaching of history is fully profitable which omits to acquaint the children with some knowledge of the best works of art of all time, and the influence they derived from and exercised on the social life of the period? In these days of the cinematograph and other available means of class illustration the children might be interested in and familiarised

with the best and most characteristic examples of the art of every age, and year by year and generation by generation the conviction be enforced that the production of works of real beauty, from the commonest requisites of daily life to the highest, is among the noblest tasks that can occupy an intelligent being.

Even as things are, aptitude selects from the mass such as are naturally gifted with the desire to produce such as far as their capacity will permit. Does anyone believe that our state-aided scheme of art education as it exists to-day is an economical or wise one? Is there any really definite and proper organisation? Is there any attempt, even at the Royal College of Art, to teach or examine in historic design, beyond the study and copying of mere casts and stock forms of decoration? Is there any result therefrom but the spiritless descent to a dull, lifeless, eclecticism, or the freakish self-surrender from time to time to the pernicious influence of some individual or school which sets itself to work to travesty or mechanically reproduce the characteristics of some past phase of art foreign to all our national instincts and necessities. In either case can anything be imagined more certain to kill or distort real originality? Here, surely, if the more advanced student had been competently taught the historic associations of the objects commended to his study, he might have caught the spirit that inspired them, and not have remained content with the dead bones of the civilisations or systems in which they were evolved. As it is, in ignorance or disregard of all the conditions of life which prevailed in the Egyptian palace, the Greek temple, the Medieval castle, the Elizabethan mansion, or amidst the gilt splendours of the salons of royalty and the old noblesse of the ancien régime, we get imitations or adaptations of these structures and of their belongings as germane to our needs as a North American Indian's wigwam would be.

If we are to better all this—if we are to end the reign of mere fashion, and the production of eccentricities which are so ludicrous that they repel the cultured, or yet so mischievous that they debauch public taste—in either case tending to limit a legitimate demand for good work—we have to change all this in some such fashion as we have again and again moulded. First and foremost, by the architect, as by the humblest designer of the common things of daily life, the history and purpose of the buildings and kindred works of past ages and systems must be studied from reproductions or remains, but always in their relation to the social and political life of the time. Then, when the student has grasped in its unity all these associations, he will enter on the study and practice of his own special work, with at

least the desire to understand the needs it is to meet, and to accomplish it without the sacrifice of utility or beauty. It is pleasant to feel that a recognition of this fundamental necessity seems to have inspired the efforts of the First Atelier of architecture as regards our own calling. They will probably be hampered for some time to come by the absence, even in our higher schools, of any such preparatory acquaintance on the part of the scholars with the elementary historical facts about art we want to see accessible to all. It is also satisfactory to admit that, as our recent volumes will bear witness, some of our best living architects have recognised and are more and more recognising the defect in the education of the student and its resulting disastrous effect on his career which we have indicated. In the future, as in the past, we suppose many will still more or less imitatively yield to the fascinations of some particular style; but there is less and less of the dogmatic exaltation thereof common to all critics who are so zealous for the form that they miss the spirit that inspired it.

Analogies are dangerous things; but we venture to suggest that while no great general ever yet neglected the military lessons of the past, no successful one ever tied himself down to the strategy or tactics, which, sound enough in principle, were elaborated to secure victory under the vastly different conditions of ancient warfare. Captains of respectable talents and undoubted courage have ignored that, and suffered defeat, or fought useless battles with a pedantic adherence to system said to have been characteristic of some of our own commanders whose appointments as Generals in Flanders were regarded as life jobs. So we ourselves still build railway stations masked with the exteriors of Greek and Roman temples; within our own memory our brethren the sculptors, even when men's ordinary dress had not degenerated into stove-pipes and tubes, still draped their subjects in togas, and our designers lost themselves in meaningless forms which were commonplace at the best and hideous at the worst. True, now and then the genius of the offender was not altogether to be eclipsed, though shackled by the fetters of bad precedent; but genius is rare, and the dullard prefers the safe road to wealth and reputation, strewn though it is with the skeletons of the sacrifices to the commonplace.

REPORTING ON PUBLIC SERVICE PROPERTIES.

By E. P. ROBERTS.*

The engineer has many opportunities to benefit mankind: by research work, assisting younger engineers, and endeavouring to assist in advancement of all kinds—civic, industrial, sociological, along many of which lines his training makes him especially useful. The paper this evening deals only with his employment by Capital to obtain returns for Capital, and, therefore, values are financial values. The engineer is paid in cash to deliver in cash.

EMPLOYMENT OF ENGINEER ON FINANCIAL BASIS.

Engineers often complain that their compensation is not proportionate to their ability and responsibility. After dinner speakers especially dwell on such points. But engineers are not unique in this respect. From ministers, lawyers, doctors, architects, bankers, manufacturers' associations, trade associations, and other groups, the same complaint is heard: "If it were not for us, where would be our civilisation? We are the great benefactors of the human race; pay us what we consider is in accordance with the benefit

we confer." In a general and broad way, everyone receives for his services in proportion to supply and demand. To such extent as the measure of compensation is financial, each person receives an amount of money based on what the buyer believes he must spend to obtain that which he desires. When Capital employs an engineer, it is on the basis of financial benefit to Capital, and the engineer accepts employment on such basis. If the engineer does not furnish to Capital the best advice obtainable, he is as dishonest as if he does not make every effort to obtain full value from a contractor whose work he supervises. It is the engineer's duty to study each and every question, which either directly or indirectly affects such portion of the problem as is in the engineer's charge, and then to advise the representative of Capital to the best of his ability. If personally he is not able to advise competently, he should obtain such advice and pay for it, or inform his superior officer, or client, that certain questions, or certain phases of some one question, should receive greater attention and investigation than his knowledge or available time will permit. Many engineers have had no training in financial matters, but it is becoming more and more realised that the engineer should have a broad training, including a knowledge of the principles of economics, accountancy, and business law, and should be able to study engineering problems with relation to financial results. There has, possibly, been a feeling that information along financial lines was difficult to obtain, or so intricate, or unscientific in character, that the engineer could not expect, by the expenditure of such effort as practicable, to obtain any knowledge which would be helpful. The engineer appreciates the fact that he must obtain a broad and general engineering knowledge before specialising, and then must specialise before he can make exceptional progress in any line, and concludes that there is no time available in which to obtain knowledge along other lines, or there is no necessity for it, or both. Whatever the reason for such conclusion, it is erroneous and harmful to him and to the profession. If representatives of the legal and engineering professions in any one city are compared, it will be found that more lawyers than engineers are consulted on financial questions. Lawyers receive a broad general training, as do engineers, and then usually specialise. There are always a number of prominent lawyers who are directors in banks, and others are appointed receivers for bankrupt properties. Of course, such receivers are frequently appointed by their professional brethren—in other words, by judges. Frequently, if not usually, executive ability is more important than legal ability; in fact, frequently, legal questions do not represent 10 per cent. of the problem. Without reference, however, to appointment by the Court (acquaintanceship or professional courtesy), probably the average business man would select a lawyer rather than an engineer for such a position, even when the business is a manufacturing or transportation one.

ENGINEERS AS RAILROAD EXECUTIVES.

That frequently engineers are good executives is evidenced by the growing tendency on the part of steam railroads to appoint executives from the engineering force. This is especially interesting in view of the increasing difficulties confronting railroad executives at the present time, as the result of regulation by the Interstate Commerce and Public Service Commissions. In other words, now that the business must be conducted on a basis, Wall street methods, or those frequently considered as such, are no longer permissible.

COMPREHENSIVE ADVICE.

I have already stated that the engineer should have one aim—namely, to obtain dividends for capital; but if he is only able to advise as to the technical design and construction cost, it is evident that his usefulness, and, therefore, the value of his advice, is exceedingly limited. He may be able properly to advise correctly as to the financial

results as between two different classes of structure. An example of such simple character arises when considering the comparative advisability of building a trestle structure or a comparatively permanent bridge. He may be able to report as to the first cost, and proper allowance for maintenance and depreciation of each, and possibly correctly state that, for the case under consideration, the cheaper structure is the preferable one, if considered on the direct basis of cost per year, including interest, maintenance, and depreciation; or that from the standpoint of fire or floods, it may not be advisable. He may properly consider the funds available and financial demands at other points, and state that the erection of a permanent and expensive structure can wisely be left to the future. The above example is a comparatively simple one, though frequently such simple cases are not sufficiently investigated by the engineer. The engineer cannot expect to become an expert lawyer, accountant, economist, or financier; at least, most of us would not be so optimistic. He should, however, appreciate and understand the result of the investigation made by experts along such lines, and the application of such results to the work of the engineer.

CO-OPERATION.

The engineer should also appreciate the fact that it is part of his duty of the engineer to inform other experts as to many facts which often they would not know existed unless he calls the same to their attention, and, in addition, there are many factors the full value and effect of which cannot be ascertained except by co-operative effort. Even in purely technical work the engineer must rely upon others. If he is in charge he should understand the general principles of the methods followed by his assistants, in order to appreciate the value of the result obtained by them, and to take full advantage of their abilities. For example, many of us are no longer able to work out problems in higher mathematics; but if we did not know what could be best accomplished by the application of same, or understand the meaning and comparative value of the answer submitted, we would not instruct someone to make the investigation or calculation; in fact, we might not have such a man in our employ, because we would not feel the need or appreciate his usefulness. To obtain the answer to a technical example is important: that is what we pay the assistant to do. To ascertain the value of the answer and place it in the proper place with relation to all the other factors of the main problem, is what our employer pays us to do.

TECHNICAL SCHOOL TRAINING.

In the past few years more and more attention has been given in technical schools to instructing the students in the fundamental principles of accounting, business procedure, and business law. A leader in such work is your former fellow-townsmen, Dr. A. C. Humphrey, now President of the Stevens Institute of Technology. He, by virtue of his business, in addition to technical training, realised the importance of starting the students along the lines above mentioned, in order that they might, to as great a degree as practicable, not only understand the general principles, but, of more importance, appreciate their bearings upon and relation to the technical work of the engineer. Lectures and examinations on such subjects have been for many years part of the regular work at Stevens. Recently a conference was held at Stevens upon "The Engineer's Part in the Regulation of Public Utilities." The conference was attended not only by alumni and guests, but also by the undergraduates. It was addressed by a number of prominent corporation officials and by a member of a public service commission. It seems to me that many of those present, though especially the students, will become bigger men and more competent and fully-rounded-out engineers, because of the conference; not so much on account of the information conveyed, valuable as it was, but because of the inspiration resulting from

* From a paper read before the Engineers' Club of Philadelphia.

hearing such subjects discussed under conditions especially tending to influence young men.

REPORTS ON PUBLIC SERVICE PROPERTIES.

First.—What is a Public Service or Public Utility Property?

Second.—Why is it constructed?

Evidently the answer to the first question is that a public service property is one constructed to give service to the public. The service may be rendered by the community—municipal ownership—but such is not the ownership of the properties now to be considered, though the same general principles should be applied, including engineering, operation, and accountancy. A public service property is usually considered as one furnishing service to the public, but the ownership of which is private. The peculiar characteristic features are that the owners agree to give adequate service, and the public agrees to give the owners the opportunity to furnish the service. Certain privileges are granted, such as condemnation of properties for right of way, rights in the streets, etc. Frequently, not always, the public permits, or practically assures, a monopoly, either during "good behaviour" or for a specified period. The person who serves is a servant—at least, according to the dictionary; but in fact the duties of the servant are liable to be forgotten. The person served is the employer or "boss." Sometimes the latter term not only seems more personal, but also more applicable. Commissioner C. J. Prouty, of the Interstate Commerce Commission, in address to the Cleveland Chamber of Commerce, January 20 last, on "The Duty of the Public to the Railway," stated: "Now, to go back to my proposition that the railroad is the servant of the public. Assume that you had an intelligent servant, who was especially skilled to do a particular thing, how would you, as a prudent master, treat that servant? You would certainly give him enough to live on, because he couldn't work until he could properly subsist." Mr. Prouty also stated, referring to the railroads, that the servant was at one time the master, and, if I correctly understand his statement, that there is now a tendency to starve the servant and to take away both incentive and ability to give adequate service.

Another way of considering the relationship is that of a special partnership agreement between the public and the public service corporation.

FRANCHISE PERIOD.

Franchises may be short term, perpetual, or indeterminate. Short-term franchises have many defects, perpetual franchises frequently, possibly inherently, do not properly protect the public, or the owner, or both; they are either "wide open" or have unwise restrictions. Indeterminate franchises, sometimes termed indeterminate permits, are permits to control and operate during "good behaviour" on the part of the corporation legally supposed to be "enjoying" the operation, whatever may be the facts as to such enjoyment. It is also often presumed that the owner will be protected from competition because it is in the interest of the public that the utility be a "monopoly," and that if the owner exercises reasonable care in designing, constructing, and operating the utility, that he will be permitted to obtain and retain such form of enjoyment as results from dividends. To an increasing degree it is becoming a fact that public service commissions are not only protecting the public, but also are—or, at least, some are—protecting the owners and instructing the public as to not only what is fair treatment, and also what is in the permanent interest of the public.

FRANCHISE BASIS.

In the issue of January, 1911, of the American Academy of Political and Social Science (Electric Railway issue), the statement is made that the Wisconsin theory is that the franchise is a privilege conferred by the State, and not a contract between the municipality and the company, and that it is subject to State regulation when and as regulation is required. Massachusetts permits

a certain "location," and other States have different angles of approach; but, I believe, that the general tendency is towards control and protection. Control, as to financial scheme and securities issued and as to service; protection, as to avoidance of all forms of special tax, for which the public, or, rather, the users, must pay or not obtain adequate service and protection from competition. An indeterminate franchise is somewhat similar to an indeterminate sentence, as it is also dependent upon "good behaviour." Both indeterminate franchises and indeterminate sentences have good features, though the particular recipient may not always appreciate the application.

The second question is "Why is a public service property constructed?"

The answer might seem to be because of the public need. The correct answer is because someone thought it would pay him. It is the same reason which exists for putting forth any effort. The question always asked is, "Will it be profitable?" In a business transaction the profit is measured in money. There must be a promoter, and this promoter is a most helpful member of the community, though not always for it.

Why is an engineer employed to report on a public service property? Usually in order to inform his client as to whether the property has paid, or will pay, or both, on the investment. The engineer must, or should, be a skilled prophet.

The author then went on to consider the preparation of a report upon a proposed interurban electric railroad, touching briefly upon some special features of reports relative to existing properties and properties other than interurban railroads.

REPORT OF THE DEVELOPMENT COMMISSION.

The Report of the Development Commissioners for the year ended March 31 last was issued on Saturday. It was written before the European crisis and the outbreak of war, and the Commissioners in a footnote added since, say that the immediate demands on the fund will in all probability be largely increased, so that the financial estimate they make will hardly hold good. The total amount guaranteed to the fund up to the end of the financial year 1914-15 was £2,900,000, the whole of which sum has been paid over. Up to the end of March last the Commissioners had actually recommended advances up to £1,493,375, of which £1,216,695 were grants and £276,680 loans. Although from these figures it would appear that £1,629,000 still remains unappropriated; this is fallacious, for some of the grants for education and research will have to be continued annually.

Agriculture and rural industries have absorbed a considerably larger proportion of the fund than any other objects. The expenditure hitherto sanctioned is £921,549. During the current year some £400,000 more may be required for the continuance of schemes of research, technical advice, and instruction already set on foot, buildings and farms for agricultural colleges, further provision for research in veterinary science, the continuance of existing schemes for the improvement of live-stock breeding, and the promotion of co-operation. These demands may reach £1,100,000. The total amount hitherto recommended for forestry and afforestation is £142,749, of which rather more than £80,000 has been advanced by way of loan. But large demands must be anticipated during the next two years, as the schemes sanctioned include a Scotch demonstration area, the acquisition of one or more experimental areas in England and Wales, afforestation schemes for land already purchased in Ireland, and loans to local authorities for the afforestation of water catchment areas. It is necessary to reserve, conjecturally, another £200,000 for these purposes up to 1916. The advances sanctioned for harbours amount to £710,995, of which £117,600 has been advanced by way of loan. Several large schemes already accepted in principle are under consideration or im-

pending. For inland navigation £29,500 has hitherto been lent, and it is anticipated that £150,000 may be sufficient up to 1916.

The total amount conditionally promised is £2,250,000, and this does not include any provision for future assistance in the reclamation and drainage of land or the improvement of rural transport. The Commissioners, therefore, have no alternative but to repeat their previous warning—that it will be necessary shortly to abandon or cut down several of the most beneficial schemes assisted from the Fund unless Parliament comes to its assistance. The Commissioners are bound to state the facts, with the desire that all concerned should appreciate the situation some time before it becomes practically urgent.

THE SCIENCE OF LIGHTING.*

By W. S. LOYD.

It was an early June morning when real red-breasted robins were piping their matins in the tree-tops which stretched their heads from the valley below to the casements of the windows before which we sat in the laboratory of a great lamp-making establishment discussing lights and colours, sunbeams and the spectrum, especially as the question of light applied to the modern home, the picture gallery, and the art museum.

He was M. Luckiesh, Light Expert Extraordinary, I should say, at the National Electric Lamp Association, Cleveland, Ohio, author of brochures on "Light and Art," "The Influence of Coloured Surroundings on the Colour of the Useful Light," and many other interesting topics.

NEW ERA OF COLOUR.

"We are on the threshold of a new era in colour usage," Mr. Luckiesh declared with enthusiasm. Everything points to this demand for a wider, bolder use of brilliant hues for the very sake of colour alone.

"The day of colourless architecture I believe is on the wane, as the increased demand for tile and terracotta indicate. The widespread use of vivid colouring in feminine attire has a natural cause in our love for beautiful effects in clothing. The eye refreshes itself in bright effects as our delight in sunsets, in autumn foliage, in the rainbow, in tropical plumage and verdure testify.

"But this is all out-of-door lighting," I venture. "How should the light of the sun and sky be reproduced in our homes and picture galleries.

"That is indeed a question, for the proper lighting of a work of art should be the final touch to complete the picture, for the artist evidently had in mind a certain definite mood which he intended to convey on his canvas. If this mood is destroyed by the influence of colour surrounding his picture, or the colour of the light thrown upon it, he might as well have never painted it. As I have said, the lighting of a work of art should add the final touches. By varying the direction, quality, and quantitative distribution of light many effects, pleasant and unpleasant, can be produced. Therefore the lighting should be the result of the same thoughtful study as characterised the use of the chisel or brush during the evolution of the product of the sculptor or painter. Light has been termed 'the soul of art,' but oddly enough artists have given the illuminating engineer little data to assist him in the æsthetic field. It is strangely true that artists have often shown an antipathy to science, and this in spite of the fact that the problems they must face often require for their solution an accurate knowledge of many laws of light and vision. This makes it necessary for the lighting expert to call on his own resources, which, if lacking, must be developed.

"And let me say right here that most illuminating engineers are empiricists. I do not care where you find them, they are always talking and thinking in such unemotional terms as watts per square foot and efficiency. They go around a room with their eyes on

* From the "Ohio Architect."

the floor measuring the square feet in order to arrive at some mathematical solution for lighting a wall they have never looked upon. This is no doubt due to the fact that a great deal of lighting can be done in this empirical manner. But much of it cannot. Before the lighting expert can enter the domain of art lighting, however, he must be prepared to look with the artist out of 'the eyes of his soul' and learn to think in emotional terms. Art cannot be manufactured, and art-lighting will not be successful when applied by 'rule of thumb.'

EFFECT OF LIGHT MOST IMPORTANT.

"The effect of any light upon an object is obviously our means of visualising it; but the importance of the direction, quality, and distribution of light upon an object is but little understood or appreciated. Progress in the art and science of illumination can be made, therefore, mainly by studying the means of varying these factors and the effects obtained. Light and shade or the distribution of brightness over the surface of an object depends upon the direction of the light rays, or the quantitative distribution of the light flux. Colour in the fabrics you buy at the stores, or even the Corot or Turner which you see at the galleries, depends largely upon the quality or colour value of light falling on the object.

"In other words the effect transmitted to the beholder is not wholly inherent in an object itself. It depends to a remarkable degree upon its environment. When we go down to the laboratory I will show you how wide a range of colour a single object may assume under the least variation of the light. We will see that fabrics cannot only be made to assume many tints by varying the quality of the light, but even by varying the colour and brightness of their surroundings.

"The main object of artificial lighting is, of course, to prolong the daylight, and if you will permit me to differentiate between sunlight and daylight I can assure you that we have already produced an artificial sunlight which is scientific not guesswork sunlight. I mean by that that its analysis under the spectrum is true sunlight. It required many years of experiment to produce a Mazda lamp that would do this; but I will show it to you in a moment."

Proceeding into one of the laboratories Mr. Luckiesh pointed out a large glass globe of a peculiar bluish tint, having apparently another globe within containing the lamp filament, and, turning on the light produced a light as colourless as the direct rays of the sun on a field of snow.

"But sunlight, you see," Mr. Luckiesh at once proceeded to explain, "is a very different thing from daylight. Daylight ranges all the way from sunlight to blue sky. It is 80 per cent. direct sunlight and 20 per cent. reflected skylight, that is, indirect or diffuse light. So we have all sorts of grades of daylight. For that reason this glass is modified to produce any phase of daylight from late afternoon to blue sky.

IMITATING DAYLIGHT.

"Daylight is so commonly demanded in stores and factories that we need, either cloth fabrics, dry goods or to know them, wallpaper, paints, and so on, where exact gradations of sunlight are required. It is also required in the home, in the mill, lithographing shop, and in factories, sugar refineries, and art galleries, in a very wide range of buildings, as you see."

"For general store lighting a light of a colour midway between artificial light and sunlight seems advisable."

"For industrial processes and art galleries, where accurate colour matching is required, a general light of the colour of sunlight is obtained."

The glasses of the very highest efficiency possible for obtaining the desired effect, and has been brought to this stage of perfection by long research. It is the best work in man's effort to become independent of daylight, and I am giving you the first view of it, for the lamp you see now has not even been catalogued yet."

"But we were discussing the position of lights on pictures; in our homes and galleries," I ventured.

"So we were, and I would like therefore to say something about effect of direction and quality of light upon those departments of the fine arts as are represented by form or space. I refer to sculpture, architecture, and painting.

LIGHTING WORKS OF ART.

"Sculpture has been defined as modeling or shaping art whose function it is to express and arouse emotion by imitation of natural objects and principally the human body in solid form, reproducing either true proportions in three dimensions, or their proportions in two dimensions of length and breadth only with a diminished proportion in the third dimension of depth or thickness.

"Solid modelling and real light and shade are special means which the sculptor alone among the imitative artists enjoys. Single outlines are the means which the sculptor enjoys in common with painter, and when we consider work executed in very low relief it is evident that the principle of such work is not the principle of sculpture at all. Its effect does not depend on qualities of surface light and shadow, but rather on qualities of contour as traced by a shadow on the side away from the light source and a line of light next to it. Bas-relief approaches the graphic art or painting—the third dimension is very short of its true proportion.

"In truly three-dimensional sculpture lights and shadows within the boundary lines are quite essential. This means there must be directed light on this class of art production. The directed light may come from a small or large source, depending on the effect desired. Likewise the direction is of importance. Let us take this head, said he, pointing to the father in the Laocoon group. In this case the expression should be one of intense pain or terror, most readily shown by bold, sharp shadows from point sources properly placed. All the point sources shown in these photographs were about 20 in. in front of the vertical plane on which the object was hung, as we will see for ourselves when I shall reproduce the object for you in the laboratory."

This Mr. Luckiesh proceeded to do. First the lights were flashed on the cast from above, and this is the light one generally gets upon the original in the Vatican and upon the plaster reproductions in most of the art museums, for he is compelled to look upward at the group against the light which comes in from above. The expression thus you will see is far from expressing the pain and terror expected. Extinguish these high lights and turn the light on from beneath, reversing the shadows, and the effect is startling. Even with alternate side illumination the change in the expression is more than would be expected.

LIGHTS AND SHADOWS.

"One of the high authorities, Flaxman"; Mr. Luckiesh went on to say, "tells us concerning the quantity of light and shadow in a group that if the light be one-third and the shadow two-thirds the effect will be bold. If the light be one-fifth and the shadow four-fifths it will be still bolder and accord with the tragic or terrific action; but the more general effect of sculpture is two-thirds of the light on the middle of the group, with a small proportion of very dark shadow in the deep hollows.

"This rather vague statement is the most definite I have found expressed by art students on the subject of light and shade, in sculpture. According to it there should be considerable shadow both in the above group and the architectural capital I am about to show you.

It is already evident that a preponderance of badly diffused light is undesirable in sculpture. However, a certain amount of diffused light combined with a preponderance of directed light is necessary in attaining the most desirable illumination and with the head lighted as in the last figure, only 3 or 4 per cent. of the total light need be directed

on the dark side towards the dark side to greatly enhance the value of the result.

"In the illustration of a Saint Cecilia head were shown some effects upon a very low relief of pure white.

LIGHTING AND ARCHITECTURE.

"The direction and quantitative distribution of light also affects the appearance of architectural designs. A moulding or capital will change wonderfully in appearance when the position of the light is varied, and diffused light to obliterate detail is obviated by the application of a final tinted coating, which remains more thickly in the deeper recesses, thus simulating shadow.

"The function of architecture is to express and arouse emotion by combinations of ordered and decorated mass. Here the direction of the incident light is of less importance than in purely sculptural art, although it is safe to abstain from the use of too much diffusion of the light. The use of a tinted surface-coat will also in this case tend to mitigate the evil of too much diffusion of the incident light. The appearance of a moulding, when lighted from various directions, is also striking.

PAINTING.

"So far the effect of the quality of light has not been considered. This has been reserved for treatment while considering the subject of painting. Purely conventional decorative painting is not affected by the direction of the incident light, but the quality of colour-value of the light is of importance. There has been so much written on the colour-distortions produced by various illuminants that no one would think of illuminating decorative painting with light sources so poverty-stricken in various spectral regions as the mercury-vapour lamp. Under most artificial illuminants the colours simply shift further toward red than when illuminated by daylight. That is, a deep yellow would appear as orange, a bluish purple would change to a reddish purple, and a blue would appear black, while a red would appear brighter. In purely conventional decorative painting these shifts are not usually dangerous. It should be remembered, however, that colours have no definite or fixed existence of their own, once they are out of the tube, because they are so influenced by their surroundings and so affected by the quality of the light which illuminates them. In this class of decoration apparent variations in light and shade have been produced by augmenting certain colours by directing a certain amount of properly coloured light upon them. It is evident that enriched coloured effects likewise can be thus obtained.

MURAL PAINTING.

"Mural painting occupies a position midway between purely conventional decorative painting and the realistic easel picture. It must be so real that it tells its story, but not so real as to destroy the flatness or solidity of the surface. It is an adjunct to architecture, and, as such, it is the applied art of painting, in the highest sense of the term. It becomes of interest to the illuminating engineer because it is peculiarly dependent upon its surroundings. The mural painter must not only consider the form and position of the space which the painting will occupy, but he has not availed himself of all the possibilities if he fails to consider the colour of the surrounding walls and the quantity, quality, and direction of the light which it will receive. But suppose the mural painter has recognised all these things and has completed his work. To what avail are his plans if the illuminating engineer enters later, remodels the system of lighting according to empirical rules, paying attention to watts divided by areas instead of direction and quality of light? That is one place where empiricism will not succeed, unless by accident.

"In the easel picture the art of painting reaches its highest development. Here direction, quantity, and quality of light play very important parts in the final expression of the work. Badly-illuminated paintings are

so common that all of us can recall many cases. It is true that paintings are well illuminated with difficulty. Much diffused light eliminates the undesirable results of glare, due to specular reflection.

"But there is another side worthy of consideration. Experiments indicate that each picture is most satisfactorily illuminated by a direction and quality of light specially adapted to it. Perhaps the artist has produced his work in diffused daylight incident from above. He has chosen his values of light and shade, likewise his colours, and is satisfied with the completed picture. But perhaps the purchaser has other ideas. It is very evident from these experiments that a painting can be made to various expressions by varying the direction and quality of the light.

"Art museums," Mr. Luckiesh concluded, "are usually badly lighted, since there is one general light for pictures painted under various light conditions, all different from that under which they are finally viewed. Each picture should have its own specially treated light, in order that, as nearly as possible, it may be seen under the daylight conditions of its original production. The lighting artist is able to create these conditions. He is also able to supplement for the painter the limitations imposed upon the latter by his pigments, while the benefit he is able to confer upon the owners of dimmed old canvases, transformable into luminous masterpieces, is incalculable."

PAINT ON CEMENT OR CONCRETE SURFACES.

A paper on "Paint Protection for Portland Cement Surfaces," by H. A. Gardner, Washington, D.C., has for its object the determination of what constitutes a suitable paint for the protection and decoration of exterior and interior stucco walls constructed of Portland cement, and for decorating and rendering wearproof Portland-cement floors. In April, 1912, Mr. Gardner instituted in Washington a series of tests to determine the durability of various types of paint upon Portland-cement surfaces exposed to the weather. The panels for the tests were prepared by constructing a long board wall to which was fastened expanded metal. A mixture of 1 part of Portland cement and 2 parts of clean Potomac River sand was made and applied to the expanded metal, forming a cement wall 3in. in depth. The wall was divided into 35 sections or panels, each 30in. wide and 40in. high. Three coats of paint were applied to each panel by a practical journeyman painter. In order to make the test more severe, nearly all of the paints were applied in white. (Tinted paints are known to be much more durable than white paints.) A strip of chrome green, 6in. wide, was placed over the top of the third coat of paint, in order to determine whether or not the lime which might be present on the surface of the cement would have any effect upon the paint coating. Fading of the green to a yellow would indicate such action. A priming coat of 25 per cent. zinc sulphate solution was applied to the panels, to neutralise any free lime; but this is held to be unnecessary if the surface is dry when painted and if it will not be exposed to the weather.

The tests showed that the amount of free lime in fairly dry cement surfaces does not adversely affect high-grade oil paints. The tests also showed that zinc sulphate may be used with excellent results as a primer to neutralise free lime in damp cement surfaces which are to be painted. Opaque white pigments, such as basic-sulphate white-lead, basic-carbonate white-lead, zinc oxide, and lithopone, were present in the paints which gave the best results. In some of these paints there was present a percentage of inert pigments, such as barytes, astbestine, whiting, china clay, gypsum, and silica. The sealing of varnish paints, which developed in several tests, apparently showed that resinous paints are not well suited for cement surfaces.

The oil paint is not attacked by the dry cement, and holds both texture and colour. Equally satisfactory results were obtained with boiled linseed oil, mixtures of raw and boiled oil, and mixtures with Chinese wood oil. Such simple paint coatings were also found to be excellent for concrete floors, being durable, wear-resisting, and dust-preventive. The results of these tests are quite in line with the results obtained by Ware and Schott in a series of paint-exposure tests made upon exterior concrete surfaces. They also agree with previous long-time exposure tests made by the author.

As a result, therefore, it can be stated that excellent results may be obtained by treating cement walls or floors with paints made with raw and heat-treated linseed and Chinese wood oil, containing durable, wear-resisting pigments. When the cement surface is freshly laid and damp, such paints may be safely applied, after treating the cement with a zinc sulphate primer. The general results of the tests at the end of a two-year period, together with an outline of the composition of the paints tested, is given as follows:—

Class No. 1.—Single-segment paints made with white-lead or zinc oxide ground in pure linseed oil. (These paints are in very good condition throughout.)

Class No. 2.—Combination-pigment paints made of mixtures of white-lead, zinc oxide, or similar pigments ground in pure linseed oil. (These paints are in generally excellent condition.)

Class No. 3.—Combination-pigment paints ground with mixtures of raw and heavy-bodied linseed oil or with treated Chinese wood oil. The viscosity of these oils requires the use of considerable turpentine or other thinner in the manufacture of such paints, in order to make them of the right viscosity for application. Semi-flat surfaces are therefore produced during the drying. (Most of added are in somewhat better condition.)

Class No. 4.—Single and combination pigments ground in oil varnishes containing acid resins. (These paints are checking and sealing in many spots. Such varnish paints are apparently not suited to exterior exposure.)

Class No. 5.—Paints containing resins dissolved in volatile spirits (spirit varnishes) with or without pigments. (These paints are not giving very satisfactory service, the clear varnishes having entirely decayed in some cases. Those to which pigment has been added are in somewhat better condition.)

Class No. 6.—Paints made with single and combination pigments ground in a water medium containing glue or casein as a binder. (These paints are chalking rapidly and are not moisture-proofing the cement. The pigment binder has been destroyed by the weather.)

Mr. J. H. Tunmer, a former headmaster of the Southampton School of Art, has passed away, aged 74, at Colombes, in France, to which country he went on resigning his position.

The Road Board have promised to defray half the cost of the construction of a road from Port Talbot into the Glynecorrwg district. This work will be undertaken by the Margam and Glynecorrwg Urban District Councils at an estimated cost of over £24,000.

The rural district council of Pebworth have received the sanction of the Local Government Board to a loan of £2,275 for a housing scheme to be carried out in the village of Cow Honeybourne, and the clerk has been instructed to complete the purchase of the land.

In the grounds of the Glebe House, Little Hornead, near Buntingford, is an ancient tithe-barn, 110ft. long by 26ft. broad; it is constructed of timber, and has a thatched roof. This has been converted into a Roman Catholic chapel and presbytery. The character of the old building has been preserved as much as possible; the roof posts and timbers have been left, the old wood work strengthened, and one or two windows added. The old chalk floor has been levelled, covered with concrete, and boarded. English oak has been used for woodwork. The building is lighted by electricity, and heated by hot water. The altar in the chapel is of Bath stone, and the confessional is of oak. On the wall behind the altar is a carved wooden crucifix.

OBITUARY.

The death took place on Saturday of Mr. James Moffat, J.P., of Cressingham, Sparkbrook, Birmingham, a member of the firm of James Moffat and Son, builders, Camp Hill. He was eighty-one years of age. Mr. Moffat was the founder of the firm which built the Camp Hill Grammar Schools, and many of the business premises about the centre of the city and the large Edgbaston residences. In 1906 he was made a magistrate of the city of Birmingham, and was one of the most regular attendants on the bench. For many years he filled the position of bailiff of the St. John's foundation, Deritend, and took a leading part in the reconstruction of the charities about thirty years ago. A Liberal Unionist, he unsuccessfully contested the Bordesley Division for a seat on the City Council some years ago. He leaves two sons and two daughters.

CHIPS.

Mr. C. K. Henderson, of Westbury, has been appointed surveyor to the Pewsey Rural District Council.

A new church in Norton Way, Letchworth Garden City, has been formally opened. It has been built at a cost of over £5,000.

The Local Government Board have sanctioned the application of the urban district of Llandudno for leave to borrow £13,195 for the provision of golf-links, and £4,855 for a housing scheme.

The urban district council of Buxton have decided to rebuild the natural baths during the coming winter at a cost of £15,000. St. Anne's Well and the hot-baths establishment have just been rebuilt.

The corporation of Newcastle-on-Tyne are about to carry out the widening of the North-road between Clayton-road and the city boundary at Gosforth. It will cost about £15,710, towards which the Road Board will contribute £5,000.

The Rochdale Town Council, in committee on Thursday last week, approved an agreement with a Bradford firm for installing at the Roch Mills sewage works a new plant for the treatment of sewage sludge.

The drill hall which is being erected at Winnipeg for the Dominion Government, at a cost of 500,000dol., has reached the roofing stage. The general contractors are Messrs. Carter-Halls and Aldinger, of Winnipeg.

The urban district council of Stroud have decided to apply to the Local Government Board for consent to borrow £500 for the purchase of 2½ acres of land on the outskirts of the town on which to erect workmen's cottages.

The thirty-ninth annual report of the Public Works Loan Board states that the Commissioners during the financial year 1913-14 made 1,982 advances for sums amounting together to £4,610,733, as compared with 1,712 advances for £4,554,683 in 1912-13.

A faculty was granted on Tuesday in the York Consistory Court to the Vicar of Selby to erect a marble, alabaster and mosaic tablet in the north transept of Selby Abbey to the memory of Mr. William Littlewood, who died on December 22, 1913.

The modern cross at Banbury, built in 1859 on the site of the Mediæval structure, has been "completed" by filling three empty niches with statues of Queen Victoria, King Edward VII., and King George V., in commemoration of King George's coronation.

Foundation work on the Earncliffe Apartments has been started at Toronto. The new building, which is estimated to cost 500,000 dollars, will be eight stories high, of steel and brick construction. The architect is Mr. N. G. Beggs, and the general contractors are Messrs. Deeth and Son Toronto.

The War Office are about to acquire land at Burdop, near Swindon, for the erection of barracks. The site is a part of South Farm, a mile on the Gizebourne side of the village of Chiseldon, for the buildings, with a quantity of other land for training, the whole being about 30 acres. The nearest station is Chiseldon.

The corporation of Wigan have decided to apply to the Local Government Board for sanction to borrow £27,185 for building 138 workmen's dwellings in Malverley-street and for the construction of the streets in connection with the scheme. The plans have been prepared by the borough engineer, Mr. A. T. Gooseman.

Currente Calamo.

As will be seen elsewhere, the Government has promptly acknowledged the patriotic offer of the Architects' War Committee on behalf of the whole profession to help in this national emergency in any direction which may be found practicable and desirable. We trust opportunities will not be lacking, and are sure that they will be embraced with eagerness. We also take the opportunity of congratulating all our readers—and they are many—who have individually found themselves able to join the King's forces, and so render the best service possible at the moment. From the ordinary members of the profession and their brethren in the service of the municipalities and kindred authorities the response has been most creditable, and we rejoice at it, and wish every recruit good luck and every chance of proving to the braggarts in Germany that devotion to art and genuine culture—not the varnish which thinly hides the native brutality of the butchers and torturers of unarmed non-combatants and the wreckers of the monuments of Louvain and Malines—is among the best guarantees of the true patriotism that readily responds to the call of a free nation, but is not to be coerced into the ranks of slavish militarism.

Creditors in the Building Trades should make a note of some remarks of the Inspector-General in Bankruptcy in his recent Report for the year 1913. For in a few lines he indicates some effects of the new Bankruptcy Act, which has been in operation since April 1 last. Under the former system a common trick of the accountant or solicitor advising an insolvent debtor was to get his execution of a deed appointing a trustee and assigning all his assets to the accountant as trustee. With this deed done, a meeting of the creditors was called, and they were then faced with the dilemma of either accepting the position and allowing the deed to be worked out, practically on the debtor's own terms, or going to the trouble, expense, and risk of making him bankrupt. But since April 1 this sort of bandit way of doing business has been checked. Under the new Act a deed of arrangement or assignment has no sort of validity unless and until it is assented to by a majority both in number and value of the creditors concerned. In future, therefore, a deed of assignment executed only by the debtor and a trustee, with perhaps one or two creditors, is of no value, and cannot be presented as a pistol at the head of a meeting of creditors. The effect of the said Act during its four months' working to the end of June has already been to reduce the weekly average of fifty such deeds to some thirty-three, and when the existing law is better known there will be a still greater fall in these totals.

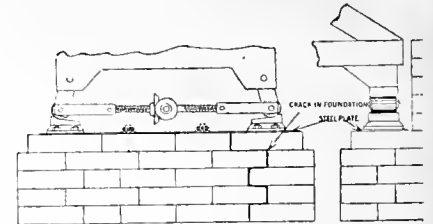
Architects and surveyors will do well to ask companies in which they insure fire risks how much of the amount is re-insured in German offices. The *Globe* last Monday stated that at least four millions per annum is paid to German companies, nineteen of whom it names, which have branch offices in London. There are plenty of British and Colonial companies ready to take these risks, and fire insurers should very seriously ask themselves whether property nominally covered by British offices, but really re-

insured—the *Globe* says to the extent of four-fifths—in German companies, is safe, after our recent experiences of German perfidy and the value attached to "scraps of paper." We suggest that at once every policy-holder should ask the company he is assured in if, and to what extent, his policy is covered by German offices, and if he gets an evasive answer, or anything short of a definite assurance that not a farthing is so remitted, that he should promptly transfer the policy to another office. British companies, moreover, which do not thus shift their liabilities on to German shoulders should promptly make it known. Some of them already, we fancy, must be asking themselves what the guarantee is just now that a single penny of any loss would have been paid by any German or Austrian office.

By the way, auctioneers and others—some "architects" do it—who add insurance agency to their ordinary business will do well to notice that it is a criminal offence at the present time to make people's flesh creep with the view of screwing proposals out of them. A case which excited a great deal of public interest in the neighbourhood was heard at Harwich Police-court on Tuesday. Herbert Booth, auctioneer and estate agent, Dovercourt, was summoned for dispersing certain printed leaflets without the printer's name and address, and Albert Edward Byles, Dovercourt, was summoned for printing the leaflets without adding his name and address. The leaflet purported to contain an extract from "Lloyd's" letter, dated August 22, 1914, opening with a reference to insurance rates for business premises, private houses, furniture, etc., and it continued: "We think it will be apparent that rates are bound to go up, in view of the indisputable advance of the Germans in Belgium, and we know people will be well advised to insure at present rates immediately." Another passage ran: "The news we have is doubtless two or three days old, and in all probability the enemy is even now occupying Belgian ports, with a view to bringing her fleet through the Kiel Canal down to the said ports, which would aid her, and, in fact, render practicable what appears to be her purpose—viz., a blow at this country covered by a feint at France."—Counsel said it was well it should be known that it was a criminal offence of the most serious character at the present time for any person to spread reports likely to cause alarm among the civil population. Mr. Booth said the circular was not the wording of his firm, but was an exact copy of a letter received from Lloyd's.—Mr. Humphreys observed that it was absolutely untrue to say that the corporation of Lloyd's had issued such a statement. He had evidence he could call on that point if necessary.—Mr. Booth said it was a copy of a letter received from Lloyd's or a member of Lloyd's.—The other defendant pleaded that the work was executed in a hurry, and he was not in sympathy with the statements contained in the circular. He acted quite innocently in the matter. The Bench fined Byles £1 and costs and Booth four guineas and costs.

Mr. J. G. Koppel, Superintendent of Bridges at Sault Ste. Marie, Ontario, Canada, describes in "Railway and Locomotive Engineering," a clever bridge repair, which may be found noteworthy in connection with other structures. A crack

developed in the foundation of the bridge crossing the ship canal at Soo, Ontario, as shown, which amounted to fifteen-sixteenths of an inch. A $\frac{1}{2}$ in. steel plate was made in three sections, and drilled to fit on the jack-shoe bolts, and one jack-shoe at a time was removed and the plate laid in place and the jack-shoe replaced. When both plates were secured in position, then the centre-plate was put in and the bolts screwed down, and



when all were in tension the masonry was drawn into its original position, while a mixture of cement was poured into the crack, which made a very good job, as the foundation is now apparently as good as could be desired, and safer than the original structure, as nothing short of an earthquake could move the steel plate that was added to the structure. Not only so, but it is evident at a glance that a new idea has been added to structures of this kind. Masonry under direct vertical pressure is always reliable, but under slightly horizontal pressure of an intermittent kind, such as is caused by the oscillation of a heavy locomotive and attached train rounding a curve, the tendency of the masonry to crack or dislocate is very great, and a reinforcing plate should be used.

All our readers, who, with ourselves, have been many times indebted to his kindly readiness to give information, or furnish us with illustrations, will regret to learn that Mr. W. T. Oldrieve, Principal Architect for Scotland to H.M. Office of Works, has retired. An able architect and a discriminating but zealous archaeologist, he has rendered yeoman's service to Scottish art for many years. His restoration of the roof of Glasgow Cathedral, which we fully illustrated at the time, was a triumph of its kind, and was effected at the remarkably low cost of £14,000. His discovery of David's Tower at Edinburgh Castle has been described as "the most interesting thing that has occurred at the Castle since the discovery of St. Margaret's Chapel fifty or sixty years ago by Daniel Wilson." Other parts of the Castle have enjoyed new stability as a result of his labours, while Holyrood Palace, together with the Chapel Royal, has been given a new constitution, so that, as Mr. Moir Bryce recently remarked, its walls will stand for centuries to come. Stirling Castle, St. Andrew's Cathedral and Castle, Elgin Cathedral, Dunfermline Abbey, Arbroath Abbey, and Newark Castle were among the many historic buildings which have come under his care. Mr. Oldrieve was educated at Mansfield Grammar School, and in 1885-6 attended the architectural section of the Fine Art Class at Edinburgh University, gaining a class medal and the Cousin Prize. In 1886 he won the Godwin Bursary of the Royal Institute of British Architects and spent a considerable period in a sketching tour on the Continent. He had already gained first place in 1881 in the open competition examination as assistant architect and surveyor in H.M. Office of Works, and in 1890 was appointed official architect at H.M.

Office of Works, London, for provincial post-offices in England and Wales. It was in 1904 that he was promoted to the position in Edinburgh which he is now resigning. He was appointed a member of the Royal Commission on the Ancient Monuments of Scotland at its formation in 1908. In 1912 he was elected a vice president of the Society of Antiquaries of Scotland, and an hon. B.S.A. this year. Since his appointment as head of H.M. Office of Works in Scotland he has carried out many new works of architectural importance, including Glasgow new Parcel Post and Telephone building, costing £75,000; Kilmarnock new post-office, £11,000; Lerwick new post-office, £9,000; Oban new post-office, £8,000; Edinburgh General Post Office extensions, £66,000; Glasgow Head Post Office extensions (not quite completed), £70,000; Telephone Exchange buildings, Glasgow and Edinburgh, £27,000; Eskdalemuir Magnetic Observatory, £24,000; Edinburgh Royal Scottish Museum extension (in progress), £50,000; Royal Scottish Academy reconstruction, £18,000; National Gallery reconstruction, £9,000; Edinburgh Courts of Law extension and alteration, £24,000; and Labour Exchanges for Glasgow, Edinburgh, and Dundee, £33,000. It was Mr. Oldrieve's intention to visit New Zealand immediately after his retirement, and to return to Edinburgh after six months' absence and undertake practice as an architect and surveyor, owing, however, to the war, this tour has been in the meantime abandoned.

Birmingham will be sorry to learn that the family intend to sever their connection with the house at Highbury which the late Mr. Joseph Chamberlain built for himself and dwelt in during the last thirty-four years of his life. Up to 1880 Mr. Chamberlain resided in Augustus-road, but in 1879 he acquired about seventy acres of land at Moor Green, and there he built Highbury—so named after his old home in London. It was designed by Mr. Chamberlain's friend, the late Mr. John Henry Chamberlain, and the grounds were laid out by Mr. Milner, an expert landscape gardener, who had also arranged the gardens at Southbourne, in Augustus-road, Mr. Chamberlain's home during his mayoralty. The house is thickly covered with ivy and other creepers. The garden slopes to the valley below, and most of the windows face south and west. The entrance-hall and Mr. Chamberlain's library are perhaps the two most interesting features of the house. The library is fitted with the fine-oak ceiling and panelling designed by the architect; but the ample shelving long ago was found insufficient for the innumerable books, which for many years past have overflowed into other rooms. In the gallery above the hall, out of which most of the rooms open, are hung two portraits—one of Mrs. Chamberlain, by Millais, and the other of Mr. Chamberlain, by Sargent.

Exporters of cement to Australia will not welcome the announcement that Portland cement is now being made at Darra, ten miles from Brisbane, on the southern main line of the railway. About 14,000 to 15,000 tons of coal will be consumed in the manufacture of 30,000 tons of cement (this being the suggested present capacity of the works). The consumption of Queensland cement during 1913 was 36,000 tons. The wholesale net price of cement on wharf in Brisbane is 74s. 8d. per ton; the lowest price during the

past year was 68s. 3d. The cost of the company's cement delivered in Brisbane is estimated at 40s. 1d. The whole of the Portland cement consumed in Queensland is imported, about 10 per cent. of the total from Europe and the remainder from New South Wales, Victoria, and New Zealand. The demand for cement for constructive works of all kinds is increasing so rapidly in Australia that there is frequently a shortage of supplies, and as all facilities for its manufacture are to be found in close proximity to Brisbane, and there is the protection of a high tariff and substantial freights, the establishment of the industry in Queensland shows great promise.

The Caxton Publishing Co., Ltd., Clun House, Surrey-street, Strand, W.C., issue Section Four of "Home Interiors," by R. Goulburn Lovell, at 15s. The work is in every way equal to the previous excellent Sections, which we have already recommended to all designers and decorators. It includes coloured drawings and full working instructions for the decoration of a grey and blue hall living-room, and a green and purple splat bedroom, with decorative scheme and window scheme for both, in fac-similar water-colour, and half-full-size details of both.

The Hackney Borough Council has been authorised to borrow £15,750 for the extension of its electricity-generating plant.

The corporation of Croydon are applying to the Board of Trade for sanction to construct a double tram-track from Selhurst Station to Princess-road at a cost of £2,550.

Mr. H. Holmes, M.Inst.C.E.I., borough engineer of Ossett, has been called in by the Elland Urban District Council to report on future extensions at the sewage-disposal works.

The urban council of Portrush have under consideration plans prepared by Messrs. Henry and Clarke for a proposed town technical school and public baths estimated to cost over £17,200.

The town council of Torrington have received the sanction of the Local Government Board to a loan of £11,000 for the housing scheme. In view of the war, it was deemed advisable to postpone inviting tenders for at least a month.

Mr. H. C. Phillips, of Eastleigh, surveyor and sanitary inspector to the Hursley Rural District Council for the past four years, has been appointed to a similar position under the Mere Rural District Council at a salary of £160 a year.

Mr. Alister H. Forbes, for the past five years factor of Rothesay for the Bute estates of the Marquis of Bute, has been appointed land agent at Cardiff on the Bute estates in South Wales—a post previously held, in conjunction with other appointments, by the late Lord Merthyr, better known as Sir Wm. Lewis.

The Glasgow Corporation sewage committee recommend the preparation of the specification, schedule, and plans for the construction of the sludge-main outside of the Dalmarnock and Shieldhall Works, and the carrying out of the excavations necessary for the third section of the filter-beds. The estimated cost of this section amounts to £33,000.

A large number of the members of the engineering profession having expressed the wish to be allowed to serve their country together in one regiment or battalion, the Institutions of Civil, Electrical, and Mechanical Engineers have under consideration the formation and training of a battalion enlisted from among their members, with a view to its forming part of Lord Kitchener's Army.

Lady Boston, as president of the Welsh Housing Association, accompanied by Lord Boston, Mr. E. T. John, M.P., and Mrs. John, inspected a number of dwellings erected at Carnarvon, under the auspices of the association. Her ladyship also visited some of the slums of the town, and expressed the view that Carnarvon afforded opportunity for further efforts on the part of the association. The party was conducted through the premises by Mr. St. John Hancock, architect to the association.

PROFESSIONAL AND TRADE SOCIETIES.

BRISTOL SOCIETY OF ANTIQUARIES.

—The third excursion of the season was undertaken on Saturday last by members and friends of the Bristol Society of Antiquaries. The destination was the Pensford, Publow, and Stanton Drew district. The churches of Pensford and Publow were inspected. The former, dedicated to St. Thomas of Canterbury, dates back to the 14th century. The font is now the only surviving feature of that period except the tower. During a severe inundation in 1889 the interior of the church was 4ft. under water. Publow church of All Saints' is famous for its fine "Somerset" tower. Inside is a pulpit of carved oak made out of old pews. The party next proceeded to Stanton Drew, noticing on the way a huge recumbent mass of sandstone known as Hautville's Quoit. At Stanton Drew the Rev. A. W. Woolverton acted as guide on a visit to the fine parish church. Mr. Woolverton pointed out the interesting features thereof, including the font, which belongs to the Early Norman period, the lower part of the tower (13th or 14th century), the bosses on the roof (Carolyan or Jacobean), the 15th-century doorway of the porch, and the apparent signs of a 13th-century window in the north wall of the old chancel. The Rev. A. W. Woolverton then directed attention to the famous huge stones, which are in the immediate vicinity of the church. He quoted Dr. Lloyd Morgan as being of opinion that the stones were erected by the Celtic bronze folk (Belgæ), or more probably their Neolithic precursors. It is commonly believed that the stones were erected for astronomical purposes.

ROYAL ARCHITECTURAL INSTITUTE OF CANADA.

—The Royal Architectural Institute of Canada will hold their seventh general annual assembly at Quebec next Monday and Tuesday. At the inaugural session addresses by the Mayor of Quebec, the President of the Quebec Section of the Province of Quebec Association of Architects, and the President of the Quebec Builders' Exchange will be responded to by J. H. G. Russell, President of the R.A.I.C. On the afternoon of the second day V. J. Elmont will read a paper on "The Application of Reinforced Concrete to Dome Structure." Arrangements have been made for complimentary luncheons by the architects of Quebec City, also an automobile trip to the various points of interest in this old historic town.

The rural district council of Balrothery, Co. Dublin, are about to build 104 labourers' cottages, in various parts of their district, from plans by Mr. Anthony Scott, M.S.A., of Upper Sackville-street, Dublin.

Mr. W. Prince, gas engineer and manager at Stoke-on-Trent, has been appointed to a similar position under the Tipton Urban District Council, in succession to Mr. S. O. Stephenson, who lately resigned to take up an appointment elsewhere.

The Anderson Board School at Gilmerton, N.B., was opened by Lady Susan Gilmour on Friday. It has been built for the Liberton School Board from plans by Mr. J. Inch Morrison, L.R.I.B.A., of Edinburgh, and accommodates four hundred scholars.

On the occasion of his leaving Brillington to take up his duties at the University of London, Mr. E. R. Matthews, late surveyor to the Brillington Town Council, has been presented with a silver épergne and two silver vases by the Brillington branch of the Municipal Officers' Guild.

The Rhyl Urban District Council have let a contract for the erection of a new administrative block for the isolation hospital to Mr. A. Torkington, Rhyl, for £596. The Local Government Board have also sanctioned the borrowing of £3,777 for dredging works, £231 for ramping-station buildings, and £168 for new sewerage machinery. The council have also forwarded to the Local Government Board a scheme for a new amphitheatre to cost £4,000, and are now considering plans for the new pier scheme and the laying out of a portion of the sea front in marine gardens.

Our Illustrations.

NEW GENERAL OFFICES FOR THE METROPOLITAN RAILWAY COMPANY, BAKER STREET, MARYLEBONE.

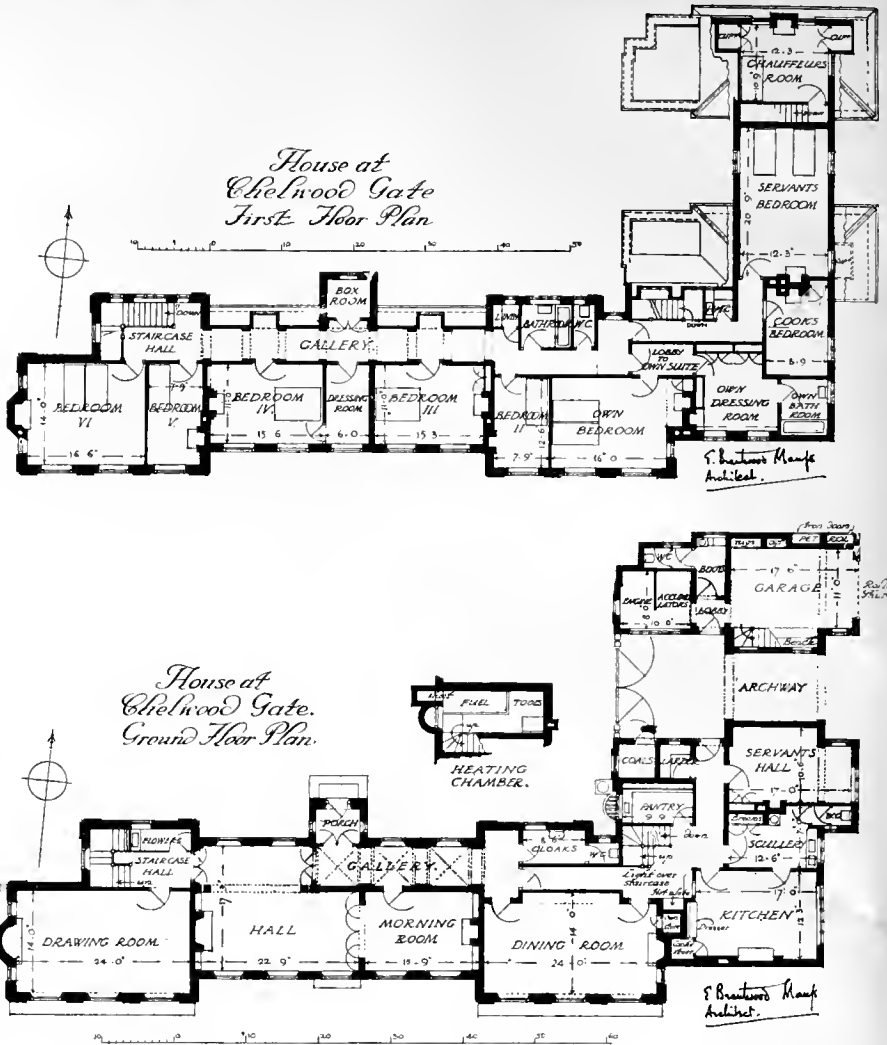
This large building comprises the offices of the Metropolitan Railway, and was completed in the early part of the present year. The construction throughout is reinforced concrete on the Coignet system. The larger portion of the office block being above the permanent way and platforms necessitated the use of fairly large beams for spans up to 60ft. The whole of the walls are in reinforced concrete of a thickness of 5in. The principal elevation is faced with faience, backed with brickwork, and carried at each floor on a reinforced concrete beam. The principal dimensions of the building are as follows: Total length of front, 140ft.; height, measured from foundations to roof, 90ft. The back portion has two wings, measuring respectively 111ft. in length by 38ft. in width and 100ft. by 40ft., the latter being connected with the station booking-hall by means of a footbridge. The structure comprises a lower basement, basement, lower ground floor, ground, first, second, and third floors, and a flat roof. The super load up to the first floor is 150lb. per square foot, the second and third floors 90lb. per square foot, and the roof 40lb. per square foot. The total superficial area of floors and roof in reinforced concrete is approximately 65,000 square feet. The ground floor, which is at street level, accommodates the suites of the principal officers and the board-room, which is planned between two committee rooms and can be enlarged by sliding partitions, to hold the meetings of the company. Automatic lifts are provided in the staircase halls, the south lift descending to platform level, to facilitate the collection and despatch of cash, tickets, etc.; the north lift connecting the accountants' and other departments with the strong-rooms in the basement. The caretaker's quarters, kitchens, and staff dining-rooms, etc., are on the third floor. The general work was carried out by Messrs. H. Lovatt, of Wolverhampton. The lifts are by Messrs. Waygood-Otis, Ltd. This work is one of the many improvements being carried on and around Baker-street Station by the engineer of the company, Mr. W. Wilcox, M.I.C.E. His architectural assistant is Mr. C. W. Clark, A.R.I.B.A., P.A.S.L., and the resident engineer is Mr. O. G. C. Drury, A.M.I.C.E. Mr. Clark's perspective drawing now reproduced was exhibited at the Royal Academy this year.

FOUNDER'S CHAPEL, ST. BOTOLPH'S CHURCH, BOSTON.

This chapel, commonly called "the Founder's Chapel," opens out near the west end of the south aisle, from which it is divided by two arches. The dedication of the building is uncertain, though it is possible that the chapel was built and maintained by the Guild of St. Botolph. In 1856 the American Bostonians subscribed handsomely to the restoration of this building. Until quite recently it was used as a vestry, when presses filled the eastern arched recess. The present arrangements of the chapel, with its new screens, etc., altar, and triptych, have all been executed from Mr. W. Samuel Weatherley's designs. The triptych, the gift of the Misses Storr, of Boston, is of Mr. Alfred Robinson's workmanship and the painting and gilding is by Mr. Chas. Powell. The accompanying drawing, by the architect, was shown at the Royal Academy this summer.

HOUSE NEAR CHELWOOD GATE, SUSSEX.

This house is to be built on the edge of a wood facing almost due south, the walls to be finished in white "American" cement, and the roof to be covered with local handmade tiles. It was wished that every room in the house, including bedrooms, should overlook the gardens and the magnificent view to the south; the servants' quarters being the only



exception to this, in order that the necessary privacy might be gained. The architect is Mr. E. Brantwood Maufe, B.A. (Oxon.), A.R.I.B.A., whose drawing, now given, was shown at the Royal Academy this season.

NEW TERRITORIAL HEADQUARTERS, NEWARK-ON-TRENT.

The new headquarters at Newark contain stores, offices, and drill-hall for the local units, and the building was recently opened. The elevations are of a Late Georgian type of design, and the facings are of sand-faced bricks, with Hollington stone dressings. The design is treated simply and severely, and is well in keeping with the purposes for which the building is intended. The architects were Messrs. Brewill and Baily, F.F.R.I.B.A., of Nottingham. The drawing illustrated was exhibited at this season's Royal Academy.

TRENTHAM HALL, STAFFORDSHIRE.

The accompanying drawing and plan have been lent by Mr. Harold Goldstraw. The Hall, the seat of the late Duke of Sutherland, was abandoned by him owing to the insanitary condition of the River Trent, which surrounds it. Subsequently a scheme was prepared by the County Council to convert the premises into a technical college; but this was found impracticable. Later the duke generously offered the building to the Stoke-on-Trent county borough; but the gift was ultimately declined, on account of the probable high cost of its upkeep, and thus it was that the Hall came to be razed and demolished and carted away. Portions of the house have been re-erected at Lilleshall Hall, the residence of the present Duke and Duchess. The old Hall, of the days of Elizabeth, was built in 1633 on a site of an ancient priory. Later this original house gave place to a brick and stone building, and from time to time additions have been made to it. The Hall, as it recently existed, was

often referred to as an elaborate specimen of the modern Italian style, the house being surrounded by extensive Italian gardens. The late Sir Chas. Barry was responsible for the last addition, including the Belvedere Tower, which is 100ft. high. The Hall itself no longer exists. All that remain at present are the front colonnade and porch, chapel, and stable blocks. Mr. Harold Goldstraw, A.R.I.B.A., of Hanley, measured up the building prior to its demolition, and he has lent us his drawings, part of which we here-with illustrate.

Mr. B. H. Noble, late surveyor to the Alford Urban District Council, has been appointed surveyor to the Farsley Urban District Council.

New council schools at Senghenydd, Glamorgan, built, at a cost of £4,500, from plans by Mr. D. Pugh Jones, of Cardiff, the county architect, have been formally opened.

In his memorandum for 1913, Mr. C. E. Stromeyer, chief engineer of the Manchester Steam Users' Association, gives the result of his researches as to the laws of fatigue in metals. Mr. Stromeyer says he has now established a relationship between the intensity of a fatigue stress and the number of its repetitions up to a fracture.

A four-story building will be erected for the New York Central Railroad Company, New York, just north of the station on the block bounded by 45th and 46th streets, Lexington-avenue, and Depew-place, at a cost of 500,000dol. Plans for this structure are being prepared by Messrs. Warren and Wetmore, architects, 16, E. 47th street, New York.

The Local Government Board have given authority for the preparation of five further town-planning schemes under the Housing and Town Planning Act, 1909. The schemes are authorised to be prepared by the corporations of Burrow-in-Furness, Nelson, and Newport (Mon.) and the urban district councils of Hendon and Otley, and will relate to areas of about 560, 1,325, 80, 5,113, and 411 acres respectively.

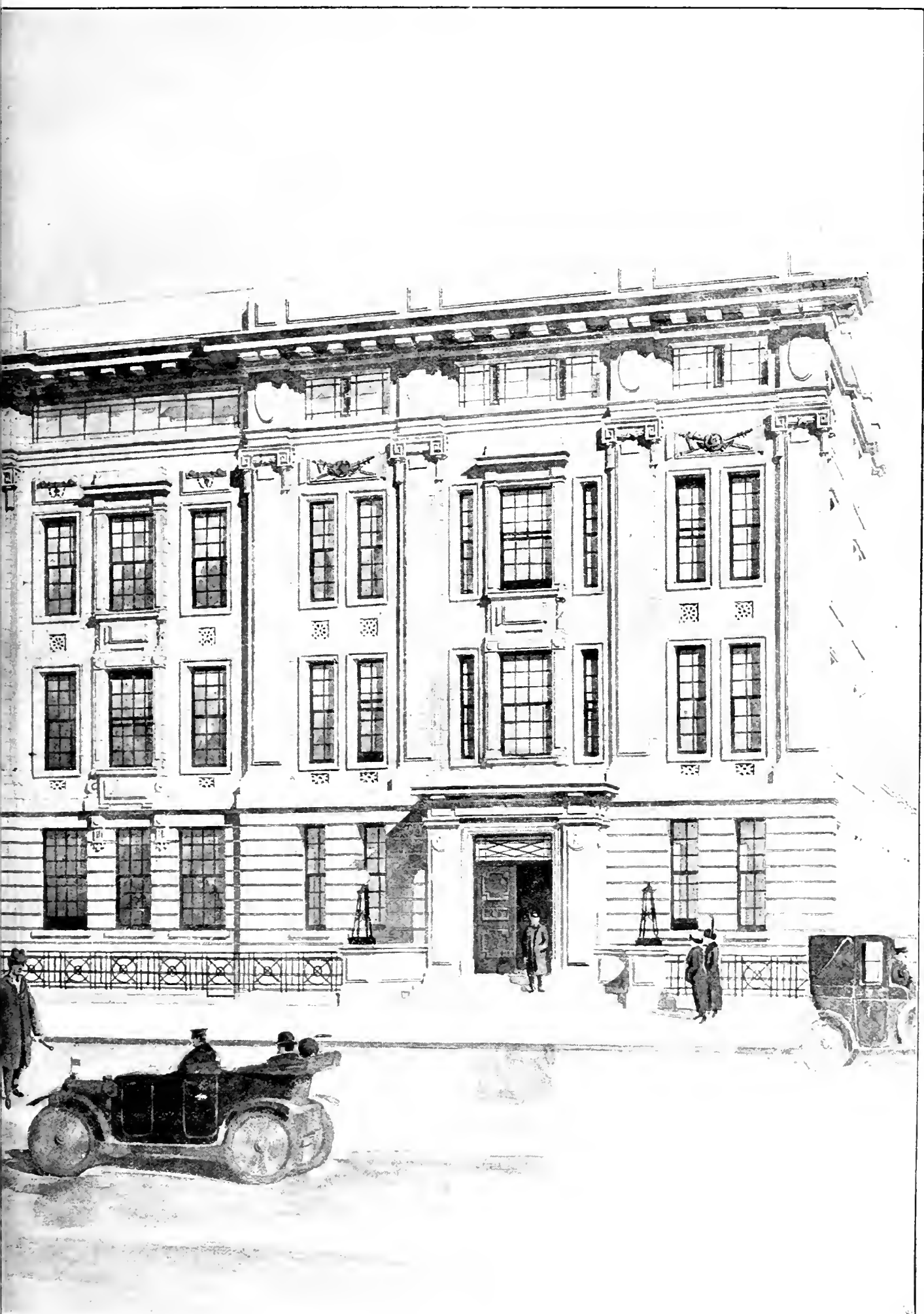
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NEW GENERAL OFFICES, METROPOLITAN RAILWAY, BAKER

SEPTEMBER 18, 1914.

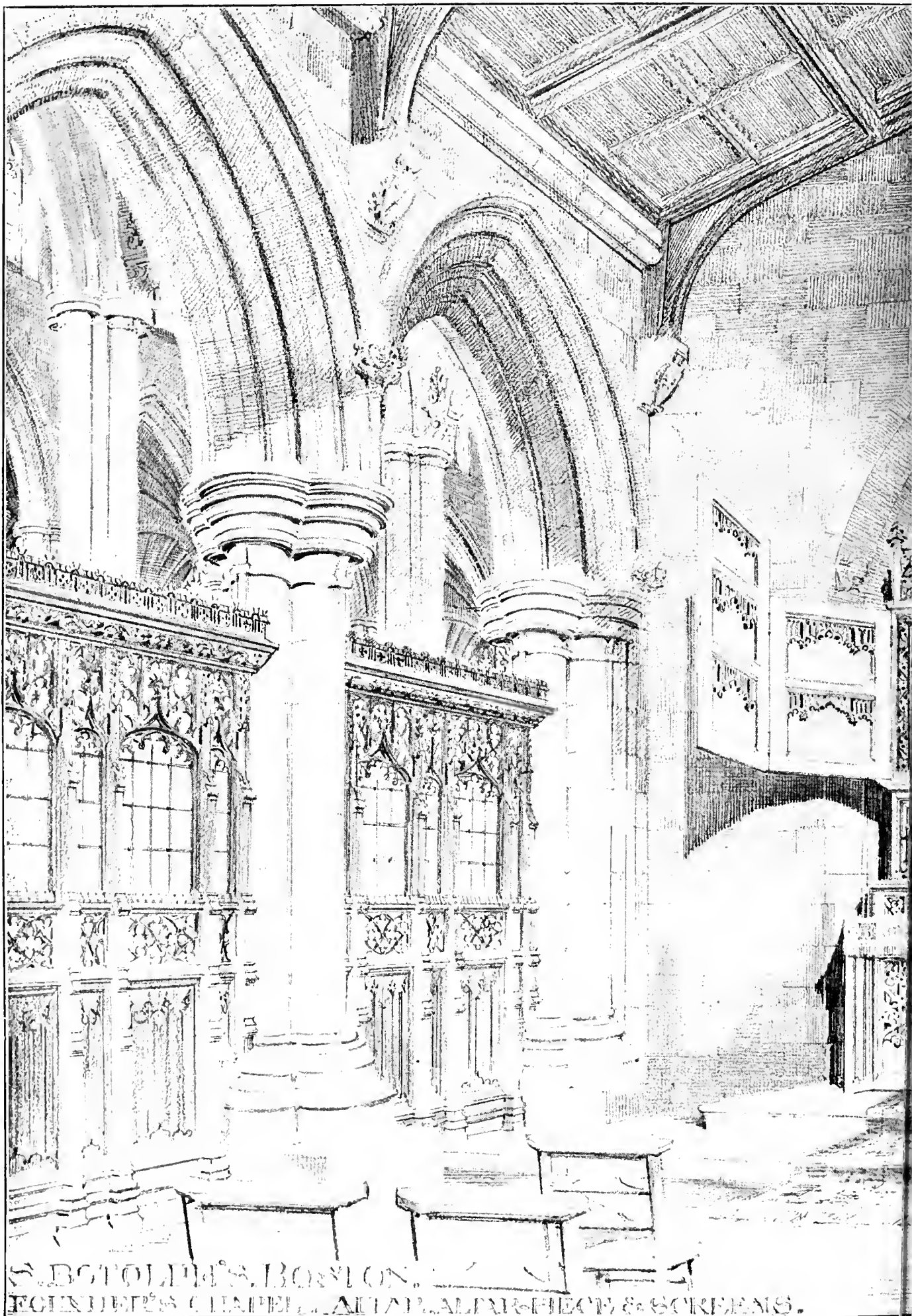


STATION, MARYLEBONE. W.—Mr. CHARLES W. CLARK, Architect.



971-374





S. BOTOLPH'S, BOSTON.
FOUNDER'S CHAPEL, ALTAR, ALTAIR-FLECT & SCREENS.

THE FOUNDER'S CHAPEL, ST. BOTOLPH'S CHURCH, BOSTON, LINCOLNSHIRE.

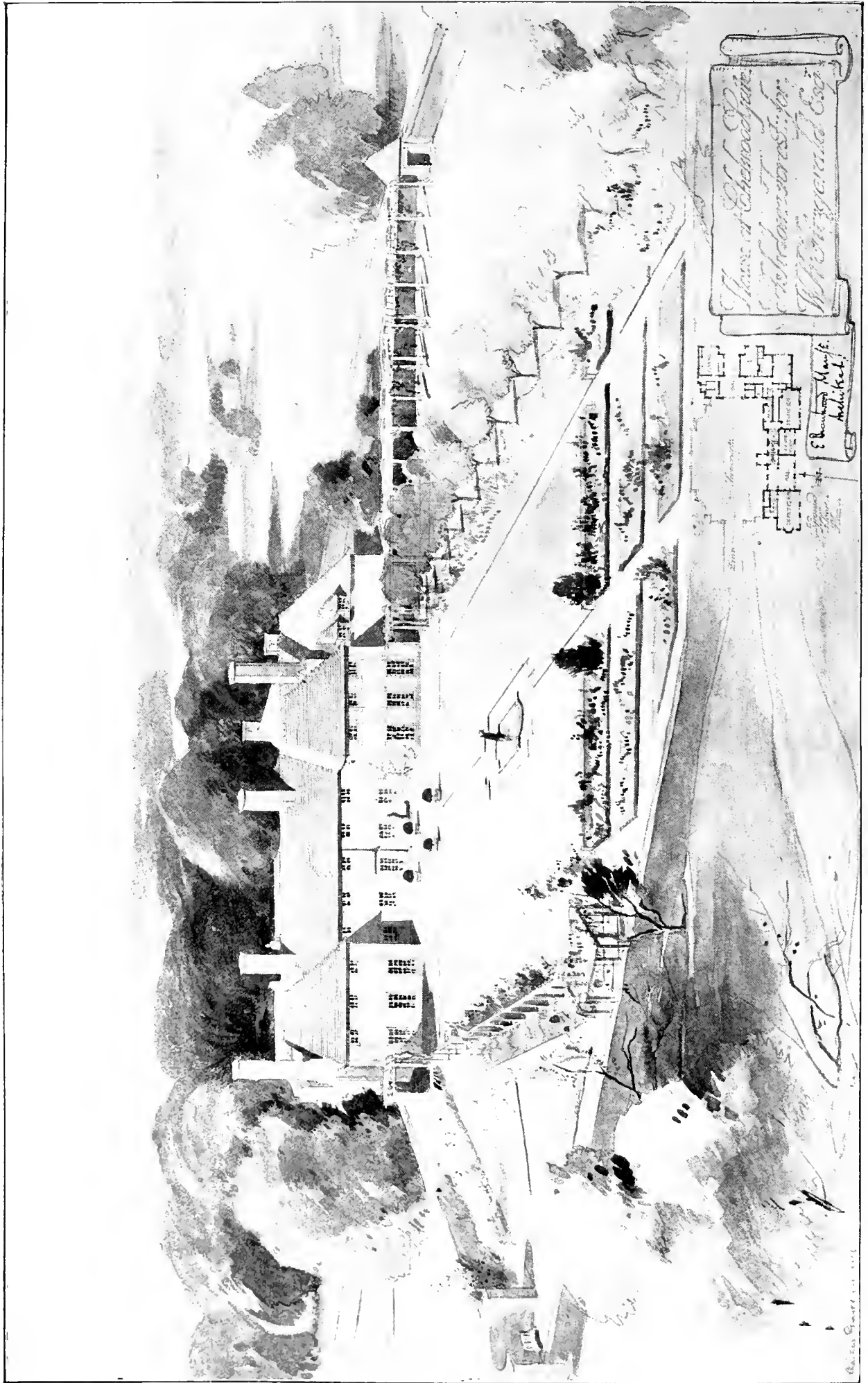


NEW SCREENS AND ALTAR-PIECE.—Mr. W. SAMUEL WEATHERLEY, F.R.I.B.A., Architect.

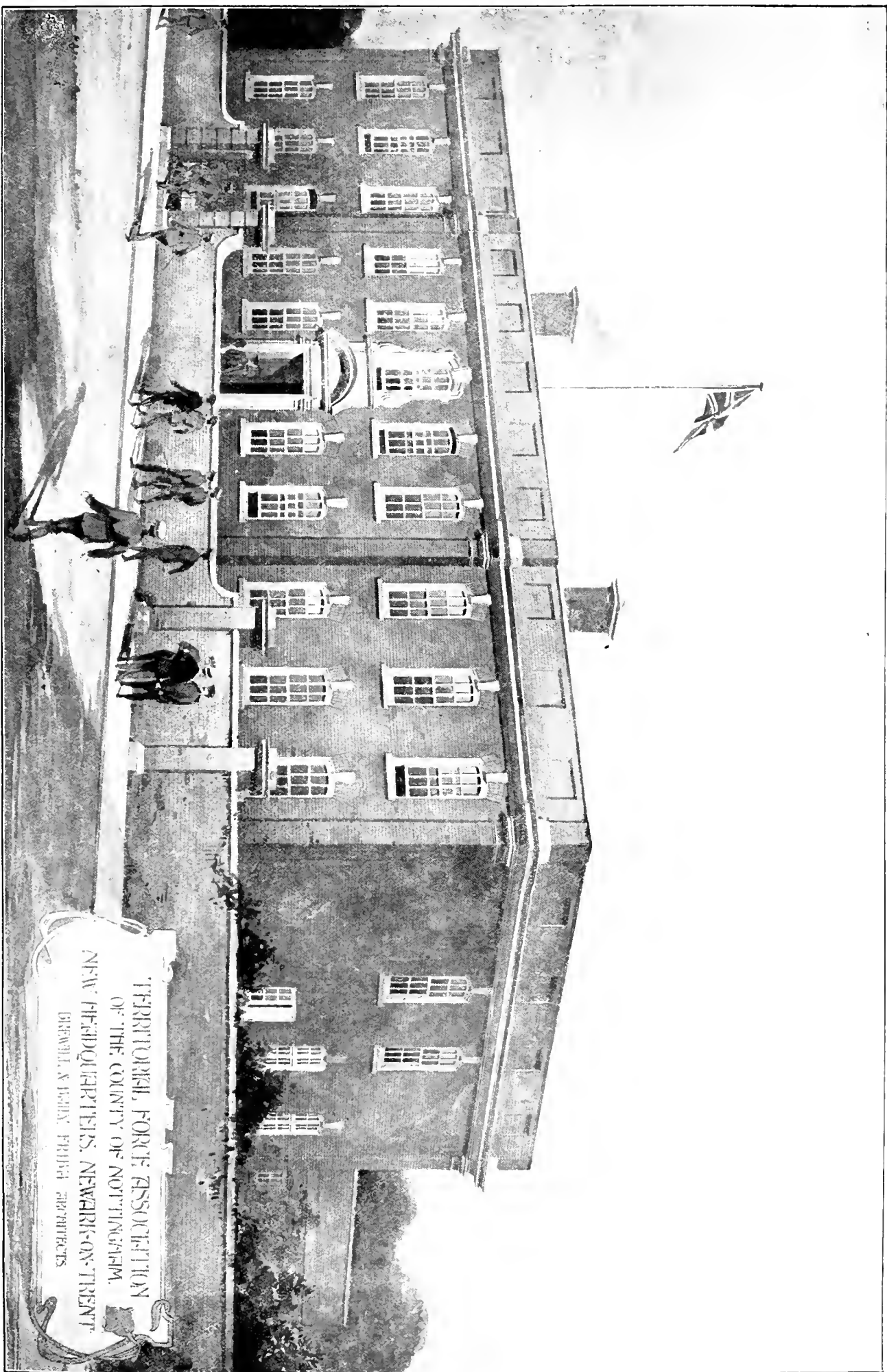


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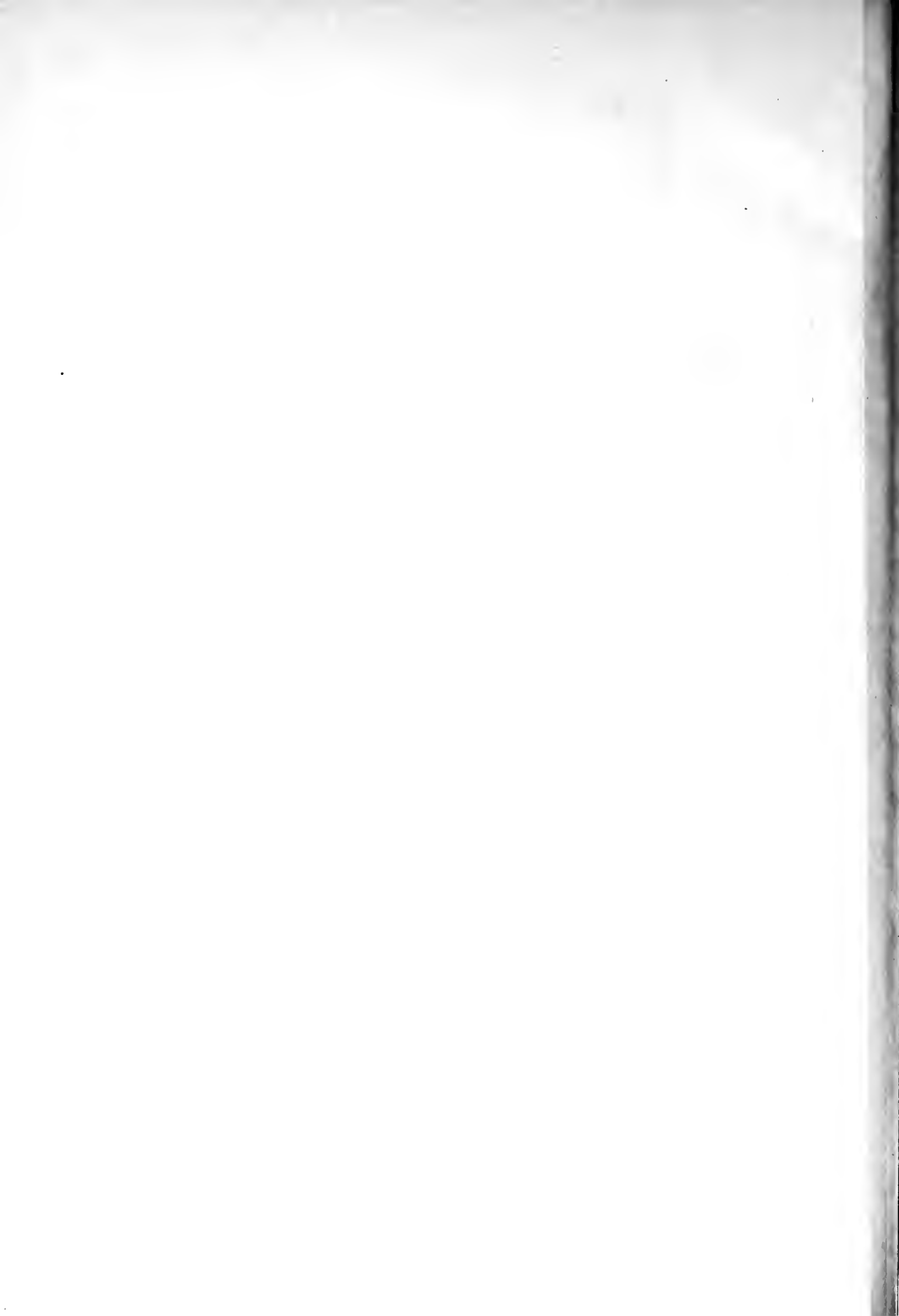


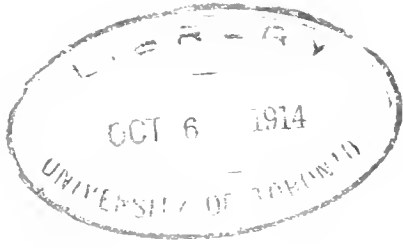


HOUSE AT CHELWOOD GATE, SUSSEX.—Mr. E. BRANTWOOD MAUFE, B.A. OXON, A.R.I.B.A., Architect.



TERRITORIAL, FORT ASSOCIATION
OF THE COUNTY OF NOTTINGHAM.
NEW HEADQUARTERS, NEWARK-ON-TRENT.
DESIGNED BY MESSRS. FRYER & PARTNERS

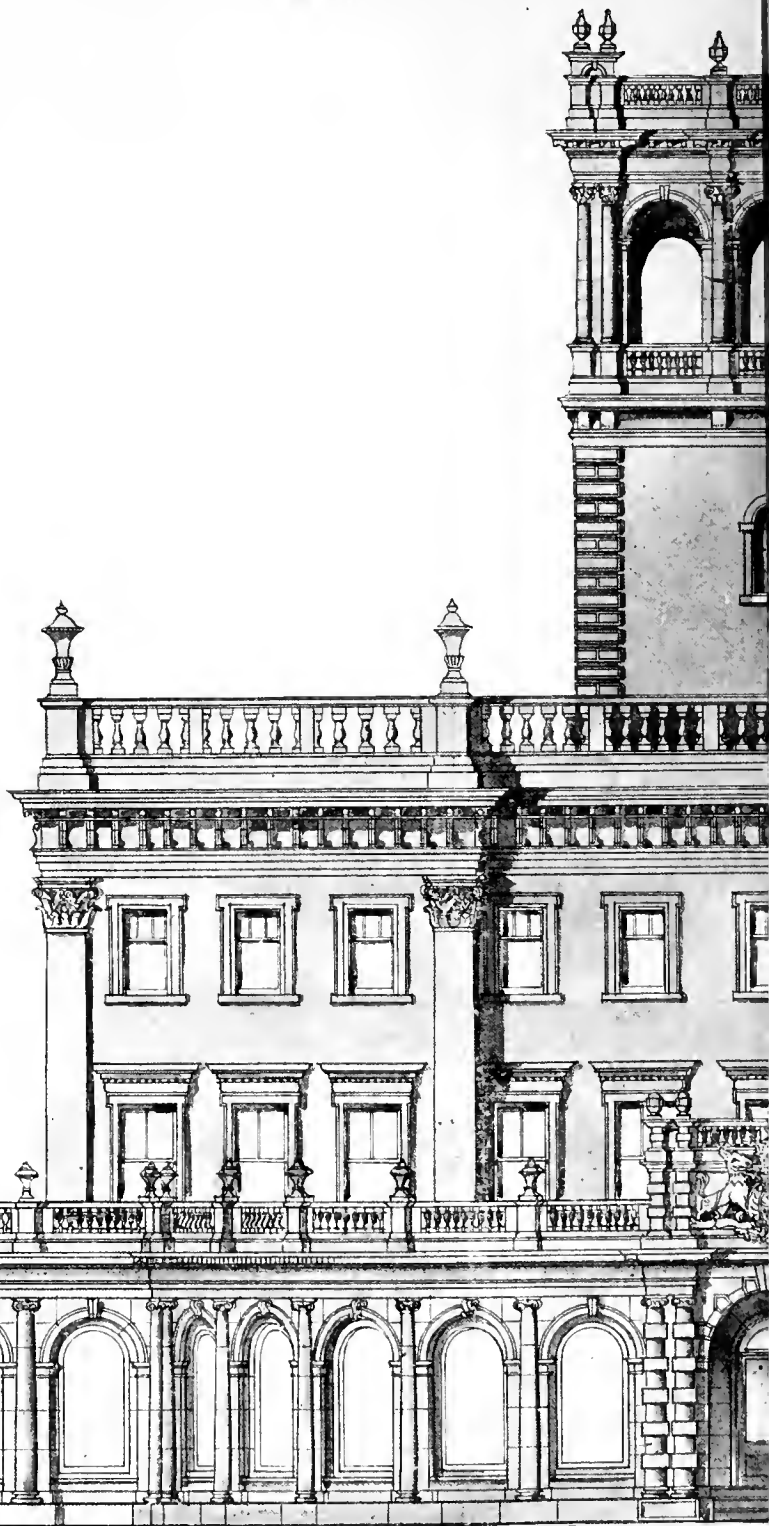
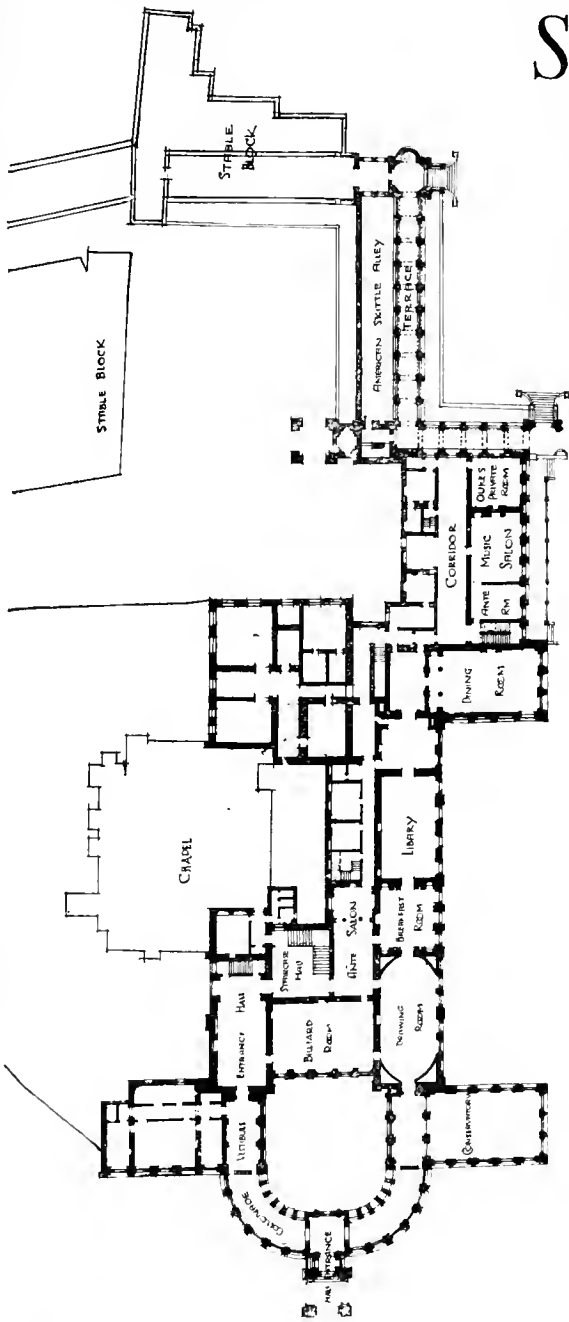




TRENTHAM HALL STAFFORDSHIRE

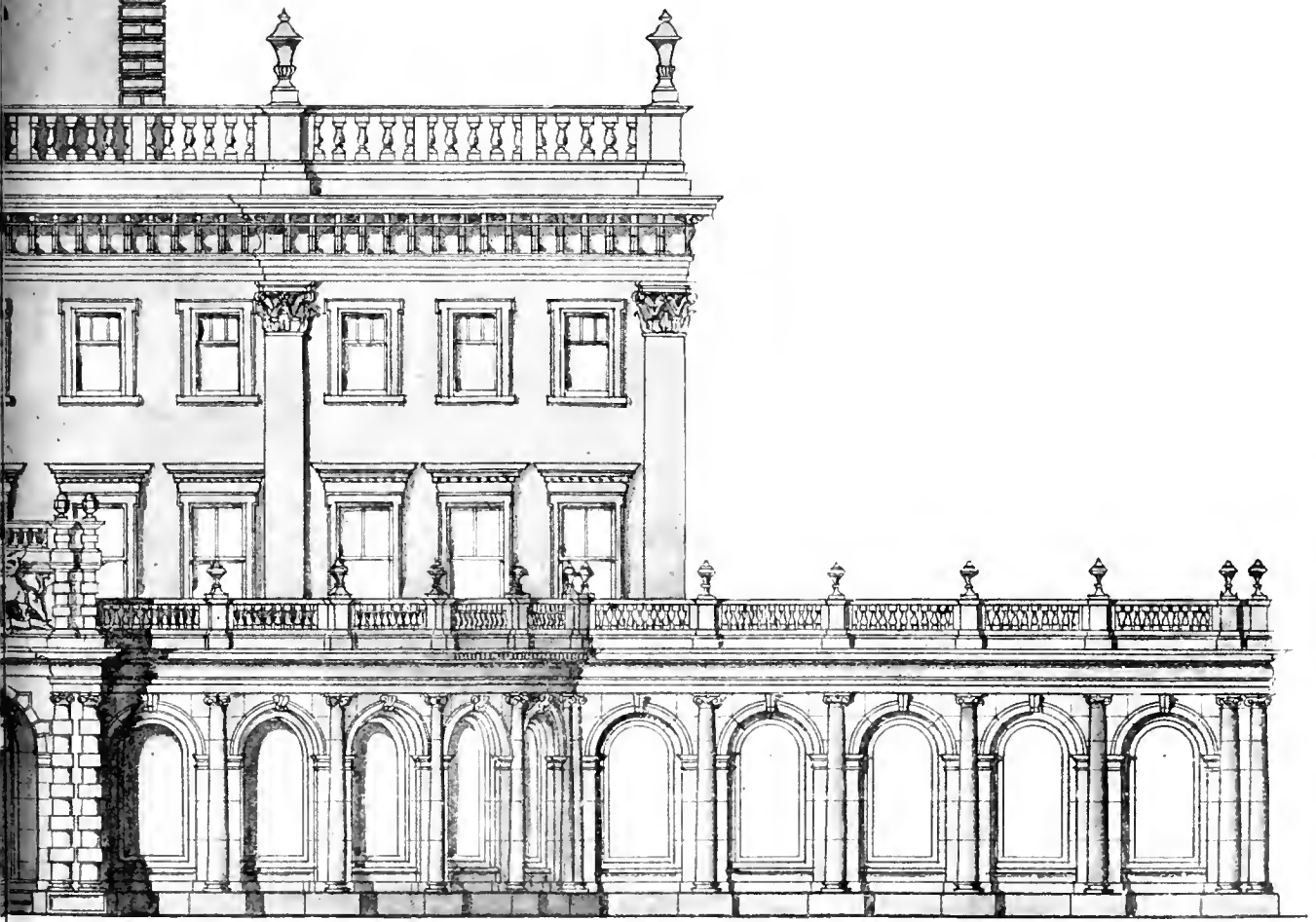
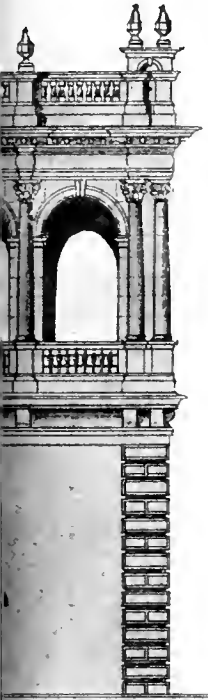
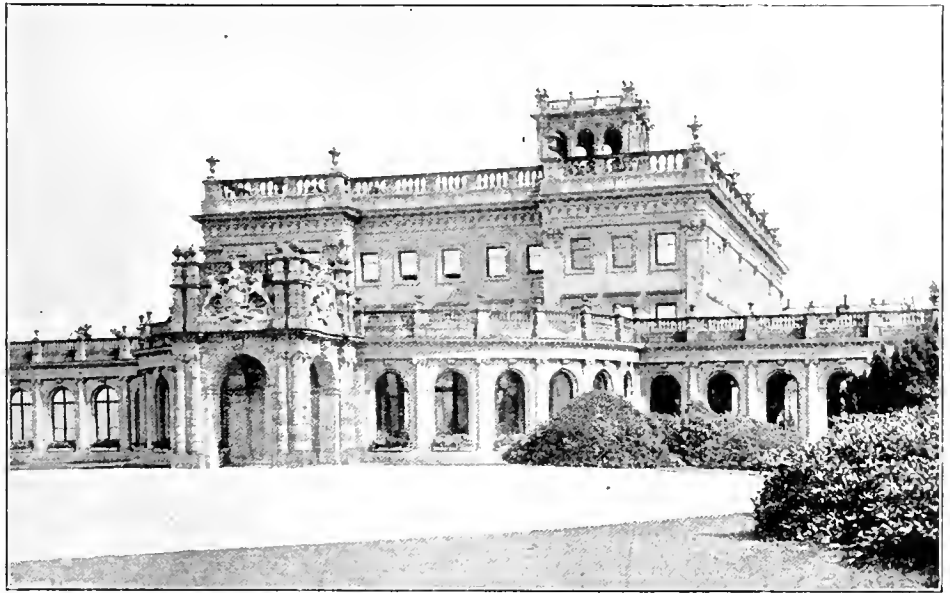
SCALE OF FEET

SCALE OF FEET



WEST FRONT

THE SEAT OF THE LATE DUKE OF SUTHERLAND.



ENTRANCE .



Building Intelligence.

BRISTOL.—At the last meeting of the Bristol Board of Guardians the committee re accommodation and classification of the indoor poor reported that they had considered as to the extensions to the present infirmary buildings at Stapleton Institution, necessary to accommodate chronic feeble-minded cases. It was estimated that 180 beds would be required for chronic feeble aged men, and as the present male infirmary buildings will accommodate only 100, additional beds for 80 cases had to be provided. As regards the chronic feeble aged women, estimated at 135, thirty-five additional beds had to be provided. The committee submitted plans showing this accommodation, with the necessary additional baths and lavatories and dayroom. The committee also submitted a plan for quarters for the increased number of male attendants who will be necessary for supervision at Stapleton. This is proposed to be provided by the erection of an additional floor to the front line of entrance buildings. The report was approved.

CHURCH BUILDING AT MANCHESTER.—The special commission which was appointed by the Bishop of Manchester in 1905 to inquire into the existing and prospective needs of the Church in the Rural Deaneries of Manchester and Salford, has now presented its report. They aimed at providing fourteen churches for fresh districts and fourteen other new churches to replace existing mission-rooms. Usually a grant has been made to the extent of one-third of the cost of building, and the total amount expended is £67,000, while £140,000 has been raised in addition by local effort or private benefactions in the areas concerned. The Commission has assisted in the erection of seventeen new churches, which are finished and paid for. Grants have also been made towards the building of three other churches which are now in course of erection; sites have been secured for four others, on two of which the commission has erected mission-rooms to serve until churches can be built; and in four instances churches have been built or will shortly be built, mainly through the generosity of private benefactors, in districts with rapidly increasing populations. The whole of the twenty-eight churches initially considered necessary have, therefore, been either completed or steps have been taken towards their ultimate completion.

GLASGOW.—The corporation committee on the provision of work has under consideration a list of public works which have been authorised, works which are in progress but may be accelerated in order to provide more employment, and projects which may be undertaken should the necessity arise. The largest item of work authorised is at the new Dalmarnock electricity station, at an estimated cost of £41,536. Other items which have been authorised include £26,406 for baths extensions, repairs, and alterations, and £6,200 for tenement houses (part of a city improvement scheme). Among work which might be accelerated there are several large undertakings, including £60,000 or £70,000 in work at Dalmarnock station for the gas department, £33,000 in providing filter-beds for the sewage department, and £20,000 in laying mains for the electricity department. Among activities which might be begun the various civic departments suggest the laying of water mains in the west-end of the city from Milngavie Reservoir, which, it is estimated, would cost £23,000; building a new sanitary washhouse at a cost of £20,000; constructing a sludge-pipe for the sewage department at £15,000; and building new libraries for the Govan and Partick districts. The city engineer's list of projects which might be considered includes a £25,000 undertaking at Knightswood Hospital, which has already been authorised—at several other hospitals, including a new one at Robroyston, the cost of which is £80,000, it is proposed that the works now in progress might be accelerated—the con-

struction of a boulevard at a cost of £10,000, the erection of a new district public hall at £14,000, and the development of Southfield property at £135,000.

WEDNESBURY.—The new County Metallurgical and Engineering Institute at Wednesbury will be open for public inspection to-day and to-morrow, from 3 p.m. to 9.30 p.m., the session's work commencing on Monday next. The new buildings are situated at the corner of Walsall-road and Kendrick-street. The principal rooms are a metallurgical laboratory containing working benches for forty-six students, a laboratory devoted to metallography, two engineering laboratories containing a number of modern machine tools and apparatus for the study of mechanics, hydraulics, heat engines, and electrical engineering, a chemical laboratory, a physical laboratory, a room for mechanical drawing, and various lecture-rooms and classrooms. The buildings have been erected jointly by the county of Stafford, the borough of Wednesbury, and the urban districts of Darlaston and Tipton, from designs by Mr. John Hutchings, A.R.I.B.A., of Stafford, architect to the Staffordshire Education Committee. The plans were illustrated in our issue of June 27, 1913. The contractors were Messrs. H. Gough and Son, of Wolverhampton, and the total outlay was about £14,000.

The Port of London Authority have arranged with Sir William Arrol and Co. Ltd., of Glasgow, to supply the steelwork and machinery required for the swing-bridges, dock-gates, and caisson at the Royal Albert Dock extension.

At Friday's meeting of the Holywell Rural District Council it was decided to build twenty-two workmen's houses, at a cost of £5,230, on a site acquired from Lord Mostyn, and thirty houses at Bagillt, at a cost of £7,695; and it was further resolved to ask the sanction of the Local Government Board to borrow a sum not exceeding £13,500 for the purpose. It was stated the houses would be let at a rent of 4s. 3d. each.

Mr. W. M. Cross, M.Inst.C.E., held an inquiry at Coventry on Friday into an application of the city council to borrow £1,950 for the purchase of land at Edgewick, near Foleshill, two miles out of the city, for a public abattoir. There was a further application to borrow £2,450 for works of sewage and surface-water drainage, including works in the parish of Foleshill. Mr. Swindlehurst, the city engineer, supported the application.

A memorial stained-glass window is to be inserted in the north aisle of St. Saviour's Church, Woolcott Park, Bristol, the subject being Christ before Pilate. It will complete the series of aisle-windows according to the scheme of the late vicar, Canon Prideaux, who aimed at the filling of the clerestory windows with grisaille glass and the figures of the Twelve Apostles, and the fitting up of the south transept as a chapel for evensong.

With the view of expediting the work and at the same time providing employment at a time when it is much needed, the Local Government Board have informed the Prestatyn Urban District Council of their preparedness to sanction a loan of £1,700 for road-improvement in the district. A scheme has been adopted for widening and otherwise improving Meliden-road and Fforddilas, and further improvements are under consideration.

An impressive military ceremony took place in York Minster on Sunday morning, when Lieutenant-General Sir Herbert Plumer, General Officer Commanding-in-Chief Northern Command, unveiled a memorial tablet which has been placed in the Minster by comrades and friends of the regiment in memory of those members of the 18th Hussars who fell in the South African War. The tablet is of brass with a marble border.

A report by the engineer on the harbours of the Union of South Africa recommends a graving-dock for Durban 1,030ft. in length, with a width of 110ft. and a depth of 41ft., at a total cost of £780,000. It is also proposed to round off the pier at that port by an extension of 71ft. and to dredge the channel to a depth of 40ft., giving a deep water width of 500ft. It is further proposed to throw out two arms at Port Elizabeth to enclose an area of approximately 800 acres, allowing of an entrance of 600ft. to the harbour, the maximum depth of which will be 60½ fathoms.

COMPETITIONS.

GRIMSBY.—The Grimsby Board of Guardians recently invited competitive designs from architects for the new receiving home for children at the workhouse. From the designs submitted to them for their inspection, they have selected that of Mr. T. Waddingham, architect and surveyor, 89, Cleethorpe-road, who has accordingly been instructed to carry out the work for them. Mr. Waddingham is an old pupil of the borough surveyor's department. He resigned the position of surveyor to the Hebden Bridge Urban District Council in June last, in order to take up private practice in Grimsby.

LONDON COUNTY COUNCIL SCHOOLS.—The new London County Council Schools competition, for buildings to be erected in Linda-street, York-road, Battersea, and in Billingsgate-street, Church-street, Greenwich, will not be settled probably till the end of October. Mr. John W. Simpson, F.R.I.B.A., is the assessor, and the drawings were sent in on September 7. Fifty-eight sets of plans have been received. This competition is of special interest because it is an endeavour to engage independent practising architects on work for the Council; the referee, who will advise the County Council on the choice of the designs, is entirely independent and, of course, eminently qualified to make an impartial and capable selection. We may, perhaps, hope for results of exceptional efficiency, and possibly of individual character.

WHITBY.—At the last meeting of the urban district council a plan by Mr. G. T. Welburn, Middlebrough, was awarded a premium of £50 for the improvement of the Spa saloon and grounds, where it is proposed to carry out extensive alterations.

Aughton Parish Church, one of the oldest churches in the diocese of Liverpool, was reopened on Friday evening by the Lord Bishop of Liverpool after a complete restoration at a cost of £5,000.

On a site given by Lord Burnham at Beaconsfield the urban council is about to erect forty houses for the working classes, and application has been made to the Local Government Board for leave to borrow £9,600.

The Fowey Town Council have appointed Mr. W. T. H. Northcote, of Fowey, to the position of borough surveyor and sanitary inspector, vacant by the retirement of Mr. M. C. Warne, who has held the office since the incorporation of the town.

A three-light Turner memorial window was dedicated in Filey-road Wesleyan Chapel, Scarborough, last week. The subject, carried out in 15th century style, is Christ Preaching the Sermon on the Mount. The artists were Messrs. J. W. Knowles and Sons, of York.

A scheme of road-making, land reclamation, and improvement between the Castle Station and Far Cotton has been generally approved by the Northampton Town Council, and negotiations are in progress for the acquisition of land and property in connection with the project.

Messrs. Taylor and Wallin, civil engineers, of Newcastle-on-Tyne and London, have been instructed to prepare a scheme and report upon the water supply of the parish of Whalton in the rural district of Castle Ward, Northumberland. The water will probably be pumped from a well.

An effort is to be made by the Birmingham Architectural Association to enlist members of the profession in the City Battalion of Lord Kitchener's Army. In a circular which has been issued it is stated: "We feel sure that members will not be found wanting to fight against those who have so ruthlessly and needlessly betrayed the precious symbols of our art."

The town council of Southampton approved at their last meeting a report of Sir John Snell, President-elect of the Institution of Electrical Engineers, and Mr. Ernest Edmunds, Fellow of the Institute of Chartered Accountants, upon the corporation electricity undertaking. It was proposed that the report should be referred to the Parliamentary committee to consider in a wide sense the policy and future administration of the department, and report to the council. An amendment that a special meeting of the council be convened for the purpose of considering the experts' report on the undertaking was carried by 29 votes to 7.

Correspondence.

THE GOVERNMENT AND THE ARCHITECTS' WAR COMMITTEE.

To the Editor of the BUILDING NEWS.

SIR,—I send you herewith a copy of a letter, dated September 11, which was sent to the Government by the Architects' War Committee, and also a copy of the reply, dated September 14, which has just been received.—I am, etc.,

IAN MACALISTER, Secretary.

Royal Institute of British Architects,
9, Conduit-street, Hanover-square,
London, W., Sept. 15, 1914.

September 11, 1914.

SIR.—The Royal Institute of British Architects, feeling it to be their duty in this national emergency to arrange for such collective action by the architectural profession as may be found to be desirable, have, with the co-operation of members of other architectural bodies, formed an Architects' War Committee, which is broadly representative of the whole of the profession in the United Kingdom.

This Committee desires to offer to His Majesty's Government an assurance of the loyal and energetic support of the profession in any direction which may be found to be practicable and desirable.

It is felt that the Imperial Government is best able to indicate what form of assistance would be of most value to it, and the Committee would welcome any suggestion from the Government in this direction.

The Committee is prepared to furnish information on all matters in which the State may require the services of architects in any part of the United Kingdom during the period of the war, and to give advisory assistance in connection with any scheme of construction which the Government may contemplate in this emergency.—We have the honour to be, Sir, your obedient servants,

(Sgd.) ERNEST NEWTON, P.R.I.B.A.,

Chairman of the Architects' War Committee.

(Sgd.) C. STANLEY PEACH,

Hon. Secretary of the Architects' War Committee.

The Rt. Hon. J. A. Pease, P.C., M.P.

Whitehall, London, S.W., Sept. 14, 1914.

DEAR SIR,—I have to thank you on behalf of the Government for your letter of September 11, and for the generous and patriotic offer of help made by the Architects' War Committee. I am forwarding your letter to other Government Departments, and if any opportunity of utilising your help arises a further communication will be sent to you.—Yours faithfully,

(Sgd.) JOSEPH A. PEASE.

C. Stanley Peach, Esq.,

Royal Institute of British Architects,
9, Conduit-street, Hanover-square, W.

ARCHITECTS ENLISTING.

SIR.—Since your last issue recruiting for the Royal Engineers has stopped, but it may start again any day. This being the case, I am keeping a list of men who desire to join this corps, and I should welcome additional names, so that we may send up as big a draft as possible when recruiting starts.

For those who cannot wait I have made arrangements for them to join the infantry, and to be kept together in one company.

A special branch of the Motor Transport Corps is now being formed, to collect and repair the numerous cars attached to the Allied Forces in the field. A limited number of recruits are required immediately. Every man applying must be a mechanic, skilled in motor repairs, and he should state whether he can bring his own car or motor cycle. Pay for the lowest rating will be 3s. 3d. a day. As the corps is expected to leave England shortly, recruiting must be rapid, and men wishing to join, who have the necessary

qualifications, should communicate with me at once.

The A.A. Volunteer Training Corps, as originally proposed by Mr. Maurice Webb, is now being formed in connection with the Central Volunteer Training Corps Committee, of which Lord Desborough is chairman. This committee has received permission from the War Office to encourage and create training centres throughout the kingdom for men who are ineligible for Lord Kitchener's Army or other Territorials, or who are prevented by special circumstances from joining the forces.

The A.A. Corps, of which the Rifle Club will form the nucleus, is open to all architects and surveyors and members of kindred professions, the only qualification being that they are prevented from joining the Army as at present constituted. The headquarters of the corps will be the Central Electric Supply Co.'s Station, Lodge-road, St. John's Wood, where there is ample accommodation for miniature rifle practice, revolver practice, and drill and skirmishing.

Members can drill any day of the week except Sundays, and obtain musketry practice likewise, except on Tuesdays and Thursdays. There is an entrance-fee of 5s. and a subscription of 2s. a month; but this latter is liable to be increased if the cost of ammunition advances.

Rifles and revolvers of Service weight are provided for musketry practice at the ranges, with an allowance of twenty-one rounds of ammunition per day free of charge, and members will be able to purchase further supplies at the range, if required. The general equipment of the corps will depend on private effort to a great extent, but assistance will also be obtained from the Central Volunteer Training Corps Committee. It is not proposed to limit membership of the corps in any way except as stated above, and I should be glad to receive names of intending members as soon as possible. All applicants should state clearly why they are unable to join the Army, and when enrolled they will be furnished with a special pass, to admit them at headquarters.—I am, etc.,

ALAN POTTER.

Hon. Sec. A.A. War Service Bureau.

18, Tufton-street, Westminster, S.W.,

September 16.

LONDON SALON OF PHOTOGRAPHY.

SIR.—You are kind enough to speak well of my photograph, "Neptune's Fountain," in your critique of the London Salon of Photography, but suggest that the cascade has been "obviously worked up." This is not the case. The exhibit is a straight enlargement from a straight negative, without any handwork whatever. The drawing of the feathery spray is Nature's own drawing, untouched by "that clumsy instrument the human hand."—I am, etc.,

J. C. WARBURG.

21, Pembroke-gardens, W.

HOUSES FOR THE WORKING CLASSES.

SIR.—The question of providing houses for the working classes, including a section of the rural population, has resulted in several competitions, in which prizes, some of considerable value, have been offered, no doubt with the object of getting plans which should be models for this class of work. Has this object been successful? The "particulars" supplied in some of these competitions have been well drawn up, and the requirements clearly defined; others have been so vague and unbusiness-like that an architect would be to blame if he wasted time in preparing designs.

In a great majority of the plans which have appeared in the various publications there appears to be a want of knowledge of the requirements of the class of people who are to occupy these houses. By the bye, it is presumed that these people are ordinary human beings, and that they have some idea of comfort, so their houses should be planned and arranged in such a way that the ordinary

household duties can be carried out cleanly, economically, and with the least number of articles.

On the arrangement of the ground plan the comfort or otherwise of the house depends. This generally consists of a living-room, kitchen, scullery, larder, staircase, and entrance. The scullery is often adjoining the living-room, and in such a way that when washing is being done the whole house is full of steam and smell; this can be easily avoided. The man comes home to his meals or in the evening, and finds the house so uncomfortable that he goes off to the public-house. It is usual to provide a sink and a copper in the scullery; but many architects do not appear to know that there is a right place to put those necessary conveniences, and that they should not be stuck down anywhere, or that when there is only the one sitting-room—the living-room-kitchen—that provision for a fireplace for cooking in the warm weather, to save having a fire in the sitting-room, should be made.

One plan shows a copper in a nice little house by itself, some distance away from the scullery. One plan shows a bathroom opening from the scullery; in this bathroom the w.c. is placed. Imagine four or five children running in and out of the house and through the scullery to get to the w.c.! The staircases!—"a clergyman, speaking of some houses of the working classes which he had visited, said the staircases were so narrow and bad that it was impossible to get a coffin down decently." Well, the staircases mostly have windows, either at the top or at the bottom, sometimes at both. Surely there would be cause for complaint in getting a coffin up and down a staircase (and this event occurs at all houses); windows are always dangerous, particularly for old people. Larders are usually asked for, and a place 3ft. by 3ft. 3in. is called a larder. Many people in the rural districts keep a pig, and a larder should be large enough in which to salt a pig. In one case a premium is given to a plan the sculleries of which are so arranged that there is no window; apparently light would have to be obtained from the upper part of the door being glazed; if ventilation was wanted the door would have to be opened.

Then there are two plans for one-story cottages. The living-room of one has five doors opening into it, the other one has four doors, and two others are avoided by going through the scullery to get to the larder, and a bedroom opens into the entrance porch. There are two windows on opposite walls, as if this room was not quite uncomfortable enough. As a sort of last straw, a sink is given pride of place in a recess occupying one of the windows. Where the furniture would be placed in this room is not quite clear; the cosy corners for the master's and mistress's chairs are wanting; the dresser, with its china, would have to go. Perhaps these plans of one-story buildings should not be taken too seriously; they were the result of a competition for plans for houses to be built with a particular material, and the object of the designers was to consider the material at the sacrifice of the houses. It is scarcely likely that anyone would be persuaded to build houses from these plans, or, if the houses were built, to get people to occupy them.—I am, etc.,

J. L. S.

THE SUPPLY OF TIMBER AND THE PRICE OF IT.

SIR.—Architects and builders will be very pleased to know that the Swedish Foreign Office informed the Swedish shipowners on the 21st ultimo that, according to advices now received from the Swedish Minister in Berlin, Germany had been pleased to declare deals, battens, boards, staves, and packing-case boards to be non-contraband of war.

This attitude of Germany is quite understandable, because she is extremely desirous of keeping friendly with Sweden. The result has been that many new charters have been fixed up, and shipbrokers are again trying to obtain offers. Owners are willing to risk their boats in the Baltic, the risk, of course,

being from floating mines. Seven or eight boats during last week have been chartered, and altogether trade is making great efforts to get going again. I ought to have said that the timber must be carried in neutral bottoms (i.e., in neutral ships); but there is no difficulty in that.

It is still impossible to take timber from Finland, because she is Russian, so that as some of our best joiners' deals come from Finland, the better-class timbers will still be high in price, especially as there is difficulty in loading from the White Sea, on account of the shortage of labour, the conscripts having been called into active service. At the commencement of the war Russia prohibited the exportation of timber, but she removed this prohibition very soon after it was made. The difficulty is now with the loading.

A friend of mine sent a boat out at the commencement of the war, but it was returned empty because of the prohibition. He had twelve thousand pounds' worth of Archangel deals and boards on order, which would have been very profitable to him during the coming winter; but he had told me that he had since cancelled the order, because of the difficulties of loading. If it could not be loaded before the White Sea had frozen (and the White Sea ports close earlier than any other timber-exporting ports) he was afraid they might take fire before they could be loaded per "first open water" in the spring. They have very frequent fires in Archangel, on account of the tremendous quantities of timber stocked there, and the difficulty would be for him to prove that it was not his timber that got on fire. It is a very difficult thing to prove after a fire that it is, or is not, your timber that has been burnt, because there are thousands of other stocks of exactly the same size all piled together.

It seems to me that the position is that we shall be able to take no Finnish, and very little Archangel, timber, while if timber goes very much higher during the war, American spruce and cheap pitch-pine will have to take the place of deal. The bright gleam of sunshine is the exportation of Swedish timber.—I am, etc., J. H. KERNER GREENWOOD.

King's Lynn.

P.S.—Since writing the above I have received information from a very reliable source, stating that Finland has shipped about two-thirds of her normal output, so that the total reduction on shipments from Finnish and Swedish ports will not be a very important matter, in view of the fact that the consumption on this side during the war will also be very much less than usual.

NEW BRITISH FACTORIES.

Sir,—I am trying to induce the Government to lend 75 per cent. on the actual cost of building factories in this country, spreading the repayments over a number of years, at a reasonable rate of interest. This would be the means of a large number of firms starting manufacturing in this country, and the employment at good wages to our own workmen.

Where it is easy to procure money on mortgage for cottages and house property from solicitors and building societies, it is very difficult to borrow money for the purpose of building factories.

The Government lend money for building cottages at a very low rate of interest, spreading the repayments over a number of years, and I contend, therefore, that they should, for the benefit of the country, be prepared to offer similar terms to anybody wishing to manufacture in this country.

The Government would be well secured by only lending 75 per cent. on the actual cost of building, as they would hold the deeds of the freehold land, and the valuable machinery which would be erected in nearly every factory would be held as collateral security, and the standing of the firm.

I have been approached by several clients who require factories built at the present time on these lines, but cannot find the money for the purpose; but if the Government can be induced to fall in with my scheme it will

be the means of a large number of factories being built in this country, which will lead to a large amount of foreign money being invested over here.

I shall be pleased to have any assistance that you can give me to help me with this scheme.—I am, etc., B. SCRUBY.

14, Featherstone-buildings, High Holborn, W.C., Sept. 11.

AN ITEM OF WAR NEWS.

Sir,—The number of our workmen and staff who have now joined the colours is increased to about forty-five, including those engaged at our branches, many having joined the Birmingham City Battalion. We are making suitable provision for the wives and families of men who have gone to the front, and shall continue to do so as long as the course of business renders it in any way possible, and their situations will be kept open.

The trade can guarantee hundreds of our married workpeople from any anxiety or fear of being without work during the coming winter, if they will only send in their season's order now. Up to the present we have scarcely reduced the number of our employees at all, except so far as this result has been brought about owing to a number joining the colours; but as is perhaps only natural, we have been compelled to reduce the time worked from the normal. We feel that the fact that we have been able to maintain even this restricted output under existing circumstances, is due to the world-wide reputation of our productions, and we earnestly ask our friends to kindly assist us in continuing the employment of our workpeople by sending any orders, whether small or large, as they may require, or inquiries, and so keep the flag of industry flying, which is so necessary now for the welfare of the country generally.—We are, etc.,

HARRIS AND SHELDON, LTD.

Shop-front Builders and Shop-fitters,
Stafford-street, Birmingham, Sept. 15.
(Herbert Vincent, Advertising Manager.)

At Walton, Suffolk, new public baths built from plans by Mr. H. Clegg, surveyor to the urban district council for Felixstowe and Walton, have been formally opened.

The Local Government Board have sanctioned the borrowing by the Romford Rural District Council of £2,095 for private street improvements and £4,170 for works of sewerage.

At Burton-on-Trent, on Friday, Messrs. Redfern and Mason, timber merchants, were fined £1 17s., including costs, for neglecting to have two flywheels of a double horizontal saw properly fenced.

The Rochdale town-planning scheme has been the subject of a public inquiry by a Local Government Board inspector. The area to be town-planned comprises 1,087½ acres in Rochdale borough, 307½ acres in Norden, and 202 in Bury rural district. The urban district council of Norden opposed the scheme, chiefly owing to their having little or no information from the corporation as to its intentions in their area, and to their fear that the scheme would impose a heavy burden of rates on Norden that would hamper building development in their area.

The antique furniture at the Mansion House, which has been recently restored, was exhibited on Monday. It includes some fine examples of Sheraton's work (1780)—namely, two chests of drawers, two dressing-glasses, and a cheval-glass in satin-wood and tulip-wood. There are also a bedroom suite in satin-wood in the later Sheraton style, six chests of mahogany drawers (1760-1780) by Chippendale, and some Sheraton armchairs and sideboards. The restoration of the remaining antique furniture will be put in hand at the close of the present mayoralty.

The corporation of Glasgow have agreed on a recommendation of their water committee that application be made to Parliament for power to increase the city's sources of supply, and that permission be given for the purpose of (1) re-submitting to Parliament the Loch Voil scheme, either alone or in conjunction with the River Turk scheme, or (2) submitting schemes for utilising the waters of the River Turk and the River Duchray without Loch Voil, as may be determined after the engineers have submitted their report.

LEGAL INTELLIGENCE.

LAND VALUATION APPEAL.—Mr. J. G. Drew, of Exeter, an Official Referee under the Finance Act, 1909-10, has given his reserved decision in the appeal of "Cary and Another v. Commissioners of Inland Revenue," which he heard at Exeter on September 8, relative to an assessment to reversion duty. The appeal raised the question of the determination of a lease of a stable and stores at 36, Toward-street, Torquay, granted by the trustees of the Cary Estate by indenture dated April 15, 1880, for ninety-nine years from March 25, 1864. The lessee (Mr. Montague G. Smith) on March 13, 1913, entered into a contract for the purchase of the reversion, and the conveyance in pursuance of the contract was executed on April 5, 1913. Four days later an assessment of £3 7s. 7d. was made and levied for the reversion, and it was against this that the appellants, Colonel L. F. B. Cary and Mr. A. G. Findiesen, lodged an appeal. Their grounds of appeal were that the case was within the exemption contained in Section 3 (3) of the Revenue Act, 1911, and therefore no reversion duty was chargeable. The lease, it was contended, was determined in pursuance of an agreement between the lessors and the lessee (dated March 13, 1913) for the acquisition by the lessee of the lessors' interest. At the time of the determination of the lease, which was the date of the contract, the lease had at least fifty years of its term to run, and the total value of the land did not exceed £500. The Commissioners contested the appeal on the ground that the conditions of the contract had not been strictly fulfilled, and that the lease was not determined until the actual completion and conveyance on April 5, 1913. The Referee decided in favour of the appellants, finding that the lease was determined on March 15, 1913, and no reversion duty was leviable.

It was reported to the city council of Nottingham at their meeting on Monday that the work of laying out a new cemetery 2½ acres in extent for the southern portion of the city is now complete.

The monthly report of the Amalgamated Society of Engineers states the membership has grown to 171,656, as against 170,486 at the end of July. Of these, 9,133, or an increase of 3,926 on the month, are unemployed.

At Eastbourne, on Tuesday, Mr. H. S. Stewart, an inspector under the Local Government Board, held an inquiry as to an application by the corporation for leave to borrow £60,545 for a housing scheme.

The city council of York at their last meeting, on Monday, adopted a scheme submitted by the tramways committee for the erection of twenty-eight cottages for the tramway workmen at a cost of £6,851, to be let at an annual rental of £455.

The building trade at Rochdale appears to have been badly hit by the war. At the last meeting of the corporation building committee not a single plan for a new edifice was submitted, and those dealt with were for alterations only, including some to licensed houses.

A Local Government Board inquiry was held at Barry Port, Carmarthenshire, on Wednesday, before Mr. A. W. Brightmore, as to an application from the urban district council for leave to borrow sums amounting to £19,180 for purposes of sewerage, the provision of public offices, and an abattoir, and executing works of water supply.

At the meeting on Monday of the town council of Shrewsbury the estates committee reported that the Shropshire Horticultural Society had presented to the town the new Victoria-avenue, extending from the famous Quarry for a distance of nearly a mile along the bank of the Severn, upon which the society had spent some thousands of pounds.

At Shaw, near Oldham, on Monday night, the new Lilac Mill, which is in course of erection, collapsed. Practically the whole of the iron-work had been fixed up to a height of five stories, and about two stories of brickwork was completed. A strong gale was responsible for the damage. Luckily the workmen had left the job for the day, and no one was hurt.

There will be no exhibition of the year's pictures in the Manchester Central Art Gallery this autumn. In their stead the committee will bring down the best of the pictures now at Heaton Park Hall and at Queen's Park, and hang them at a side of the gallery which is now empty. This exhibition will be opened about the middle of October, and continued for several months. At present the gallery is being rearranged.

PARLIAMENTARY NOTES.

BUILDING CONTRACTS AND THE WAR.

—Major Baring asked the Chancellor of the Exchequer on Friday what was the position of builders with reference to contracts entered into before the war; if, in view of the increased cost of material, they were bound to complete the work at a figure fixed before war was contemplated; and whether the moratorium in any way affected their position?—Mr. Lloyd George replied that the moratorium in no way affected the contracts except so far as it postponed any payment due thereunder.

A parish hall is to be built at Culmington, near Ludlow, from plans by Messrs. Alexander and Duncan, of Leominster.

The Local Government Board has sanctioned the borrowing of £1,109 for a new water supply for Llansannan, near Denbigh.

Mr. Alexander Barton, of Buxton, has been appointed highway surveyor for No. 2 district of the rural district council of Boston, Lincs.

The Grimsby Rural District Council have granted an increase in salary to their surveyor, Mr. A. Hobson, from £200 to £250 per annum.

The highways committee of the Swansea Corporation have approved an application to the Local Government Board for sanction to borrow £53,984 for improvements to several streets.

A United Methodist church in Windsor-square, Neath, Glam., built at a cost of £5,800, has been formally opened. Messrs. Waring, Cole, and Waring, of Neath, were the contractors.

The Order of the Local Government Board approving of the Ruislip-Northwood town-planning scheme has now been issued. The scheme relates to an area of 5,905 acres situated in the urban district of Ruislip-Northwood and in the rural district of Watford.

The death took place on Sunday, at his residence, 153, Northumberland-street, Newcastle-on-Tyne, of Mr. George Carr, Mr. Carr, who was 68 years of age, commenced a decorator's business in Northumberland-street, Newcastle, in 1871, and was the oldest tradesman in the thoroughfare. He had a high reputation for artistic skill. He leaves a widow, six sons (three of whom were in business with him) and a daughter.

At the last meeting of the corporation of Southampton a report was submitted by the town-hall committee recommending that steps be taken for the appropriation of a portion of the West Mall lands, not exceeding two acres in extent, for the purpose of erecting thereon municipal offices and a town-hall. By general consent, consideration of the matter was deferred to the next meeting, a suggestion by Alderman Hollis that the whole question should be shelved for twelve months finding no second.

Mr. Thomas Hargreaves, builder and music-hall promoter, passed away at his residence, West View, Manchester-road, Rochdale, on Sunday evening aged 67 years. Born in Liverpool he went to Rochdale when a youth to work with his uncle in brickmaking. Ultimately he set up in business on his own account as a builder. He erected a great number of cotton mills throughout South Lancashire, and also hippodromes and music-halls at Rochdale, Bolton, Altrincham, and many houses in Rochdale and its suburbs.

At a special meeting of the Evesham Town Council held on Saturday matters in connection with the housing scheme were discussed. The housing sub-committee had inspected cottages erected by the Evesham Rural District Council at Broadway and Offenham and agreed that, with a few alterations and additions, the houses at Offenham formed a suitable model. It had been agreed to erect, in the first instance, fifty-two houses on the portion of the land purchased nearest King's road. The committee recommended that Mr. H. E. Dicks, of Evesham, should be appointed architect. The report and recommendations were adopted.

The erection of the Royal Colonial Institute, which is being built in White Ladies-road, Bristol, adjacent to the Victoria Rooms, has now reached the roof stage. The area of the site was limited in consequence of the proposed entrance to the Victoria Rooms and the widening of White Ladies-road. The treatment of the principal façades has been largely influenced by the severely classic design of the Victoria Rooms, and the architects (Messrs. Bridgman and Bridgman, of Torquay and Brighton) accordingly adopted Italian Renaissance as the basis of their work. The builder is Mr. Frank Williams, of Corn-street, Bristol.

Our Office Table.

During the present scarcity of timber it is well to bear in mind that, among its many uses, "McNeill's patent slag-wool," "Lion" brand, can be most advantageously used as a substitute in many cases. Made into slabs, it is invaluable for partitions, for floors, ceilings, roofs, etc., being soundproof, incombustible, and a perfect non-conductor of heat and cold. Their new catalogue, just issued, which can be had on application to Messrs. F. McNeill and Co., Ltd., Lamb's-passade, Bunhill-row, E.C., details these uses most lucidly, together with many others, with which, perhaps, some readers may be unfamiliar. By Messrs. McNeill's patent process the material is increased to twelve times its bulk, so that the resulting fibres enclose eleven times their bulk of air. It is certain that this proportion of air is not held in confinement by any other product, natural or artificial, which is at the same time indestructible. Architects and others, therefore, should always specify McNeill's slag-wool when using, if they desire to secure the maximum advantage sought. They will also find it cheapest every way—not merely in first cost, but by reason of its indestructibility.

The Central School of Arts and Crafts opens for the season next Monday (21st). There are classes for architectural students in design, drawing, stone-cutting, wood-carving, mechanics, building construction, history lectures, study at South Kensington Museum on Saturday mornings and afternoons, and a course of lectures, "The Growth of a House," specially for students taking elementary design.

The prospectus and time-table has just been published of the Westminster Technical Institute, Vincent-square, where all the classes reopen during the week commencing on Monday next. This institute was established in 1890 by the Baroness Burdett-Coutts, who presented it to the London County Council in December, 1890. The Westminster School of Art, established in the Royal Architectural Museum (now the headquarters of the Architectural Association), was transferred to the Institute in 1903, and is there carried on under Mr. Monat London as head-master, in the well-equipped lecture and classrooms, drawing offices, and workshops added to the buildings in 1908. Mr. J. Stuart Ker, B.Sc., is the principal of the institute. In the department of Architecture and Construction the classes include architectural drawing and design, under Mr. M. J. Dawson, A.R.I.B.A.; history of architecture, Mr. W. T. Bensly, A.R.I.B.A.; building construction, Messrs. W. J. Wilsdon, L.R.I.B.A., and F. C. Webster, A.R.I.B.A.; technical drawing, Mr. F. G. Steed, A.R.C.S.; builders' quantities, Mr. L. Lickis, F.S.I.; structural engineering, Mr. E. H. Sprague, A.M.I.C.E.; building laws and valuations, Mr. W. T. Creswell, F.S.I.; reinforced-concrete design, Mr. P. J. Waldran, F.S.I.; masonry, Mr. A. Haysom; and cabinet-making and design, Mr. H. Last. The departments of civil engineering and gas engineering are also well staffed, and the institute is evidently carrying out excellent work in technical education.

A small industry, but one which is of a very special character, has sprung up at Carnarvon, consisting of the manufacture of antique ironwork for Government departments. In preparation for the Investiture in that town, Mr. D. J. Williams, of the Porthyr Aur Ironworks, was entrusted by H.M. Office of Works with the manufacture of the massive railings of hammered iron which now surround the Castle. This lately led to Mr. Williams being given the contract for the construction of 800ft. of iron railings for the boundary of the Victoria Tower Gardens, near the Houses of Parliament. The designs, supplied by the Office of Works, date back many centuries. On each standard of each length of railing are four large fleur-de-lis, with leaves worked in beaten iron,

together with cast bronze emblems applied to each standard, and representing the Royal Crown, the rose, the thistle, the daffodil, and the shamrock. Altogether some forty tons of iron have been used in the work, the main peculiarity of which is the process of cold hammering. Further commissions have been placed in Mr. Williams's hands to supply manufactured work for the Admiralty Board-room, Hampton Court Palace, one room in Windsor Castle, and railings for Carisbrooke Castle, and St. Botolph's Priory.

The *Contract Record* of Toronto emphasises the economy to authorities inviting tenders of giving the fullest and clearest information in the form of contract and specification to builders who are invited to compete. For the works proposed by the Vancouver and District Joint Sewerage Board, the comprehensive details given by the engineer to the board, Mr. A. D. Cree, were, our contemporary believes, largely responsible for the close and satisfactory bidding. Nine tenders in all were received. Of these, eight ranged between 396,000dol. and 333,000dol., while the lowest and successful one was 309,000dol. "The form of contract, specification, schedule of quantities, and tender were neatly bound in a permanent form, and, to facilitate reference, the contents were carefully indexed. Every detail and every requirement of the work was described thoroughly, with a completeness and lack of ambiguity quite refreshing. The schedule of quantities was prefaced by underlined admonitions to contractors, setting forth the points of governing importance. Emphasis was given to the definition of terms and the methods of measurement employed, while a special instruction covered the itemising and totalling of the tender."

Fire-insurance requirements, with particular reference to fire prevention, as summarised in a pamphlet issued by the New York Chapter of the American Institute of Architects and the New York Board of Fire Underwriters, comprise six important considerations, as follows: (1) Shutters, doors, and skylights, outside sprinklers and fire hydrants, to reduce exposure to fire from without; (2) construction of the building to resist for four hours a temperature of 2,000deg. Fahr.; (3) design of building with limited height and suitable fire stops, lightning protection, wire glass, gravity-tanks, and proper electric wiring; (4) fire-extinguishing equipment; (5) consideration of nature of occupancy, character of contents and class of work, and proper installation of dangerous machines; (6) public fire protection, which depends on the efficiency of municipal fire, water, and building departments.

Among the several problems to be met in the recent construction of the concrete reservoirs in San Francisco was that of bonding asphalt to concrete. According to B. N. Abbott, in a letter to "Engineering Record," after making unsuccessful attempts to apply the asphalt direct to the concrete in various ways, the expedient of first painting the surface with coal tar was tried, and it was found that when applied in this way under right conditions the asphalt would adhere so firmly that after it had cooled it could not be broken away without bringing pieces of concrete with it. Mr. Abbott states that in order to secure this result the concrete surface was first scrubbed clean with a bristle brush, and over this a thin coating of hot coal-tar was "painted." The coal-tar should be heated in small quantities, brought just to the boiling-point, and then applied immediately. Heating the coal-tar in large quantities, which necessitated some delay before it could all be used, did not give such good results, and the gangs were, therefore, not allowed to heat more at a time than they could apply quickly as soon as it began to boil. The asphalt was spread over the tarred surface in the usual manner.

In Turkey, where cement is not used or is hardly known, a substitute has been found that has met with rather good results, when applied in exposed places, in filling crevices in waterpipes, covering joints in stone floors,

in fountains, and for numerous other purposes where cement would be required. It is stated to be as satisfactory in water as in exposed places, but it must be allowed to become thoroughly dry before it is submerged. The mixture is slaked lime, linseed-oil, and cotton fibre. Generally a hollowed-out stone is used, although a flat, hard surface will answer, and the process is started by pouring the oil on a handful of cotton, after which the lime is dusted in. It is then kneaded until the whole is thoroughly mixed and about the consistency of dough. The more it is kneaded the better it becomes.

The control of the main roads of the Dominion of New Zealand was mentioned recently to Mr. Massey, the Prime Minister, by a deputation from the Te Kuiti Chamber of Commerce. Mr. Mostyn Jones, chairman of the Chamber of Commerce, made special reference to the fact that there are at present two gaps in the main road from Wellington to Auckland. He declared that the people in the province of Auckland strongly supported the proposal that the Government should take over the control of the main roads. Mr. Massey said the Government's Bill dealing with the roading question would be introduced early in the coming session. If the farmers were to make the best use of their land they must have better roads. The Government intended to ask Parliament for additional loans for the purpose of making roads. He thought that the road from Auckland to Wellington should be completed. As to the question of Government control of the main roads, he had been rather surprised at the extent of the opposition to the suggestion, but Parliament would be given an opportunity of dealing with the question.

It has been recognised for some time, says the *Contract Record* of Toronto, that the results obtained by the sandblast in the testing of clay products are as indicative of value as the more usual tests. The main objections to this method hitherto have been the difficulty of standardising and the cost of the apparatus. By using centrifugal force in place of compressed air a machine can be built which is free from these objections. Tests on brick and plate-glass, using the new machine, show that results are comparable, more easily obtained and reproduced, and, if anything, more reliable than the combined tests, particularly in respect of the grading of manufacturers and users. Results so far obtained indicate that sands of widely differing origin may be used, and that further experimentation will produce factors which will permit the adoption of this machine as a standard instrument.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY.—Royal Photographic Society's Exhibition, Suffolk-street Galleries, Haymarket. "A Mercian Minister and its Memorials," by E. W. Harvey Piper. 8.30 p.m.
SATURDAY (SEPT. 26).—Institution of Municipal and County Engineers. Meeting of the North-Eastern District at Scarborough.

The building of a new court-house for Athlone is to be proceeded with at once at a cost of £3,000.

The Civil Board of Control for Montreal decided on Tuesday to purchase the property of the Montreal Water and Power Company for 7,500,000 dol.

At Woking, on Monday, Mr. C. H. Eylesham, inspector of the Local Government Board, held an inquiry with respect to an application from the urban district council for sanction to borrow £5,800 for a housing scheme.

Doncaster Rural District Council, meeting on Tuesday, decided to apply to the Leeds Corporation for a supply of water for the parishes of Adwick-le-Street, Owston, Skellow, Askern, and Norton, the price not to exceed 8d per thousand gallons.

At Hincley, on Friday, Mr. W. M. Cross, M.Inst.C.E., held an inquiry into the application of the Hincley Urban District Council for sanction to borrow £1,065 for the construction of a new pumping main at the sewage-disposal works at Sketchley.

Trade News.

WAGES MOVEMENTS.

THE LABOUR MARKET IN AUGUST.—The general effect of the war, the holiday season, the seasonal decline of trade, and all other causes was to increase the percentage of unemployed in trade-unions making returns from 2.8 at the end of July to 7.1 at the end of August—a figure which has frequently been exceeded in periods of bad trade, and which is much lower than that recorded during the national coal strike of 1912, when the percentage rose to 11.3. It should be stated, however, that many employers endeavoured to avoid discharging a portion of their workpeople by putting the whole staff on reduced time. As compared with July there was a general decline in all industries except in shipbuilding, which benefited by increased activity on Government work. The contraction in employment was especially noticeable at tinsplate works and in the furnishing and woodworking and pottery trades. As compared with a year ago there was a general decline. The changes in rates of wages taking effect in August affected 55,000 workpeople, of whom 19,000 received increases and 36,000 sustained decreases, the net result of all the changes being a decrease of nearly £200 per week.

DECREASE IN UNEMPLOYMENT.—The Board of Trade report that in the trades compulsorily insured against unemployment—viz., building, works of construction, engineering, shipbuilding, vehicle-making, etc.—the percentage of unemployment on the 11th inst. was 6.95. This shows a decrease of .23 on the percentage at September 4 (6.28), and is the first decrease to be recorded since the commencement of the war. These figures relate to the whole of the United Kingdom, and include all unemployed workmen in the insured trades. As regards the uninsured trades, the number of men and women on the register of the Labour Exchanges at September 11 was 66,113, as compared with 73,675 a week ago.

Mr. B. H. Noble, of Alford, has been appointed surveyor to the urban district council of Farnley.

The corporation of Margate have decided to build forty-two workmen's dwellings on the old reservoir site at a cost of £9,470.

Mr. J. H. Chubb, surveyor and sanitary inspector to the rural district council of East Kerries, has resigned his appointment owing to ill-health.

The corporation of Portsmouth are about to build a tuberculosis hospital at Langstone for forty patients at a cost of £6,773.

Mr. Charles Thomas Stride, sanitary and building inspector to the Wimborne and Cranborne Rural District Council, has died as the result of a cycling accident.

Scarborough Corporation propose to carry out further improvements in Peasholm Park. The estimated cost of the works, which will include the erection of an additional shelter and a café, is £1,250.

Works of restoration and improvement are about to be carried out at the Roman Catholic church of Sermonagne, County Roscommon, from plans by Mr. J. V. Brennan, architect, of Bank Chambers, Belfast.

At Colchester an inquiry has been held into an application of the town council for permission to borrow £3,110 for the erection of tuberculosis and scarlet-fever pavilions at the infectious-diseases hospital at Mile End, and for alterations and additions to the administrative block at the hospital.

In connection with the new bridge across the Tweed at Berwick, the cost of which is estimated at between £80,000 and £100,000, preliminary borings have been made by the Road Board, with whom the scheme originated, and it is expected that, in order to minimise unemployment arising from the war, they will proceed with the scheme at a very early date.

A city council committee has been formed at Cardiff to prepare schemes to be put in hand should considerable unemployment arise. These schemes include the erection of houses, the improvements of the parks, the laying out of sites for recreation-grounds, relaying extensive sections of the tramways, and the paving of the main thoroughfares. The huge work of constructing the new reservoir at Taff Vawr is employing a large number of men, as is also the relaying of the water-mains.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Miscellaneous metals and timber we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Rolled Steel Joists, English	£7 10 0 to £7 12 6
Wrought-Iron Girder Plates	7 0 0 " 7 5 0
Steel Girder Plates	7 2 6 " 8 2 6
Bar Iron, good Staffs	6 5 0 " 8 10 0
Do., Lowmoor, Flat, Round, or Square	22 0 0 " 0 0 0
Do., Welsh	5 15 0 " 5 17 0
Boiler Plates, Iron—	
South Staffs	8 0 0 " 8 15 0
Best Suedsill	9 0 0 " 9 10 0

Angles 10s., Tees 20s. per ton extra.

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—	
No. 18 to 20	No. 22 to 24
6ft. to 8ft. long, inclusive	Per ton.
gauge	£13 0 0 " £13 10 0
Best ditto	13 0 0 " 14 0 0

Wire Nails (Points de Paris)—	
3 to 7 8 9 10 11 12 13 14 15 B.W.G.	
8/3 8/9 9/3 9/9 10/3 11/1 11/9 12/6 13/6 per cwt.	

Cast-Iron Columns	£6 17 6 to £8 10 0
Cast-Iron Stanchions	6 17 6 " 8 0 0
Rolled-Iron Fencing Wire	8 5 0 " 8 10 0
Rolled-Steel Fencing Wire	7 5 0 " 7 10 0
" Galvanised	8 15 0 " 9 5 0
Cast-Iron Sash Weights	5 10 0 " 5 15 0
Cut Floor Brads	9 15 0 " —
Corrugated Iron, 24 gauge	16 0 0 " —
Galvanised Wire Strand, 7 ply, 14 B.W.G.	14 5 0 " —

B.B. Drawn Telegraph Wire, Galvanised—	
0 to 8 9 10 11 12 B.W.G	
£10 10s. £10 15s. £11 0s. £11 5s. £11 15s. per ton	

Cast-Iron Socket Pipes—	
3in. diameter	£6 2 6 to £6 7 0
4in. to 6in.	6 0 0 " 6 5 0
7in. to 24in. (all sizes)	5 7 6 " 6 0 0

[Coated with composition, 5s. 0d. per ton extra. turned and bored joints, 5s. per ton extra.]

Pig Iron—	
Cold Blast, Lillieshall	10s. 0d. to 11s. 6d
Hot Blast, ditto	70s. 0d. " 75s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—	
Gas-Tubes	75 p.c.
Water-Tubes	71½ "
Steam-Tubes	67½ "
Galvanised Gas-Tubes	55 "
Galvanised Water-Tubes	61½ "
Galvanised Steam-Tubes	55 "

OTHER METALS.

Spelter, Silesia	Per ton £21 5 0 to £21 7
Lead Water Pipe, Town	25 0 0 " —
Country	25 15 0 " —
Lead Barrel Pipe, Town	26 0 0 " —
Country	26 15 0 " —
Lead Pipe, Tinned inside, Town	27 0 0 " —
Country	27 15 0 " —
Lead Pipe, Tinned inside and outside	29 10 0 " —
Town	30 5 0 " —
Country	30 15 0 " —
Composition Gas-Pipe, Town	28 0 0 " —
Country	28 15 0 " —
Lead Soil-pipe (up to 4in.) Town	28 0 0 " —
Country	28 15 0 " —
[Over 4in. £1 per ton extra.]	
Lead, Common Brads	17 17 6 " 18 12 6
Lead Shot, in 28lb. bags	24 15 0 " —
Copper Sheets, sheathing & rods	75 0 0 " 75 10 0
Copper, British Cake and Ingots	64 0 0 " 65 0 0
Tin, English Ingots	143 0 0 " 144 0 0
Do., Bars	146 0 0 " 146 10 0
Pig Lead, in cwt. Pigs (Town)	22 0 0 " —
Sheet Lead, Town	24 10 0 " —
Country	25 5 0 " —
Genuine White Lead	31 15 0 " —
Refined Red Lead	32 0 0 " —
Sheet Zinc	Price on inquiry.
Old Lead, against account	17 0 0 " —
Tin	7 9 0 " —
Cut nails (per cwt. basis, ordinary brand)	0 12 0 " —

SLATES.

Blue Portnadoc	in. 10. 12. 12. 6. 1.2000 ft. sup.
" 16. 8. 6. 12. 6. " "	
Blue Bangor	20. 10. 13. 2. 6. " "
" 20. 12. 13. 17. 6. " "	
First quality	20. 10. 13. 0. 0. " "
" 20. 12. 13. 15. 0. " "	
" 16. 8. 7. 5. 0. " "	
Eureka unfading green	20. 10. 15. 17. 6. " "
" 20. 12. 18. 7. 6. " "	
" 18. 10. 13. 5. 0. " "	
" 16. 8. 10. 5. 0. " "	
Permanent Green	20. 10. 11. 12. 6. " "
" 18. 10. 9. 12. 6. " "	
" 16. 8. 12. 6. " "	

BRICKS. (All prices net.)

Table listing various brick types and prices, including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks, and Accrington Camber Arches.

Net free on rail, or free on boat at works.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed brick types such as White, Ivory, and Buff, along with their prices and specifications.

MOULDED BRICKS.

Table listing moulded brick types like Stretchers and Headers, and their prices.

Table listing various lime and cement products, including Best Portland Cement and Grey Stone Lime.

STONE.

Table listing stone products such as Red Mansfield, Darley Dale, and Red Corsehille, with their prices per foot cube.

* All F.O.R. London.

Table listing stone products like Bath Stone and Portland Stone, including prices per foot cube.

TILES.

Table listing various tile types such as Plain red roofing tiles, Hip and Valley tiles, and Selected Perfecta roofing tiles.

OILS.

Table listing various oil products including Rapeseed, Cottonseed, Olive, and Turpentine, with prices per ton or gallon.

GLASS (IN CRATES).

Table listing glass products like English Sheet Glass and Hartley's English Rolled Plate, with prices per square foot.

VARNISHES, &c. Per gallon.

Table listing various varnish products such as Fine Pale Oak Varnish and Superfine Pale Elastic Oak.

The rural district council of Winchcombe have adopted plans submitted by Messrs. Phillott and George, of the Promenade, Cheltenham, for twelve cottages at Beckford.

The Swansea Town Council decided on Wednesday to apply to the Development Commissioners for a grant of £26,000 for the purpose of the construction of a light railway in the Gower Peninsula.

In the course of a lecture at the Royal Photographic Society's exhibition at the Suffolk-street Galleries on Tuesday evening, Mr. A. Radcliffe Dugmore, who had just returned from Belgium, said that in Dinant, which he had visited, 1,100 buildings were razed to the ground, and only 400 remained standing.

TRADE NOTES.

Under the direction of Mr. C. W. Bullen, surveyor to the Norfolk Education Committee, Boyle's latest patent "Air-pump" ventilators have been applied to the London-road School, Dereham.

The last part of Messrs. C. Jennings and Co.'s advertisement in our issue of September 11 should have read as follows:—T. G. and B. in 1/2 by 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

The London County and Westminster Bank desire to inform all traders doing business with France that the special facilities which they have given since the declaration of war and during the present crisis in connection with the London County and Westminster Bank (Paris), Ltd., will be continued, and any inquiries in connection therewith should be made to 82, Cornhill, E.C.

After providing £101,518 for depreciation, reserve, and sinking funds, the directors of the Associated Portland Cement Manufacturers (1900) recommend the payment of a final dividend on the 5 1/2 per cent. preference shares to June 30 last, and that £151,570 be carried forward, as against £51,534 carried forward a year ago. A dividend of 5 per cent. was paid on the ordinary shares in the preceding year.

At the last meeting of the borough council of Deptford complaints were made that the cost of repairing the High-street had exceeded the surveyor's estimate by £360, it being urged that the paving had been more expensive than would have been the case had a contractor done the work. The borough surveyor explained that the lowest tender received in response to the council's invitation was £4,625. The number of blocks taken up was 246,000, of which he had hoped to clean and cut 220,000. He actually got into depot only 150,000, thus showing that 72,000 blocks were stolen.

Telephone: DALSTON 1388.

OGILVIE & CO. Many years connected with the late firm of W. H. LASCELLES & CO., of Bunhill Row. Mildmay Avenue, ISLINGTON, N. EXPERTS in HIGH-CLASS JOINERY. ALTERATIONS & DECORATIONS. ESTIMATES FREE.

FOR Olivers' Seasoned Hardwoods, Wm. Oliver & Sons, Ltd., 120 Bunhill Row London E.C.

TENDERS.

* * * Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

Table listing tenders for the erection of a villa at Chilcompton, near Bath, for Mr. W. R. Lush, Mr. W. F. Bird, M.S.A., Midsomer Norton, architect:—Tovey, C. G., 4800 0 0; Smith, S., 747 0 0; James, F., and Son, Holcombe, 715 0 0; Croucher, F., 707 0 0; Gollidge, J. T. (accepted), 660 0 0 (Rest of Midsomer Norton).

CHIPPING NORTON.—For sewage-disposal works, for the corporation:—

Table listing tenders for sewage-disposal works at Chipping Norton, Section No. 1:—Shardlow, J. J., Leicester, 43,072 0 0; Hill, A., & Son, Kidderminster, 3,050 0 0; Thorpe, W., Birmingham, 2,745 15 1; Rowell & Sons, Chipping Norton, 2,637 16 4; Holloway, G., Wolverhampton, 2,403 0 0; Tilt and Son, Bromsgrove, 2,787 0 0.

Table listing tenders for sewage-disposal works at Chipping Norton, Section No. 2:—Thorpe, W., 7,153 4 9; Tilt and Son, 7,026 0 0; Holloway, G., 7,000 0 0; Hill, A., and Son, 6,420 0 0; Rowell & Sons, 6,150 10 7; Shardlow, J. J., 6,000 0 0.

Note.—Still under consideration.

Table listing tenders for alterations and additions to the Hither Green branch, 363, Hither Green-lane, for the London and Provincial Bank. Messrs. Norfolk and Prior, Catford, Lewisham, and Forest Hill, architects:—Loasby, F. W., 11,598 10 0; Rose, F. G., 1,597 0 0; Watt, J., 1,560 0 0.

GREAT DRIFFIELD.—For additions to waterworks and sewerage system, for Driffield Rural District Council. Mr. H. Botterill, 23, Exchange-st., Great Driffield, architect:—

Table with 2 columns: Contractor Name and Amount. Includes Taylors, Ltd., Driffield (£10 17 6), GREAT YARMOUTH.—For erection of the Newtown school, for the Education Committee:—

HOVE.—For widening Hove-street, for the corporation:—

Table with 2 columns: Contractor Name and Amount. Includes Parsons, J., and Son, Hove (£3,447 0 0).

JOHANNESBURG.—For the supply of 8,000 yards of .035 twin cable, for the municipal council:—

Table with 2 columns: Contractor Name and Amount. Includes Gould, R. H., and Co. (£1,465 0 0), Western Electric Co., Ltd., North Woolwich (£1,385 0 0), etc.

KIRKELINGTON.—For erection of a school, for the Notts Education Committee:—

Table with 2 columns: Contractor Name and Amount. Includes Greenwood, J., Mansfield (£660 0 0).

KNOCKHOLT.—For erection of eight cottages at Knockholt, for the Bromley Rural District Council:—

Table with 2 columns: Contractor Name and Amount. Includes Duthoit, F. P., Bromley (£2,318 0 0), Gorman, T. C., Surrey (£2,039 2 0), etc.

LANDRAKE.—For erecting stone bridge, for St. Germain's R.D.C. Mr. H. A. Hosking, Landrake, architect:—

Table with 2 columns: Contractor Name and Amount. Includes Runnalls and Sons, Liskeard (£130 0 0).

LEYTON.—For the supply of furniture for Canterbury-road school temporary premises, for the education committee:—

Table with 2 columns: Contractor Name and Amount. Includes Koughsher, Ltd. (£185 4 0), North of England School Furnishing Co., Ltd. (£178 16 2), etc.

LISNAKEA.—For additions to workhouse, for the guardians. Mr. J. O'R. Hoey, Board Room, Workhouse, Lisnakea, clerk:—

Table with 2 columns: Contractor Name and Amount. Includes Craig and Patton, Ltd., Belfast (£150 0 0), Maguire & Gatebell, Ltd., Dublin (£105 0 0), etc.

MERTHYR.—For rebuilding Royal Oak Hotel, Ystrad Mynach, for Messrs. Giles and Harrop. Mr. C. M. Davies, M.S.A., 112, High-street, Merthyr, architect:—

Table with 2 columns: Contractor Name and Amount. Includes Morgan Bros., Abercynon (£2,600 0 0), Williams, J., and Sons, Merthyr Tydfil (£2,423 0 0), etc.

NEWCASTLE-ON-TYNE.—For the erection of public baths in the schools of Benwell, Heaton, and Walker, for the Newcastle City Council:—

Table with 2 columns: Contractor Name and Amount. Includes Davidson, S. F., Newcastle (£2,000 0 0).

OAKAMOR.—For the enlargement and extension of the sewage-disposal works at Oakamor, for the Cheadle Rural District Council. Mr. F. T. Ioskip, Brook House, Cheadle, Staffs, surveyor:—

Table with 2 columns: Contractor Name and Amount. Includes Taylor, J., and Son, Basford (£240 0 0), Paterson, J., Oakamor (£225 0 0).

RHYL.—For adding an administrative block to the isolation hospital, for the urban district council:—

Table with 2 columns: Contractor Name and Amount. Includes Torkington, A., Rhyll (£595 0 0).

SOUTHAMPTON.—For private street works, for the corporation:—

Table with 2 columns: Contractor Name and Amount. Includes Hillside-avenue, Osman, F., and Co. (£1,665 0 0), Douglas, J. (£1,550 0 0), etc.

STOKE-ON-TRENT.—For printing the new administrative block, for the Stoke-on-Trent and Stoke Rural Joint Hospital Board:—

Table with 2 columns: Contractor Name and Amount. Includes Harrington, G. W. S. (£87 0 0).

SWALLOWNEST.—For sewerage construction, for the rural district council:—

Table with 2 columns: Contractor Name and Amount. Includes Nadin, J., Sheffield (£333 11 0).

THIRSK.—For erecting a storehouse and out-buildings at the isolation hospital, for the Thirsk Rural District Council. Mr. Lake, surveyor:—

Table with 2 columns: Contractor Name and Amount. Includes Stephenson, R. (£102 19 6).

THURNSCOE.—For the erection in brick and stone of a public convenience in Lidgett-lane, Thurnscoe, for the Thurnscoe Urban District Council. Mr. T. Bull, M.I.Mun.E., surveyor:—

Table with 2 columns: Contractor Name and Amount. Includes Cliffe, H., and Co., Mexborough (£140 0 0), Shephard Bros., Clayton (£124 10 0), etc.

THURNSCOE.—For forming, kerbing, and concreting seven streets on building estate, Thurnscoe, for the Thurnscoe Urban District Council. Mr. T. Bull, M.I.Mun.E., surveyor:—

Table with 2 columns: Contractor Name and Amount. Includes Worthington, W. H., and Co., Manchester (£1,560 12 0), Edwards and Co., Doncaster (£1,310 0 0), etc.

UTTOXETER.—For painting the town hall, for the urban district council:—

Table with 2 columns: Contractor Name and Amount. Includes Phillips and Sons (£127 10 0).

WELLINGBOROUGH.—For erection of a public convenience at the junction of Cannon- and Cambridge-streets, for the urban district council:—

Table with 2 columns: Contractor Name and Amount. Includes Hacksley Bros. (£392 0 0), Stevens, W. (£365 0 0), etc.

WEYMOUTH.—For erection of stores and offices at Sunnybank, for the town council:—

Table with 2 columns: Contractor Name and Amount. Includes Jesty and Raker (£194 0 0), Whettam, A. E. (£167 0 0), etc.

WHITBY.—For alterations at the workhouse laundry, for the guardians:—

Table with 2 columns: Contractor Name and Amount. Includes Manlove, Allott, and Co. (£191 5 0).

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

* Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

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VENETUS.—Yes.

T. R. L.—Please send.

A. J.—There is no charge.

PLATON.—The objection seems to us a frivolous one.

W. G. L.—We have never seen it used, and should think it would be considerably less impermeable than good thatch. Mr. J. G. Cowell, of Soham, is the best thatcher and reed-layer we know. He might tell you.

G. A. R.—We cannot say. The City of London certainly hardly behaved well over London Bridge. There was a competition, with three premiums offered of £250, £150, and £100. Messrs. Nash, Searns, Starke, and Montague were the assessors, and they awarded the first premium to Mr. Joseph Gault. The Corporation refused to abide by the assessors' award, and gave the three premiums to Mr. Charles Fowler, Mr. T. Borer, and Mr. C. A. Busby, leaving Mr. Gault out altogether. Then the Corporation produced another design, which had been prepared before the competition by Mr. John Renne, and decided to build from that.

LIST OF COMPETITIONS OPEN.

Table with 3 columns: Date, Description of Competition, and Name of Organizer. Includes Sept. 26—Four Cottages, Old-road, Bromyard; Oct. 11—Technical Schools and Education Offices, Southport; Oct. 31—Laying Out Show Grounds, Wayville West, Adelaide; Oct. 31—Drawings for Police Buildings and Fire Station, St. Helens; Dec. 31—Planning Workmen's Settlement, Campine Coalfield.

LIST OF TENDERS OPEN.

BUILDINGS.

Sept. 18—Council Schools, Borrowwash	Derbyshire Education Committee	G. H. Widdows, F.R.I.B.A., County Offices, Derby.
18—Outbuildings at Cemetery Lodge, Eastgate, Sleaford	Urban District Council	E. Clements, Clerk, 74, Southgate, Sleaford.
18—Three Houses, Bradford-road Gasworks, Manchester	Gas Committees	The City Architect, Town Hall, Manchester.
19—Grammar School, Nantwich	Corporation	H. Beswick, F.R.I.B.A., County Archt., Newgate-st., Chester.
19—Ruehill Hospital, Alterations to, Glasgow	Misses Barnes	J. Lindsay, Town Clerk, City Chambers, Glasgow.
19—Residence, Heversham, Westmorland	Town Council	J. F. Curwen, F.R.I.B.A., F.S.A., 26, Highgate, Kendal.
19—Cottages, Victoria-road, Cambridge	Glasgow Corporation	J. E. L. Whitehead, Town Clerk, Guildhall, Cambridge.
19—Fire Station, Additions to, Partick	Essex Education Committee	J. Lindsay, Town Clerk, City Chambers, Glasgow.
21—Handicraft Centre, Waltham Abbey	Highways Committee	G. T. Forest, County Archt., 73, Duke-street, Chelmsford.
21—Workmen's Dwellings (10), Bridlington	Wath Main Colliery Co., Ltd.	E. R. Matthews, Boro' Sur., Town Hall, Bridlington.
21—Cottage Houses (34), Wath-road, Bolton-on-Dearne	Guardians	J. E. Knight, Archt., 11, Westgate, Rotharham.
21—Workhouse Infirmary, Extending Kitchen of, Blackburn	Education Committee	J. H. Wilson, Archt., 4, King-street, Blackburn.
21—Two Shops, Machen	Corporation	P. J. Jones, Archt., Church-street, Pontypridd.
21—Council School, Alterations to, Ellesmere-rd., Sheffield	Corporation	The City Architect, Town Hall, Sheffield.
21—Workmen's Dwellings, Coventry	Corporation	J. E. Swindlehurst, City Eng., St. Mary's Hall, Coventry.
21—Weights and Measures Offices, Friargate, York	Holland County Council	F. W. Spurr, City Eng., Guildhall, York.
21—Gray's Farm, House and Buildings at, Desping Fen	Urban District Council	E. Christie, Land Agent, Sessions House, Boston, Lincs.
21—Kitchen, Additions to, Town Hall, Farnborough	Monmouthshire Education Com.	J. E. Harsreaves, Sur., Farnborough.
21—School (600 places), Cefn-Forest	Djanfyllin R.D.C.	J. Bain, F.R.I.B.A., County Council Offices, Newport, Mon.
22—Eight Working-class Dwellings, Llanfair Caereinion	Ilford Urban District Council	T. Edwards, Clerk, 10, Market-street, Llanfyllin.
22—Phthisis Sanatorium Isolation Hospital, Chadwell	Guardians	H. Shaw, M.I.C.E., Town Hall, Ilford.
22—Institution, Laundry Extension at, Bagthorpes	Watch Committee	A. Marshall, A.R.I.B.A., King-street, Nottingham.
22—Firemen's Dwellings, Chapel-street, Oldham	Electricity Committee	Winder and Taylor, Archts., 61, Union-street, Oldham.
22—Brickwork Settings, Electricity Works, Warrington	Guardians	F. V. L. Mathias, Boro' Elec. Eng., Howley, Warrington.
22—Relief Office, Alterations to, 97, Moston-st., Hanley	Corporation	T. Wood, Clerk, Stoke-on-Trent.
22—Holywell School, Alterations to, Keighley	Derbyshire Joint Hospital Board	The Borough Engineer, Keighley.
22—Buildings, Improvements to, Asylum, Macclesfield	Alverstone Gas Committee	H. Beswick, F.R.I.B.A., County Archt., Newgate st., Chester.
22—Isolation Hospital, Outbuildings at, Tredington	Orsett Rural District Council	J. Villar, F.S.I., H.S.A., 5, Essex-place, Cheltenham.
22—Chimney Stack, House of Industry, Park-road, Gosport	Wrexham R.D.C.	A. F. Smith, Archt., Star Chambers, Gosport.
22—Valve House, Bradford-road Station, Manchester	Cardigan Education Committee	F. A. Price, Supt., Gas Department, Town Hall, Manchester.
22—Dorrington Convalescent Home, Perranporth	Corporation	A. J. Cornelius, M.S.A., Truro.
22—Cottages (14), West Thurrock, Grays	Urban District Council	J. J. Winter, Archt., 2, Heygate-avenue, Southend-on-Sea.
22—Houses (22), Rhoslanerchrugog	Abergavenny Visitors Com.	J. Price Evans, Sur., Argyle Chambers, Wrexham.
22—Asylum, Disinfecting Chamber at, Monmouthshire	Cardigan Education Committee	Johnson, Richards, and Jones, Archts., Abergavenny.
22—Public Health Offices, Elm-street, Ipswich	Corporation	G. Dickens-Lewis, M.S.A., County Archt., Aberystwith.
22—Isolation Hospital, Additions to, Ashford	H.M. Works Commissioners	J. R. Mead, Boro' Eng., Town Hall, Ipswich.
22—New Wing, London Institution, Finsbury-circus, E.C.	Belfast Banking Co.	W. Terrill, Sur., North-street, Ashford, Kent.
22—Bank, Warrenpoint, Co. Down	Kirkcaldy School Board	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
22—Blairhill School, Dysart	Urban District Council	S. F. Close and Son, Archts., Donegall-sq., Buildings, Belfast.
22—Ventilating Public Offices, Elms-street, Whitefield	Urban District Council	W. Williamson, F.R.I.B.A., Royal Bank Buildings, Kirkcaldy.
22—Town Denot at Stone Croft, Ton Locks, Runcorn	Urban District Council	G. M. Denton, Eng., Council Offices, Whitefield, Lancs.
22—Public Offices, Alterations to, Whitefield	Urban District Council	E. Marshall, Sec., Town Hall, Runcorn.
22—Cattle Market, Richmond, Yorks	Urban District Council	G. M. Denton, Eng., Council Offices, Whitefield, Lancs.
22—Houses (58), Whitefield	H.M. Works Commissioners	E. C. Surtees, M.S.A., Barnard Castle.
22—New Post Office, Frome	Rural District Council	G. M. Denton, Eng., Council Offices, Whitefield, Lancs.
22—Cottages (12), Lower Village, South Mimms	Cardiff Corporation	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
22—Workmen's Dwellings (144), East Moors	H.M. Works Commissioners	G. D. Byfield, Clerk, 12, High-street, Barnet.
22—Labour Exchange, Adaptation of, Harlesden	Corporation	W. Harpur, M.I.C.E., City Eng., City Hall, Cardiff.
22—Reinforced Concrete Floors, Municip. Bldgs., Glasgow	Staffordshire Education Com.	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
22—School (100 places), Gnosall	Urban District Council	Watson and Salmond, Archts., 242, West George-st., Glasgow.
22—Culvert along Duke's Ditch, Edensor-road, Chiswick	Urban District Council	G. Balfour, Director of Education, Staffor.
Oct. 1—Police Station, Port Erin	Urban District Council	E. Willis, A.M.I.C.E., Sur., Town Hall, Chiswick.
1—New Post Office, Extension of, Ballsbridge	Town Council	The Secretary, Government Office, Douglas, Isle of Man.
3—Electricity Works, Extension of, Dartford	Rural District Council	The Office of Public Works, Dublin.
5—Electricity Works, Extensions to, Heywood	Heywood Town Council	The Surveyor, Council Offices, Dartford.
5—Six Workmen's Dwellings, Poterne	Guardians	J. B. Nuttall, Boro' Sur., Heywood.
5—Sub-station, Heap Bridge	Urban District Council	T. V. Trumper, Ivy House, Devizes.
6—Children's Home, Nunceaton	Urban District Council	J. B. Nuttall, Boro' Sur., Heywood.
6—Cottages (16), Sevenoaks	Education Committee	E. E. Shepherd, M.S.A., Nunceaton.
9—Parr-street Council School, Warrington	West Riding Education Com.	S. Towlson, A.M.I.C.E., Sur., Argyle-road, Sevenoaks.
9—Coltsata Hill School, Alterations at, Ripon	Jancaire County Council	J. M. Murray, M.Sc., Sec. and Director, Warrington.
10—Police Station, Irlam	Education Committee	The Education Architect, County Hall, Wakefield.
12—New Manual and Cookery Centre, Epping	West Sussex Education Com.	H. Lister, County Archt., 16, Ribblesdale-place, Preston.
13—Elementary School, Northchapel	West Sussex Education Com.	G. Topham Forrest, Archt., 73, Duke-street, Chelmsford.
13—Elementary School, Lower Beeding, Colgate	West Sussex Education Com.	H. Roberts, F.R.I.B.A., Thurloe House, High-st., Worthing.
13—School, Additions to, East-street, Littlehampton	West Sussex Education Com.	H. Roberts, F.R.I.B.A., Thurloe House, High-st., Worthing.
13—School, Additions to, Lymminster	Visiting Committee	H. Roberts, F.R.I.B.A., Thurloe House, High-st., Worthing.
23—Asylum, Enlargement of, Bracebridge, Lincoln	H. J. Croft	F. Parker, Archt., The Square, Boston, Lincs.
No date—Church Room, Llanfyllin	Board of Agriculture for Scotland	H. Huges, Archt., Diocesan Office, Bangor.
do.—Heavy-framed Pitch-pine Structures (Supply & Erection)		"Pitch Pine," BUILDING NEWS Office, Arundel-st, Strand, W.C.
do.—Motor Garage and Workshops, Highgate, Kendal		J. Hutton, Lic R.I.B.A., Kendal.
do.—Cottages (12), Ballencrief Farm, Drem		The Chief Surveyor, 29, St Andrew-square, Edinburgh.

ELECTRICAL PLANT.

Sept. 18—Plant, Limerick	Corporation	E. B. Thorahill, A.M.I.E.E., Frederick-street, Limerick.
21—Electric Lift for Heavy Vehicles, St. Pancras, N.W.	Borough Council	C. H. F. Barrett, Town Clerk, Town Hall, Pancras-road, N.W.
22—Draught Fans at Generating Station, Greenwich, S.E.	London County Council	The Clerk, County Hall, Spring Gardens, S.W.
26—Plant, Infectious Diseases Hospital, Clatterbridge	Wirral Joint Hospital Board	J. E. S. Ollive, Clerk, 54, Hamilton-street, Birkenhead.
28—Electrical Installation, Gifford-st. School, Islington, N.	London County Council	G. W. Humphreys, Chief Eng., Spring Gardens, S.W.
29—Switchgear, Walsall	Corporation	E. M. Lacey, M.I.C.E., 12, Victoria-st., Westminster, S.W.
30—Telephone Instruments, Sydney, N.S.W.	Deputy Postmaster-General	The High Commissioner for Australia, 72, Victoria-st., S.W.
Oct. 7—Telephone Switchboard Parts, Sydney, N.S.W.	Deputy Postmaster-General	The High Commissioner for Australia, 72, Victoria-st., S.W.
12—Three-Phase Motors, Melbourne, Australia	Agent-Gen. for Victoria, Australia	Merz and McLellan, Engrs., 32, Victoria-st., Westminster, S.W.
11—Switchgear, Melbourne	Victorian Rly. Commissioners	The Victorian Railways Offices, Spencer-street, Melbourne

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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OUR ILLUSTRATIONS.

A New Civic Centre for Exeter. By Mr. Thomas Mawson, Hon. Associate R.I.B.A.
Clubhouse, Wilton Park Golf Club. Two views and plan. Mr. Stanley Hamp, A.R.I.B.A. (Messrs. Colcutt, Hamp, and Tilden), Architect.
House at Averham, Notts. View and plans. Mr. Cyril A. Farey, Architect.
House at Madrid, for the Duke of Santo Mauro. View and plans. Mr. G. Grey Wormum, Architect.
Broadway House, Westminster. View and plans. Mr. Edgar Stones, Architect.
Concrete Building for Cottages.

A NEW CIVIC CENTRE FOR EXETER.

[WITH ILLUSTRATION.]

The accompanying bird's-eye perspective, which we have reproduced from the original drawing shown this summer at the Royal Academy Exhibition, illustrates the centrepiece of the city development scheme recently prepared for the Exeter Municipal Council by Mr. Thomas H. Mawson, Hon. Associate R.I.B.A. His report is printed under the title of "Exeter of the Future: a Policy of Improvement," and from this document it may be gathered that the project had its origin in the "demolition order" concerning the area situate west of Paul-street. But this present plan, upon which Mr. Mawson has been employed by the city authorities, covers a much more considerable portion of Exeter as set out in the proposals ultimately presented, and some buildings, consequently, not included at the outset, and which do not occur, seemingly, in the schedule of the "order" referred to, are now comprised within this scheme. These additional buildings, however, are described by the paper before us as being of no special, or, to quote more precisely, of no "considerable value." This qualification, we presume, is intended to be understood in a relative sense. When the time comes for the erection of municipal offices—and that day cannot be indefinitely delayed—this lay-out by Mr. Mawson will be put forward as the basis of what has to be done, and, with this end in view, we understand, he was engaged, being an experienced expert in undertakings of this character.

Foremost among the chief items to be dealt with according to this plan are the market buildings in Queen-street, and St. Pancras' Church hard by, for these two premises, if these proposals were adopted, would have to be removed when clearing the site. As to the market, its "two dignified" façades might, as Mr. Mawson suggests, be rebuilt elsewhere, perhaps; but the report says about the circumscribed area as a whole that little of consequence will be interfered with, and as to this market in particular, there is probably not another building in the city, and certainly not one of its dimensions, which could so easily be spared in order to allow of its spacious central site being put to a far better use. The writer has likewise pointed out that another equally good market, if not so large in extent, also exists lower down the town in Fore-street. Hitherto this secondary market has been chiefly used only on Saturdays, if we are correctly informed, and there is little doubt that some of the traders in the city might well consider the Queen-street market, being much nearer to the railway

station, would be far preferable in position for the business done in a certain class of merchandise. The church of St. Pancras, situate behind the market, and immediately at the rear of the old Guildhall, is the oldest parochial church in Exeter, and, that being so, the structure, though small in size and not much seen, is rightly reckoned as ranking among the archaeological landmarks of the city. The removal of such a building, therefore, should only be permitted under exceptional circumstances, even though the fabric may have been somewhat unduly altered and spoiled by restoration, much to its detriment as an historic record. Mr. Mawson recognises this obligation as to the preservation of old buildings. He by no means tries to evade it; but at the same time his view is unhesitatingly pressed home that this identical building is one of the exceptions to this same wholesome rule, and, considering the immediate problem which has to be solved, he thinks himself more than justified in recommending its destruction. Other buildings of greater architectural merit have already been sacrificed to what is termed the "progressive work" done in the City of Exeter. It so happens, too, that this church, at best, is only one among many of a similar mediocre kind, notwithstanding its claim to great age. Moreover, none of the churches in the town happen to be of eminent importance. Space precludes our going into the merits of this precise contention about the demolition of St. Pancras Church, and local opinion doubtless will have much to urge on both sides as to this and other details involved. Everybody must recognise, anyhow, the extreme difficulty of modernising the conveniences of any historic city like Exeter without materially intruding upon some of its ancient features and architectural distinctions. It is beside the mark to protest that no such alterations should be permitted, as changes of this kind are inevitable. Of course, historic buildings such as we have alluded to can have but little in common with "up-to-date commercial requirements," and no doubt old and quaint premises, however charming and replete with æsthetic interest, are liable to "stand in the way of contemporary business needs" or hamper "civic developments," not to mention the exigencies of everyday traffic. Such conflicts of modern life with old-world environments are patent enough, and Mr. Mawson, while recognising these things, has sought to solve the problem in such a way as to steer clear of the self-evident objections most likely to be magnified, perhaps with the best intentions in the world, and also calculated to furnish obstructionists with plausible reasons put

forward to maintain the status quo. The case, nevertheless, is by no means singular, because all town-planning projects, even if restricted by more confined limitations, must, when applied to old streets and oddly-shaped thoroughfares, necessarily impinge upon antiquarian sentiment and hamper vested interests, while it is certain that all changes of the sort are quite likely enough to seriously damage contiguous old-fashioned properties rambling in style and rich in associations of the past.

Mr. Mawson assures us that he is not indifferent to circumstances of this nature, and, to do him justice, he has emphasised in his report the importance of all such dangers. More than once he alludes to the question, and appreciatively refers to the maintenance of amenities of such a category. He also protests emphatically enough that too frequently such reasonable discriminations have been ignored by so called "town improvements" as carried out here, there, and everywhere. Few architects, and probably fewer art craftsmen, can claim immunity from their over-restorations years ago, and for work comprising incongruous additions to old historic examples, particularly altar-pieces, stalls, pulpits, screens, and other wood or stone erections, to the virtual distraction of character in ecclesiastical buildings. Men have often made fortunes trading in such inartistic incompetence. Mr. Mawson is not exempt from criticism, and his proposals certainly must be decided on their merits. We have no wish to prejudge the matter. It is still open to discussion, awaiting a settlement by the city itself.

This civic centre, thus projected, is to be located on the south-west side of Queen-street, and the accompanying picture shows the group as it is proposed. The town-hall and public offices occupy the central building, which is flanked on its right by a public library, and a corresponding block occurs on the left, to be devoted to a municipal museum. To clear this site in the heart of the city, and allow sufficient room for open spaces round these buildings, a large area is needed, and Mr. Mawson has described it, contending that the old streets to be demolished have only to be inspected to be condemned as being completely unworthy of a moment's consideration. In regard to the two important corner premises in High-street and Queen-street occupying the site of the contemplated museum block, he says that this new building will, anyhow, not be wanted for many years to come. So rapidly, he argues, do commercial conditions change nowadays that such high-class business premises as these are have at most a life rarely exceeding fifty years, so that, although the cost of purchasing this pro-

perty standing at the angle of Queen-street and High-street, Exeter, might at the present moment probably be prohibitive, the time will arrive when this corner will need to be rebuilt. Then an opportunity would occur to acquire the property for little more than site value.

In the meantime, Mr. Mawson realises the wisdom of forethought, and so he has evolved a scheme on a comprehensive scale for the execution of which he contemplates the employment of an architect of repute to design the actual buildings. This is sufficient answer to those who assert that the intention is to Americanise the township; while others, who view such an appointment with a jealous eye, overlook the possibility or the likelihood of a regulated competition open to all the talent of the country, and so instituting an open contest based upon a general reconstruction of this part of Exeter as defined by Mr. Mawson, who seemingly does not expect his designs for the actual buildings to be precisely put into execution straight-away.

It is the library portion which is at first contemplated, for the good reason that its cost is being provided for by Mr. Andrew Carnegie, who, with becoming munificence, judged in this way, has largely contributed towards the possible realisation of this initial undertaking. In any event, certainly it is of the utmost consequence that the city council should determine upon a broadly-considered and practical scheme at the outset, such as shall be worthy of adoption by the representatives of the ratepayers and property-owners, prior to any portion of the contemplated undertakings being actually put in hand. An urgent scheme such as this obviously must be reckoned to be cannot advisedly be put off much longer by Devon's busy centre, seeing that economy of administration can only be realised when adequate public offices are furnished in which the municipal work of this famous city of the West Country shall be efficiently performed. At present, numerous departments of the town are housed in a scattered fashion in different parts of the place.

The overcrowding of the High-street—particularly on Fridays, Exeter's market day—is most inconvenient, not to say exceedingly hazardous, especially when "war news" or "strike news" is posted up at the paper offices. The congestion during business hours is intense. The country folk linger badly, and do not "move on" as Londoners more speedily do under the direction of the Metropolitan Police. There are no tram-lanes in Fleet-street, nor cars crawling along as they do up Fore and in High streets at Exeter. We speak with knowledge, having had some experience both there and for long years in town. Mr. Mawson proposes to relieve this pressure of traffic by carrying Waterbeet-street forward till it joins Queen-street, when, by the addition of a little widening of the old part of the street, a new thoroughfare between Queen-street and North-street would be created, while further on he says Bartholomew-street must follow as part of his plan, and by these means opening up the old city walls to view. A new elevation is suggested for Queen-street Railway-station, and a screen building is ingeniously shown in a Georgian manner to the widened Martin-street, the lower part of this building facing the end of Queen-street being treated as an arched way for a picturesque means of access. Close to the old Guildhall a new street is proposed, leading immediately down to Cathedral-yard, nearly facing the west front of the cathedral. Its approach at present lower down is mean

and much too casual. The portals' famous sculptured screen and rich façade of the cathedral could in this way be opened up and viewed to advantage from the High-street near a point in front of the old Guildhall. This delightful old building, too, in its turn would end the vista as seen from Cathedral-yard. Mr. Mawson, in his summary, justly includes the advantage of a public park to such a city as Exeter. He reckons this might be accomplished by acquiring the remaining grounds of Streatham Hall, of which he has given a short descriptive account in his report. He likewise publishes a design for a new entrance lodge with big iron gates to Northernhay Gardens. In conclusion, the report makes it perfectly clear that Mr. Mawson in no sense intended that his proposals should take the place of a town-planning scheme for Exeter.

The municipal buildings, library, and museum, as shown in the perspective, will, as we have said, have their main frontage towards Queen-street, with a capacious open space or forecourt leading up to the main central block. The view is approximately taken from the railway-station looking S.W., and so the cathedral just comes within the point of sight looking over the houses beyond the High-street; but the Church of St. Mary Major, in the Cathedral-yard, seems to be shown a little too much to the right by the liberty of the artist. This, perhaps, is a minor matter, and scarcely, of course, affects the essentials of the project. These few particulars are necessary to explain generally the main respective positions of the various buildings represented.

CONCRETE BUILDING FOR COTTAGES.

As yet concrete-built cottages have not been successes. We do not, of course, deny that many considerations warrant the employment of the material. We have illustrated examples from time to time of substantial construction, and more or less repulsive design, very dubiously atoned for as regards cost. The cheapness of concrete is so often insisted on that many forget that with concrete, as other things, the inherent lowness of cost is no criterion of ultimate cheapness. The purchase of moulds or the casting of blocks may not be prohibitory on a job embracing big blocks of dwellings; but it materially hampers the small builder. For the suburban home, as for the more isolated country cottage, the element of cost is important, and prices are rising increasingly every year. If that man is to be commended who makes two blades of grass to grow in the place of one, something may be said also in favour of a system which, by reducing the cost, will certainly tend to increase the number of our cottage homes. Such a system, we think, has been conceived by Mr. T. L. Watson, I.A., architect, of 166, Bath-street, Glasgow (Patent 12592, 1913) and we venture to commend it to the notice of all interested. It will undoubtedly reduce cost, and it does give an architect or builder a chance as far as design goes.

It has been recognised for some years that concrete, spread on a horizontal platform, or in an ordinary foundation, is much cheaper than the same material built up by means of moulds into a wall or cast in blocks and then built into a wall. So much is this the case, that patents have been taken out for forming the walls of a house on horizontal platforms on the ground, and afterwards, by means of powerful machinery, moving them to their destined position, and hoisting them into the perpendicular. This method has been employed occasionally both in this country

and in America with some measure of success; but it is obvious that the cost of providing the requisite machinery, and still more perhaps of moving it from place to place as required, is such as to neutralise to a large extent the advantage gained from the more economical employment of the material. This objection is removed by Mr. Watson's invention, which dispenses altogether with the use of machinery while retaining the advantage of forming the walls of concrete on a horizontal platform. On this system the walls of a cottage or other building are formed by means of a layer of concrete spread on a horizontal platform a few feet above the ground, or, in the case of an upper story, a few feet above the joisting, and hinged in the middle, so that when the concrete has set each wall is turned over on its hinges into the exact position which it is to occupy in the building. As this platform in its horizontal position is balanced in the middle, due allowance being made for door and window openings, it follows that the lower half of the wall, in descending, automatically raises the upper half. No force is required, and no apparatus is employed, the wall turning over as easily and as smoothly as a door on its hinges, or as a fanlight on pivots. The platform having been adjusted to its vertical position before the concrete was applied, the wall naturally assumes its destined place with perfect accuracy. The door and window-frames having been laid down on the platform before the concrete was filled in, the house is now ready for its roof and internal finishing, and, assuming the platforms to have been formed of the roof spars and boarding, the greater part of the material will also be on the ground and ready for use, so that a few weeks longer will see the completion of the building.

We may, of course, if we follow most of our precedents in this country, or if we suffer from a sort of concrete monomania, decide to put a flat concrete roof on the top of our walls, producing a concrete box instead of a cottage. Nothing is gained in economy, comfort, or convenience by such a course—rather the contrary; but, on the other hand, every attractive quality of the kind usually associated with cottage architecture is lost. If the concrete cottage is ever to become a feature of our village or country life, it must, we think, be something other than a square or oblong box with protruding and incongruous chimney-stacks planted upon its flat lid. Fortunately, there is nothing in the nature of things to prevent the concrete cottage from being roofed as any other cottage might be, and from becoming as picturesque and delightful as we choose to make it. Simplicity is, of course, an essential characteristic of the cottage; but why should we be expected to sacrifice the variety, the light and shade, and the colour of the tiled or slated roof without one compensating advantage? The Americans have taken a more intelligent view of the subject than that which prevails in this country. With them concrete walls have been combined with every variety of ordinary pitched roofs. The concrete small dwelling has been made attractive, with the natural result that the material has been largely employed, not merely in cottages, but also in country houses of larger size and more ambitious design.

Subject to the quality of simplicity, which is inherent alike in cottage design and concrete construction, any plan or type of small dwelling may be carried out with concrete as the sole or predominating material of the walls. To some extent the method of construction will influence design; but local characteristics and traditional features need not be ignored, and as with any other material the quality of the design will depend upon the

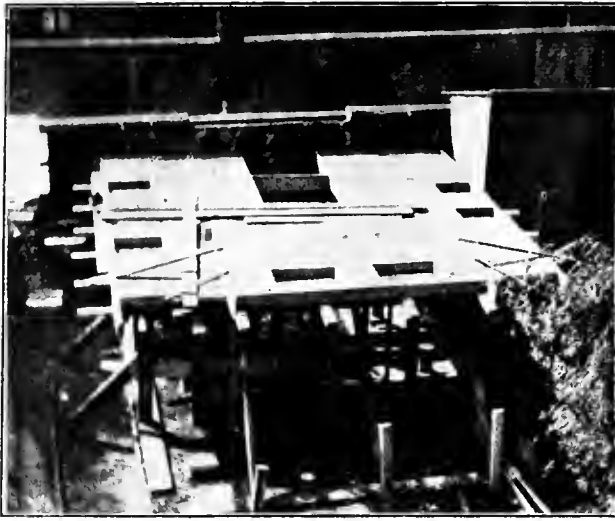


FIG. 1.

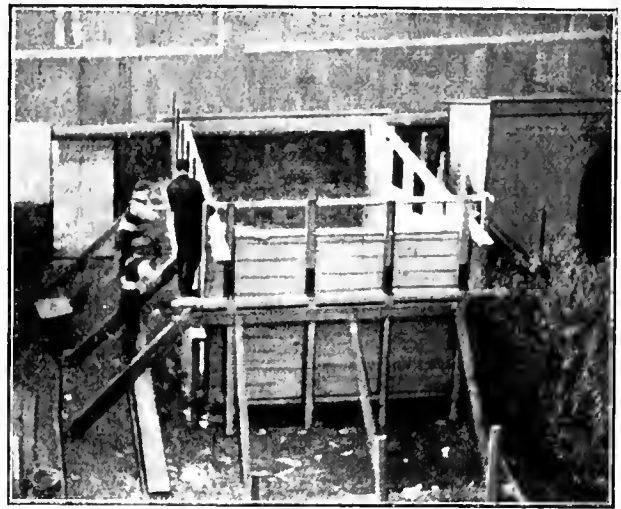


FIG. 2.

designer. One need not have any prepossession in favour of concrete. Most of us have perhaps a more or less sentimental preference for stone or brick; but the roughcast dwelling is with us already, and has a secure place in our affections, and the roughcast dwelling may be of concrete as well as, or better than, of stone or brick.

Fig. 1 shows the first stage in the erection of a garage at Loudon-terrace, Glasgow, its three walls appearing in their

of the concreting of the walls was done easily in one day. When completed, the work was left for a fortnight in the condition shown by Fig. 1.

Fig. 2.—The concrete having set and become perfectly hard, the side walls first, and afterwards the end wall, with their platforms, were turned over on their hinges so as to become the perpendicular walls of the building—an operation that occupied only a few minutes. Grooves having been left in the concrete of the side and end

action by the architectural profession as may be found to be desirable here, with the co-operation of members of other architectural bodies, formed an Architects' War Committee which is broadly representative of the whole profession in the United Kingdom.

It is felt that a contribution by the whole body of architects to the Prince of Wales's Relief Fund will not only secure a larger donation, and enable all to help, however small a sum they are able to subscribe, but that the donation given in this way may encourage others to a like effort. The com-



FIG. 3.

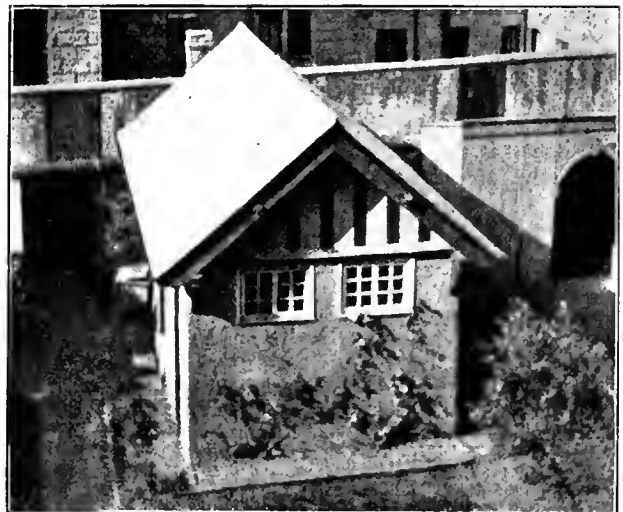


FIG. 4.

horizontal position. There was no fourth wall, as the building abuts on a previously-existing boundary wall, in which, towards the completion of the structure, a wide doorway was broken out. Had there been a fourth wall, its method of construction would, of course, have been similar to that of the end wall facing the spectator.

The foundation of the building having been prepared, the three wooden platforms on which the concrete was to be spread were formed and hinged to supports, their position being adjusted so that when turned over the walls should fall into their places exactly. The platform of the end wall, having to overlap those of the side walls, is made a few inches higher than the others, and, after adjustment, is taken off its hinges and laid aside while the concrete is spread on the side platforms. This done, the end platform is replaced, and, in turn, spread with its layer of concrete. The whole

walls where they meet at the corners of the building, these grooves were filled in from above with liquid cement, thus binding the walls together into one homogeneous and monolithic structure. The illustration shows the workmen in the act of removing the supports and stripping off the wooden platforms, the material of which is laid aside to form the roof of the building.

Fig. 3 shows the roof in process of construction, and Fig. 4 shows the completed and occupied building with its slated roof, the walls being finished externally with roughcast, and internally with a thin coat of plaster.

ARCHITECTS' WAR COMMITTEE.

APPEAL TO THE ARCHITECTURAL PROFESSION.

The Royal Institute of British Architects, feeling it to be their duty in this national emergency to arrange for such collective

mittee will be glad to receive contributions to this Fund.

While, however, it is most important that the National Fund should be supported, the committee cannot be blind to the fact that there is likely to be a great deal of temporary distress among architects. The Board of Trade returns for the month of August show the immense diminution of trade already caused by the war, which cannot fail to have a serious effect on the work of our profession. The funds at the disposal of the Architects' Benevolent Society are quite inadequate to cope with such an emergency. The War Committee, therefore, hope that all architects who are in a position to do so will give the most generous support to the special fund, intended mainly for the assistance of architects and for other matters arising from the war which may affect our profession. Donations in the enclosed form should be sent to the Hon. Secretary, the Architects' War Committee, 9, Conduit-street, Regent-

street, W. Cheques should be crossed "and Co."

ARCHITECTS' WAR COMMITTEE.

I enclose Cheque for £ s. d., of which £ s. d. is a Donation to the Architects' Contribution to the Prince of Wales's National Relief Fund, and £ s. d. is a Donation to the Architects' Special War Relief Fund.

THE ARCHITECTURAL ASSOCIATION—WAR SERVICE.

For the convenience of all members of the architectural and kindred professions and their friends who wish to respond at once to Lord Kitchener's appeal, the following arrangements with the various authorities have been made:—

Lord Kitchener's Army.—All men enlisting at Whitehall in any branch of His Majesty's Regular Forces, through the Architectural Association, will be sent to whichever regiment they may choose, provided it is not recruited to its full strength, and they will be kept together as far as their duties will allow. The President and a number of members have already accepted for the Royal Engineers, where as sappers they will find their civil training gives them a great advantage. Those who prefer to join the cavalry, artillery, or infantry can do so, and the Honorary Secretary is arranging with the recruiting station in the City to send applicants to them for enlistment in the units being reserved for City men. The term of enlistment is for the war, and the age limit is 19 to 35. Pay at the usual Army rates.

A special branch of the Motor Transport Corps is now being formed to collect and repair the numerous cars attached to the Allied Forces in the field. A limited number of recruits are required immediately. Every man applying must be a mechanic, skilled in motor repairs, and he should state whether he can bring his own car or motor-cycle. Pay for the lowest rating will be 3s. 3d. a day. As the corps is expected to leave England shortly recruiting must be rapid, and men wishing to join, who have the necessary qualifications, should communicate with the Hon. Sec. at once.

Work in the profession is likely to become scarcer as the war continues, and to economise employment is most desirable. All assistants and others eligible for Kitchener's Army should not hesitate to join at once, leaving their berths to those who, from age or health, cannot be accepted, and who may otherwise be out of work. In this connection, the Royal Institute of British Architects is arranging for the work of younger men in practice, who wish to join the forces, to be looked after during their absence.

TERRITORIALS.

The Foreign Service battalion of "The Artists" is at full strength, but a few picked men are being enrolled as a reserve, and they will be trained in the second battalion until vacancies occur.

HOME DEFENCE.

A second battalion of "The Artists" is being formed for home defence, and a few vacancies have been reserved for members of the A.A. and R.I.B.A. Members applying to the Hon. Sec. direct will be furnished with an introduction to the head recruiting officer. Men of the second battalion will live at home at present. Term of enlistment, four years. Pay, 1s. a day, and 2s. allowance until barracks are provided. The Territorial Engineers are not at present recruiting for home defence.

THE ARCHITECTURAL ASSOCIATION VOLUNTEER TRAINING CORPS.

The A.A. Volunteer Training Corps, as originally proposed by Mr. Maurice Webb, is now being formed in connection with the Central Volunteer Training Corps Committee, of which Lord Desborough is chairman. This committee has received permission from the War Office to encourage and create training centres throughout the kingdom for men who are ineligible for Lord Kitchener's Army or the Territorials, or who are prevented by special circumstances from joining the Forces. The A.A. Corps, of which the Rifle Club will form the nucleus, is open to all architects and surveyors, and members of kindred professions, the only qualification

being that they are prevented from joining the Army as at present constituted.

The headquarters of the corps will be the Central Electric Supply Co.'s Station, Lodge-road, St. John's Wood, where there is ample accommodation for miniature rifle practice, revolver practice, drill, and skirmishing. Members can drill any day of the week except Sundays, and obtain musketry practice likewise, except on Tuesdays and Thursdays. There is an entrance fee of 5s., and a subscription of 2s. a month; but this latter is liable to be increased if the price of ammunition advances. Rifles and revolvers of service weight are provided for musketry practice at the ranges, with an allowance of twenty-one rounds of ammunition per day free of charge, and members will be able to purchase further supplies at the range if required. The general equipment of the corps will depend on private effort to a great extent, but assistance will also be obtained from the Central Volunteer Training Corps Committee.

It is not proposed to limit membership of the corps in any way, except as stated above, and the Hon. Sec. would be glad to receive names of intending members as soon as possible. All applying should state clearly why they are unable to join the Army, and when enrolled they will be furnished with a special pass, to admit them at headquarters. Application should be made to Mr. Alan Potter, Hon. Secretary, A.A. War Service Bureau, 18, Tufton-street, Westminster, S.W.

A MERCIAN MINSTER AND ITS MEMORIALS.

Under this title a lecture was delivered before the Royal Photographic Society on Tuesday evening at the annual exhibition in the gallery of the Royal Society of British Artists, Suffolk-street, Haymarket, S.W., by Mr. E. W. Harvey Piper. The address was illustrated by over one hundred lantern-slides, chiefly from recently-taken photographs; but there were also shown a few reproducing 18th-century engravings by Thomas Hearne, D. Jenkins, J. Thornton, and other architectural draughtsmen of that period. Mr. Ernest Marriage, F.R.P.S., occupied the chair.

The minster of which he proposed to speak was, the lecturer remarked, one of the cathedrals of the old foundation, one served, therefore, by secular canons and not by monks. Its site in the Mareland was that of one of the most ancient bishops' stools in the kingdom, having had a succession of prelates since the days of Putta in 676, and claimed a still greater, but shadowy, antiquity, taking us back another two centuries. When, he added, that the city had successively borne the names of Caer-flawydd, or the place of beehives, and of Ferileigh, or fern meadows, and that like St. Albans it attained celebrity and a reputation for sanctity through the murder of Ethelbert by his father-in-law, Offa, King of Mercia, all would recognise that the minster of many memorials to be described that evening was none other than Hereford. It was, it must be admitted, a very small edifice, inferior in dimensions to Lichfield, and but little larger than Ripon, Tewkesbury, or Rochester. It exhibited, however, a most interesting and attractive sequence of work of excellent character and of many periods, from the days of Rufus to those of George the Fifth, including Norman, both Early and Transitional, Early English, Decorated, Early and Advanced Perpendicular, Tudor, Jacobean, Georgian (of the basest type).

* Illustrations in the Building News of Hereford Cathedral have included the late Rev. Mackenzie E. C. Walcott's plan of the building and its precincts, Nov. 21, 1879; the late Sir Gilbert Scott's conjectural restorations of the original West front (August 16, 1878), and of the interior of the original apsidal presbytery (August 9, 1878); the exterior of Bishop Audley's Chapel, from S.E., a sketch by S. K. Greenstade, June 12, 1891; the late Oldrid Scott's new West front, January 2, 1903; the twelfth-century episcopal chair in choir, July 25, 1884; the episcopal chair, the font, Cantilupe spire, and Aquablanc tomb (from sketches by G. Haddon), Oct. 5, 1877; and the fourteenth-century processional cross of copper and silver found in the graving of the central tower by Lewis Cottingham in 1811, and purchased and deposited in the library four years ago, December 9, 1910.

Victorian, and Edwardian. The various architectural phases exemplified must, however, be dated by the actual characteristics of the features of the fabric, there being an unusual paucity of documentary evidence, and we had perforce to re-echo Sir Gilbert Scott's lament that much of what was averred apparently authoritatively, was, it must be confessed, merely an enunciation of probable theories which could neither be proved nor tested. No other English cathedral was so richly endowed as was Hereford in its monuments of bishops; but here, again, it must be admitted that all the effigies of the earlier prelates dated only from the middle of the 14th century, when, fortunately for posterity, the picturesque custom developed in this muster of commemorating historic worthies by providing full-length recumbent effigies and placing them in canopied recesses along the walls.

The church in which Ethelbert had been buried was rebuilt in stone in 825, and again reconstructed in 1012. It was burned during an invasion of the Welsh and Danes in 1055, and remained in ruins till 1079, when Bishop Robert de Lorraine began the rebuilding, and the rededication took place in 1110. To this period belonged the existing rude masonry of the east wall in the south transept, which perhaps incorporated in the triforium the rude balusters still existing from Athelstane's Saxon church of 1012. Probably the lower portion of the walls and arcades in the choir also dated from the reign of Henry the First. The arcades of the nave were apparently the work of the days of Bishop Robert de Bathune, c. 1140-5, and possibly the rich ornamentation on the capitals was added a few years later. Before the close of the 12th century the three parallel and independent eastern apses were replaced by Bishop William de Vere by a low ambulatory of four bays, and eastward beyond this again, some twenty years later, a crypt was constructed, on which the Lady-chapel was subsequently raised. About the middle of the 13th century great works were carried out by Bishop Peter d'Aquablanc, in order to improve the lighting of the choir, and possibly because the Norman central tower had collapsed. Aquablanc rebuilt the clerestory, and a few years later demolished the north transept and reconstructed it in a stiff Teutonic fashion, with acutely pointed, almost triangular, heads, unique in English architecture. All this work was of similar character to Aquablanc's canopied tomb, which was doubtless provided before his death in 1268. The halo of sanctity investing the burial-place of Ethelbert was evaporating when Bishop Swinfield succeeded in drawing pilgrims and their offerings to the miracle-working shrine of his predecessor, Thomas de Cantilupe, ascetic, grasping pluralist, man of business, and vigorous defender of the faith. The gifts of those who visited Cantilupe's shrine were probably utilised for the rebuilding of the central tower, and the erection of the chapter-house, and, a little later, for the furnishing of the choir with its stalls. In the last third of the 15th century Bishop Stanbury built the vicars' cloister and college, began the bishop's cloister, and threw out a shallow, rectangular chantry chapel on the north side of the choir. The subsequent additions to the fabric were the octagonal two-storied chantry chapel, extended from the south side of the Lady-chapel by Bishop Edmund Audley, before his translation to Salisbury in 1502, and the addition of two bays to the north nave porch by Bishop Charles Booth in the early years of Henry the Eighth's reign. The cathedral's history, from 1535 until recent times, was a depressing one. During the Civil War in 1643 the city was taken and retaken by Parliamentarians and Cavaliers, and suffered injury from both the contending forces. The Royalists commandeered the lead from the chapter-house roof, and Cromwell's soldiers, after driving them out, smashed the stained glass, tore up the brasses, defaced the monuments, and pillaged the library. Bishop Bisse was a coarse iconoclast, with less excuse for his ignorance and greed. He repaired his palace with

carven stones from the chapter-house, and erected in the choir a pseudo-Greek altarpiece of oak, painted like a drop-scene. The greatest calamity sustained by Hereford was, however, the fall of the western tower and consequent destruction of the main front, an event which occurred on Easter Monday, 1786. Two years later a German, possessing the high culture of his race, but bearing the English name of John Butler, was appointed Bishop, and he, unfortunately, let loose on the cathedral James Wyatt, a self-important architect who had already wrought irreparable mischief at Salisbury. Wyatt shortened the nave by an entire bay and built up a west front, Carpenter's Gothic in type, of inconceivably feeble and lustreless character. Not content with this, he removed from the whole of the nave the fine Transitional Norman triforium and clerestory over either arcade, substituting a meagre design of his own, and replaced the stone vault by one of lath and plaster. Some of the damage occasioned by Bisse and Wyatt was repaired with inadequate ability by Lewis Cottingham and his son, and further works were drastically and skilfully carried out by Sir Gilbert Scott between 1857 and his death in 1878, and more conservatively by his son, the late John Oldrid Scott, to whom we are indebted for the new west front. A new library was built in 1897 at the south-west angle of the Bishop's cloisters, from plans by the late Sir Arthur Blomfield.

The lecturer having traced the development of the cathedral with the aid of a plan, conducted a perambulation around and through the edifice by a series of photographs thrown on the screen. Old views showed that until the fall of the west end in 1786, Hereford possessed a central tower with lead-covered spire and a western steeple, the arrangement resembling that existing at Bangor Cathedral and Wimborne Minster. Wyatt's west front was contrasted with the beautiful and appropriate design of 14th-century type by Oldrid Scott, carried out in 1904-8, and it was demonstrated how this latter was modified and improved in execution from the architect's original proposal. The design is of a rich 14th-century type, obviously founded on the treatment to be found in the west facade of the neighbouring cathedral of Lichfield. The work is, said the author, a veneer of substantial character on a backing of Wyatt's west wall; the opportunity which presented itself of reverting to the original proportions of the nave by extending the walls 15ft. westward on the Norman foundations being lost, owing to the foolish timidity of the restoration committee. The new front is executed in red mottled sandstone from quarries at Hollington, and now that the rawness of surface has softened down, it harmonises in tone as well as in style admirably with the older masonry, especially with that of the central tower. The entire facade, including the turrets flanking the aisles, the statues and sculptured medallions, by Mr. Fincher, of Peterborough, is now complete, and the result has been to transform the whole appearance of the minster. Much of the credit for this is due to the indefatigable energy, wide scholarship, and refined taste of the present dean, the Hon. and Very Rev. J. W. Leigh, to whose courtesy in allowing him access this Whitsuntide to every part of the fabric and placing many sources of information at his disposal, the lecturer expressed his thanks. A general view of the new west facade is impracticable, owing to the fact that substantial residences have been built on alienated ground before it in Broad-street, one on the site of the precentor's house to the north and the other on that of the prefector's house to the south, leaving between but a narrow open space opposite the cathedral front, as seen from King-street. These houses ought undoubtedly to be cleared away, but the difficulty is to provide funds for the improvement, for the sites do not now belong to the Dean and Chapter. Within Booth's very successful 16th-century north porch is the original one of the latter years of the 13th century, and a photograph was exhibited of the dilapidated saints' figures in the vousoirs of the archway, a hope being expressed that no attempt

will be made to repair this charming statuary of c. 1290. Passing to the east side of Aquablanca's north transept, R. Garland's sketch, made in 1830, was compared with a recent photograph, showing the alterations made by Sir Gilbert Scott, and especially the recessed octagonal windows on the clerestory level of the east transept wall, with which he replaced the modern incongruous three-light openings, as the lecturer heard Scott explain during his peripatetic lecture given at the cathedral before the Royal Archaeological Institute in August, 1877. Bishop Stanbury's chantry chapel was compared with the similar ones of Bishops Longland and Russell on either side of the Angel Choir porch at Lincoln, it being intermediate in date between those structures. The surface masonry of the finely-proportioned central tower of Hereford, it was pointed out, cries out for conservative repair. The lecturer suggested that when this renovation is undertaken the architect will do well to open out the masonry here and there to ascertain if there be not, as is very probable, under the existing shell of 1330, parts of the original Norman steeple; in the central tower of Canterbury Cathedral, Mr. W. D. Caroe, F.S.A., the architect to the Dean and Chapter, discovered, during the recent extensive restoration, the walls and piers of the former Norman steeple encased with, and detached from, the visible 14th-century masonry. The crocketed pinnacles, now much decayed, were added by the elder Cottingham in 1830, and are unusually well designed for their period. Over the side windows of the Lady-chapel, which cannot be earlier in date than 1230-5, is a curious survival of an earlier style in the arcade of interlaced semicircles used as a frieze under the cornice. Passing round to the south-east of the cathedral, the picturesque Audley Chapel and the interior of the vicars' cloister walk, looking along the oaken rafters to the north, were inspected, and a visit was paid to the little-known chapter-house garden, in which but one arcade to sill level is all that remains of the beautiful ten-sided chapter-house of c. 1320. Near by has been built up for security a pile of capitals, chiefly of the Transitional Norman and Early English periods, discovered and thrown aside in the course of various restorations and repairs. Passing into the garth of the Bishop's Cloister it was seen that the Dean is steadily carrying out the policy of bringing the two walks of the cloister into practical use by successively partitioning off sections of one, two, or three bays, adding an inner roof, and glazing the tracery openings; the apartments thus created are converted, one into a theological library for the clergy, and another into a choir practising room, furnished with a piano; the last few bays on the east side are now being dealt with in like manner. The greatest care is taken of all monuments and mural tablets, and these are conservatively repaired where necessary. As at Chichester and Wells, each also cathedrals served by secular canons, there never was at Hereford a north walk next the nave aisle wall, and the fourth side of the cloisters, that on the west, was destroyed in the reign of Edward the Sixth. An illustration of one of the four-light Decorated windows in the south nave aisle, with cinquefoil opening in the head and an equilateral triangle over each pair of lights, was of interest from a chronological viewpoint, as the windows are known to have been erected between 1360 and 1364, when Lewis Charlton was Bishop. At the south-west return angle of the cloisters, on the site of a 16th-century grammar-school demolished in 1830, a two-storied library was built in 1897 from designs by the late Sir Arthur Blomfield. The work was tame and flat, the lecturer thought, and the architect seemed to have failed to utilise his opportunity to the full and make a piquant feature of the angle turret, detaching it from the general wall surface and carrying it some 6ft. to 8ft. above the cornice level, as he could have seen had already been done with the quaintly named Lady's Arbour at the south-east corner of the cloister quad. In this library building there is on the ground floor a reading room and

storage for modern books, and on the first floor is an apartment to which, after many migrations, has been transferred the famous chained collection of volumes, which from the Reformation till 1842 was housed in the cathedral Lady-chapel; from 1842 till 1856 was stored in the Vicars' College, and from the last-named date till seventeen years ago occupied the almost inaccessible Muniment Room over the eastern aisle of the north transept, where the author first examined it in 1877, under the charge of the late Canon Havergal. About two hundred and thirty of the ancient manuscripts and printed books are still to be seen attached by the original charcoal-forged wrought-iron chains to the 14th-century wooden cases, and nearly as many more loose chains, from which the books have disappeared, exist in situ. In fact, there is a larger collection of chained volumes in this room than in all the single Bibles and the other libraries in Europe put together, and by the kindness of the Dean the lecturer recently spent a most interesting afternoon, examining at his leisure these priceless treasures. They include a beautifully written 10th-century copy of the Gospels, with illuminated initial letters, showing animal and Runic knots; a 13th-century Hereford Use and an Early 15th-Century Bangor Use, and among the printed books a first edition of Caxton's "Golden Legend," and a Late 15th-Century "Zabarda super Clementinus," which has pasted into the end cover a beautiful pen-drawing, c. 1250, possibly by a French artist, representing the Crucifixion, with St. John and the Virgin Mother; of this charming sketch and the printed text adjoining a reproduction was thrown on the lantern-screen. In the lower room of the new library is a small museum, among its contents being an oaken reliquary covered with copper plates overlaid with Limoges enamel, on which is rudely depicted in gilding and primary colours the murder of Thomas à Becket; of four figures standing side by side one is the fully-vested Archbishop, and the other three are armed knights, one of whom with a sword is striking at the saint's head; on the roof of the case is depicted Becket's entombment.

In walking round the cathedral few visitors would suspect that any portion of the fabric was earlier than the 13th century, until, when standing near the new library, they observed beyond the garth, the walled-up Norman windows in the south transept. On entering the building, however, one finds oneself in a narrow and low-pitched nave, shut off from its aisles by a rich Transitional Norman arcade, carried by stumpy round columns. Beyond an elaborate modern wrought-iron screen is the much darker and extremely short choir, and yet further back, the view almost shut off by a central pillar and huge sculptured spandrel, is a square-ended presbytery and a deep Lady chapel. In every other English cathedral containing much Norman work the contrast is between an ill-lighted nave opening into a brilliantly illuminated choir; here at Hereford the conditions are reversed. But scanty side illumination is afforded by the aisleless double transepts, and as we glance upward, Wyatt's poverty-stricken triforium and clerestories and Cottingham's reiterated and sprawling stenciled scrolls in the plaster vault fill one with contempt and distract attention from the merits of the rich detail of the arcades and pier capitals. Some of the carving has during recent years been touched up with great skill by the late John Baker, of Beverley, who always bore in mind the spirit of the original work in his repairs. The choir-screen, designed by Scott in 1861 and executed by Skidmore of Coventry, with statues by Boulton, is too fussy; but it certainly increases the apparent dimness of the interior. Early this year its decoration has been completed by the addition at the north and south ends of large figures of St. Mary and King Ethelbert, carved in oak by Peter Rendell, of Oberammergau, as memorials to the widow of Bishop Aday. A unique feature of the font, which dates from about 1150, is the Greek fret pattern carved in relief around the rim on the circular bowl; below are round head and niches, each con-

taining a much-mutilated standing figure of an Apostle, and against the base lean four seated demigriffins, with tusks and manes, Byzantine in type. Near by, under a bay of the south arcade, is the effigy in armour of Sir Richard Pembridge (1375), brought from the Church of the Grey Friars when that building was destroyed after the Reformation; at first placed on the ledge projecting from the outer walls of the south aisle, near that of another Pembridge (treasurer of the cathedral who died in 1328), it was set on the modern altar-tomb base during Scott's restoration. After a glance at Bishop Booth's tomb, still protected by its original railings, a turn was taken into the north transept, where, in the centre, stands the altar-tomb and effigy of Dr. James Atlay, the last Bishop; the figure in Carrara marble by the late James Forsyth shows a good likeness; the jejune treatment of the Decorated panels in the tomb itself leaves, however, much to be desired. On the wall behind is the portly bearded figure of Bishop Herbert Westphaling, 1602, and under a fine 14th-century canopy that of Bishop Thomas Charlton, 1348, in mitre and chasuble, while on the east wall is the alabaster bust of Bishop Theophilus Field, 1636, bearded, with skullcap and ample lawn sleeves of Charles the First's day. Sir Gilbert Scott removed to its original site projecting from this wall the tomb and shrine of Bishop Thomas de Cantilupe, who provided Hereford, soon after his death, in 1282, with a second and sorely-needed saint of miracle-working repute. The shrine is of Purbeck marble in two stages, the lower one decorated with fourteen mutilated figures of Templars in chain armour; the upper arcade is open and is of coarser workmanship and design, and possibly is of later date. To the right of this monument is the tomb of Bishop Peter Aquablana, Cantilupe's predecessor (1268); the effigy, in full eucharistic vestments, is enclosed within an open canopy of extreme beauty and lightness, carried by slender marble shafts. Turning sharply by this memorial into the north choir aisle, the altar-tombs on the right were seen of Bishop Robert Bennett, 1617, on which is a coarsely executed figure in alabaster, and the richer tomb and effigy of Bishop John Stanbury, 1474; the latter monument is panelled with niches containing eleven figures of saints and warriors, showing considerable traces of colour. Opposite the tomb is Stanbury's chantry chapel, having panelled walls and a flat fan vault reminiscent of some of those in Gloucester cloisters, but sixty years later in execution. At the east end of the chapel is a modern altar and reredos, richly decorated in gesso-work and gilding. On the north side of the north choir aisle are three cenotaphs to early bishops—Clive, Mapenore, and Reynelm—effigies placed under canopies and dating from the 14th century, and, turning the corner into the north-east transept, we see on a tablet skied upon the west wall the bust of a kindly old gentleman in periwig—John Butler, the employer of Wyatt. In the centre of this transept is the well-designed altar-tomb of Dean Dawes, from the pencil of Sir Gilbert Scott; the effigy is by John Noble. Behind it are the canopy over the empty tomb of Bishop Swinfield, 1316, and a richly ornamented coffin-lid from the grave of Gilbert de Swinfield, Chancellor of the diocese, who was buried here in 1299. Turning back into the very cramped and ill-lighted choir, it was seen that the arcade and triforium seemed to be intermediate in date between the east wall of the south transept and the nave piers and arches; the carving on the west face of the spandrel above the Norman pillar directly behind the altar is an excellent example of the work of the elder Boulton, executed over sixty years ago from Cottingham's designs; the comparatively small and flat reredos below it is the work of the same architect and sculptor. The choir-stalls date from about 1380, coming intermediate in period between those at Lincoln and Chester, but inferior to either in design and craftsmanship. From among the sixty mis-ers the lecturer selected for illustration one

showing a monk playing a violin, contemporary with the stall above, and a second one, pointed out to him with great pride by the Dean's verger, near the centre of the lower north range, and having as its subject a winged dragon regardant, with the short legs of a crocodile, and the long toes of an armadillo. The author remarked to the verger Moore, as he drew attention to it, that in attitude, pose, and treatment this was a replica of a dragon under a stall in Henry the Seventh's Chapel, of which a photograph was now exhibited on the screen for comparison. The solution of the coincidence probably is that during his restoration Sir Gilbert Scott had this piece of carving executed to replace a lost or stolen miserere, and that the sculptor copied the easily accessible work in Westminster Abbey. In the choir were also shown a 14th-century statue of King Ethelbert disinterred in 1700 during excavations at the back of the sumptuous canopied and tabernacled tomb of Bishop Mayo, who had given orders that he was to be buried near the figure of St. Ethelbert; a fine brass, with canopied effigy in full canonicals, of Bishop Trilleck, and the famous Early 12th-Century episcopal chair. Proceeding into the Lady-chapel, the graceful effigy in alabaster of Joanna de Bohun, Countess of Hereford, and the adjacent tabernacled tomb of Peter Baron de Grandisson were seen, and also that standing puzzle, the so-called rebus tomb, ascribed to Dean Borew, who died in 1462. The figure assuredly represents a dean, and the carvings on the soffit of the canopy depict boars, with sprigs, possibly of rue-plants, in their mouths. It would obviously be a play upon the name of Borew, who was contemporary with Bishop John Stanbury in the reign of Henry the Sixth, were it not for the disquieting fact that the late Matthew H. Bloxam, our greatest authority on Mediæval monuments a generation since, pointed out that the canopy mouldings and the dean's costume (cassock, surplice, and canonical tippet) were both those in vogue in the middle of the 14th century, just a hundred years before Borew flourished. Could it be, asked the lecturer, that as in some later well-authenticated instances, the sculptor deliberately selected an archaic and impersonal treatment for the memorial, to add to its artistic effect? Looking westwards from the vestibule to the Lady-chapel, it was seen that the Early 13th-Century builders of the eastern portion of the fabric, fortunately for posterity, thought it a pity to waste the two stout Norman pillars, which still stood in line in the central axis; they therefore raised over the cushion capitals and octagonal abaci the springing of new vaulting ribs and spandrels, and so left for future reference important documents in stone. In the low crypt beneath the Lady-chapel, constructed at the end of the 12th century, there is little to note except the sturdy octagonal columns carrying the vault and the low tablet built in the centre, commemorating a Hereford merchant, Andrew Jones, 1497, who repaired this structure. Returning to the ground level, the south-eastern transept was seen, with its very Late Perpendicular tomb, with tabernacle canopy, to Bishop Mayo, 1516, and the Renaissance one to Bishop Coke, 1646; on the slab above the latter is carved a pair of cherubs, turning their backs upon Bible and prayer-book and contemplating the reverse side of a shield on which the prelate's armorial bearings are emblazoned. Passing by the 14th-century cenotaphs to early bishops in the south choir aisle, the survey of the cathedral ended in the south transept with an inspection of the Early Norman east wall and the famous Mappa Mundi hung in a frame against it. This map, the work of a prebendary of Lincoln, one Richard de Haddingham or de Bello, was executed on a single sheet of vellum, c. 1300, and is ludicrously inaccurate in its delineation of the world, and its figures of towns, rivers, savages, birds, and fish. A final illustration taken from within the close in front of the Deanery gave a general view of the cathedral from the north-east here, as also at Salisbury and Lincoln, the most picturesque aspect.

In conclusion, the lecturer suggested that great and successful as had been the more recent works of restoration, much remained to be accomplished. The repair of the masonry and carving of the noble central tower demanded early attention. An effort ought to be made to acquire and remove the obstructive houses in Broad-street, opposite the west front, so as to open this out from the King-street approach from the Wye; following on this, the buildings forming the west walk of the cloisters, from Arthur Blomfield's library to the south nave aisle turret, should be completed, and finally an attempt should be made to reconstruct Wyatt's mean little triforium, clerestory, and vault over the north and south nave arcades, and to renew the external walling and parapets of this western limb. All these enterprises would involve a very large expenditure—one which, at the present juncture, was neither obtainable nor justifiable; but in the more peaceful and prosperous days which would surely dawn ere long the realisation of these ideals should be aimed at, and would render this ancient, yet more, and deeply interesting cathedral yet more beautiful, harmonious, and attractive than it is at the present day.

The town council of Torquay have been granted by the Local Government Board sanction to borrow £5,000 for extensions of electric-lighting mains.

The Local Government Board have sanctioned the borrowing by the urban district council of Brixham of £3,810 for the provision of working-class dwellings.

Mr. George Edward Bond, of St. Ronans, King Edward-road, Rochester, immediate past-President of the Society of Architects, who died on May 20 last, left £17,327 gross, of which the net personalty has been sworn at £8,049.

At yesterday's meeting of the City of London Corporation a letter was received from the London Building Industries' Federation asking the Corporation to put all possible work in hand to provide employment during the war.

The urban district council of Burnham, Somerset, have agreed to apply to the Local Government Board for powers to borrow £2,900 for new sewage-works to be laid in the new urban area, £73 for extended waterworks at Brent Knoll, and £485 for waterworks at Berrow.

At Winnipeg, operations are in progress on the Grain Exchange, which the Traders' Building Association is erecting at a cost of 500,000 dol. The building will be of stone, brick, and steel construction. The architects are Messrs. Jordan and Over, and the general contractors are Messrs. Carter-Halls and Aldinger.

The town council of Great Yarmouth have decided to provide, from plans by their borough surveyor, an uncovered public bath, with a pond 160ft. long and 30ft. wide, on the gardens east of the Aquarium, at a cost of £3,500, of which £2,200 will go to labour, the bath to have shelter on the north, south, and west sides to a height of 10ft.

At the last meeting of the Royal Victoria Institute of Architects, the President, Mr. H. W. Tompkins, reported that the committee appointed by the council had lost no time before preparing a draft of the proposed Architects' Registration Bill. He was glad to say that they were likely to receive every encouragement in the Legislature.

In consequence of the impossibility of providing the required accommodation in existing barracks, arrangements have been made to build in the most expeditious manner thousands of hut barracks of a simple character. Most of these will be built in Aldershot and on Salisbury Plain, and the work has already been well advanced, so that by the end of October it is anticipated that the great majority will be ready for occupation.

At Branceaster, Mr. Courtenay Clifton, M.Inst.C.E., Local Government Board Inspector, has held an inquiry respecting an application by the rural district council of Docking to borrow the sum of £1,150 for the purpose of building houses at Branceaster. Evidence as to the urgent need of cottages in the parish was given by Dr. Sumpter. Land has been purchased in the village by the district council sufficient to build six cottages, and a plan submitted showed the houses would be built in pairs. The rents would be 3s. 3d. per week.

Currente Calamo.

The work of destruction of Rheims Cathedral adds another to the infamous barbarities of the German troops. The scene of the coronations of the earlier French kings, including Charles VII. in 1429, at the instance of Joan of Arc, it was also the scene of the baptism of Clovis in 496 by St. Remigius. The interior of Rheims Cathedral is 466ft. long and 121ft. high. There are aisles to the nave and transepts, with a triforium above. The nave is of eight bays, and there are eight chapels in the choir. Everywhere there are statues. Rich in exquisite 13th-century glass and tapestries dating back to the 16th century, together with other Gobelin tapestries, from designs by Raffaele, given by the French Government in 1848. Other treasures in the Treasury included several reliquaries, the chasuble of Thomas à Becket, a 12th-century chalice, called the Calice de S. Rémi, and a vast quantity of church plate given by Charles X. at his coronation. The great west front, with its triple portals, surmounted by the rose window, and twin towers, the southern one containing the famous bell of Rheims, which weighs 23,000lb. The three portals were elaborately sculptured. In the "trumeau"—or stone pillar dividing the door of the central portal the Madonna had the principal place. In one of the side portals was the exquisite figure of Christ in benediction, known as Le Beau Dieu. Of this even the German art critic Lübke wrote, "Is a work of such beauty that it may be considered the most solemn plastic creation of its time. . . . There is such majesty in the mild, calm expression of the head, over which the hair falls in soft waves, that the Divine seriousness of the sublime Teacher seems glorified by truest grace."

Fifteen hundred and eight years ago the town of Rheims was taken and destroyed by Attila. It is not by accident that the glorious Cathedral has been laid in ruins by the hosts of the Attila of our time, who has held up to his soldiers the savage leader of the Huns as their model and example. It was spared in all the previous wars and internal convulsions of France. The English in their invasions left it intact; it escaped lightly in the tumult of the French Revolution; the Allied hosts that overran France in the decay of Napoleon's power did no damage to it; the Germans in 1870, although they levied a heavy contribution on the town, did not harm the Cathedral. But in 1870 the German soldiers were still primarily soldiers; they had not then been subjected during two generations to the influence of German "culture" and "higher civilisation." It is, perhaps, some consolation to know that German architects will never have the chance of completing the tragedy by German "restoration"!

We have received from Mr. Edmund Burke, principal of the firm of Messrs. Burke, Horwood, and White, 229, Yonge-street, Toronto, and immediate Past-President of the Royal Architectural Institute of Canada—of whose visit at this office, when he and Mrs. Burke were in town this summer we have very pleasant recollections—the Code for the Conduct of Architectural Competitions adopted by the Ontario Association of Architects, and also the conditions laid

down in the recent competition for a Masonic Temple in Toronto in which Mr. Barker was the assessor. The code is based to a large extent on the revised Regulations of the Royal Institute of British Architects, issued in December, 1910, with modifications, some apparently taken from that of the American Institute of Architects, and others due to the requirements of Canadian practice. An introductory observation runs to the effect that "the best way to obtain good results in a building is to employ a competent architect outright, choosing him on the ground of general or special fitness for the proposed service." If, however, a competition is required the conditions ought, it is added, to be clear, adequate, and alike for all, and that competent persons judge the designs submitted. It is suggested that competitions should, unless prohibited by legislative enactment, be limited to invited architects of ample qualifications. The appointment and duties of assessors and the reasons for exclusion of designs set forth, follow very much on the R.I.B.A. lines. A series of some sixteen practical suggestions for the programme to be submitted to competing architects is appended. We have gone through the conditions for the Toronto Masonic Temple, which seem eminently fair and explicit. It is interesting to note that the name of the assessor was not divulged by the promoters until the designs had been received and numbered.

It is understood that the King has given instructions that planting is to be undertaken at Sandringham on a scale that will afford a considerable amount of employment. His Majesty has also given permission for an area on the Sandringham estate to be placed at the disposal of the Cambridge University School of Forestry, in order that it may be used for purposes of experiment and demonstration. Landowners generally will do well to follow the King's lead. We have several times drawn attention to the good work the Cambridge University School of Forestry is doing, the necessity for which is emphasised just now more than ever. It is not very creditable either to British patriotism or British enterprise that the undoubted opportunities for home timber-growing on a scientific basis, and with profitable results, have been so neglected during recent years, and few more beneficial helps to home industry could be initiated than its revival.

The Inspector-General in Bankruptcy, in his last report, deals with Deeds of Arrangement under the old Act, as one who knows and can write about them from the inside. Referring to those assignments which were too often faked up to frighten creditors into accepting a small composition, and not pressing for bankruptcy, he says, officially: "In such cases the persons who principally benefited by the assignment were the trustees and such of the creditors as succeeded in obtaining preferential treatment." It is, unfortunately, too true that creditors do often try to get the better of each other, and in this way they frequently enable a debtor to get the best of them all. It is difficult to deal with this natural instinct amongst the creditors; but as, in future, no such deed will be of any value at all until it is assented to by a majority both in number and value, facilities for this kind of fraud must be greatly reduced. As to the professional trustees concerned under deeds of assign-

ment, even the old Act, theoretically, looked after them and their accounts. But in practice, it was not very effective, and it is rumoured that some of these trustees are not unlikely to seek other spheres of business activity—perhaps, even, in other countries! This sort of thing has become so usual upon the coming into operation of a new Bankruptcy Act that no one who, whether officially or otherwise, knows anything about it, will be at all surprised.

The long history of our bankruptcy legislation is indeed a record of failure and of fraud. The compulsory principle of bankruptcy and the voluntary principle of arranging with creditors by deed, etc., have alternated in our statutes. The Act of 1883, passed by Mr. Joseph Chamberlain, was the best and most effective compromise ever achieved. But debtors soon grew shy of its official methods, and under the guise of deeds of arrangement a good many of the old scandals, which had flourished in the old days of liquidations and compositions, came in again triumphantly. The last Act, of 1913, which has been in force since April 1 of this year, now gives ampler powers to the Courts of Bankruptcy and to the Board of Trade to deal with those cases of deeds of arrangement which are still outstanding. It enables these Courts to deal fully and faithfully with trustees, in much the same way as could hitherto only be done by the Court of Chancery. We may hope that advantage will be taken of the new law. Generally speaking, however, creditors do not care to take trouble or incur expense in matters of this kind. Indeed, creditors often want it both ways. They wish to deal direct with the debtor and make the best terms they can for themselves, without official interference, and then, when things turn out badly, they complain that their interests have not been watched over by the law. The new Act should work better than the last; but it is also a compromise between conflicting theories, and its success must, in the main, depend upon the creditors themselves.

The "Green Book" of the Leeds and Yorkshire Architectural Society has been issued on the eve of the thirty-ninth session of that flourishing body. It contains the presidential address of Mr. A. E. Kirk, the report of council and balance-sheet for last session, lists of members and of prize-winners, and information as to the competitions and prizes offered by the society.

At a special meeting of the town council of Middleton, Lancs, held on Thursday night in last week, it was unanimously decided that application be made to the Local Government Board for powers to borrow £930 for the purchase of property in Townley-street, £5,000 for building twenty-four houses on the Boarsham Estate under the Housing of the Working Classes Act, and £12,000 for the erection of a new town-hall.

The foundation-stone of the new buildings now being added to Christ Church (retitled Episcopal), Martins-lane, Liscard, was laid on Saturday. The church was opened sixteen years ago at a cost approaching £3,000. The completion of the scheme, which provides for a tower, increases the seating capacity from 350 to 500, and involves a further outlay of £2,036. £1,109 towards this amount has been received or promised, and the balance has been guaranteed.

The Ipswich Dock Commission, recently invited tenders for the execution of extensive works authorised under their private Act of 1913; but at their last meeting it was stated that it was now found to be impossible to borrow the £100,000 required. It was decided not to proceed further with the proposed new works at the present time. In the meantime, it was agreed to continue negotiations with the Local Government Board, and to take steps for acquiring certain properties under the Act.

LAMBETH FIELD CLUB'S EXCURSION TO WEST WICKHAM.

A large party of members and friends of the Lambeth Field Club, under the guidance of Mr. W. Plomer Young and Mr. William Rivers, hon. secretary, took part in an excursion by rail to West Wickham on Saturday afternoon. At the station they were met by Dr. Clarence Tierney, who conducted them to the picturesque Tudor mansion of Wickham Court, where both the house and the charming garden had been thrown open to the visitors by kind permission of Major Sir Henry A. H. Farnaby-Lennard, Bart. Dr. Tierney expressed the regret of Sir Henry and Lady Farnaby-Lennard that they were unable personally to welcome the guests, Sir Henry having been summoned at short notice to the War Office. The house, he explained, was rebuilt on old foundations by Sir Henry Heydon in the troublous times of Edward the Fourth. It was then a fortified building, with no external windows except those in the four octagonal angle-turrets provided to enable the inmates to watch those without and to light the spiral staircase in each. The apartments looked into a small open court, which has now been roofed over and converted into a staircase. After the Wars of the Roses the house was remodelled, and the mansion as they now saw it retained the walls of Edward the Fourth's day, but had been practically reconstructed and furnished with external windows in the time of Henry VIII., c. 1540. In the latter part of the reign of Elizabeth the Wickham Estate was sold by Sir William Heydon to John Lennard, who gave it to his second son, Samuel, and this family, now represented in the female line by the grandson of Sir William Cator, has resided here for nigh on three centuries. A modern west wing of brick includes a water-tower with pyramidal roof. The present roof had, at some unknown period, as would be evident on close inspection, been raised about 18 in. above the original one. In Tudor days the battlements and machicolations were replaced by a stone cornice, and conical roofs like extinguishers were added to the four turrets, in the style of a French chateau; the pyramidal covers, which were shown in old framed prints hung in the mansion, were removed in the 17th century, and the turrets were again flat-topped. The projecting porch on the principal, or west, front was an addition made in the times of Charles I. Dr. Tierney drew attention to the heavy oak door behind the porch at the main entrance, which he showed was the original one of the end of the 15th century; it has a curious wooden lock and spring iron bars. There are dents in it where bolts from cross-bows have left their marks, and at one place the traces of severe battering are apparent. A singular feature of the house planning is the evident advantage that has been taken of the sharp fall of the site to the north and west to obtain on the other sides an extra floor. Under the north-west turret is a dungeon, ventilated by two airshafts in the walls of the turret. The ceilings throughout the house were, and to a great extent still are, constructed of heavy rough beams of oak, like the roof of the old dining hall. Behind the fine Elizabethan panelling in the drawing rooms are remains of still older panels, also of oak, which are exposed in places, and were examined with considerable interest by the visitors. Among the portraits are a full-length of Sir Walter Raleigh and his little son by Zuechero; Sir John Lennard, Sir Samuel Lennard, equity to Prince George of Denmark, and another of that prince; Dr. Farnaby, the Earl and Countess of Sussex (the latter a Fitzroy), Henry Hallam (the historian (grandfather of Sir Henry Lennard), and Miss Mary Hallam, his daughter. In the hall the arms emblazoned on glass include those of Anne Boleyn, niece of Sir Henry Heydon, and a frequent visitor to the manor house; Edward IV., and his Queen, Henry VIII., and the families of Huntingfield (who owned the manor before the Heydons), Capeldyke, Scrope, Cressaere, and Lennard. The volumes in the library, the Lord's Consistory, an expressive bust in

Sicilian marble of Sir Henry's son-and-heir Stephen, the old furniture, a number of heads of English, Continental, and Canadian trophies to Sir Henry's gun, and other treasures in this delightful example of an English manor-house, were examined with great interest, and some time was spent in the pleasant gardens, that portion below the house being approached from the lawn by a stone flight of stairs, c. 1540, in the centre of the terrace, not unlike the better-known steps associated with Dorothy Vernon's name at Haddon Hall.

The visitors then proceeded along the brow of the hillside overlooking the valley which marks the boundary between Kent and Surrey and the parishes of West Wickham and Addington. The hillside itself in Kent is the termination of the outcrop of the Reading and Woolwich tertiary beds; the ground below is the chalk formation. Near Wickham Court on the hillside are distinct traces of earthworks, and many flint instruments have been picked up from time to time here.

At the manor church of St. John the Baptist, which stands within the park, the party were welcomed by the rector, the Rev. H. Bertie Roberts, M.A. The chancel and Lady-chapel to the north were, said the rector, of great interest, and were examples of Perpendicular work, having been rebuilt on old foundations in 1467. Unfortunately, the western portion of the church, including a huge transeptal extension northward, which destroyed the fine proportions, and a tower, was rebuilt in 1844 from the designs of one Whichcord, who at that time had achieved fame as the architect of Maidstone Gaol. The church was reseated, and as far as the unfortunate additions would allow, was made more suitable for worship some five-and-twenty years ago, under the supervision of the late Mr. John D. Sedding, who was buried in the west portion of the churchyard. Restricting attention to the 15th-century portion of the fabric, he would direct attention to the very plain piscina on the south side of the chancel, and to the equally simple aumbry in the north wall opposite, in which, although the wooden door was, as usual, gone, the iron hinge-hooks and the staple for holding the light still remain. In the south wall of the Lady-chapel, on the north side of the chancel, was a second piscina. In the floor of the chancel were three small monumental brasses, the oldest of which commemorated William de Thorp, rector of the parish, who died in 1407, and another was to one Stockton, obit 1515, and a third to John de Blagmoore, yeoman of the guard, and his three wives, 1568. The glory of the church was the fine late 15th-century painted glass in the Lady-chapel, which had often been described and illustrated, although nothing could be ascertained as to its history. One represented St. Anne teaching her little daughter, the Virgin Mary, to read (from a leather-bound volume in black-letter), and another showed St. Christopher bearing the Infant Jesus across a stream. The modern windows were by the late Mr. C. E. Kempe, Mr. Bryan, and the late James Powell. The beautiful and simply-wrought chancel screen dated from about 1500. Several traces of an earlier church were apparent near the north-east angle of the Lady-chapel. At the conclusion of the visit the rector kindly entertained the visitors to tea in the rectory, and the thanks of the party were accorded to Sir Henry Farnaby-Lennard and to the Rev. H. Bertie Roberts, on the motion of Dr. Tierney, seconded by Mr. E. W. Harvey Piper.

A PROPERTY OWNER'S GRIEVANCE.

A point of some importance to property owners is involved in a controversy which has arisen between the Derby Corporation and a Leicester gentleman. It relates to the power of a local governing authority to assist in meeting the cost of the substitution of up-to-date for obsolete sanitary conveniences in private dwellings, which power the council, as appears from correspondence, have hitherto declined to exercise.

Acting on behalf of Mr. B. W. Richards,

Central-avenue, Leicester, the owner of four houses in Stockbrook-street, Derby, Mr. W. H. Simpson, architect, Leicester, applied to the council for a contribution of £10 towards an expenditure of £59 incurred in complying with an order for the conversion of existing accommodation into water-closets. He pointed out that his client paid £1,500 in succession duty on the property, that any imaginary or real nuisance could have been remedied at a much smaller outlay than was resorted to in the belief that the authority would make a contribution, as was done in most other towns, and that an effect of the conversion was a saving to the council of £1 per annum in the removal of refuse. He also mentioned that in a similar case at Beeston the urban district council had borne part of the cost.

On receiving a notification that the sanitary committee were unable to accede to the request, Mr. Simpson suggested that the matter should be considered by the whole council, "as it would appear a question of policy which is of grave interest and concern to property owners." The installation of pans instead of the more expensive system would, he urged, have been in strict compliance with the order, and the committee would have been powerless to compel anything further. The communication concluded:—

Unless, therefore, your Corporation are prepared to treat this matter in a more liberal spirit than indicated by your letter, I am instructed to lay the whole matter before the Local Government Board, and, if necessary, afterwards to ventilate the matter in the public Press. I trust, therefore, the question will be reconsidered and dealt with more liberally, and thus obviate any further action on my client's part.

The town clerk replied that Mr. Richards was asking the corporation to depart from their established practice, and if he was dissatisfied with the requirements he had his ordinary remedy. "The corporation," he added, "are not likely to be deterred from doing their duty in this and similar cases owing to the threat contained in the latter portion of your letter."

Asking for a reconsideration of the claim, Mr. Simpson explained that his client would have resisted the order but for his desire to assist the corporation in carrying out their duties, and his belief that for executing work beyond the statutory requirements he would be partly reimbursed by the council under a private Act or an adoptive section of the Public Health Act, 1907.

The committee were unable to see their way to depart from their previous decision, and accordingly Mr. Richards, "feeling much aggrieved," has caused a copy of the correspondence to be sent to the President of the Local Government Board.

Mr. and Mrs. S. C. Smith, of Market Deeping, celebrated their golden wedding last week. Mr. Smith is a builder and contractor, and three of their sons are in business as contractors at Moose Jaw, Alberta.

During the gale on Monday night the new sea-wall promenade now in course of construction below the South Cliff at Withernsea was wrecked. Fifty yards of reinforced-concrete wall and thousands of tons of filling-up were washed away. The work was approaching completion, and the damage is estimated at £1,000.

A joint committee of the Institutions of Civil, Electrical, and Mechanical Engineers is engaged in the selection of men for the engineer units of the Royal Naval Division. There are still some vacancies to be filled, and applications are invited from engineers and architects who are members of professional societies. Application to be made in person at the special recruiting office, No 2, Savoy-hill, between ten o'clock and one o'clock, or between two o'clock and four o'clock.

The parish council of Dunblane and Lecropt have been engaged for the past two years in the laying out of a new cemetery at Barbush, near Dunblane, having in view the closing at some future time of the cathedral churchyard. Situated close to the Queen Victoria School, the area of the cemetery occupies five acres, half of which has been developed. The opening ceremony and dedication service took place on Saturday. The architect was Captain Christie, and the builders were Messrs. Headridge and Sons, of Dunblane. The outlay has been £2,872.

Our Illustrations.

A NEW CIVIC CENTRE FOR EXETER.

(A full description of this double-page will be found in our first article.)

CLUB HOUSE, WILTON PARK, BEACONSFIELD, BUCKS.

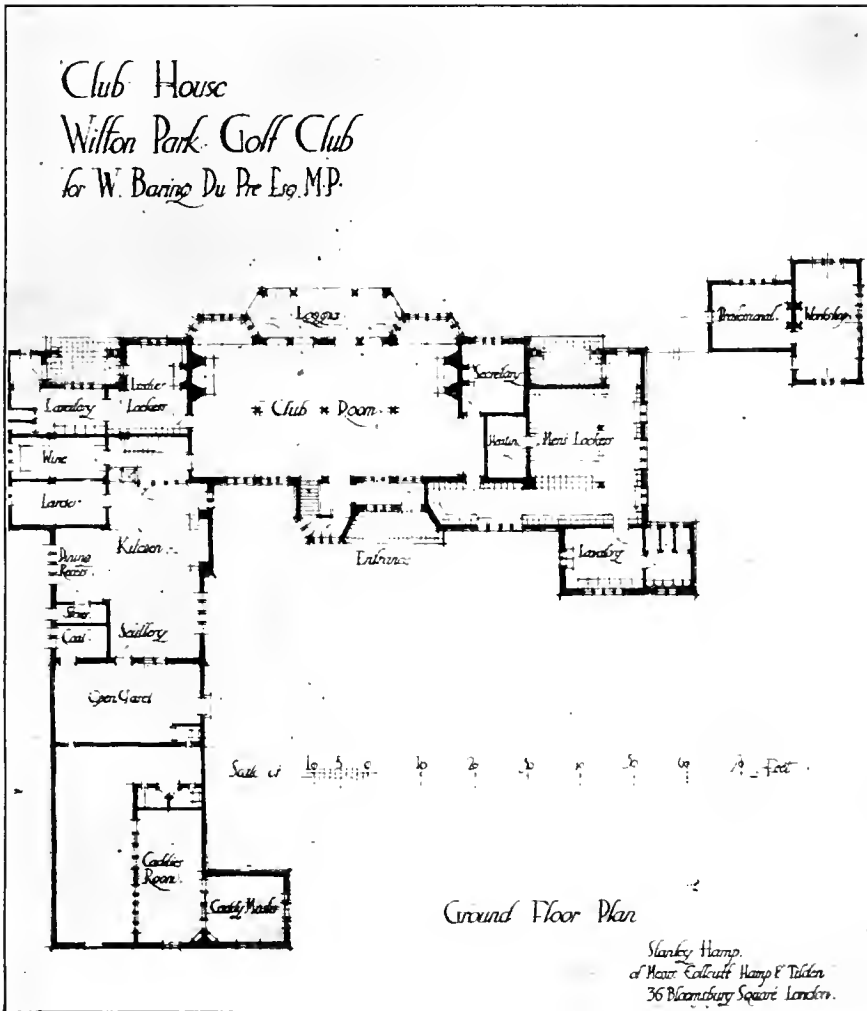
This building, for the Beaconsfield Golf Club, is situated between Gerrard's Cross and Beaconsfield, and about one mile from

chimney stacks, the front loggia and verandah being constructed with brick piers, oak posts, and beams, together with brick-nogging filling, the roof being covered with silver-grey old country tiles. The coffered ceiling to the verandah is constructed with green slates, and the paving is of green slates and stone. A large garage, to accommodate from thirty to forty cars, is provided close to the entrance drive, together with stabling. Adequate accommodation is also provided for caddies, caddie master, professionals, and workshop. The building was executed by

covered with pantiles. The accommodation on the first floor is a large front drawing-room and a boudoir at the back. The two upper floors together contain five bedrooms and bath- and dressing-rooms en suite. The oval staircase is to be of stone up to the first floor, with wrought iron and bronze railing. Some little difficulty was experienced in the plan on account of the service door being on a level with the pavement, no front area being allowed. The passenger lift runs right the way up the house. The contract has not yet been decided. The drawing was shown at the Royal Academy this season by Mr. E. Grey Wornum, the architect of the building. The wish of the owner was that the design and character of the house should be English in feeling: hence the particular style adopted for this work by the architect.

BROADWAY HOUSE, WESTMINSTER.

These premises are being built for Mr. R. H. Stanger, on the site of his existing buildings, occupied as testing works and laboratories. The building is of fireproof construction throughout, the front block being built under the provisions of the 1909 London County Council General Powers Act. The elevations to Tothill-street, Dartmouth-street, and Carteret-street will be faced with Portland stone, and the internal areas of the building generally with white glazed bricks, and the rear elevations with Suffolk white bricks. Westmoreland green slating will be used on the roofs. An electric lift will be installed in the front block, approached from the main entrance in Tothill-street, and from the main staircase on all floors. The back portion, already finished, consists of basement and two other floors, and is in occupation by Mr. Stanger as offices and laboratories, and the front portion consists of basement, ground, and six floors above, which will be let as offices, divided up to suit tenants' requirements. In the back portion chemical laboratories are placed on the first floor, offices on the ground floor, and mechanical and cement-testing laboratories in the basement. The laboratories have been equipped with most up-to-date fittings and apparatus throughout, the joinery being teak. In addition to the entrance in Tothill-street, a separate entrance and goods lift have been provided for access to this portion from Dartmouth-street, and a separate electric lift is also provided, serving the three floors of this block. A low pressure hot-water system of heating, with reinforced circulation, is provided for throughout, and also hot water supply, and the drainage of the premises is on the ejector system. The architect is Mr. Edgar Stones, of St. Lawrence House, Trump-street, King-street, Cheapside, E.C. Messrs. Walter Lawrence and Son are the builders. The fireproof floor-joists, etc., are being laid by the Fawcett Construction Co., of 47, Victoria-street, S.W., on their well-known Mon'lithere system.



Seer Green. The railway company are providing a new hall adjoining the club-house, for the convenience of golfers. The site is on high ground, and commands a good view of the surrounding well-wooded Buckinghamshire countryside. The club accommodation provides on the ground floor a large club-room, with loggia and bay windows overlooking the golf-course, also the ladies' locker and retiring-rooms, the secretary's room, and the gentlemen's locker-room and lavatory. Separate direct access is provided from the golf-course to the ladies' and gentlemen's retiring-rooms. From the club room an oak staircase leads up to the dining room on the first floor, adjoining which are the smoking- and committee-rooms. French casements open out from the dining room on to a verandah over the loggia, intended to be used for dining purposes. Ample kitchen and service arrangements are provided on the ground and first floors, together with sleeping accommodation for the steward and resident staff. The decorative treatment throughout is of a simple character, with oak panelling and beams. The dining-room has a vaulted ceiling, with oak principals showing in the room, and above a high oak panelled dado is a finely modelled enriched plaster frieze. The fireplaces are executed in Beer stone, with large dog-grates and tiled hearths. The building has been executed in red 2in. bricks, with moulded brick window-jamb and

Mr. J. Watson, of Ascot, from the designs of Mr. Stanley Hamp, of Messrs. Colcutt, Hamp, and Tilden, of 36, Bloomsbury-square, London, W.C. The illustrations given here-with are from drawings shown by the architect at this year's Royal Academy.

HOUSE AT AVERHAM, NOTTINGHAM-SHIRE.

This house, illustrated from the architect's Royal Academy drawing, has been designed for Mr. H. Wilfrid Walker for a site at Averham, near Newark, Notts. Owing to difficulties in the way of the purchase of the land the scheme has been postponed for the present. The walls are intended to be finished with cream-coloured plaster and red-tile hands, and the roof with black glazed pantiles. The plans below the view illustrate the arrangements, which are unusual and of no little interest. Mr. Cyril A. Faray, of 10, Lincoln's Inn-fields, is the architect.

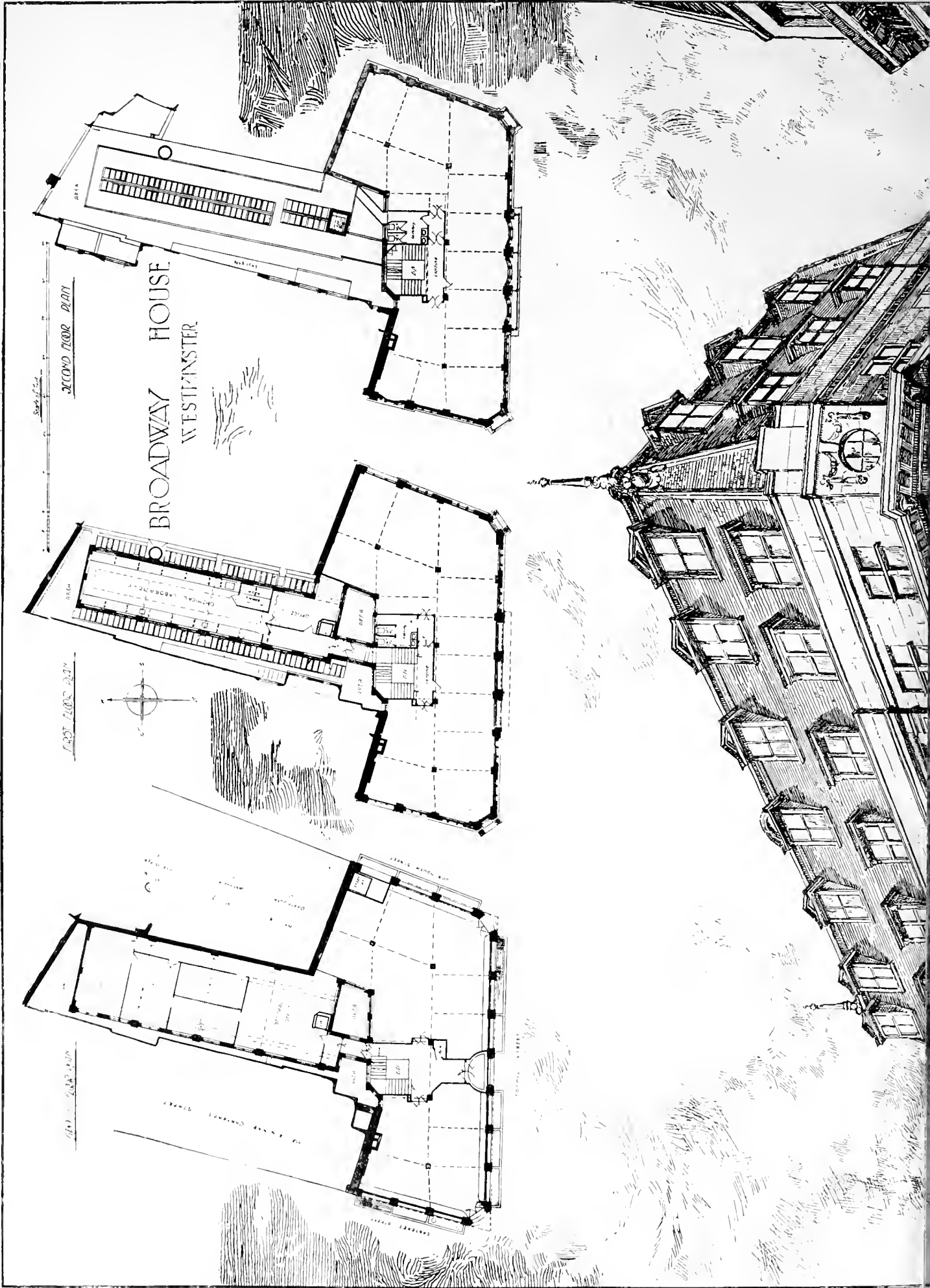
HOUSE AT MADRID FOR THE DUKE OF SANTO MAURO.

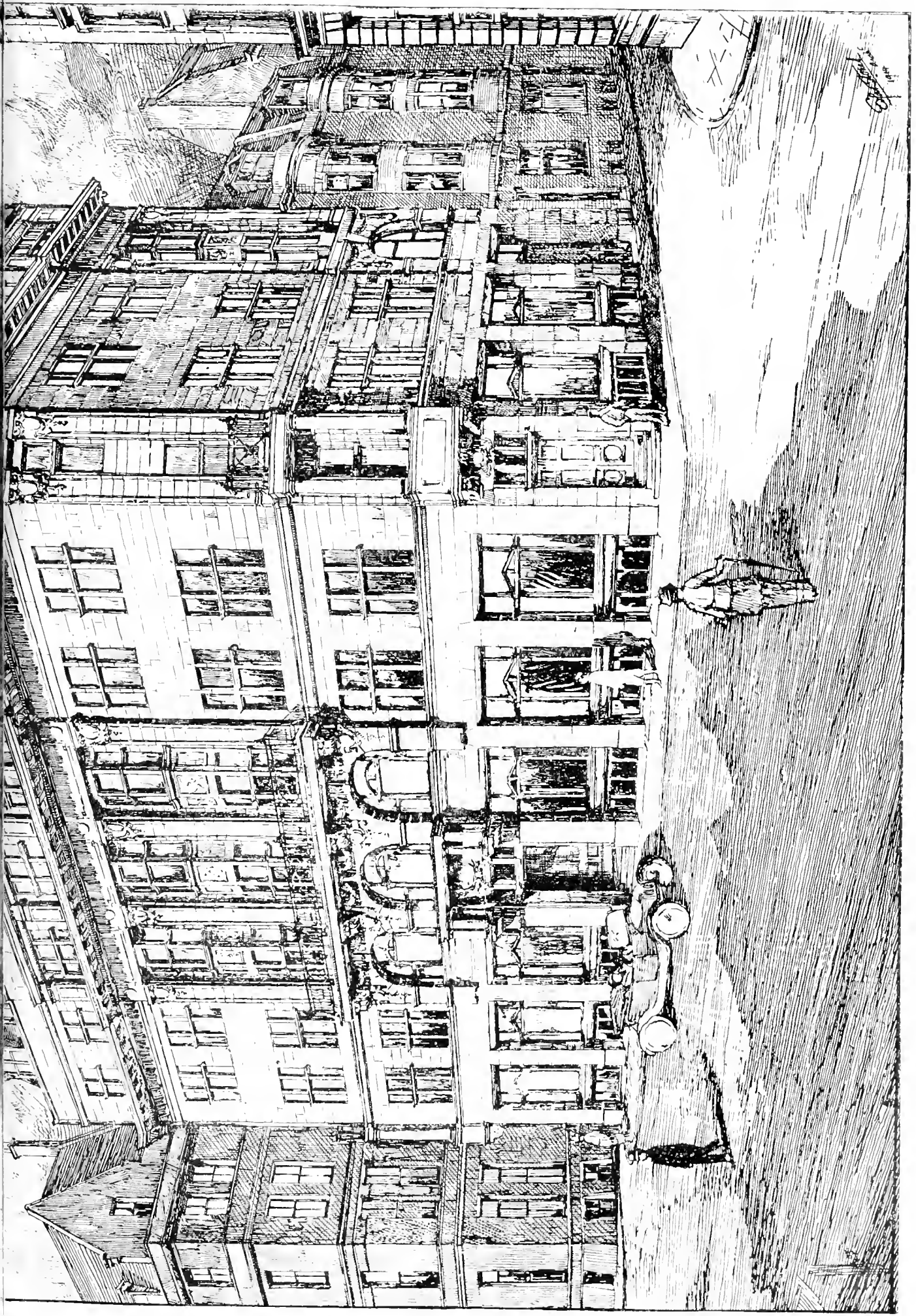
The site of this building is in the Zurbaus, near Madrid, and has a frontage of 23ft. and a depth of 100ft., the building-line being flush up to the pavement. On the right-hand side is a low garage, and on the left an open garden that will never be built on. The intended materials are hand-made sand-faced bricks and stucco dressings, the roof being

A proposal to construct a new road from Blackpool to Poulton is under the consideration of the authorities concerned. Towards the cost of the scheme the Road Board has offered a contribution of £20,000.

The new parish church of Kirkcubright was dedicated last week. The church is built of red sandstone, and is in the style prevalent at the close of the 14th century. It is massive in design, and simple in detail. The estimated cost is £14,000.

A marble and alabaster pulpit was dedicated last week by the Moderator of the General Assembly of the Church of Scotland (Professor Nicol, D.D.) in Pollok-shields Parish Church, Glasgow. The work was designed by Mr. P. Macgregor Chalmers, architect, Glasgow. The pulpit is octagonal in shape. An open-arched pedestal of alabaster rests on a moulded and carved base of Ionian marble. Eight corbels carved with the leaves of the oak, vine, ivy, currant, thorn, fillbert, maple, and rose support the angles of the upper part of the pulpit, with sculptured figures of angels bearing bells. Iona marble slabs decorate the angles, and the cornice is carved with the vine. The panels are of Skyros marble, with the exception of the front panel, which is of statuary Carrara marble.





BROADWAY HOUSE, WESTMINSTER.—Mr. EDGAR STONES, Architect.

EXPORTS OF IRON OR STEEL BARS, RODS, ANGLES, SHAPES, OR SECTIONS.

The following statement, issued by the Board of Trade, shows the value of angle-iron, etc., exported from Germany, Austria-Hungary, and the United Kingdom to all destinations in a recent year:—

Exported from Germany (1912)—	
Girders	£2,617,900
Malleable iron bars except girders, unshaped bar iron, hoop iron	5,682,000
Total	£8,299,900
Exported from Austria-Hungary (1913)—	
Iron and steel in bars or rods, hammered, rolled, or drawn—	
Not shaped	£117,000
Shaped	50,000
Total	£167,000
Exported from the United Kingdom (1913)—	
Iron, wrought, in bars, rods, angles, and shapes or sections	£1,326,000
Steel in bars, rods, shapes, or sections	3,571,000
Girders, beams, joists, and pillars	1,043,000
Hoops and strips	449,800
Total	£6,389,800

Owing to differences in classification indicated by the foregoing particulars, it is not possible to make a close comparison between the exported products of the several countries. The aggregate of Germany's exports of angle-iron, etc., amounted in 1912 to £7,937,850, or 95 per cent. of Germany's exports of such goods to all destinations. It will be seen that the United Kingdom was Germany's most important customer for girders and malleable iron bars, etc., with £1,236,200. Other important German markets for all classes of angle-iron, etc., were the Netherlands (£1,167,000), Switzerland (£773,250), Argentina (£617,200), and Japan (£427,050). Considerable amounts were also sent to British India, Australia, and Canada among the Colonial markets, to Sweden, Denmark, Belgium, Italy, Roumania, Norway, and Russia in Europe, and to the Dutch East Indies, Brazil, and the United States.

The aggregate value of Austria-Hungary's exports of angle-iron, etc., amounted to £140,300, or 84 per cent. of her total exports of such goods to all destinations. Austria-Hungary's exports of this class of goods are trifling in comparison with those of Germany. Austria's principal markets are to be found in South-Eastern Europe—viz., Roumania, Italy, Bulgaria, and Servia, the only other markets of any importance being Russia, Turkey, and Argentina. The aggregate value of British exports of angle-iron, etc., to foreign markets amounted to £5,696,400, or 89 per cent. of the United Kingdom exports of this class of goods to all destinations. From two-thirds to three-fourths of our exports go to British Dominions, though the United States, Russia, Japan, France, Netherlands, and Belgium are also very valuable markets, particularly for steel bars, rods, shapes, or sections.

The United Kingdom easily holds the Colonial and United States markets, and also holds a fair position in the Russian, Japanese, and Argentine markets. There would appear to be openings at the expense of Germany in most of the European markets, especially the Netherlands and Switzerland. Compared with Germany, the United Kingdom holds an extremely strong position in the South African, Cingalese, Canadian, New Zealand, Australian, and Indian markets, though in the two latter cases German competition is not lacking. We hold a fairly strong position in Egypt and the United States, and are doing fairly well in the French, Russian, and Brazilian markets; but in most of the European markets there would appear to be important openings for British manufacturers of bar, angle, etc., iron, particularly in Scandinavia, Denmark, the Netherlands, Belgium, Italy, and Roumania.

In the Dutch East Indies and Japan, Germany has a long lead over the United Kingdom, but in China the reverse is the case. Germany's exports of such iron to Argentina are two and a half times as great as those of the United Kingdom, but in the remaining South American markets we have a lead, though not a large one.

To sum up, therefore, it would appear that the maximum amount of German and Austrian trade in iron or steel bars, rods, angles, or sections which might under present circumstances be diverted to British manufacturers, is as follows:—

	In the United Kingdom Market.	In Colonial & Neutral Markets.
(a) German trade (1912)—		
Girders	£559,800	£1,980,400
Malleable iron bars, except girders; unshaped bar iron; hoop iron	676,400	4,721,250
Total	£1,236,200	£6,701,650
(b) Austro-Hungarian Trade (1913)—Iron and steel in bars, or rods, hammered—		
Not shaped	—	£93,140
Shaped	—	47,160
Total	—	£140,300

Making a grand total of £8,078,150. The German figures for 1912, and the Austrian figures for 1913, have been added so as to give an idea of the bulk of the trade in a year.

The following particulars are available as to the special requirements of certain markets abroad:—

AUSTRALIA.

The following figures show the total imports into Australia in 1912 of iron and steel bars, rods, angles, tees, and iron bars of fancy pattern in the state in which they leave the rollers; hoop iron; girders, beams, channels, joists, columns (rolled), trough and bridge iron and steel, not drilled or further manufactured; shafting, cold rolled, turned, or planished:—

	Cwt.	£
United Kingdom	2,433,476	1,040,617
Germany	587,218	209,921
All Countries	3,679,338	1,467,601

In this market the United Kingdom holds a strong position. Her most formidable competitor is Germany, whose share of the total trade in 1912 was over 14 per cent. In his trade report for 1913, H.M. Trade Commissioner states that notwithstanding increased competition from Germany and other countries, the position of the United Kingdom in regard to girders, beams, channels, joists, bridge iron, etc., was fairly well maintained, imports from the United Kingdom having averaged over 78 per cent. in a trade of an average annual value of about £235,000.

"The imports of bar, rod, angle, and tee iron in 1908, 1909, and 1910 were as follows:—

	1908.		1909.		1910.	
	Cwts.	£	Cwts.	£	Cwts.	£
Total imports into the Commonwealth ..	1,312,851	574,007	1,381,236	555,811	1,959,864	785,508
Share of—	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
United Kingdom	70.26	74.2	60.77	70.87	66.15	70.36
Germany	10.99	9.06	13.37	10.27	14.85	12.86

"The imports of hoop-iron in 1908-10 were as follows:—

	1908.		1909.		1910.	
	Cwts.	£	Cwts.	£	Cwts.	£
United Kingdom	62,504	29,800	57,812	25,248	59,340	27,604
Germany	38,857	18,860	47,906	21,217	50,943	27,220
All Countries	129,449	58,120	136,920	61,052	144,375	66,297

The value of German hoop-iron imported into the various States in 1910 was as follows: New South Wales, £12,017; Victoria, £9,319; Queensland, £2,519; South Australia, £2,284; Western Australia, £831; Tasmania, £250. The Continental hoop-iron is imported for coopeage purposes at about £8 10s. c.i.f., and resold at approximately £10 a ton on the Australian market. A small proportion, roughly estimated at about 10 per cent., of the Continental imports is galvanised hoop, utilised for fencing and building.

BRITISH INDIA.

The figures below show the quantity and value of the imports into India during the fiscal year ended March 31, 1913, of bar and channel iron and steel; angle, bolt, and rod iron; angle and spring steel; iron or steel

beams, pillars, girders, and bridgework; and iron or steel hoops and strips:—

	Tons, 1913.	£
United Kingdom	85,316	841,480
Germany	66,933	463,284
All countries	254,494	2,039,785

The following particulars are extracted from the Review of the Trade of India in 1912-13, compiled by the Director-General of Commercial Intelligence:—"The imports of iron or steel bars and channels from Germany in the year 1912-13 were 40,351 tons; those of beams, pillars, etc., 16,686 tons; hoops and strips, 3,368 tons. The imports from the United Kingdom in the same period were:—

Iron or steel bars and channel	26,249 tons
Beams, pillars, etc.	24,713 "
Hoops and strips	16,900 "

"About five-sixths of the bars and channel are of steel. In angle and spring steel the share of the United Kingdom amounted to 16,972 tons, while Germany and Belgium contributed 12,686 tons."

An Austrian Consular report from Bombay for the year 1912 mentions that whilst 77 per cent. of the total importations of iron and steel come from Great Britain, 47 per cent. of the steel products imported are assignable to German manufacturers. The quantity of steel imported in 1912 from the two leading sources of supply were: from Germany 60,840 tons, from Great Britain 31,210 tons. It is to be noticed that in regard to material for building purposes iron products are preferred to steel.

The Austrian Consul at Calcutta states that in 1912, out of total importations of 706,000 tons under the heading Iron and Steel, about 40 per cent. was divided between Belgium, Germany, and the United States of America. A recent Austrian Consular report from Bombay, referring to the importation of iron and steel bars, states that Germany and Belgium practically divided this trade between them, Great Britain accounting for only 5,000 tons in 1912-13. The heavier materials, such as girders, pillars for bridge building, etc., of iron and steel, are supplied by both Germany and Great Britain, but Germany here also has the lion's share.

A German Consular Report on the trade of Bombay in 1910 states: "Imports of iron and steel have increased in the last five years from 523,000 to 643,000 tons. In 1910, 385,000 tons came from Great Britain, and 229,000 tons from Germany and Belgium together. German and Belgian goods are difficult to separate, as German exports to India are

	1908.		1909.		1910.	
	Cwts.	£	Cwts.	£	Cwts.	£
Total imports into the Commonwealth ..	1,312,851	574,007	1,381,236	555,811	1,959,864	785,508
Share of—	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
United Kingdom	70.26	74.2	60.77	70.87	66.15	70.36
Germany	10.99	9.06	13.37	10.27	14.85	12.86

"The imports of hoop-iron in 1908-10 were as follows:—

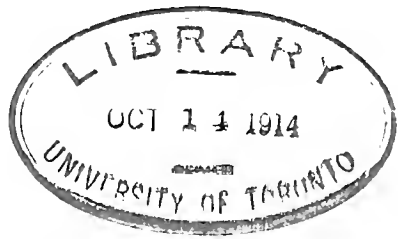
	1908.		1909.		1910.	
	Cwts.	£	Cwts.	£	Cwts.	£
United Kingdom	62,504	29,800	57,812	25,248	59,340	27,604
Germany	38,857	18,860	47,906	21,217	50,943	27,220
All Countries	129,449	58,120	136,920	61,052	144,375	66,297

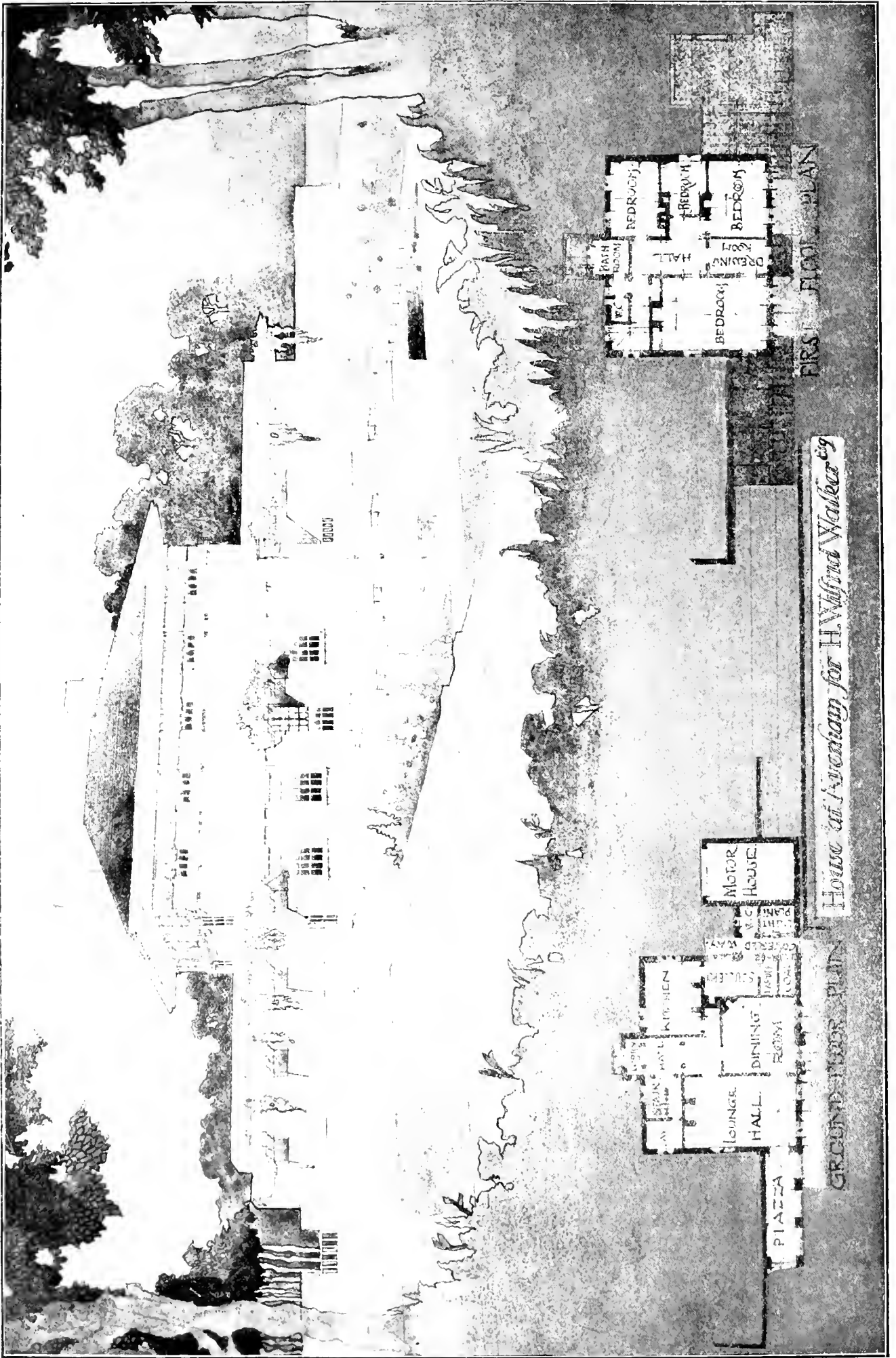
generally shipped at Antwerp. Germany sends more steel and Belgium more iron; generally speaking they are about equal, though Germany has a slight advantage. Iron bars and steel rods more especially come from Belgium, and steel rods also from Germany. In other rolled products, such as steel sheets and girders, Great Britain takes the lead, but Germany and Belgium have a large share."

EGYPT.

The following statement for the years 1912 and 1913 gives the value of the imports into Egypt from the undermentioned countries of iron and steel hoops, rolled bars, angles, and girders:—

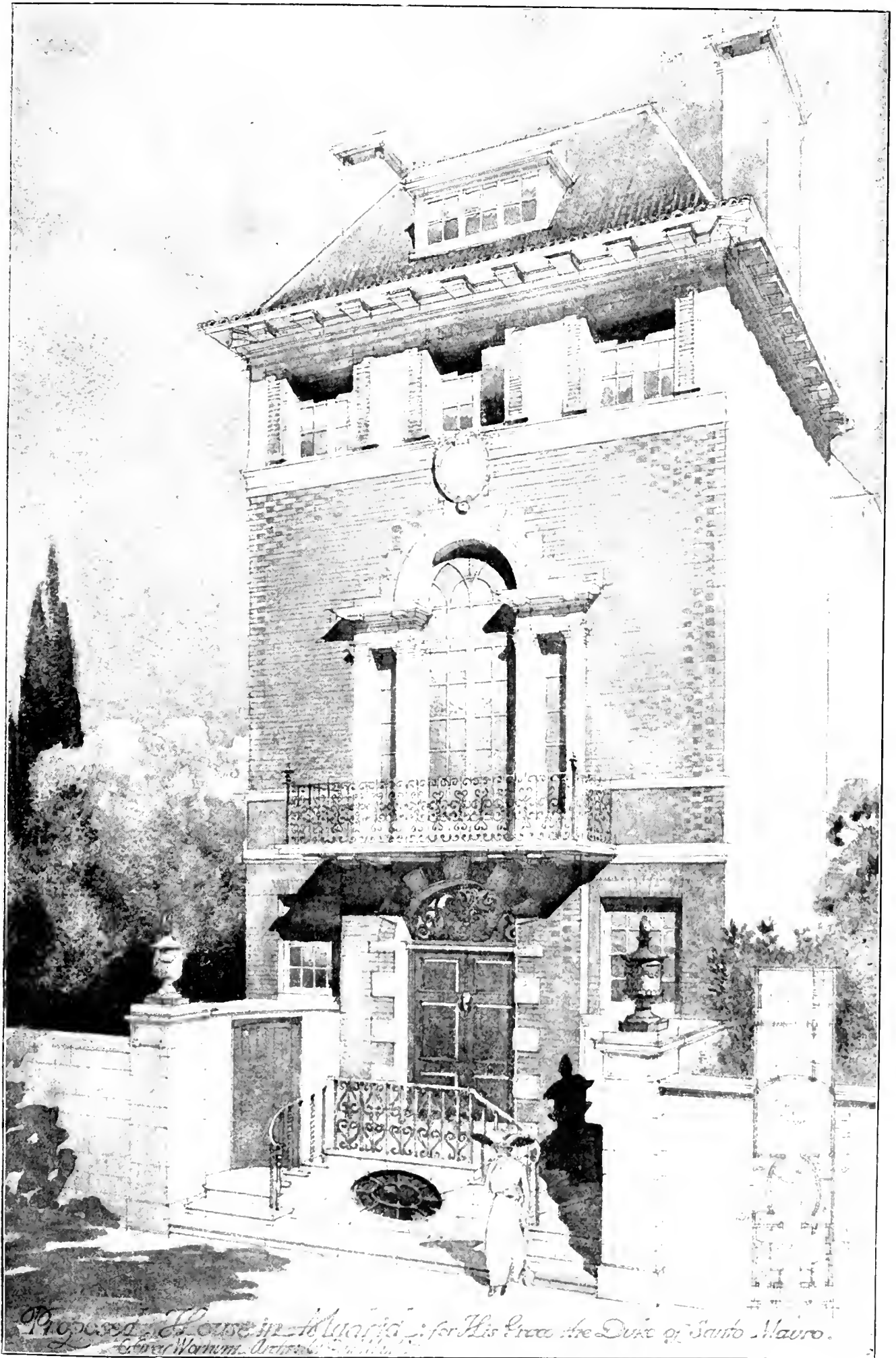
	1912.	1913.
United Kingdom	£89,323	£101,375
Germany	22,734	42,700
Belgium	188,089	211,196
All countries	313,144	457,317





House at Averham for H. Walsford Wadbeer Esq

HOUSE AT AVERHAM, NOTTINGHAMSHIRE.—Mr. CYRIL A. FAREY, Architect.



*Proposed House in Alameda, for His Grace the Duke of Santo Mauro.
G. Grey Wornum, Architect.*

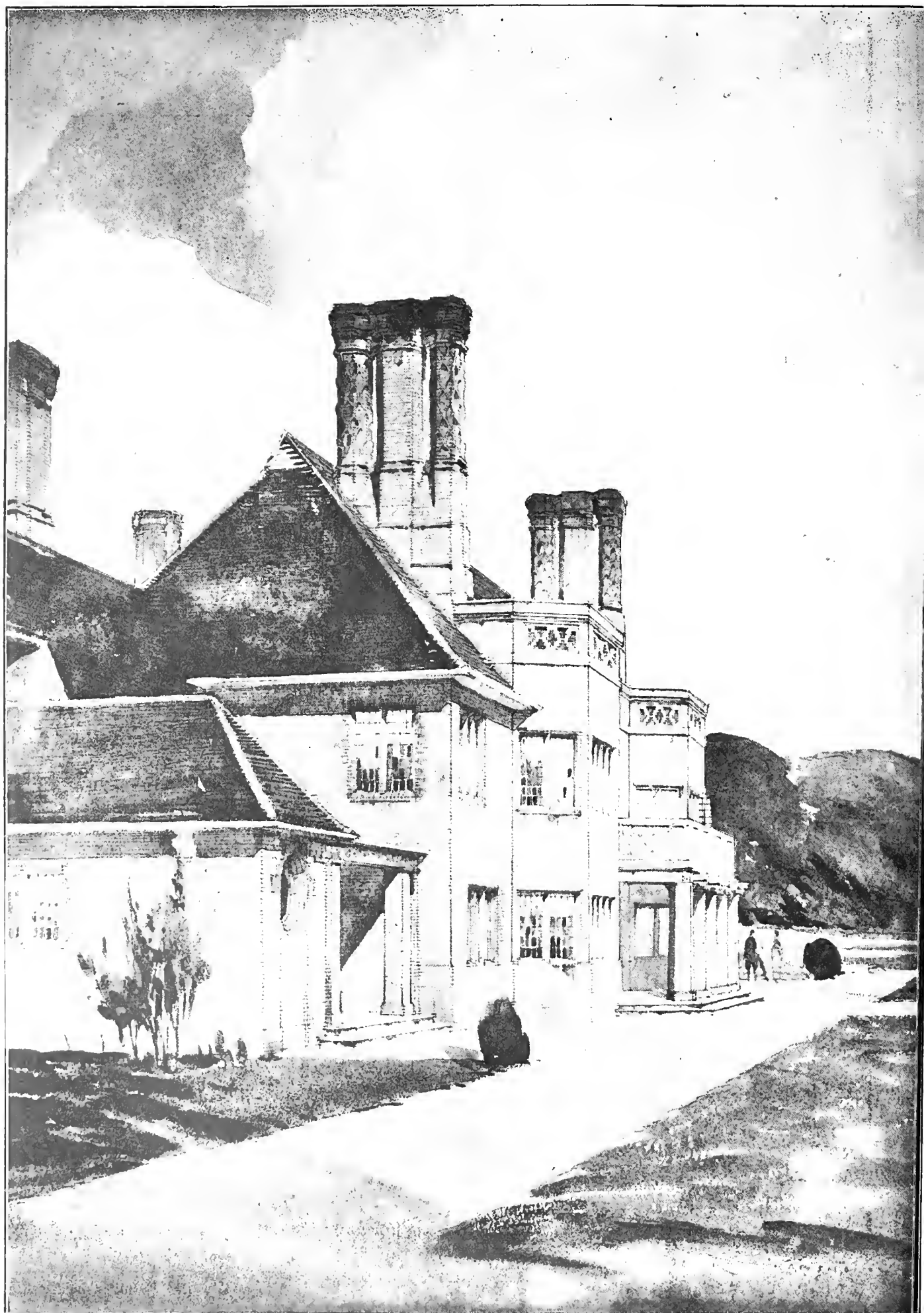
HOUSE AT MADRID FOR THE DUKE OF SANTO MAURO.

Mr. G. GREY WORNUM, Architect.

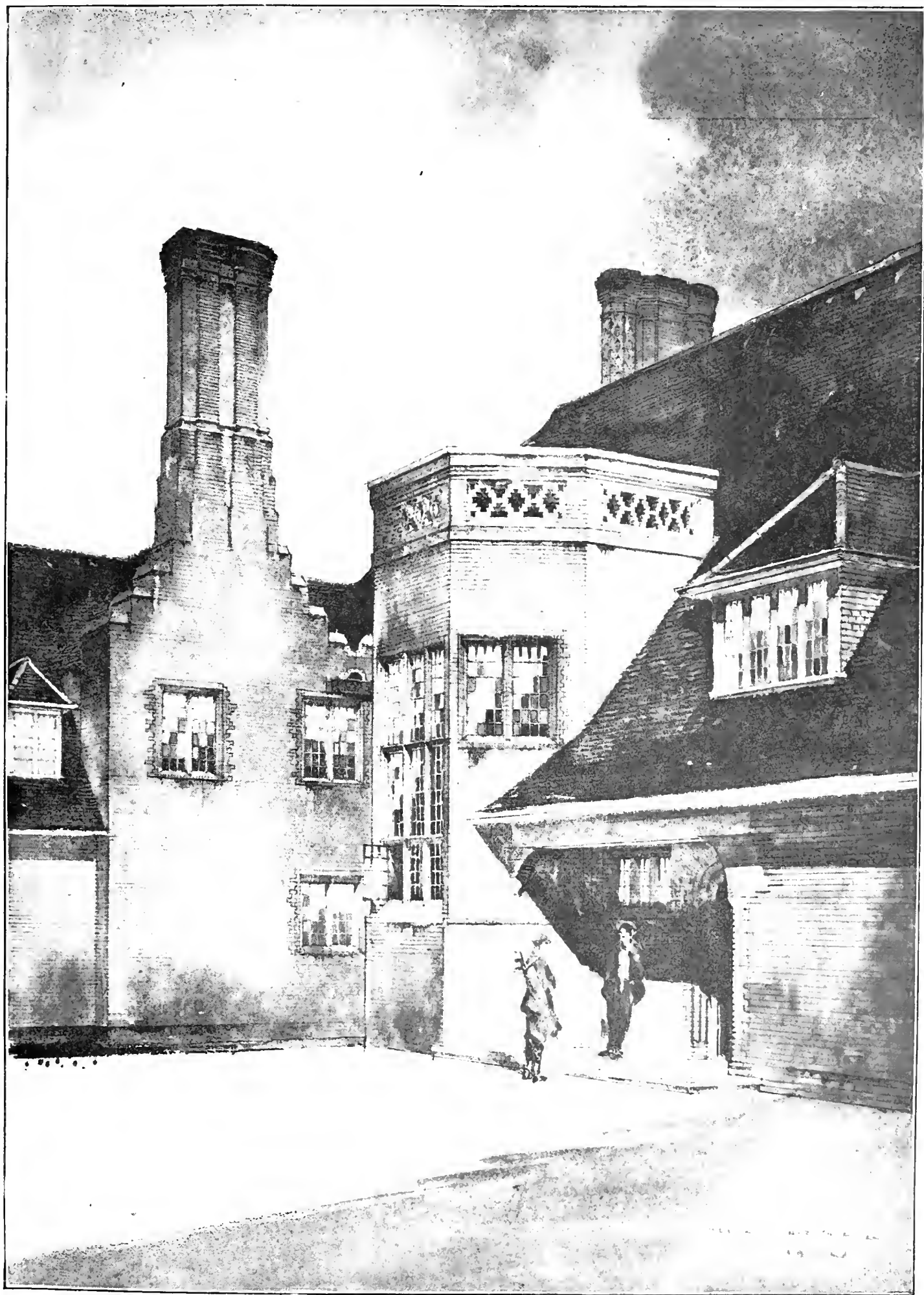
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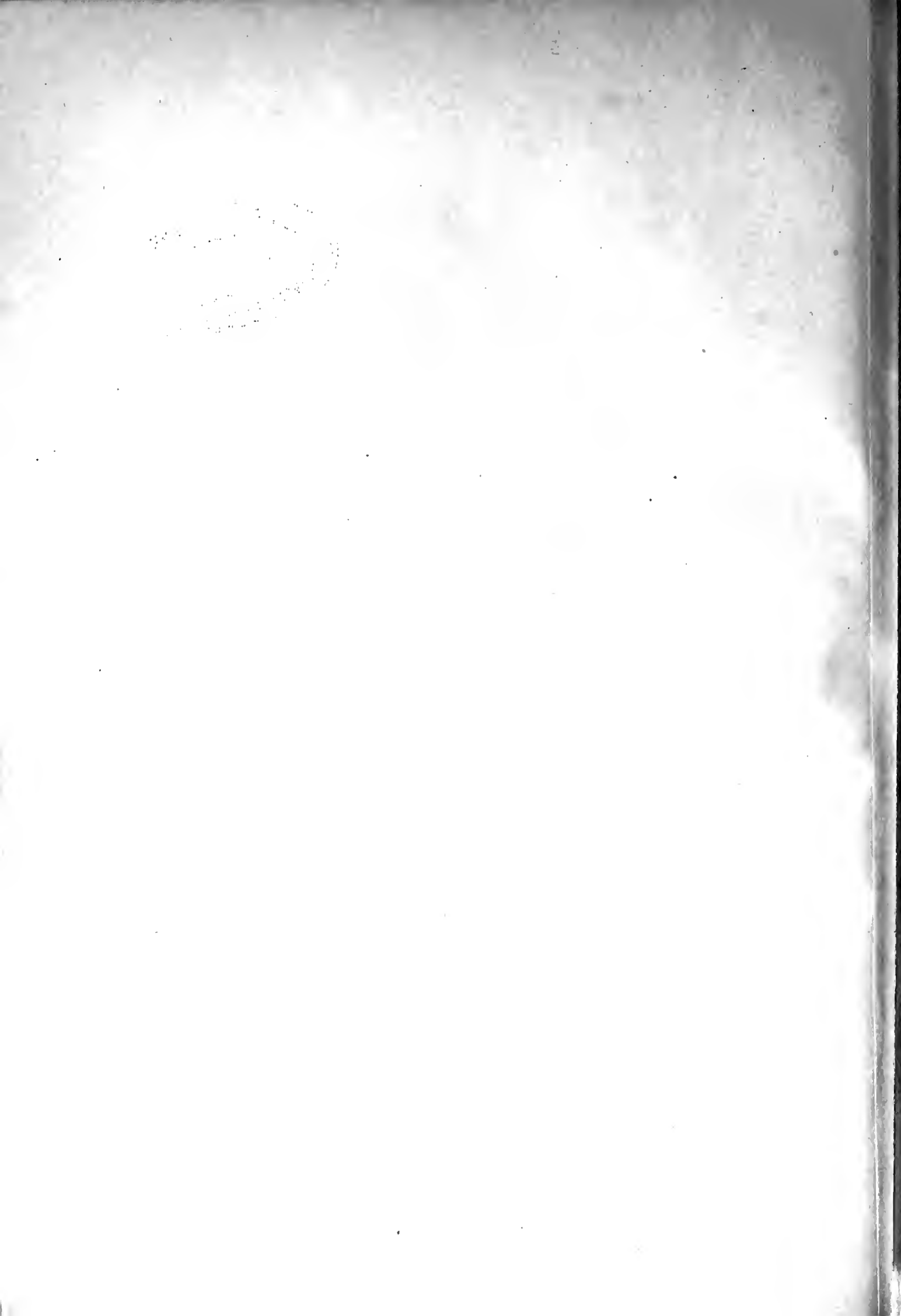




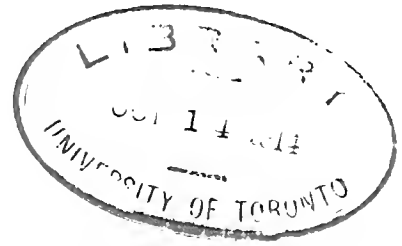
CLUB HOUSE, WILTON PARK GOLF CLUB.—Mr. STANLEY

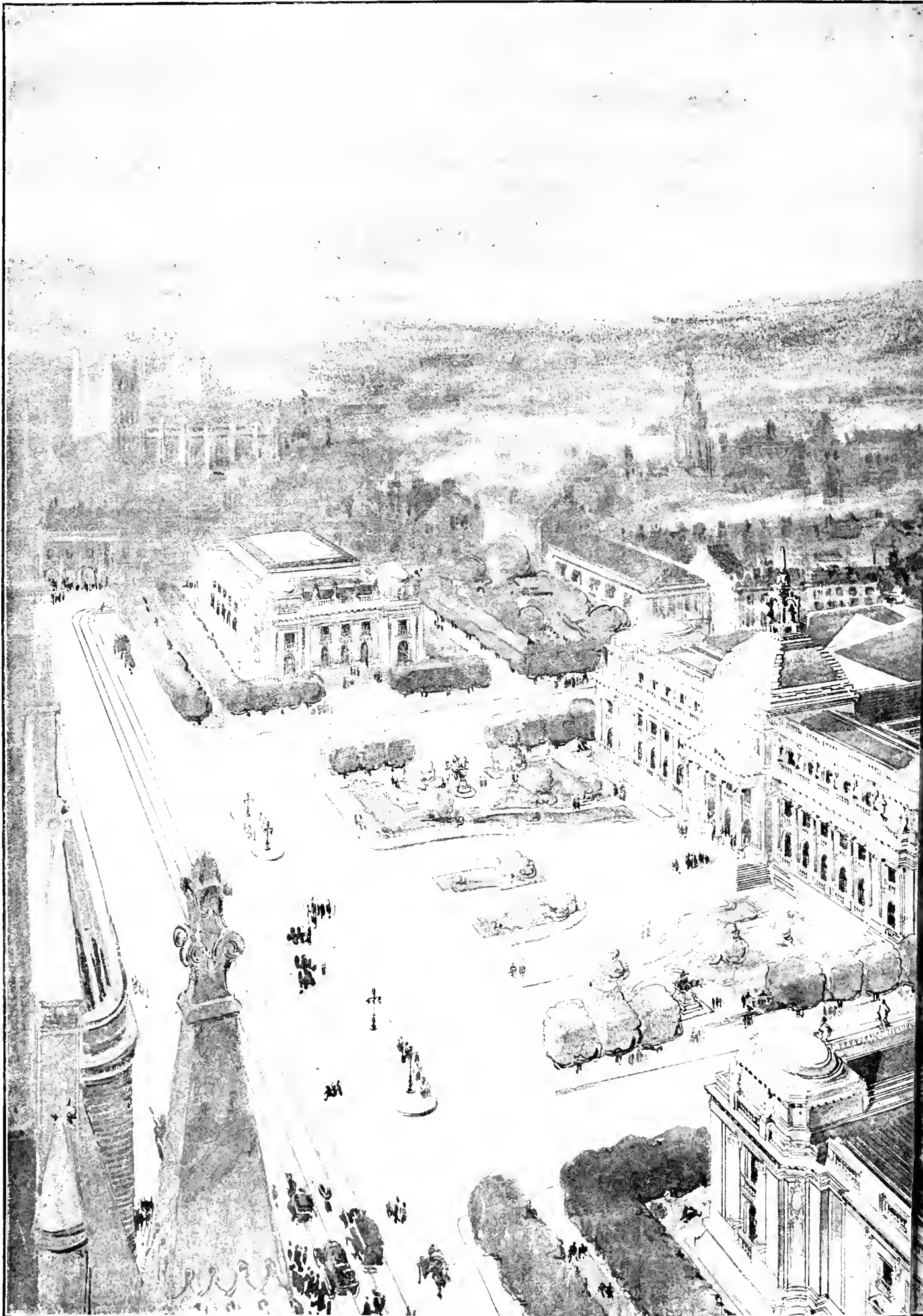


HAMP, A.R.I.B.A. (Messrs. COLLCUTT, HAMP, and TILDEN), Architect.

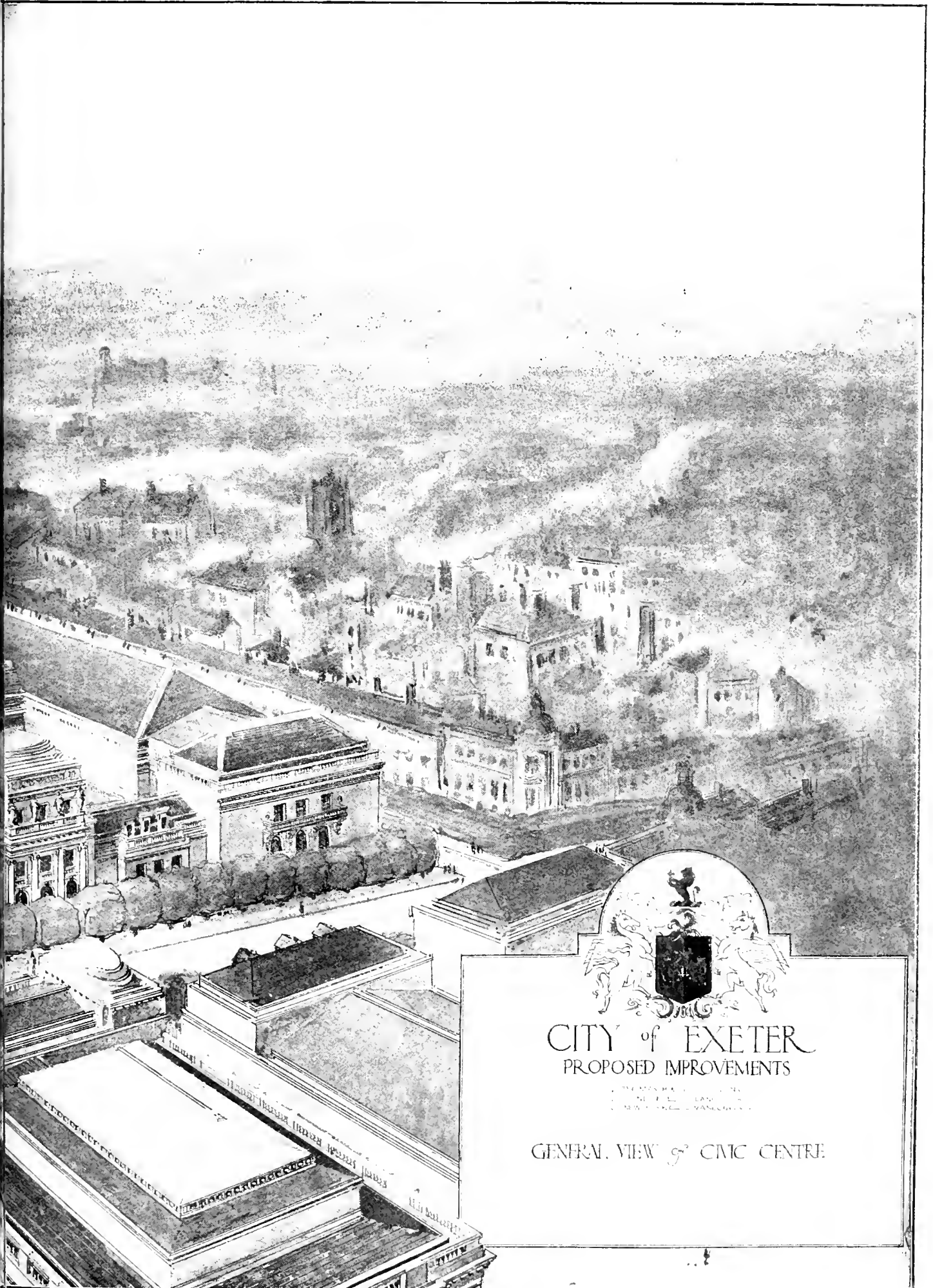


411-414.





A NEW CIVIC CENTRE FOR EXETER



CITY of EXETER
PROPOSED IMPROVEMENTS

THE MAYOR, COUNCIL AND CITIZENS OF THE CITY OF EXETER
NEWTON & LANGRISH ARCHT. NEW YORK & VANCOUVER

GENERAL VIEW of CIVIC CENTRE



German goods find an increasing sale, because the German manufacturers produce a special section of less weight than the Belgian girders. In 1910 6,428 tons of German girders were imported. The United Kingdom supplied chiefly sections of better quality to the extent of 1,478 tons in 1910. Girders are used not only by builders, but also as supports for wooden telegraph posts and for light iron buildings. The price in November, 1911, was £E6 per ton delivered in Alexandria.

BAR AND ANGLE IRON.

In the year 1910, of 22,235 tons imported, 3,224 tons came from the United Kingdom, and 2,040 from Germany. Bar iron is sold for cash at £E6 5s. a ton, and angle iron at £E6 8s., delivered at depot in Alexandria.

A German Consular Report on the trade of Egypt in 1912 states:—"Total imports of iron and steel goods were somewhat lower in 1912 than in the previous year. The decrease is greatest in British and French goods, while those from Germany and Austria-Hungary show a slight increase. Steel goods consist of round and rectangular bars and plates, and are used for smiths' work, railings, gates, etc. Rods are imported between 3-16in. and 1in. by 1-16in.; between 1in. and 2in. by 1/4in.; and between 2in. and 4in. by 1/2in. Round steel bars are being imported in larger quantities, as reinforced-concrete buildings are gaining in favour, and round steel bars are adapted for this use. The diameter is in quality No. 1 up to 1in., and in quality No. 2 from 1in. to 1 1/2in. A fairly large business is done in hoop iron and steel (chiefly steel) for packing cotton bales."

The following particulars of the trade in iron and steel goods in 1912 are extracted from a report published in the "Bulletin Commercial" (Brussels):—"The total imports of girders in 1912 were 18,248 tons, as against 17,327 tons in 1911. In this tonnage Belgium's share was 15,870 tons in 1912 and 14,686 tons in 1911, the balance being shared by England and Germany. It may be mentioned in passing that girders should, on demand, be rolled to the minimum profile; this detail is of importance, the girders being resold in most cases at the theoretical weight. These girders are not used solely for constructional purposes, but serve also as supports for telegraph poles. The heading "Wrought Iron and Steel in Bars" comprises angle iron, U and T iron for construction and fences, square and flat for smiths' work, and especially round and hoop iron for ferro-concrete. The imports in 1912 were 21,167 tons, against 22,913 tons in 1911, the falling-off corresponding to the diminished activity in the building industry. Belgium supplied 15,414 tons in 1912, the remainder being supplied by England, Germany, and France."

ITALY.

A German Consular Report gives the following figures of imports of wrought iron and steel, rolled or forged, in bars or rods, in 1911 and 1912:—

	1911.	1912.
	Tons	Tons
From Austria-Hungary	7,460	5,413
.. Germany	69,718	69,485
.. Great Britain	3,997	4,978
.. All countries	100,921	106,605

GREECE.

The most recent Austrian Consular Report from Salonika was issued at a time when the Balkan War had brought about exceptional conditions. It was anticipated that great activity would result in the building industry, and the Austrian suppliers were recommended to direct keen attention to this market. It was stated that prior to the crisis the importations of ironware into Salonika were provided for in the following proportions: Germany, 50 per cent.; Austria-Hungary, 10 per cent. Belgium and Germany have been successful by price competition in entirely supplanting the Swedish suppliers who formerly held this trade. The Consul states that Austrian ironware is preferred to both the Belgian and the German by reason of its superior quality, and Austrian manufacturers are recommended to be more active in despatching competent travellers to exploit this market. Iron and steel beams (imported

about 2,500 tons yearly) come almost entirely from the Dusseldorf Syndicate. Other Austrian Consular Reports attach importance to the capacity of this country as a consumer of iron and steel. It is stated that Austrian steel is the most popular, and is almost exclusively demanded.

BULGARIA.

Austrian manufacturers have a very great advantage over other foreign importers, owing to the superiority of transport facilities from Austria-Hungary. So far as girders are concerned, the demand is strong, and is catered for chiefly by Germany. Local builders have become accustomed to using the German sections. In foundry iron, Great Britain is the principal supplier, a portion of the trade being done via Roumania, which is also a considerable consumer of this material.

SERVIA.

An American Consular Report issued in June, 1912, states: "Iron girders come principally from Austria and Germany. The importations are rapidly increasing, amounting in 1911 to 3,600 tons. These girders are sold in Serbia according to the rules of the Deutsche Verband (German Steel Trust). They are of normal profiles, and in length from 12 to 15 metres; extra widths according to the fixed extra prices; extra wide girders, system Grey, length 15 metres, width 10 to 40 centimetres. The prices at which dealers here closed some time ago ranged from 160 to 165 francs per ton c.i.f. Belgrade by water transport from Austrian works. Servian merchants are making purchases of 200 to 600 tons, paying against documents."

The German Consul at Belgrade, in a report on Servian trade in 1911-12, states:—"Malleable iron in billets and rods, not rolled, came, as previously, from Austro-Hungarian works; only small quantities came from other places. The demand amounted to about £1,209, a small increase on the previous year. Unworked iron (in bars, ovals, hoop iron, round iron, etc.), especially for building purposes, is generally imported here from Austria and Hungary, for the reason that it is easier to weld in the primitive workshops of the country than German iron. For reinforcing concrete, however, where welding is of no importance, the cheaper kind is preferred, and the German product could, with a little trouble, gain the market. The imports have risen since last year, and reached about £88,000 in 1911, from £72,000 in 1910. Austria and Germany supplied them. The German houses have gained some business by following advice given to them as to packing and payment following the prevailing custom. Worked iron (T, H, Z, L, +, etc., sections), was imported to the value of nearly £16,000, as against £13,440 in the previous year, mainly from Austria-Hungary. A deciding factor in a great many orders is the proximity of Austria-Hungary, and the consequent ability to execute urgent orders at short notice."

The Austrian Consul General for this country gives some figures for 1911, showing the extent to which Germany and Austria-Hungary have predominated as suppliers of Servian requirements of iron and steel. The figures refer to metals and metal goods generally, the figures covering individual items not being analysed according to source of supply.

Imports into Servia in 1911 of Metals and Metal Goods

Country of Origin	Approximate Value.
Austria-Hungary	£304,000
Germany	248,000
Great Britain	30,000

In the year alluded to Austrian imports showed a tendency to increase, German imports to decrease.

TURKEY IN ASIA.

The following is taken from the report of H.M. Consul General at Beirut on the trade and commerce of Beirut and the Coast of Syria during 1912:—"The steady increase in the importation of iron is due, firstly, to a greater demand for iron girders generally, and especially in connection with the reconstruction of houses and shops burnt down

in a great conflagration at Damascus, and, secondly, to purchases by speculators in anticipation of a rise in the near future. Imports of iron and steel girders and bars to Beirut during the year 1912 were as follows:

Article.	Country.	Quantity.	Price per ton.
Girders	Belgium	3,800 tons	£7 0 0
"	Germany	1,200 ..	7 5 0
"	France	900 ..	7 10 0
Bars	Belgium	1,100 ..	6 15 0
"	Sweden	150 ..	11 0 0

The following extracts are from the Report of the Special Commissioner sent by the Board of Trade to Syria:—

WROUGHT STEEL GIRDER.

Beirut.—Made of "Thomas" steel, rolled, of Belgian manufacture. The consumption at Beirut, the Lebanon, and Damascus is estimated at not less than 4,000 to 6,000 tons per annum, which are imported through Beirut. These girders come in what is known as "profil belge," "profil allemand," and "profil normal," that is, ordinary dimensions. Lengths are from 3 to 11 1/2 metres, and the two ends which are at right angles to the length (L) are from 10 to 30 centimetres in breadth. Germany has also been sending considerable quantities. The prices are about 13.40 to 13.60 francs per 100 kilos. Discount of 3 per cent. for cash or four months' credit c.i.f. Beirut. These girders find a ready sale in Beirut at 1 1/4 piastres, Beirut, per oke, and credit is invariably given. Small parcels of Russian girders are sometimes imported.

GIRDERS AND JOISTS.

Aleppo.—These were scarcely known in Aleppo five or six years ago, owing to the difficulties of transport by road from the coast. The linking up of Aleppo with Beirut by rail has made their introduction into this region possible, and large quantities have been imported during the last two years, the amount brought in having exceeded 1,000 tons for each year. Both girders and joists are of German make, the normal sizes being from 13 to 30 centimetres height of web, and from 3 to 10 metres long. The cost is 120 francs per ton c.i.f. Beirut, with 3 per cent. discount for cash. These girders and joists can only be used in Aleppo itself, as their awkward lengths render transport into the interior very difficult.

BAR STEEL.

From 30 to 40 tons is all the consumption, and it is all imported from the United Kingdom. The price of sale on the market in Aleppo is 3 piastres per oke, which is equal to 1 1/2d. per lb. An Austrian steel in bars, made at Streitenben, is imported in fair quantities, from 40 to 60 tons representing the annual consumption.

STEEL BARS.

Aleppo.—Of soft basic, mild steel, are imported from Belgium and sometimes from Germany. They come in 12ft. lengths. This kind of steel has now entirely taken the place of No. 2 iron "Fer Marchand" (Belgium). Ordinary sizes, from half an inch and upwards, for round and square bars, cost £stg.4 9s. the ton net f.o.b. Antwerp, and rolled rods of the dimensions of three-sixteenths to seven-sixteenths of an inch, about £stg.5 per ton. British quotations for the same kinds are about £stg.6 5s. and £stg.6 15s. per ton f.o.b. Liverpool—i.e., British-made bars are from 25s. per ton dearer. Consumption is from 600 to 700 tons per annum, and is increasing. The Acting British Vice-Consul at Adana wrote in July, 1914, that there is an opening in his district for iron girders for buildings of all descriptions.

UNITED STATES OF AMERICA.

The British Vice Consul at P. usacola wrote in December, 1913, "If satisfactory prices could be offered, there would be a good opening for United Kingdom trade in cut steel barrel hoops, as a large quantity of these hoops is used in the vicinity by the various dealers in naval stores. The size generally used is 1 1/2in. wide and 0.16 gauge. Prices should be quoted per 100lb."

PHILIPPINE ISLANDS.

The following is extracted from a British Consular Report issued in July, 1914:

"Imports of iron and steel manufactures thereof again show an increase, the value in 1913 being £1,794,600, as against £1,295,400 in 1912. Business in iron, steel, and hardware during the past year has been good, owing to the large amount of construction work that is taking place, and the great bulk of this business has been placed in the United States. Steel bars, both round and twisted, comprise a large portion of the above, and these are practically all used for reinforcing concrete. A considerable portion of this business has gone to Germany, owing to the long time that steel mills in the United States took to deliver their orders last year, and to the high prices that they quoted."

CHILE.

In his report for the year 1913 the Belgian Consul calls attention to the steady advance in the imports of iron and steel manufactures from Germany. With regard to iron bars, the value of imports from Germany was £93,759, as against £35,582 from Great Britain.

BRAZIL.

The Austrian Consul at Curitiba states that iron and steel are, along with textiles and dress goods, the most important articles of importation into Brazil. Brazil produces as yet little iron, and the manufacturing industry cannot be developed rapidly on account of lack of coal; practically the whole of the consumption, therefore, is dependent upon the supply from abroad. The principal suppliers are England and Germany, which send iron and steel in bars, rods, and wire. Girders and all kinds of constructional steel form an important item, owing to general activity in the building trade, and come also chiefly from the same countries.

CHINA.

In his report for the year 1913 the Belgian Consul at Tientsin strongly recommends that iron bars be packed in bundles weighing one or two tons, according to diameter, and at the ends of the package wicker baskets be placed bound to one another, which effectually prevents the bundle from coming apart. An American Consular Report states: "Imports of iron and steel bars into China in 1910 were valued at 709,500 dol. (£147,812), about 35 per cent. of which came from Belgium, about 27 per cent. from various countries, including the United States, through Hongkong, and about 16 per cent. from Great Britain direct. Shanghai took about 22 per cent. of such imports, Tientsin about 15 per cent., Canton about 13 per cent., and the rest was divided among the several ports, largely proportionate to population. The imports of nail rod, amounting in value to 297,185 dol. (£61,913) in 1910, were furnished almost solely by Belgium direct, and through Hongkong."

JAPAN.

The following statement shows the value of the imports into Japan from the under-mentioned countries of iron bars and rods, tee and angle iron, etc., in 1913:—

United Kingdom	4,885,181
Germany	631,277
All countries	1,411,673

It will be seen that Germany's share of the trade was over 50 per cent. greater than that of the United Kingdom, which contributed less than 27 per cent. of the total imports. The German shares, according to the British Commercial Attaché in Japan, consists largely of cheap qualities, especially round bars. The British and Austro-Hungarian contributions are mainly of expensive tool-steel.

Mr. Edward Calvert, of 80, Willowbrae-road, and 16, North St. Andrew street, Edinburgh, architect and surveyor, who died on June 25 last, left personal estate in the United Kingdom valued at £1,594, which is exclusive of considerable real estate owned by him.

At a meeting of Dunfermline Town Council on Friday, Mr. P. C. Smith, burgh engineer, Arbroath, was appointed burgh engineer and master of works for Dunfermline, in succession to Mr. W. R. Maxwell, resigned. Mr. William Kennedy, for some years second sanitary inspector, was appointed inspector.

THE ASSOCIATED PORTLAND CEMENT MANUFACTURERS (1900), LTD.

We briefly summarised the results of the past year's trading of this company on page 388 last week. The report of the directors will be submitted to the fifteenth ordinary general meeting of the company, to be held at Winchester House, Old Broad-street, London, E.C., on Wednesday next, Sept. 30, at 12 noon. The directors submit to the shareholders their fourteenth annual report, together with the audited accounts to June 30, 1914, shows that the balance brought forward at July 1, 1913, was £51,534 8s. 4d.; the profits, after deductions, which include £114,295 8s. for repairs and renewals, amount to £563,750 6s. 7d., making £615,284 14s. 11d. From this have been deducted directors' and trustees' fees, £6,500; debenture stock, mortgage, and other interest, £229,653 1s.; depreciation and sinking funds, £51,518 7s. 4d.; discount on realisation of securities, £909 6s. 11d.; making £288,580 15s. 3d., and leaving £326,703 19s. 8d. An interim dividend on the preference shares to December 31, 1913, was paid on March 31, 1914, amounting to £62,303 5s. 5d., leaving a balance of £264,400 14s. 3d., which the directors recommend should be appropriated as follows: To the general reserve and depreciation account, £50,000; to the payment of a final dividend on the preference shares to June 30, 1914, at the rate of 5½ per cent. per annum, amounting to £62,829 16s., making £112,829 16s., leaving to be carried forward £151,570 18s. 3d.

During the past financial year trade has been active in some departments, but the company's operations were adversely affected by the long dispute in the London building trade, now at an end, and by a substantial diminution in the export demand for cement. The works in British Columbia were completed in the early part of the financial year; but here again lessened demand, due chiefly to the financial stress prevailing in the Dominion of Canada, has caused manufacturing operations to be intermittent. The decrease in the revenue from interest and dividends is due largely to the fact that no return was received during the period from the company's investment in Mexico, owing to the disturbed state of that country. Substantial profits were, however, earned there, but unfavourable exchange rendered the declaration and remittance of a dividend inadvisable. In view of these conditions the directors consider the results shown by the accounts to be satisfactory.

Provision has been made in the profit and loss account for the annual instalments required for the redemption of the debenture stocks; also for sundry other charges for depreciation and sinking funds. These items amount in all to £51,518 7s. 4d. The directors recommend that, in addition, a sum of £50,000 be carried to the general reserve and depreciation account, bringing the amount of that account to £385,000. The total charge for the year for depreciation and sinking funds will then amount to £101,518 7s. 4d. The directors regret that, having regard to the financial conditions brought about by the war, and to the company's various commitments, they are unable to recommend the payment of a dividend on the ordinary shares, in spite of the fact that the earnings would have allowed of their doing so had the circumstances of the time not been quite abnormal. In consequence of this decision the amount carried forward, after making the above-mentioned reserves, is over £100,000 in excess of the sum brought forward at the beginning of the year. They recommend the payment of the preference dividend at its due date on the 30th inst.

First mortgage debenture stock to an amount of £20,475 was redeemed and cancelled during the year, bringing the total of that stock redeemed to June 30 last to £218,966. Of the second debenture stock £23,211 was also redeemed and cancelled. The works in South Africa in which the company is largely interested are practically completed, and the manufacture of cement there is on the point of beginning.

The directors have with much regret to

report that, owing to the many demands upon his time, Lord St. Davids resigned the chairmanship of the company and his seat on the board at the end of the financial year in June last. When he accepted the chairmanship of the company it was recognised that he was doing so for a limited period, which has, in fact, been exceeded. Mr. F. A. White and Mr. E. W. Brooks have been unanimously elected respectively the chairman and a vice-chairman of the company. Three directors—viz., Messrs. Walter F. Roch, M.P.; Frank Willan, and G. B. Francis retire from the board in rotation, and, being eligible, offer themselves for re-election. The auditors, Messrs. Crewdson, Youatt, and Howard also retire, and, being eligible, offer themselves for re-election.

OBITUARY.

The death has occurred, at the age of seventy-four, of Mr. Walter Hunter, J.P., Vice-President of the Institution of Civil Engineers. For many years he was senior partner in the firm of Hunter and English, engineers and millwrights, Bow, and designed and constructed pumping engines, dredgers, cranes, sluices, and mills to the value of over £1,000,000 during that period. In 1889 Mr. Hunter was elected a member of the London County Council for the Bow and Bromley Division, and served for three years as vice-chairman of the Bridges Committee and as representative of the Council upon the Lee Conservancy Board. He was largely influential in obtaining the sanction of the Council to the Blackwall Tunnel scheme, and also in promoting the reconstruction of the bridge carrying the Barking-road over Bow Creek. Upon leaving Bow, Mr. Hunter was appointed engineering director of the Grand Junction Waterworks Company, and whilst with that company he designed and carried out pumping-engine, filter-bed, and water-main schemes to a considerable extent, and reduced the consumption of water in the company's district from 49 to 35 gallons per head per day. He was the originator of the Staines reservoir scheme for the development of the Thames water-supply for London, and was joint engineer with Mr. R. E. Middleton for the first instalment of those works, which cost about £1,250,000. Since 1902 Mr. Hunter had been in partnership with Mr. Middleton and Mr. M. B. Duff as consulting engineers.

COMPETITIONS.

AUSTRALIAN COMMONWEALTH COMPETITIONS.—At a conference of the six Australian architectural institutes, convened to submit a chairman of the Board of Adjudicators in the Federal Capital Competition, Mr. George T. Poole, President of the Western Australian Institute of Architects, was (as we have already intimated), after an exhaustive ballot, unanimously recommended to act as Chairman of the Board in London. The following very important recommendation was also submitted by the conference to the Acting Minister for Home Affairs, Mr. Kelly: "That competitive designs be invited for all important Commonwealth buildings in future, and adjudication for the same to be conducted in Australia by a Board consisting of a nominee from each institute of architects in Australia, and one member of the Board appointed by the Federal Government."

The Local Government Board have given their sanction to the Bosmere and Claydon Rural District Council, East Suffolk, to borrow £1,300 for a housing scheme.

The London County Council have decided to proceed as promptly as possible with the erection of their proposed new buildings, in order to provide employment during the winter.

The cost of the report of the experts—Sir John Snell and Mr. Edmonds—upon the Southampton electricity undertaking was £593 16s. 2d., which figure includes fees and expenses and the cost of printing. The report is now being considered by the Parliamentary committee of the corporation.

Correspondence.

ARCHITECTS AND THE WAR.

To the Editor of the BUILDING NEWS.

SIR,—Although it may be presumed that most of the architects who have had to leave their work in order to join the armed forces were able, before their departure, to place their work in the hands of colleagues and friends, yet it is thought probable that cases may arise in which it will be difficult for architects to find suitable substitutes. In such cases architects are invited to note that the Architects' War Committee, already formed, is willing to give advice and help. The extent and nature of the help offered may be classified as follows:—

(a) Undertaking complete charge of an office; (b) carrying on in all its phases a specific piece of work; (c) visiting a specific piece of work and reporting to office only; (d) dealing with clients, builders, and general matters; (e) providing draughtsmanship, directly or indirectly; (f) giving only general advice on, and when required.

Readers in sympathy with the committee's efforts can help in one or more of the following ways:—

(1) By writing to the Hon. Secretary, Architects' War Committee, 9, Conduit-street, Hanover-square, London, offering their services, when a form will be sent to them inviting specific information as to the extent and nature of their generosity should this be called upon.

(2) By sending this announcement to colleagues who have already joined the Forces, and who are known, or supposed, to require assistance.

(3) By intimating their own intention of joining the Forces, and the general nature of the professional circumstances which will result, when another form will be sent with full details.

(4) By drawing the attention of others likely to be interested in this movement, whether prospective donors of services or military patriots.

The War Committee desire to emphasise that their offer of help is extended to all architects, whether or no they be members of any organised architectural body.

The committee also wish to call the attention of those desirous of joining the Army to the fact that certain advantages may be obtained by recruits by joining through the Architectural Association rather than through other channels.—I am, etc.,

C. STANLEY PEACH,

Hon. Sec., Architects' War Committee,
9, Conduit-street, W.

ARCHITECTURAL ASSOCIATION WAR SERVICE BUREAU.

SIR,—The Architects' Volunteer Training Corps, which is now being recruited at the Architectural Association, 18, Tufton-street, S.W., is open to all architects, surveyors, and members of kindred professions, businesses, and trades. It is proposed to make it a training centre from which men will join the Regular Forces as they are able, in the meantime becoming proficient in drill and musketry. While, in the first place, the corps is intended for men who cannot at present join the Army, all who have applied for commissions, or are waiting to enlist in corps at present not recruiting, will be most welcome.

A meeting will be held at 18, Tufton-street, on Tuesday next, at 5.30 p.m., when the organisation and scope of the corps will be explained in detail; but at present we want all who can do so to enroll at once.

Royal Engineers.—The R.E. are still not enlisting; but men are now being drafted from Chatham to various training camps, so that we may hear any day that they have reopened.

Engineering Units of the Royal Naval Division.—Recruits are now wanted for the R.E. units of the Royal Naval Division. They should be well up in constructional work. Application should be made personally at No. 2, Savoy-hill, W.C., before Saturday.

All men who are accepted should inform me at once, so that I may send up a list of men who are to be kept together.

Public School Battalion, Middlesex Regiment.—There are still vacancies in this corps. Men should apply personally at 24, St. James's-street, S.W. All who are accepted will be kept together, provided they send me their names at once.—I am, etc.,

ALAN POTTER,

Hon. Sec. A.A. War Service Bureau.
The Architectural Association, 18, Tufton-street, Westminster, S.W., Sept. 23, 1914.

MORATORIUM AND RENTS.

SIR,—There appears to be confusion in the minds of many people with regard to the Moratorium, the Courts (Emergency Powers) Act, etc., and their effect upon rents and rates. The Land Union is in communication with the Treasury on the subject, and I shall

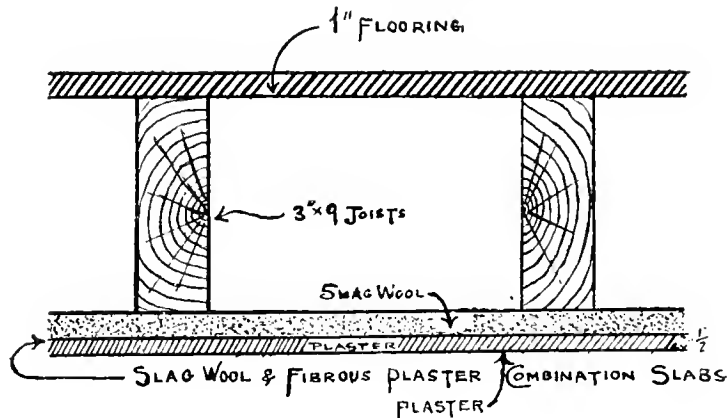


FIG. 1.

be only too pleased to help those interested who are in doubt or difficulty if they will communicate with me here.—I am, etc.,

C. H. KENDERDINE, Secretary.

The Land Union, St. Stephen's House,
Westminster, London, S.W.

BRITISH CHANCES IN BELGIUM.

SIR,—Any British manufacturer wishing to obtain any information as to finding outlets in Belgium for their goods to replace German articles, can obtain free, any particulars as to names of firms, duties, etc. Catalogues or

the packing of slag-wool between the timbers is officially valued as very largely reducing the fire risk.

It will be obvious that when a fire cannot work its way unseen along empty spaces between joists, etc., but can only creep along the surface exposed to view, it can be much more readily extinguished; and, further, as the fire cannot get round the timbers, but can only attack them on the surface, its destructiveness is enormously lessened, and, with the spaces filled with slag-wool, the air-draughts and currents, which otherwise support and increase combustion, are not

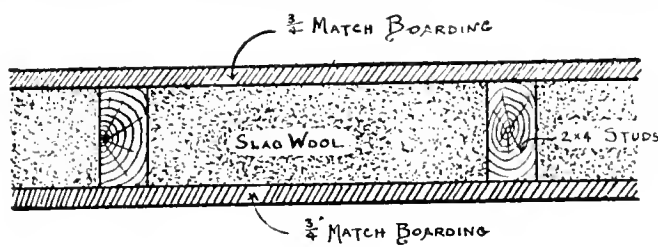


FIG. 2.

samples received will be distributed amongst interested parties. Belgian addresses of exporting firms, also supplied. Prompt attention will be given.

There is a broad field of action in Belgium for almost any British industry, in order to replace German goods.—I am, etc.,

EMILE PAUWAERT.

37, Place du Dock, Ghent, Belgium.

SLAG-WOOL AND TIMBER.

SIR,—With reference to your notes under "Office Table" in your issue of the 18th inst. on the above, some of your readers seem to have formed the opinion therefrom that slag-wool can be used as a substitute for balk timber.

As we certainly do not wish to convey such an erroneous impression, we would point out that McNeill's Lion Brand slag-wool is now also made up in the form of slabs, and packed between wire netting or expanded

metal lathing, and also in fibrous plaster combination slabs, and as such will be found invaluable for partitions and ceilings.

McNeill's Lion Brand slag-wool is invaluable in building-construction as a fire-proofing material, for not only is it incombustible, but it is a remarkable non-conductor of heat—so much so that it has been proved that a fire of one or two thousand degrees on one side of a partition packed with four inches of slag-wool barely increases the temperature of the other side of the partition.

The efficacy of the packing of slag-wool between the timbers as a fire-preventative or retardant is, unhappily, not yet fully recognised in this country; but in the United States, where slag-wool (there called mineral wool) has been more widely used, its value in this respect is recognised by the building ordinances in some of the cities, where, under the head of "slow-burning constructions,"

existent, and the fire, in consequence, cannot burn with the same rapidity.

Fig. 1 shows the application of our Lion Brand patent slag wool and fireproof plaster combination slabs fixed to the under side of the joists of a floor. This forms not only a very effective method of preventing the spread of fire from the lower to the upper room, but acts also as a sound deadener between the rooms, and does away with the ordinary lath and plaster ceiling, these combination slabs requiring only the finishing coat of Keen's cement.

An astounding actual test of the value of slag wool in this sense was demonstrated some time ago when a fire occurred round a cold-store constructed of wood and insulated with slag wool. This cold-store contained some 25 tons of butter; but, notwithstanding that the fire raged fiercely outside for some hours, the butter remained unmelting. The full facts of this remarkable case, with photographs of the building, will be sent on application.

Fig. 2 shows our Lion Brand patent slag-wool packed in between the studs of a match-boarded partition. It need only be remarked that care must be taken to fill the space compactly, and, to secure this, not more than 2ft. or 3ft. high should be packed at one time.

As in the case of sound-deadening in floors, strips of McNeill's No. 3 hair-felt can with advantage be tacked to the sides of the studs to prevent the transmission of sound through the woodwork itself.—We are, etc.,

F. McNEILL AND CO., LTD.

Lamb's-passage, Bunhill-row, E.C.

PARLIAMENTARY NOTES.

LAND VALUATION: COMPLETION AS SOON AS POSSIBLE.—Mr. Outhwaite asked the Chancellor of the Exchequer on Friday whether he would take steps to expedite the land valuation now in progress, in view of the need that must arise to find fresh sources of taxation to meet the cost of the war.—Mr. Lloyd George: I am proposing to complete as soon as it is possible with the reduced staff available the valuation of land under the Finance (1909-10) Act, 1910. It is, of course, quite impossible at present to state what taxation the war will render necessary.

TIMBER FOR BUILDING.—Mr. Robertson informed Mr. Cowan on Friday that the Board of Trade was considering what steps, if any, were possible and desirable to encourage the supplies of timber for building.

HUTTING FOR 500,000 TROOPS.—Mr. Tennant, Under Secretary for War, reported that hutting for 490,000 men, in addition to many Territorial troops, has been ordered in Great Britain. The first lot of huts started were those at Belton Park, and these will be ready by September 25. Others will follow rapidly; but it is unlikely that all will be ready before the end of November.

Mr. Ralton Gardner Hammond, F.R.I.B.A., 4A, Bloomsbury-square, has been elected as Warden of the Worshipful Company of Cooks.

The Local Government Board have sanctioned the borrowing by the town council of Ashton-under-Lyne of £14,000 for constructing works of sewage-disposal.

At Bath, on Tuesday, Mr. Edgar Dudley held an inquiry into an application by the city council for sanction to borrow £18,000 for the purchase of the Pump Room Hotel.

A course of evening classes in design is being arranged by the Court of the Carpenters' Company in connection with the School of Architecture (University of London).

The urban district council have appointed Mr. P. C. Woodall, engineer and surveyor to the Blandford Corporation, to the post of surveyor and sanitary inspector, in place of Mr. J. R. Hadfield, resigned. There were fifty-three applications for the position, which is worth £140 per annum.

A new county school, built by the Middlesex County Council and the Hendon Urban District Council at a joint cost of £22,000, has been formally opened at Hendon. The plans were by Mr. H. G. Crothall, architect to the Middlesex County Council and Messrs. W. Gibson and Co., of Hendon and Finchley, were the builders.

The Choylon Corporation have adopted proposals for the expenditure of £9,241 on foot-way paving and £50,890 on carriage-way paving. Matters in connection with the construction of the relief road from Thornton Heath to Purley are being pushed forward, the Local Government Board having sanctioned the borrowing by the council of £19,743, the borough's contribution to the cost of the work. The Road Board has intimated that it is prepared to increase its grant from £70,000 to £48,950.

Major H. Phillips Fletcher, F.R.I.B.A., F.S.I., who has been training with his regiment, the 1st County of London Yeomanry (Middlesex), Duke of Cambridge's Hussars, on Hounslow Heath for active service at the front, unfortunately contracted typhoid while in camp. He is now, we are pleased to hear, progressing favourably. Three of his brothers are in the fighting forces, two, Commander Hugh Fletcher, R.N., and Lieut. Percy Fletcher, R.N.R., with the Navy, and Lieut. Ernest Fletcher, B.A., with the 1st County of London Yeomanry. Their eldest brother Mr. Baunster Fletcher, F.R.I.B.A., C.C., is serving as an assistant section commander of special constables. They are, it will be remembered by many, sons of the late Professor Baunster Fletcher, F.R.I.B.A.

LEGAL INTELLIGENCE.

ALLEGED BREACH OF THE BUILDING ACT.—At the South-Western Police-court, Mr. Francis heard a summons brought against Albert Nichols Cole, builder, New Town-chambers, Plymouth, by Mr. William Grellier, the district surveyor for Clapham, for erecting the Majestic Picture Palace, High-street, Clapham, in contravention of the Building Act. The complaint was that the outer wall did not fulfil the requirements of the Act, as it had two windows looking into a corrugated-iron shed built against the wall. Mr. Grellier explained that the shed belonged to a butcher. The windows were bricked up, but then two rooms were put in darkness except for artificial light. In consequence of this, the windows were opened again. In cross-examination, witness said it was not for him to explain to a builder how buildings should be erected. It was his duty to see that the Act was complied with. Mr. Kingsbury (defending): You first served the defendant with a notice to brick up the windows. After this had been done, you served another notice for the brickwork to be removed. Do you suggest that my client should trespass on another man's ground and remove the shed?—Witness: I don't suggest anything of the kind.—Mr. Kingsbury: If the shed is irregular, why don't you secure its removal?—I am dealing with your part of it.—Mr. Kingsbury: You have allowed an irregular building to remain for a year. Addressing the court, Mr. Kingsbury said if anyone had committed any offence it was the owner of the shed.—Mr. Francis: There is no case against the defendant, and the summons will be dismissed, with £5 ss. costs.

A BRISTOL ARCHITECTS' AFFAIRS.—Re Frederick Bligh Bond, of Glastonbury, carrying on business at Star-buildings, St. Augustine's-arcade, Bristol, and at Glastonbury, architect.—The hearing of this case took place in the Bristol Bankruptcy Court before Mr. W. Ormiston, deputy official receiver, on Thursday, the 17th inst. The total liabilities were set down at £3,915 13s. 11d., of which £2,406 11s. 2d. is expected to rank. The assets amount to £292 14s. 9d. The causes of failure alleged by the debtor were "Large expenses on account of serious illness of my daughter; long illness of self, and costs of renovations after suffering from scarlet fever; damages and law costs in an action by my late partner for libel and breach of partnership agreement through the issue on legal advice of a circular during the time I was isolated with scarlet fever; loss owing to lapse of my appointment as honorary diocesan architect for Bath and Wells Societies through the work being transferred to a new finance board who have appointed the architect to the Ecclesiastical Commissioners as their adviser, and loss of diocesan work which resulted from my appointment, and loss on production of anti-quarian works." The public examination is fixed for September 25, at Bristol Guildhall. In reply to Mr. Ormiston Mr. R. H. Carpenter (the debtor's solicitor) said his client was unable to make any proposal to the creditors, and must consent to a adjudication.

The King has approved the appointment of Dr. Henry Owen to be a member of the Royal Commission on Ancient Monuments in Wales, in succession to the late Sir Edward Anwyl.

Mr. S. Carrodus, B.M. inspector of drawing and handcraft, died very suddenly on Saturday at his residence in Old Park Ridings, Winchmore Hill. The funeral took place yesterday (Thursday) afternoon at Southgate Cemetery.

The opening meeting of the nineteenth session of the Glasgow Architectural Craftsmen's Society will be held this (Friday) evening, in the society's room, in the west wing, ground floor, of the Royal Technical College, Glasgow, when Mr. Alexander Davison, L.R.I.B.A., will deliver his presidential address.

The autumn exhibition of the International Society of Sculptors, Painters, and Gravers will take place at the Grosvenor Gallery as usual, and will open on October 7. There will be no diminution of foreign exhibits as the council brought over a number of French and American works from Paris just before the declaration of war and during the interval they have been on exhibition in the Municipal Gallery at Bradford.

Mr. A. W. Brightmore, D.Sc., held an inquiry at the town-hall, Chippenham, on Thursday last week, with reference to an application by the town council for sanction to borrow £1,500 for providing two filters and aerators at the waterworks. The town clerk explained that the water supply of Chippenham was from an artesian well and for a long time there had been great complaints as to the discoloration of the water, which was found to be largely attributable to impregnation with iron.

Our Office Table.

The City Corporation at their meeting yesterday (Thursday) were to have reconsidered a report of the Improvements Committee relative to a letter from the London County Council asking the views of the Corporation on an application by Mr. H. Chatfield Clarke, F.R.I.B.A., on behalf of the Leathersellers' Company, for consent to the erection of an archway over St. Helen's-place on the rebuilding of Nos. 54 to 66, Bishopsgate, and recommending the Corporation to disapprove the proposal. To this an amendment was to have been moved by Mr. A. C. Stanley Stone proposing that, in view of the area to be given up by the company free of cost, the erection of the archway be sanctioned; but when the matter came up for consideration the town clerk submitted a letter from the Leathersellers' Company withdrawing the application, as their Court has decided not to proceed at the present time with the rebuilding. The matter, on which opinions were closely divided, accordingly dropped.

The curriculum of the Architectural Association School of Architecture for the ensuing session has just been published. Mr. Robert Atkinson, A.R.I.B.A., is the head-master of the school, and Mr. C. E. Vardell, A.R.I.B.A., the lecturer on Theoretical and Practical Construction. The day-school masters are: for the first year, Mr. Alan Potter; second year, Mr. R. Lawry; and third year, Mr. L. H. Bucknill, A.R.I.B.A. The School of Design master is Mr. H. M. Robertson. The lecturers are Messrs. Theodore Fyfe, A.R.I.B.A. (Greek and Roman Architecture), Aymer Vallance, M.A. (Medieval Architecture), W. H. Ward, M.A., A.R.I.B.A. (Renaissance Architecture), and A. O. Collard, F.R.I.B.A. (Professional Practice). The Life Class is instructed by Mr. E. Constable Alstoe, and the Water-colour Class by Mr. H. F. Waring. The winter term of the day school opens on Monday next, the 28th inst., and will continue until December 18, the hours being from 9.30 a.m. till 5 p.m.

The new session of the University of London School of Architecture at the new buildings in Gower-street, W.C., opens on Monday, October 5. The new buildings, erected from the designs of Professor F. M. Simpson, F.R.I.B.A., the director of the school, provides accommodation for one hundred students, and here the school, in continuation of those formerly attached to University and King's Colleges, will henceforth be carried on. The staff includes Professor R. Elsey Smith; Sir John J. Burnet, R.S.A., special visitor for Academy design class; Messrs. Leonard Stokes and Edward Warren, special visitors for evening design class; Mr. Leslie Williams, assistant professor; and Mr. Arthur Stratton, lecturer. Mr. E. R. Matthews (late of Bridlington) is the Chadwick Professor of Municipal Engineering; Mr. E. G. Coker, Professor of Civil and Mechanical Engineering; Mr. Frederick Burns, Slade Professor of Painting and Sculpture; Dr. E. A. Gardner, Yates Professor of Archaeology; Mr. H. R. Kenwood, Professor of Hygiene and Sanitary; and others. The studies provided comprise the B.A. degree course (Honours in Architecture) of the University, the certificate course in architecture, the Academic Design course, special short course, town-planning, and evening courses. The Orders are, it is stated, taken as the basis for design in the studio.

The School of Art Wood-Carving, 39, Thurloe-place, South Kensington, which is under Royal patronage, has been reopened after the usual summer vacation, and we are requested to state that some of the free studentships in the evening classes maintained by means of funds granted to the school by the London County Council are vacant. The day classes of the school are held from 9 to 1 and 2 to 5 on five days of the week, and from 9 to 1 on Saturdays. The evening class meets on three evenings a week and on Saturday afternoons. Forms

of application for the free studentships and any further particulars relating to the school may be obtained from the secretary.

A corps of Royal Engineers, composed mainly of members of the engineering profession, is being enlisted at No. 2, Savoy-hill, W.C. Surveyors and other professional men with some experience of engineering and similar work wishing to enlist in this corps should present themselves at that address. Those wishing to enlist in a professional body, but not having the engineering experience required for the above corps, should apply to the Recruiting Officer, 20, Hanover-square, W., where Sir Howard Frank has kindly provided offices for this purpose.

More than ten per cent. of the employees of Sir W. H. Bailey and Co., Ltd., Albion Works, Salford, Manchester, have enlisted in the Army and the Territorials for active service. The firm is paying 10s. per week to the dependants of each married man and is also subscribing to a fund, which has been created for the benefit of the dependants of the unmarried men by the remaining employees, who are subscribing a percentage of their weekly wages.

A company has just been registered in Scotland which has for one of its objects the development of the Admiralty land at Rosyth and the beginning in earnest of the housing scheme there. One of the first undertakings the company will prosecute will be the working out of "Greater Dunfermline." The company is called the Scottish National Housing Company, Ltd., and its first object is stated to be "to carry on the business of housing, town planning, and garden-city making." The capital is £250,000, in £1 shares, and the company is formed on the lines of a public-utility company, with its dividend limited to 5 per cent. The Local Government Board were empowered under a recent Act of Parliament to make arrangements with such a company as this—a "utility company"—for the erection of houses throughout Scotland for Government employees and for shopkeepers and others who may minister to their daily wants. The arrangement come to with the Local Government Board was that the present company should erect some 8,000 houses at Rosyth at a cost estimated at £1,000,000.

Cornwall Main Roads Committee at Truro on Friday considered schemes of road-improvement which would afford relief work in case of distress in the county, and approved of the following, among others:—Proposed new road to Mevagissey, £12,000; strengthening and improving main road, Fraddon village to St. Dennis Junction, £2,327; strengthening and improving main road, Brighton Bridge to Blue Anchor, £3,126; widening and improving district road, St. Austell to Indian Queens, £8,384; widening and improving district road, Indian Queens to Quintrell Downs, £7,500; widening, strengthening, and improving district road, Redruth to St. Day, £2,400; widening the Stannack, St. Ives, £2,500. It was stated that the Road Board would grant 50 per cent. of the cost, and loan the balance free of interest.

A new rust preventer named "Styxol," made by Messrs. F. McNeill and Co., Ltd., of Lamb's-pass, Bunhill-row, E.C., is well worth attention. It protects and preserves exposed steel structures, holds (particularly where corrosive cargoes or contents such as nickel ore, hides, etc., are carried or stored), funnels, tanks, tank tops, tank brackets, bunker casings, underside and upperside of decks, steel frames, bulkheads, bilge-pipes, lower peaks, etc., etc. It is particularly useful in chemical and other works (where iron and steel are exposed to the action of acid and alkali fumes), ice plants, ice moulds, refrigerator coils, railway waggons, bridges, etc., sewage works, cranes, iron castings, corrugated iron buildings, all iron and steel work. It is a rich black glossy enamel paint, for use in place of ordinary oil paint, which possesses great tenacity and elasticity, dries quickly, does not crack nor peel off, is damp proof and rust-proof, is cheaper than ordinary oil paint, owing to its

greater covering capacity and greater durability; is supplied ready for use, and any intelligent labourer can apply it; saves costly repairs and renewals, is not affected by alternate heat and cold, is invaluable as a protection of valuable iron and steel work difficult of access, and is a first class sanitary paint for stables, outhouses, etc. As a damp-proofing for walls, two or three coats of "Styxol" will be found an excellent cure. It is supplied ready for use, and is easily applied.

The directors of the Zinc Corporation have issued a circular in which they state that, in consequence of the war, the contract for sale of zinc concentrates to the smelters in Germany is void, the market for lead is disorganised and restricted, and the Broken Hill Proprietary Company, to whom the lead concentrates are sold, have availed themselves of the war clause in their contract, and are not operating their smelters. Under these circumstances, the directors regret that it is not possible to earn dividends. At the commencement of the war the zinc-concentrator was at once shut down; but as there was temporarily a rise in the price of lead, and the demand for this metal seemed likely to be maintained, the lead-concentrator was continued in operation. The probable demand for lead is not large enough to justify the belief that on any equivalent scale of operation the companies could even pay expenses. It is believed that the Germans will have taken good care to demolish the Belgian smelters, and it is reasonable to suppose that the German smelters will not escape intact. The directors recommend that the company should erect its own smelters, with the double object of increasing its profits and the removal of this business from Germany to England. The chief difficulty is the size of the works required, and the corresponding amount of capital which would be necessary for their construction and operation. The problem is under careful consideration.

Trade News.

WAGES MOVEMENTS.

DECREASE OF UNEMPLOYMENT.—In the trades compulsorily insured against unemployment—namely, building, works of construction, engineering, shipbuilding, and vehicle making, the percentage of unemployment at September 18 was 5.7. This shows a decrease of 3 on the percentage seven days earlier, and a decrease of 6 on the percentage on September 4. These figures relate to the whole of the United Kingdom, and include all unemployed workmen in the insured trades.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (To-day).—Glasgow Architectural Craftsmen's Society. Presidential Address, by Alexander Davidson, L.R.I.B.A., 7.45 p.m.

SATURDAY (To-morrow).—Institution of Municipal and County Engineers. Meeting of the North-Eastern District at Scarborough.

SATURDAY (Oct. 3).—Institution of Municipal and County Engineers. East Midland District Meeting at Hinckley. "Eleven Years' Municipal Work at Hinckley," by E. H. Crump, engineer to Hinckley Urban District Council, and "By-Laws and the Housing Question," by W. H. Court, borough engineer's department, Leicester. 11.30 a.m.

Mr. James Milne, who has occupied the posts of burgh surveyor and sanitary inspector at Inverurie for the past six years, has been appointed sanitary inspector for the Lewis district of the Ross and Cromarty County Council.

At the meeting of the rural district council for Oswestry, Mr. Harold Davies was the recipient of a gold watchguard from the members, and a silver fruit-dish from the officials of the Council, as a token of their respect and esteem, and to commemorate his recent marriage.

The town council of Okehampton, at their meeting on Monday night, appointed Mr. Dennis V. Howard, of Chesham, as borough surveyor and inspector of nuisances in succession to Mr. F. J. Worden, who has obtained a similar post at Bude.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

	Per ton.	Per ton.
Rolled Steel Joists, English	£7 10 0 to	£7 12 6
Wrought-Iron Girder Plates	7 0 0 ..	7 5 0
Steel Girder Plates	7 2 6 ..	8 2 6
Bar Iron, good Staffs	6 5 0 ..	8 10 0
Do., Lowmoor, Flat, Round, or Square	22 0 0 ..	0 0 0
Do., Welsh	5 15 0 ..	5 17 0
Boiler Plates, Iron—		
South Staffs	8 0 0 ..	8 15 0
Best Sreeshill	9 0 0 ..	9 10 0

Angles 10s., Tees 20s. per ton extra.

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

	No. 18 to 20.	No. 22 to 24
Galvanised Corrugated Sheet Iron—		
6ft. to 8ft. long, inclusive gauge	£13 0 0 ..	£13 10 0
Best ditto	13 0 0 ..	14 0 0

Wire Nails (Points de Paris)—

	Per ton.	Per ton.
3 to 7 8 9 10 11 12 13 14 15 B.W.G.		
8/3 8/9 9/3 9/9 10/3 11/- 11/9 12/6 13/6 per cwt.		

	Per ton.	Per ton.
Cast-Iron Columns	£6 17 6 to	£8 10 0
Cast-Iron Stanchions	6 17 6 ..	8 0 0
Rolled-Iron Fencing Wire	8 5 0 ..	8 10 0
Rolled-Steel Fencing Wire	7 5 0 ..	7 10 0
Galvanised	8 15 0 ..	9 5 0
Cast-Iron Sash Weights	5 10 0 ..	5 15 0
Cut Floor Brads	9 15 0 ..	—
Corrugated Iron, 24 gauge	16 0 0 ..	—
Galvanised Wire Strand, 7 ply, 14 B.W.G.	14 5 0 ..	—

B.B. Drawn Telegraph Wire, Galvanised—

	Per ton.	B.W.G.
0 to 8 9 10 11 12		
£10 10s. £10 15s. £11 0s. £11 5s. £11 15s.		per ton.

Cast-Iron Socket Pipes—

3in. diameter	4in. to 6in.	7in. to 24in. (all sizes)
£6 2 6 to	6 0 0 ..	5 7 6 ..
£6 7 0	6 5 0	6 0 0

[Coated with composition, 5s. 0d. per ton extra, turned and bored joints, 5s. per ton extra.]

Pig Iron—

	Per ton.	Per ton.
Cold Blast, Lillieshall	10s. 0d. to	117s. 6d
Hot Blast, ditto	70s. 0d. ..	75s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—

	Per ton.	Per cent.
Gas-Tubes	75 p.c.	
Water-Tubes	7½ ..	
Steam-Tubes	67½ ..	
Galvanised Gas-Tubes	65 ..	
Galvanised Water-Tubes	61½ ..	
Galvanised Steam-Tubes	55 ..	

OTHER METALS.

	Per ton	£21 5 0 to	£21 7 6
Spelter, Silesian			
Lead Water Pipe, Town	25 0 0 ..		
Country	25 15 0 ..		
Lead Barrel Pipe, Town	26 0 0 ..		
Country	26 15 0 ..		
Lead Pipe, Tinned inside, Town	27 0 0 ..		
Country	27 15 0 ..		
Lead Pipe, Tinned inside and outside	29 10 0 ..		
Town	29 10 0 ..		
Country	30 5 0 ..		
Composition Gas-Pipe, Town	28 0 0 ..		
Country	28 15 0 ..		
Lead Soil-pipe (up to 4in.) Town	28 0 0 ..		
Country	28 15 0 ..		

[Over 4in. £1 per ton extra.]

Lead, Common Brands	17 17 6 ..	18 12 6
Lead Shot, in 25lb. bags	24 15 0 ..	—
Copper Sheets, sheathing & rods	75 0 0 ..	75 10 0
Copper, British Cake and Logot	64 0 0 ..	65 0 0
Tin, English Ingots	163 0 0 ..	164 0 0
Do., Bars	146 0 0 ..	146 10 0
Pig Lead, in lowt. Pigs (Town)	22 0 0 ..	—
Sheet Lead, Town	24 10 0 ..	—
Country	25 15 0 ..	—
Genuine White Lead	31 15 0 ..	—
Refined Red Lead	32 0 0 ..	—
Sheet Zinc	Price on inquiry	—
Old Lead, against account	17 0 0 ..	—
Tin	8 10 0 ..	—
Cut nails (per cwt. basis, ordinary brand)	0 12 9 ..	—

SLATES.

	in.	in.	2 8 d	per 1,000 of
Blue Portmadoc	20	10	12	6 1,200 at r. stn
" " " " " "	16	8	6	12 6 ..
Blue Bangor	20	10	13	2 6 ..
" " " " " "	20	12	13	7 6 ..
First quality	20	10	13	0 ..
" " " " " "	20	12	13	15 0 ..
" " " " " "	16	8	7	5 0 ..
Eureka unslating green	20	10	15	17 6 ..
" " " " " "	20	12	18	7 6 ..
" " " " " "	18	10	13	5 0 ..
" " " " " "	16	8	10	5 0 ..
Permanent Green	20	10	11	12 6 ..
" " " " " "	18	10	9	12 6 ..
" " " " " "	16	8	6	12 6 ..

BRICKS. (All prices net.)

Table listing various types of bricks and their prices, including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks, and various facing bricks.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed bricks with different finishes like White, Ivory, Buff, Cream, and others, along with their prices.

MOULDED BRICKS.

Table listing moulded bricks such as stretchers and headers with various internal and external angles.

These prices are carriage paid in full truck loads to London Stations.

Table listing various types of sand and ballast with their prices per yard.

STONE.*

Table listing different types of stone like Mansfield, Darley Dale, Red Corsehill, etc., and their prices per foot cube.

* All F.O.R. London.

Table listing various types of stone delivered on road wagons, including Bath Stone, Ditto, Beer Stone, etc.

OILS.

Table listing various types of oils such as Rapeseed, Ditto, Cottonseed, Olive, etc., and their prices per ton or gallon.

GLASS (IN CRATES).

Table listing various types of glass like English Sheet, Fourths, etc., and their prices per square foot.

Table listing figured rolled and repossessing materials with prices per square foot.

VARNISHES, &c. Per gallon.

Table listing various types of varnishes like Fine Pale Oak, Pale Copal, etc., and their prices per gallon.

TRADE NOTES.

Under the direction of Mr. Charles H. Brightwell, architect, 13, Portland-terrace, Southampton, the "Boyle" system of ventilation...

The waterproofing of cement tanks, swimming-baths, etc., is naturally of the first importance, and many architects have given very favourable reports...

Owing to the large increase in the business of Claridge's Patent Asphalt Company, Ltd., and their new subsidiary company, Clarine Roads, Ltd., the offices of both above companies will, on and after September 26, 1914, be removed to No. 3, Central-buildings, Westminster, S.W., where all communications should be addressed.

Mr. P. H. McCarthy has been appointed town surveyor to the urban district council of Bray, Co. Wicklow.

The Glasgow City Council have confirmed the appointment of Mr. Colin H. Macfarlane, at present burgh surveyor and cleansing superintendent of Rutherglen, as assistant superintendent of cleansing.

Recruiting for a new Sanitary Company, to be called the 1st London (City of London) (Home Service) Sanitary Company, R.A.M.C. (L.), has now begun. Those possessing certificates of the Royal Sanitary Institute, Sanitary Inspectors' Examination Board, building certificates, laboratory knowledge, or certificates on similar lines, should apply personally at the orderly-room at the Duke of York's Headquarters, Chelsea, S.W., between 10 a.m. and 4 p.m.

FOR Oliver's Seasoned Hardwoods, W.M. OLIVER & SONS, Ltd., 120 Bunhill Row London E.C.

TENDERS.

* Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

Ayr.—For supply of turbines, for the corporation: Richardson, Westgarth, and Co. £4,940 0 0 (Accepted.)

BARMING, KENT.—Renovating bridge, Barming, for the Maidstone Rural District Council. Mr. T. A. Busbridge, Council Offices, King-street, Maidstone, surveyor:—

Shillbourne, J., and Co., London £252 11 2 Robinson and Co., London 159 4 5 Miller, T. H., East Farleigh, Maidstone (accepted) 151 10 0 Surveyor's estimate, £154

BARNET.—For the erection of a new police-station for the Receiver for the Metropolitan Police District Mr. J. Dixon Butler, F.R.I.B.A., New Scotland Yard, S.W., architect. Quantities by Messrs. Thurgood and Chidgey, 8, Adelphi-terrace, W.C.:—

Table listing tender amounts for Barnet police station, including Holland and Hanneu, Perry and Company, Godson and Sons, etc.

BURNTWOOD.—For sewerage works at Burntwood for the Lichfield Rural District Council:—

Child and Withers, Worcester and Willenhall (accepted) £7,234 15 0

CAMBRIDGE.—For the erection of a children's home, for the guardians:—

Brignell, J. (accepted) 4988 10 0

CARLISLE.—For laying water main, for Carlisle Rural District Council. Mr. F. Barker, 7, Victoria-place, Carlisle, architect:—

Ferguson, W., Silloth £211 4 0 Olliphant, T., and Co., Carlisle 210 0 0 Thomson and Son, Carlisle* 235 3 6 * Accepted.

CASTLE CARY.—For erection of a pair of cottages at Dimmer Farm, for the owners, Mr. J. H. Frazer, 41, Queen's-road, Gosport, architect. Quantities by the architect:—

Dunthorn, D. R. 4999 6 8 Danby and Hill 454 11 10 Lydford, T. 448 15 5 Thomas and Sons 443 19 11 Martin and Moody 438 14 0 Francis, L. R., Castle Cary* 418 8 7 * Accepted.

CHARLTON.—For road-widening work, for the Sudbury Urban District Council:—

Langley and Johnson, Slough £12,089 1 4 (Accepted.)

CHISELDON, NEAR SWINDON.—For erection of barracks at Chiseldon, for the War Office:—

Chivers, W. E., and Son, Devizes.

CHISWICK.—For erection of a temporary rifle range at the Chiswick Urban District Council's river depot. Mr. E. Willis, A.M.I.C.E., Town Hall, Chiswick, W., hon. surveyor:—

Pallant, J., and J. P. 4161 10 0 Leeder, L. L., and Co. 157 17 10 Nichols Bros. 141 0 0 Fowler, H. 133 2 6 Blackburn, R. (accepted) 112 0 0

HASTINGS.—For laying foundations for new East Sussex Hospital, for the East Sussex Hospital Committee. Messrs. J. Saxton Snell and S. M. Spoor, 26, Great-James-street, Bedford-row, W.C., architects. Quantities by A. R. Evans, G.S.A., 11, Gray's Inn-place, W.C.:—

Trallops and Colls, London £7,395 0 0 Eldrige and Crutenden, St. Leonards-on-Sea 6,623 0 0 Murray, F., and Co., St. Leonards-on-Sea 6,435 6 8 Lester, J., and Sons, Hastings 6,377 0 0 Longley, J., and Co., Crawley 6,188 0 0 Carey, S., Bexhill-on-Sea 6,170 0 0 Hutchison & Co., St. Leonards-on-Sea (accepted) 5,886 0 0

HOUSTON.—For an electrical installation at the Alexandra schools, for the Heston and Isleworth Education Committee:—

Grant, J. C., and Taylor 4175 0 0 Lacey, W. 160 0 0 Weston, G., and Sons, Ltd. 155 0 0 Macdonald, D. J. 128 0 0 Langston-Jones, R., and Co. 110 0 0 Virgo, S. N. (accepted) 102 0 0

ITCHEN, HANTS.—For executing private street works, for the urban district council:—

Douglas, J., Southampton £781 0 0 Road Maintenance and Supply Co., Ltd., London 707 0 0 Osman and Co., Southampton* 631 0 0 * Accepted.

(Continued on page XVI.)

THE BUILDING NEWS AND ENGINEERING JOURNAL.

Effingham House,

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VARIATIONS.

The question of extras and omissions from a building contract is often a very serious one; the greatest care should be used by the architect, so as not to exceed the work shown in the contract drawings and specified. When preparing the detail drawings, they should be carefully compared with the small-scale drawings before they are signed and sent from the architect's office, and if there is any extra it should be ordered in writing. If the drawings are not carefully examined by the builder, or his staff, and compared, the work is set in hand, omissions are discovered later on, and an extra is asked for, which, if left until the variations are gone into, is often disputed. There is no doubt that, in fairness, any detail drawing that shows variation from the original one should be treated as a variation, and considered as an order for it, to be added or deducted at the end.

Where there is a sum provided in the contract for extras, the architect should do his best to avoid spending more than that sum; it will make the account a much pleasanter one to present to his client. Where extra work is ordered on the site, the order should be written and signed in the foreman of works' diary or day-book, pending a proper order being sent from the architect's office.

If the builder finds any work shown in the details which is, in his opinion, an extra, he should write to the architect and point it out, and wait for an order before putting the work in hand. This would save a lot of trouble when the accounts are gone into at the finish of the work, or sooner if needed. All provisions in the contract for stoves, chimney-pieces, and similar matters, should not state p.c., but a sum named as a provision, stating also that all such sums shall be subject to a profit to the builder on the cost of, say, 10 per cent., if paid by the builder. Many builders estimating treat these sums as subject to trade discount; this, of course, would not be fair, as discounts vary from 5 per cent. to 25 per cent., and a discount of this latter is equal to a profit of 33½ per cent.—a difficult thing for some to see.

Builders, on their part, should see that their prices in the priced bill of quantities should bear an equal percentage of profit on every article, or a variation increasing the quantity of some of the lower-priced items may prove a loss to them, and this level of profit requires a very highly-skilled estimator to keep to, and he must be very sure of the cost prices on which he bases his estimate; all the heavy ones—bricks, steel joists, and other items that may be large—he should have actual quotations for, and, if he succeeds in getting the work, these quotations should be formally closed with,

and contracts entered into for delivery at given times under penalty, and should only be made with old-established firms.

The careful carrying-out of the above will make matters much more satisfactory for the builder, and enable him to keep to his contract time. The builder should have a competent quantity surveyor to act for him. The latter will go through the estimate, and see that there is the level of profits already alluded to, and at the completion of the work go into the variations, and not the foreman of works, or some clerk from the office, unless the latter is a qualified man who prepared the estimate, and is properly able to measure up all kinds of work, as he has to meet the quantity surveyor who took out the quantities for the work, and it will be only fair to him to have a competent man to meet him, and save much time if there is a lengthy list to go through.

When there is a clause in the contract that the quantities shall form part of it, then it is open to question any item in them for omission or addition, should any mistakes appear as the work goes on, and they are compared with the work. It is, of course, the fairest way to include the quantities in the contract—fair on both sides, especially if the quantities have been prepared by a well-known surveyor.

With care on all sides there should hardly ever be anything to arbitrate. Where the contract time has been exceeded, fair allowance should always be made for any delays not caused by the builder, even if the contract does not state or specify what allowance shall be made on.

When the time arrives for adjusting the variations, a list of them should be made out by the builder, with the same marked for which a written order has been given, and these shown by detail drawings. This list should be submitted to the architect, or the quantity surveyor acting for him, and an appointment made on the work to measure and adjust those items passed by the architect, inclusive of those for which written orders have been given. The builder will be at the architect's mercy in respect to these not ordered in writing.

Where the claims for varying an item taken in the contract quantities, the dimensions taken manually, so far as they refer to the item itself, with, should be admitted as taken, and the work measured as executed. Where the claim is for work not taken in the quantities, it has to be measured, and a special or star price used for it. Where there is a provisional sum for work, it must be deducted in full, and the work measured and priced from the prices in the quantities as far as they apply, and star prices for the remainder, such star prices to be in ratio to the other

prices. No day work should be claimed, if possible; it is mostly unsatisfactory unless there is a capable clerk of the works on the site to keep a check on it. Measure all work that can be measured. Where there is a large alteration from the original drawings, a price is often given before the work is set in hand, and, if accepted, the sum less the work provided, if not deducted in estimate, is taken to the variation account.

THE BASSET AND MANSEL TOMB, LLANTRITHYD CHURCH, GLAMORGANSHIRE.

Llantrithyd Church is situated about two miles and a half to the north-east of Beaupre Castle. It consists of nave, chancel, west tower, and south porch; and amongst its interesting features are a stonop, rood-screen, and two very handsome tombs, the more important of the pair being eminently typical of Elizabethan Renaissance design. Its architect was Richard Twrch, who also designed the porch and gateway at Old Beaupre.

In the reign of Edward VI. Richard Twrch and his brother were Welsh stone-cutters, and both worked the Sutton free-stone quarries hardily in the neighbourhood of Cowbridge. Owing to a disagreement arising between them, Richard left the country, and for some years worked at his trade in London. Afterwards he went to Italy, where he attained no small proficiency in the arts of sculpture and architecture. Upon returning to his native village he resumed his former business at the Sutton Quarries, and prospered so well that he was employed upon several buildings in the Vale of Glamorgan, the most notable of which, from all we know, were the porch at Beaupre Castle and this tomb at Llantrithyd Church.

The Sutton Quarries stone was originally selected by the Commissioners for the erection of the Houses of Parliament, owing to the proximity of the quarries, and guarantee a sufficient quantity of stone to be had to be so situated.

The design of the Tomb of the Mansel tombs is unusual, and it is interesting to happen that all the original drawings are found in an old book of designs belonging to a group of gentlemen who lived in the vicinity.

The details of the work are so simple that it must have been done by a local mason; but, the latter, in estimating some of the work, and in other unusual, whilst the cost of the main entrance is omitted altogether. Under the canopy mural

* For a description of Beaupre Castle, see BUILDING NEWS, 1914, p. 100. The plan is by Mr. Wm. Evans.

treatment kneel the figures of John Thomas Basset and Elizabeth, his wife, and twixt the two is a shield containing the arms of the Bassets—a chevron between three hunting or bugle horns. The recumbent figures are those of Anthony Mansel, son of Sir Reece Mansel, and Elizabeth, his wife, daughter of John Thomas Basset.

On the plinth of the tomb are represented kneeling their four daughters and three sons. In the centre, between the children, is an allegorical female figure with wings at the back; but the wings do not show in the front elevation. She is seated, and holds in her hand an hour-glass representing the passage of time.

John Thomas Basset of Llantrithyd was born in 1510, and became a member of the Inner Temple, sixth Sheriff of the County of Glamorgan, M.P. for Cardiff thirty-third of Henry VIII. (A.D. 1542), and in the twenty-sixth year of the reign of the same king (1535) was joint Attorney-General for Glamorgan with Herbert Earl of Pembroke. The said John Thomas Basset married, first, Alice, daughter of Thomas Love, of Dinas Powis. He left issue by her, Thomas. Secondly, he married Elizabeth, a daughter of Andrew Norton, Esq., and by her he had issue Elizabeth, who married Anthony, youngest son of Sir Rees Mansel, the same Anthony Mansel being Sheriff of Glamorgan. The said Anthony and Elizabeth, his wife, left two co-heiresses. Mary married Thomas Aubrey, LL.D., and the other married Sir Rawleigh Bushy.

John Thomas Basset, in the reign of Edward VI., cir. 1550, purchased from the Crown the Lordship of Peterston and Talavan, subsequently possessed by Sir Thomas Aubrey, Bart. The said J. T. Basset died A.D. 1551, aged forty-four years. His widow, Elizabeth Norton, married, second, Sir Richard Walwyn, Kt., the nineteenth Sheriff of Glamorgan.

The exact wording of the inscription on the centre panel above the two kneeling figures is as follows:—"Here lyeth the bodies of John Basset, Esquier, and Elizabeth, his wife, daughter to Andrew Norton, of Bristow, Esquier, who had issue by Elizabeth his wife, an only daughter named Elizabeth married to Anthony Mansel, Esquier, second sonne to Sir Reece Mansel of Margam, Knight, al whose fower bodies are here intombed, which Anthony had issue by the said Elizabeth, three sonnes, fower daughters, of al which two daughters survives, the elder married to Thomas Aubrey, Esquier, the younger married to Rawligh Bussye Esquier."

It is somewhat strange that so little attention was paid in those days to spacing of the lettering and spelling of the words, as both in the inscriptions at Beaupré, as also in the above quotation, there are several mistakes. Moreover, it is not an exceptional occurrence to find the same word spelt in two or three different ways in the same paragraph.

At the right of the kneeling lady is inscribed, "She died A.D. 1596, aged 84 years," and on the left hand side it is recorded that "He died A.D. 1551, aged 44 years." On the centre panel of the reading-desk, between the two kneeling figures, is inscribed, "Elizabeth Mansel made this in 1597." On the side of the tomb, on each cartouche, occur the initials "A. M. 66, E. M. 64." The overall dimensions of the tomb are as follows: height 16ft. 3in., width 9ft., projection from back line of wall 5ft. 6in. Attached to the wall is an ornamental scroll bracket, upon which rests the original helmet worn by Anthony Mansel, who when fully attired in his armour and helmet probably presented an exceedingly fine and commanding appear-

ance, seeing that his recumbent figure measures 6ft. 2in. from head to foot.

Whatever demerits this tomb may possess as a sample in design, it must be admitted that the character of the composition as a whole is highly creditable, being the production of the local mason who, on his own initiative, left England to study in Italy, and brought home to his native country a cultivated taste which enabled him to design and erect this capital example. Like the porch at Beaupré, it is conceived after the manner of his time, according to the contemporary Renaissance mode. In both these works the author's ability is conspicuous. They



The Basset and Mansel Tomb, Llantrithyd Church.

stand the test of time judged as monuments of his skill, and ranking, as they do, among the finest specimens of their kind to be found in this part of Wales, which district, however, is not particularly rich in architecture of this period and style.

WM. EATON, A.R.I.B.A.

"BUILDING NEWS" DESIGNING CLUB: SESSION 1914-1915.

Fresh members annually join our club, and new readers of the BUILDING NEWS require to be told about it; but the purposes and scope of the Designing Club have so often been explained, that really little remains to be said; at least in so far as our old subscribers are concerned. The objects in view are, of course, in a way, self-evident, and the long record of successes which hitherto have marked the Club's proceedings supplies the best assurance of its appreciation and usefulness. This advantage has been experienced sessions on end by the vast majority of those who have made an opportunity for themselves by taking part in its work, thereby acquiring on the easiest terms much practical experience, both in architectural drawing and design, besides gaining a knowledge of work not otherwise so readily obtainable by pupils and students scattered about the country. One of the results of membership, and by no means the least in importance, is the advantage afforded to everyone who joins for more clearly ascertaining the measure of his own personal capabilities by comparing his

individual efforts with the endeavours of other members in the solution of the particular problems upon which all are employed on equal terms. During the past year these elementary contests have not witnessed "a walk over" by any one specially gifted competitor, seeing that no one person has dominated the arena; consequently, the awards have varied considerably, greatly to the interest of all engaged in preparing their monthly proposals. At the same time, it remains to remark that the work as a whole has proved to be more uniform than it had been for some considerable while, though the average possibly fell short of distinction in inventive originality, or for high attainment in execution. The competitors were, however, more evenly matched, and so clearly was this demonstrated that on one occasion the premier position had to be equally shared by two of our contributors. In the matter of numbers throughout the session the designs were somewhat below the standard previously attained, notwithstanding the attractive character of the subjects submitted to the members. This slacking off, which happened as the spring advanced, was certainly disappointing, because it displayed a lack of enthusiasm in the work of the club, though possibly the exceedingly fine season induced not a few to employ their spare time and energies in the sunshine out of doors. Other attractions in the direction of popular competitions may also have accounted in some degree for this depletion just alluded to, and, besides, it is also more difficult to prevail upon large numbers of pupils to test their skill upon a class of subjects such as we set, demanding, as these little problems do, more study and inquiry than attempts at ordinary villa and cottage design, about which every tyro is apt to consider himself an expert. Endless accumulations of mediocre plans of this class are continually forthcoming; but, as a matter of fact, the number of really original and suitable designs for cottages obtained in this way is extremely small, and that is found to be the case even where ample prizes constitute the advertised inducement. The promoters found in one notable case that the great number of submitted schemes were so bad, that their assessors declined to award the premiums. Not only had the competitors wasted much time without any tangible result, but they failed to secure the satisfaction of seeing how and why they had lost by being able to compare their own productions with some more successful designs. The subjects set for the BUILDING NEWS Designing Club have a higher object, and so, in nearly every case, are made to conform with a unified scheme of proportionate character, so as to insure, as far as possible, an invariable standard; and the choice is made on the principle of affording the members a chance of trying their hands at a class of buildings most likely to come within the scope of an architect's initial practice: therefore the subjects include undertakings of a sort generally in vogue, and we are mindful to avoid Utopian schemes on the one hand, and merely pretty and paltry speculative subjects on the other; steering clear of designs pretending to produce dwellings, or housings, as they are termed, at less than cost price by adopting shoddy construction, with no staying power about it, and coupled with pretentious picturesqueness of a toyish character which looks exotic wherever it appears, for these performances possess nothing in harmony with the charms of the countryside, and afford at best a most inadequate accommodation for everyday needs of workaday people. We do not pretend to compete with such a mistaken style of work, which is of no use to young beginners, and no architectural student with his way to make in the world, or who aspires to any just appreciation of the art of architecture, is likely to advance his career by such specious performances, which have no durable possibilities.

We are happy to say that among the most prosperous and successful architects of the day in this country are not a few old members of our Designing Club. These men, however, steadily went through more than

one session, seriously sticking to their job and taking up willingly the tasks which we set before them. The pioneers to whom we thus refer included not only prize-winners in our Club, but also competitors who did not happen at the time to come out exactly at the top, though they ultimately excelled, in spite of early reverses. Every now and again we hear how some passing criticism of ours hit home and was duly accepted in good part, and with profit, by the contributors to whom it was addressed, though they were then unknown, of course, to us personally. Such remarks, long enough ago were forgotten by the assessor, who retains no memory even of the designs in question; but from time to time assurances reach us from old members which leave no doubt as to the rightness of the course adopted from the outset of our Designing Club, and while it continues there is no intention to change these fundamentals. No effort will be spared to keep the work of the Club up to date; but in this mutual effort success can only be attained by the hearty co-operation of our readers and contributors.

THE PRIZE-WINNERS, 1913-14.

The awards which we have now to announce have been settled by the results of the eight monthly competitions, and in going through the figures we find that the subjects stood thus:—A, "Group of Almshouses, with Chapel and Hall": "Enfant" was first, "If" was second, and "Amo" third. B, "A Classical Town House": "Enfant" stood first, "Keystone" second, and "Youngster" third. C, "A Shop-front Façade Building for the West End": "Punch" came first "Toby" second, and "Enfant" third. D, "A Village Market - Hall": "Marstonian" was first, "Paolo" second, and "N." third. E, "A Group of Cottages": "Toby" and "Owl" ranked equally as first, and "Eclipse" stood third. F, "A Scouts' Village Centre" gave "Enfant" the first place, "N." came second, and "Toby" third. G, "A Small Crematorium for a County Town": "Enfant" kept the first place, "Paolo" stood second, and "Concrete" got third.

These allocations put "Enfant" at the head, for he stood four times first, once third, and once fifth, being placed six times. "Paolo" was once first, twice second, and once fifth, being placed four times. "Toby" was once first, once second, and once third, being placed three times. "Punch" was once first, twice fourth, and once fifth; so he was placed four times, but not ranking so highly as "Toby." "Owl" ranked first once and once third. "Marstonian" was once first and once sixth. The order is consequently unquestionable. The first prize of £10 10s. is awarded to "Enfant," Mr. Harold H. Whitwham, e.o. Messrs. Nums and Bracewell, architects, Bank Chambers, Bingley. The second prize of £5 5s. is awarded to "Paolo," Mr. Albert E. Lowes, 22, Wentworth-street, Bolton, Lanes. The third prize of £3 3s. is awarded to "Toby," Mr. L. J. Williams, Branksome, Mennaye-road, Penzance. Hon. mention is awarded to "Punch" and "Owl." Cheques for prizes, after verification, will be forwarded on or about October 30. Any alterations in addresses are, meanwhile, to be sent to the Editor.

SESSION 1914-15: DESIGNING CLUB RULES.

The following are the rules to be observed by all who wish to take part in the work of our club:—

1. Drawings to be sent within twenty-eight days after the publication of the particulars of each subject.
2. One or more subjects will be given every month, from which a competitor may choose.
3. The drawing to be executed in firm black lines, on white drawing-paper, in sheets of the absolute size of 24in. by 18in., unless an exception to this rule is named when the subject to which the deviation applies is set. No washes or tinting in colour whatever. Outline to be the first consideration; but drawings may be slightly shaded with

shadows executed wholly in line. Sectional parts to be shown in neat "hatching," or blocked in. The scale to be used will be given with each subject.

4. Drawings to be forwarded, prepaid, unmounted, by post, care being taken to pack the roll so that the drawings are not crushed through the post.

5. On entering the class (which may be done at any time) each competitor is required to furnish his name and address, which must be written legibly on the back of each drawing, as a guarantee of good faith, the nom de plume the author intends to adopt being boldly marked on the front of each separate drawing.

6. Prizes of £10 10s., £5 5s., and £3 3s. will be awarded to the best series of designs. Our decision to be final.

7. Before awarding the prizes any contributor will be expected to furnish proof, if necessary, as to his age and the time during which he has been engaged in professional pursuits, though no candidate need be strictly an architectural student. The same prize cannot in future be awarded more than once to the same student, and those who have taken a first prize cannot compete again.

8. We reserve the right of arranging the drawings for publication in any manner we deem necessary.

9. A critical notice of the designs sent in of each series will be given in an early issue following the receipt of the drawings. All drawings are returned when done with.

FIRST LIST OF SUBJECTS.

A.—A Street Façade, 42ft. wide, out to out, and 46ft. high to the top of the parapet, forming "a gatehouse," having three archways on the ground-floor level leading by way of a groined story (14ft. high to soffit or ceiling, and measuring 26ft. deep), to give a cart and double footway access to some town offices ranged round an open garden space or quadrangle at the rear. The upper floors (there are to be two, beside the attics in roof) in this particular front building will form part of the offices before mentioned. The first-floor level throughout will carry round level with the room over the gateway, and the ground floor of the contiguous offices at back will be 2ft. above the ground-line, to give light to their basements. The rooms in the "gatehouse" will be lighted from front and back, and this building is to form part of, and line up with, the elevation of the adjoining street-frontage premises; but otherwise its facial design is to be complete in itself, with a slight break to emphasise this individual character. The subject of this competition is confined to the portion figured by the above dimensions for a "gatehouse." Columns or piers may be introduced to carry the groins and divide the footways right and left of the carriageway in the centre, and this latter is to be 12ft. wide in the clear. The arches may vary in span; but room must be left for opening back the wrought-iron gates, needed to close up the throughway front arches at night from the street. No approach to the offices is contemplated from either of the two footways under the building; but a door on each side should be introduced as leading to the adjacent premises built beyond on either flank, and for these premises the ground floor will at most be only one 6in. step above the pavement. The gatehouse elevation should compose as a centrepiece seen at the end of the vista of the street opposite to it, going away at right angles. There may be a wooden clock-turret or fleche over the middle of this building, the style of which is to be Georgian Classic, carried out in red brick and stone, the lower part all masonry, and to have a tiled roof rising to show above the parapet. A broad, simple, and dignified treatment is suggested. The drawings to include a front elevation and cross section to scale of 4ft. to the inch. Two plans and back elevation may be drawn 8ft. to the inch. A sketch view to be included if space will allow. It should be taken rather from a full front view. Drawings to be delivered to the BUILDING NEWS Office not later than Saturday, October 31, 1914.

EXPORTS OF BRITISH BRICKS, ETC.

The following statement, issued by the Board of Trade, shows for a recent year the value of bricks and other fireproof products of clay and clayey substances exported from German and Austria-Hungary:—

Exports from Germany (1912)—

Fireproof bricks of all kinds (Chamotte, Dinas, Hauvite, &c.)—	
Rectangular, each weighing net, less than 5 kilogs.	£322,900
Rectangular, each weighing net, 5 kilogs. or more; other than rectangular, without regard to weight	261,200
Other fireproof products of clay and clayey substances:—	
Retorts	26,500
Crucibles, muffles, capsules, tubes, cylinders, and other hollowed articles other than retorts; slabs and other products, except bricks; crucibles of magnesite, cement, or soapstone	33,100
Total	£643,700

Exports from Austria-Hungary (1913)—

Fireproof bricks:—	
(a) Dinas, magnesite, hauvite, and graphite bricks:—	
Weighing up to 5 kilogs. each	£113,900
Weighing over 5 kilogs. each	71,500
(b) Other—	
Weighing up to 10 kilogs. each	15,800
Weighing over 10 kilogs. each	7,900
Retorts, crucibles, muffles, capsules, nozzles, brewers' stirring-rods, and similar articles for technical purposes of fireproof material (other than graphite) or common stoneware	1,700
Total	£213,800

Similar particulars for the United Kingdom are not available.

PRINCIPAL GERMAN MARKETS.

The total value of fireproof bricks, etc., exported from Germany in 1912 was £580,150, or 90 per cent. of her total exports of these goods in that year. The principal markets (mainly European) supplied by Germany, and the amount sent to each market, were: Russia, £156,100; France, £135,650; Belgium, £84,100; Italy, £52,000; Netherlands, £39,900; and Switzerland, £28,600. The United Kingdom took from Germany £13,800 worth of these products in 1912.

PRINCIPAL AUSTRIAN MARKETS.

Austria's exports of fireproof bricks were valued at £149,000 in 1913. The United Kingdom was one of her largest customers, taking such goods to the value of £16,520. The other principal purchasing countries and the amounts sent to each were: Russia, £12,710; France, £23,850; Italy, £17,050; and Belgium, £7,430.

The exports of fireproof bricks, etc., not being separately recorded in the trade returns of the United Kingdom, no comparison between the exports of the three countries is possible. It is known, however, that there is a fairly large production of such goods in this country, and on the basis of the foregoing figures, it would appear that the maximum amount of German and Austrian trade in fireproof bricks, retorts, crucibles, etc., which might be diverted to British manufacturers under present circumstances is as follows:—

	In the United Kingdom Market.	In Colonial & Neutral Markets.
(a) German trade (1912)—		
Fireproof bricks of all kinds—		
Rectangular, each weighing less than 5 kilogs.	£4,500	£286,900
Rectangular, each weighing 5 kilogs. or more; also bricks other than rectangular	1,100	241,650
Other fireproof products of clay, &c.		
Retorts	2,700	22,900
Crucibles, muffles, capsules, tubes, cylinders, &c.	2,200	24,800
(b) Austro-Hungarian trade (1913)		
Fireproof bricks—		
(a) Dinas, magnesite, hauvite, and graphite bricks:—		
Weighing up to 5 kilogs. each	£13,900	67,400
Weighing over 5 kilogs. each	1,100	31,800
(b) Other—		
Weighing up to 10 kilogs. each		11,800
Weighing over 10 kilogs. each		7,900
Retorts, crucibles, muffles, capsules, nozzles, &c.	1,700	1,700
Total	£10,200	£684,120
Making a grand total of £713,740*		

* The German figures for 1912 and the Austro-Hungarian figures for 1913 have been added so as to give an idea of the bulk of the trade in a year.

The following particulars are available as to the trade in fireproof bricks, etc., in certain markets abroad:—

CANADA.

The following is an extract from the report of H.M. Trade Commissioner for the fiscal year ending March 31, 1913: "Under building materials are included bath bricks, firebricks, drain and sewer pipes, chimney linings, and tiles for mosaic flooring. Imports into the Dominion exceeded £1,000,000 in the fiscal year 1912-13; from the United Kingdom about £120,000. A great number of inquiries have been received at this office (3, Beaver Hall-square, Montreal) within the last few months from Canadian firms, asking to be put into touch with British firms. Here we have a class of material which is handled outside the ordinary wholesale and retail distributive channels, and British manufacturers will, therefore, find the ordinary commercial agent of small value. Firms should be chosen who already have a connection with contractors and similar firms."

AUSTRALIA.

H.M. Trade Commissioner, in a despatch written in September, 1912, furnished the following statistics relative to the import of fireclay manufactures, fire-lumps, fibrocement, and asphaltic tiles into Australia during the years 1909, 1910, and 1911:—

	Total Imports.	Imports from the United Kingdom.	
		Value.	Percentage of total imports.
1909	£14,755	£9,146	61.98
1910	20,275	10,688	52.71
1911	38,503	17,635	45.80

H.M. Trade Commissioner drew attention to the steady decline in the proportion of British trade disclosed by the above statistics, and pointed out that imports from Germany increased in 1911 to £8,092, as against £4,302 in 1910.

Firebricks are not separately mentioned in the Australian trade statistics, but it may be mentioned that the total value of the imports of firebricks and glazed bricks into Australia in 1911 amounted to £17,173, being more than double the value of the imports in 1910 (£8,485). The British proportion in 1911 declined to 82.12 per cent., as against 89.53 per cent. in 1910. Competition is seriously felt from Germany, whose trade is almost entirely with Victoria. The value of the imports from Germany in 1911 were £2,927. In 1912 the total imports of firebricks and glazed bricks were valued at £12,794, the shares of the United Kingdom and Germany being £9,723 and £2,295 respectively.

RUSSIA.

The French Consul at St. Petersburg, in his report for the year 1911, calls attention to the continuous increase in the importation of firebricks, etc. He places the total value of the imports in 1911 at £157,797. Of this quantity Germany supplied the largest share, amounting to 81,018 tons, as against 28,027 tons from Great Britain.

H.M. Consul at Helsingfors, in a despatch written in August, 1914, remarked that large quantities of firebricks are imported from Germany. He points out that there are no factories for the production of firebricks in Finland, consequently all supplies have to be imported from abroad. He adds that if Scottish firms were to quote acceptable prices there would be an opening for their products in Finland.

H.M. Consul at Batoum, in a despatch written in February, 1914, drew attention to the efforts of certain German manufacturers of firebricks to capture the market in the Caucasus region. It appears that quantities of firebricks of German manufacture were shipped from a German port to Batoum, marked in such a way as to lead purchasers to believe that they were bricks of a well known Scottish make. This Scottish make of firebrick is in constant demand in the Caucasus district, and British manufacturers may be interested in the German attempt to secure a footing in this market.

The British Vice-Consul at Mariupol, in his report for 1911, stated: "Local firebrick manufacturers were overrun with orders

and were obliged to refuse contracts, which went abroad, principally to Germany. The imports in 1911 reached 12,023 tons, as compared with 1,850 tons in 1910. This quantity was composed of about 2,000 tons of silica bricks and the balance of ordinary firebricks for the construction of coke-ovens and repairs to blast furnaces. British brick-manufacturers only participated to the extent of 2 per cent. of the quantity imported."

In his report for 1912, the Vice-Consul stated: "Russian firebrick manufacturers were again unable to meet the demand, and several large orders for firebricks for the construction of coke ovens were placed in Germany. One firebrick factory received 1,070 tons of these bricks from Glasgow for the rebuilding of their kilns. Silica bricks for steel furnaces, as hitherto, were all received from Germany. British manufacturers ought to be able to compete in this article."

The trade report of the German Consul-General at Odessa for 1912 contains the following: "Fireproof stones, bricks, and tiles, as far as now imported, come from Glasgow, but imports are rapidly decreasing in view of the increasing Russian production."

NETHERLANDS.

H.M. Consul-General at Rotterdam states in a communication received in August, 1914, that English as well as German firebricks are used in the Netherlands. He adds that as regards silica firebricks of Scottish origin the prices quoted are too high for the Rotterdam market, the cheaper kinds being generally used.

SPAIN.

An Austrian Consular report from Barcelona states that the value of the importations into Spain of "bricks, parts of bakers' ovens, retorts, and other similar fireproof articles" amounted in 1911 to about £52,000. The consumption of articles under these headings is said to be on the increase, in sympathy with the growing activity of industrial enterprise in Spain. The bulk of the importations are from Great Britain, but Germany takes a fair share of the trade.

ROUMANIA.

In his report for 1911 the Belgian Consul at Bucharest mentions that a firebrick manufacturing industry exists in the country, the clay being imported from Bohemia and Moravia.

JAPAN.

The following is extracted from the report on the trade of Japan in 1912 by H.M. Commercial Attaché at Tokio: "Great Britain and Germany are responsible for the enlarged import of firebricks. A point in connection with this is worth mentioning. A firm imported the complete plant for a sugar mill, including boilers. Firebricks also formed part of the order; but although there is a separate duty for firebricks, and they were shipped separately, the Customs authorities at Keelung maintained that they should be classed as parts of boilers. Future importers should be careful to see that their bricks are invoiced quite separately."

An Austrian Consular report from Yokohama states that in 1912 Austria-Hungary sent to that port nearly £1,000 worth of fireproof tiles. Importations, valued at about £19,000 annually, come principally from Germany and Great Britain.

THE MOVEMENT OF TALL BUILDINGS.

The recent statement of the Superintendent of Buildings of Chicago that virtually all of the immense buildings and skyscrapers of the down-town district are out of plumb, calls attention to a peculiarity of tall buildings little realised and still less understood outside of the architectural and engineering professions. The common impression (says the *Contract World*) is that all heavy and massive structures are rigid, firm, and immovable; yet in Chicago, according to the Department of Buildings, they have not one, but scores of buildings like the leaning tower of Pisa, only they do not lean so much, 30in. being the most that any of

them are out of plumb. So far from being firm and rigid, all tall buildings are subject to two distinct movements, and all heavy buildings erected on anything but bed-rock have three distinct movements to their credit.

The city of Chicago, built as it is on strata of clay, says "Building Progress," furnishes the most interesting study of the movement of buildings, and the greatest number and variety of examples. All of the early skyscrapers of that city were carried on floating foundations or on piles driven deep into the clay. These buildings without exception settled into the soil due to their weight, the distances they settled varying from 3in. to over 5in. Many of these buildings—notably the Great Northern Hotel—are partially carried on jacks, and periodically levelled up as settlements occur. After all subsidence has taken place, and the buildings have finally come to rest, the jacks are removed and the foundation walls filled in with masonry.

That is one of the movements of buildings, then, settlement; but settlement takes place only in those buildings erected on floating foundations. When the footings are extended down to bed-rock, as all footings for present-day buildings in Chicago are, the amount of settlement that takes place is nil, and may be disregarded. But even buildings with their footings carried to bed-rock lean or are racked out of plumb, and the taller the buildings the more they are likely to lean, although the amount they are out of plumb is seldom enough to endanger the structure. Recently the Building Commissioners of Chicago ordered the Unity Building to be straightened, as it was "unsafe, but not dangerous," being 30in. out of plumb. In an interview they said: "It is impossible to prevent the big buildings here from leaning. Some of them are not straight when they are finished, but that does not impair their safety. It is probably safe to say that every building in the city leans more or less. If they are on floating foundations they also settle gradually." But there is still another movement of buildings, and the most interesting of them all to consider. According to an exchange, "The Eiffel Tower swings perceptibly in the wind, and even stone shafts like those of the Bunker Hill and Washington Monuments move several inches at the top. In these cases the cause of the action is not only the wind, but the heat of the sun. The side that is towards the sun expands during the day more than the side in shadow. An interesting device has been employed to show the movement of the dome of the Capitol at Washington. A wire was hung from the middle of the dome inside the building down to the floor of the rotunda, and on the lower end of the wire was hung a 25lb. plumb-bob. In the lower point of the weight was inserted a lead pencil, the point of which just touched the floor. A large sheet of paper was spread out beneath it. As the dome moved, it dragged the pencil over the paper every day. The mark made was in the form of an ellipse 6in. long. The dome would start moving in the morning as soon as the rays of the sun began to act upon it; and slowly, as the day advanced, the pencil would be dragged in a curve across the paper until sundown, when a reaction would take place and the pencil would move back again to its starting-point. But it would not go back over its own pencil track, for the cool air of night would cause the dome to contract as much on the one side as the sun had made it expand on the other, and so the pencil would form the other half of the ellipse, getting back to the original point all ready to start out again at sunrise."

In the three movements affecting tall and heavy buildings we have, then, particularly in the expansion and contraction movement, which is of daily occurrence, and which affect seyscraper buildings as well as all other tall structures, a condition which must be taken into consideration when planning the buildings. Lines of steam-pipes, stacks of drainage-pipes, lengths of water-pipes, vacuum cleaning pipes, refrigeration system

pipes, electric wire conduits, and the various networks of tubing which cross and criss-cross inside of a building will naturally be more or less affected by the movements of the building; and if long life is expected of these various systems of piping, they must be so installed that they can "give" under the movements of the building without damage to the piping, and sufficiently to compensate for the change of position.

Besides pointing out the necessity for flexibility for the piping systems in tall buildings, the movement of buildings shows how desirable it is to have solid foundations the footings of which extend down to bed-rock. Floating foundations are all right for some kinds of buildings, but for the skyscraper type there is nothing so good as the solid rock of old Mother Earth.

SLAG AS AN AGGREGATE IN CONCRETE.*

Every new or extended utilisation of by-product makes for economy in the conservation of resources. The millions of tons of blast-furnace slag annually produced in the United States, for years considered not only practically worthless, but always a nuisance, and entailing unavoidable expense in handling and disposal, have from time to time to some extent been utilised in a variety of ways; one very important use of certain of these slags being in the manufacture of a valuable product, Portland cement. But the percentage of furnace slag made use of thus, or indeed in any other way, such as for track ballast or for building macadam roads, is at present relatively very small, and yet is actually considerable in tonnage. Any increase in the use of this product to the extent outlined in this paper, should the adaptability of slag for concrete aggregate be generally recognised, would furnish a very desirable outlet. To be sure, its adaptability for this purpose has always been recognised by large iron manufacturers, who early made use of this handy material, when concrete construction was undertaken around their plants; but it has not been adopted generally.

With the marvellous growth in recent years of concrete construction, and especially reinforced concrete, the advantage of furnace slag as an aggregate in reducing the dead weight per cubic foot of concrete, has made a strong appeal to many concrete engineers. The result is that the building codes of several of our large municipalities have permitted the use of furnace slag equally with any other material ordinarily used for aggregate in concrete.

In the course of our professional work during the past year we have made an extended investigation of certain slag-concrete. The particular value of our work, we think, lies especially in the fact that any conclusions to be drawn therefrom are based on a large number of test results, very much more than the number from which averages are ordinarily deduced. In consequence, we feel that any deductions submitted are reliable, and while tests on slag-concrete specimens have often been made previously, and the results in some cases published, so far as our examinations of these are concerned the number of tests from which average results were deducted at each period was comparatively limited, and, consequently, the conclusions therefrom are correspondingly less reliable.

Originally we made a few comparative tests using different aggregates, such as limestone, Birdsboro trap-rock, and slag; the tests being carried on only to the twenty-eight-day period. This was done to arrive independently at the relative actual values of these different materials. As a result of these early tests and the showing made therein by slag, we undertook an extended series of tests involving the manufacture of five hundred 6in. cubes; 100 of these to be crushed at each of the several periods—28 days, 3 months, 6 months, 9 months, and 1 year—so as to arrive at entirely reliable averages, and to establish

the uniformity of the character of the concrete. As the work progressed results were such that the number of cubes tested at the 9-month and 1-year periods was reduced to 50 each, and it is proposed to crush the remaining 100 cubes at 6-month intervals up to 6 years—10 cubes at each period.

The materials used in this investigation were all commercially procured in Philadelphia, and the work of making the specimens was no better than that under ordinary field conditions of concrete construction—no attempt having been made to enter into any elaboration. Thorough mixing, however, was positively assured, the work being done by hand. The moulds used were in gangs of tens and made of planed 1in. white-pine lumber, put together with screws. The cement used was a standard Lehigh Valley brand, showing the following compliance with the standard specifications of the American Society for Testing Materials:—

Fineness.—No. 100 sieve, 96.0 per cent. passing; No. 200 sieve, 81.2 per cent. passing.

Time of Set.—Initial set, 5h. 30m.; final set, 6h. 10m.

Constancy of Volume.—Passed the cold-water-pat, air-pat, steam-pat, and boiling-pat tests favourably.

Tensile Strength.—(Average of five briquettes.)

	Neat.	
24 hours.	7 days.	28 days.
219lb.	801lb.	704lb.
	1 cement : 3 sand.	
7 days.		28 days.
272lb.		317lb.

Temperature of laboratory air, 70deg. F.

Temperature of gauging water, 68deg. F.

The sand used was Jersey gravel, the material almost universally used in the vicinity of Philadelphia. This showed the following granulometric analysis:

Sieves.	Amount passing.
3/4 in.	97.4 per cent.
No. 10	90.8 "
No. 20	72.8 "
No. 30	63.8 "
No. 40	55.2 "
No. 60	35.4 "
No. 100	11.6 "

This is not ideal material, as will be recognised, but was used because it is the material of the market.

The coarse aggregates, commercially called 3/4 in. material, all passed the 1 1/4 in. sieve and were retained on the 3/4 in. sieve.

The slag used showed the following chemical analysis:

Silica (SiO ₂)	34.10 per cent
Alumina and iron oxide (Al ₂ O ₃)	23.40 "
Lime (CaO)	35.88 "
Magnesia (MgO)	3.21 "
Sulphuric anhydride (SO ₃)	0.34 "
Sulphur	1.27 "
Loss on ignition	1.31 "

All material was measured by volume in the proportions of 1 part cement, 2 parts sand, and 4 parts coarse aggregate; this being the requirement of the Philadelphia Building Laws. All the concrete was mixed to ordinary work consistency rather wet than dry.

The preliminary investigation for comparative purposes gave the following average results from three 6in. cubes at 7 days and three 6in. cubes at 28 days.

Course aggregate.	Comparative strength.	
	lb. per sq.in.	
	7 days.	28 days.
Limestone	350	911
Birdsboro trap rock	1,141	1,888
Slag	1,681	2,537

There was then undertaken the main investigation covering the manufacture and testing of the 500 slag cubes. These were all air-stored in a dry cellar, being sprinkled with water once a week. They gave on breaking the results shown in the accompanying table.

A study of this detailed differentiation of test results shows that at 28 days, 3 months, and 6 months, of the number of individual tests failing to closely agree with the several general averages, the large percentages of these show considerably greater strength than these general averages or than the average of the larger percentages of tests which agree so closely with the several general averages. The average strength noted in all tests at these periods—28 days, 3 months, and 6

months—may, therefore, be assumed as thoroughly conservative.

A similar study of results at 9 months and 1 year shows that of the results not in close agreement with each period's general average, or with the larger number of tests at each period which closely approximate these general averages, a somewhat larger percentage falls below this general average than that which runs above. But as those results which are above the general findings average

COMPRESSION TESTS ON 6IN. SLAG-CONCRETE CUBES.

Average weight of the concrete being 140.8lb. per c.ft.

Time at which Tested.	No. of Specimens.	Average Compressive Strength, lb. per sq.in.	Remarks.
28 days	100	1,561	73 per cent. of all the tests averaged 1,533lb. per sq.in.; within 2 per cent. of the general average, but lower. 20 per cent. of all the tests averaged 1,730lb. per sq.in.; within 11 per cent. of the general average, but higher. 7 per cent. of all the tests averaged 1,344lb. per sq.in.; within 14 per cent. of the general average, but lower.
3 months	100	1,952	78 per cent. of all the tests averaged 1,922lb. per sq.in.; within 2 per cent. of the general average, but lower. 15 per cent. of all the tests averaged 2,185lb. per sq.in.; within 12 per cent. of the general average, but higher. 7 per cent. of all the tests averaged 1,740lb. per sq.in.; within 8 per cent. of the general average, but lower.
6 months	100	2,589	73 per cent. of all the tests averaged 2,533lb. per sq.in.; practically in complete agreement with the general average. 14 per cent. of all the tests averaged 3,058lb. per sq.in.; within 18 per cent. of the general average, but higher. 13 per cent. of all the tests averaged 2,125lb. per sq.in.; within 18 per cent. of the general average, but lower.
9 months	50	2,841	72 per cent. of all the tests averaged 2,870lb. per sq.in.; within 1 per cent. of the general average, but higher. 8 per cent. of all the tests averaged 3,367lb. per sq.in.; within 18 per cent. of the general average, but higher. 20 per cent. of all the tests averaged 2,510lb. per sq.in.; within 12 per cent. of the general average, but lower.
1 year	50	2,797	84 per cent. of all the tests averaged 2,812lb. per sq.in.; within 1 per cent. of the general average, but higher. 6 per cent. of all the tests averaged 3,540lb. per sq.in.; within 26 per cent. of the general average, but higher. 10 per cent. of all the tests averaged 2,312lb. per sq.in.; within 16 per cent. of the general average, but lower.

relatively much more above such general findings, than the low results average below these general findings, it may again be assumed that the average strength results of all tests at the later periods of 9 months and 1 year are equally conservative.

This is more particularly evident when it is borne in mind that the sand used was not what could be considered first-class material, and undoubtedly influenced the strength of the concrete developed. Also, the comparatively small size of the slag aggregate must necessarily have influenced the strength of the concrete, while the results would probably have been higher had the test specimens been larger. It is also to be noted that, in so far as the author's observation goes, the results are markedly lower than those published by other investigators of slag concrete.

The main point is whether the compressive-strength values herein developed are sufficiently great to warrant the employment of slag as aggregate, in competition with broken stone and gravel. We think the findings are in favour of this, since our experience has been that the crushing strength of broken stone or gravel concrete, made up

* Paper by Mr. W. A. ARKIN, read before the 17th annual meeting of the American Society for Testing Materials, Atlantic City, N. J., June 30-July 3, 1914.

under ordinary field conditions, will not average over 1,500lb. per square inch at the age of thirty days.

Consequently, from the actual strength of the concrete developed in these tests; its weight per cubic foot (which is less than that of most materials used similarly); the recognised solubility of slag, which permits it to act as a puzzolanic material; its alkaline nature, which is especially conducive to rust-prevention in the case of reinforced-concrete construction, and from the relatively high combined percentages of silica, alumina, and iron, which make for permanency of the resulting concrete; we conclude that slag of similar constitution is in every way satisfactory for use as aggregate in concrete.

ANCIENT ARCHITECTURE.

RESUME OF FIRST LECTURE.

Mr. Banister Fletcher, F.R.I.B.A., gave the first of twenty-four University Extension lectures on "Ancient Architecture" at the British Museum yesterday (Thursday) afternoon. In these weekly lectures he will trace the evolution of architecture in Egypt, Assyria, Greece, Rome, and Byzantium, with special emphasis on the influence of ancient art on all subsequent styles down to our own day. In his introductory address the lecturer pointed out that architecture was in all ages the visible exponent of civilisation, and that present-day buildings were the product of ancient art and of modern needs. The study of architecture was thus necessary not only for architects, craftsmen, and students, but also for authors, journalists, photographers, and antiquaries, while the interest of history is increased by a knowledge of the dwellings and temples erected by different nations for their social, religious, and political requirements, while for the general public the ability to appreciate the monuments of the past adds to the enjoyment of travel and to the understanding of our own surroundings. The lectures will be illustrated by some twelve hundred views, so that during the twenty-four hours thus spent students will learn as much about the architecture of the ancients as they would in at least as many months of actual travel. Mr. Fletcher described the different influences which had their part in the evolution of the building art. Starting from the world-famous Sphinx, a sentinel of the mysterious past, he reviewed by word and picture Egyptian temples, pyramids, and tombs, Assyrian palaces, Greek temples and theatres, and Roman Imperial buildings, such as the Baths of Caracalla, the stupendous Colosseum, and the Arches of Triumph, as well as the dwellings at Pompeii, the churches of the Early Christians, and the peculiar work of the Byzantines. Obviously the British Museum, which contains the world's richest collection of ancient art, is an ideal place for such lectures, as there the exhibits can be studied in the class after the lecture. This course is recognised in qualifying for the Diploma in the History of Art given by the University of London. The lectures are delivered on Thursday afternoons at 1.30 in the Assyrian Salon of the British Museum. The subject of the next lecture will be "Egyptian Architecture." Particulars can be obtained from the hon. sec., 10, Woburn-square, W.C.

MODERN SCULPTURE.*

That part of the history of Modern Sculpture which deals with the Classic revival at the end of the 18th and beginning of the 19th centuries is looked upon in these days as almost belonging to antiquity. The emotional phase of Renaissance Sculpture had expended itself in extravagant productions, and a reaction set in, which brought about a return to Classic simplicity and severity, the effect of which was felt throughout the whole of Europe. The

majority of the subjects selected were antique—they were treated in a thoroughly Classic spirit—and Rome was the centre towards which artists from all parts of the world made their way. There was comparatively little religious sculpture—most of the works were executed for wealthy patrons of the art. Such was the first stage of the Classic revival.

The next stage was brought about by a reaction against this aristocratic and Classic sculpture, and the desire for subjects more national in character, more particularly for portraits of men who had distinguished themselves in the service of their country, in literature, science, art, etc. A great deal of the old Classic spirit remained, although its form and substance had changed, and Rome was still the artistic centre of the world.

The third and final stage was reached during the latter half of the 19th century. Mythological subjects gave place to the actualities of modern life. These were treated in a realistic manner, and the centre of inspiration for artists was no longer Rome, but Paris.

There has been little or no change in either modelling or carving tools; but mechanical appliances have been designed, by means of which sculptors' models may be reproduced in various materials and practically to any scale. Hence the modern sculptor is not always a carver. Indeed, in many cases he is only a modeller, and the work of reproducing his models in marble or other media is left to workmen and professional carvers. While this mechanical reproduction of work has brought sculpture within reach of the comparatively poor, it has frequently reacted disadvantageously upon the quality of the work, and a piece of sculpture—or art craft work—designed and executed right through to the final material by the artist is of infinitely greater value, to those who have the eyes to see and the soul necessary to appreciate it, than the highly-finished mechanically perfect work, of which one sees so much.

MODERN SCULPTURE IN ITALY.

THESEUS SLAYING THE CENTAUR—CANOVA.

The Classic revival of sculpture in Italy began with Antonio Canova, who was born at Passagno, a village near Venice, in 1757. His talent was recognised early, and he was placed for instruction under a Venetian sculptor called Torretti. The Senator Giovanni Faliero was his patron, and gave him commissions. In 1779 he was able to go to Rome, where he threw himself heart and soul into the study of the antique. That his work there was congenial and fruitful is shown by his first important Roman statue—Theseus Slaying the Centaur—the subject of this illustration, a work which displays many of the qualities of the later Greek school.

CUPID AND PSYCHE.

After the execution of some monuments and this group of Cupid and Psyche, Canova was criticised as being a softened Bernini. To refute this charge he aimed at stronger and more masculine efforts, and produced Hercules and Lichas and the Boxers, Kreugas, and Damocenes.

KREUGAS.

The statues, of which this is one, were modelled by Canova about the beginning of the 19th century. They are treated in the usual Classic manner. The subjects are brutal, and they are not considered to be in the front rank of art. There is no doubt that Canova's best vein lay in the direction of grace and beauty rather than of strength. His statue of Perseus was very highly esteemed, and was secured for the Vatican gallery, where it filled the place of the Apollo when that statue was removed by the French. It represents a delicately-finished, slightly effeminate warrior, full of graceful beauty. Canova modelled from life the large bust of Napoleon. His colossal statue of the Emperor passed into the hands of the British Government, and was finally presented to the Duke of Wellington—an instance of the sarcasm of destiny. No man (with the exception of kings or emperors) ever received greater adulation than this sculptor, and he

remained unspoiled through it all, his nobility of character and goodness of life earning for him the appellation—"il buon Canova."

CHARITY—BARTOLINI.

The influence of Canova—even in Italy—was met by counter influences of the Romantic and Naturalistic school. Among those who aimed at infusing the Classic style with Naturalism, one of the most celebrated was the Florentine professor, Lorenzo Bartolini. His early studies in Paris gave him a bias towards Naturalism. His principles were the imitation of nature and a return to simplicity. His group of Charity, in the Pitti Palace, is one of his many fine works. It shows that he was not able to free himself altogether from Classic influences.

GIOTTO—DUPRE.

Giovanni Dupre—a follower of Bartolini—emphasised the leaning towards Naturalism, found in the works of his master. Amongst the works which brought him into prominent notice are a Cain and Abel and a Pieta. In his statue of Giotto, at the Uffizi, his realism is more pronounced.

REVOLUTION—XIMENES.

This group—Revolution—is part of the Garibaldi monument in Milan. It is by Ettore Ximenes, one of the modern Italian sculptors, who insists upon character rather than the literal imitation of objective facts in his work. He preaches and practises what he calls the intentional disregard of the natural and reasonable in order to get the desired effect.

THE MESSENGER OF LOVE—CARONI.

This work—The Messenger of Love—by Professor Caroni, while being one of the best works of its type, shows the direction of a great deal of modern Italian sculpture. The drapery and the coiffure of the girl (who is sending away a pigeon with a message tied to its neck) are wrought with extraordinary care and finish—fringe, pattern, texture, and all the rest of it.

MODESTY.

This statue of Modesty is one of the popular favourites of the Ballarat collection. It is easy to imagine the first veiled figure being done by some clever sculptor as a sort of artistic recreation, and even to-day it attracts a number of wondering admirers. There are a great many modern Italian sculptors doing fine, serious work in all branches of the art, a living protest against the tremendous amount of so-called sculpture, adapted both in subject and treatment to the average demands of possible purchasers with debased taste; but many skilful sculptors are content to supply these marble toys to children of larger growth, who gaze with gratified surprise at the marvellous workmanship displayed in the execution of marble ruffs, woolwork, etc., or at saucy little faces smiling through the meshes of wonderfully executed marble lace.

MODERN SCULPTURE IN GERMANY.

ARIADNE—DANNECKER.

At the end of the 18th century a school of sculptors at Stuttgart, headed by Dannecker, manifested a strong Classical spirit. Johann Heinrich Dannecker studied first in Paris, then went to Rome and came under the influence of Canova. His works are characterised by grace and a certain measure of refinement. His most celebrated work is Ariadne, seated or reclining on an extraordinary beast, generally called a panther. The pose is easy and the flow of the lines very attractive. This statue is at Frankfort, and is displayed in a room suffused with a rosy light.

THE TWO PRINCESSES—SCHADOW.

Johann Gottfried Schadow, Court Sculptor of Berlin, was a contemporary of Dannecker and Thorwaldsen, and one of the foundation pillars of the plastic school of Germany. He went to Rome in 1785, where he was especially attracted by ancient historical sculpture. Schadow was director of the Berlin Academy and an authoritative writer on art.

FAME—RAUCH.

This statue of Fame—one of the works

* A lecture delivered at the R.Y.E.A. on June 30, 1911, by J. R. TRAYLOR-FRYER, Director of the Swinburne Technical College, Hawthorn, and formerly assistant to the late E. Onslow Ford, R.A. The lecture was illustrated by 73 limelight slides.

purchased by the late Queen Victoria—is by Christian Daniel Rauch, the man who takes the highest place among the historical sculptors of Germany. Like other artists of his time, he studied in Rome, and the inspiration he received from the ancient sculptures corrected and improved his sense of form without subjecting his spirit.

STATUE OF FREDERICK THE GREAT—RAUCH.

Rauch was renowned for splendid imperial memorials, and for the nobility and naturalness of his work. His masterpiece was the statue of Frederick the Great. It is one of the great works of its kind in the world. On the corners of the granite pedestal are generals and princes on horseback, with bronze portrait groups between them of military, artistic, and literary men who were eminent during Frederick's reign. On the upper part of the pedestal are figures of the Virtues and low reliefs. Rauch was seventy years of age when this work was completed. He had several pupils who did excellent work, but none of them approached their master's standard.

GERMANIA—SCHILLING.

This colossal figure of Germania, by Johannes Schilling, is part of the Niederwald monument of German Unity. It is typically German, and not altogether free from the Rococo spirit of the earlier Dresden school.

BEETHOVEN—MAX KLINGER.

This statue of Beethoven is executed in several materials and is polychromatic. It created a sensation a few years ago, and was quoted as an example of the departure of modern artists from those beaten tracks which revolutionary spirits said could only lead to lifeless convention and rigid formalism. The underlying motive of all the work of the revolutionists seemed to be at first an effort to return to nature and to primitive simplicity, a motive on which might be based an art expression as free, spontaneous, and genuine as any that grew out of the simpler and fuller life of ancient and Medieval time. Advocates of the new art urged that its fantastic products were due chiefly to the errors of youth and enthusiasm, that the art would "find itself," and the fruits of freedom be made manifest. But this assurance has not been borne out by the facts. France had too many artistic traditions and cherished them too deeply for a new movement, having little or no intrinsic vitality, to have much influence. In England the revolt against the stodgy ugliness of the early Victorian period embodied itself in the arts and crafts movement which alone, out of all forms of the new art, appears to have in it some of the elements of permanence. The reason for this is because the art and craft workers were sincere, and they returned in their work to the forms which were the honest expression of the common life of an earlier day.

PANEL IN HIGH RELIEF.

Some of the worst achievements of Secession Art are to be found in Germany and Austria. One of my slides illustrates what is described as a decorative figure, expressing the strength necessary to carry great weight. The head is bent into the position shown, so as to get rid of the space above the shoulders. The face, upon which rests all the weight, is distorted in order to preserve the decorative squareness of the head.

WOOD PANEL IN HIGH RELIEF.

This panel, which is carved in wood, is equally morbid and painful. The figures appear to have been tortured beyond the limit of human endurance, then, drooping and dead, to have been propped up in this niche to get them out of the way. The lines and muscles of the body are grotesque in their exaggeration, and, in the effort to fill the space in a decorative way, the artist has so cramped these weird figures that they suggest prisoners in one of the Medieval cells in which it is impossible either to stand up or lie down.

CARYATID.

This Secessionist idea of a caryatid is equally grotesque; it is a carving on one of the great stone pillars which support the

vaulted roof, and represents the gaunt nude body of a man, apparently bearing all the weight of the arch in the back of his neck, which has evidently been sawn off for the purpose.

HIGH RELIEF DECORATION OF A PILLAR.

This example of the high relief decoration of one of the pillars of the same building is as bad as any of the preceding examples. It represents only an enormous face, the weight of the arch resting upon the wrinkled brow. In addition to the main monstrosity, there are a number of subsidiary forms, introduced apparently with the sole idea of filling space and carrying out the impression of novelty and daring. These examples of the worst types of Secessionist decorative sculpture do not represent German art, which is, as a rule, sincere, with an ever-present desire for accuracy and truth. Its manner may incline to the dry and hard or to the grandiose; but it is seldom weak. German artists have produced numerous great national works showing an intense love of the fatherland. The prevailing realism will, of course, be adopted by most rising artists, and lesser sculptors will experiment; but the instinct of the race is to seek for truth to nature, as well as to improve technique with endless patience.

THE HUMAN PASSIONS.

This remarkable work is the masterpiece of Jef Lambaens, a native of Antwerp, who studied first in his native town and afterwards in Paris. After many struggles he made a success with *The Kiss* and *The Mad Song*. Then the full-sized cartoon for this work was exhibited, and it caused such a sensation that the Government ordered its execution. It represents the elemental human passions; to describe it in detail would take an hour. Dramatic and emotional sculpture is here carried to its furthest limit, and works which were once considered violent in action, such as *The Dance*, by Carpeaux, when compared with this appear quite restrained, indeed, almost quiet.

MODERN FRENCH SCULPTURE.

The progress of sculpture in France has always been remarkable for its consistency. The Frenchman has a passion for form; therefore, sculpture is his favourite means of expression. He sees at a glance all the phases of an idea and knows how to pose it effectively. The idea may be worth much—or little—but such as it is he can embody it adroitly and vividly. With the complex character of the Frenchman many Greek elements are assimilated, and he uses art as the minister of national pride. This is done in other countries, but in no other country is it so inexorably demanded that the public monument shall exist for Art's sake as well as for the sake of pride. One of the most celebrated sculptors, representing the Classical movement, was Antoine Chaudet, who studied in Rome, and was a Classicist of the severe type. He executed a colossal statue of Napoleon, but his best works were of an ideal character.

THE DEPARTURE OF THE VOLUNTEERS, 1792—RUDE.

One of the greatest of the sculptors who united the severity of the Classic style with the sincere study of nature was François Rude. His earliest successes in Paris were gained with Classic subjects. This illustration—*The Departure of the Volunteers, 1792*—is one of the reliefs on the *Arc de Triomphe*. It was Rude's masterpiece, and though it is in a sense Classic, it was national enough to be called "*The Marseillaise*." It is the extreme expression of patriotic enthusiasm.

THE LION AND THE SNAKE—BARVE.

This is one of the early successes of Antoine Louis Barye, one of the greatest animal sculptors the world has seen. He widened the range of French sculpture by his devotion to the representation of animals, by his varied and skilful manipulation of bronze, and by the emphasis he laid upon massive modelling as opposed to precise outlines and delicately curved surfaces. He was educated in nearly every branch of art, but he will

always be remembered by his representations of animals.

JOAN OF ARC AT DOMREMY.

During the second half of the 19th century the Classical school was, to a great extent, replaced by a half-Classic, half-Naturalistic school, in which the Naturalists were gaining ground. One of the distinguished artists of this school was Henri Chapu, whose statue of Joan of Arc is one of his most popular works. The Classic influence is not strong in this statue, in which Joan of Arc is represented as the dreamy—not the active—heroine, listening to the voices which are urging her to take up her mission and save her country.

CHARITY.

The organised teaching of France, as represented by Beaux Arts, no longer upholds the severely Classic style. The naturalistic reaction has gained ground so far that the French and Italian Renaissance has now more immediate influence than the Classicism of Greece or Rome. The work of this school, which contains a long list of able sculptors, is characterised by elegance, technical perfection, and the absence of inharmonious detail. The group *Charity*, from the tomb of General Lamoriciere, is by Paul Dubois, a gifted artist, and one of the most inspired representatives of the school. In the monument marble and bronze are blended with excellent effect. This group has the style and charm of the best works of the Italian Renaissance. As an example of the treatment of thick, heavy drapery, it is especially fine. It is easy to understand how much this brilliant sculptor and director of l'Ecole des Beaux Arts has influenced modern French sculpture.

THE DANCE—CARPEAUX.

This is *The Dance* from the façade of the Opera House, Paris. It is by Jean Baptiste Carpeaux, a pupil of Rude and a sculptor of great emotional and dramatic power. This group created a great sensation when it was unveiled. Journalists attacked its morality, and some corrosive ink was thrown over it as a mark of the disapproval of some idiot not capable of understanding the spirit of the work.

ST. CECILIA—FREMET.

This statuette of St. Cecilia was one of the late Onslow Ford's treasures. It is a delightful little bronze by Emmanuel Fremet, born in 1824. He was a distinguished artist, whose talent and originality was apparently inexhaustible. He had a remarkable quality, described as "Medieval illumination," which was very marked in his small bronzes and in some of his large works. Joan of Arc, for example, a replica of which may be seen in front of the National Gallery in Melbourne.

GORILLA CARRYING OFF A WOMAN.

In his modelling of animals, Fremet takes first rank. His horses are always fine and full of life, and his later zoological studies are not less successful. In a *Gorilla Carrying off a Negress*, Fremet has not spared any details to make the story as horrible as possible—the refined form of the woman, the wounds on her body, and the snarling ugliness of her captor. His pursuers have driven an arrow through his shoulders, and he turns on them fiercely, grasping a huge piece of stone, to be used as a projectile.

THE SIREN—PEUCH.

This charming and clever group, *The Siren*, is by Denys Peuch, a pupil of Joffrey, who broke away from school traditions and surpassed his master. His work was purchased by the State and sent to the Luxembourg Palace, which contains one of the finest collections of modern sculpture in the world.

LUXEMBOURG GALLERY. DAVID MERCIÉ.

This is a modern statue of David, by Mercie, a pupil of Falguiere, and an artist of great grace and refinement. His masterpiece is *Glória Victis*, one of the great works of modern sculpture. Mercie is distinguished for rhythm, movement, and delicacy of sentiment.

THE SECRET OF THE TOMB—SAINT MARCEAUX.

Rene Saint Marceaux is often compared with Mercie as being equally perfect in style,

but less elevated in his conceptions. This statue, the Genius guarding the Secret of the Tomb, is considered to be his best work. The original is in marble, in the Luxembourg.

THE HARLEQUIN—SAINT MARCEAUX.

This statue of the Harlequin, by Saint Marceaux, in addition to being essentially French, is a good example of the art of doing well what so many Continental artists fail in. It has had prodigious success, and belongs to the same family as much of the modern Italian art—the same idea better carried out. The execution is clever, full of knowledge, and truthful. Instead of being cheaply imitative, the idea is broadly enforced by the details, instead of being frittered away among them. Its success is due to the presence of an element foreign to so much of the other work—the element of character and the individuality of the artist.

LA VIEILLE HEAULMERE—RODIN.

August Rodin is still further removed from the academic school. He is the leader of those whose aim is to give us in the plastic arts what the best impressionists give in painting. Whatever difference of opinion may exist as to his principles, his practice bears the undoubted stamp of genius. His modelling is marvellous, and, when necessary, most patient. He will spend months, if needful, studying muscular and surface details. This statuette of an old woman is in the Luxembourg collection. It is a masterpiece of modelling and anatomical skill. He draws his inspiration from nature, aiming always at true expression, without regard to what we have been taught to consider beauty or elegance of form. I will conclude this outline of Modern French Sculpture by showing you four portrait busts by Rodin, giving you, at the same time, his own comments upon them, as given to his friend, Paul Gsell.

PUIVIS DE CHAVANNES—BUST BY AUGUST RODIN.

He carried his head high, Rodin said, his skull, solid and round, seemed made to wear a helmet. His arched chest seemed accustomed to carry the breastplate. In this bust you recognise the aristocracy of an old race; the high forehead and eyebrows reveal the philosopher; and the calm glance, embracing a wide outlook, betrays the great decorator, the sublime landscapist. Puviv de Chavannes did not like my bust of him, and it was one of the bitter things of my career. He thought that I had caricatured him, and yet I am certain that I have expressed in my sculpture all the enthusiasm and veneration that I felt for him.

FALGUIERE—BUST BY AUGUST RODIN.

Fiery, eruptive character, his face sown with wrinkles and bumps like a land ravaged by storms. The moustache of a grumbler; hair thick and short. He was a little bull, said Rodin. I noted the thickness of the neck, where the folds of the skin almost formed a dewlap. Square of forehead, the head bent and obstinate, ready for a forward plunge—a little bull. Rodin often makes these comparisons with the animal kingdom; they evidently facilitate the work of the mind which seeks to class all physiognomies in general categories. Falguiere considered his bust a great success when it was finished, and defended it against those who criticised it in his presence. In turn he modelled the bust of Rodin, which is very fine.

JEAN PAUL LAURENS—RODIN.

The round head, face mobile, enthusiastic, almost breathless (this is a Southerner), seem archaic and rude in the expression; eyes which seem haunted by distant visions. It is the painter of half savage epochs, when men were robust and impetuous. It was a great pleasure to me to do his bust. He reproached me in a friendly way for having done him with his mouth open.

DALOU—BUST BY AUGUST RODIN.

The proud, challenging head, with the thin, snowy neck of a child of the Faubergs; the bristly beard of an artisan; the contracted forehead, the wild eyebrows of an ancient Communist; and the feverish and haughty air

of the irresistible democrat. For the rest, the large fine eyes and the delicate incurvation of the temples reveal the passionate lover of beauty. Dalou was one of the leaders of the modern French school. He commenced his artistic career under academic masters, but soon turned from their teachings. Being drawn by his Republican sympathies into connection with the Commune, he found it expedient to escape to England, where he spent some years as Professor of Sculpture at South Kensington. He inspired those who came under his care with the highest aims, and his influence helped greatly towards forming the wonderfully high standard of the present British School of Sculpture.

(To be concluded.)

THE ARCHITECTURAL ASSOCIATION.

THE ARCHITECTS' VOLUNTEER TRAINING CORPS.

This corps is being formed at the Architectural Association, in order to train men at present prevented from joining the Regular Forces. The first aim is to recruit for the Army, and any men waiting to enlist in the Royal Engineers or other corps which are now closed, or who are waiting for a commission, will be welcome. Secondly, it is hoped that all who are prevented from enlisting under existing regulations will join and train and make themselves fit and ready to be called on in time of need.

The corps has had four training-grounds placed at its disposal, which include a 25-yard miniature range, under cover, a 150-yard open miniature range and revolver range. Drills and musketry training arc in progress every day of the week, and a week-end camp is being started at once. At it is proposed to organise the corps so as to provide pioneer companies to be attached to infantry, lectures and classes will be arranged at 18, Tufton-street, on the following subjects:—

1. Field Engineering.
2. Field Hygiene.
3. Animal Management.
4. Field Sketching.
5. Elementary Tactics.

It is particularly desired that men should come forward to attend these lectures, with a view to becoming instructors of recruits. The most important work at present is to get a large number of recruits as quickly as possible, as the committee's plans cannot be carried out properly until they have large support. The corps is open to all architects and surveyors and to the men of all kindred professions, businesses, and trades, and their friends.

There is a small entrance-fee of 5s. and a subscription of 2s. a month. All inquiries should be addressed to the A.A. War Service Bureau, 18, Tufton-street, Westminster, S.W.

THE BATHS OF BATH.

The baths committee of the Bath Corporation have adopted a scheme for an important extension of the Mineral Water Bathing Establishment of the city, which was presented at a special meeting of the city council yesterday (Thursday), and the further consideration thereof was adjourned for a week. The area now suggested to be covered with new baths is that lying between the Orange-grove, York-street, Terrace-walk, and Church-street. Mr. A. J. Taylor, M.S.A., of New Bond-street, Bath, the architect to the baths committee, suggests that the houses on the south side of the Orange-grove should be set back, so as to open up a complete view of the east end of the Abbey, also that Terrace-walk should be widened, making a better thoroughfare at the narrow point near the Museum. The baths to be erected on this site will be thirty-three in number, with seventy-eight dressing-rooms, special attention being paid to air douche, vichy douche, douche massage, plumbiere douche, and vapour baths, while several of the latest forms of electric current treatment are suggested. The building proposed would not exceed 35ft. in height at the

greatest altitude, and the line of York-street would be observed as at present, though it is understood that the plans are so drawn as to admit of a further enlargement on the south side of the proposed new block in future years, should the growth of the Spa warrant absorption of houses on the south side of York-street.

The total cost of the scheme is placed at £86,866, which includes £27,000 for the site, which covers an approximate area of 20,440 superficial feet. The report contains a statement by the city treasurer, who estimates that if loans could be raised at 3½ per cent. the annual charge in respect of the scheme would be about £5,600 per annum. Mr. Hutton, the director of the baths, has presented elaborate statistics showing the earnings of the present establishment, and he estimates that with the business that would be done at the new baths added to the existing accommodation there would be an excess of income over expenditure of about £650 annually. In connection with the scheme it is proposed to create a new lounge between the existing Grand Pump Room and the Roman Promenade by pulling down the offices now intervening between those two buildings, and for which room would be found in the block designed by Mr. Taylor.

OBITUARY.

Mr. Henry Silkstone Hopwood, one of the most brilliant of the English water-colour artists, was discovered dead under tragic circumstances at a studio in Belford-road, Edinburgh, on Saturday morning, a revolver with an empty chamber having been found in his hand. For several years past Mr. Hopwood's health had been indifferent, and only two weeks ago he arrived in Edinburgh at the conclusion of a voyage to the East. His intention had been to paint various subjects in the city. The dead artist was fifty-four years of age, and was born at Markfield, Leicester. He studied at Julian's under Bougoureau and Ferrier, and had his first impulses from the Scots school through the Nobles when working in Fifeshire a quarter of a century ago. He specialised in landscapes, Venice and Tangiers providing some of his best examples. An Associate of the Royal Water-Colour Society, his pictures were a feature of that body's exhibitions. Eighteen years ago one of his pictures, "Industry," was purchased at £150 by the Chantrey Trust.

Mr. Robert A. Corry, late assistant surveyor to the Antrim County Council, has been granted a superannuation allowance of £80 per annum.

A Wesleyan chapel is in course of construction at Cranbrook Park, Ilford, from plans by Messrs. Gordon and Gunton, Blomfield-street, E.C.

The corporation of York have resolved to build twenty-eight cottages on the Fulford House estate for the tramway workmen. The estimated cost is £6,851.

Sir George Frampton, R.A., has executed for the Guildhall Art Gallery marble busts of the King and Queen, commissioned by Aldermen Sir Edward Cooper and Sir Charles Wakefield.

The Public Health Committee of Edinburgh Town Council recommend that a sanitary inspector be advertised for and appointed at a rising salary of £300, with increments of £20, to £400 per annum.

The city council of Norwich has agreed to enlarge the area of the city asylum grounds, now fifty acres in extent, by the purchase of 131½ acres of land to the north-west of the asylum, at an outlay of £5,500.

The authorities in charge of the construction of buildings at Delhi, the new capital of India, are investigating a plan of providing outer and inner walls between which artificially-cooled air can be circulated by means of exhaust-fans, the cooling being effected by drawing currents of air through wetted screens.

In connection with the London County Council's work of indicating notable houses in London, bronze tablets have recently been affixed to 39, Montagu-square, W.; 225, Hampstead-road, N.W.; and 75, Great Dover-street, S.E., to commemorate the residence at these houses respectively of Anthony Trollope, Lord Tennyson, and Charles Haddon Spurgeon.

Corrente Calamo.

We heartily second Mrs. Maurice Webb's appeal in another column for necessities for the members of the Architectural Association now serving with the forces. It is difficult to buy some of these things just now, and, therefore, gifts out of household stores which can be replenished by the donors presently will be doubly welcome. Others can be better and more cheaply bought than made, and every woman who can help quickly will do her best to keep in health and strength the husbands and brothers and sons whose peril in the field is as great, and more uselessly so, from disease as from death or disablement in action. The rest, who have neither time nor skill nor opportunity to make will not hesitate to send money, which will be well laid out by the sub-committee that is busy attending to immediate wants. And when the President of the A.A. returns to receive the hearty welcome that awaits him and his brave comrades it will not be the least of his gratifications that his wife's present plea was heartily and liberally responded to by all concerned.

The official statement as to the damage done to Rheims Cathedral, just issued by the Under-Secretary of State for Fine Arts in France, reports that "the Cathedral was shelled several times. It had all the roofing burned out and the stained-glass windows riddled, and, to a large extent, broken. The northern tower of the façade, which was struck by shells in the upper part over the portal, was seriously damaged by flames. The sculptural decorations and statues cannot be repaired. Inside the church, straw, which had been collected for the wounded, caught fire, generally damaging the stonework. The wall facings are burnt and the masonry charred. Instructions have been given to protect the vaults by building temporary roofings." That is probably all that can be done just now; but it is permissible to hope that conservative restoration presently will be practicable, and that the Cathedral may be preserved to remind future generations of Frenchmen and their sympathisers the world over of the sacrifices of France in defence of freedom against the German barbarians.

There are welcome signs that promoters of exhibitions and art galleries are resuming their activities, and that the consolations of art are not to be withdrawn from the public in these days of national strain. The International Society will open its autumn exhibition next Wednesday at the Grosvenor Gallery, and the absence of "one-man shows" should indicate that more important pictures than usual will be available from the members. An exhibition of modern Spanish art opens to-day at the Grafton Galleries. It will include several Spanish bronzes and marbles exhibited for the first time in England. The Goupil Galleries autumn exhibition will be ready shortly, and several other prominent dealers are getting together exhibitions.

The Trading With the Enemy Act has somewhat modified our position in regard to contracts and the war, as it was first understood. There must be no trading with the enemy in the enemy's country; but there is nothing to prevent business being done with

a branch of an alien enemy firm or company which is carried on in the United Kingdom, as far as concerns goods ordered from, or delivered by, that branch, and so payments may be made in respect of such transactions. There has also been a recent order issued under the Act, which authorises the payment of money to, or receipt from, an enemy abroad, if this is done under a license from the Treasury. In the same way Exchange transactions can be legally carried out. For the relief of traders, such as stone or timber merchants, for example, it is now declared that owners of cargo lying in a neutral port in a ship owned by an enemy, may, for the purpose of obtaining possession of such cargo, pay freight and other necessary charges to the agent of such enemy shipowner at such port. These relaxations of the rigid rule as to dealing with, or paying money to, an enemy have been made for the benefit of our own traders, and in order that we may get as near as we can to our plan of "Business as usual."

Various authorities have suggested to the British Fire Prevention Committee that they should prepare some precautionary notice in the matter of fire dangers in hospitals and convalescent homes, much as they have issued earlier ones on various matters. For this reason a special "Warning" is now available gratuitously for hospitals and convalescent homes which are doing emergency work in connection with war cases, and copies will be provided free upon application to the British Fire Prevention Committee, 8, Waterloo-place, London, S.W. It is specially pointed out that candles are undesirable, and that wherever oil-lamps can be dispensed with these should not be used. Where they are necessary, petroleum or mineral oils should be avoided and strong metal containers should be employed, as distinct from glass or china ones. Methylated spirit should be used with the greatest care. Oil, spirit, and gas cookers should stand away from possible draughts, on stone or metal trays, preferably having an upright metal rim. All gas-burners should be protected by globes or wire guards. Pendant gas-lights require stout fastenings and shields. Swinging brackets should not be used. On no account should any paper or textile shade or cover touch or be nearer than 2in. to any electric-lamp bulb. On the slightest sign of heat or smell from a flexible wire the wire in question should be unplugged or switched off. On no account should electric bed warmers be used. Portable stoves and pipe-stoves should stand on stone in metal trays projecting about 6in. all round, with a turned up rim about 6in. high. The trays should be emptied and cleaned daily. On no account should wickless oil stoves be used. Steam-pipes should be kept clear of contact with any combustible material. Cotton wool should not be exposed near a flame. Nurses should be warned against wearing collars, cuffs, or combs of celluloid or the use of any celluloid article. The use of flannelette, including the finer qualities, should be avoided, especially where there are open lights or fires. Decorations of the nature of paper lanterns, tissue-paper, cotton-wool, celluloid, etc., should not be allowed in connection with entertainments. Any technical inquiry regarding precautionary measures in hospitals or convalescent homes will be dealt with by the British Fire Prevention Committee upon written application.

At a recent meeting of the National Federation of Associated Paint, Colour, and Varnish Manufacturers of the United Kingdom, held in London, to consider the position of the trade brought about by the war, attention was drawn to the great difficulty experienced by manufacturers during the present crisis in obtaining supplies of many raw materials formerly imported from Germany. In consequence, prices of a large number of decorating materials in paints, colours, and varnishes must necessarily advance. It was felt that both higher costs and the short terms of payment now ruling for raw materials must lead to a considerable curtailment of the lengthy credit which has existed in the past, and more especially in the varnish trade. The manufacturers felt such new conditions of trading would in turn necessitate new methods in the decorating trade, and that the present is an opportune moment for an endeavour to mutually support and assist one another. It was recognised that a curtailment of credit between manufacturers and the trade must of necessity lead to a similar curtailment between the trade and the householder. The manufacturers are prepared to support, as far as lies in their power, any effort to bring this about, and by way of suggestion submitted the advisability of the decorating trade recommending their members, when preparing estimates or when making out their accounts for work done, to show in every case an estimate based on the customer's usual credit, or, if that be excessive, with the wording, "For payment within — months," and to show another reduced estimate if the work is paid for within thirty days of its completion. It was suggested that these prices should be prefaced by the following explanation: "Owing to higher prices of decorating materials and shorter terms of credit, due to the war, I (or we) have decided to offer to do work for our customers at lower rates where a cash payment is made."

A step taken in this direction would, without doubt, cause very many customers to pay more promptly. The public will not take exception to this innovation during war time, and, once accepted, it will make it easier afterwards to check the extended credit at present given. If generally adopted, it would have the effect of fixing a maximum limit of credit, which, in many cases, would be half the length of time now taken or allowed, often unnecessarily, by the decorator himself. Letters which are now written for payment after excessive credit has been taken could be written and payment asked for in accordance with the number of months' credit mentioned in the customer's estimate or invoice. Cases were cited where decorators' accounts would have been paid promptly had they rendered accounts immediately on completion of the work, and other cases where accounts had been repeatedly asked for before they could be obtained. There exists throughout the trade a reluctance to render any statements except at the half-year, and not always then if the decorator happens to be busily employed. Where such is the case the decorator would be money in pocket were he to engage some young accountant or reliable clerk to make his accounts out for him. There are many good clerks who would be only too willing to do this for a nominal fee in their spare time. We thoroughly endorse the action taken by the Federation, and we commend

it to the consideration of all the kindred industries. Credit is a power in trade, but we want no more moratoriums to convince us that its unfair and injudicious extension is a national danger.

The Rochdale Corporation health committee held a special meeting on Friday to consider a report by Dr. Anderson, the medical officer of health for that town, prepared in response to a request from the Local Government Board for details of housing conditions in the borough, especially as regards back-to-back dwellings. After consideration of the return they decided to recommend the council to build. A complete survey has been made, and the results are summarised thus:—Back-to-back houses, 3,277; semi-back-to-back houses, 1,121; inset back-to-back, 370; total, 4,768. These 4,768 houses accommodate 14,219 persons. The return states that there are 2,728 two-roomed dwellings in the town. A summary of the principal insanitary conditions shows 4,679 with defective sanitary accommodation, 2,059 with defective drainage, 1,560 in general disrepair, 2,281 with defective yard paving, 4,768 with defective ventilation, and 80 with obstructive buildings. Dr. Anderson proposes improvements in over 3,000 cases. In 2,809 instances he would break through the dwellings, thus reducing the 2,809 to 1,606. In 1,516 cases he recommends demolition. This would dispossess no fewer than 8,885 persons. The health committee discussed at great length the position disclosed by the report. In regard to the 1,120 semi-back-to-back houses they decided to recommend the council to call upon owners to put them in a satisfactory state of repair. No action was taken on the 370 "insets." As to the 3,277 back-to-back dwellings which were recommended for demolition, the committee were in a difficulty. They realised that they could not close these houses and turn out 8,000 people without seeing that they have some other dwellings to go to. It was eventually decided to recommend the council to start a building scheme.

The largest concrete-arched bridge in the world is said to be the Tunkhamock railway viaduct, on the Delaware, Lackawanna, and Western Railroad. The bridge has an extreme length over the masonry of 2,373ft., and its height from the bed of the stream to the top of the coping is 242ft., and from rock foundation 200ft. The bridge consists of ten semicircular arched spans, each 180ft. in the clear between piers and of two 160ft. semicircular abutment spans, which are of sufficient width to carry two railroad tracks. The superstructure of the arches to the coping consists, for each span, of ten vertical members rounded off into as many small semicircular arches which carry the roadway. In addition to the 167,000 cubic yards of concrete, there were used in this bridge 2,275,000lb. of reinforced steel, and 43,560 cubic yards of material had to be taken out for the foundation. All the piers, which measure 36ft. 6in. by 43ft. 6in., are built solid below the springing line; and all are carried down to rock, which was reached at a depth of from 10ft. to 95ft. below ground level. Hence the extreme height of the highest pier from bedrock to coping is 300ft. The massive steel falsework for the 180ft. arches was built in sections in the shops, shipped to the site, and erected by means of a double cableway.

Our Illustrations.

REGENT PALACE HOTEL, REGENT STREET, W.

This new hotel is being erected for the Strand Hotel, Ltd., close to Piccadilly Circus, on an island site measuring just over an acre in extent. It is a steel-framed structure, and is being constructed on the most up-to-date lines in every respect. It will be installed with a very complete system of central ventilation and electrical warming, which has been under the charge of Mr. Arthur H. Barker, of 40, Queen Anne's-chambers, Westminster, S.W. The roof will be covered with green slates. The ground floor is to be chiefly occupied by lounges, a large winter garden, dining room, restaurant, drawing-room, and writing-rooms. In the basement there are grill- and billiard-rooms of ample size, ladies' and gentlemen's toilet saloons, and all the other necessary adjuncts which go to the making up of a modern hotel. The upper floors contain over 1,000 bedrooms, each of which is provided with a lavatory basin with hot and cold water. The fact that 6,000 tons of steel was used in the structure, and that there are nearly two miles of corridor in the building, will give some idea of the magnitude of the scheme. The hotel will be opened early in next year. The general contractors are Messrs. J. Mowlem and Co., Ltd., of Grosvenor Wharf, Westminster. The whole of the exterior of the building is faced with "Burmantofts Marmo," supplied and fixed by the Leeds Fireclay Co., Ltd., Leeds and Norfolk-street, London, who have supplied and fixed a very large quantity of this material, both in this country and abroad. The building has been greatly delayed owing to the long duration of the building trades lock-out; but since work has been resumed the Leeds Fireclay Co. have pushed on rapidly, and the whole of the exterior to the height of three floors around the entire building, which measures 900ft., equal to 2,700ft., has been covered. The material used is most suitable for buildings in towns, where light is a necessity; it is impervious to weather and easily cleaned, and in cost is moderate, and will compare with Portland stone. The lift engineers are Messrs. Waygood-Otis, Ltd. The architects are Mr. Henry Tanner and Mr. F. J. Wills (and the late Mr. W. J. Ancell). Messrs. George Jackson and Sons, Ltd., are responsible for the decoration which, in the drawing-room is in free treatment of the Adam style, with pilaster enrichments. The whole of the grill-room ceiling is executed in plaster treatment, after Bergolesi. The perspective view shown by our double-page plate was exhibited at the Royal Academy this year.

THE PUREY-CUST NURSING HOME, PRECENTORS COURT, YORK.

This building is being erected as a memorial of the esteem in which the Dean of York is held. The site is in Precentors Court, opposite the west front of the Minster. The building will face south-east, and will have wide open spaces on three sides of it, and will command a fine view of the Minster and its surroundings. The home is to be used partly as a residence for nurses, and partly as wards for private patients. The building is being constructed of fire-resisting materials, and is arranged on the latest up-to-date principles of hospital construction. The principal plans are reproduced, with the perspective, which was exhibited at the Royal Academy in the summer. The materials being used are red hand-made close-kiln common bricks for the walls, and thick hand-made roofing-tiles. The architect is Mr. Walter H. Brierley, F.S.A., F.R.I.B.A., of York, and the builder, Mr. Wm. Belleby, of Hmgate Sawmills, York.

HEADQUARTERS OF THE FOURTH BATTALION OF THE GLOSTER REGIMENT, BRISTOL.

This military building is now in progress of erection. The materials for the facings

are brick, with freestone from Bath for the dressings. The block-plan shows the lay-out of the premises; but we understand the War Office just now is adverse to detailed plans being given. The builders are Messrs. Wm. Cowlin and Son, and the architects Messrs. Walter S. Paul and Richard C. James, F.R.I.B.A., of Bristol.

NO. III, MANSFIELD STREET, W.

The drawing of a London corner-house from which our illustration is taken was exhibited in this year's Royal Academy, and the design is by Mr. W. Henry White, F.R.I.B.A., of No. 14A, Cavendish-place, Cavendish-square, W. The work was carried out by Mr. Wm. Willett, of No. 2, Sloane-square, S.W. The masonry is of Portland stone, and the roofs are covered with Westmoreland green slates.

The town council of Derby have received the sanction of the Local Government Board to a loan of £12,240 for providing a recreation-ground.

At Southerleigh, near Okehampton, a new Wesleyan chapel was opened last week. It is of brick, with stone plinth and dressings, and has been built by Messrs. J. Sleeman and Son, of Southampton.

Figures compiled by the *American Contractor* show that in seventy-two cities throughout the United States the July, 1914, building operations represented 73,158,408dol., as against 65,834,098 dol. in July, 1913.

A new playhouse is about to be erected at the corner of East 103rd-street and Superior-avenue, Cleveland, Ohio. Messrs. Richardson and Yost, of that city, are the architects, and Mr. R. A. Curry, also of Cleveland, is the builder.

It has been agreed by the urban district council of Tottenham to repave by direct labour the carriage-way of Green-lanes with wood on a 12in. concrete foundation in lieu of the existing 6in. foundation, at an estimated cost of £15,457, subject to the Middlesex County Council defraying the cost, Green-lanes being a main road.

Mr. Fernand Parmentier, the secretary of the Los Angeles Chapter of the American Institute of Architects, contributes to the August issue of the *Journal of the A.I.A.* a description of El Camino Real of California, the historic highway, some 700 miles in length, that connected the twenty-one missions and the presidios established for the military protection of the country by Carlos III of Spain.

The highways committee of the Norfolk County Council sanctioned a scheme for road-widening at Morston, Colkirk, Brisley, Overstrand, Cromer, Ludham, Belagh, Ormesby, Wells, Burnham, Wootton, Bilney, Massingham, Alby, Yaxham, Foxley, Trowse-street, and improvements at various corners, the estimated cost being £15,770. The works will be carried out under the supervision of Mr. T. H. B. Heslop, of Norwich, the county surveyor.

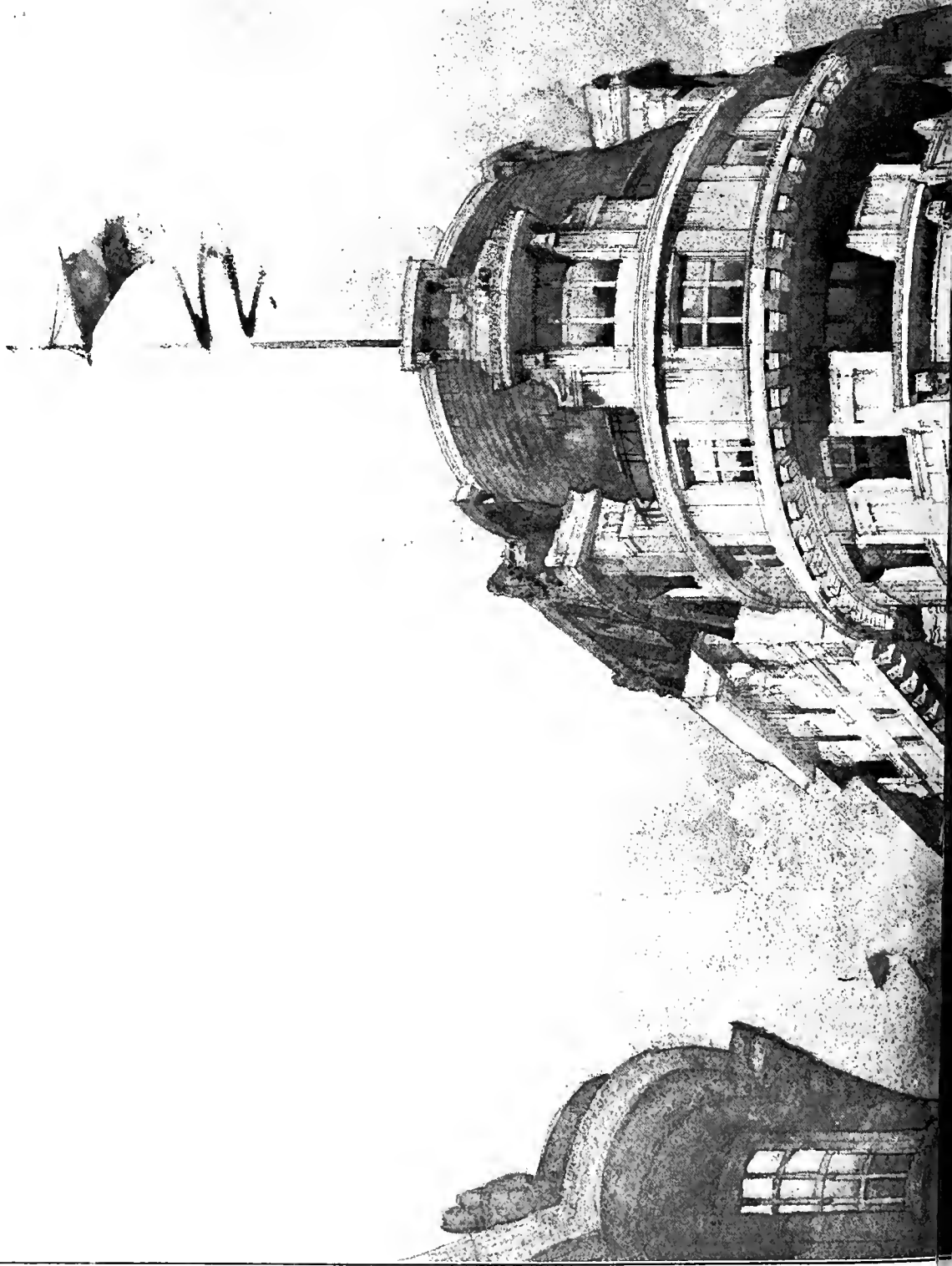
At the last sitting of the Norwich Consistory Court a faculty was decreed for the erection of a stained glass window in the church of St. Mary's, Banham. The window is being erected by Mr. Wm. Gaymer to the memory of his parents, William and Rebecca Gaymer. Application was made for a faculty to restore Tasburgh Church, and to add an organ chamber; and also for a faculty for the restoration of the parish church of Braconash. The cost of the work, which will be done in sections, was estimated at £325.

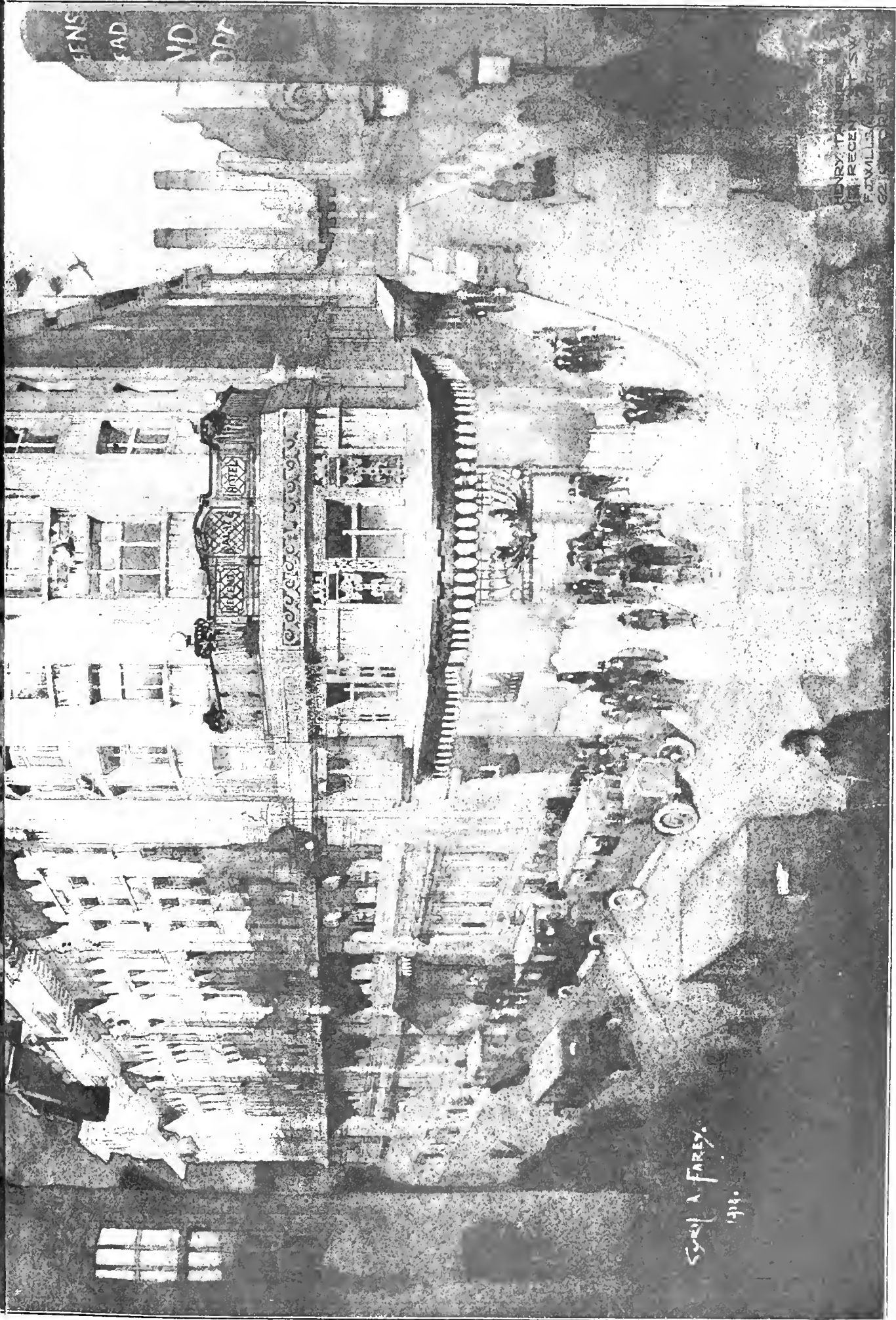
At the last meeting of the Bath City Education Committee it was reported that the plans for the new secondary school were now approved, subject to the gymnasium being altered. The Board proposed that the gymnasium should be built separately, and the committee recommended that it should be placed at the back of the building. The action of the Board would throw an additional expense of roughly £450 on the committee. The report, which stated that only Bath readers would be invited, was adopted.

There are more than usually striking variations in the cost per mile of the urban main roads of Kent in the last year (1912-13), for which figures are given in the county surveyor's annual report. The most expensive roads are those of Gillingham, which cost no less than £669.6 per mile (possibly owing to traffic for the naval authorities), the least expensive being those of New Romney, where the amount spent was only £57.9 per mile. The Gillingham roads cost over £200 per mile more than those of Chatham (£453.2), and over £300 per mile more than those of Rochester (£355).



THE BUILDING NEWS, OCTOBER 2, 1914.



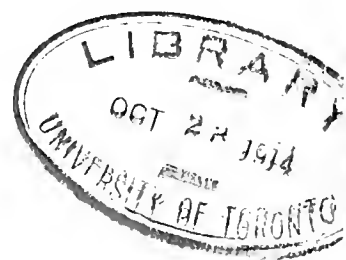


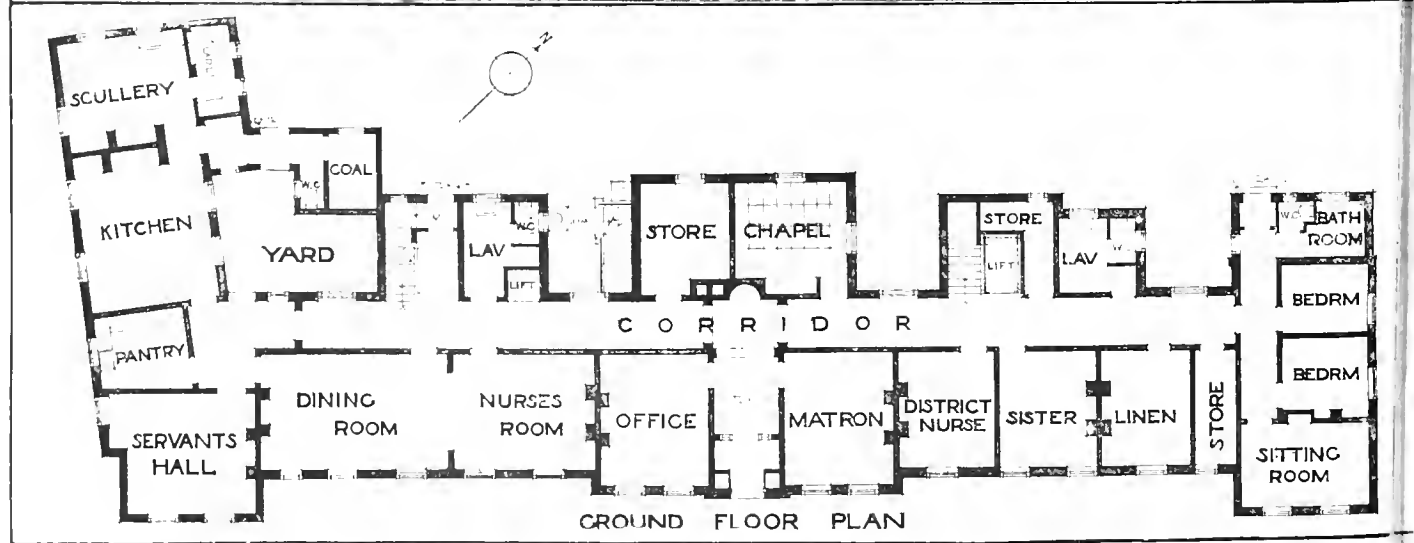
REGENT PALACE HOTEL, REGENT STREET, LONDON, W. FOR MESSRS. LYONS AND CO.

Messrs. HENRY TANNER and F. J. WILLS (and late W. J. ANGELL), Architects.

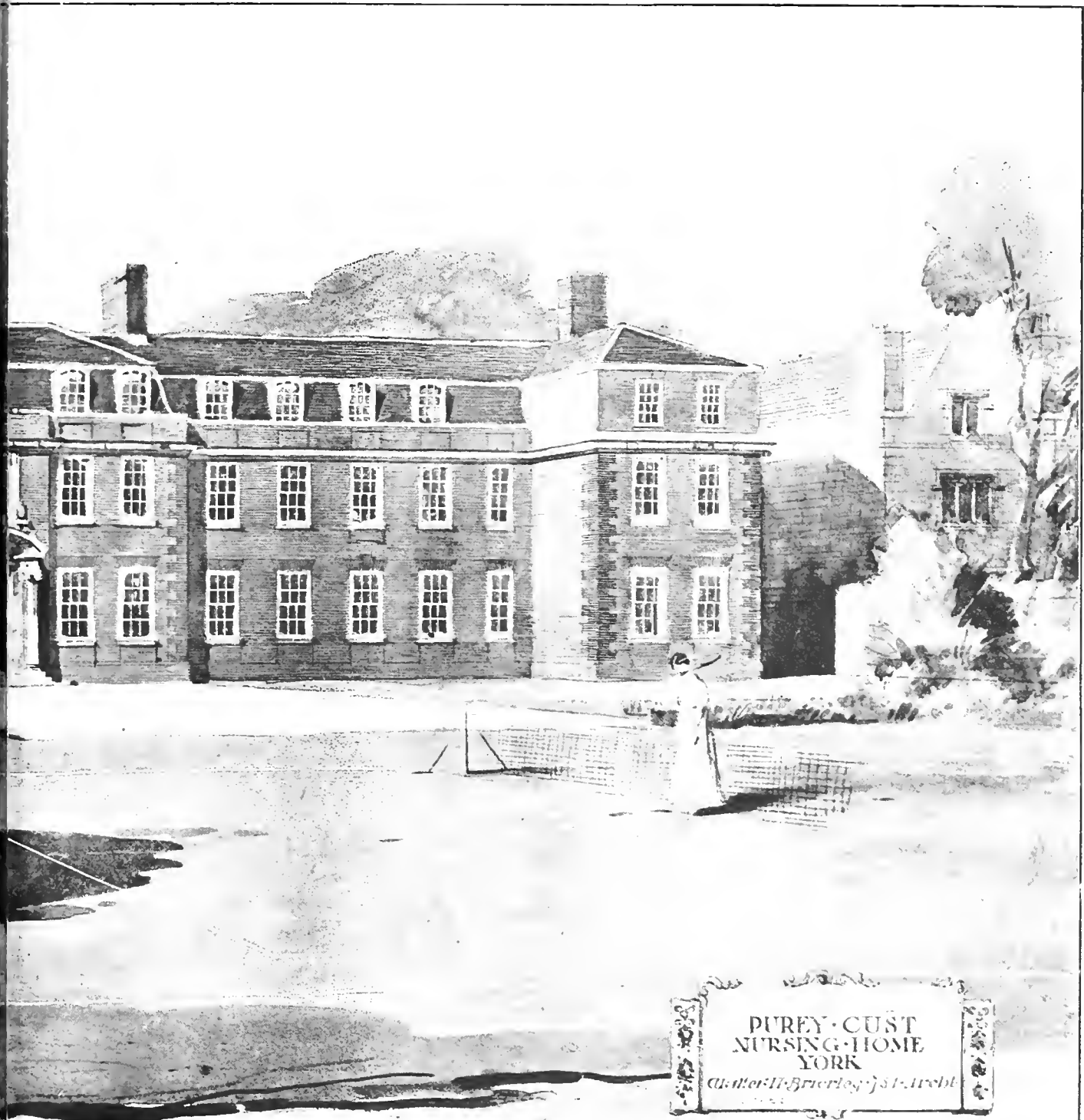


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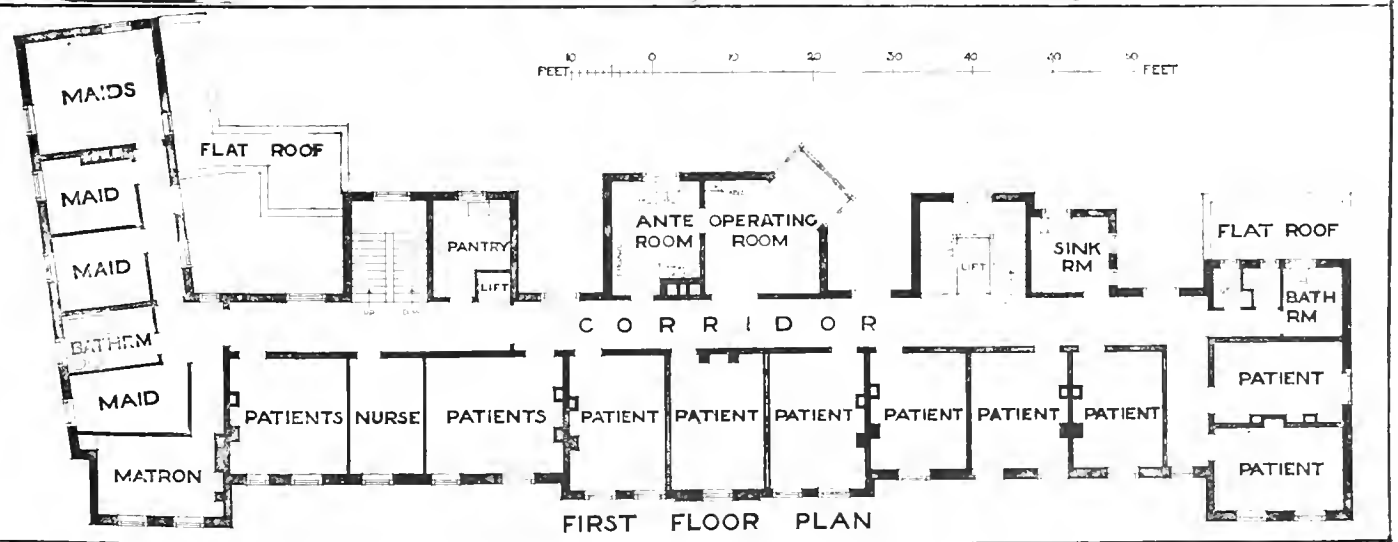


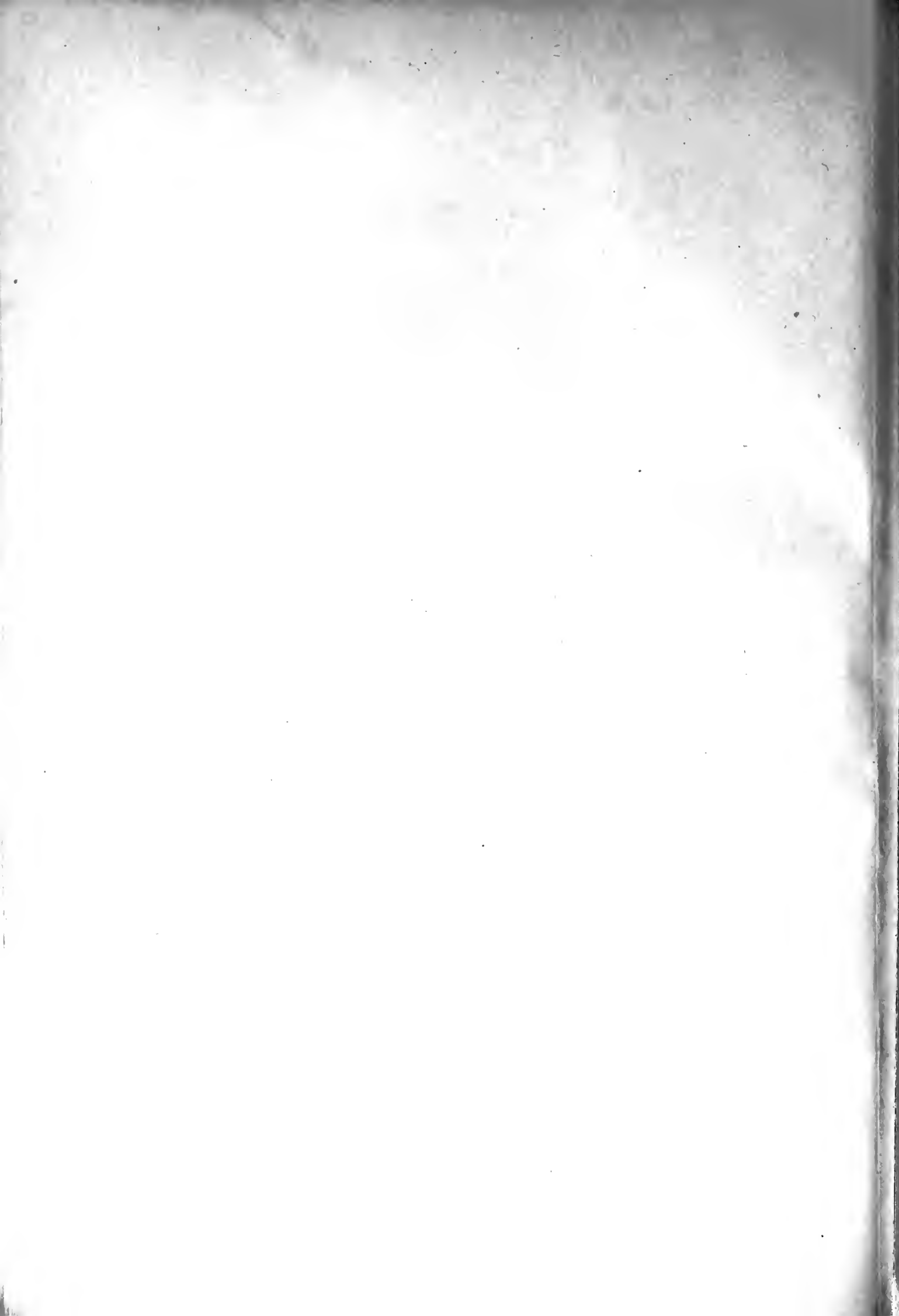


THE PUREY CUST NURSING HOME, PRECENTORS



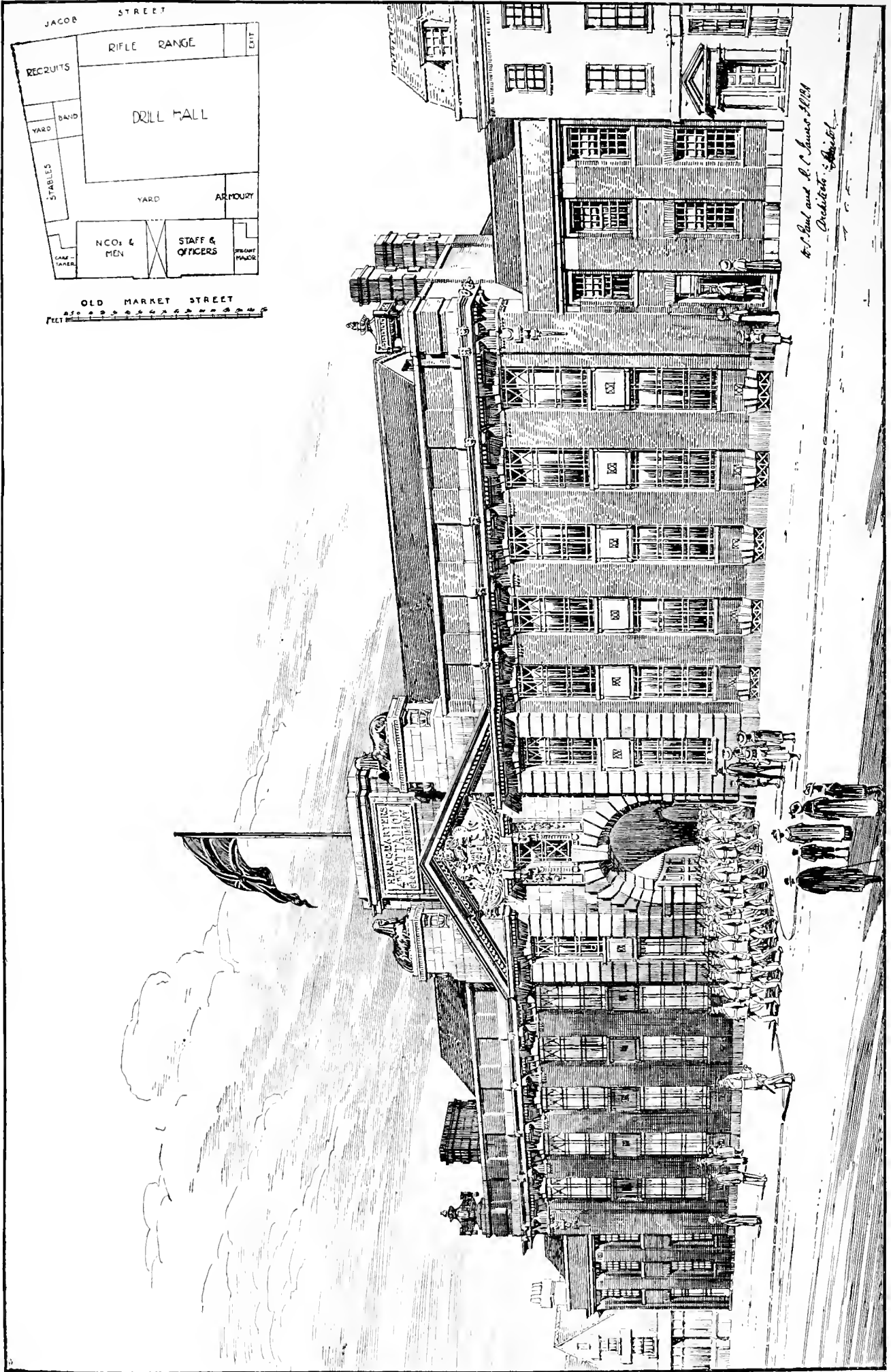
PUREY-CUST
NURSING-HOME
YORK
Walter H. Brierley, J.S. Archt



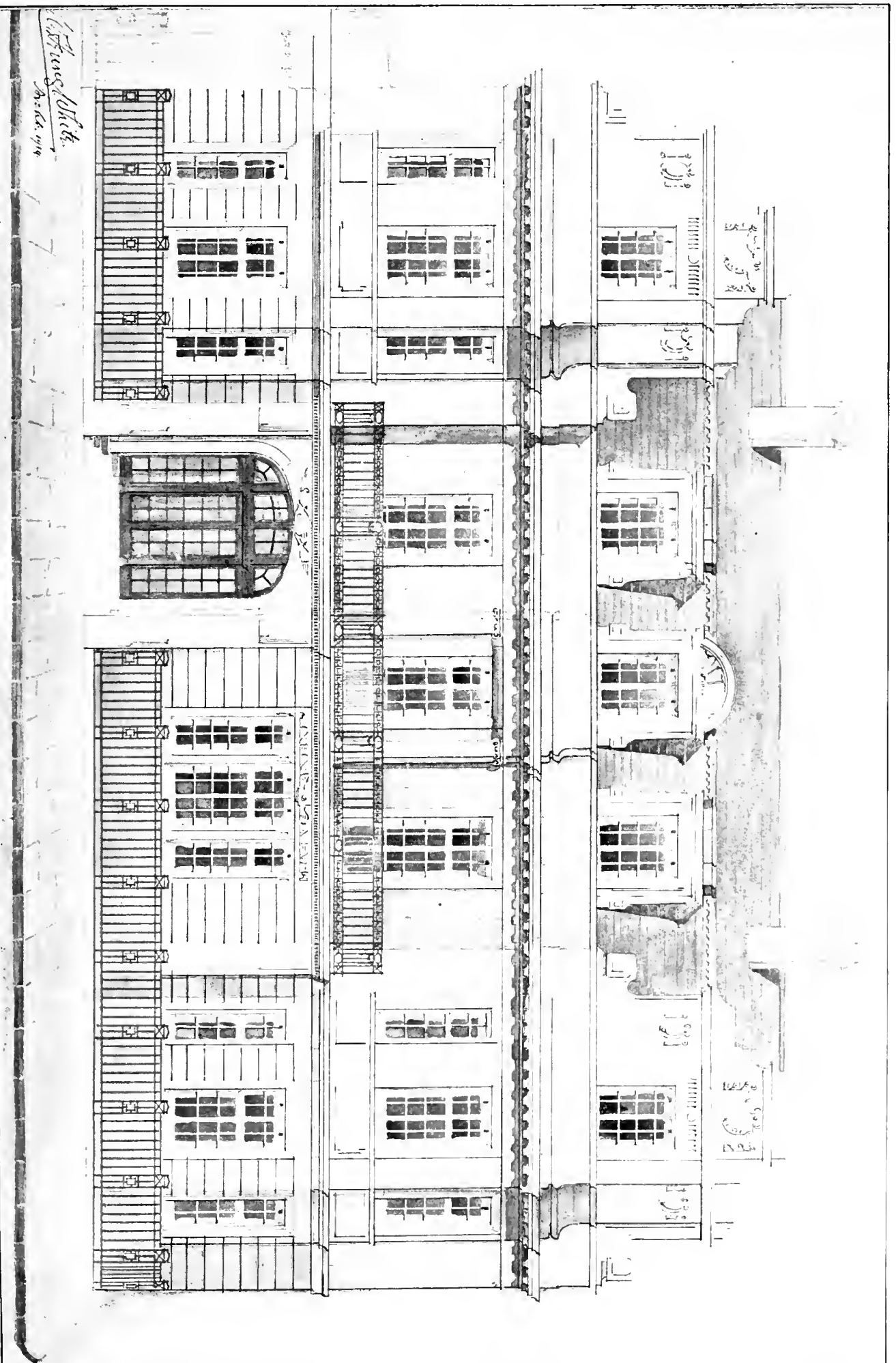


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HEADQUARTERS, IVTH BATTALION GLOSTER REGIMENT, BRISTOL.—Messrs. WALTER S. PAUL and R. C. JAMES, F.R.I.B.A., Architects.



No. 111. MANSFIELD STREET, CAVENDISH SQUARE, LONDON, W.—MR. W. HENRY WHITE, F.R.I.B.A., ARCHITECT.



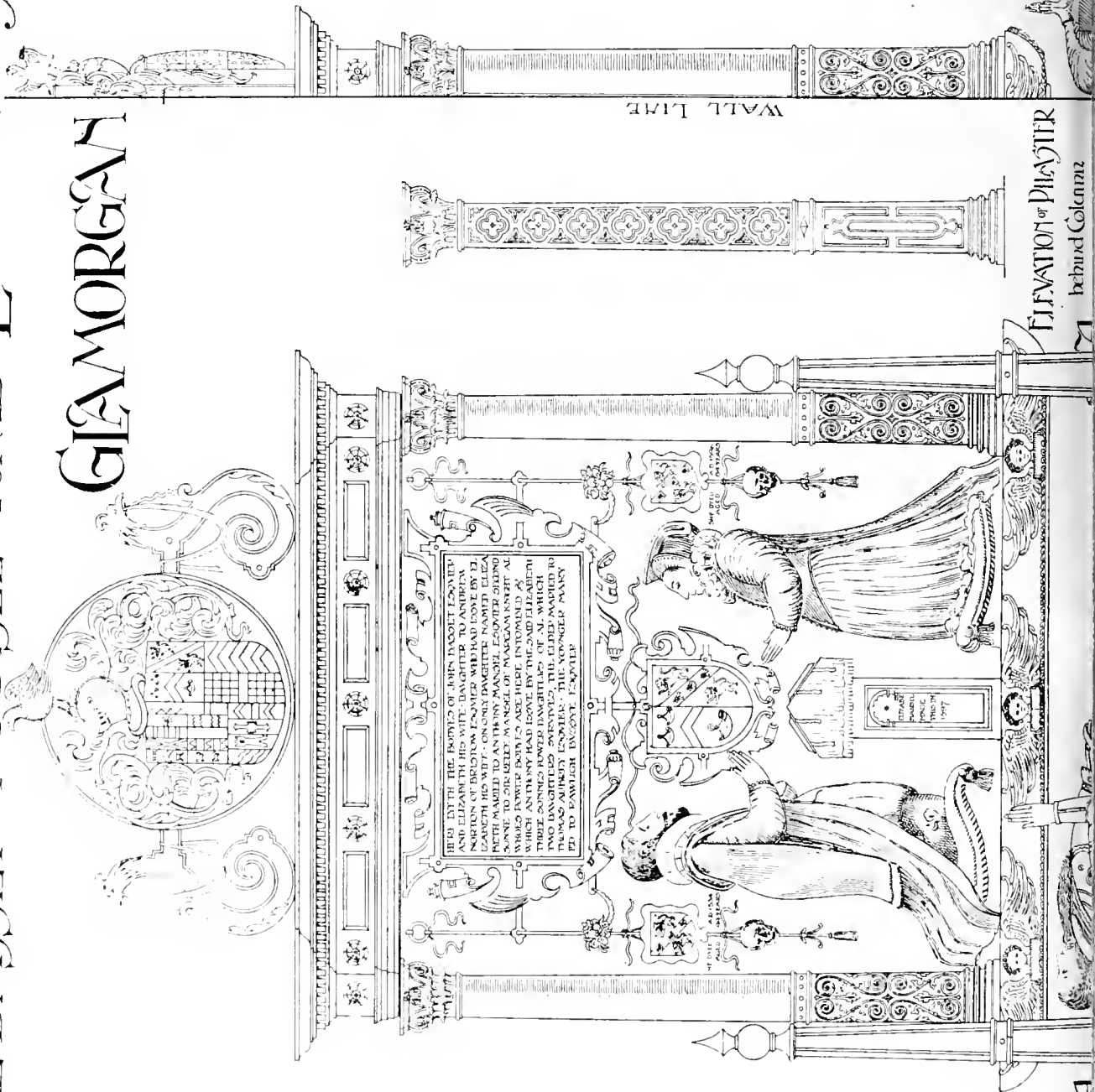
44?-446.



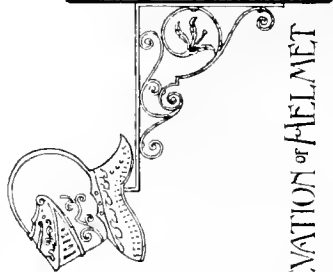
THE BASSETT AND MANDEL TOMB LANTRITHAYD CAWRCHA GLAMORGAN

The Tomb is executed in stone and is picked out in colour and relieved with gold

The design is attributed to Richard Twiss a native of Glamorganshire. The Tomb was erected in the year 1597



THIS IS THE TOMB OF JOHN BASSETT ESQUIRE AND ELIZABETH HIS WIFE: DAUGHTER TO ANDREW NORTON OF BRISTOL ESQUIRE WHO HAD LOVE BY ELIZABETH HIS WIFE: ON ONLY DAUGHTER NAMED ELIZABETH MARRIED TO AN IRISH MANDEL ESQUIRE SECOND SONS TO SIR JAMES MANDEL OF MANEGAN KNIGHT ALIENOR DAUGHTER OF SIR JOHN MANDEL OF MANEGAN WHICH ANTIQUARY HAD DONE BY THE SAID ELIZABETH THREE SONS: FIFTEEN DAUGHTERS: OF ALL WHICH TWO DAUGHTERS SPOUSE, THE ELDEST MARRIED TO THOMAS ALDRICH ESQUIRE: THE YOUNGEST MARRIED TO PARVILLE DE LA VILLE ESQUIRE



ELEVATION OF HELMET and WALL BRACKET

WALL LINE

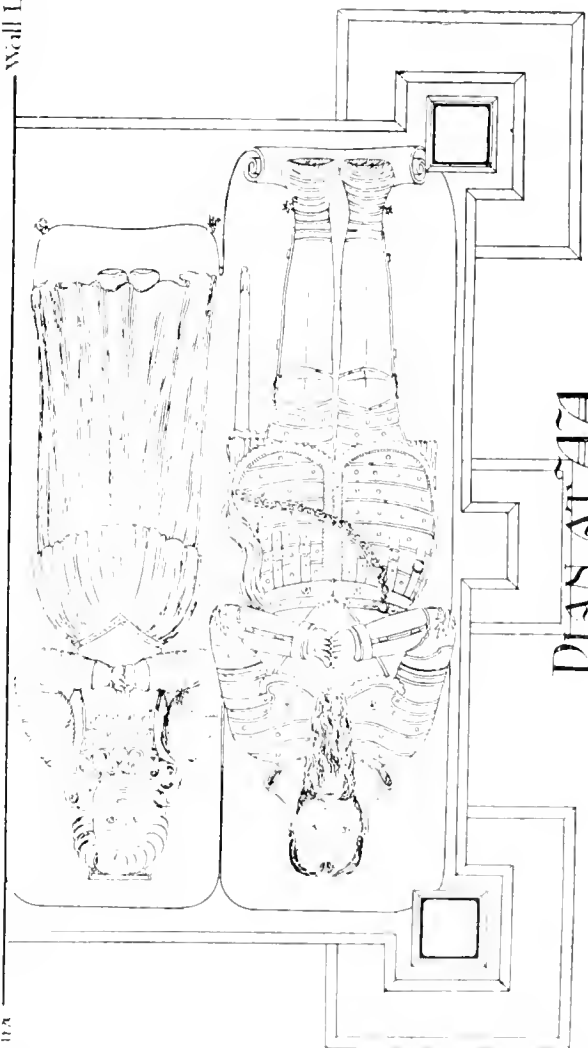
ELEVATION of PLASTER behind Colonnade



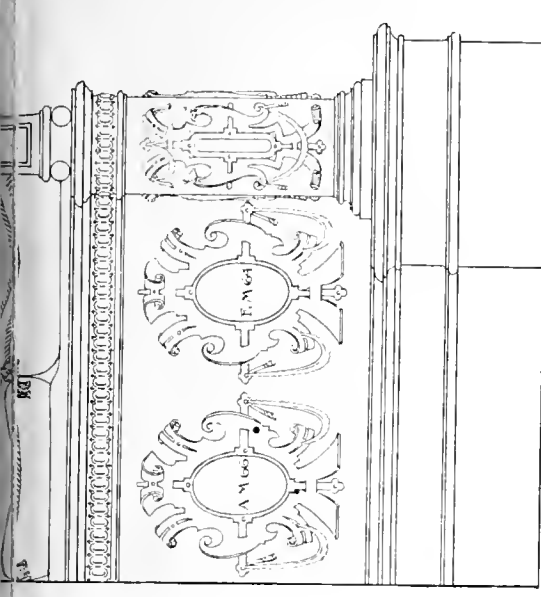
FRONT ELEVATION

Inches 12 6 0 1 2 3 4 5 6 Feet

Wall Line Wall Linc

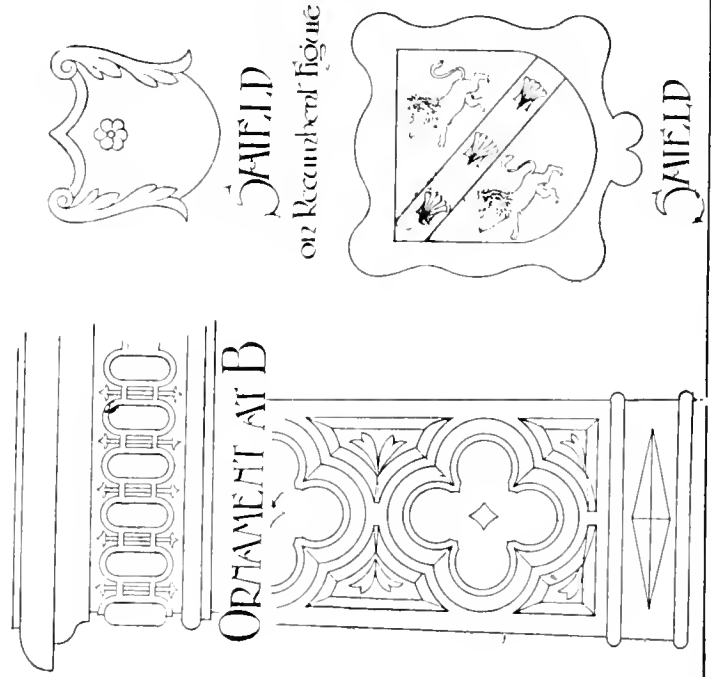


PLAN AT AAA



SIDE ELEVATION

Inches 12 6 0 1 2 3 4 5 6 Feet

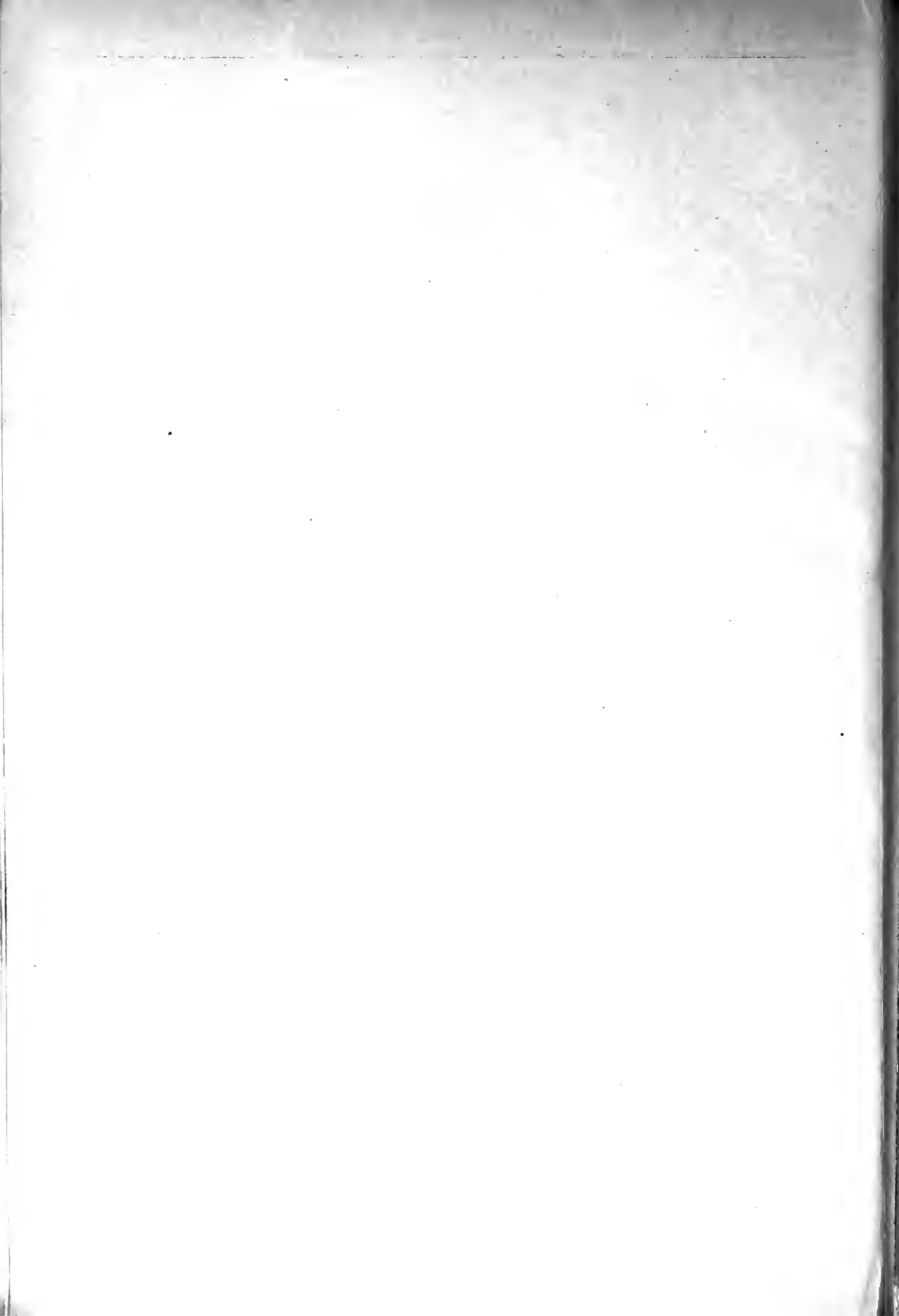


ORNAMENT AT B

SHIELD

on Recumbent figure

SHIELD



Engineering Notes.

CHESTER-LE-STREET AND LUMLEY.—A new highway bridge has been erected across the river Wear at the north end of Ropery-lane, Chester-le-Street, near Lumley Castle. The bridge has a length of 150ft., and is composed of two spans. The abutments and centre pier are constructed of rock-faced ashlar, with pillars and parapets of dressed stone. The foundations are of concrete, resting upon pitch-pine piles which have been driven to a maximum depth of 40ft. The main and cross-girders are of steel, and the roadways are carried on pressed-steel troughing. The main girders are of the lattice type, and form the parapet at each side of the bridge, their height being 4ft. above the surface of the road. The carriageway is of tar macadam, and the footpaths of asphalt. The bridge has been erected by the Chester-le-Street Rural and Urban District Councils, and has been designed by Messrs. D. Balfour and Son, civil engineers, of Newcastle-on-Tyne. The contractors are Messrs. Brims and Co., of Newcastle-on-Tyne, having as sub-contractors Messrs. Head, Wrightson, and Co., of Stockton-on-Tees, for the steel work. The resident engineer is Mr. E. W. Broadbelt.

WALLSEND.—A new graving-dock, constructed for Messrs. Swan, Hunter, Wigham Richardson, and Co., Wallsend, was opened on Thursday in last week. The dock, which was constructed by Messrs. R. McAlpine and Son, of Blackwall, E., who also built the large Hebburn graving dock, is 495ft. long, 70ft. in width, and has a depth of 24ft. at the sill. The dock-gates were made by Messrs. Swan, Hunter, and Wigham Richardson. The dock has been completed in about eighteen months. During the same time Messrs. McAlpine have lengthened the adjacent dock by 25ft., which makes a total length of over 500ft. The officials who supervised the work are Mr. J. Conacher, C.E., agent for Messrs. McAlpine; Mr. D. McKenzie, manager, and Mr. E. M. James, C.E., engineer for Messrs. McAlpine; Mr. T. Hanning, M.I.C.E., Newcastle, consulting engineer, and Mr. Woodger, resident engineer.

A new council school at Bentley Toll Bar, near Doncaster, has been formally opened. The builders were Messrs. W. Thornton and Son, of Rotherham.

The partnership hitherto subsisting between E. Davies and J. Jones, builders and contractors, at Manningham, Bradford, under the style of Davies and Jones, has been dissolved.

The Tendring Rural District Council have instructed Messrs. Taylor and Wallin, civil engineers, of Newcastle-on-Tyne and London, to report upon the drainage of the parish of Thorpe-le-Soken.

The corporation of Stoke-on-Trent have appointed Mr. W. Langford as chief engineer and manager of the corporation gas undertakings, at the salary of £700. Mr Robert Surtees has been appointed deputy gas engineer, to be resident at the Barslem Works.

An inquiry was held at the Council House, Birmingham, on Tuesday, by Mr. R. H. Backnell on behalf of the Local Government Board, into an application by the city council for sanction to the borrowing of £1,818 to purchase the Woodville estate for the extension of Selly Park Recreation Ground.

The corporation of Southampton discussed at great length at their last meeting the proposition of a special committee that steps should be taken in the next session of Parliament to obtain powers to appropriate two acres of the West Marlands as a site for a new town hall and municipal offices. Eventually it was decided by 29 votes to 10 to defer action in the matter for twelve months.

Mr. R. H. Forster writes that the excavations at the Roman station at Edridge-on-Tyne have this week been closed for the winter. The results obtained this season, though they include practically nothing of architectural interest, appear to be of considerable importance in their bearing on the history and topography of the Roman town, and the finds of pottery and other small articles have been above the average.

Building Intelligence.

PRUDHOE.—The Northern Counties Joint Poor Law Committee, at their September meeting, held at the Newcastle Union Offices, appointed Messrs. J. H. Morton and J. G. Barrell, of South Shields, Durham, and Newcastle-upon-Tyne, as joint architects, to carry out the buildings for the new Feeble-minded Colony to be erected at Prudhoe Hall.

WALLSEND. The new secondary school and technical institute which has been erected on a site at Church Bank, Wallsend, by the Northumberland County Council, was formally opened on Friday. The building is in the English Renaissance style, and brick, with stone and terracotta facings, has been used throughout. The site is about three acres in extent. On the ground floor there are eight classrooms, assembly-hall, gymnasium, and domestic science and mechanical departments, with a boiler-house adjoining. On the first floor there are chemical and physical laboratories with adjacent lecture-rooms. The second floor is occupied by art and mechanical drawing-rooms, with rooms for the staff and the offices. In a separate block there are dining-rooms for the students, manual instruction rooms, and caretaker's house. There is accommodation for 280 students, and the building will also be used for evening-class instruction purposes. The lighting is by gas, and the building is heated by hot water on the low-pressure system. The contractor was Mr. J. Douglas, of Newcastle, and Mr. M. G. Martinson, architect to the Northumberland education committee, has superintended the work.

The Polytechnic in William-street, Woolwich, is about to be enlarged at a cost of about £26,000.

Mr. P. B. Conway has been appointed by the Mayo County Council assistant county surveyor for the rural districts of Belmullet and Killala.

The Local Government Board have approved the scheme of the Bournemouth Corporation to build a pavilion on the Belle Vue site on the sea-front at a cost of £60,000.

An inquiry was held at Turton on Wednesday by Mr. T. C. Ekin, an inspector under the Local Government Board, for leave to borrow £3,570 for extensions of electricity works.

The urban district council of Port-lade, Sussex, have obtained the sanction of the Local Government Board to the borrowing of £3,300 for works of surface-water drainage.

The Local Government Board has informed the Rhyl Urban District Council that their recent application for a loan of £4,000 for the new amphitheatre will be at once dealt with, and an inquiry held.

The Stoke-on-Trent Corporation have instructed Mr. J. E. Wilcox, M.I.C.E., of Birmingham, to report upon the schemes for sewerage which have been prepared by their borough sewage engineer, at an inclusive fee of £100.

Mr. Harry Burton, of Enfield timber merchant, creosoter, and paving-block manufacturer, a partner in the firm of Messrs. Thomas Gabriel and Sons and Burton, who died recently, at the age of 67, has left estate of the value of £21,808.

In the Council Chamber, Edinburgh, on Friday, Lord Provost Inches presented to the corporation a large panel painting which he had commissioned Mr. Robert Burns to execute, the picture representing John Knox preaching in St. Giles's Cathedral to a congregation comprising Mary Queen of Scots and other noble personages. By the addition of this painting, which is placed to the left of the choir, the filling-in of the panels of the Council Chamber has been completed.

An inquest as to the death of Mr. John Reed Boddy, aged 35 years, a quantity surveyor, of Norwich, employed at Messrs. Boulton and Paul's of that city was held at Durham Infirmary on Wednesday week. Deceased—a son of Mr. Anthony David Boddy, builder and contractor, Potter Gate-street, Norwich—was engaged on a contract for his firm at Barnard Castle, Co. Durham, and met his death by his motor cycle colliding with a motor-wagon. A verdict of "Accidental death" was returned by the jury.

COMPETITIONS.

CHAPEL-EN-LE-FRITH, STOCKPORT.—The district council's housing competition at Chapel-en-le-Grith has been settled. Sixty-one designs were sent in. The closing day was July 24, and the award has just been made. The premiums were £10 10s., £5 5s., and £2 2s. The successful architects were as follows:—First, Mr. Charles Flint, M.S.A., 5, The Quadrant, Buxton; second, Mr. George E. Garlick, Buxton; third, Mr. Sidney Walton, 49, King-street, Manchester. Only the unpromised drawings will be returned to the competitors. The authors had to state their fees, which had to be inclusive. The cottages were to be designed in blocks of four, each house to contain living-room (175ft. super.), scullery, larder, coal-place, w.c., provision for bath, and three bedrooms. Height of rooms, 8ft. 6in. Materials for exposed situation. The council do not undertake to build any of the designs submitted.

NORTHAMPTON WATERWORKS COMMITTEE COMPETITION FOR WORKMEN'S DWELLINGS, HOLLOWELL.—Members and Licentiatees of the Royal Institute of British Architects 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.

WALTON HALL ESTATE, LIVERPOOL.—The parks and gardens committee of the Liverpool Corporation, under the chairmanship of Alderman Grant, considered on Monday the award of Mr. Henry Hartley, F.R.I.B.A., of Harrington-street, Liverpool, upon the twenty-two sets of plans received for the laying-out of the Walton Hall estate, recently acquired by the corporation. The estate adjoins the Queen's-drive and the Walton Hall-avenue, and is to be laid out at an estimated cost of £40,000. Three premiums were offered—namely, 100, 50, and 25 guineas respectively—and Mr. Hartley's adjudication was as follows: (1) Messrs. Harold Charlton Bradshaw (winner of last year's Prix de Rome) and George B. Rowlands, 30, Heathfield road, Liverpool; (2) Messrs. Harry Pierce, James B. Walker and W. L. Dolman of Windermere; and (3) Messrs. E. Prentice Mawson and J. Ratcliffe Mawson, of Lancaster. The committee unanimously approved of the design of Messrs. Bradshaw and Rowlands. According to this more than half the land will be devoted to football, cricket, lawn tennis and putting greens; but in addition there will be a large terrace 25ft. higher than the remainder of the park, lakes for model yachts and boating, bowling greens, and children's gymnasium. The premiated plans are to be exhibited for public inspection.

Mr. George James Crosbie Dawson, of May Place, Newcastle-under-Lyme, engineer to the North Staffordshire Railway Company, who died on June 14 last, left £20,015 gross.

A contract for twenty-seven open-lattice type girder bridges of various dimensions, ranging up to maximum lengths of forty-five metres, required in connection with the extension of the northern section of the Royal Siamese State Railways, has been awarded the Cleveland Bridge and Engineering Company, Darlington.

The health committee of the Southend-on-Sea Town Council have adopted the report of a sub-committee recommending that designs be invited in competition from local architects for houses for the working classes on corporation land available for the purpose in Ruskyn-avenue, the premiums not to exceed in the aggregate £25.

The Burns statue which Provost Bayne has presented to the borough of Sirling, was unveiled by Miss Bayne on Friday. The statue, which is situated near the east of the Corn Exchange, road is the work of Mr. A. H. H. Lye, London. The figure is of bronze, and represents Burns in a standing attitude. On the pedestal, which is of grey Aberdeen granite, bronze panels are inserted representing Burns at the Plough, "The Cotter's Saturday Night" and "The Guiding Star." The figure on top of the pedestal bears the inscription: "Then gently scan your brother man, still gentler sister woman."

PROFESSIONAL AND TRADE SOCIETIES.

GLASGOW.—The nineteenth session of the Glasgow Royal Technical College Architectural Society was inaugurated on Friday last, when the president, Mr. Alexander Davidson, Licentiate R.I.B.A., delivered an address, taking as his subject the word "Duty." The true relations which should exist between the architect, surveyor, and contractor upon a work in process of execution were traced, and the axiom was applied to the society with regard to the hearing and debating on the several papers throughout the session. An interesting discussion followed.

THE ST. PAUL'S ECCLESIOLOGICAL SOCIETY.—The following are the arrangements for the meetings for the winter session, 1914-15, of this society, to be held at the Chapter-house, St. Paul's, E.C., at 8 p.m. on the following Wednesdays:—Oct. 14, Mr. G. J. B. Fox, "Wing Church, Bucks"; Oct. 28, Mr. E. W. Harvey Piper, "A Mercian Minster and its Memorials"; Nov. 11, Mr. Walter E. Gawthrop, F.S.A., Scot., "The Romance of Ancient Brasses"; Nov. 25, Mr. W. H. Aymer Vallance, F.S.A., "Parish Church Screens"; Dec. 9, Mr. Mervyn E. Macartney, F.R.I.B.A., F.S.A. (Surveyor to St. Paul's Cathedral), "The Design and Building of St. Paul's Cathedral." All the above lectures will be illustrated by lantern-slides. It is proposed to devote an evening next January to an exhibition of ecclesiological objects.

The final plans for the new Great South Road, which is to be constructed from Manchester to Cheadle, have been approved. The new road will cost £198,728.

Mr. F. O. Stanford, an inspector under the Local Government Board, held an inquiry at Macclesfield on Tuesday concerning an application from the corporation for sanction to borrow £9,874 for works of sewage-disposal.

There was no opposition at the Local Government Board inquiry respecting Bath Corporation's application to borrow £18,000 for the purchase of the leasehold interest in the Grand Hotel, which will be opened by a syndicate.

A stained-glass window, presented to the Abbey Parish Church, Arbroath, by Mrs. Traill, was dedicated on Sunday. The subject is the suffering Saviour and the ultimate victory of His faith. The colour scheme consists of deep tones of blue and ruby, relieved by white. The window has been designed by Mr. J. Ballantine, Edinburgh.

The formal opening of new county council schools at Halmereend near Andley, Staffs, took place last week. The cost has been £4,000. The new building has accommodation for 270 scholars in the mixed department, with a cookery- and laundry-room attached. The old premises have been converted into an infants' school and for junior standards, and provide accommodation for 190 scholars.

An imposing block of offices and showrooms for the film trade, with projecting-rooms—which may be hired temporarily—is to be erected on the site of Nos. 57-58, Fifth-street, Shaftesbury-avenue, W., to be called "Kinema House." The architects for the building are Messrs. Pelham, Palgrave and Co., Bloomsbury-square, W.C. The quantity surveyor is Mr. Harry Pollard, F.S.I. The work is to be pushed on with all speed.

The British Fire Prevention Committee, which provides fire inspectors and fire patrols for public establishments and emergency hospitals in different parts of the country, requires additional architects, surveyors, and insurance officials for occasional service as honorary fire-surveyors, and retired firemen as paid fire-patrols. Applications should be made in writing to the Registrar of the Special Fire Service Force, 8, Waterloo-place, London, S.W.

The Exhibition of Modern Spanish Art at the Grafton Galleries will be opened by the Spanish Ambassador to-day (Friday), October 2. The entire proceeds will go to the National Relief Fund. Among the promises of pictures are those of Palmaroli's "Concert," Zuloaga's "Two Spanish Gossips" and "Portrait of My Father," Fortuny's "Rocky Landscape," Luiz Jimenez's "Tailor's Shop" and "Engaged Couple" as well as works by Pablo de Bejar, B. Murrillo and Morena Carbonera.

Correspondence.

A.A. WAR SERVICE BUREAU: COMFORTS FOR ARCHITECTS ON SERVICE.

To the Editor of the BUILDING NEWS.

SIR.—I feel sure that architects will be interested to know that some 150 members of the Architectural Association, including the President of the A.A., are now serving in the Army and the Territorials. Several instances have come to my notice of unnecessary hardships, owing to the lack of simple comforts. It has been suggested by some of the men themselves that the Association might act as a central body to look after, as far as possible, the interests of the A.A. men and their friends serving with the Colours either at home or abroad.

For this purpose a small sub-committee has been formed which is in touch with the various units, to find out their immediate wants. I attach below a list of the articles that are now most wanted, and I earnestly ask for assistance. All offers of help and gifts in money and kind should be addressed to me at the offices of the Association, 18, Tufton-street, Westminster, S.W., and I shall be very glad to give any further information to inquiries sent to me at that address.

List of articles required: Blankets, belts (knitted or woven), sleeping helmets, flannel shirts, socks, towels, soap, tobacco, cigarettes, papers (daily and weekly), magazines.—I am, etc.,

DOROTHEA M. WEBB.

THE GERMAN SINS AGAINST ART AND HISTORY.

SIR.—There are two ways in which the R.I.B.A. can help us all to relieve our feelings over these atrocious German doings against the great and beautiful landmarks of European architecture. The Council of that body might be asked to address a protest to the central body of German architects of a kind to duly express the indignation of British architects. A request might well come from your office, in combination with the many others who might send their names to you. Please give me an opportunity to join in such application to the R.I.B.A. Council.

Another way would be based on the persistence with which German commercial travellers have for a long time past thrust German constructions, fittings, and contrivances before the attention of the architects of this country. We can easily say now, "Send them to the rightabout and keep them off," so that British enterprise can get its own better chances. But no matter how truly the spirit may be willing to do that, there are difficulties. We all recognise that a German dodge is to let the wolf appear in sheep's clothing. The using of fine old British names—ancestral or commercial—has long been a perquisite of German trading firms in England, and they are cunning enough to use all their wits and a good deal of German capital to back up their methods. I have an instance of this before me as I write (in another way):

A picture palace with a British title, where the English, French, and Russian flags are entwined over the front; where most of the show is almost rabidly loyal, even to extravagant condemnations of German war tactics. But every penny of the profits—bigger than ever during the war—goes into the pockets of shareholders who, I know, are exclusively Germans!

In such ways it is purposely made difficult for us to recognise (in peace) what is German. Therefore, I am asking for guidance in my determination to avoid even the suspicion of being "had" by these German methods any more. Many a British architect is, I am certain, similarly impelled, and I want to join in a further representation to our actual Institute of "British" Architects, asking that one of its committees should sit down and carefully study this

matter of German or British names of firms which supply building materials and requisites, with a view to issuing a list of them to our profession.

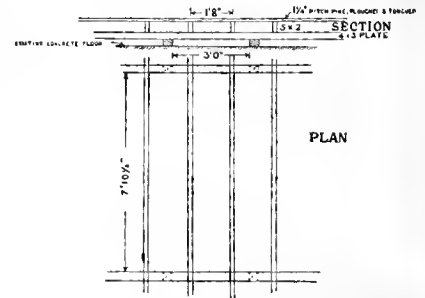
It is high time such a step were taken, and that the "British" Institute should be asked to do it. I would like to do something myself, directly, in this way of practically protesting; but I think a movement ought to emanate from the leaders of our profession in London.—I am, etc.,

A PROVINCIAL F.R.I.B.A. OF MANY YEARS PAST.

ELASTICITY OF FLOORS.

SIR.—Will some of your readers kindly say if they consider the following proposal to give elasticity to a floor of a public hall is likely to be successful and satisfactory?

Boarding 1½ in. pitch-pine, ploughed and tongued; joists, 5 in. by 2 in., placed 1 ft. 8 in. centre to centre; 4 in. by 3 in. plates, 7 ft. 10 in. apart, supported only at intervals of 3 ft. The above floor would be on the



ground-floor level, and the 4 in. by 3 in. plates laid 3 in. above an existing concrete floor.

It is true that, according to the formula of

$$W = \frac{c b d^2}{L}$$

(with value of $C \frac{1}{4}$ for safe load)

the joists will only carry .82 per foot super., instead of 1½ cwt., as is usually required for a public building, and the plates will only carry .84 cwt. per foot super., yet in practice it is claimed that the above floor will be quite strong enough.—I am, etc., B.

The Glamorgan County Council have unanimously appointed Mr. C. P. McBean, of Abergavenny, to the position of chief road inspector.

All German members of the International Society of Sculptors, Painters, and Gravers have been suspended by special resolution of the Council.

The Royal Drawing Society's annual scholarship has been awarded to Miss Alice Herrd. The Society examined 61,000 pupils this year from schools spread all over the Empire.

The forty-fourth annual exhibition of the Walker Art Gallery, Liverpool, will be opened by the Lord Mayor to-morrow (Saturday). The "one-man room" will be filled with paintings by Mr. Arthur Hacker, R.A.

At Blackburn, Mr. W. O. E. Meade-King, Local Government Board inspector, has inquired into the application of the corporation for sanction to borrow £31,600 for the erection of a fire-station and firemen's dwellings. There was no opposition to the application.

Mr. Raymond Unwin, F.R.I.B.A., the expert adviser of the Admiralty in regard to Dunfermline Town Council's scheme for the town-planning of the Rosyth area, has visited Dunfermline for the purpose of adjusting minor details as between the Admiralty and the council in connection with the project, which in due course will be presented for approval to the Local Government Board for Scotland.

The timber-yards and sawmills of Messrs. Maggs and Son, Bristol, extending between Picton-street (off Stokes Croft) to Wellington-lane, and covering about three-quarters of an acre, were destroyed by fire on Friday night. The premises included workshops, a sawmill, an engine-house, and stables, and a good deal of timber had only recently been brought on the premises. The firm are fortunate in having a second yard at the top of Stokes Croft, next to the Stores, where business can be continued as usual.

STATUES, MEMORIALS, &c.

BRISTOL.—The Dean and Chapter of Bristol Cathedral have been able, with the aid of a bequest by the late Mr. Sturge, to replace in the Abbey Gate House adjoining the Cathedral four life-size figures, which were removed about a hundred years ago, owing to their crumbling and unsafe condition. The statues are being placed in niches on the side of the Abbey Gate House, facing Lower College Green. They are life-size figures in Portland stone, and represent four church dignitaries who were associated with the old Abbey or the Cathedral. The two lower ones, not yet in position, represent Abbots Newland and Elyot, and the two upper ones, which were fixed on Saturday, Abbots Knowle and Snow. It was Edmund Knowle, who in 1306, on being elected Abbot, commenced the rebuilding of the entire church, and he holds in his hands a model of his work. From 1332 to 1341 the work was continued by John Snow, the first mitred Abbot, who was also concerned in obtaining the charter, so he is represented with a scroll to which a seal is attached. Abbot Elyot built the Tudor building on top of the Norman arch, and he is holding a model of his work. Abbot Newland wrote the chronicle of the Berkeley family, and his literary work is indicated by a book. The sculpture has been executed by Mr. Charles Pibworth, a Bristolian, who carried out the figures in the panels of the Central Library close by.

LICHFIELD CATHEDRAL.—A new sedilia, with which has been incorporated the Bishop Legge memorial, was dedicated at Lichfield Cathedral on Tuesday. As a Bishop Legge memorial, an episcopal seat has been erected on the north side of the sacristy by the Dean and Chapter in connection with the restoration of the ancient sedilia. A portrait of the late bishop, to be executed by the Hon. John Collier, will be added to the collection of portraits of former occupants of the see now in the large hall of the palace. About the middle of the 19th century six of the canopies of the old Lady-chapel screen were repaired and adapted for sedilia on the south side of the sanctuary. Behind them Dean Howard's monument was placed in the south-choir aisle in 1869, and three more of the canopies were placed over the effigy. The remains of the rest were stored in the stone sheds, and it is from these that the new sedilia on the north side of the sanctuary have been provided. The scheme has involved the removal of Bishop Lonsdale's monument from the sanctuary floor to the choir-aisle floor immediately behind the sedilia. In this new position it corresponds with the situation of Dean Howard's monument in the south-choir aisle, and it is treated now in the same manner as that, with canopies from the old Lady-chapel screen above it on the back wall of the sedilia. The arrangement of the sedilia is not in a straight row, as on the south side, but in three groups, divided by strips of the old screen-work, such as appear on either side of the canopies above Dean Howard's monument, each carrying statuettes. In the centre there is a seat for the bishop, flanked by two lower seats for his chaplains; while at the east end there is a seat for the dean, and at the west one for the canon-in-residence.

The Billerica Board of Guardians have adopted plans by Mr. H. R. Bird for alterations and improvements to the workhouse estimated to cost £4,830.

A Roman Catholic church is in course of erection at Straide, Co. Mayo, as a memorial to the late Michael Davitt, M.P. Messrs. W. H. Byrne and Son, of Dublin, are the architects.

At Saturday's meeting of the Middle War District Committee of Lanark County Council a strong protest was made against the proposed demolition of the house at Low Blantyre which is generally believed to be the birthplace of David Livingstone.

At the Cardiff Chamber of Commerce, on Friday, the Welsh philanthropist and coal-owner, Sir Wm. James Thomas, of the Rhondda, was presented by South Wales commercial leaders with a bronze bust of himself, modelled by Sir William Goscombe John, R.A. The bust will be placed in the King Edward VII. Hospital, Cardiff.

The new schools erected by the Smethwick Education Committee on the Smethwick Hall estate were opened by the mayor on Monday. The schools provide accommodation for 350 boys, 350 girls, and 500 juniors, all on the ground floor. A room for the instruction of forty boys in manual work is arranged under three of the boys' classrooms, and a children's dining room in the basement under the assembly-hall. The schools have cost about £16,000.

LEGAL INTELLIGENCE.

IN RE C. TOWN AND SON, MINSTER.—At Rochester Bankruptcy Court, on Monday, Charles Douglas Town, who had traded as "Charles Town and Son," builders, at Wyvenhoe, Parsonage Chase, Minster in Sheppey, was examined as to his affairs. Debtor, who attributed his failure to losses on contracts, said he lost about £100 on two cottages he built for his sister, Mrs. Bailey, with whom he had litigation, and about £20 each on seven houses he built for Mr. W. N. Rule at St. George's road, Sheerness. He abandoned another contract for £238, owing to a dispute with the architects, and afterwards had a claim for £248 made upon him for finishing the work. £20 were knocked off for overcharges for material, and he consented to judgment for £228, having previously been paid £60 on account; £100-worth of work he had done before relinquishing the contract. His debts were now scheduled at £738 18s. 5d., and of this amount £502 11s. 6d. was unsecured. The deficiency was estimated at £372 16s. 6d. Debtor was allowed to pass.

The Abergavenny Board of Guardians have resolved that local architects be invited to send in competitive plans for a new workhouse to cost £20,000.

The private view of the Royal Glasgow Institute will be held to-day (Friday) in the Galleries, 270, Sauchiehall-street, and that of the Brighton Autumn Exhibition to-morrow.

The new grammar-school at Spilsby was opened last week. It has been built from plans by Messrs. Scorer and Gamble, of Lincoln, the contractors being Messrs. Pinder and Sons, of Boston, Lines.

At Stourbridge a Local Government Board inquiry was held on Tuesday by Mr. R. H. Bicknell respecting an application from the urban district council for leave to borrow £8,508 for the purchase of Stedley Court estate for use as a public park.

The governors of the Southampton Endowed Schools have approved detailed plans of the new Tamton School as submitted by their architect, Mr. A. F. Gutteridge, of Southampton, and have made arrangements for pulling down the house now on the site.

Mr. R. Stevenson Henshaw, surveyor and water engineer to the Portland Urban District Council, has been appointed surveyor to the Wellingborough Urban District Council in succession to Mr. E. Young Harrison, who has resigned to take up another appointment.

Mr. M. K. North, a Local Government Board inspector, held an inquiry at the town hall, Bradford, on Tuesday, with regard to the corporation's application to borrow £2,500 and £5,000 respectively for recreation-grounds at Knowles-lane, Dudley hill, Legrams lane, and Northside-road, Lidget Green, and for bowling-grounds at Gillington and Eccleshill recreation-grounds.

The reopening of St. Catherine's Church, Hatcham, which was damaged by incendiary militant women, took place last (Thursday) evening. The Bishop of Woolwich officiated at the service. The architects for the reconstruction were Messrs. Stock, Page, and Stock, who designed the original edifice. Messrs. Higgin and Hill, Ltd., of Crown Works, South Lambeth, were the builders.

In consequence of complaints received from a number of residents of the sanitary condition of Meg Thatcher's Green, St. George, the improvement and sanitary committee of the Bristol City Council considered the question of a new system of drainage. The district comprises an area of about 45 acres, and it is proposed to construct a new sewer and branch, which will also provide for an adjoining estate which has been laid out for building purposes. The estimated cost will be £1,600. The committee's report was adopted by the city council at their meeting on Tuesday.

A Local Government Board inquiry as to the proposal of the Wallasey Town Council, under the Housing and Town-planning Act, with respect to undeveloped land in the borough, comprising an area of 266 acres, was held at the town-hall on Wednesday. The areas in respect to which it is being sought to impose restrictions include 24 acres owned by the New Brighton Tower and Recreation Company, Ltd., while it is intended to make provision for the extension of Dalton-road or Westmorland road, Liscard, to Magazine Brow, and thus to the Promenade; to widen Grove-road, Martin's lane, and Mill Lane, and also to provide for restrictions in case it is at any time sought to build upon various areas now used as nurseries.

Our Office Table.

The Council of the Junior Institution of Engineers have elected the Most Hon. the Marquess of Graham, D.L., C.B., C.V.O., as their President for the year 1914-15, in succession to Sir Boyerton Redwood, Bart., D.Sc., F.R.S.E. The Vickers Prize, consisting of a gold medal and premium of instruments or books, has been awarded to Mr. Jas. Richardson, B.Sc., Assoc.M.I.C.E., for his paper on "High-Power Diesel Engines: their Development for Marine Service." Mr. Richardson has also been fortunate enough in securing the Institution medal for the same paper. The other awards of this Institution have not yet been announced. It is interesting to note the excellent progress made with the local sections in Birmingham, Manchester, and Sheffield. The membership has been considerably increased during the year, and the committee of each section are arranging a full and interesting programme for the coming session.

Presiding on Wednesday at the annual general meeting of the Associated Portland Cement Manufacturers (1909), Mr. F. A. White pointed out that the accounts were satisfactory, although the profits were less than in the preceding year. Three important adverse influences had been in operation: the London building trades dispute, labour disputes in other parts of the United Kingdom, and a diminution in the export demand. Alike in our home and foreign trade, everything turned upon the course of the war. The command of the sea, so long as it was unchallengeable, was an immense factor in favour of British export trade. Counterbalancing ones were scarcity, or high cost (should such exist) of freight, and also of raw material, such as fuel and timber. So far as could now be seen, the board took a hopeful view of maintaining a steady, if a diminished, trade. These considerations justified the decision not to recommend a dividend on the ordinary shares. He inquired was there ever a time in which it was more incumbent on the directors of a large business, with considerable prior charges upon its revenue, to take a conservative course? Shareholders might ask whether they might look for a dividend in respect of 1913-14 at a later date, whether or no one was paid for the current year? Would they wish to receive as dividend money, which, though earned as profit, had proved necessary for capital purposes? He thought not. They were facing a shortage of output and sales as well as possible, and were not without hopes that, even through the war, their trade might develop in directions where the country's enemy had held sway. The report was adopted.

The Board of Trade have arranged for a Commission consisting of representatives of the Board of Trade, the Timber Trade Federation of the United Kingdom, and the Mining Association of Great Britain to proceed to Canada and Newfoundland in order to inquire into the possibility of opening up new sources of supplies of mining timber for use in the coalmines of Great Britain. Inquiries on the subject should be addressed to Mr. C. F. Rey, Board of Trade, Queen Anne's chambers, Westminster.

A collection of objects found at Uroonum has been arranged in four cases in the Birmingham Art Gallery by Mr. John Humphreys. Much glassware and pottery has been found during the season, all belonging to the four centuries during which the town seems to have been occupied. Some 528 coins have been discovered, of which 123 are prior to A.D. 69 and 306 subsequent to A.D. 117. The art of the 3rd and 4th centuries shows a marked decadence as compared with that of the 2nd century, which is represented by pottery beautifully adorned with leaves of ivy, vine, and horse chestnut, and finely glazed. The later specimens of pottery often resemble the coarsest types found at Pompeii. Among architectural features dis-

covered this year are the foundations of an amphitheatre. It lay to the north-west of the temple which was unearthed last year, and came down near to the Severn. Thus it was within the city walls, like the amphitheatre at Caerwent, not outside the walls, as at Silchester and Dorchester.

Canada is making a splendid gift of flour to the Mother Country. It has been decided that the sacks, when empty, should be sold as souvenirs at 5s. each. Two-thirds of this sum will be devoted to the Prince of Wales's National Relief Fund, and one-third to the Belgian Refugees' Fund. The sacks are all marked "Canada's Gift." Applications for the sacks as souvenirs, accompanied by a remittance of 5s., should be sent to the Hon. Secretaries, National Relief Fund, York House, St. James's Palace, London, S.W. Applications will be dealt with in strict rotation.

In his annual report on Crown lands, the President of the Board of Agriculture states that the land bought for small holdings and allotments up to March 31 last extended to 9,640 acres. Including 579 acres of small holdings on estates purchased in Lincoln, this represents an increase during 1913-14 of about 867 acres. The total area converted by the Crown into small holdings since the policy of encouraging their creation was inaugurated eight years ago is 7,788 acres. After deducting expenditure, the net income on the agricultural estates for the twelve months to March 31 amounted to £47,323. An aggregate of £9,427 was expended on buildings and equipment for small holdings.

The local taxation returns for borough councils and urban district councils in England and Wales for the year 1912-13 show that there were maintained by the councils of county boroughs in England and Wales public roads and streets of an aggregate length at the commencement of the year 1912-13 of 10,956 miles, and that the expenditure on the maintenance and repair of such roads and streets during the year amounted to £1,370,406. This represents an average cost of £136 per mile. The aggregate length of the roads maintained by the non-county boroughs in England and Wales 1,262 miles, and the expenditure on the maintenance and repair of these roads amounted to £307,359, being at the rate of £244 per mile. The total length at the commencement of the year of roads other than main roads maintained by the councils of non-county boroughs was 4,955 miles. The expenditure on the maintenance and repair of these roads during the year amounted to £547,031, and represented an average cost of £110 per mile. The average cost per mile of the maintenance and repair of public roads and streets maintained by the councils of boroughs in Wales was as follows:—County boroughs, £144; non-county boroughs—main roads £120, other roads £55.

For some years Mr. Percy Oakden, A.P.R.A.A., has been agitating for the formation of an architectural museum in Melbourne. Recently the trustees of the National Gallery in that city had to refuse, on the ground of lack of space, the request of the Royal Victorian Institute of Architects for a room in the building. On the completion of the new Public Library in the city the trustees have resolved, at the request of the University authorities in that State, to devote the whole of the first floor in the Swanston-street block for a museum. It will be arranged in three groups: (a) Materials (including Australian and imported timbers, stones used in building and decorative work, finished clay products, appliances of paints and varnishes and plasters), (b) models of construction, and (c) art exhibits (including account of architectural drawings).

Mr. William Dunbar, assistant burgh surveyor, Dunoon, has been appointed by Trant Town Council as burgh surveyor for that town.

The Local Government Board have sanctioned a loan of £16,000 to the corporation of Southend-on-Sea for resurfacing and improving the main road from Haulleigh to Bourne Green.

MEETINGS FOR THE ENSUING WEEK.

SATURDAY (To-morrow).—Institution of Municipal and County Engineers. East Midland District Meeting at Hinckley. "Eleven Years' Municipal Work at Hinckley," by E. H. Crump, engineer to Hinckley Urban District Council, and "By-Laws and the Housing Question," by W. H. Court, borough engineer's department, Leicester. 11.30 a.m.

MONDAY.—Introductory Lecture on "Medieval Buildings in Europe" at the Victoria and Albert Museum, by Banister F. Fletcher, F.R.I.B.A. 5 p.m. Society of Engineers. "Cylinder Bridge Foundations in the East," by A. Stewart Buckle. 7.30 p.m.

THURSDAY.—British Museum Lectures on Ancient Architecture by Banister F. Fletcher, F.R.I.B.A., "Egyptian Temples." 4.30 p.m.

FRIDAY (Oct. 9).—Junior Institution of Engineers. "The Barrier of Ignorance," by W. P. Durnall. 39, Victoria-street, S.W. 8 p.m. Glasgow Architectural Craftsmen's Society. "The Orders of Architecture," by Professor Charles Gourlay, B.Sc., A.R.I.B.A. 8 p.m.

Trade News.

WAGES MOVEMENTS.

DECREASE OF UNEMPLOYMENT.—The Board of Trade Report respecting unemployment states that throughout Great Britain, in the trades compulsorily insured against unemployment—viz., building, works of construction, engineering, shipbuilding, vehicle-making, and so on—the percentage of unemployment was 5.7, as compared with 5.8 a week earlier, and 6.2 a month ago.

Mr. George Parsons-Norman, of the Studio, St. Giles's, Norwich, the well-known delineator in water-colours of landscape in the Broads district, died at Gorleston on Sunday, aged 74 years.

At a conference of representatives from the riparian authorities connected with the River Stour, recently held in the town-hall, Colechester, a scheme prepared by Messrs. Johnson and Robins, civil engineers, of Boston, Lincolnshire, for the improvement of the river was adopted. The estimated outlay is about £63,882.

Matters in connection with the proposed new North Wales coast road are being pushed forward, and a description of the proposed route, together with various details, have now been issued. The road will start from near Gronant, at a point where the existing hillside road becomes tortuous and dangerous. It will take an entirely new line at the foot of the hill as far as Prestatyn, then proceed nearer the sea-coast until it reaches Rhyl on the boundary of the golf-links. The cost will be £26,000.

The fine church of St. Michael's, Newquay, built in 1909-11, from designs by Mr. G. H. Fellowes Prynne, F.R.I.B.A., at a cost of £12,000, has just been beautified by two stained-glass windows, the gift of Lady Molesworth St. Aubyn and the children of the late Mr. and Mrs. Muller. One window represents the appearance of the Angel Gabriel to the Priest Zacharias, in the Temple, at the time of the offering of incense. The second represents the Presentation of Christ in the Temple, Anna and the aged Simeon being conspicuous in the picture. These two windows are part of a scheme intended to portray the chief teachings in the acts and words of the Saviour. They have been designed by Mr. Dunstan J. Powell and executed by Messrs. Hardmann and Co., of Birmingham.

An inquiry was held in the Birkenhead Town Hall, on Tuesday, by Mr. G. W. Pepler, F.S.I., an inspector of the Local Government Board, into the corporation's first town-planning scheme for an area of agricultural land of about 166 acres lying between Storeton-road and Borough-road, and the land to the southward of Egerton Park as far as Dacre Hill. Mr. Spencer explained that land affected by the scheme was owned almost entirely by the Major Orred trustees. They had not included in the scheme an adjoining area owned by Sir William Lever because they had arrived at an agreement with Sir William in regard to laying out certain streets on town-planning lines. Evidence in support of the application was given by Mr. C. Brownridge, the borough surveyor. Mr. W. Drysdale, representing the Major Orred trustees, said they did not oppose the application; they hoped to co-operate with the corporation so far as their restricted powers would allow.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.		Per ton.	Per ton.
Rolled Steel Joists, English	.....	£7 10 0 to	£7 12 6
Wrought-Iron Girder Plates	.....	7 0 0 "	7 5 0
Steel Girder Plates	.....	7 2 6 "	8 2 6
Bar Iron, good Staffs	.....	6 5 0 "	8 10 0
Do., Lowmoor, Flat, Round, or Square	.....	9 2 0 0 "	0 0 0
Do., Welsh	.....	5 15 0 "	5 17
Boiler Plates, Iron—			
South Staffs	.....	8 0 0 "	8 15 0
Best Sneathill	.....	9 0 0 "	9 10 0
Angles 10s., Tees 20s. per ton extra.			
Builders' Hoop Iron, for bonding, &c., £8 15s. to £9.			
Ditto galvanised, £14 to £15 10s. per ton.			
Galvanised Corrugated Sheet Iron—			
No. 13 to 20.			
No. 22 to 24			
6ft. to 8ft. long, inclusive		Per ton.	Per ton.
gauge	.....	£13 0 0 "	£13 10 0
Best ditto	.....	13 0 0 "	14 0 0
Wire Nails (Pointe de Paris)—			
3 to 7	8 9 10 11 12 13 14 15	B.W.G.	
8/3 8/9 9/3 9/9 10/3 11- 11/9 12/6 13/6		per cwt.	
Cast-Iron Columns	.....	Per ton.	Per ton.
£6 17 6 to		£8 10 0	
Cast-Iron Stanchions	.....	6 17 6 "	8 0 0
Rolled-Iron Fencing Wire	.....	8 5 0 "	8 10 0
Rolled-Steel Fencing Wire	.....	7 5 0 "	7 10 0
Galvanised	.....	8 15 0 "	9 5 0
Cast-Iron Sash Weights	.....	5 10 0 "	5 15 0
Cut Floor Brads	.....	9 15 0 "	
Corrugated Iron, 24 gauge	.....	16 0 0 "	
Galvanised Wire Strand, 7 ply.	.....	14 5 0 "	
B.E. Drawn Telegraph Wire, Galvanised—			
0 to 8	9 10 11 12	B.W.G.	
£10 10s. £10 15s. £11 0s. £11 5s. £11 15s.		per ton	
Cast-Iron Socket Pipes—			
3in. diameter	.....	£6 2 6 to	£6 7 0
4in. to 6in.	.....	6 0 0 "	6 5 0
7in. to 24in. (all sizes)	.....	5 7 6 "	6 0 0
[Coated with composition, 5s. 0d. per ton extra—turned and bored joints, 5s. per ton extra.]			
Pig Iron—			
Cold Blast, Lilliehall	.....	10s. 0d. to	117s. 6d.
Hot Blast, ditto	.....	70s. 0d. "	75s. 0d.
Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—			
Gas-Tubes	.....	75 p.c.	
Water-Tubes	.....	71½ "	
Steam-Tubes	.....	67½ "	
Galvanised Gas-Tubes	.....	65 "	
Galvanised Water-Tubes	.....	61½ "	
Galvanised Steam-Tubes	.....	55 "	
OTHER METALS.			
Spelter, Silesian	.....	Per ton £21 5 0 to	£21
Lead Water Pipe, Town	.....	25 0 0 "	
Country	.....	25 15 0 "	
Lead Barrel Pipe, Town	.....	26 0 0 "	
Country	.....	26 15 0 "	
Lead Pipe, Tinned inside, Town	.....	27 0 0 "	
Country	.....	27 15 0 "	
Lead Pipe, Tinned inside and outside	.....	Town 29 10 0 "	
Country	.....	30 5 0 "	
Composition Gas-Pipe, Town	.....	28 0 0 "	
Country	.....	28 15 0 "	
Lead Soil-pipe (up to 4in.) Town	.....	28 0 0 "	
Country	.....	28 15 0 "	
[Over 4in. £1 per ton extra.]			
Lead, Common Brands	.....	17 17 6 "	18 12
Lead Shot, in 29lb. bags	.....	24 15 0 "	
Copper Sheets, sheathing & rods	.....	75 0 0 "	75 10
Copper, British Cake and Ingot	.....	64 0 0 "	65 0 0
Tin, English Ingots	.....	163 0 0 "	164 0 0
Do., Bars	.....	146 0 0 "	146 10 0
Pig Lead, in 10wt. Pigs (Town)	.....	22 0 0 "	
Sheet Lead, Town	.....	24 10 0 "	
Country	.....	25 5 0 "	
Genuine White Lead	.....	31 15 0 "	
Refined Red Lead	.....	32 0 0 "	
Sheet Zinc	.....	Price on inquiry.	
Old Lead, against account	.....	17 0 0 "	
Tin	.....	8 10 0 "	
Cut nails (per cwt. basis, ordinary brand)	.....	0 12 9 "	
SLATES.			
Blue Portmadoc	.....	in. in. 4 e. d. per 1,000 of	1,200 at r. str.
20 x 10	.....	12 12 6 "	
16 x 8	.....	6 12 6 "	
Blue Bangor	.....	20 x 10	13 2 6 "
" "	.....	20 x 12	13 17 6 "
First quality	.....	20 x 10	13 0 0 "
" "	.....	20 x 12	13 15 0 "
" "	.....	16 x 8	7 5 0 "
Eureka unfading			
green	.....	20 x 10	15 17 6 "
" "	.....	20 x 12	18 7 6 "
" "	.....	18 x 10	13 5 0 "
" "	.....	16 x 8	10 5 0 "
Permanent Green	.....	20 x 10	11 12 6 "
" "	.....	18 x 10	9 13 6 "
" "	.....	16 x 8	6 12 6 "

BRICKS. (All prices net.)

Table listing various brick types and prices, including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks, etc.

Net free on rail, or free on boat at works.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed brick types and prices, including White, Ivory, and Buff, Cream, and other colors.

MOULDING BRICKS.

Table listing moulding brick types and prices, including stretchers and headers in various sizes.

Stretchers cut for Closers and Nicked Double Headers, £1 per 1,000 extra.

Table listing prices for Thames Sand and Pit Sand.

Table listing prices for Best Portland Cement and Ground Blue Lias Lime.

Table listing prices for Grey Stone Lime and Stourbridge Fireclay.

STONE.

Table listing stone types and prices, including Red Mansfield, Darley Dale, Red Corshill, etc.

* All F.O.R. London.

Table listing Bath Stone, Portland Stone, and other stone types with prices per foot cube.

TILES.

Table listing various tile types and prices, including Plain red roofing tiles, Broseley tiles, etc.

OILS.

Table listing various oil types and prices, including Rapeseed, Cottonseed, Olive, etc.

GLASS (IN CRATES).

Table listing glass types and prices, including English Sheet Glass, Fourths, etc.

VARNISHES, &c.

Table listing various varnish types and prices, including Fine Pale Oak Varnish, etc.

It has been decided by the Ipswich Corporation to build a smallpox hospital on Foxhall Heath, a high-lying district east of the town, at an estimated cost of £5,110.

A municipal housing scheme has been adopted by the corporation of Exmouth. It is intended to erect eighty houses on the estate at Balkwell Farm, and fifteen houses in East George-street and Prospect-terrace.

A Local Government Board inquiry was held on Wednesday into the application of the public authorities of the Isle of Wight for sanction to a loan of £1,600 for the purchase of the famous landslip at Bournemouth.

TRADE NOTES.

Under the direction of Mr. R. M. Butler, architect, 23, Kildare-street, Dublin, the Boyle system of ventilation (natural), embracing Boyle's latest patent "Air-pump" ventilators and air-inlets, has been applied to the new Carnegie library, Listowel, Co. Kerry.

The Lion Brand odororous felt, manufactured by Messrs. F. McNeill and Co., Ltd., of Bunhill-row, E.C., is being used in the new Technical Institute at Cathays Park, Cardiff.

The architects for the Grammar School swimming-baths at Sedburgh, which have just been completed, speak very favourably of the efficacy of Pudlo in the treatment of the cement for these baths.

The K G Timber Company, Ltd., has been formed to acquire the business of timber merchant, builders' materials merchant, etc., heretofore carried on by John H. Kerner-Greenwood, at Ann's-square, King's Lynn.

Messrs. Ripolin, Ltd., whose works are in France and Holland, desire it known that the firm is, and always has been, entirely free from German or Austrian influence or control.

The Government of India Offices will be opened at Delhi on November 2 next.

At a quarterly Court of the Plumbers' Company, held at Guildhall, the following were sworn into office for the ensuing year:—Master, Mr. W. D. Caroe, F.S.A., F.R.I.B.A., re-elected; Warden, Alderman Sir John Knill; Renter Warden, Mr. Edmund Knight, re-elected.

OGILVIE & CO. Mildmay Avenue, ISLINGTON, N. EXPERTS in HIGH-CLASS JOINERY. ALTERATIONS & DECORATIONS.

FOR Olivers' Seasoned Hardwoods, Wm. Oliver & Sons, Ltd., 120 Bunhill Row London E.C.

TENDERS. Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

AVONMOUTH.—For provision of housing arranged at King-road Farm buildings, Avonmouth, for the Bristol Docks Committee.—Bradford, T. B., Bristol accepted. BARRINGSDALE.—For the erection of shops at their electricity station, for the Ilford Urban District Council.—Walter, G. T. (accepted) ... £100 0 0.

BRETTFORTON.—For the housing scheme at Bretforton, for the rural district council:—

Smith, G.	£4,000	0	0
White, G.	4,020	0	0
Cliff and Co.	4,018	0	0
Crisp, H. W.	4,015	0	0
Steward and Co.	4,010	0	0
Espley and Co.	3,952	0	0
Cooper, W.	3,950	0	0
Cooper, W.	3,849	0	0
Knox, J.	3,849	0	0

* Recommended for acceptance.

BRIGHTON.—For alterations to the infants' department of the Middle-street schools, for the education committee:—

Field and Cox, Brighton	£1,836	0	0
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(Recommended for acceptance.)

CROYDON.—For erection of a school in the Tamworth-road, for the education committee:—

Higgs and Co., Herne Hill	£10,930	0	0
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(Accepted.)

ENFIELD.—For making up Waverley-road, Crescent-road, and Old Park-road, Enfield, for the urban district council. Mr. R. Collins, surveyor:—

Waverley-road:—			
Jennings and Grenfell, Waltham Cross	£1,087	0	0
Greenfield, E., Bush Hill Park, N.	1,020	10	0
Betta, E. J., Enfield Highway, N.	965	0	0

Crescent-road:—			
Jennings and Grenfell	£555	0	0
Greenfield, E.	500	0	0
Betta, E. J.	485	0	0

Old Park-road:—			
Jennings and Grenfell	£982	0	0
Greenfield, E.	860	0	0
Betta, E. J.	835	0	0

* Accepted.

ERDINGTON.—For the erection of the first portion of the council schools in Ryland-road, Erdington, for the Education Committee:—

Harper, J., and Sons (accepted)	£12,420	0	0
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ERPINGHAM.—For erection of two new wards at the isolation hospital, for the Erpingham Rural District Council. Mr. A. R. Tuddenham, architect. Quantities by architect:—

H. Bullen, Cromer	£450	0	0
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Provisionally accepted.

GARTHORPE.—For erection of a bridge, for the Melton Mowbray Rural District Council:—

Denman and Newham, Melton Mowbray (accepted)	£240	0	0
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GLoucester.—For provision of manual instruction classrooms at Calton-road school, for the Gloucester Education Committee:—

Gorton and Shapcott (accepted)	£644	0	0
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GOSPORT.—For the erection of a chimney-stack and boiler-house at the house of industry laundry, Park-road, Gosport, for the Alverstoke Board of Guardians. Mr. H. A. F. Smith, Star Chambers, Gosport, architect:—

Lear, C. J., and Son, Gosport	£612	0	0
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(Accepted.)

HAMMERSMITH, W.—For supply of one 150-kw. transformer of approved type, for the borough council:—

British Electric Transformer Co., Ltd.	£118	0	0
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(Recommended for acceptance.)

HARPENDEN.—For the construction of about 1,000ft. of 12in. and 9in. pipe sewers on Manland estate, Harpenden, for the urban district council. Mr. J. H. Leverton, surveyor:—

Powdrill, A. J., Luton (accepted)	£282	16	8
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HARROGATE.—For alterations, &c., to the turbo-electric generator, for the corporation:—

Parsons, C. A., & Co. (accepted)	£310	0	0
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HARVINGTON.—For erection of cottages at Harvinton, for the Evesham Rural District Council:—

Smith, G.	£3,500	0	0
Steward and Co.	3,410	0	0
Crisp, H. W.	3,390	0	0
Cliff, A., and Co.	3,350	0	0
White, W.	3,335	0	0
Drew, W.	3,300	0	0
Knox, J.	3,150	0	0
Cooper, W.	3,125	0	0
Espley and Co.	3,083	0	0

* Recommended for acceptance.

HENGLD.—For sewerage works on Celn Llywyd Bridge to Tynvocoil, Y-stradymnach (contract No. 2), for the Rhymney Valley Sewerage Board:—

Underwood, W., and Bro., Dakenfield (accepted)	£101,715	1	6
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HONEYBOURNE, WOLVESBERRY.—For erection of houses at Honeybourne, for the Feltham Rural District Council:—

Steward and Co.	£2,650	0	0
Smith, G.	2,610	0	0
Crisp, H. W.	1,977	0	0
Espley and Co.	1,930	0	0
Knox, J.	1,880	0	0
Cliff, A., and Co.	1,850	0	0
Cooper, W.	1,855	0	0
Drew, W.	1,729	0	0
Matthews and Mullis	1,715	10	9

* Recommended for acceptance.

ILFORD.—For private street works in Golf and Park-roads, for the urban district council:—

Parsons and Parsons (accepted)	£1,298	12	6
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INCHEORE.—For erection of 113 three-room cottages on the Oblate site, Inchcore, for the Dublin Housing Committee:—

Hull, A., and Co. (accepted)	£18,870	0	0
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LYBBURNE.—For building a new stone bridge at Lybburne, near Haddenham, for the St. German's Rural District Council. Mr. H. A. Hosking, Land-lease, surveyor:—

Fothergill Bros., Devon	£36	10	8
Stevens, W., Cornwall	127	11	0
Roundall and Sons, Cornwall	124	10	0

* Accepted.

IPSWICH.—For alterations to the tuberculosis pavilions at the isolation hospital, for the corporation:—

P. J. Turner (accepted)	£787	10	0
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KETERING.—For drainage at the workhouse, for the guardians:—

Drever, O. P., and Son, Ltd (Accepted)	£1,321	14	5
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KILLARNEY.—For erection of 14 houses, for the urban district council:—

O'Connor, J. (accepted)	£2,693	16	0
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KIRKBY-IN-ASHFIELD.—For carrying out private street works in Lindley's-lane, for the urban district council. Mr. W. Dodsley, Urban-road, Kirkby-in-Ashfield, surveyor:—

Collidge, J. W., Annesley Woodhouse, Notts (accepted)	£185	5	0
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KIRKBY WOODHOUSE.—For carrying out sewerage works for the urban district council. Mr. W. Dodsley, Urban-road, Kirkby-in-Ashfield, surveyor:—

Morie and Sons, Keighley	£30	0	0
Collidge, J. W., Annesley Woodhouse, Notts (accepted)	312	17	0

LEATHERHEAD.—For the supply of about 300 tons of tar-macadam of hard blast-furnace slag of various sizes, for the urban district council. Mr. S. R. Drake, surveyor:—

Northern Quarries, Ltd., London	£311	0	0
Oakes, J., and Co., Derbyshire	288	0	0
Claridge's Patent Asphalt Co., Ltd., London	285	0	0
Wainwright, J., and Co., Ltd., Shepton Mallet	281	0	0
Constable, Hart, & Co., London	279	0	0
Tarmac, Ltd., Wolverhampton	274	0	0
Prestwich, W., and Sons, Dronfield (accepted)	260	0	0

LEWISHAM, S.E.—For kerbing, channelling, and making-up the roadway, and for paving the footways of Crathorn-street (part of) with artificial stone, for the Borough Council:—

Fry Bros., Ltd.	£145	0	0
May, Mortimer, and Co., Ltd.	143	11	8
Woodham, H., and Sons	139	0	0
Perce, W.	133	0	0

* Recommended for acceptance.

LLANEGRYN.—For providing and laying of 3,000 lineal yards of 3in. cast iron pipes, together with the construction of a covered service reservoir, and other works required to provide a water supply to the village of Llanegryn, for the Dolgelly Rural District Council. Mr. F. J. Rodwell, A.M.I.C.E. (Stinks, Pilling, and Rodwell, 37 and 38, Prudential Buildings, Park-road, Leeds, engineer:—

Hyslop, A. and S., Manchester	£1,400	0	0
Jones, O. D., Portmadoc	1,185	0	0
Ewart, J., Taunton	1,171	0	0
Trentham, P., Ltd., Birmingham	1,144	0	0
Davies, G., Aberdovey	1,132	0	0
Morgan, J., Doncaster	929	0	0
Lloyd, R., Merioneth (accepted)	897	0	0

LLANFAELLOG.—For water supply works at Llanfaelog, for the Valley Rural District Council:—

Pullar, H. C., and Co., Glasgow	£5,881	12	1
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(Accepted.)

LONDON, N.W.—For external painting at Prospect-terrace dwellings and painting staircases at Goldington Buildings, for the St. Pancras Borough Council:—

Prospect-terrace Dwellings.			
Maple and Co., Ltd.	£209	0	0
McLaughlin and Harvey, Ltd.	203	0	0
Navarino Guild, Ltd.	170	0	0
Marchant and Hirst*	144	0	0

Goldington Buildings.

McLaughlin and Harvey, Ltd.	192	0	0
Maple and Co., Ltd.	149	0	0
Navarino Guild, Ltd.	98	0	0
Marchant and Hirst*	66	0	0

* Recommended for acceptance.

LONDON.—For supply of high and low tension cables, for the London County Council:—

Siemens Bros., and Co., Ltd., London	£26,119	12	4
Glover, W. T., and Co., Ltd., Manchester	26,110	13	8
Henley's, W. T., Telegraph Works Co., Ltd., London	25,100	1	6
Callender's Cable and Construction Co., Ltd., London	21,824	3	10
Johnson and Phillips, Ltd., London	21,689	16	11
British Insulated and Helsby Cables, Ltd., Preston, Lancashire	24,524	3	9
Western Electric Co., Ltd., London	24,001	10	7

* Recommended for acceptance.

SITTINGBOURNE.—For executing alterations and additions to the administrative block and the water supply, for the Sittingbourne and Milton Joint Hospital Board:—

Additions.			
Povey	£2,700	0	0
Bishop, E., and Son	2,680	0	0
Bowes, G., & Sons	2,635	0	0
Monk, T.	2,521	0	0

* Accepted for both.

STILNEY, E.—For cleansing and painting works at Ratcliff baths, for the borough council:—

Smith, W., Brook-street	£168	18	0
Hovelt and Son, St. Anne-street	161	10	0
Johnson Bros., Whitechapel-road	146	0	0
Stottle and Son, Matlock-street	129	0	0
Barker, G., New-road	128	15	0
Taylor and Son, White Horse-street	117	0	0

* Recommended for acceptance.

STONINGTON, N.E.—For wood-paving works in Seven Sisters-road, south-east side, between the Manor House and Blackstock-road, for the borough council:—

Griffiths, W., and Co., Ltd.	£117	0	0
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(Recommended for acceptance.)

SUNBURY-ON-THAMES.—For the widening and reconstruction of Charlton-road and Littleton-lane, for the Sunbury-on-Thames Urban District Council. Mr. H. F. Coale, A.M.I.C.E., engineer:—

Free, E., and Sons, Maidenhead	£15,384	8	10
Kavanagh, S., and Co., Surbiton Hill	14,934	6	1
Mowlem, J., and Co., Ltd., Westminster	14,458	13	11
Harris, F., Bros., Ltd., Guildford	13,858	15	6
Jackson, D. T., Barking	13,839	4	2
Parry, E., and Co., Putney	13,669	0	0
Manders, W., and Co., Leyton	12,975	9	2
Road Maintenance Co., London	12,920	18	1
Langley and Johnson, Slough	12,089	1	4

* Accepted.

WEST THURROCK.—For erection of 14 cottages at West Thurrock, near Grays, for the Orsett Rural District Council. Mr. F. J. Winter, 2, Heygate-avenue, Southend-on-Sea, architect:—

Marrable, R., Leytonstone	£3,480	0	0
Whur, A. R., Southend-on-Sea	3,446	0	0
Gladwell, H. W., Walton-on-Naze	3,191	0	0
Dobson, J., Stanford-le-Hope	3,064	12	9
Baker, F., Rayleigh	2,900	0	0
Rayner, J., Chelmsford	2,623	7	6
Cook, T. H., Wickford	2,396	17	0
Born, A. H., Westcliff-on-Sea	2,387	0	0
Stark, F. C., Snaresbrook	2,058	0	0

* Accepted.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

** Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

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RECEIVED.—C. P., Ltd.—R. and Co.—P. Y. Q. Co., Ltd.—W., Ltd.—K. E. C.—B. S. Co., Ltd.—K. G. and Co.—F. F. Co.

R. B. G.—Yes.

C. E.—Thanks, etc.

G. A.—We have no record.

DISCUSSED.—So, we imagine, is everyone; but the obvious course is open to you and the rest.

QUERY.—You can see the last annual return of any registered company at Somerset House on payment of one shilling.

E. L. G.—The awards for last session's Designing Club and announcement regarding the new session now commencing appear in this issue. Our rules with regard to "Intercommunication" last appeared on p. 324 of our issue of Sept. 4.

B.—The discussion of suggested means of meeting constructional needs hardly comes within the purpose of "Intercommunication," and we can hardly see our way to offer our guineas for it, so we have published your communication as an ordinary letter. Are you familiar with the "Valtor" system of insuring elasticity to dancing-floors, used by Messrs. F. Morton and Co., jun., 110, Cannon street, E.C.? That is the best we know.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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Strand, W.C.

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OUR ILLUSTRATIONS.

West Africa House, Water-street, Liverpool. View and plans. Messrs. Briggs, Wolstenholme, and Thornely, F.F.R.I.B.A., Architects.
Bilsborrow Hall, between Preston and Lancaster. View, elevations, and plans. Messrs. Woolfall and Eccles, F.F.R.I.B.A., Architects.
"Greenway End," Greenway Gardens, Hampstead, N.W. View and plans. Mr. Cyril A. Farey, Architect.
An Entrance Gateway to a Cemetery. View, plans, and elevations. Mr. W. Warnan, Architect.
Cross-street Chapel, Manchester (William and Mary, v. b. 1694). Elevations, plan, and details. Measured and drawn by Mr. Gordon Hemm.

DEFINITE EXPRESSION IN ARCHITECTURAL DETAIL.

Form, as it develops under hammer and chisel, may typify the emergence of definite theme from nebulous idea. In like gradual manner line and lineament are evolved in the brain of the designer. We grope blindly for clear expression of that which we do not at first clearly comprehend. A hazy first notion becomes defined only as we strive to express our sentiment—as we bring the subject-matter of our thought into better and better focus. All that may reasonably be termed novel in design is no doubt produced in this way, since invention is often slow, step by step, and laborious.

In all these efforts of the brain, that which we are in reality striving to attain is definite expression—the clear-cut and logically correct transcript of mental imagery. We seek to place, with pencil on paper, the fleeting idea. We shall be well advised to exercise patience in attaining this. It will be well thoroughly to grasp and fully interpret our idea. The hasty transference of ill-considered design to solid stone will mean loss of definiteness. Some of the shadowy vagueness of our first mental conception will inhere. That which we should earnestly seek is definition. We desire the intelligible and apparent—meaning, import, and significance.

It has been said that curiosity is the real overmastering passion. We are all continually asking—subconsciously, no doubt—"What is it?" In direct and indirect ways we constantly put this question to ourselves. It is ever present, as we encounter novel objects. For this reason, we must assume that the matter greatly concerns design. We should at all times remember the promptings of curiosity, and by no means dismiss the subject by counting it an ignoble passion. We should recognise the position, and remember that anything ill-defined, from carelessness or lack of sufficient thought and consideration, causes perplexity and leads to offence. We should endeavour so to present our architectural ideas that the meaning and nature of the object are never in doubt; for that which we do not, or cannot, understand or clearly comprehend engenders mystery. In this way we may be impressive, and even awe-inspiring; but since, in architecture, we seldom need to produce the mysterious, definiteness of expression, obvious intention and meaning, should be our aim.

There are few more praiseworthy aims in practical architecture than an endeavour to give correct and clear expression to everything added to plain building as an ornamental accessory. We know that this general principle is at the root of successful architecture as an affair of organic constructional parts; we must hold that a

similar effectiveness characterises architectural ornament that has fitting and definite expression. It is the meaningless, purposeless scroll, or curve reflex, representing nothing definite, based on no prototype, referring in no way to objects found in nature, that fails by virtue of its absence of definite expression.

If we examine ourselves, no doubt we shall find we all like to recognise, clearly, that, say, an oak- or a vine-leaf is intended. We like and we admire definite expression, faithful observance of characteristic of this or that natural prototype, which the designer has taken as a model, or used as a motif. Where very highly-conventionalised ornamentation is concerned, our rule may need a little latitude in application. Yet it is to be noted that we cannot truly conventionalise, excepting as we exalt and aggrandise characteristic, and instil more of the essential spirit of the object conventionalised. If we make any one chance leaf or flower a model, we must needs produce a less characteristic representation of the genus than when we take as a model an ideal form conceived as the average of numbers of such leaves or flowers. In true and masterful conventionalising, the spirit of the natural object is enshrined, so to say, in the ornament. By thus considering our proposition, that definiteness and ready-recognisability are most desirable attributes in architectural ornamentation—to employ a not very happy, if common, expression—we should arrive at the conclusion that in conventional, floriated enrichment, having real, natural, basic prototype, a high degree of definiteness is required in design, and is, by the very nature of the process of true conventionalising, assured.

The belief that definiteness of expression is essential in good architectural enrichment will, we believe, be established on all grounds of inquiry. Besides the sweet reasonableness of the principle, we shall find that the measure of definition is closely related to the amount of skill and thought bestowed upon the work; and that carelessness and haste, and, obviously, ignorance, are at the root of that indefiniteness of expression and lack of intent and purpose in "decorative" device, which we too often find in contemporary architecture. We curve and reflex and re-reflex, and let things go at that. It is so easy; but to produce a truly sculptural acorn is not easy.

When we ask that question: "What is it?" we shall find, as a rule, that the readiness of answer corresponds to the amount of care and thought with which the decorative device has been executed. If we desire character in enrichment, we must go to Nature for some prototype, and let oak-leaf in wood, or stone lily, show obvious relation to this. We have, then, Nature as

guide; and, truly, in decorative design, we must appeal very directly to natural form for motive and inspiration. We have no other guide, no other compass, here.

Pure geometrical ornament we may view in a somewhat modified light, although geometry is obviously natural enough. We might classify all necessary architectural enrichment and ornamentation into the quasi-natural, or "naturalesque," the more or less conventional, and the wholly geometric. In the former we must include all frankly realistic carving, the best work in which is saved from the charge of ignoble imitation by the instinct of the sculptor who imparts the sculptural attribute. Our principle of endeavouring to impart the fullest and most characteristic form and lineament warns us against mixed ornamentation—vegetation growing out of animals, and like evidence of debased thought in design matters. Certainly, if we encounter an object of supposed value as architectural decoration, half-tree, half-animal, we might pertinently ask: "What is it?"

All naturalesque, conventional, and geometric forms are, in reality, based on nature. In seeking to impart that fitness for architectural embellishment which differentiates slavish imitation from true ornament, we should endeavour to give to the first class of ornamentation high resemblance to prototype, short of missing that sculptural quality that lifts the work out of mere copyism. In highly conventionalised ornamentation, we should rather seek to instil the spirit of plant life. Taking such a decorative device as the Grecian honeysuckle, we see that it is a highly-conventionalised ornament, and over and above the special beauty of the flower that forms the motive of the design, the general disposition and arrangement of the parts displays vigour and vitality. The definite expression sought to be expressed in conventional form is, in major part, the essential grace and beauty of plant life.

We cannot but conclude that all decorative form should have reference, basically, to something natural—existent and created, or, as in the case of geometry, co-eternal. Unless this statement is carefully weighed, it may be doubted. It will, on mature consideration, we think, be found substantial, and acceptable to all but those who see beauty in meaningless scrolls, and purposeless curve and reflex. He who imagines that he can evolve true and beautiful ornament from his inner-consciousness without reference to natural base or prototype—motif—practises self-deception, and is less a true artist than the savage who incises roughly, simple natural objects on his door-posts, or than Paleolithic man rudely drawing the mammoth on fragments of tusk.

Let us commence our work by asking

ourselves the question: "What is it?" Such a practice followed in actual process of design might tend to rid us to some extent of the fearsome horrors of rococo ornament, and of the senseless, double-ended, curved and reflexed bone-like objects that seem an obsession in the minds of so many so-called "ornamental" draughtsmen.

MODERN SPANISH PICTURES AND SCULPTURE.

The exhibition of Modern Spanish Pictures and Sculpture opened last Friday at the Grafton Galleries, in aid of the Prince of Wales's National Relief Fund, well deserves a visit, though as a welcome sequel to the very excellent collection of Spanish old masters last year it suffers, like most other things, by the war. Fifty works from Madrid, which it was intended to send, had reached the frontier just as hostilities had commenced, when they were stopped. The rest is mainly a selection from the three hundred pictures shown at the Brighton Art Galleries during the past summer reinforced by several kindly contributions from several owners resident in England.

The few earlier examples prompt the wish that there were more, notably such as Senor Zuboagas's "Two Seville Gossips" (74) and his portrait of his father (50), and Luis Jiménez Aranda's "Tailor's Shop" (16), his "Engaged Couples" (23), and his old buildings in Barcelona (211 and 212). Raymundo de la Marquesa Vinda de Misa (45) is another welcome exhibit. So are José Moreno Carbonero's "Venice" (38), and his "Sancho Panza's Banquet" (79).

Of the majority of the rest, it can hardly be said that very many are characteristic of the earlier and better period of Spanish art; but there are exceptions, and the average includes very few really bad works. Among those which repay examination we may mention "The Proposal" (32), by Ignacio León of Escosura, and his "Three Cavaliers" (60); "A Cavalier" (35), by Jose Llaneres; "The Studies of Titan" (17), by José Villegas; "In St. Peter's" (59), by Arcadio Mas y Fondeoila; "The Hunchback" (71), by Eduardo Chicharro; "Afternoon Refreshment" (84), by Julio del Val; "Gipsy Vengeance" (105), by Carlos Vazquez; "Confidences" (114), by Andre Parhade; "Gathering Saffron" (171), by Juan José Garate; "Grandmother and Granddaughter" (182), by Justino Gil Bergasa; "Jalisco" (185), by Juan Sala; "A Thaw" (186), by Manuel Luque de Soria; and "The Vow" (218), by Javier Cortes.

The examples of sculpture are not numerous. A "Statue of Velasquez," in bronze (215), by Amato Marinas, is good, and the "Bronze Head" (251), by Gregorio Domingo.

An appreciative preface to the catalogue is contributed by Senor Jose Gamelo y Alda, in which the claims that elasticity of feeling is still the essential characteristic of Spanish painting. Under the all-masterful impress of Latinity, he notices of late years in Spain an awakening of unborn sentiment. The trend of our most modern Orientalists, whether from the South or the North, is to take but scant account of true reproduction, preferring expression as a force in art, and putting their palettes and the prolific work of their brush at the service of a frankly decorative style, all matter and sensuousness in the former, all subjective emotion and essential psychology in the latter. This is possibly true; but, at any rate, we agree with the writer, that "It would seem as if even the most recently accepted canons could not force upon them a standard of artistic style, and should they seek to attain such

uniformity they would doubtless fail in the attempt. The Spanish Academies eschew all narrowness of precept. Their rule is to advise the student to copy Nature constantly and freely, leaving each individual temperament to its own phantasy."

CYLINDER BRIDGE FOUNDATIONS IN THE EAST AND THE CONSTRUCTION OF THE SITANG RIVER BRIDGE, BURMA RAILWAYS.

By A. STEWART BUCKLE.

On the 5th instant, Mr. A. Stewart Buckle, M.S.E., read a paper before the Society of Engineers (Incorporated), the subject being "Cylinder Bridge Foundations in the East, and the Construction of the Sittang River Bridge, Burma Railways." The paper gives an account of the construction of the Sittang River bridge, the longest of any river bridge in Burma, having eleven spans of 150ft. on cast-iron cylinders, of which work with fifty-two miles of the Pegu-Moulmein Railway, connecting the ports of Rangoon and Moulmein, the author was executive engineer. The paper also gives some further experience of the author in cast-iron cylinder sinking in the construction of certain bridges on the recently completed Indo-Ceylon connection railway.

The Sittang River is subject to a tidal bore which, fortunately, did not reach the bridge during the period of construction; but history shows that, owing to changes in the estuary, this was only a temporary respite, for at one time the bore did reach the bridge site, and it was foreseen that it would do so again, which it now actually does. A comparison of the different merits of masonry or brick wells and cylinders is given, and it is shown how the well system is advantageous in many cases in the East where half the river is dry for part of the year, and islands can thus be formed. The Sittang River being affected by the tide, however, and being never less than 24ft. deep at lowest tide, these conditions did not exist, and, therefore, cylinders were adopted.

The pile staging carrying the gantry for working the grab is described, and it is shown how the cylinders are floated out from the shore, and after being placed in position are sunk to the bed of the river and then kept in position by means of the staging, the problem of preventing a cylinder from going far out of its position being described. The difficulties likely to be encountered owing to insufficient weighting of the cylinders are explained, and the advantage of an inner ring of masonry is shown, and also various other methods of weighting cylinders when required. Favourable conditions for wells did exist in the west abutment, and, therefore, a 22ft. diameter well was sunk instead of a pair of cylinders.

The collection of local stone for masonry and concrete and the manufacture of bricks at the site of the work is referred to, and also the transport of the 3,000 tons of steel and ironwork, together with plant, rolling stock, and permanent way, to the site of the bridge.

Perhaps the most interesting part of the paper, however, is the description of the floating out of some of the girders. This was necessitated by the unusual depth of water, and in order to obtain more places for erecting different spans at one time. Each complete span, as floated out, weighed 100 tons, and the method of building up on the shore, removing out to deep waters, taking off to pontoons at their full and final height, and placing in position on the bridge, is described and illustrated.

The consulting engineers responsible for the design of the bridge were Messrs. Rendel and Robertson, of Westminster, and the chief construction engineer of Burma railways responsible for the work was Mr. G. Mills, M.Inst.C.E. The work was done entirely by native labour and various native contractors, no European contractor being employed. The first cylinder was placed in position in October, 1905, and the bridge was opened for goods traffic in August, 1907.

GOTHIC ARCHITECTURE.

RESUME OF FIRST LECTURE.

Mr. Banister Fletcher, F.R.I.B.A., gave the first of twenty-four University Extension lectures on "Gothic Architecture" on Monday at the Victoria and Albert Museum. He explained that he would deal with architectural history on broad lines, and trace its evolution in the different countries of Europe. He described architecture as a visible exponent of civilisation, uniting and embracing the other arts, and pointed out that modern design is a product of ancient art and present-day conditions, and as architecture is the basis of all design, a knowledge of it was necessary, not only to designers and art students, but also by the whole community. Author and novelist, journalist, photographer, and connoisseur, all alike were indebted to architectural design, while historians now record not only what men did, but what they made; not only describe the battles they fought, but the buildings they lived in and the churches they erected for the worship of God. Furthermore, to travel without a knowledge of architecture is like having a book in front of one without the ability to read it.

Medieval architecture was a continuous evolution from the early round-arched or Romanesque period to the pointed-arch or Gothic period, and was not the product of individual architects, but of forces and tendencies underlying the whole life of Medieval times. Foremost among those who influenced the character of the art of the period there were always the clergy, the monastic communities, the secular canons, friars, and military orders, as well as the power and influence of the Papacy and of the Crusaders. The condition of the people, the wild state of the country, with few roads, and the necessity of pack-horses for carrying building materials; the Feudal System, the growth of the towns and the trade guilds of London also contributed new influences. Views were shown connecting Medieval architecture with the styles of the past, also of the various types of buildings of Medieval Europe, including some of Rheims Cathedral. Lantern-slides, of which some twelve hundred will be shown, are a special feature of the lectures, rendering the acquisition of a knowledge of architectural history easy, while the visiting class enables students to study the exhibits in the Museum.

In conclusion the lecturer said that he would endeavour to introduce the atmosphere of the Medieval period as a background of association between history and architecture. The lectures are on Mondays at 4.30 p.m. in the Lecture Theatre of the Victoria and Albert Museum, South Kensington, S.W. The subject for the next lecture is "A Typical Gothic Cathedral." Particulars of the course can be obtained from the hon. secretary, 10, Woburn square, W.C.

MR. THOMAS HARDY ON THE MUTILATION OF RHEIMS CATHEDRAL.

The following are extracts from a letter by Mr. Thomas Hardy on the bombardment of Rheims Cathedral:—

"Everybody is able to feel in a general way the loss to the world that has resulted from this mutilation of a noble building, which was almost the finest specimen of Medieval architecture in France. The late M. Viollet-le-Duc—who probably knew more about French architecture than any man of his time—considered it to unite in itself in a unique degree the charms of beauty and dignity. But the majority of people have found comfort in a second thought—that the demolished parts can be renewed, even if not without vast expense. Only those who, for professional or other reasons, have studied in close detail the architecture of the 13th and 14th centuries are aware that to do this in its entirety is impossible.

"Gothic architecture has been a dead art for the last three hundred years, in spite of the imitations thrown broadcast over the

land, and much of what is gone from this fine structure is gone for ever. The magnificent stained glass of the cathedral will probably be found to have suffered the most. How is that to be renewed? Some of it dated from the 13th century, and is immitable by any handworkers in the craft nowadays. Its wreck is all the more to be regretted in that, if I remember rightly, many of the windows had already in the past lost their original glass. Then the sculpture and the mouldings and other details. Moreover, their antique history was a part of them, and how can that history be imparted to a renewal?

"When I was young French architecture of the best period was much investigated, and selections from such traceries and mouldings as those at Rheims were delineated with the greatest accuracy, and copied by architects' pupils—myself among the rest. It seems strange indeed now that the curves we used to draw with such care should have been broken as ruthlessly as if they were a cast-iron railing, replaceable by a mould.

"If I had been told three months ago that any inhabitants of Europe would wilfully damage such a masterpiece as Rheims, in any circumstances whatever, I should have thought it an incredible statement. Is there any remote chance of the devastation being accidental, or partly accidental, or contrary to the orders of a superior officer? This ought to be irrefutably established and settled, since upon it depends the question whether German civilisation shall become a byword for ever or no."

THE BUILDING OWNER AS A GAMBLER.

The rank uncertainty of the present method of estimating continues to occupy the attention of the architectural and building fraternity, and of those owners who do not seek to beat the contractor and material-men. Referring to the lamentable conditions existing, one of our new correspondents, when voicing his opinions in reference to certain owners' well-known attitude of "Heads I win, tails you lose," thinks this is the fundamental difficulty we have to contend with. It certainly seems difficult to demonstrate to some owners how a straight and accurate bill of quantities to estimate upon helps them to get better work, a square deal, and a satisfied contractor. It is the experience of those who have long been engaged in the practical advocacy of the quantity system in this country to find that, although the average owner will strenuously deny trying to get "something for nothing" out of a contractor, they, for the most part, really do this very thing. They will hire a certain type of architect, not altogether for his talent as an artist, but for the purpose of helping them to get the best of the contractor. This is attempted robbery, from whichever way we may look at it. Can we wonder if, in self-protection, the contractor retaliates?

Such owners appear to argue in their own minds something like this: I (the owner), holding a pack of marked cards, to be used after a contract is signed, must first put a number of bidders to work "gambling" with each other, to see who shall have the privilege (!) of playing with me in the final. My standing in the community must be taken by the winner as a sufficient assurance that we two, when we play, will play a square game, whatever the previous players may have done between themselves. I (the owner) know something of the building business, and doubt if this contractor-fellow knows enough to get ahead of me and my architect, and he surely will not think to keep a few cards up his sleeve! Even if he does, he cannot always select the right cards, because he will forget that I am already fixed so as to take most of the tricks anyway, and so the game will be played almost as I direct. Suppose by chance my tricks are trumped too often and I am likely to lose! Is not the referee under the contract in my employ? What do I pay him for? He must protect me, for am I not the owner? I must not let my adversary win, notwithstanding his money is

invested in my building, and regardless of his practical knowledge, which must also be used to my advantage. Besides, I do not have to play the game every day. The next time I do I will look out for a different man, one belonging to my fraternity, one just starting in business and anxious to please, preferred.

And this is how the building game is too often played. Common custom and convention compel a certain type among the unprivileged class of architects (those who are not altogether financially independent of clients) to follow those methods which lead to possible future business. That is but human nature, and the human element of self-interest is more often than not apparent. But if a clear, detailed bill of quantities is once made the basis of the contract—i.e., so much labour and material for so much money, and no more (and no less)—then it will help to relieve the other and better type of architects, who do try to be fair to both contractor and owner, from embarrassing positions and decisions, and from otherwise acting in judicial capacities under building contracts, and which often accounts for the loss to them of business friends and ultimate loss of professional practice.—The American *Quantity Surveyor*.

MODERN SCULPTURE.*

(Concluded from page 428, last week.)

MODERN BRITISH SCULPTURE.

MICHAEL AND SATAN—FLAXMAN.

Although foreign sculptors held the highest place in the art of England during the greater part of the 18th century, there were some six or seven native-born artists who did valuable pioneering work, but none of them advanced the cause of British sculpture as did John Flaxman, who was born at York in 1755. He won the silver medal of the Royal Academy when he was fifteen years of age, and was engaged by Wedgwood as modeller for his well-known pottery. This position he held for twelve years, and so trained himself for the execution of the reliefs which have made him famous. He spent seven years in Rome. The study of Greek form delighted him, and his inborn correctness of taste enabled him to avoid the extravagances which marred the work of many of his contemporaries who followed the antique. He was specially gifted in composition, and, although best known by his reliefs and his masterly outline illustrations of Homer, his ideal work in the round was quite as fine. His best work in that direction was Michael overcoming Satan. Flaxman was appointed Professor of Sculpture to the Royal Academy in 1810, and his public lectures are well and favourably known. The same simplicity and elevation of thought which he displayed in his art characterised the man. He died in 1826, in the seventy-second year of his age, and he left a deep and lasting impression upon British sculpture.

BLUE BELL—EUPHROSINE.

Sir Richard Westmacott, born 1775, is said to have proved himself to be the artistic successor of John Flaxman in this relief, entitled Blue Bell. It was thought a good deal of in its day, but does not appeal to modern art lovers. It is hard and mechanical, with the smooth surfaces which passed at one time for finish. The statue Euphrosyne, one of the Three Charities, is also by Westmacott. It is one of his few classic works. He executed several commissions for monuments, one of them the Duke of Wellington as Achilles, inspired the remark that "Wellington was less fortunate in his bronzes than in his battles."

SLEEPING CHILDREN—CHANTRY

Sir Francis Legatt Chantry, born in 1781, although the friend of Canova and influenced by Thorwaldsen, rarely attempted ideal subjects. He was particularly successful as

a portrait sculptor. This illustration of a tomb in Lichfield Cathedral is one of his most successful monumental works. His large fortune, left to the Royal Academy, known as the "Chantry Fund," has been of great service to art. His fellow artists said he was especially gifted as a painter in oil, and that he would have made quite as great a reputation (if not such a large fortune) had he elected to work in that medium.

THREE GRACES—BAILY.

This group of the Three Graces is by Edward Hodges Baily, assistant and friend of Flaxman. He attempted to follow nature more than the antique, and some of his works had a great reputation. When it was known that he was modelling a group of the Immortal Three seated, doubts were expressed as to the probable result. When the finished group appeared, art critics said genius has triumphed and an English artist has proved to the world that a group of the Three Graces all seated is possible, in spite of tradition and preconceived opinions to the contrary.

THE TINTED VENUS—GIBSON.

This is the celebrated Tinted Venus, with which Gibson startled the British public in the "forties." After a little preliminary study in Liverpool, Gibson went to Rome, which he declared was the true home of the sculptor. He was admitted into the studio of Canova, and there he spent his peaceful, happy life. When Chantry visited him and asked, "How long have you been here, Gibson?" Gibson answered, "Only three years." "Umph!" said Chantry, "three years is enough to spoil you or any man." Chantry did not approve of Rome as a school for English sculptors. He saw that it made most of them professional imitators of the antique. It is worth noting that the best portrait modellers England produced in these early days did not study in Rome. Gibson was the most thorough Classicist of the English school. Knowing that the Greeks coloured their statues, he made attempts (much ridiculed at the time) to reintroduce the practice. He thought his Tinted Venus his most highly finished ideal work, and would sit for hours in the twilight contemplating her. "I cannot screw up my courage," he remarked, "to send away my goddess." Gibson never married, and irreverent artists used to call the statue "Mrs. Gibson."

THE TRIUMPH OF LOVE—MCDOWELL.

Patrick McDowell, born in Belfast in 1799, is the first Irishman to come prominently into the history of early British sculpture. McDowell stands beside Gibson in the elaboration of his work and purity of form. It is said in art circles that the original idea of this group, The Triumph of Love, was intended to express married love united by the child. The influence of Canova and his school resulted in the addition of wings and torch, which made the work more like Canova, but less original. The group was carried out in marble in 1831. McDowell designed and executed the group Europe for the Albert Memorial and a number of other important works.

WELLINGTON MONUMENT—STEVENS.

By the middle of the 19th century the reaction against the Classic style had gained considerable strength. Sculptors, like Stevens, Foley, Armstead, and Woodner looked for inspiration to the Italian Renaissance rather than to Greece or Rome. Alfred Stevens occupies a unique place in British sculpture. He was a pupil of Thorwaldsen, but his art was inspired by Michael Angelo rather than by his master. This monument to the Duke of Wellington, in St. Paul's Cathedral, brought new life into British sculpture. It is one of the finest examples of decorative sculpture in England.

DECORATIVE FIGURE—STEVENS.

This figure is one of two in a house in Park-lane. They are modelled and carved with all the truth and delicacy of which art is capable. They suggest Michael Angelo in the compactness of the figures and the superb

* A lecture delivered at the R.N.I.A. on June 30, 1914, by J. R. TRANFORD-FAYLE, Director of the Swanburne Technical College, Hawthorn, and formerly assistant to the late E. Quilley Ford, R.A. The lecture was illustrated by 75 illuminated slides.

strength of the limbs. The style is perfect, and no artist but Stevens (in England, at any rate) was capable of such a work at the date of their production. Stevens's natural taste in every branch of design, his careful study of Michael Angelo, and the best masters of the Renaissance fitted him for every kind of sculpture. In ordinary decoration, rendered in any material, his art transfigured all that it touched, and his models for cast iron are a revelation of the possibilities of that metal for art purposes.

GENERAL OUTRAM—FOLEY.

John Henry Foley, in his early works, showed clearly the influences of the older schools of sculpture; but he broke away, and, in his portrait statues and busts, showed strongly his naturalistic bent. His work displays great intellectual ability and insight, and his workmanship is thorough. The illustration shows his most interesting and successful effort. It is the equestrian statue of General Outram in Calcutta. Foley was an Irishman, the author of the group of Asia and the statue of the Prince Consort on the Albert Memorial.

LEIGHTON MEMORIAL.

In 1866, when he was nineteen years of age, Thomas Brock entered Foley's studio as a pupil. He was thus brought into contact with the foremost British sculptor who had rebelled against the prevailing formalism. His career as a student was brilliant, and on the death of Foley, in 1874, Brock was accepted as his natural successor, and was commissioned to complete Foley's unfinished works. In all his earlier works he followed in the line of his master; then, when his style was formed and his career honoured for what he had achieved, he decided to modify it according to the newer ideas of the day. Had he continued as he began, he would have been a second Foley; developing as he did, he has left his master far behind. This change was due to the work of the younger school of British Sculptors, trained by Dalou at South Kensington and Lambeth. The memorial to Lord Leighton, P.R.A., is one of Brock's many masterpieces. In conception, detail, decoration, and spirit it is very near to absolute perfection. The figures at the head and foot represent the arts of painting and sculpture, and the effigy is a perfect presentment of the President, apparently asleep.

NATIONAL MEMORIAL TO QUEEN VICTORIA—SIR THOMAS BROCK.

This is the original sketch for the National Memorial to Queen Victoria. The finished work is the masterpiece of Brock's life, and has proved him to be what his friends always said he was—i.e., a great sculptor in the most complete sense of the term. I regret that the time at my disposal for this lecture will not allow me to show you more of the work of this artist. Foley and Brock are the most distinguished of the sculptors who brought about the change from Classicism to Naturalism.

HUGH LUPUS—WATTS.

The equestrian statue of Hugh Lupus, by G. F. Watts, is one of the finest works of art of the British School. It has a great deal of the spirit of the Old Masters in it; but it is in no sense an imitation of an antique. Mr. Watts was a painter, and he only produced three works of sculpture, but they are all great.

SKETCHES—LEIGHTON.

Another painter, who, with a few works of sculpture, gained a place in the front rank of sculptors, was Lord Leighton, P.R.A. All his work is fine and full of Classic spirit; it has been said of him that he was the reincarnation of one of the old Greek masters. The sketches modelled by Leighton are full of charm and interest, because they show his method of working. One is the sketch for the Sluggard, afterwards carried out life-size. The others are sketches or figures for his paintings. I made photographs from the originals in the studio of Mr. Onslow Ford, R.A. The latest school of British sculpture is remarkable for its originality and technical

ability. It is poetic in temperament, its teacher is no longer Rome or Florence, but Paris, and its technical ideal is expressive modelling. The three leading sculptors of this school are Hamo Thornycroft, Onslow Ford, and Alfred Gilbert.

THORNYCROFT.

W. Hamo Thornycroft fills a place almost, if not quite, unique in British art. A man with a strong leaning to the Classic, born and brought up in a community of brother artists full of overflowing with the modern ideas inspired by Messieurs Dalou and Lanteri.

TEUCER—THORNYCROFT.

This statue, Teucer, created a sensation when it was produced, and it was at once acquired for the Chantry collection. The figure of the Homeric archer is realistic, yet classic, full of life, and noble in its form. It represents Teucer just after he had fired his last arrow at Hector, and he has retained his attitude, tense and strained, as he watches the arrow in its flight.

DEAN COLET MEMORIAL—THORNYCROFT.

This charming group of Dean Colet with a couple of pupils was exhibited in 1901. It is full of quiet dignity, ease, and simplicity, and has in it much of the feeling of the best period of the Italian school. It is charming in its arrangement and beautiful in character.

ECHO—ONSLOW FORD.

Trained originally as a painter at Antwerp and Munich, Onslow Ford made his first appearance at the R.A. with a bust of his wife. The subject of a charming statue is called Echo. It is a new and original treatment of the subject, and is very beautiful. It represents thoroughly one side of this artist's work, in which the female nude is the beginning and the end.

JOWETT MEMORIAL—ONSLOW FORD.

This is the Jowett Memorial, a very beautiful composition, full of colour-decoration in its widest sense, being allied to sculpture for the achievement of a pleasing result. It symbolises happiness and pride in the man who has gone. The recumbent effigy and the cherubim providing the note of solemnity necessary for such a subject.

THE FAWCETT MEMORIAL—ALFRED GILBERT.

This is the Fawcett Memorial in Westminster Abbey. It is by Alfred Gilbert, who is admitted by his brother artists (British and foreign) to be one of the greatest modern sculptors, and one of the best metalworkers, who has lived since Benvenuto Cellini. In this statue we have a medallion portrait of the blind statesman set in a composition then new to England, which has been called "a little garden of sculpture." Every figure carefully thought out, pose, gesture, texture, each one gem, but all bound together in harmony by the taste and imagination of the artist. While this work recalls the masterpieces of some of the older schools, it is entirely modern and original, and has inspired numbers of other sculptures.

ST. GEORGE—GILBERT.

This statuette of St. George, which I have selected to show another side of Alfred Gilbert's genius, is from the Clarence Memorial. This figure occupied two years of steady work. The armour is absolutely an invention, and is a working model of a suit of armour which could be worn, the shapes of its parts and the ornamentation of them being a résumé of the entire monument, which has the appearance of Gothic, and yet Gilbert says "There is not the slightest resemblance to anything I know of Gothic work, unless the use of shells and other natural forms have influenced me, as they doubtless did the Gothic craftsmen of Mediæval times. The sword even is a pure invention, and is rather meant as the symbol of such a weapon than an archeological fact."

HOMER—HARRY BATES.

You have now seen enough British sculpture to enable you to trace its advance from a third or fourth-rate place to the position ungrudgingly given it to-day by all

the best Continental art critics—a position in the front rank with the best works of the most artistic nations in the world. In order that you may have no fears for the future of British sculpture, I will show you a few specimens of the work done by the most prominent of the younger artists. Foremost amongst these is Harry Bates, who studied at Lambeth, the Royal Academy, and Paris, and whose reliefs are worthy to rank with the best works ever done in this branch of the art. The subject of this statue—Homer—is admirable in its grace of line, truth of modelling, and its combination of high classic quality and a certain human moving sentiment. It is rich in light and shade, and, although only one of a number of equally fine reliefs, this work alone is sufficient to place its creator in the very front rank of modern artists.

MEMORIAL TABLET—FRAMPTON.

A fine memorial tablet is one by Geo. Frampton (now Sir Geo. Frampton). He studied at Lambeth, the Royal Academy, and Paris. He is essentially a decorator of exceptionally high artistic instincts. In spite of his great powers as a modeller, he never allows his technique to intrude. His reputation on the Continent is even greater than in England.

DUKE OF DEVONSHIRE—GOSCOMBE JOHN.

This colossal statue of the Duke of Devonshire was awarded a gold medal at the Paris Salon. It is by Goscombe John, who studied at Lambeth, the R.A., and Italy. This impressive figure, full of dignity, is one of the best of a number of exceptionally fine statues by this artist.

ROBERT BURNS—POMEROY.

Frederick William Pomeroy, whose statue of Robert Burns is the subject of this illustration, is another R.A. Gold Medallist who studied at Lambeth, Paris, and Italy. This statue of Robert Burns is the result of a commission—won in competition—for the Centenary Statue of Burns, and it is one of the finest of many statues of the poet.

RELIEF: THE ARTS—DRURY.

This relief is by Alfred Drury, A.R.A., a pupil of Dalou, and one of the best modellers amongst the younger school of British sculptors. His work is always of a very high order, full of fine feeling, essentially English, and suitable for the material in which it has to be carried out.

CIRCE—MACKENNAL.

Mr. Mackenmal's work is marked with fine style, firm and telling, with a keen appreciation of the value of form in sculpture and general effect. His conception is often daring with a fine sense of design. This statue of Circe is a splendid piece of modelling and a good example of what has been called his nervousness of treatment. His work is always elegant and sculptural.

QUEEN VICTORIA—MACKENNAL.

This statue of Queen Victoria as a girl is also by Bertram Mackenmal. He is well known here by his many fine works and splendid statue of Circe. This figure, which was executed for Lahore, is Gothic in feeling, with a fine sweep of line, which helps the composition. The small figures round the base are reliefs symbolising the virtues of the monarch. Mr. Mackenmal's work is always refined and always interesting.

PUMA AND MACAW—JOHN SWAN.

John Swan, in addition to being the greatest British sculptor of animals, has made a reputation as a painter. He studied at Lambeth, the R.A., and Paris. He has been compared with the great Antoine Louis Barye and with Fremiet. His work is interesting and convincing, because it is sincere.

THE THORN—WALKER.

I will conclude the British section of my lecture with this statue of The Thorn, by A. G. Walker. It is a work full of charm and grace. It is considered to be his most successful ideal statue. Mr. Walker is one of the younger sculptors who has done a great deal of very fine decorative and architectural sculpture.

AMERICAN SCULPTURE.

WASHINGTON AS OLYMPIAN ZEUS—GREENOUGH.

American sculpture is the product of the 19th century and is distinctly a child of promise. This statue of Washington as Olympian Zeus, by Horatio Greenough, born 1805, was greeted with some intolerance by his countrymen. Though absurdly incongruous with the character of Washington, the conception accorded with the art ideal of the times.

THE GREEK SLAVE—HIRAM POWERS.

Hiram Powers, born 1805, lived in Italy. He was ingenious rather than original. When his Greek Slave was first exhibited in Cincinnati, a delegation of clergymen was sent to judge whether it was fit to be seen by Christian people. Its purity of form and sentiment established its right to exist, and Powers made six replicas of it.

ORPHEUS SEARCHING FOR EURYDICE—CRAWFORD.

Thomas Crawford was born in New York about 1814. He studied under Thorwaldsen, and is considered to be the most notable pioneer of American sculpture. His Orpheus was the first statue by which Americans recognised his genius. Unfortunately, time will not permit us to even glance at the works of the numbers of gifted Americans who studied in Italy and worked for the future of sculpture.

GRIEF; PRESIDENT LINCOLN—ST. GAUDENS.

The younger contemporary American sculptors have gone to Paris for inspiration and technical training. Augustus St. Gaudens has been a powerful factor in bringing American sculpture to its present state of excellence. Grief is placed over a nameless grave in Rock Creek Cemetery, near Washington. The story is that the bereaved husband directed the sculptor to ignore all symbols of hope and to give utterance only to the grim endurance of irreparable loss. The Lincoln statue is fine in its simplicity and straightforwardness. When it was unveiled it was greeted as the sculptor's greatest work and the most important example of monumental art in America.

DEATH AND THE SCULPTOR—FRENCH.

Daniel Chester French, born in New Hampshire in 1850, attracted attention when 25 years of age with a bronze statue of a New England farmer, turning from the plough to the battlefield. Later he produced the remarkable relief, Death and the Sculptor.

NATHAN HALE—MAC MONNIES.

Frederick MacMonnies is a good example of the Franco-American sculptor. He was a pupil of St. Gaudens, and is thoroughly Parisian in his style. This statue represents Nathan Hale, of Revolutionary memory, standing bound, and in spite of the suggested death of shame, the figure is full of the beauty of youth and dignity. It is one of the best civic statues in America.

IDEAL HEAD—HERBERT ADAMS.

I will conclude my lecture with this study of a head. It is by Herbert Adams, one of the few American sculptors who has turned to Florence of the fifteenth century for inspiration. His delicately-tinted female busts are charming. There is a long list of promising young American sculptors. They have received instruction and inspiration from foreign countries (Paris chiefly); but they remain in spirit thoroughly American—progressive and refined; and there is now no doubt as to the future success of this, the youngest and most modern of all the Schools of Modern Sculpture.

The President, at the conclusion of the lecture, expressed his appreciation. As it was impossible for the audience to be personally conducted through the galleries and public places of the world where most of the sculpture shown on the screen that evening was placed, they had been enlightened, both by the criticisms of the lecturer and by his illustrations, to the wealth which the world

possessed at the present day in its modern sculpture.

Mr. Anketell Henderson (F.), in moving a hearty vote of thanks to the lecturer, said that after the fearful rush of business at that afternoon's meeting of the Council, it was simply delightful for them to hear Mr. Tranthim-Fryer. His (the speaker's) memory reverted to 25 years ago, when the meetings of the Institute alternated between "business" and "pleasure" (with instruction). It was not often that they succeeded in hearing a lecture by an artist of Mr. Fryer's standing, and in "Modern Sculpture" they had heard that evening something clear about the art treasures of to-day. Of the value of these sculptures their minds had been but dimly conscious, for it did not fall to the lot of every architect to see the Old World treasures in marble and bronze, nor to have them judged by so fair a critic as the lecturer that evening had proved himself to be.

Mr. John Little (F.), in seconding the vote, remarked that it was his good fortune to have seen many of the masterpieces which Mr. Tranthim-Fryer had described that evening. It had struck him also that the marble usually employed in statuary in the Old World appeared to stand the ravages of varying climates much better than marble used in Melbourne. On the outside of one of the Gothic buildings in Collins-street the marble shafts to the windows had so disintegrated that the holes had been filled with stopping. Was it that the trouble he referred to had been caused by the climatic impurities in the atmosphere? This question required to be solved, because it was strange that Melbourne, which was by no means a smoky city in comparison with many of the cities of England, should be precluded from using marble externally. If structural marble suffered so greatly, it would be little use in placing expensive statuary in their streets.

Mr. A. Henderson, after obtaining permission to speak a second time, defended the atmosphere of Melbourne, which was considered to be remarkably pure for a large city. The trouble to which Mr. Little had drawn attention had certainly occurred, as they must all have noticed. He had paid consideration to the subject of the durability of various building stones in Melbourne, and his own opinion was given unreservedly, that the disintegration of marble was the result of the dust, which, unfortunately, was blown about by the wind, and caused great damage to property, as well as to shopkeepers' stock and furnishings of all buildings.

Mr. G. T. Poole (President of the Western Australian Institute of Architects, who was introduced as the Chairman of the Board of Adjudicators upon the designs to be submitted for the Federal Parliamentary Buildings) thanked the architects of Victoria for the courtesies which had been showered upon him since his arrival in Melbourne a few days ago, and conveyed the greetings of his Institute to the renowned workers of Victoria. Many architects present had visited Western Australia some years ago, and were, therefore, personally known to the architects of the West. He would take back on the morrow the greetings of the Victorian Institute to the Western brethren. He supported the vote of thanks to Mr. Tranthim-Fryer.

The vote having been carried by acclamation, Mr. Tranthim-Fryer responded.

THE LUMSDEN CASE—MORE REVERSION DUTY SCANDALS.

Builders are not forgetting that, notwithstanding their soft words, Mr. Asquith and Mr. Lloyd George have done nothing to redress the evil to our industries that the Lumsden decision has wrought. Mr. Asquith "understood" legislation was contemplated, and Mr. Lloyd George promised it; but, so far, Mr. Lloyd George's promises have not been worth much. Property-owners, too, are wondering, we fancy, whether the Inland Revenue authorities have made up their minds that only the Germans shall beat them in their eagerness to levy contributions not merely on the rich, but

on women who are unlucky enough to inherit a small bit of land.

We trust builders are not forgetting the Lumsden case. We have given details at various stages; but the Land Union publishes this month so excellent a résumé of the points actually determined, written by Mr. R. B. Yardley, that we reprint it, and advise all readers to keep it before them.

The case has recently been disposed of in the House of Lords, on appeal from the Court of Appeal (the Master of the Rolls and Lord Justice Kennedy, Lord Justice Swinfen-Eady dissenting), and it may be of interest to indicate the points actually determined.

The case in the Court of Appeal is reported, L.R. 1913, 3 K.B. 809; 29 *Times* Law Reports, 631; Land Union Reports, Vol. II, p. 180; "Land Union Journal," Vol. V, p. 101.

The decision of the House of Lords is reported in the "Land Union Journal," Vol. VII, p. 90, and in the *Times* of July 21, 1914. Two of their lordships supported the decision of the Court of Appeal, while two upheld the contentions of Mr. Lumsden, so that the judgment of the majority of the Court of Appeal, the Master of the Rolls and Lord Justice Kennedy, stands.

"Lumsden v. the Commissioners of Inland Revenue" was a "Special Case" stated by the Referee, in which, for the purposes of the appeal on legal points, most of the figures were agreed.

In 1908 Mr. Lumsden bought some freehold plots on a building estate, on one of which he built a shop. The land was subject to tithe-rent charge, of which the capital value was agreed at £33. On August 23, 1910, Mr. Lumsden sold the shop for an estate in fee simple in possession (i.e., not subject to any lease) to a Mrs. Stobie for £750, subject to the tithe-rent charge. On February 9, 1911, the property was provisionally valued under the Finance Act, as on April 30, 1909, as follows:—

Gross value	£658
Total value (allowing £33 for tithe-rent charge)	625
Full site value	228
Difference between gross value and the full site value	430
Deductions from total value to arrive at assessable site value—	
(a) Difference between gross and full site value	£430
(b) Works executed (value attributable to construction of roads)	90
	£520
Assessable site value = total value (£625) less £520	105

No objection was taken by Mr. Lumsden to this provisional valuation, which, after the expiration of sixty days, became fixed.

Shortly after this sale, Mr. Lumsden was assessed to £22 Increment Value Duty. The claim was made out as follows: Under Sec. 2 (1), the increment value is the difference between the original assessable site value (£105) and the "site value" on the occasion (the sale to Mrs. Stobie).

In the case of the sale of the fee simple in possession the "site value" is the value of the consideration, £750, less the "like deductions" as are made under Sec. 25 (4) in arriving at the assessable site value from the total value.

In this particular case there were two such deductions, of which the second—the value attributable to the construction of roads—was placed by the Commissioners and agreed by Mr. Lumsden at the same figure as in the provisional valuation, £90. The point of dispute ultimately turned on the question how the first deduction, the difference between the gross value and the full site value at the time of the sale, should be arrived at.

For the Crown, following the White Paper Instructions of January 21, 1911, it was contended that the gross value and full site value on the occasion should be ascertained in accordance with the definition in Subssecs. 1 and 2 of Sec. 25, by "independent calculation, and without necessarily being bound by the actual consideration"; in other words, that the new gross value was the sum which the property might be expected to realise if sold by a willing seller

at the time in the open market in its then condition, free from encumbrances and from any burden, charge, or restriction other than rates or taxes, ignoring the price paid by Mrs. Stobie for the property, and the new full site value was what the property might be expected to realise at the time in the open market by a willing seller if divested of the buildings, ignoring the price paid by Mrs. Stobie. As a fact, the Government Valuers placed both of these values on the occasion at the same figure as in the provisional valuations—namely, £625 and £228 respectively, so that, in their view, the difference between these two values (which is supposed to be a measure of the value due to the existence of the buildings) remained at £430.

For Mr. Lumsden it was agreed that the full site value remained at £228; but it was contended that the price paid by Mrs. Stobie (£750) should be taken as the total value on the occasion of the sale, and, this being determined, that the new gross value should be derived from it by adding the capital value of the tithe-rent charge (£33), in fact should be £783.

In the case stated for the Court, the Referee found that the amount which this property might be expected to realise if sold at the time in the open market by a willing seller in its then condition, free from any encumbrance and from any burden, charge, or restriction (other than rates and taxes) was £658. This was, of course, purely an estimate, and it was, in fact, the same as the gross value in the provisional valuation and the gross value on the occasion as put forward by the Crown. For the purpose of the appeal to the Court this estimate was not disputed, because its magnitude had no bearing on the point of construction actually submitted for the opinion of the Court—nevertheless, as we hereafter suggest, it is an open question whether the Referee was right in ignoring (as he appears to have done) the price paid by Mrs. Stobie for the purchase of the property. Thus the two figures of £788 and £658, less in each case £228 (the agreed full site value)—i.e., £560 and £430 respectively—represent the actual difference between Mr. Lumsden and the Crown.

One of the difficulties in construing Sec. 2 is due to the fact that, in the last paragraph of Sub-sec. 4 of Sec. 25, it is provided that "any reference in this Act to site value (other than the reference to the site value of land on an occasion on which Increment Value Duty is to be collected) shall be deemed a reference to assessable site value," and counsel for the Crown contended that the "site value" in Sec. 2 was not intended to be the assessable site value of this property, but a purely statutory quantity, which, in the case of the sale of the fee simple in possession, was the price less certain estimated values, the first of which was supposed to eliminate the value due to the buildings at the date of the sale, such estimates not being necessarily affected by the price. As regards the other deductions (if any) for roads and improvements, if no works had been executed since April 30, 1909, and their value remained the same, they would not affect the difference constituting the "increment value" any more than equal sums occurring on the credit and debit sides of a ledger account.

The Referee left it to the Court to decide whether this estimate should be taken as the gross value on the occasion, or whether the gross value on the occasion should, as contended by Mr. Lumsden, be based on the price (£750) paid by Mrs. Stobie, treating the latter sum as the total value on the occasion. On the construction for which Mr. Lumsden contended, it follows that the "site value" would be the "assessable site value" on the occasion.

An alternative contention was submitted on Mr. Lumsden's behalf: that the increment value was the difference between the full site value and the full site value on the "occasion." Both these contentions were negatived in the Court of Appeal, and the second was abandoned by Mr. Lumsden's counsel in the House of Lords. The majority of the Court of Appeal, and, in the result,

the House of Lords, upheld the contention of the Crown that the "site value" on the occasion was not the "assessable site value" on the occasion, that the consideration was not the total value on the occasion, that consequently the gross value and the full site value on the occasion—the difference between which constituted the first of the "like deductions" mentioned in Sec. 2, were to be arrived at by valuation in accordance with Sub-secs. 1 and 2 of Sec. 25, with the result that the residue (the price less the "like deductions") with which the "assessable site value" as on April 30, 1909, was to be compared, was a statutory quantity.

If either of the contentions submitted on behalf of Mr. Lumsden had been upheld, no increment value would have been shown in this or in any other case in which it is admitted, or can be shown, that the value of the bare land, apart from buildings, had not risen since April 30, 1909. The two contentions may, for convenience, be placed in a tabular form:—

For the Crown.	
Gross value on occasion	£625
Full site value on occasion	228
Difference between gross value and full site value on the occasion	430
Above purely estimates.	
Consideration	750
Deduct—	
(1) Difference between gross value and full site value on the occasion	£430
(2) Value due to roads	(0)
	520
Site value on occasion	230
Original assessable site value	105
Increment value	£125
For Mr. Lumsden.	
Total value on occasion = consideration	£750
Add capitalised value of tithe-rent charge	33
	783
Gross value on occasion	783
Full site value on occasion (estimated)	228
Difference between gross value and full site value on occasion	555
Total value on occasion	750
Deduct—	
(1) Difference between gross value and full site value on occasion	£555
(2) Value due to roads	99
	645
Assessable site value	105
Original assessable site value	105
Increment value	Nil

It will thus be seen that, according to the Lumsden judgments, increment value in the case of sales of the fee simple in possession is not the difference between the value of the bare site on the occasion and the value of the bare site on April 30, 1909, but the difference between a statutory quantity—the price, less estimated deductions—and the assessable site value of the property on April 30, 1909.

The effect of this decision is that, although a purchaser may have been actuated in fixing the price by the particular attractions to himself of the buildings, the allowance made by the Commissioners against the price for the proportion thereof due to the existence of the buildings is to be determined by the difference of two estimates—the gross and full site values at the date of the sale; unless this difference is equal to the part of the price which the purchaser attributes to the buildings, it is obvious that the ultimate residue (the "site value" on the occasion) will contain value due to the presence of the buildings, and, therefore, that the taxable increment value will include the owner's profit on buildings. This was recognised by the Master of the Rolls in his judgment in the Court of Appeal.

It must not be thought, however, that the case finally decides the construction and effect of Clause 2 of the Act as to the measure of increment value on a sale. For instance, while the Lumsden decision upholds the White Paper Instructions of January 21, 1911, to the extent that the gross value and the full site values on the occasion are to be ascertained as under Sec. 25 by estimation, it has not been decided that, in estimating those values, the price may be ignored; in other words, the Lumsden case does not decide that the words "without

necessarily being bound by the price" of the White Paper Instructions of January 21, 1911, are justified.

In the Lumsden case, as we have already stated, the figures had, for the purposes of that particular appeal, been agreed between the parties; but in some other case the question may be raised whether, in arriving at the gross value and full site value on the occasion, the price or value of the consideration ought to be taken into account, and if this is decided in the affirmative, it may be that in some cases the first "deduction" (the difference between the new gross and full site values) may be of such magnitude as to reduce the statutory increment value to the actual increment in the value of the site, with the result that, in cases like "Lumsden v. the Commissioners of Inland Revenue," no Increment Value Duty will be payable.

The Government reintroduced in their Revenue Bill of 1914 a clause which appeared in the Revenue Bill of 1913, and was intended to deal with claims for Increment Value Duty in the cases of developed property; but the Bill has now been dropped, at any rate, for the present, and it is quite uncertain whether it will be revived, so that the matter is still of importance to builders and developers of land and their professional advisers.

Finally, while the Lumsden case related only to the sale of the fee simple in property which was not subject to any lease under Sec. 2, Sub-sec. 2 (a), there can be little doubt that it will also apply to cases under Sec. 2, Sub-sec. 2 (b)—e.g., the grant of a lease for over fourteen years, the sale of a lease, or of the fee simple subject to leases. (See the Palmer's Green case, "Commissioners of Inland Revenue v. Hewitt," "Land Union Reports," Vol. II., p. 138.)

A MONSTROUS CLAIM.

Here is a case put by a firm of solicitors, on behalf of their client, to the Land Union: The clients are the four nieces of a lady, who died in 1911. Under her will they inherited some freehold premises, which are let on the following leases: (a) 1895, December 21, lease for 28 years from September 29, 1890, at a rent of £94. (b) 1902, May 27, reversionary lease for 35 years, from September 29, 1918, at a rent of £94, and a premium of £325. In October last the clients completed the sale of the freehold reversion to the tenants, and Reversion Duty has been assessed on the benefit accruing to the lessors on the following figures: Total value of land at determination of lease—i.e., October 29, 1913, £4,150; less total value of land on grant of lease—i.e., December 29, 1895, £1,845; total, £2,305; Reversion Duty, at 10 per cent., £230. Under the Revenue Act, 1911, Sec. 3 (2), it was understood, in settling these figures, that the duty payable would be that amount which, with compound interest at 4 per cent., would produce £230 in 40 years. This amount was estimated at about £46. The notice to pay duty, however, which was served on July 27, assesses the amount at £189 12s. 11d., which, it is clear, disregards the reversionary lease, and assumes that the value is to be deferred until the expiration of the current lease only. On inquiry at Somerset House, the Commissioners advised that the basis of valuation they have adopted is correct; but the point has not been subject to litigation, and has apparently been the subject of discussion on many previous occasions.

This, says the Land Union, is a monstrous claim; but it possibly comes within the letter of the law. Under the Interpretation Act, 1889, Sec. 1 (b), "words in the singular shall include the plural," and, if we apply this to Sec. 3 (2) of the Revenue Act, the second term would be included in the period of postponement, but the application is doubtful. The Land Union thinks notice of appeal should be given, and the matter further considered and mentioned in Parliament.

The town council of Rochdale have received the sanction of the Board of Trade to borrow £17,000 for tramway purposes.

Currente Calamo.

We are glad to note the prompt action taken by the Council of the Society of Architects in three cases of alleged infringement by members of the Society's Code of Professional Ethics. In one instance it was alleged that a member had tendered for professional work on a basis of fees, and it was ascertained that two members took part in an architectural competition (Barnsley Town Hall), which had been banned by the Society. The Council, after due inquiries, found that in each instance a breach of the Society's Code of Ethics had been committed, and the resignation of the members concerned was demanded, and has been received. Such action must tend to enhance the reputation and status of the Society in the eyes of the profession, and will act as a wholesome warning to architects who are tempted in these hard times to undersell their confrères.

A writer in the "Society of Architects' Journal" says that it is probable that every eligible member of the Society has joined the Army or Navy, and that those who are prevented or disqualified from so doing are recruiting or doing other useful service. Two of the sons of the President, Mr. Percy B. Tubbs, have enlisted as privates, rather than wait for commissions. Major R. Cecil Davies is the R.E. Division Officer at Chester, and Major Chadwick, Captain C. Harold Heathcote, Captain Inglis, and Mr. J. Haslam are with their regiments. Mr. H. Freyberg, who has two sons with the Fleet, is adjutant of a battalion of the National Reserve, and Mr. A. E. Pridmore, Past-President, is a special constable. Mr. W. H. May, Mr. F. J. Bowhill, and Mr. J. W. Lowe are with the R.N.V.R. Mr. S. J. Marshall is in the Yeomanry, and Mr. F. Clark is in the R.A.M.C. (3rd Lowland Division). The only eligible member of the Society's clerical staff has enlisted. The Secretary (Mr. C. McArthur Butler) has a son in the Transport Section of the London Scottish, now with the British Expeditionary Force.

Although the Moratorium is now generally extended to November 4, when it is to finish finally, it should be noted that, in regard to some debts, it came to an end on October 4. This was so with regard to all rents, which, therefore, are now payable. The other specific exception from the month's further extension was as to any payment due and payable to or by a retail trader in respect of his business as such trader. It would thus seem that Michaelmas rents and ground-rents are now payable, and, subject to the intervention of the Courts under the Emergency Acts, are recoverable as usual. So with regard to debts due to and by builders' merchants and dealers. As retail traders these are now payable, and can be sued for in the ordinary way, subject again to the discretionary powers of the Courts as to enforcing judgments by execution or orders of committal. Other general debts are legally postponed to November 4, provided interest has been paid upon the previous postponements, according to the proclamations. Bills of exchange falling due after October 3 will, apparently, become payable a month later; but those already postponed will be deemed payable fourteen days after they become due. It does not seem easy to get rid of a moratorium that has once been imposed.

The always interesting "Monthly Letter" of the Master Builders' Association of Boston, U.S.A., calls attention to a prostitution of the "modern methods of business" about which we hear so much, which, we fear, will evoke a responsive echo of reprobation here and there this side. "My attention," says the secretary, "has frequently been called to measures adopted by contractors for building work, or subordinates acting for them, to obtain information in regard to competitors' figures which deserve most vigorous and emphatic condemnation, and when persons are known to indulge in such practices they should be shown up in such a fashion that they will speedily understand that their room is better than their company! The most recent case which has been described to me indicates how the telephone (great as its general usefulness may be) can be used for most nefarious purposes, and leads me to wonder whether honour and decency have vanished altogether in this business of contracting for building work, which once upon a time was considered to be a worthy and desirable calling. The case referred to is as follows: A general contractor's office is called up by 'phone, and the statement is made that an estimate had been given, by the party talking, to that general contractor for work on a certain job; but the sub-contractor's estimator had gone out of town, carrying his estimate book with him; therefore, would the general contractor kindly give the amount of that estimate to the party talking, so that he might furnish other general contractors with a bid.' The contemptibility of this scheme to learn the amount of a competitor's bid is only equalled by the stupidity of the originator. Any general contractor possessed of the least degree of acuteness would 'catch on' at once and refuse to furnish information in such a fashion; but, unfortunately, the general contractor may not be in his office, and a clerk may receive the message, as in this case, and such a clerk may innocently accede to the improper request. Whether the clerk in this case responded to this call or not is immaterial. The point is that the schemer in such a case is perfectly safe. It may be that a wholly outside party is used to do the talking; but in any event, if a careless clerk, or even an 'easy' contractor, responds with the hoped-for information, up goes the 'phone, the deed is done, and the perpetrator is hidden."

"What shall be said of this and many another plan to filch and steal? The use, for instance, of some purchasable subordinate in some office, through whom improper knowledge can be transmitted over the swift wire that tells no tales! Such possibilities (that, alas! are full-blown probabilities) fill the mind with disgust, and make one long for an opportunity to pillory guilty parties. The damnable practices by which honest contractors are defrauded, under the 'modern methods' so freely used by irregular practitioners who come into this market, and, relying upon the false judgment of owners, who apparently ignore all matters save the 'low bid,' get jobs 'any old way' at 'any old price,' and then make themselves good by skinning and stealing from those whom they inveigle into doing sub-work for them; these practices, I repeat, have brought the building business down to a mighty mean estate. And now, added to this nightmare which haunts square-dealing contractors, and curses the

industry, appears the above-described development of the same stock, encouraged by the success of other fraudulent practices, and displayed in schemes such as have led to this outburst of indignation. Owners surely need to readjust their conceptions in regard to competitions, and to make the factors of quality of performance of work, reputation for reliability, fairness, and decency of treatment of all sub-contractors in the matter of their rights and their payments, have weight as against the mere fact of low bidding."

Most fittingly Mr. Arthur Seymour Jennings, the Editor of our vigorous contemporary, the *Decorator*, and the author of several practical standard works on paint and paint manufacture, was on Monday last installed as Master of the Renaissance Lodge of Freemasons, No. 3408. Most of the members of the lodge are members of the Association of Master Decorators, those appointed officers being Mr. A. Campbell, of Messrs. Campbell and Christmas; Mr. W. T. Morris, of Messrs. W. Morris and Sons, Ltd.; Mr. J. J. Honeychurch, Mr. H. Price, Mr. E. W. Wightwick, Mr. T. A. Hall, Mr. Charles Ives, Mr. Ernest Anderson, Mr. George Colley, and Mr. Fred Dakin; Mr. John Cayley was appointed Almoner of the lodge, and Mr. Chas. E. B. Kibblewhite reappointed secretary. The onus of the work in the lodge fell upon Mr. C. E. Wilkinson, to whom the lodge voted a handsome jewel to mark the completion of his year of office as Master. Established now just over five years—the first Master being the late Mr. H. A. Campbell—the lodge has undoubtedly most creditably occupied an important position amongst London lodges, and its record for charity stands worthily high.

Messrs. Batsford will publish about the middle of this month a book, entitled "Bruges: a Record and an Impression," by Mary Stratton, illustrated by Charles Wade. The book, which has been in preparation for some time, should be of exceptional interest at the present time, because Bruges is typical of all Belgium, upon which the eyes of the civilised world are now focussed. The spirit of the men who built Bruges, who fought for its freedom and sacrificed their lives in its defence, is the same spirit that has impelled the heroic resistance with which Belgium has met her invaders. Mr. Charles Wade, who has made the pen-and-ink drawings, over 100 in number, specially for Mr. Herbert Batsford, is an artist whose work, although not hitherto brought before the public, has attracted considerable attention amongst those privileged to see it. Mrs. Mary Stratton is well acquainted with Bruges. Her name will be familiar to many as the editor of "Fellowship Books" recently issued by the publishers.

The history of the establishment of the Canadian military camp at Valcartier, Quebec, is a record of remarkable engineering achievements. Within a few days the Canadian Northern Railway transformed an insignificant flag station, serving a small Irish colony, into an important terminal point, with twenty miles of railway sidings, giving a splendid impetus to the establishment of the camp, and expediting the movements of the men and materials which went to make this city of 30,000 souls. And now comes news of a bridge building record made by

the men of the Royal Canadian Engineers, under the direction of Major W. Bethune Lindsay, of Winnipeg. The Jacques Cartier river separates the main camp from the artillery practice grounds at the base of Mounts Irene and Irene. Across this 350ft. of waterway the Royal Canadian Engineers built, within four hours, a barrel-pier pontoon bridge, capable of carrying heavy batteries. The major and his 300 men worked with that well-ordered efficiency which characterises the efforts of the British bred. The race for the record started with the Canadian Northern Railway. The materials—barrels, planking, etc.—were freighted on to the ground with remarkable despatch. The casks were made water-tight, the timber was made ready, the 20ft. bank cut down to provide an easy grade for traffic, and the actual test was on. There was never a hitch. One party of men lashed the barrels to the heavy planks, and, as soon as that operation was complete, another party lifted the pier and carried it down the bank. Another squad of men conveyed it on to the water, where it was taken in charge by still another party, and floated out to the front line. The pier was drawn quickly into position, and as many men as could work with freedom soon had the flooring spiked down. The actual bridging commenced at eight o'clock; the span was complete at ten minutes after twelve. The extra ten minutes were accounted for by the fact that on one or two occasions passing bodies of other troops necessitated a temporary cessation of carrying operations.

The autumn show of the International Society of Sculptors, Painters, and Gravers, at the Grosvenor Gallery, is, naturally, not very international this year; but what there is up to the average. Perhaps the best of the foreign and American works are the late M. Gaston La Touche's "L'Intrigue" and Mr. George Obbermteufer's "Notre Dame de Paris." Of the rest, the "Flower Nymph," by Mr. William Strang, the vice-president, is the most noticeable, if not the most comprehensible. "The Son of the Prodigal," by Mr. A. S. Hartwick, is good, and so are Miss Flora Lion's "At the Baths" and "The Crinoline Dress." Of the rest, the contributions by Mr. G. W. Lambert, Mr. S. J. Peplow, Mr. Lavery, Mr. William Nicholson, Mr. Benjamin Nicholson, Mr. Gerald Kelly, Mr. W. L. Bruckman, Mr. Charles Ricketts, Mr. Ambrose MacEvoy, and Mr. H. Davis Richter specially deserve mention.

The construction of storm-water sewers in Stretford, near Manchester, commenced in April last, is rapidly approaching completion. The undertaking comprises about a mile of deep sewer formed of reinforced-concrete tubes varying in diameter from 36in. to 45in., and chambers for access, inspection, and contingent work. The sewer is laid in headings from shaft to shaft in Chester road, running parallel with, and at a lower plane than, the main sewer which it is intended to supplement. The scheme was devised by the council's surveyor, Mr. E. Worrall, F.S.I., and the contractors are Messrs. Edmund Nuttall and Co., Trafford Park.

Mr. Stanford has held an inquiry at Wribbenhall relative to the application of the Kidderminster Rural District Council to borrow £1,500 for carrying out a water-supply scheme for the parish of Wribbenhall. Mr. F. E. Butcher, for the district council, said the council had arranged with Bewdley Town Council to take water in bulk at 4½d. per thousand gallons, the Bewdley waterworks being in Wribbenhall parish, and the main passing through the village. Mr. Stanley Hemingway, town clerk of Bewdley, and Mr. Humpherson, waterworks manager, gave details as to the capacity of the Bewdley waterworks.

FIRST ATELIER OF ARCHITECTURE.

The second year of the First Atelier of Architecture was formally inaugurated at a meeting held in the studio, 16, Wells-mews, Oxford-street, W., on Wednesday evening, when an exhibition of the work done during the Summer term, and of holiday sketches and life-figure sketches, was on view, and the Atelier Medal, for work executed during the past twelve months, was presented by the chairman, Lord Saye and Sele, and criticisms were given by the patron, Mr. Arthur J. Davis.

The result of the year's working has been very gratifying to the Beaux Arts Committee. The men show a keen desire for work, and a healthy spirit of emulation, and a good spirit of fellowship prevails, the elder students assisting their comrades as far as possible, and the younger ones fagging in return. In fact, it has become more and more a social club. A second Atelier would do much to sustain the rivalry necessary for long-continued effort among students, and suitable rooms had actually been taken as studios when the outbreak of war compelled the committee to act prudently and postpone its establishment. From the First Atelier about twenty men have gone to the front or as Territorials, including the Sous Patron, M. J. P. Chaurès, who is now an officer with the French Army in France; M. Eugene Bourdon, now a sous-officier; and the Hon. L. Fiennes, son of the President. About a fortnight ago a Life Class was formed, directed by Mr. A. R. Jemmett, and it has been taken up with enthusiasm.

There was a large attendance of members at the Atelier on Wednesday evening, those present including the chairman of the Beaux Arts Committee, Lord Saye and Sele; the patron, Mr. Arthur J. Davis; Mr. R. Goulburn Lovell, hon. secretary of the committee of the Atelier; Mr. C. H. Gage, hon. secretary; Mr. Spencer Willmott, hon. librarian; and Messrs. A. Berrington, L. H. Bucknell, C. McArthur Butler (secretary of the committee), A. W. Stephens Cross, A. Rutherford Jemmett, H. Vaughan Lancaster, F. C. Minter, E. C. P. Monson, E. A. Rickards, Harold B. Sanders, L. Sylvester Sullivan, Percy B. Tabbs (President of the Society of Architects), P. M. Ware, and H. W. Wills. On the walls of the studio were hung the drawings executed as projets and those developed as esquisses, and also the spirited and sound drawings from the life executed in the newly-formed class. The fine bronze plaque executed last year by Mr. Jaggars, the winner of the Grande Prix de Rome, and now the property of the Atelier, was on view, and also the specimen of the Bronze Medal, a design selected by M. Lanteri in competition among South Kensington students, and gained by Mrs. Wade. The subject shows a youth examining a plan displayed on a scroll by a female figure, two other females looking on; in the foreground is a broken Corinthian capital, and in the background the Acropolis of Athens. A number of water-colour sketches made by members during their holidays were also displayed, conspicuous among them being a masterly view of the towers of Notre Dame seen from across the Seine, by Mr. A. J. Davis, and also the north porch and the choir buttresses of Chartres, the portico of the temple at Girgenti, the quay at Venice, and half-timbered French houses. Mr. Adrian Berrington lent some beautiful studies from Arundel, Amberley, and other West Sussex scenery, and Mr. E. A. Rickards was represented by some delightful water colours. A huge cartoon some 10ft. in length, showing an ideal reconstruction of Paris, executed for Professor Patrick Geddes, of Edinburgh, attracted much attention.

The chairman, Lord Saye and Sele, who was received with hearty cheering, in a breezy address congratulated Mr. L. H. Bucknell on having executed far and away the best work during the twelve months, and so having become the first recipient of the Atelier Medal, which not only carried with it high honour, but the substantial award of life membership of the Atelier without further payment of fees. The year had been

a most successful one, and promised well for the future progress of the movement. They had sustained a great loss in the departure of M. Chaurès for the seat of war; but they were glad to hear that he was at present in the best of health, and hoped to see him back unscathed. He had read the roll of honour of those who had gone out with great interest and pride, and knew that among those who remained there were not a few who had offered themselves, but were prevented from going by various causes. It was only too apparent that abundant opportunities to architects for work were being provided in Belgium and Northern France. He then, amid prolonged cheering, presented the medal to Mr. Bucknell.

Mr. Arthur J. Davis afterwards gave a running criticism on the designs submitted in the various competitions, his suggestive and illuminating remarks being followed with the greatest interest by the students and their friends, as he walked round the room, reviewing and comparing the works hung on the walls. There were alternative esquisses, in which students had worked in the Atelier on a Saturday from 12 noon till 12 midnight, and on a Sunday from 10 a.m. till 10 p.m. The first subject was for an entrance pavilion to a court of honour. The theme was, he said, well worked out, and the whole work was very encouraging. Mr. Davis showed in detail where the various competitors had succeeded and the points in which they failed, and said the committee placed O. E. Macfie first, and gave mention to Percival M. Ware. In a second competition, for a mausoleum on a plateau overlooking a town, with terraces and flights of steps, O. Bellamy came first, with a clever design. In an orangery in a public garden several of the competitors failed by not observing the conditions as to access from the two narrow ends; O. Bellamy and L. H. Bucknell were placed equal. For the next subject—the decorative treatment of a theatre proscenium and its curtain—O. Bellamy was placed first, L. H. Bucknell being a good second. The competition for a loggia was very disappointing to the committee, as many of the students failed to grasp the requirements; here Adrian Berrington was first, and O. Bellamy second. A Beacon Tower, 100ft. in height and Classic in style, on an eminence, was gained by O. E. Macfie. For an Open Monument, with flat cupola, P. M. Ware was placed first and A. S. Burnett second; and in the last class, a Fire Station, L. H. Bucknell came first and O. Bellamy second.

In proposing a vote of thanks to Lord Saye and Sele for presiding, Mr. Goulburn Lovell referred to the great loss the Atelier had sustained by the death of M. Charles Mewès, of Paris, one of the patrons.

THE PAINTER'S BUSINESS BOOK.*

Of painters' manuals designed to further his technical knowledge we have many, the best of which have been noticed from time to time in these pages; but this is the first attempt, so far as we remember, to teach the painter and decorator the up-to-date methods of obtaining business. That it is wanted, few architects and builders will deny, for business routine seems seldom taught with the trade, and it is certainly not to be acquired in the paint-shop.

Too often, therefore, when the master painter sets up for himself he makes shipwreck by reason of his inability to estimate work correctly, by his neglect to keep up with the times in matters relating to his craft, and by his want of caution in dealing with doubtful or unscrupulous customers.

Like all other tradesmen, he is bound to fail if he cannot at any moment arrive correctly at his financial position. If he does not know how his outlay compares with his estimated costs, what his establishment charges are in relation to his turnover, where he gains and where he loses, and how, when he does know, to effect economies, his name will soon figure among the wide tenders we

*The Painter's Business Book. By CHARLES E. OLIVER. London: The Trade Papers Publishing Co., Ltd., 365, Birkbeck Bank Chambers, W.C. 3s.

occasionally comment on, and, not long after, in the "Gazette."

Lastly, he may be a master craftsman himself, and shrewd, though honest, in business; but if he does not know how to get it he will soon find himself in the impecunious company of the dullard, the careless, and the slothful. He will do well, therefore, to buy and study this practical volume, in which its author deals lucidly and comprehensively with the matters we have mentioned, and others of hardly less importance. The hints on advertising, methods of approaching architects and estate agents, the directions for making out estimates, and bookkeeping, will bring business and make it honestly profitable to any man of average brains who masters them.

Hardly less valuable are the later chapters in which paint-mixing formulas, percentages of oil and pigments, methods of buying and testing materials, job management, etc., are successively dealt with. Some very useful illustrations complete the volume, comprising interiors of an oak-pannelled dining-room, photos of shop-window display, an oak-pannelled reception-room, and a drawing-room in the Adam style. There are also given some good examples of lettering.

HINTS ON THE RUBBING OF BRASSES.

Many of our readers will know how these brasses are "rubbed," if not in detail, at all events, in broad outline. In fact, few of us but have laid a sheet of paper on the back of one of our reading-books in schooldays, and, scribbling on it with a pencil, have reproduced the embossed design from the back of the book. Certain matters, however, the "British Journal of Photography" points out, must be closely observed if a good impression is to be obtained, and an impression that will photograph well.

First, the paper should be a tough white lining paper, which may be bought at any wallpaper shop for about sixpence a roll. The heelball should be the special quality giving a rich black. A stick may be bought for fourpence, the medium hardness being best. To attach the paper firmly we have always found some rubber adhesive plaster has proved most satisfactory. The brass and the surrounding stone must be carefully and thoroughly dusted, to clear away any particles of grit. Then the loose end of the roll of paper is stuck down with three or four pieces of rubber plaster, the roll being so placed that as it is unrolled it will gradually cover the whole of the brass.

The secret, however, of getting a clear and undoubled image is to rub a strip across the paper—that is, from side to side, but only three or four inches in depth. This should be rubbed one way only, at right angles to the roll itself. When all the detail appears and a good black has been obtained, the paper is unrolled another few inches and another strip is rubbed from side to side. So one proceeds until the whole brass is rubbed, never going back, for to do so almost certainly means a doubled image, because the paper will have moved slightly or will have stretched. By holding the roll the paper is kept tight, and may be pulled so without any risk of tearing, as would be the case were a single sheet to be used.

After one or two experiments it will be found easy to rub the smaller brasses, but to deal with the larger ones requires much patience, and they must usually be done in sections and the sheets pasted together afterwards.

A new mission hall at Lochgelly, near Dunfermline, was opened on Thursday in last week. It is seated for 200 people, and has been built from plans by Mr. Scobie.

At the last sitting of Irvine Dean of Guild Court plans were passed on behalf of the burgh of Irvine to erect ten double cottages in a street to be formed to the south-east of Ballot-road, four blocks of dwelling-houses on the south side of Kirk Vennel, and eight blocks of dwelling-houses on the east side of Ayr-road. This building scheme was agreed to some time ago by the town council, in order to cope with the house famine which has resulted from the coming of the new shipyard to Irvine.

Building Intelligence.

CORNHILL, E.C.—The nave and aisles of the church of St. Michael, Cornhill, E.C., have just been refloored with rubber. It was originally intended to have an oak floor, but that scheme was held up by the dispute in the building trade. Meanwhile the Rubber Growers' Association offered a free gift of raw rubber worth £100. This was gladly accepted, and the material was converted into imitation marble tiles, alternately black and white. This is the first City church to be floored with rubber; but the material has been in use for some time at Lloyd's and other institutions.

DUNDEE HOUSING SCHEME.—At a meeting of Dundee Town Council on Friday it was intimated that the housing and town-planning committee had instructed the city engineer to prepare a report dealing with the housing of the working classes, it being stipulated that the council would not be bound to proceed with or delay the housing scheme. Mr. Robertson contended that this remit did not go far enough, and moved that plans be prepared showing designs of three-roomed cottages to be erected in a suburban area, and also designs of tenements of one and two rooms, including the cost of ground. In support of this motion it was stated that there was a great shortage of working men's houses, due to the demolition of property involved in improvement schemes. An undertaking was given that all the information sought would be included in the engineer's report, which, it was stated, would be of an exhaustive nature.

PALMER'S GREEN CONGREGATIONAL CHURCH.—This building was opened on the 1st inst. The church is of Late Gothic design, faced with red bricks, the dressings being in Bath stone. The nave arcade and columns are of Ancaster stone. The seating, pulpit, and dado are in natural-colour oak. The work has been carried out by Messrs. J. Dorey and Co., Distillery-road, Brentford, and the cost amounts to about £6,850. The architects are Messrs. George Baines and Son, 5, Clement's Inn, Strand, W.C.

The rural district council of Upton-on-Severn have received the sanction of the Local Government Board for borrowing £5,610 for works of water supply.

The urban district council of Hatfield have received sanction from the Local Government Board to the borrowing of £7,190 for the Pele-gate drainage scheme.

Additions are about to be made to the county asylum at Castlebar, Mayo, at an estimated outlay of £22,000. The architects are Messrs. Doolin and Butler, of Dublin.

Mr. Thomas H. Mawson, Hon. A.R.I.B.A., has just received a letter from M. Bernachi, the Mayor of Athens, informing him that he is to proceed with his scheme for replanning Athens.

The Rowley Regis Urban District Council have decided to ask the Local Government Board to sanction the schemes for laying out the new cemetery and the widening of Moor Lane, Rowley. They are also to submit a scheme to the Road Board for the widening of Oldbury-road, Blackheath.

The American Board of Foreign Missions has appointed Mr. John Pergamini, an architect, to supervise and design all buildings erected by the Board in China. Inasmuch as the American Board of Foreign Missions erect and maintain numbers of important buildings aside from churches and chapels, it has been decided that the assistance of a qualified architect has become necessary.

At a meeting of the tramways committee of Newcastle-on-Tyne Corporation it has been decided to recommend the city council to carry out the undertaking given to the Committee of the House of Lords when the North-Eastern Railway Company's Bill was under consideration—that they would, next session, seek Parliamentary powers for through running between Newcastle and Gateshead. It was also decided that the chairman and vice chairman should interview Sir A. K. Butterworth, manager of the North-Eastern Railway Company, to see whether some arrangement could be arrived at.

COMPETITIONS.

AUSTRALIAN FEDERAL PARLIAMENT HOUSE.—Owing to the state of war existing, the Government of the Commonwealth of Australia has decided to postpone, until a more favourable time, the competition for the design of the Federal Parliament Houses, to be built at Canberra. It was intended that the competition should be open to architects from all parts of the world, and that it should close in London and Melbourne during March, 1915. We trust whenever the competition is reopened "No German need apply"!

REIGATE.—The Redhill Police and Fire-Station Competition has been decided, and the assessor appointed by the town council has now made his award, as follows:—First Prize, 40 guineas, Mr. Joseph Sunlight, 4, St. Ann's-square, Manchester; second prize, 20 guineas, Mr. Alick G. Horsnell, 5, Gray's Inn-square, W.C.; third prize, 10 guineas, Messrs. Garratt and Simister, Norwich Union Chambers, Congreve-street, Birmingham.

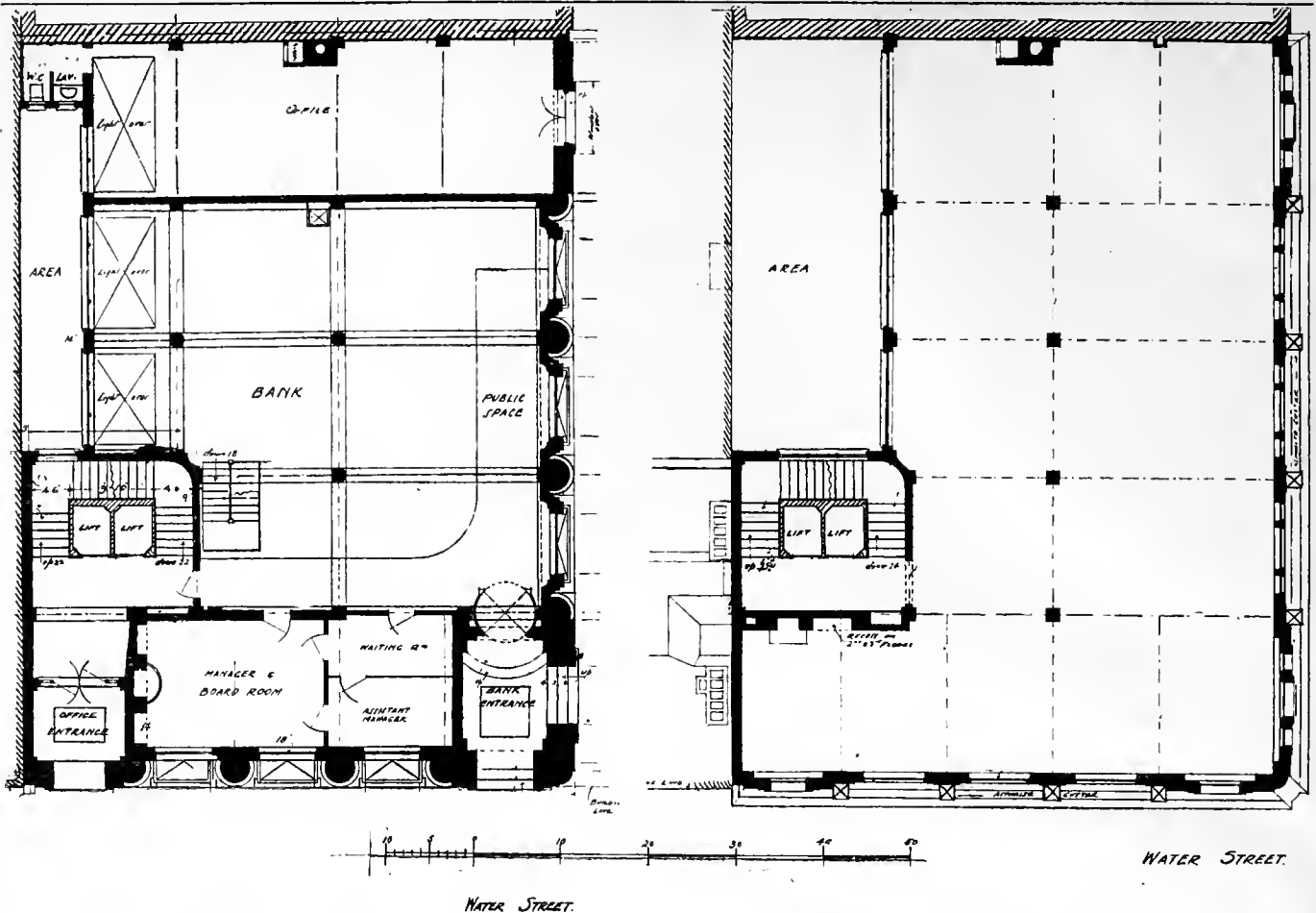
COMPETITION FOR WORKMEN'S DWELLINGS, HOLLOWELL, NORTH-AMPTON.—Members of the Society of Architects are requested not to take part in the above competition without first ascertaining from the Secretary whether the conditions have been approved by the Society.

HENDON.—The Swimming-bath Competition at Hendon, advertised last January, has now been settled. Twenty-three designs were submitted, and Mr. Herbert W. Wills, F.R.I.B.A., acted as assessor with the following result: First premium, £100, Mr. T. M. Wilson, of 4, Staple Inn, Holborn, London, W.C. Second premium, £75, Messrs. Wright and Chapman, 38, Grainger-street, W., Newcastle-upon-Tyne. Third premium, £50, Mr. Alfred W. S. Cross, of 46, New Bond street, London, W. The site adjoins the council offices in The Burroughs, Hendon. No perspective or details were required, but the author of the successful design was to furnish a view of the buildings within two weeks of the date of the referee's award. The swimming-bath had to be constructed so that without any structural alterations it would be adaptable for use as a public hall, and the exits and entrances were to be contrived with the idea of such a contingency. Space had to be left on the land for the erection of a public library. The pond specified should measure 100ft. by 40ft., the hall in which it is arranged to figure 120ft. by 60ft., with an alcove of the whole width of the bath 25ft. deep, with a raised floor for use as a platform, if required. Foot-and-shower-baths, w.c.'s, etc., also dressing-rooms, which must be made to fold up and form a pannelled dado for the hall round the bath. The swimming-bath also to be used as a gymnasium, and to have an architectural roof. Four first class and eight second class men's slipper-baths, three first class and six second-class slipper-baths for women, each set to have two waiting-rooms and closet accommodation. An architecturally treated club-room, 60ft. by 30ft., to form part of the scheme, and future extensions to be provided for. The cost to be estimated at 9d. per foot cube as a fair price.

Mr. F. J. Harris has resigned his position as road surveyor to the Holsworthy Rural District Council on his appointment as assistant surveyor to the Devon County Council.

The memory of the late Archbishop MacHale is to be kept green by the erection of a Roman Catholic Church at Lougherdown, Co. Mayo. Messrs. W. H. Byrne and Son, of Dublin, are the architects, and Mr. James Kiernan is the builder.

The Royal Commission appointed by the South Australian Government to report upon the best route for railway communication between Adelaide and Sedan recommends the construction of a 5ft. 3in. gauge line from Balhannah, on the Adelaide railway, to Sedan, via Mount Pleasant and Palmer, a distance of 57 miles, which, with the existing lines, makes a total distance from Adelaide of 86 miles. The estimated cost of construction, including rolling stock, is £775,875.



GROUND FLOOR PLAN.

2nd FLOOR PLAN 3rd 4th & 5th FLOORS SIMILAR.

WEST AFRICA HOUSE, WATER STREET, LIVERPOOL.—Messrs. BRIGGS, WOLSTENHOLME, and THORNELY, F.F.R.I.B.A., Architects.

Our Illustrations.

WEST AFRICA HOUSE, WATER STREET, LIVERPOOL.

This large bank and office building is now being erected for the West Africa Buildings Co., Ltd., and it will be known as "West Africa House." The structure is steel-framed and faced with Portland stone, with a granite base. The Bank of British West Africa will occupy the ground floor; the other floors, seven in number, will be let as offices. The lavatory accommodation is on the eighth floor. Messrs. Jones and Sons, of Liverpool, are the general contractors. Diespeker's Patent Bigspan floors have been installed. They consist of a series of reinforced-concrete beams at about 14 ft. centres, with hard burnt clay hollow blocks between; the beams are formed in cement grouting of a special quality ballast concrete, and reinforced with steel rods; this hollow-brick construction gives great strength and lightness, and, in addition to its fire-resisting and soundproof qualities, it has the further advantage of being a "dry floor," and contractors can follow on with their finishings at once. By this system spans up to any extent can be constructed with a clear soffit, thus avoiding unsightly members below the soffit. This firm is entirely British-born, both as regards its shareholders and the directorate. A low-pressure hot-water accelerated circulation system of heating is to be installed. The architects are Messrs. Briggs, Wolstenholme, and Thornely, F.F.R.I.B.A., of Royal Liver Buildings, Pier Head, Liverpool.

BILLSBORROW HALL, BETWEEN PRESTON AND LANCASTER.

This North-country house is nearing completion on a fine site between Preston and Lancaster, where the building occupies an elevated position commanding extensive views westwards to Morecambe Bay, and a prospect over a delightfully-wooded country, looking south towards Preston. The whole of the group of buildings gives a happy effect

in colour and contour characteristic of the Domestic work of the locality. The panelling in the hall is of oak. The outside walls are built of rock-faced masonry from the Longridge Quarries. The stones vary in colour from shades of brown to light blue. The roofs are covered with Yorkshire stone flags from Hipperholme, near Halifax. The general contractors are Messrs. Thomas Croft and Sons, Ltd., Preston. The view reproduced was exhibited in this year's Royal Academy. The elevations and plans further illustrate the style and interest of the house. Messrs. Woolfall and Eccles, F.F.R.I.B.A., of Bank Buildings, 60, Castle-street, Liverpool, are the architects.

"GREENAWAY END," GREENAWAY GARDENS, HAMPSTEAD, N.W.

This house, just completed, is situated at the corner of Greenaway-gardens and Frogual-lane. The drawing was shown at the Royal Academy Exhibition this year. The plan is irregular, in order to suit a sloping site and to preserve some fine trees at the angle. The walls are finished in red bricks and tile-hanging to first floor, and the windows are glazed with leaded lights. A feature of this house is the panelled hall, with staircase at end. There is a tennis lawn and formal garden at back. This house was designed for Mr. G. W. Hart, of Hampstead. The architect is Mr. Cyril A. Farey, of 10, Lincoln's Inn-fields, W.C.

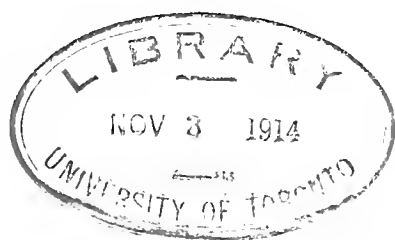
AN ENTRANCE GATEWAY TO A CEMETERY.

This drawing, from the Royal Academy this year, illustrates an endeavour to group into one important structure the several buildings which are necessary for the proper organisation and administration of a large cemetery, and at the same time to insure a monumental entrance to a suburban cemetery. On the left of the main entrance is located the gate-keeper's lodge, pedestrians' entrance, cycle and lavatory accommodation. On the right of the main entrance is a large workshop, with head gardener's quarters over pedestrians' entrance, with a second place

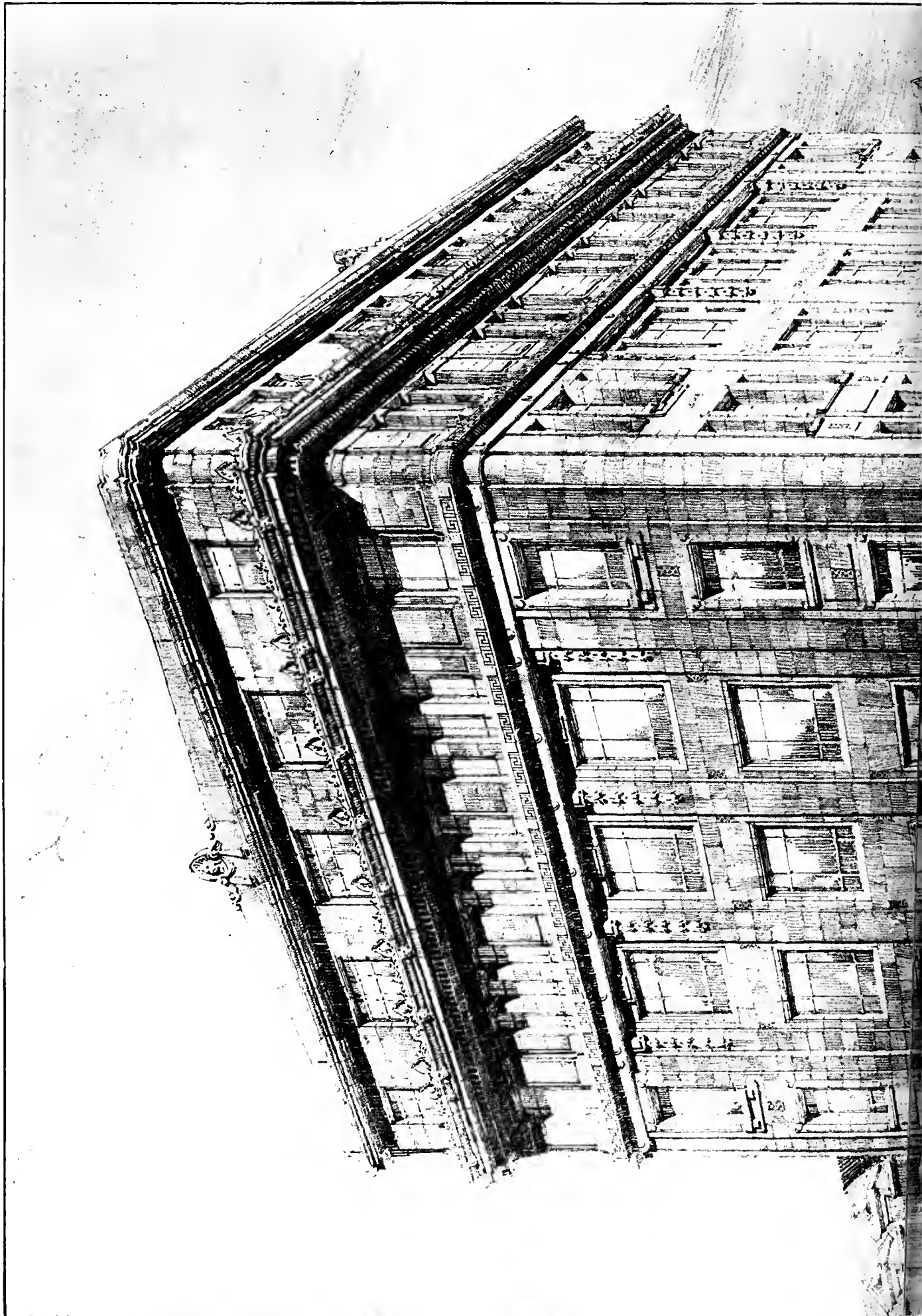
for cycle and public lavatory accommodation. At the top and extending across the main entrance a bulb and plant store is provided, heated from the head gardener's quarters, and connected with a lift, which also serves the living-rooms underneath. The materials consist of Portland stone, bronze gates, wreaths, and statuary. Mr. Wm. Warman, of Crofton Park, S.E., is the architect.

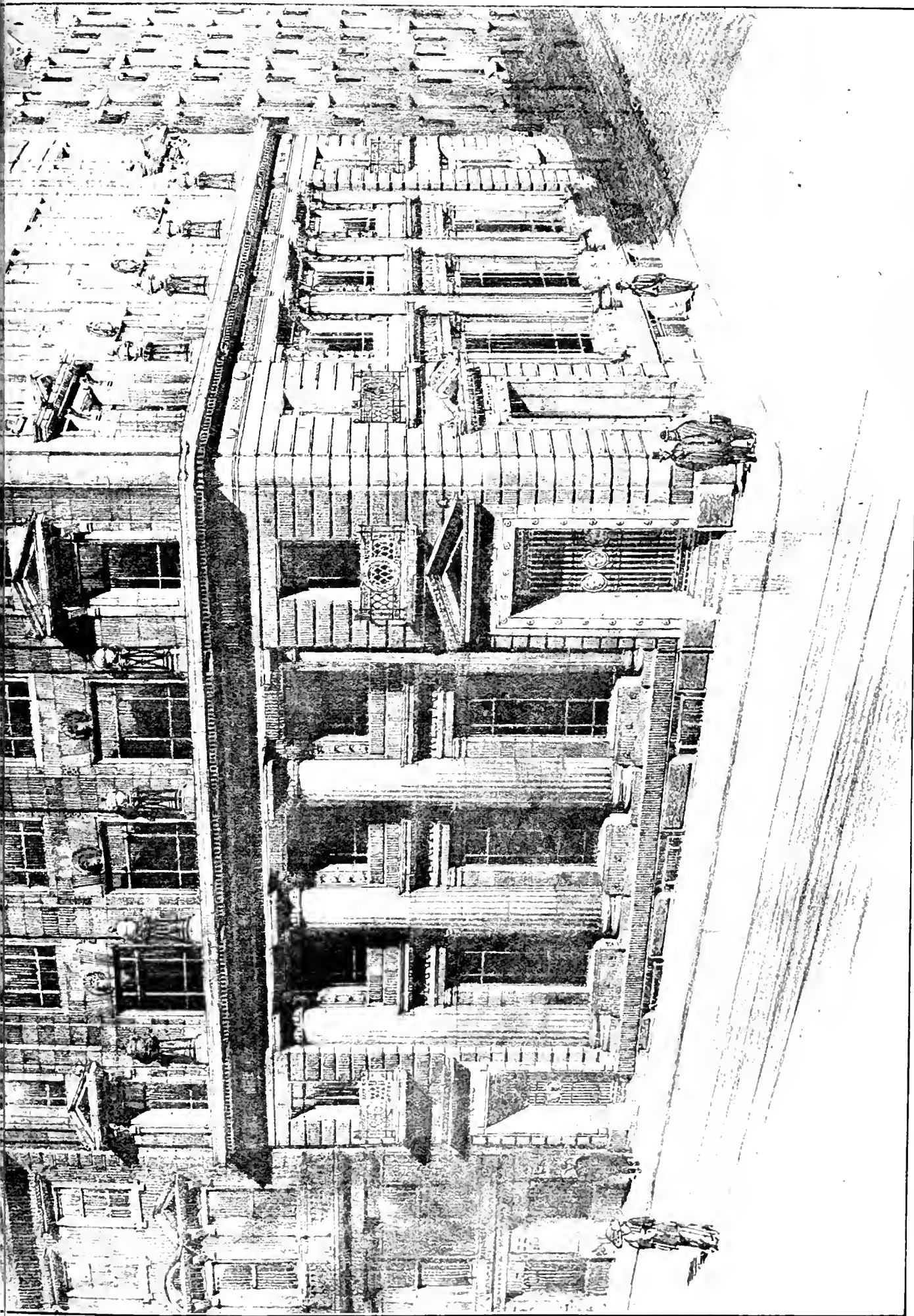
CROSS STREET CHAPEL, MANCHESTER.

This William-and-Mary Chapel was erected in 1694, and its elevations, carried out in brick and stone, are typical of the style which is better known as "Queen Anne." Stone quoins are inserted into the angles to the front and side façades. All the ground-floor windows contain segmental arches; the gallery windows are semicircular, and stone architraves with keystones occur in the front façade fenestration on this upper floor. The Cross-street portal has two half-circular Doric columns, with entablature and a pediment, with rusticated masonry to this semi-circular-headed doorway. The side entrance is also rusticated, with a square opening, above which a well-designed cornice occurs. The plain brick walls inside are of more than passing interest. The galleries are massive in character, and the pews of oak have grown black with age. Tradition says that the pulpit in this old meeting-house was intended for St. Ann's Church (over the way), but it was rejected on account of its cost. The general design of this rostrum is remarkable on account of its carving, and for the mosaic work on its panels, radiating from a centre, in imitation of an efflux of light. Some attention is also due to the antique chandeliers, while the pulpit Bible deserves notice as a fine specimen of typography. It is interesting to note that the Rev. William Gaskell, the husband of Mrs. Elizabeth Gaskell, the famous novelist, commenced his ministry in this church about 1828. Mr. Gordon Hemm, of Heaton Chapel, Stockport, who has sent us these measured drawings, says that there is a likelihood of this old building being shortly pulled down.



THE BUILDING NEWS, OCTOBER 9, 1914.



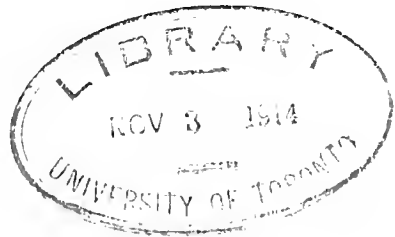


WEST AFRICA HOUSE, WATER STREET, LIVERPOOL, FOR THE WEST AFRICAN BUILDINGS COMPANY, LTD.

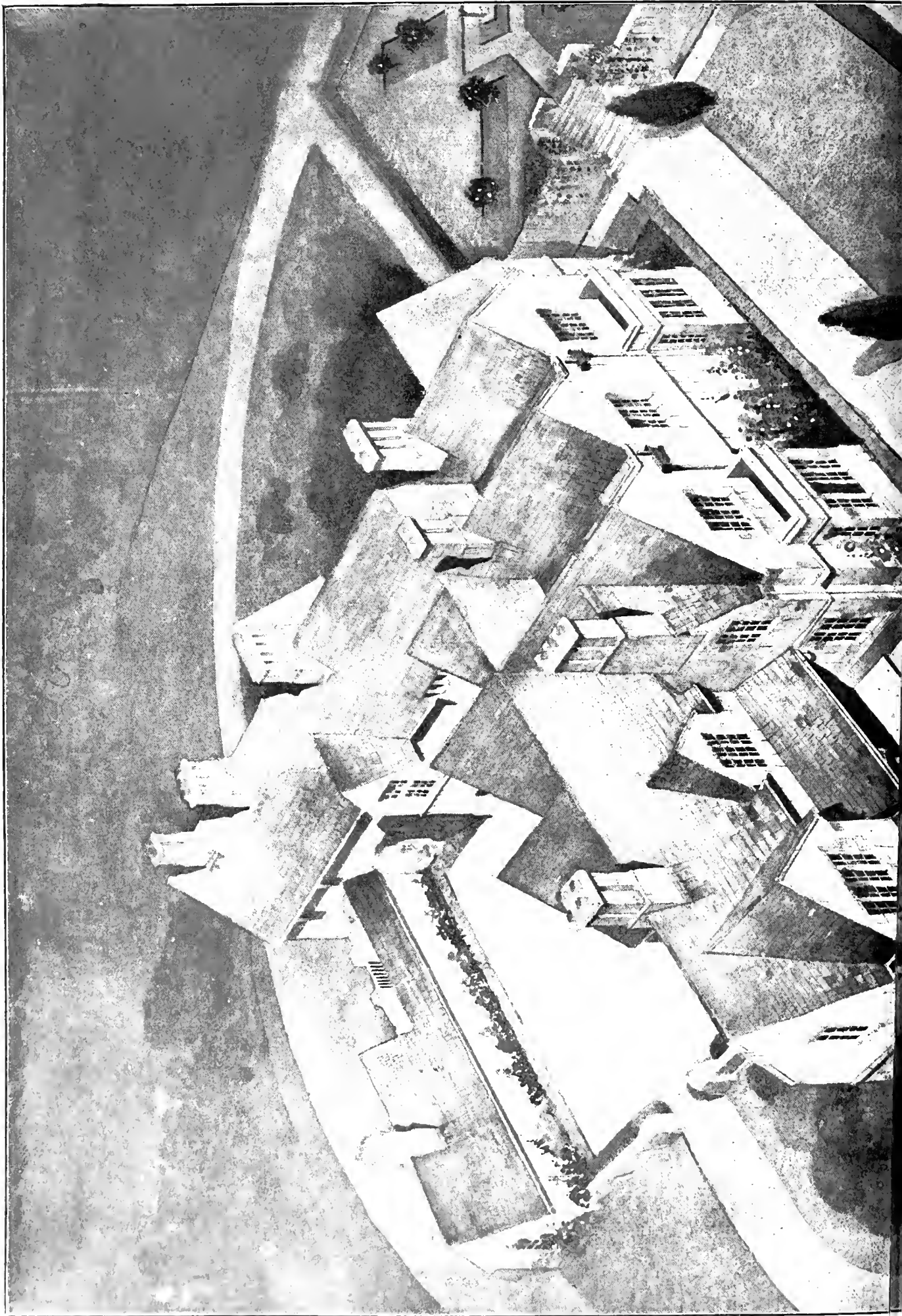
Messrs. BRIGGS, WOLSTENHOLME, and THORNELY, F.F.R.I.B.A., Architects.

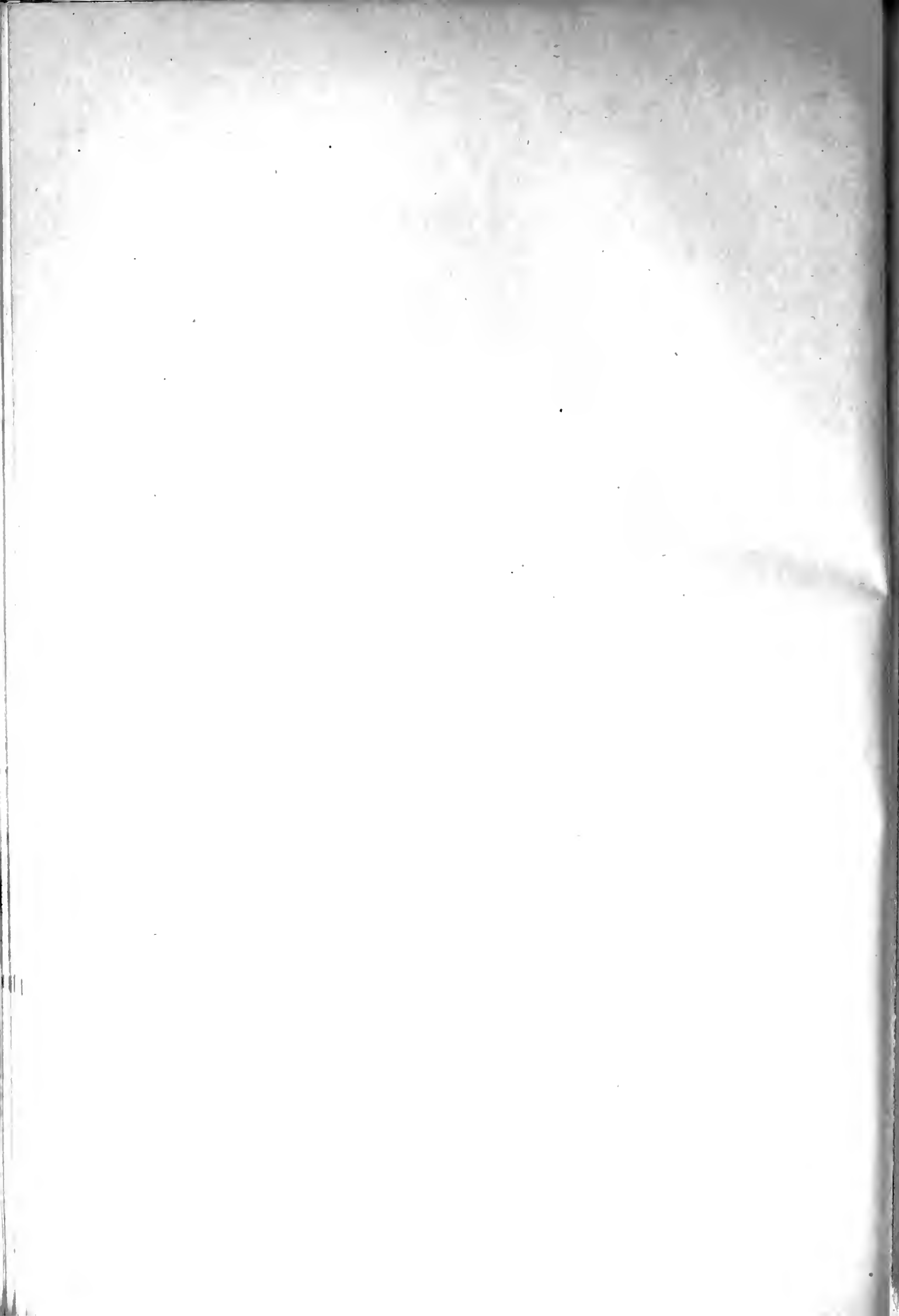


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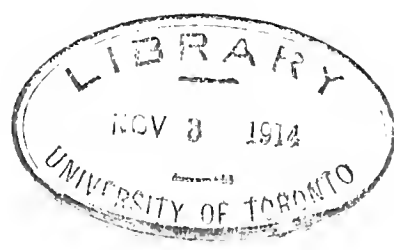


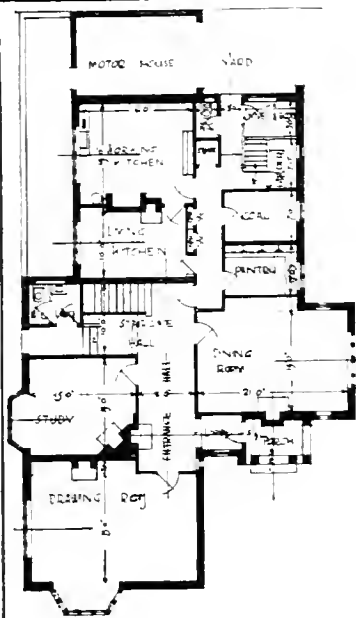
THE BUILDING NEWS, OCTOBER 9, 1914



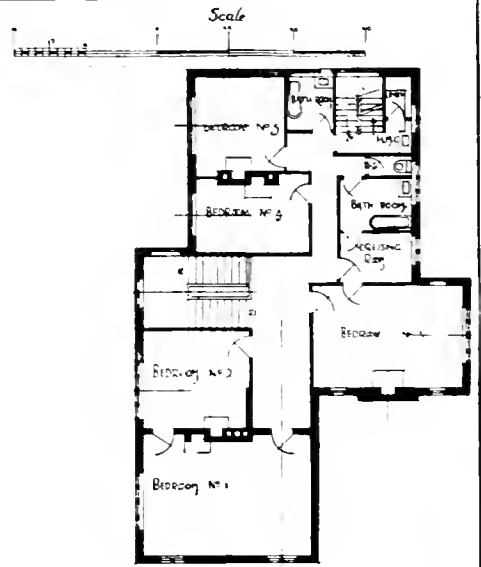


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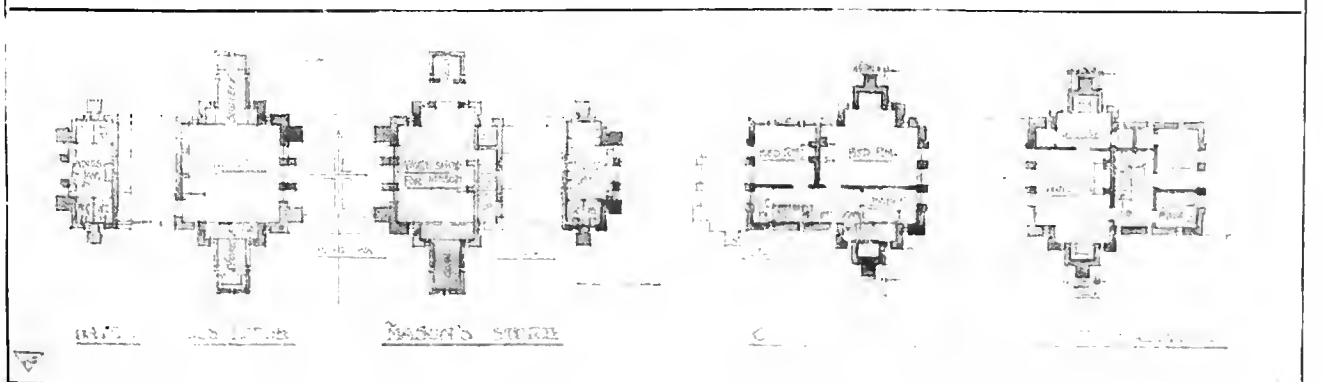
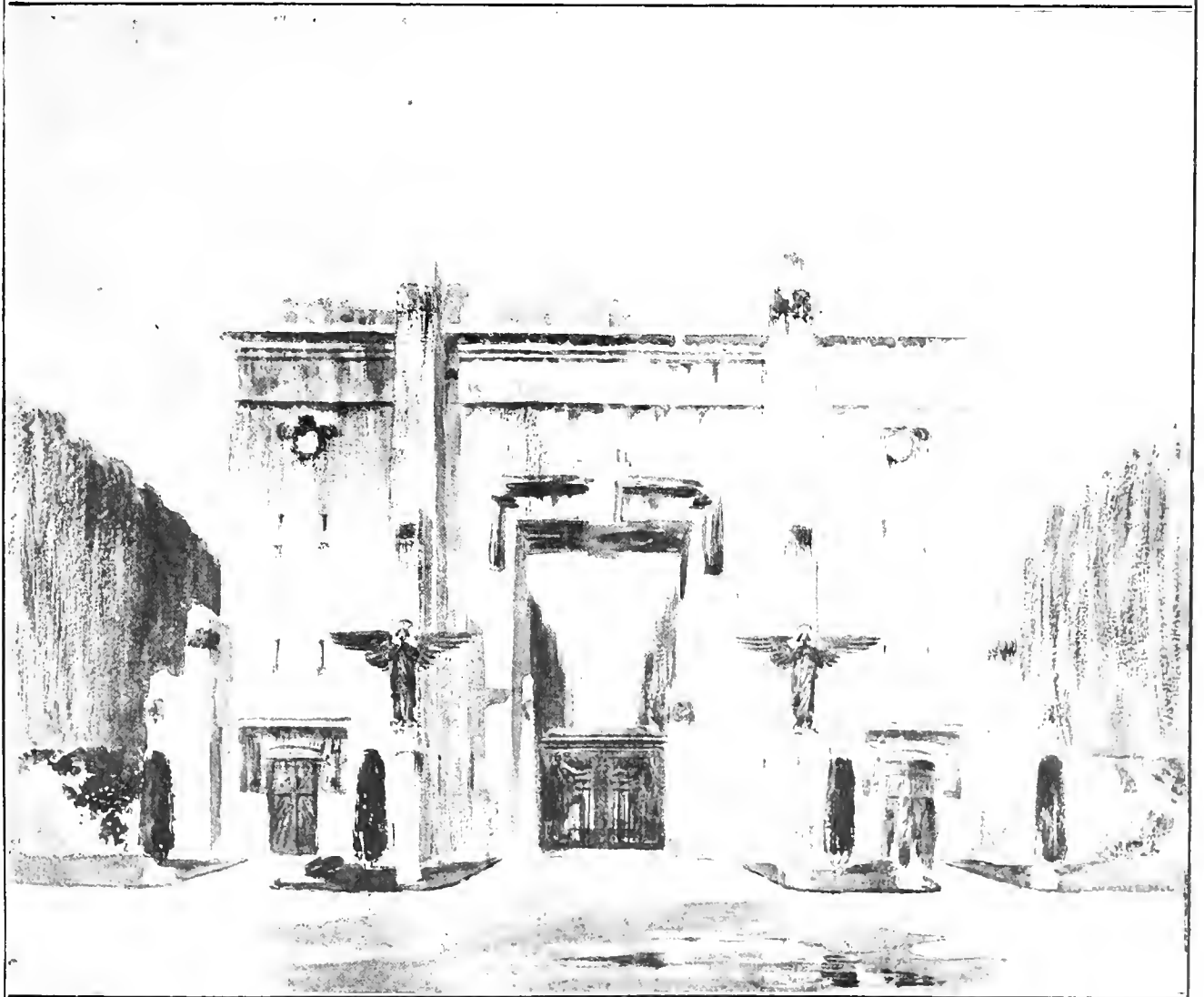
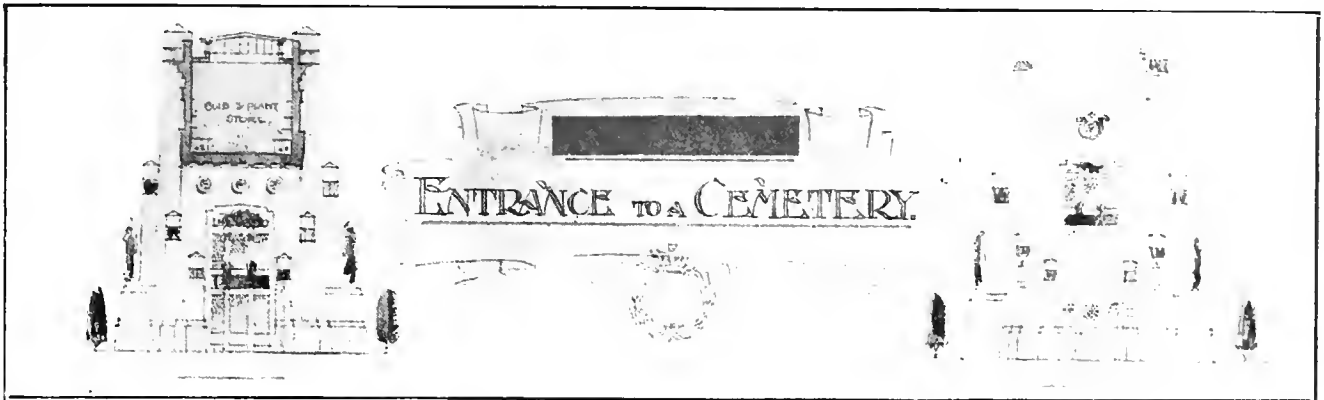
GROUND FLOOR.



FIRST FLOOR.

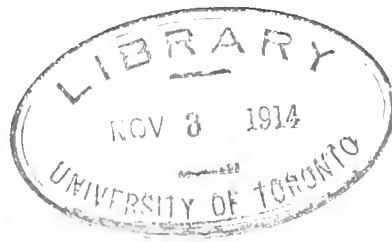


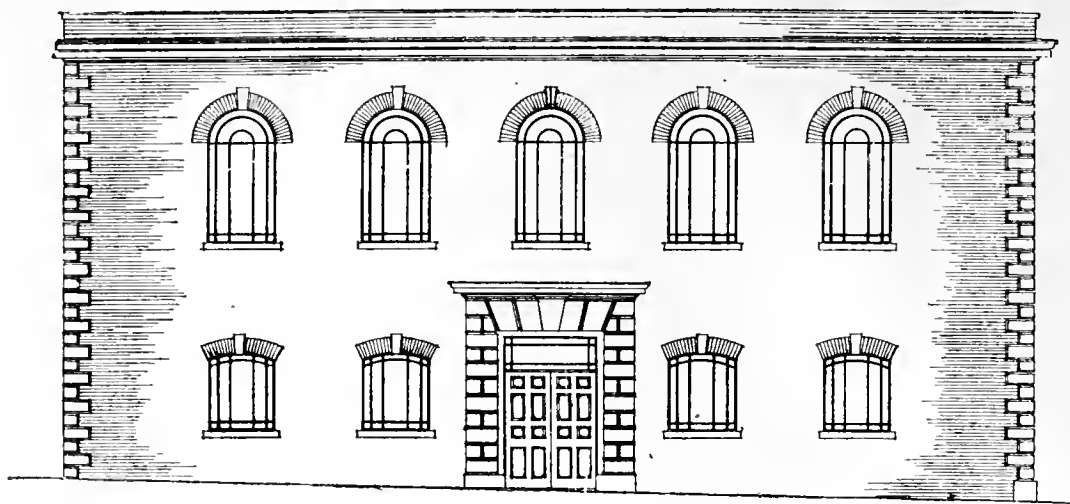
House at Corner of Tropezal Lane and Greengate Gardens, N.W.
for G. W. Hall, Esq. Cyril A. Carey, Architect.



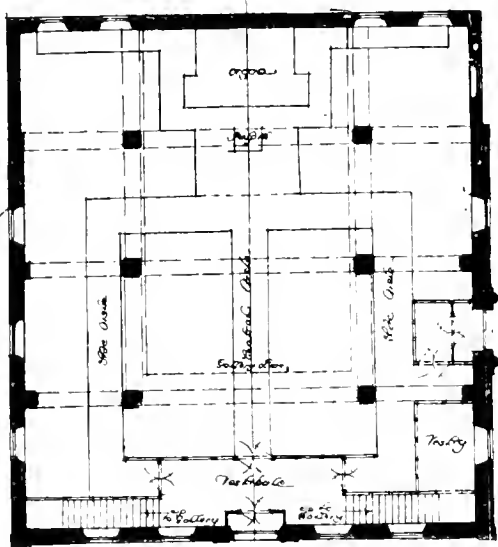
AN ENTRANCE GATEWAY TO A CEMETERY.—Mr. W. WARMAN, Architect.





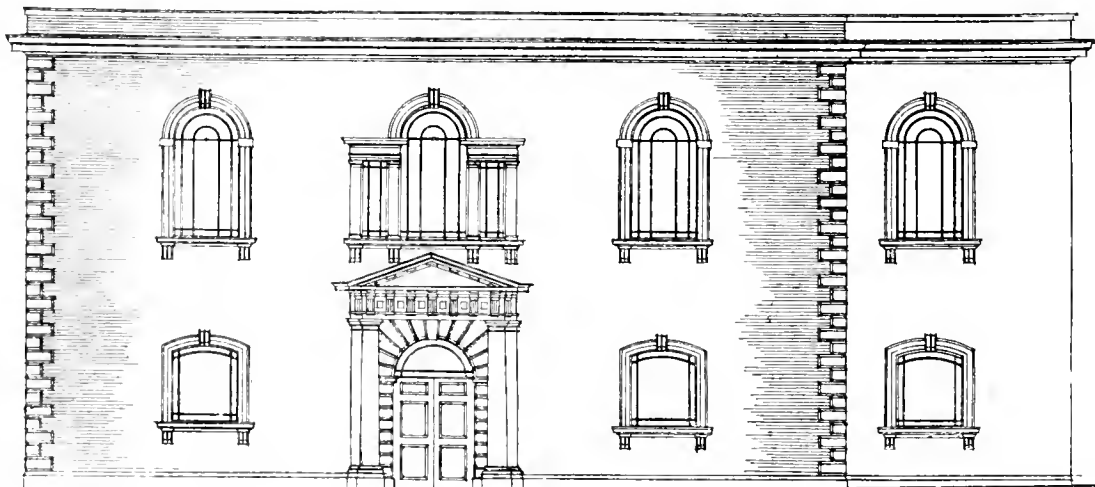
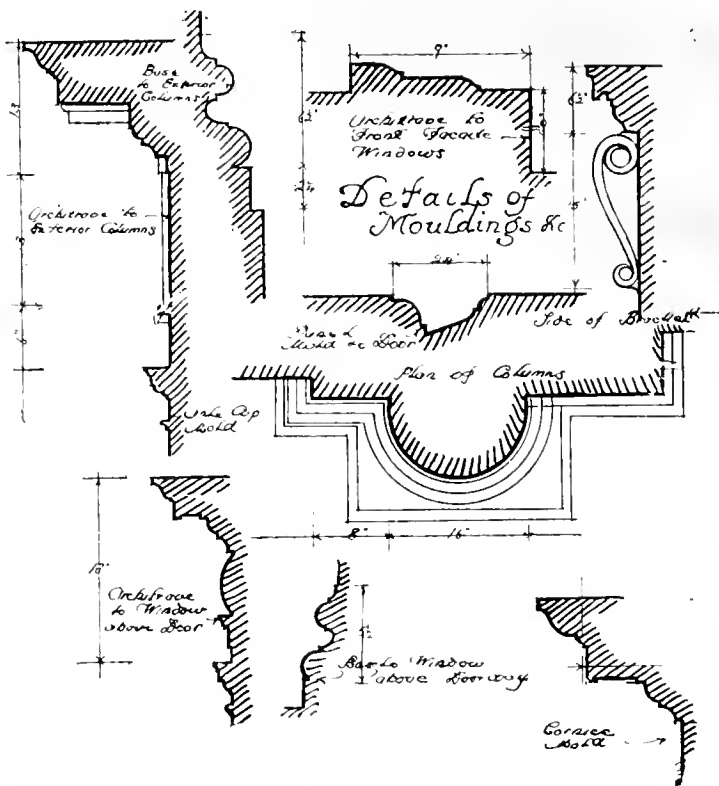


The Side Elevation

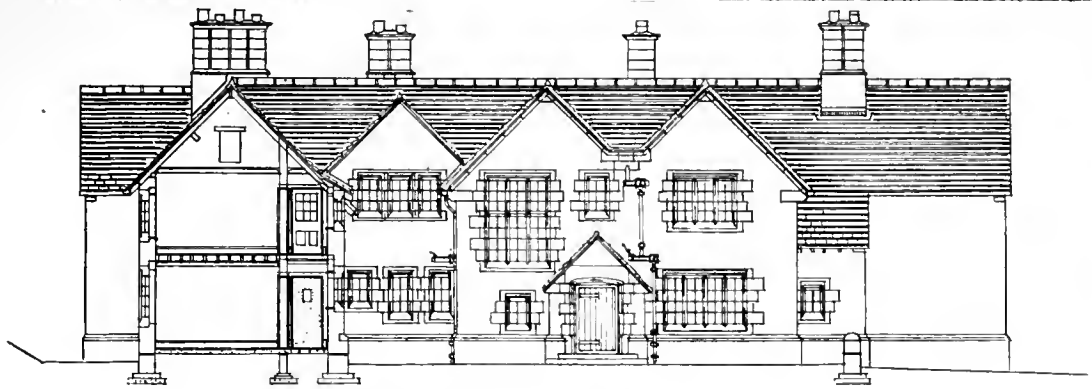


The Plan

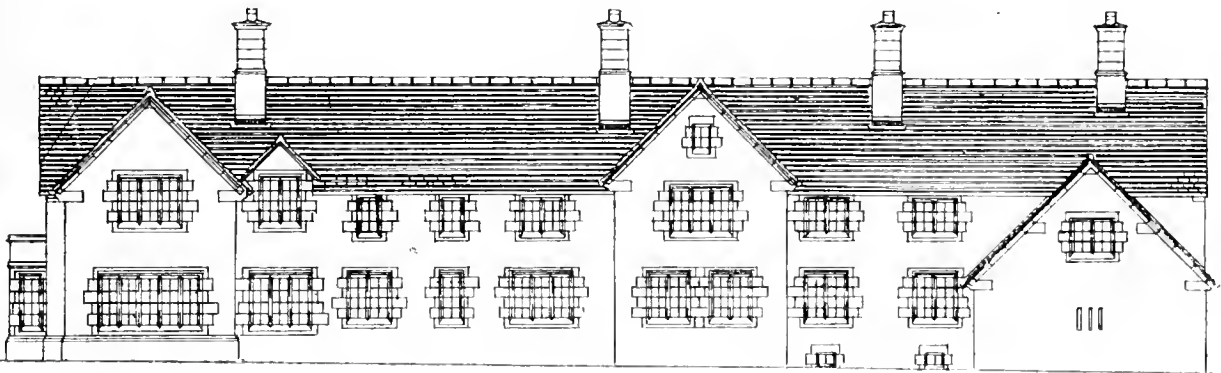
English Architectural Record, 1894



The Front Elevation



· ELEVATION TO FORECOURT ·

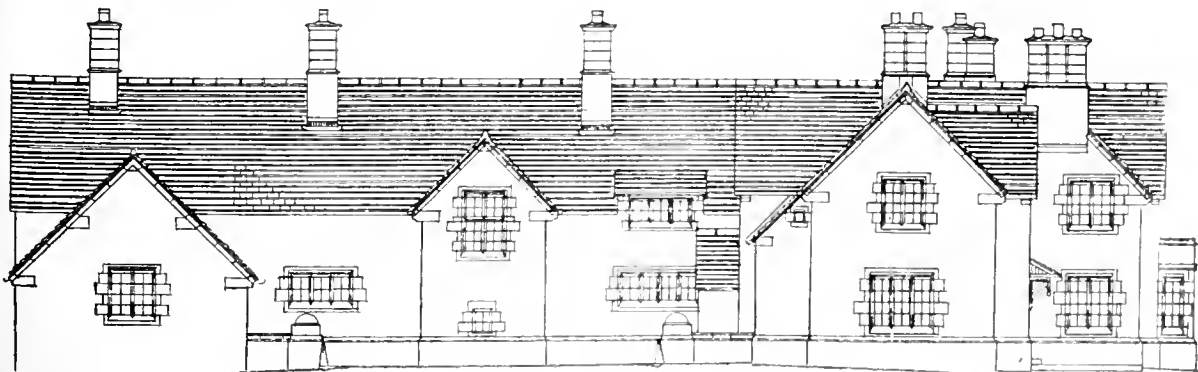


· EAST ELEVATION ·



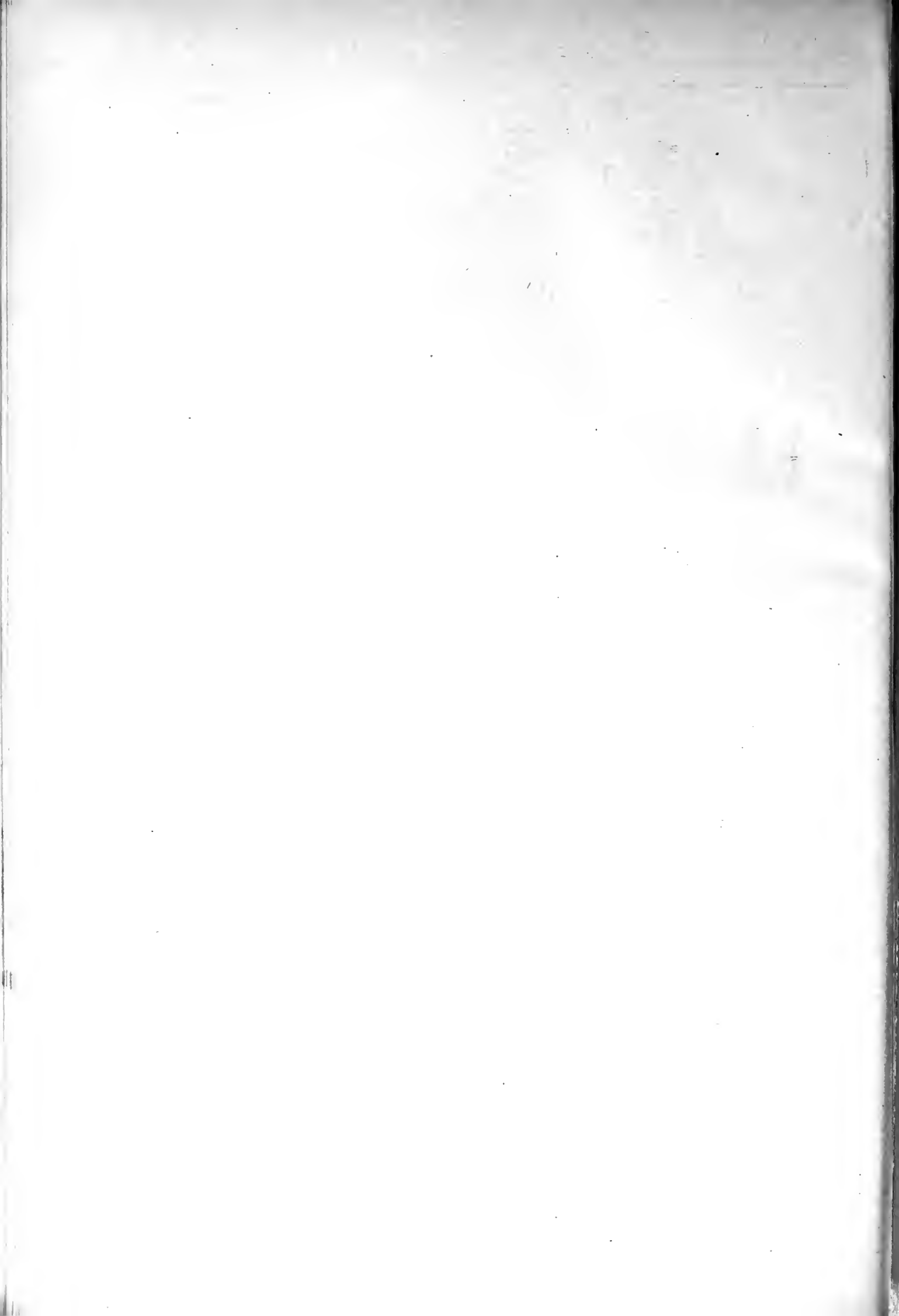
· SOUTH ELEVATION ·

· BILSBORROW HALL · LANCASHIRE ·



· WEST ELEVATION ·

WOOLFALL & ECCLES
ARCHITECTS
60 CASTLE STREET.



PROFESSIONAL AND TRADE SOCIETIES.

GLASGOW.—Owing to the war, the trustees of the Alexander Thomson Travelling Studentship, vested in the Glasgow Institute of Architects, have decided to postpone the competition for one year. Students eligible this year who have gone on military duty will be allowed to compete when the competition is held.

LIVERPOOL MASTER BUILDERS' ASSOCIATION.—The annual meeting of this association took place on Monday, the chair being occupied in the earlier stages by the retiring president, Mr. Harold E. Cubley. The annual report was adopted, as was also the treasurer's statement of accounts. The senior vice-president, Mr. David J. Hall, was unanimously elected president for the coming year, and took the chair, a vote of thanks being passed to the retiring president for his services during the past year. The following further officers were elected:—Mr. R. Morrison, senior vice-president; Mr. W. A. Barnes, junior vice-president; Mr. Thomas Jones, treasurer; Mr. J. Sirett Brown and Mr. Henry Lever, hon. auditors. The following committees were elected: Bricklayers, masons, plasterers and slaters, carpenters and joiners, plumbers, painters and glaziers, electricians, associate, labourers. The meeting terminated with a vote of thanks to the secretary, Mr. Bertram B. Moss, for his services.

MANCHESTER SOCIETY OF ARCHITECTS.—The fiftieth annual report of the council of the Manchester Society of Architects shows an aggregate membership of 272, against 281 a year ago, a decrease of nine. The roll includes 121 Fellows, 113 Associates, and 38 students. The deaths of Mr. B. W. H. Brameld and W. M. Gillow are recorded with regret. It is mentioned that Mr. Paul Ogden, F.R.I.B.A., has been elected as the society's representative on the Air Pollution Advisory Board, on the invitation of the Manchester Corporation, and that Mr. John Ely, F.R.I.B.A., has been elected president of the Manchester Academy of Fine Arts. The opening meeting of the new session of the society will be held on Wednesday next, when Mr. F. B. Dunkerley, F.R.I.B.A., will deliver his presidential address.

MIDLAND ENGINEERS AT HINCKLEY.—A meeting of the East Midland District of the Institution of Municipal and County Engineers was held at Hinckley on Saturday. The members were welcomed by Mr. G. Kinton on behalf of the Hinckley Urban District Council. Mr. J. S. Pickering, of Cheltenham, president of the district association, occupied the chair. A paper by Mr. F. H. Crump on "Eleven Years' Municipal Work at Hinckley," dealt with the important strides made by the local authority in public administration during that period. Mr. W. H. Court, of Leicester, gave a paper on "By-laws and the Housing Question." A vote of thanks to Messrs. Crump and Court was proposed by Mr. T. W. Heywood, of Battersea, seconded by Mr. A. D. Greatorex, of West Bromwich, and supported by Mr. H. G. Wyatt, of Grimsby. Dr. Bostock Hill, of Birmingham, said he had considerable knowledge of the difficulties Hinckley had had to contend with in the treatment of their sewage. Experiments were proceeding by which it was hoped the existing state of affairs would be remedied. It was a satisfaction to know that small towns had risen to the occasion, and had raised themselves sanitarily to a much higher position than they were fifteen years ago. The work had been magnificent, and although they had taxed the resources of the ratepayers, everyone, as knowledge increased and wisdom advanced, would be convinced that there could be no better investment than in the cause of health. Mr. S. Douglas, of Kenilworth; Mr. F. Wright, of Ilkeston; Dr. T. Robinson, county medical officer of health for Leicestershire, and the chairman contributed to the discussion, after which Messrs. Court and Crump replied. After dinner at the Union Hotel, the engineers inspected the new workmen's dwellings

erected by the council, and proceeded by motor to Snaresstone, to visit the waterworks and plant owned by the authority.

R.I.B.A. PROBLEMS IN DESIGN.—The designs submitted under Subject XVI. will be on view in the gallery of the R.I.B.A. on October 12, 13, and 14, inclusive, between the hours of 10 a.m. and 8 p.m.

THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.—An ordinary meeting of the council of the above body was held at the Institute Rooms, No. 31, South Frederick-street, Dublin, on Monday last. The president, Mr. R. Caulfeild Orpen, B.A., R.H.A., was in the chair, and there were also present: Messrs. F. Batchelor, J. A. Geoghegan, F. Hays, A. E. Murray, A. G. C. Millar, C. A. Owen, Professor Scott, J. H. Webb, C. L. O'Connor, C. P. Sheridan, L. O'Callaghan, and F. C. Hicks, hon. secretary. The minutes of the previous meetings were read and signed, and accumulations of correspondence and finance dealt with. Matters were dealt with arising out of the war crisis, and a relief works committee, consisting of Messrs. J. H. Webb, C. L. O'Connor, and C. A. Owen, hon. secretary, was appointed. Correspondence from the British Institute, asking for co-operation in its war committee's proposals, was submitted. The following were appointed on the R.I.A.I. war committee: Messrs. Lucius O'Callaghan, Albert E. Murray, G. P. Sheridan, and Frederick Hayes, hon. secretary. This committee was instructed to circularise the whole profession in Ireland.

SCOTTISH NATIONAL BUILDING TRADES FEDERATION.—The twentieth annual general meeting of the Scottish National Building Trades Federation was held in the Imperial Hotel, Aberdeen, on Monday. Representatives were present from all the principal centres throughout Scotland. Ex-Bailie Forrest, J.P., Edinburgh, presided. Prior to the business of the meeting, Lord Provost Maitland, Aberdeen, extended to the representatives a hearty welcome. He said he had welcomed many congresses to their city, but with none had he a closer personal connection than that of the building trade, and it gave him peculiar pleasure to offer a word of welcome. He recognised the importance of the Federation and its work, as being profitable alike to the members and to the community, in securing conditions and prices to enable a satisfactory and honest job to be done. The chairman, on behalf of the federation, expressed appreciation of the Lord Provost's courtesy. Satisfactory reports were made upon the progress of the organisation of the federation. Reports of the negotiations for the establishment of universal conditions of contract and modes of measurement were submitted. Office-bearers for the ensuing year were appointed—viz.: President, Mr. George Lyall, jun., J.P., Aberdeen; vice-presidents: Mr. Henry H. Spittal, Glasgow, and Mr. Edward Bruce, Edinburgh. A board of directors was also elected.

TOWN PLANNING IN LANCASHIRE.—A conference organised by the National Housing and Town Planning Council was held at Matlock Bath on Monday. Mr. Harold Shawcross, Rochdale, was in the chair, and among those present were Mr. Mullin, Manchester; Mr. Forbes, Prestwich; Councillor Marr, Manchester; Mr. Crossland, Manchester; Mr. Smeethurst, Manchester; and Mr. Crinion, Oldham. The proceedings were in private, but Mr. Aldridge, of London, the hon. secretary of the council, stated that they had discussed the policy to be followed by local authorities under the new Act.

Mr. John William Rowthwaite, A.R.I.B.A., of Mosley-street, Newcastle-on-Tyne, has been appointed as a Justice of the Peace for the borough of Gateshead.

Mr. George Kett, of Wymondham House, Brooklands Avenue, Cambridge, of the firm of Rattee and Kett, builders and contractors, who died on May 6, left personally amounting to £26 7/2.

Correspondence.

THE ARCHITECTURAL ASSOCIATION.

To the Editor of the BUILDING NEWS.

SIR,—There have been many inquiries as to whether the Architectural Association is carrying on its educational work during this crisis in national affairs, and I, therefore, should like to make it known as far as possible that everything is being carried on as in normal times. The day and evening classes are necessarily depleted by the patriotic response of a large number of students to Lord Kitchener's appeal; but there are still many students who, for various reasons, are unable to join the forces, and these are very properly continuing their studies. I would urge the importance of all students continuing their educational work if they are unable to enlist.

Apart from the work in the school, considerable recruiting is going forward at 18, Tufton-street, from the ranks of architects and men of kindred professions, and also (at the request of the authorities) amongst skilled mechanics connected with the building trade.

I feel sure that members and others will be glad to know that the A.A. is carrying on its work and doing its best in other ways to be of some practical service to the country.—I am, etc.,

H. AUSTEN HALL, Acting President.
18, Tufton-street, S.W.

THE SECOND LONDON SANITARY COMPANY.

SIR,—The Second London Sanitary Company has volunteered for service abroad, and a new Home Service Unit is being formed to take its place. It is desired that the new unit shall be composed of men with definite experience in some branch of sanitary work. There are doubtless many among your readers who have not seen their way to volunteer for service abroad who would be glad to serve their country at home.

The need is urgent, as many hundreds of thousands of men are now encamped or billeted in various parts of the country, in many cases necessarily without any sanitary arrangements beyond what they can improvise for themselves. Under these conditions, as shown by our experience in South Africa, and that of the United States in the Spanish-American War, devastating outbreaks of disease must sooner or later occur, unless the sanitary work of the various camps is carefully and conscientiously performed. Any failure in this respect will inevitably lead to a deplorable loss of life, and may even seriously cripple the country in the life-and-death struggle in which it is now engaged. The chief danger lies in the failure of the vast majority of the men to realise the need for sanitary precautions, coming as most of them do from homes where the whole of the sanitary duties are admirably discharged without effort on their part by the local sanitary authorities.

The principal work of a sanitary company is to supervise the sanitation of camps and billets, to report defects, and instruct the sanitary squads of the various units. Any of your readers desiring to join the new company, or to obtain further information concerning it, should apply to Lieut. Cave or myself at the Duke of York's Headquarters, Chelsea (close to Sloane-square Station), on any weekday between 9.30 a.m. and 6 p.m.—I am, etc.,

ARTHUR J. MARTIN,
Captain R.A.M.C.F.F., O.C. 2nd (Home Service), London Sanitary Company,
Duke of York's Headquarters, Chelsea, S.W.

BUILDING CONTRACTS AND THE GOVERNMENT.

SIR,—The attitude of the Government in the present crisis regarding building contracts cannot be too widely known, and for that purpose I give below the Government's reply to recommendations placed before

them by a committee of building trades interests, on August 8:—

"SIR,—I am directed by the Board of Trade to state that the views of the deputation which attended at this Department on August 8, in regard to building operations undertaken on behalf of Government Departments, were communicated to the Office of Works, and that the Board understand from that Department that it has been decided to press forward, as quickly as possible, all work for which provision has been made in the estimates.

"The claims of contractors who are likely to suffer loss owing to the rise in the cost of materials, etc., are receiving consideration, and the Lords Commissioners of the Treasury have already been approached with a request for authority to be granted to the Office of Works to modify the terms of contracts entered into before the declaration of war, where the circumstances are considered to warrant some modification.

"The Board also understand that the question of accelerating advance payments to contractors, and also of releasing portions of the retention money, where this may be practicable, are also receiving attention, and each case will be dealt with on its merits.—I am, Sir, your obedient servant, (Signed) GEO. J. STANLEY."

By this it will be seen that whilst the Government in no way absolves any contractor from legal liability with contracts entered into prior to the declaration of war, yet it is their declared intention to modify the terms where circumstances are such that the carrying out of same to the strict letter would mean undue hardship to the contractor.

The acceleration of general payments to Government contractors will be appreciated and do a great deal to help the finances of many. The releasing of retention money, hitherto held up in many cases for long and unjustifiable periods, will be welcomed by all.

This Government action should have the effect of inducing those who placed building contracts prior to the war to adopt the same liberal and loyal spirit, by agreeing to modification where the abnormal cost of material involves a heavy loss on contract.

Should any contractor, in face of this official communication, have any difficulty in any of the directions indicated, I shall be pleased to give any assistance in my power.

There are further suggestions still before the Government regarding advances from banks to builders and contractors, and it is hoped that some reply on this score may be given shortly.—I am, etc., P. DONALD.

CAPTURING TRADE.

SIR,—A great deal is being said and written just now with respect to the capture of German and Austrian trade; but I think I represent the views of a large section of British industry when I say that British firms will not get the assistance in this work to which it is entitled under the Board of Trade as at present constituted.

Now is undoubtedly the time to cast aside "red tape," finally rout the "circumlocution" departments of the British Government, and establish in the place of the Board of Trade several departments, and I suggest the following as a proper and reasonable distribution—viz., a Minister of Commerce, Minister of Railways and Marine, and a Minister of Labour. In my opinion, these three Ministries would cover the whole of the work entrusted to the Board of Trade, and, if efficiently organised, would do that work much better.

Further, I consider these Ministers should not necessarily be members of any party, but should be chosen solely by merit, the basis of selection being the same as pertains in the appointment of the Sea Lords of the Admiralty, and, generally speaking, of the Bishops of the Church of England.

It is, in my opinion, nothing short of a scandal that the same Department should, as I said at the luncheon given at Olympia

on October 4, 1912, be responsible for the safeguarding of £100,000,000 import and export, and the safety of the door-handles of railway carriages.

If this has been true in the past, what of the present and future, when British firms are urged to capture as much as possible of the £500,000,000 export trade of Germany and Austria. Every thoughtful Englishman must believe that on the action taken now will depend the future of the British Empire. Now is the time to take what is best from the collective German organisation in commerce, and graft it on to our individualism, thus forging an irresistible weapon for the nation. This can only be done, in my opinion, by the co-operation of three factors:—

(1) By British firms being willing to drop antiquated methods and seize the opportunity with both hands.

(2) By the adoption, under compulsion or otherwise, of a national policy on the part of our great joint-stock banks, or, if it is impossible to make business men of the controllers of our banking institutions, by the formation of State-aided banks of commerce, whose main duty is not to avoid assisting their clients, but rather to meet half-way those requiring financial facilities for legitimate business enterprises.

(3) By a thoroughly business policy on the part of the Government, which could quickly show itself in two most needed reforms: (a) The selection of men as Ambassadors and Ministers to foreign countries those who have some business aptitude as well as diplomatic experience, and the appointment of commercial attachés, who shall, in all cases, be trained business men. (b) The appointment of trained business men as Consuls-Generals and Consuls in all important centres of trade, and the abandoning entirely of the policy of appointing foreigners as Consuls and Vice-Consuls, in order to save a few thousand pounds per annum.

I think that these views represent the opinion of the large majority of business men in this country, and one cannot help accentuating the importance of prompt action in this matter, while there is an opportunity of organising with a view to the state of trade which will exist after this great struggle is over. If something is not done now the whole matter is likely to be shelved, and we shall continue our usual policy of muddling along.—I am, etc., CHARLES H. LUKE,

Joint Managing Director, Walter Cawood, Ltd.
196, Deansgate, Manchester.

THE REGENT PALACE HOTEL.

SIR,—We beg to point out an error that has been made in the article on page 430 respecting the Regent Palace Hotel. The superficial area covered with Burmantofts "Marmo" equals 27,000ft., not 2,700ft., as stated.—I am, etc.,

(For the Leeds Fireclay Co., Ltd.)

B. J. W. LONE.

2 and 3, Norfolk street, London, W.C.

[We apologise; and also to all concerned for another stupid *lapsus*. In our description of the illustration the ownership of the hotel was correctly ascribed to the Strand Hotel, Ltd., but on the plate it was attributed to Messrs. Lyons and Co.—ED. "B.N."]

ELASTICITY OF FLOORS.

SIR,—The suggested design for construction of a spring floor, shown by your correspondent "B." in your issue of Oct. 2, appears to be simply a variation of the time-honoured method of obtaining elasticity in a floor by the weakness of the timbers used. As he points out himself, the design he shows is calculated to carry a load of only 82wt. per super. foot; therefore, when the room is full he will certainly obtain a considerable amount of elasticity in the floor. By increasing or decreasing the strength of the scantlings used he could vary the resulting amount of elasticity if desired, and the life of the floor would be regulated by the degree of

stress to which the timbers were put, according to the sizes employed.

From an engineering point of view, therefore, this method can hardly be considered satisfactory. In the "Valtor" patent system (mentioned in your paragraph at the bottom of page 452 of the same issue) this drawback of weak construction is obviated, as, by it the elasticity of the floor is obtained entirely by the resilience of the arrangement of steel springs and light steel girders upon which the timberwork of the floor is supported; the scantlings of the latter can thus be designed to carry safely and properly any load per foot super. required.—I am, etc., S. M. J.

WELL WORTH ATTENDING.

SIR,—May I ask your co-operation in making known the classes which are now commencing at the Hugh Myddleton Evening Commercial Institute, St. John's-walk, Clerkenwell Green, London, E.C., on Tuesday evening at seven o'clock, in "Salesmanship and Advertising."

In taking these classes I shall deal particularly with practical schemes for publicity and interviewing builders, architects, and the kindred professions, and having had considerable experience in all branches, this affords an exceptional opportunity for men and women to prepare themselves for the remunerative positions that will be open in these branches at the close of the war. The fee for twelve lectures is 2s. 6d.—I am, etc., A. C. G. GREEN.

Foye Estate Office, Hornchurch, Essex,
October 7, 1914.

Mr. J. R. Edwards, of Fishguard, has been elected surveyor and inspector of nuisances to the town council of Kidwelly.

At the opening meeting of the present session of the Society of Architects, to be held on Thursday, the 22nd inst., the scrutineers' report on the ballot for officers and council will be submitted. A lantern lecture on "Some Belgian Towns Affected by the War" will be given by Mr. G. A. T. Middleton, A.R.I.B.A., past vice-president.

At a meeting of the general purposes committee of the Southport Council on Monday night, an extensive scheme, submitted by the parks and foreshore committee, for the development of the sea-front was adopted. The estimated cost of the alterations and improvements is about £9,000. They include the widening of the marine drive, the erection of a wall 5ft. in height on the inner side of the drive to enclose part of the lagoon site, and the construction of two bowling-greens and an open-air concert-pitch in the North Marine Park.

At Water-lane, Lingfield, the new reinforced-concrete bridge recently built by the Godstone Rural District Council over the River Eden has undergone an official test. The bridge has a span of 30ft., and a clearway between parapets of 18ft.; abutments are in solid concrete, about 11ft. deep, and the superstructure consists of specially-gauged concrete with steel bar reinforcement. The new road is now complete, and the whole surface between Haxted Mill, via Cottage-lane to Moor-lane, has been made up and tar-washed. The cost of the works has been £3,860. Mr. Geo. E. Crowter, M.I.M.C.E., surveyor to the Godstone Rural District Council, was the engineer to the scheme; Messrs. Robinson and Co., of Westminster, were the contractors; and the Indented Bar and Concrete Engineering Company, of Westminster, supplied the steel reinforcement.

At the last meeting of the Stoke-on-Trent Corporation it was agreed to carry out forthwith the following works at a total outlay of £27,725, of which some £17,820 will be expended in labour:—Diversion of Tunstall sewage to Burslem system (Scotia-road); diversion of Pittshill sewer, Victoria-road, Tunstall; widening of High-lane, Burslem (Tellwright's land); new road (Federation-road), Burslem; levelling up, Porthill-road, Burslem; paving and storm-sewers, Waterloo-road, Wedgwood-street, and Scotia-road, Burslem; storm-water drainage scheme, Park district, Burslem; reconstruction of sewer, Back Sych, Burslem; removal of spoil-heap, electricity-works, Hanley; widening and storm-sewers, Trentham-road, Stoke; new park, Cemetery-road, Fenton; diversion of Stone-road by Florence Colliery, Longton; and irrigation work at Longton Sewage Farm.

LEGAL INTELLIGENCE.

ALLEGED FAULTY DAMPCOURSE.—Albert Waddington, a builder, was summoned at Sheffield on Tuesday for failing to have a proper dampcourse in houses which he was erecting in Firth Park. Mr. J. Adams, who prosecuted on behalf of the corporation, said it was most important from the public point of view that the dampcourse should be durable and impervious to moisture, because the presence of damp in a wall caused all sorts of ailments, particularly rheumatism. The dampcourse in this case was too thin, and not sufficiently pliable to resist wear.—Mr. Joseph Hirst, architect to the Hull Corporation, and Mr. G. Willows, architect to the Derbyshire Education Committee, gave evidence for the prosecution.—The magistrates dismissed the summons on the ground that they were not satisfied that the dampcourse was not impervious to moisture, and therefore not in accordance with the by-laws.

The urban district council of Wellington have appointed Mr. R. Stevenson, of Henshaw, to the post of surveyor.

The Architects' Benevolent Institution has received £1,000 as a bequest from the late Mrs. Rosa Cates, of 12, York-terrace, Regent's Park, N.W., widow of Mr. Arthur Cates.

Mr. A. H. Brain, who for seven years has been sanitary inspector and deputy surveyor to the Kingswood Urban District Council, has been appointed surveyor of the Hursley Rural District Council, out of 263 applicants.

The corporation of Leicester have agreed to carry out, under the direction of their borough surveyor, Mr. E. George Mawbey, a tributary sewerage scheme at an estimated cost of £3,097, the provision of storm water drainage at £2,174, and the construction of a storm-water culvert at £1,200.

A lecture on the history and architecture of the Church of St. Bartholomew-the-Great, Smithfield, will be given on Saturday, Oct. 24, and repeated on Saturday, Oct. 31, at 2.30 p.m. A collection will be made for the restoration fund. The opening ceremony of the new choir vestry, built at the charge of Mr. G. Duckworth Atkin, on the ancient walls of the south chapel, has been postponed owing to the war.

A new mission church at Poulner, near Ringwood, was opened last week. It is dedicated to St. John the Baptist, and was designed by Mr. H. H. Griffiths, of Burley, Hants. It is built of red brick, relieved with cement piers, the roof being covered with old tiles, and with a shingled bell-turret. It is provided with chairs and benches to accommodate 120 worshippers, and was built by Mr. W. A. Alexander, of Ringwood.

Representatives of the British Board of Trade have been conferring at Ottawa with the Dominion Minister of Trade and Commerce in regard to the supply from Canada of pit-props, which have hitherto been imported from Russia and Norway. It has been ascertained that there is an abundance of suitable timber; but prices are higher than those previously paid, and the representatives of the Board of Trade have now gone to Newfoundland.

It was reported at the meeting of the Essex County Council on Tuesday that the Road Board had undertaken that it approved schemes of road-improvement were put in hand in consequence of an intimation from the Local Government Board that relief works were required in particular districts on account of unemployment caused by the war, the Road Board would provide the whole of the money for the carrying out of these. It was mentioned that the county surveyor had prepared road schemes involving an estimated expenditure of £22,300, one of these being the widening of the Epping new-road.

At the instance of the Local Government Board, an inquiry was conducted at Dunfermline on Friday, before Mr. J. C. Pitman, advocate, Edinburgh, with reference to the application by the town council for a Provisional Order for the improvement of the existing waterworks, and for the construction of additional waterworks, principally for the supply of the Rosyth area. The inquiry was in connection with the corporation's application for an Order to empower them to put in force the powers of the Land Clauses Acts with respect to the purchase and taking of land otherwise than by agreement for the construction of the works, the estimated cost of which is £75,000. It was intimated that, with two exceptions, agreement had been arrived at with the landowners interested.

WATER SUPPLY AND SANITARY MATTERS.

ATHERSTONE WATER-SUPPLY SCHEME.—At a meeting of Atherstone Rural District Council on Tuesday it was decided to adopt a scheme prepared by Dr. Lapworth, consulting engineer, in conjunction with Mr. H. J. Coleby, the council's engineer, for supplying the whole of the district with water from the new boring at Warton. Testing operations had proved the daily yield of the well to be 240,000 gallons, or about 90,000 gallons in excess of the requirements of the district. The total estimated cost of the scheme is £18,158.

GLASGOW'S WATER SUPPLY.—A special meeting of Glasgow Corporation has been held to consider and discuss the minutes of the water committee. In consequence of the defeat of the water scheme in connection with Loch Voil and Loch Doine, the committee have been considering alternative sources of supply, and came forward with a recommendation that a scheme for drawing a supply from the River Turk, where it joins Loch Vennacher, be proceeded with. This would enable an additional daily supply to be secured of 15,000,000 gallons, the water being conveyed to Loch Katrine by means of pipes. It is calculated that this addition, along with the Loch Arklet extension, will suffice for the growing needs of the city for a period of thirty years. After discussion in camera lasting over two hours, votes were taken, and the recommendation in favour of proceeding with the River Turk scheme, and deferring the scheme in connection with Loch Voil, was agreed to by a majority.

On Monday the Ruthin Guardians finally disposed of the question of erecting a new work-house infirmary, the chairman signing a contract with Messrs. George Cash and Co., Capenhurst, for £4,427, being the lowest tender sent in. The work will be put in hand at once.

Mr. William Lawrie, of Langgarth, Causeway-head, assistant road surveyor in the central district of Stirlingshire, has been appointed interim road surveyor to the Perthshire Western District Committee, in the place of Mr. W. L. Gibson, who has rejoined the Scottish Horse as a lieutenant.

The rivers committee of the Manchester Corporation received reports on Monday that the work of constructing the new main sewer is progressing satisfactorily. The project will involve an outlay of a million pounds, and will require several years for its accomplishment. So far the contractors have kept up to time with their portions of the task.

The consideration of the important scheme of improvement of the mineral-water bathing establishment of the city of Bath, devised by Mr. A. J. Taylor, M.S.A., of New Bond-street, Bath, the architect to the baths committee, which we fully described on p. 428 last week, came again yesterday before the Bath City Council, but was further adjourned.

The pictures purchased for presentation to the Tate Gallery with the fund resulting from the second national loan exhibition are on view at the exhibition of the International Society at the Grosvenor Gallery. The works include Mr. Charles Shannon's portrait of Mrs. Patrick Campbell, Mr. Lavery's portrait of Anna Pavlova in "La Mort du Cygne," Mr. W. Orpen's "Angler," and a bronze statuette group by Charles Ricketts.

Mr. C. H. Iles, F.S.I., on behalf of the Local Government Board, held on Friday an inquiry at Harraton, Co. Durham, into an application made by the Chester-le-Street Rural District Council for permission to borrow £26,250 for erecting one hundred houses. It was stated that there are 133 houses in the parish that had been condemned, but could not be closed owing to the fact that there were no other houses into which the people could go. The houses will each contain three bedrooms, kitchen, scullery, and bathroom, with garden. There was no opposition.

Mr. James Hall, a well-known historian of Nantwich, and a prominent member of Chester and North Wales Archaeological and Historic Society, died at his residence, 24, Brighton-terrace, Saughall-road, Chester, on Tuesday. He had been ill for about eight months. Mr. Hall was the author of several histories, the most notable being his history of Nantwich. He edited for the Lancashire and Cheshire Record Society a history of the civil wars in Cheshire. He read many papers before the Chester Archaeological Society, one of which was a treatise on the city charters, which he translated and put in good order.

Our Office Table.

But few Continental artists are represented at the Autumn Exhibition at the Walker Art Gallery, Liverpool, formally opened on Saturday by the Lord Mayor of that city, and the number of works has been reduced from the average 4,000 to some 3,000—even now more than the average visitor can examine in comfort in a single visit. But the collection brought together is a strong one. The portraits include Sir Luke Fildes's study of King George (recently purchased by the corporation of Liverpool for their town-hall), Lander's Sir John French, John Lavery's Earl of Derby, and Orpen's Roman Catholic Archbishop of Liverpool. The Chantry Trustees' loan of Cadogan Cowper's clever group of scarlet-robed cardinals—"Lucretia Borgia Reigns in the Vatican," Arthur Haeker's "Portrait of My Mother" and his early "Syrius"; Lavery's "In Morocco," Anning Bell's "Marriage at Cana," and landscapes by David Murray, Joseph Farquharson, John Lochhead, Leslie Thomson, Archibald Kay, and James Paterson are among the notable works. The water-colours include some good examples of the art of Sir Frank Short, D. Y. Cameron, A. K. Brown, and C. J. Lander.

The Hon. Gerald W. Lascelles, who, since February, 1880, has occupied the position of deputy-surveyor of the New Forest, has just retired from service. Mr. Lascelles's duties have included the local charge and management of the plantations and woodlands and open forest, and the sales of timber. He also advised the Crown authorities as to the letting of the Crown freehold property within the Forest, and was Steward of the Manor of Lyndhurst, deputy-surveyor of Aliee Holt Forest, Bere Woods, Parkhurst Woods, and the Woolmer Estate. During his long term of office Mr. Lascelles has done much to preserve the amenities of the Forest. He is a keen student of natural history, and whilst using every effort to preserve the game in the Forest, paid particular attention to the preservation of the rarer species of birds and animals which are found in its haunts. He was always appreciative of the rights and privileges of the commoners, which mean much to the poorer ones. Mr. Lascelles is succeeded by Mr. V. F. Leese, formerly deputy-surveyor of the Forest of Dean, a son of the late Sir Joseph Leese, at one time M.P. for Accrington.

M. Henri Jadart, the keeper of the library and museum at Rheims, writes that the losses by fire at the cathedral include the roof-timbers and leaden covering and the famous carillon. He adds: "The upper galleries are still standing, and the arcades of the south transept. The scaffolding that was resting against the north-west tower from the ground up to the King's Gallery acted as a furnace. It damaged the base of the tower and irreparably destroyed several of the wonderful statues on the gate of the Saints of Rheims—St. Remi, St. Thierry, and others, including the effigies of angels. On the other side the head has fallen from the statue of the Queen of Sheba. The whole sight is pitiable." Huge placards have been posted up in Berlin showing the burning of Rheims and the ruins of the Cathedral. The pictures bear the following inscription: "The above shows how the French are setting fire to their towns and destroying their monuments."

The British Museum authorities have presented to each of twenty provincial museums a very fine series of Northfleet flints handed over to them for distribution by the Association of Portland Cement Manufacturers, Ltd., also specimens from the collection recently bequeathed by Mr. Richard Jones, of Welling, Kent. In both cases it has been stipulated that the British Museum should have first choice, and more than twenty other museums will benefit by distribution, the parcels being as far as possible of equal interest and value. The Northfleet flints were found in a chalky deposit identified as Coombe Rock, associated with the recognised

mammoth fauna, on a level corresponding to the middle, or 50ft. terrace, of the Thames. The industry is assigned on various grounds to the period of Le Moustier (earliest stages of the Palæolithic Cave-period).

Under the auspices of the Manchester Society of Architects, a special course of lectures on "Specifications, and the Aesthetic Properties of Building Materials," is being given at the School of Technology, Manchester by J. Theo. Halliday, A.R.I.B.A., during the session, on Thursdays, from 6.15 to 7.15 p.m. The lectures, the first of which was delivered last week, will deal with the use and properties of building materials, with special respect to the part they play in architectural design. They also deal with the ground covered by the papers on specifications and materials in the Final and Intermediate Examinations of the R.I.B.A., and with the conduct and supervision of building works. The lectures are illustrated by lantern-slides, photographs, and working drawings, and numerous specimens of building materials, with special reference to those obtainable in the locality of Manchester.

Taxation is the corollary of war expenditure. Therefore, we must expect in the next and following years a considerable increase in the Income-tax. This being so, it behoves everyone to see that he does not pay too much, and to take every precaution to secure to himself all the advantages by way of exemption and abatement that the law permits. It so frequently happens that individuals have not time to do this, or put it off till too late, or are not aware or alive to the claims they are entitled to make in reduction of the amount fixed by the assessor, that assistance outside themselves becomes necessary. We notice in our advertising columns that such assistance is offered at a low subscription by the Income-tax Protection and Relief Association, of 7, Staple Inn, London. This seems to be a society capably worked under the hands of a secretary skilled in manipulating returns, who will put in proper form the return and accounts required, and who will conduct appeals against the arbitrary assessment that results from accounts that are not satisfactory to the Inland Revenue authorities.

In his annual report for 1913 of the state of public health in the seventeen sanitary districts into which Carnarvonshire is divided, Dr. E. Ll. Parry Edwards (medical officer of health) points out that the housing problem in the county demands very serious attention. At the end of the year there were about 626 workmen's dwellings vacant, of which one-half were in the urban district of Bethesda, and 645 houses were reported as unfit for human habitation. There is a general dearth of workmen's dwellings in the county, with the exception of the district mentioned, and the Ogwen, Bangor, and Geirionydd districts. The wages earned by the average artisan are not sufficient to enable them to pay a rent at which new sanitary houses can be put up, and, therefore, the majority of the district councils endeavour to improve existing dwellings.

A useful work on "Modern Tunnelling," with special reference to mine and water-supply tunnels, by David W. Brunton and John A. Davis, is published at New York by John Wiley and Sons, and in this country by Messrs. Chapman and Hall, Ltd., at 15s. net. There are few books on the subject, and little in them in the way of comment or criticism. The authors have had the advantage of official information to which British engineers have no access, and have availed themselves to good purpose of other sources of knowledge.

Inspection, duplication of inspection, and conflict of inspection have so hampered the progress of building in New York that some measures to abate these conditions have been imperative. The Real Estate Board of New York, carrying out its policy of active co-operation in desirable public measures, has appointed a committee of seventeen members, on which each of the five boroughs is represented, to work with the State Factory In-

vestigating Commission in its proposed scheme to simplify building inspection in New York city. Mr. Marcus M. Marks, borough president, will act as chairman of this committee.

The "India Forester" describes an experiment in colouring artificially the wood of trees while in a growing state. By running a system of boreholes right through the trunk, stopping one end with cork, and introducing a dye, the tree may, it is asserted, be made to absorb the colouring matter. Thus the aniline dyes of malachite green and methylene blue coloured birch evenly, and eosin veined the wood with red. As the darker shades in wood have a higher value than the lighter, it is considered possible that by impregnating, for instance, a tannin-free wood like birch or maple with a tannin solution during growth, it would later be easy to give these woods a rich dark tint similar to that of the oak, which is rich in tannin, by means of treating it with ammonia under pressure.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (To-day).—Junior Institution of Engineers, "The Barrier of Ignorance," by W. P. Durtnall, 39, Victoria-street, S.W. 8 p.m.

Glasgow Architectural Craftsmen's Society, "The Orriers of Architecture," by Professor Charles Gourlay, B.Sc., A.R.I.B.A. 8 p.m.

MONDAY.—Victoria and Albert Museum Lectures, by Banister F. Fletcher, F.R.I.B.A., "A Typical Mediæval Cathedral." 5 p.m.

TUESDAY.—Hugh Myddelton Evening Commercial Institute, St. John's Walk, Clerkenwell Green, "Salesmanship and Advertising," No. 1, by A. C. G. Green. 7 p.m.

WEDNESDAY.—St. Paul's Ecclesiological Society, "Wing Church, Bucks," by G. J. B. Fox. St. Paul's Chapter-House. 8 p.m.
Manchester Society of Architects, Presidential Address by F. B. Dunkerley, F.R.I.B.A. 6.30 p.m.

THURSDAY.—British Museum Lectures on Ancient Architecture by Banister F. Fletcher, F.R.I.B.A., "Egyptian Temples." 4.30 p.m.

FRIDAY (Oct. 16).—Junior Institution of Engineers, "The Latest in Home Lighting," by Walter T. Dunn, 39, Victoria-street, S.W. 8 p.m.

Part I. (Topographical) is issued of the Guide to the Reports on Collections of Manuscripts in Great Britain and Ireland, issued by the Royal Commission for Historical Manuscripts.

Mr. W. O. E. Meade-King, an inspector under the Local Government Board, held an inquiry at Exeter on Monday into an application by the city council for sanction to borrow £4,100 for widening and improving Haven-road and Waterlane.

The Goldsmid Entrance Scholarship (University College, London), tenable in the Faculty of Engineering, of the value of £90, has been awarded to Mr. John Sinclair Fraser, of Dulwich College. Mr. Patrick Alexander Curlett was placed *proximo accessit*.

The Holborn Borough Council is applying to the London County Council for sanction to a loan of £15,568 for the purpose of satisfying the arbitrator's award in respect of the acquisition of property required for an improvement scheme in Parker-street.

The Metropolitan Asylums Board received at their meeting on Friday a letter from the Local Government Board approving plans relating to the extension of Tooting Bee Asylum, and authorising the extension thereof, and the borrowing of £171,500 therefor.

Mr. Frederick Dare Clapham, of the firm of Clapham and Symonds-Jenne, Southampton-street, Bloomsbury, architects, and 4, The Avenue, Beckenham, formerly of Eltham, who lost his life on July 17 by a motor-car accident, aged forty-one years, left personally amounting to £2,811.

The West St. Giles's Parish Church, Edinburgh, was reopened on Sunday after having been closed for two months to allow renovation and improvement to be carried out. About £1,000 has been spent, and amongst the improvements carried out there has been the installation of electricity in place of the old gas illumination. A vestry has been built, and the pipe organ has been completed. The interior has been cleaned and repainted, and the fittings revarnished.

Trade News.

WAGES MOVEMENTS.

CONTINUED DECREASE IN UNEMPLOYMENT.—In the trades compulsorily insured against unemployment—viz., building, works of construction, engineering, shipbuilding, vehicle-making, etc.—the Board of Trade announces that the percentage of unemployment in the United Kingdom on October 2 was 5.1 as compared with 5.4 a week ago and 6.3 a month ago.

LIVERPOOL CATHEDRAL.—The masons of the Society of Operative Stonemasons working on the new cathedral at Liverpool have sent a memorial to the clerk of works offering, in the event of its becoming necessary to curtail expenses on the new cathedral through the present crisis, to work shorter hours rather than there should be either a closing down of the job or a discharging of any workmen. The executive committee, after careful consideration, have accordingly resolved to reduce the rate of expenditure on the building, it being understood that this reduction will not involve the dismissal of any men, but a reduction of the working hours as suggested.

The partnership hitherto subsisting between A. G. Bond and C. Batley, architects and surveyors, at Gower-street, W.C., under the style of Bond and Batley, has been dissolved.

Duart Castle, N.B., which is being restored from a ruined state, from plans by Sir J. J. Burnett, R.S.A., will be formally occupied by the owner, Sir Fitzroy D. MacLean, Bart., on January 12 next—New Year's Day, Old Style.

It is expected that the escalators between the Metropolitan and "Bakerloo" stations at Baker-street Station will be opened for public traffic on Thursday in next week. This will bring the total number of escalators in use at London railway-stations to sixteen.

The death took place, at his residence, South-terrace, Sowerby, Thirsk, on Friday, of Mr. Christopher Kitcheman Manfield, at the age of seventy-six. He rose from humble circumstances to be a prosperous builder, and took a prominent part in developing the district.

At the City Guildhall on Friday the first meeting was held by the Central (Unemployed) Body for London since the recess. Various schemes of work were submitted for the approval of the Local Government Board, to cost in all £195,500, and to provide 7,665 men with employment for twenty weeks.

The foundation-stone of the new administrative block of the Exeter Isolation Hospital at Whipton was laid by the Mayor of Exeter (Mr. W. Kendall King) on Thursday in last week. The total cost of the isolation hospital was £16,000, and this additional block will involve an expenditure of £2,700. The builder is Mr. Mudge, of Exeter.

A Pittsburg despatch says that the British Government is arranging for the purchase of 100,000 tons of steel sheets, roughly estimated to cost between £800,000 and £1,200,000. The sheets are required for housing the troops in the field. The metal is being constructed in sections, so that the huts can be taken down and removed and quickly re-erected.

The funeral of Mr. Thomas Griffiths, chief engineer of the Cranbrook and District Water Company, who died from heart-failure, at the age of thirty-eight, took place at Cranbrook Cemetery on Wednesday week, the service being attended by most of the directors and the whole of the company's staff. Mr. Griffiths had held his appointment for nearly seventeen years.

The United Arts Rifles, which now number 1,113 men, are to have the galleries of the Royal Academy in Piccadilly for general headquarters. The regimental headquarters will remain at the Earl's Court Exhibition. The galleries of the Royal Academy were offered to the War Office, and the General Officer commanding the London district has agreed that they shall be utilised for the accommodation of the United Arts Rifles.

Mr. Bradley, the recently-appointed borough surveyor of Bridlington, is on duty with the Territorial Army. He was elected to succeed Mr. E. R. Matthews, who has accepted the professorship of municipal engineering in the University of London; but, owing to the outbreak of war, Mr. Bradley, who is a Territorial major, has been unable to take up his duties. The corporation have granted him leave of absence until such time as he may be able to take up his duties at Bridlington.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us.

IRON.

Table listing various iron products such as Rolled Steel Joists, Wrought-Iron Girder Plates, Steel Girder Plates, Ber Iron, good Staffs, Do., Lowmoor, Flat, Round, or Square, Do., Welsh, Boiler Plates, Iron—South Staffs, Best Sredehill, Angles 10s., Tees 20s. per ton extra, Builders' Hoop Iron, Galvanized Corrugated Sheet Iron, Wire Nails, Cast-Iron Columns, Cast-Iron Stanchions, Rolled-Iron Fencing Wire, Rolled-Steel Fencing Wire, Cast-Iron Sash Weights, Cut Floor Brads, Corrugated Iron, Galvanized Wire Strand, B.B. Drawn Telegraph Wire, Cast-Iron Socket Pipes, Gas-Tubes, Water-Tubes, Steam-Tubes, Galvanized Gas-Tubes, Galvanized Water-Tubes, Galvanized Steam-Tubes.

OTHER METALS.

Table listing other metals including Spelter, Silesian, Lead Water Pipe, Lead Barrel Pipe, Lead Pipe, Tinned inside, Town, Lead Pipe, Tinned inside and outside, Composition Gas-Pipe, Lead Soil-pipe, Lead, Common Brands, Lead Shot, Copper Sheets, Copper, British Cake and Ingot, Tin, English Ingots, Do., Bars, Pig Lead, Sheet Lead, Genuine White Lead, Refined Red Lead, Sheet Zinc, Old Lead, Tin, Cut nails.

SLATES.

Table listing slate products such as Blue Portmadoc, Blue Bangor, First quality, Eureka unfading green, Permanent Green.

BRICKS.

(All prices net.)

Table listing various brick types and prices, including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks for Facings, Flattons, Pressed Wire Cut, Red Wire Cut, Best Fareham Red, Best Red Pressed, Rusbon Facing, Best Blue Pressed, Staffordshire, Ditto Bullnose, Best Scourbridge, Firebricks, 2 1/2 in. Best Red Ac-crington Plastic Facing Bricks, 3 1/2 in. Accrington Best Red Plastic Facing per 1,000 Bricks, 3 1/2 in. ditto Second Best Plastic ditto, Ditto Ordinary Secondary Bricks, Ditto Plastic Engineering Bricks, Sewer Arch Brick, Chimney Bricks, Beaded, Ovolo and Bevel Jambes, Octagons, Accrington Air Bricks, Accrington Camber Arches, 3 course deep, 4 1/2 in. soffit, 4 1/2 in. ditto ditto ditto ditto, 5 ditto ditto ditto ditto ditto, 6 ditto ditto ditto ditto ditto, 3 ditto 9 in. ditto ditto ditto, 4 ditto 9 in. ditto ditto ditto, 5 ditto 9 in. ditto ditto ditto, 6 ditto 9 in. ditto ditto ditto.

Net free on rail, or free on boat at works.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed brick types and prices, including White, Ivory, and Buff, Cream, Other, Second, Best, Seconds, & Bronza, Colours, Colours, Stretchers, Headers, Quoins, Bullnose, and 4 1/2 in. Flats, Double Stretchers, Double Headers, One side and two ends, square, Two sides and one end, square, Splays and Squinns, Plinth and Hollow Bricks, Stretchers and Headers, Double Bullnose, Round Ends, Bullnose Stops, Rounded Internal Angles.

MOULDED BRICKS.

Table listing moulded brick types and prices, including Stretchers and Headers, Internal and External Angles, Sill Bullnose, Stretchers, and Headers, Majolica or Soft Glazed Stretchers and Headers, Quoins and Bullnose, Compass bricks, circular and arch bricks of single radius, Hammer arch bricks, any kind or colour, Stretchers cut for Closers and Nicked Double Headers.

* These prices are carriage paid in full truck loads to London Stations. Thames Sand, Pit Sand, Thames Ballast.

Best Portland Cement, Ground Blue Lias Lime, Grey Stone Lime, Stourbridge Fireclay.

STONE.

Table listing stone products such as Red Mansfield, Darley Dale, Red Corsehill, Closeburn Red Freestone, Ancaster, Greenshill, Chilmark, Hard York, Do. do. 6 in. sawn both sides, landing, random sizes, Do. do. 3 in. slab sawn two sides, random sizes.

Table listing stone products such as Bath Stone, delivered on road waggon, Paddington Depot per foot cube, Ditto, ditto, Nine Elms Depot, Beer Stone, delivered on rail at Seaton Station, Ditto, delivered at Nine Elms Station, Portland Stone, in random blocks of 20ft. average—Delivered on road waggon, at Paddington Depot, Nine Elms Depot, or Pimlico Wharf.

TILES.

Table listing various tile types and prices, including Plain red roofing tiles, Hip and Valley tiles, Broseley tiles, Ornamental tiles, Hip and Valley tiles, Rusbon red, brown, or brindled ditto (Edwardes), Ornamental ditto, Hip tiles, Valley tiles, Selected "Perfecta" roofing tiles: Plain tiles (Peske's), Ornamental ditto, Hip tiles, Valley tiles, "Rosemary" brand plain tiles, Ornamental tiles, Hip tiles, Valley tiles, Staffordshire (Hanley) Reds or brindled tiles, Hand-made sand-faced, Hip tiles, Valley tiles, Hartsbill brand plain tiles, sand-faced, Pressed, Ornamental ditto, Hip tiles, Valley tiles.

OILS.

Table listing various oil types and prices, including Rapeseed, English pale, per ton, Ditto, brown, Cottonseed, refined, Olive, Spanish, Seal, pale, Cocosnut, Cochin, Ditto, Ceylon, Ditto, Mauritius, Palm, Lagos, Ditto, Nut Kernel, Oleine, Sperm, Lubricating, U.S., per gal., Petroleum, refined, Tar, Stockholm, per barrel, Ditto, Archange, Linseed Oil, per gal., Baltic oil, Turpentine, Putty (Genuine Linseed Oil), Pure Linseed Oil, "Stority" Brand.

GLASS (IN CRATES).

Table listing glass products such as English Sheet Glass, Fourths, Thirds, Fluted Sheet, Hertley's English Rolled Plate.

Figured Rolled and Repoussins, White, Tinted.

VARNISHES, &c.

Table listing various varnish and paint products such as Fine Pale Oak Varnish, Pale Copal Oak, Superfine Pale Elastic Oak, Fine Extra Hard Church Oak, Superfine Hard-drying Oak, Fine Elastic Carriage, Superfine Pale Elastic Carriage, Fine Pale Maple, Finest Pale Durable Copal, Extra Fine French Oil, Eggshell Flatting Varnish, White Copal Enamel, Extra Pale Paper, Best Japan Gold Size, Best Black Japan, Oak and Mahogany Stain, Brunswick Black, Berlin Black, Knotting, French and Brush Polish.

In connection with the conferences held some months ago at Whitehall upon the subject of arterial roads in Greater London, the Local Government Board is now arranging to visit the areas affected by the various proposals made by the London traffic branch of the Board of Trade, and to discuss the schemes on the spot with representatives of the local authorities.

Mr. W. M. Cross, M. Inst. C.E., has held an inquiry on behalf of the Local Government Board into an application by the Staines Rural District Council for sanction to borrow £29,056 for the purpose of the scheme for the sewage disposal of the parish of Harlington, including the execution of works in East Bedford, with Hatton. The surveyor, Mr. G. C. Manning, gave details as to the scheme, which provides for 5,870 houses.

* All F.O.R. London.

TRADE NOTES.

Under the direction of Messrs. J. Gillespie and Scott, architects, 4, Queen-street, St. Andrews, Boyle's latest patent "air-pump" ventilators have been applied to Preston School, Markinch.

CHIPS.

At Hastings and St. Leonards tenders have been accepted for the new £17,000 bandstand and promenade-extension scheme, and it is expected that the work will be started shortly.

An oak reredos and side panelling were dedicated last Tuesday at St. Andrew's Church, Stockwell Green. The work has been carried out by Messrs. Harry Hems and Sons, ecclesiastical art workers, of Exeter.

The Carnegie Trustees having offered to give £15,000 to cover the cost of building, the Nottingham Corporation decided on Monday to proceed with the erection of four new branch libraries and reading-rooms in the districts of Bulwell, Basford, the Meadows, and Carrington.

The corporation of Penzance is applying to the Local Government Board for sanction to borrow £5,285 for the erection of twenty-two workmen's dwellings on the Weeths Field. The houses will be semidetached, built of concrete in situ, finished with stucco, and roofed with red tiles.

Bishop Ormsby dedicated on Tuesday several gifts which have been made recently to the Church of St. Michael and All Angels, Ford, Northumberland. They include a two-manual organ, choir-stalls, a litany desk, and east window, given by Lord Joicy as memorials of the late Lady Joicy.

The National Transcontinental Railway and the Ontario section of the Canadian Northern Railway are now finished. The only link in the National Transcontinental not yet completed is the Quebec Bridge. This will not be ready for several years, but a ferry can be operated across the St. Lawrence.

Mr. J. W. Wilson, School of Practical Engineering, Crystal Palace, writes: "I should be glad if those old students of this School who are serving their King and Country would inform me of their present positions, so that their names may be added to those past and present students of whom we already know."

FOR

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WM. OLIVER & SONS, Ltd.,
120 Bunhill Row London E.C.

TENDERS.

* Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ABERDEEN.—For provision of roofs to the new sheds at Waterloo Quay, for the Harbour Board:—
Fleming and Co., Glasgow £1,156 0 0
(Accepted.)

ABERDEEN.—For alteration at King-street Barracks in connection with the new tramway offices in the front portion of the buildings, for the corporation. Tenders recommended for acceptance:—
Masons:—
Main and Son ... £817 0 0
Carpenters:—
Hendry and Keith ... 560 0 0
Painters:—
Whyte and Forrest ... 198 17 6
Plasterer:—
Masson, W. ... 185 14 9
Ironwork:—
Brydon and Middleton, Glasgow 111 18 1
Plumber:—
M'Robb, A. ... 26 0 0
Rest of Aberdeen.

ALVECHURCH.—For the construction of about 536 lineal yards of 6in. diameter stoneware pipe sewers, at Alvechurch, for the Bromsgrove Rural District Council. Mr. R. Green, M.C.E., 37, Waterloo street, Birmingham, engineer:—
Law, G., Kidderminster ... 4179 0 0
White, J., jun., Handsworth ... 122 8 4
Thorpe, W., Hollywood ... 412 12 10
Titt Bros., Bromsgrove ... 373 11 1
Childs and Withers, Willenhall ... 313 18 1
Martin & Element, Smethwick* 333 10 10
* Accepted.

ANDOVER.—For channelling and kerbing in Wyhill and Junction roads, for the corporation. £905 13 0
Bourne and Jenkinson
Recommended for acceptance.

BARRY.—For erection of a training college at Barry:—
Rendell, H. S., and Sons, about £3,000 0 0
(Accepted.)

BIGGLESWADE.—For the erection of 27 cottages at Beeston and St. Neots-road, Sandy, Beds., for the rural district council:—

14 Cottages, Beeston.		
Haynes, W. ...	£3,732	0 0
Allen, M. J. ...	3,655	12 0
Daves and Bowler ...	3,560	0 0
Hickman and Sons ...	3,549	0 0
Foster and Co. ...	3,273	12 10
Cope, H., Sandy ...	3,225	0 0
Drever and Son, Ltd. ...	3,221	8 9
Bailey and Son, Ltd. ...	3,121	0 0
Wright, C., Langford (accepted)	3,113	0 0

13 Cottages, St. Neots-road.		
Haynes, W. ...	3,388	0 0
Allen, M. J. ...	3,383	2 6
Hickman and Sons ...	3,296	0 0
Daves and Bowler ...	3,113	0 0
Foster and Co. ...	3,014	10 0
Bailey and Son, Ltd. ...	2,991	8 0
Drever and Son, Ltd. ...	2,955	3 4
Cope, H. (accepted) ...	2,922	0 0
Wright, C. ...	2,891	0 0

CROYDON.—For the erection of a school for 720 children for the education committee. Mr. H. Carter Pegg, F.R.I.B.A., Westminster and Thornton Heath, architect:—

Hawkins, H. & Co., Bermondsey	£12,600	0 0
Peppiatt, H., and Cooper, 101, High Holborn, E.C. ...	13,000	0 0
Longley, J., and Co., Crawley ...	12,489	0 0
Smith, W., & Sons, Ltd., Croydon	12,274	0 0
Thomas & Edge, Woolwich, S.E.	12,230	0 0
Akers, W., and Co., Ltd., South Norwood, S.E. ...	12,222	0 0
Mursellwhite & Son, Basing-toke	12,103	0 0
Everitt, G. E., and Sons, Ltd., Croydon ...	11,897	0 0
Smith, J., & Sons, Ltd., Norwood	11,790	0 0
Saunders, E. J., Croydon ...	11,374	0 0
Grace and Marsh, Croydon ...	11,197	0 0
Elliman, J., Beckenham, Kent ...	10,997	0 0
Coxhead, J. F., Leytonstone ...	10,991	0 0
Higgs, F., & H. F., Herne Hill ...	10,930	0 0

DARTON AND HAIGH.—For laying water mains, for Darton Urban District Council. Mr. S. Wilkinson, Darton, Barnsley, engineer and surveyor. Quantities by S. Wilkinson:—

Hyslop, A. and F., Manchester ...	4617	4 0
Pullar, H. C., Kirbymoorside ...	450	12 0
Holmes, F. H., Wakefield ...	448	12 7
Kaye Brothers, Huddersfield ...	429	3 0
Mellor, J., Barnsley ...	426	0 0
Walling, J., Bourne, Lincs ...	418	9 6
Morley, W., and Son, Keighley ...	415	1 4
Kendall, W. J., and Co., Leeds ...	388	5 11
Ruckledge, M., Barnsley ...	300	4 3

DEPTFORD, S.E.—For the erection of the proposed slipper baths for the north-west ward, Alderton-road, for the borough council:—

Holloway, H. L., Deptford, S.E.	£2,908	0 0
Leng, T. D., Deptford, S.E. ...	2,766	0 0
Bovis, Ltd., Upper Berkeley-street, W. ...	2,531	0 0
Lenn, Thornton, and Co., Chelsea, S.W. ...	2,516	10 0
Barton, W. S., and Co., Chancery-lane, W.C.*	2,413	10 0

EDINBURGH.—For the provision of three motor fire-engines fitted with plunger types of pumps, for the town council:—
Merryweather and Co. (accepted) £3,279 0 0

GARTHORPE.—For building a bridge over the ford at Garthorpe, for the Melton Mowbray Rural District Council:—
Denman and Newham, Melton Mowbray (accepted) ... £240 0 0

HINCKLEY.—For supply of hydrants and valves, for the rural district council:—
Walter, G., and Sons, Stroud ... £255 16 4
Ham, Baker, & Co., Birmingham
Stone and Co., London ... 212 3 6
Glenfield and Kennedy, Kilmarnock ... 236 9 6
Bird and Co., London ... 213 9 6
Blakeborough & Sons, Brighouse
Hamilton Woods & Co., Salford* 201 8 9
* Accepted.

HULL.—For heating and ventilating the Liverpool-street workshops extension, for the corporation:—
Sheffield Brightside Foundry and Engineering Co. (accepted) ... £6,873 2 7

KENILWORTH.—For erection of corn stores and shops at Kenilworth, for Mr. F. Fancott. Mr. C. Yardley, 51, Warwick-road, Kenilworth, and Friars-road, Coventry, architect and surveyor:—
Smith, E., and Son ... £703 0 0
Nixon, E., and Sons ... 690 0 0
Laurence, H. ... 679 0 0
Laurence, H. W. (accepted) ... 679 0 0
All of Kenilworth.

KIRBY.—For cutting the mains in connection with the water supply, for the High Furness Highway Divisional Committee:—
Shuttleworth, Urswick ... £178 7 0
(Accepted.)

LEADENHALL-STREET, E.C.—For the demolition of Nos. 63 to 68A, Leadenhall-street, and No. 6, Hartshorn Alley, for the City Corporation:—
Goodman, B. ... £395 0 0
Cudis, H. A. ... 310 0 0
Gude, C., and Son, Ltd. ... 317 0 0
Fortescue, N., and Sons, Ltd. ... 288 0 0
Wise, F., (accepted) ... 275 0 0

LIVERPOOL.—For the supply of pipes required for the second line between the Llanforada reservoir and the Oswestry filter beds, for the corporation:—
Holwell Iron Co., Ltd., Melton Mowbray.
(Recommended for acceptance.)

LONDON, S.E.—For structural and shelving alterations at the Brockley and Sydenham Libraries, for the Lewisham Borough Council. Accepted tenders:—
Brockley Library:—
Coombs, A. W., Forest Hill ... £79 10 0
Sydenham Library:—
Coombs, A. W. ... 70 0 0

LONDONDERRY.—For the erection of an attendant's house at Gransha Asylum, for the asylum board:—
Stewart, R. & J., Wateraide (accepted) £349.

MAIDSTONE.—For repairs to Union-street Council School, for the borough education committee:—
Ford, J. R., Maidstone (accepted) £85 10 0
Lowest tender received.

MALMESBURY.—For the erection of a bathroom at the workhouse, for the guardians:—
Saunders and Sons ... £255 0 0
Tydeman ... 240 0 0
Husbes and Sons ... 215 17 6
Pouting, H. E., Malmesbury* ... 162 10 0
* Accepted.

MITCHAM.—For making-up Boundary-road, Mitcham, for the Croydon Rural District Council. Mr. R. M. Chart, F.S.I., surveyor:—
Manders, W., and Co., Leyton ... £798 0 0
Free, E., and Sons, Maidenhead ... 786 0 0
Yewen, E., Croydon ... 781 0 0
Farrow, H., Brixton ... 766 0 0
Neal, G., Lower Tooting ... 762 0 0
Parry, E., and Co., Putney ... 755 0 0
Lane, S., Wimbledon ... 739 0 0
Mowlam, J., & Co., Westminster
Iles, E., sec., Croydon* ... 673 0 0
* Accepted.

NEWMACHAR.—For a new hospital to be erected at Kingsseat Asylum, Newmachar. Mr. A. H. L. Mackinnon, 245, Union-street, Aberdeen, architect. Accepted tenders:—
Masons:—
Shirras, J., and Son ... £3,022 0 0
Carpenter:—
Hall, A. ... 2,389 0 0
Plasterer:—
Moir, R. ... 629 19 0
Slater:—
Morrison, F., jun. ... 407 15 6
Painters and Glaziers:—
Kynoch and Robertson ... 216 19 3

NORTHAMPTON.—For works in connection with the secondary school for girls, for the corporation:—
Seaton and Peet ... £918 19 4
Booth Horrocks, S. ... 818 0 0
Lowke, J. T., and Sons (accepted) 800 0 0

NORTHAMPTON.—For improvements at (A) Campbell-square and (B) Military-road Council schools, for the corporation:—
A. ... £95 10 0
Cleaver, A. R. and W. (accepted) ... £160 ... 298 10 0

NUNEATON.—For the supply of a steam-roller, for the town council:—
Green, T., & Son, Ltd., Leeds ... £180 0 0
(Accepted.)

OLD SHOREHAM.—For the excavations for and the construction and completion of a covered service reservoir in the parish of Old Shoreham, for the Brighton Town Council:—
Bostel Bros., Ltd., Brighton ... £2,386 0 0
Bevis, F., Ltd., Portsmouth ... 2,370 0 0
Saunders Bros., Brighton ... 2,294 15 0
Parsons, J., and Sons, Hove ... 1,975 0 0
Willett, W., Shoreham ... 1,970 0 0
Stow, G., and Co., High-street, Newport, Mon. (accepted) ... 1,740 0 0

ORSETT.—For erection of seven pairs of houses, for the West Thurrock Parochial Committee:—
Stark, W. T., Snaresbrook ... £2,086 0 0
(Accepted.)

PANTYFFNON.—For erection of Rhydymaerdy Bridge, for the Llandilo Rural District Council:—
Morcer, G., Llanelli ... £7,500 0 0
Thomas Bros., Pontardawe ... 7,201 0 0
Muirhead & Co., Westminister ... 5,000 0 0
Thomas, C., and Co., Llandilo ... 4,670 0 0
Howells and Son, Llandibeio ... 4,463 0 0
Davies, J. E., Pantyffnon ... 3,693 0 0
Thomas, J. S., Pantyffnon ... 3,614 0 0
Evans, J., Annanford (accepted) 3,490 0 0

PORTISHEAD.—For building a messroom at Portishead Dock, for the Bristol Docks Committee:—
Carey, W. E., Portishead (accepted).

RATHA.—For the erection of a new workhouse infirmary, for the board of guardians:—
Cash, George, and Co., Capenhurst (accepted) ... £4,427 0 0
(Lowest tender received.)

READING.—For alterations to scattered homes in Milten-road, for the guardians:—
Phillips, O., and Son (accepted) ... £162 0 0

SHIPLEY.—For alterations to sewage works, for the urban district council. Mr. M. Paterson, M.I.C.E., and Mr. J. N. Nicholson, A.M.I.C.E., 19, Tanfield Chambers, Bradford, engineers:—
Kendall, W. and J., Pudsey ... £1,585 13 7
Ward and Tetley, Swar Arcade ... 1,488 11 3
Booth, M., and Son, Clayton ... 1,250 0 0
Obank, J. and P. (accepted) ... 1,162 18 8
(Rest of Bradford.)

VALLEY, CO. ANGLESEY.—For supply of pipes, for the rural district council:—
Stanton Ironworks Co., Nottingham (accepted) ... £4,773 17 10

VALLEY, CO. ANGLESEY.—For supply of valves and fittings, for the rural district council:—
Glenfield and Kennedy, Ltd., Kilmarnock (accepted) ... £456 6 3

WREXHAM.—For forming and turning four lawn tennis courts at the Parciau. Mr. J. England, borough engineer:—
Strachan and Evans, High-street, Wrexham (accepted) ... £104 17 6

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House

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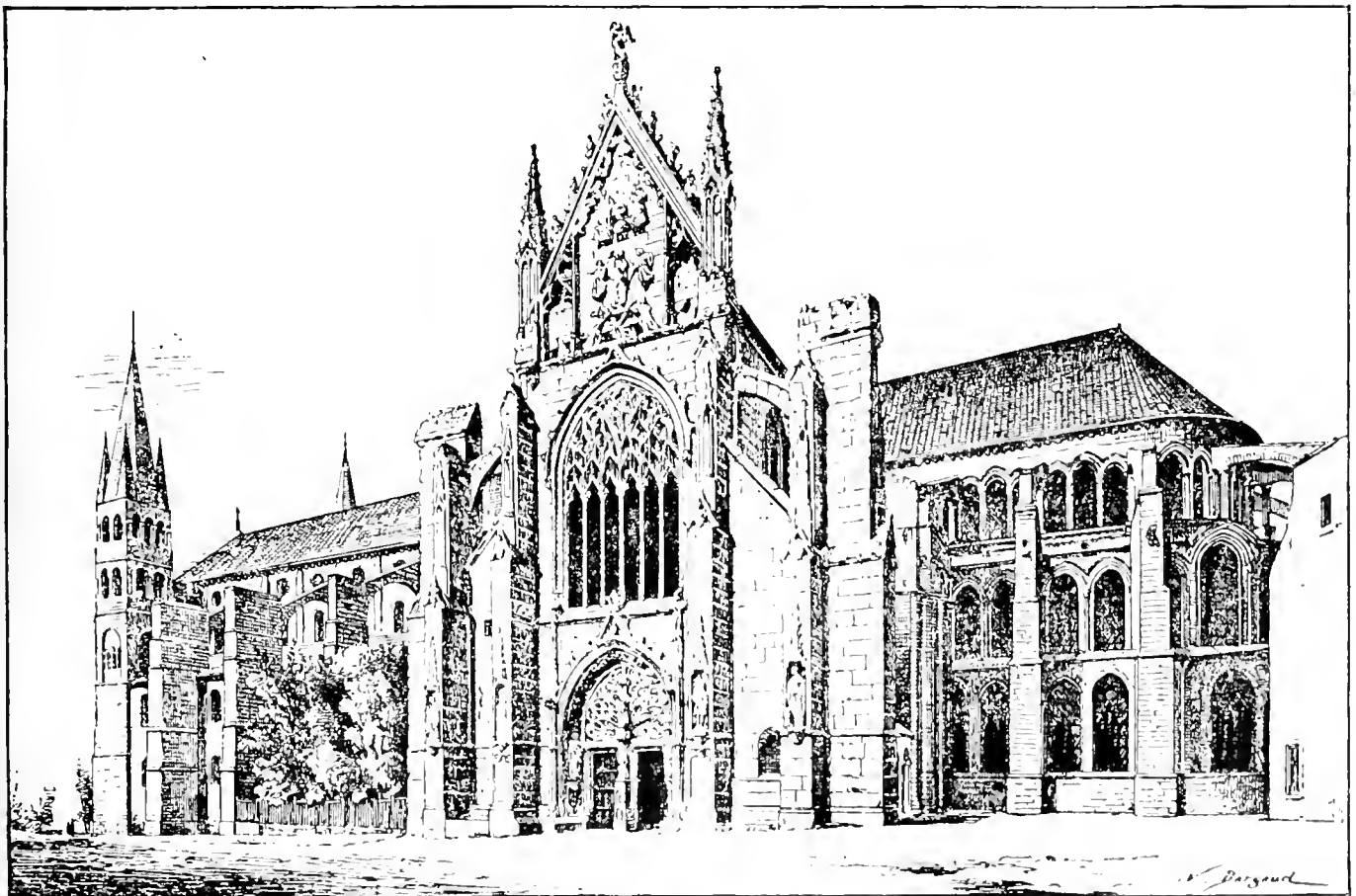
THE CHURCH OF ST. RÉMI, RHEIMS, AND THE GERMAN WAR. (WITH ILLUSTRATIONS.)

Most of the French and Belgian famed buildings damaged during the war, of course, are more or less familiar to all of us, and they have often been illustrated; but the noble church of

contour of the church generally, but gives the graceful proportions of this transept in juxtaposition with the much earlier nave and choir surrounded by the apsidal chapels.

A few general references to the city and its cathedral by way of description will serve to furnish a better idea of the environments of this remarkable monastic

the vandals invested the city early in the fifth century. After the conquest of Champagne by Clovis, the see of Rheims was held by St. Rémi for seventy-five years; an episcopate of such long duration was only made possible by the fact that he was consecrated Bishop at the early age of twenty-two. Clovis, on professing the Catholic faith, was baptised by St.



SOUTH VIEW OF THE ABBEY CHURCH OF ST. RÉMI, FRANCE. (Shelled by the Germans.)

St. Rémi has suffered badly, and our accompanying illustrations, therefore, possess more than a passing interest. Mr. W. Warman, of Crofton Park, S.E., has been good enough to lend us his water-colour study (reproduced in one of our inset plates), giving the façade of the south transept, which he sketched at St. Rémi last year. The fine design of its elevation is represented with much care and artistic feeling. Our smaller block, given herewith, shows the south side of the building from end to end, and this view affords an excellent idea not only of the grouping and

church of St. Rémi. Its Abbey buildings have long enough ago been utilised for other purposes than the founders originally intended. Rheims has a distinguished record, possessing a long history of its own, for it was already a flourishing centre of activity and civilisation in the days of the Roman Invasion, when it developed into a fully-walled citadel designated Duro-cortorum. Joynus, its consul, however, embraced Christianity A.D. 358, and naturally many changes took place during the ensuing fifty years in its economy till

Rémi in the Cathedral at Rheims, and this incident led to others of vaster importance in the history of the Monarchy of France. During the first and second race of kings, all in turn claimed the right of being similarly consecrated at Rheims with the self-same oil which, according to the legend, a sacred dove brought in the ampulla for the baptism of Clovis.

Rheims of late years has lost much of its old-fashioned character. The construction of its big central new roadways, decided on in order to cope with modern commercial projects, greatly altered the

town, of course. Viollet le Duc spent years of industry in "restoring" the magnificent Cathedral at Rheims, where, no doubt, he did clever work unquestionably, and he had an adroit way of designing things; but, all the same, the historic charm and architectural character of the structure suffered at his hands.

The internal length of the cathedral measures 466ft., and the height is 122ft., these dimensions being very similar to those of the Cathedral of Notre Dame at Amiens. Westminster Abbey, much smaller in scale than either Rheims or Amiens, was no doubt copied from both of these French churches, particularly in the apse of the choir. Chartres nearly corresponds with the proportions of Amiens and Rheims. The Archiepiscopal Palace hard by was commenced by Guillaume Bricconnet in 1498, and Robert de Lenoncourt completed it about 1509. Charles Maurice le Tellier altered the Palace and rebuilt parts of the premises in 1675. The Salle de Tau was distinguished by a 15th-century chimney-piece, and this apartment made a very handsome hall.

The church of St. Rémi is situated a good walk from the Cathedral, but is readily reached by a tram-ride passing through Rue de Bourg-S.-Denis and Rue Gambetta. The original wayside small chapel of the foundation, where the body of the saint rested in peace for 600 years, was rebuilt by Tiplin and Hinemar. Their work soon gave place to a more worthy sanctuary which Abbot Airard commenced in 1005, and this church, the records say, was to be "a more grandiose and ambitious construction than any attempted in the Kingdom of Gaul." Death overtook him, and frustrated his personal work, which he left unfinished in 1033. His successor, Thierry "purposed to accomplish as many projects as possible for the good of his monastery, took thought of the reconstruction of this church," and proceeded to further destroy what Airard had begun, and "tore it down almost entirely, leaving only certain foundations, which it seemed to the architects could be advantageously used for the new building." The plan he adopted, according to Anselmi (Itin. Leonis IX.) "was less pretentious, and this building bears witness to those who have seen it. The reconstruction was happily begun in the fifth year of his office (1038). The columns taken from the church began by Airard were carefully set up, above them the arches were diligently erected, and the building commenced to take form beneath the hands of the workmen." The remains of the older fabric, dedicated "in more ancient times" by Archbishop Hinemar were removed, and "a mean, temporary covering was erected over the choir of the brothers, that they might chant the praises of God free from the disturbance of the wind and rain." Thierry died in 1041, and Herimar was ordained by Archbishop Wido in his place. The work was pushed on with, and Anselm describes in detail the pomp with which the consecration by Pope Leo IX. took place in 1049. In the days of Burchard a bad fire overtook the monastery. Duke Guy renovated it and restored the church in 1100, though this building was really not so seriously damaged as the monks' house. Pierre de Celles, subsequently Bishop of Chartres, ruled as Abbot from 1162 to 1182. Writing in 1170 about his new church of St. Rémi, he says: "Wishing to build anew the choir of our monastery, with the help of God we put our hand courageously to the work, and we undertook to make our church, which had lacked a fitting chevet, noble in its head as well as in its belly," and with this aim the

undertaking took the exquisite form which so greatly and so unmistakably distinguished the building. Simon, the next Abbot, ordained in 1182, did much to extend the Abbey here, and he was buried in the nave of his church in 1198. His epitaph tells us that "he built the church, he ruled the monks, he distributed what was to be given, he baptised the chosen, he earned salvation." Dom Marlot, however, makes it probable that the work was practically completed in the choir before Simon's tenure of office began, and his additions were more probably made at the west end of the nave. The portals themselves are attributed to Pierre de Celles, while also the dates of 1162 to 1181 are associated with the building of the two adjoining western bays. "Robert de Lenoncourt finished the south façade of St. Rémi in 1506, and gave to the church silver vessels and sacred utensils." The vaults of the nave groining, in later times replaced by wooden imitations, may be considered the work of Simon. Thus St. Rémi presents a surely dated and important example of the style of the three crucial periods of architectural history: the Romanesque of the first half of the eleventh century, the Transition, and the Flamboyant style.

The apse is undoubtedly one of the finest known of the earlier type. Below the clerestory it closely resembles the apse at Paris, and its lower piers, its vaulting system, and triforium arcades are almost identical. The scheme at St. Rémi, however, is in advance of Paris as regards attenuation of supports and general lightness of construction. Like the Cathedral of Noyon it has a second triforium, and this is united with the clerestory by shafts which embrace both stages, as at Amiens and St. Denis. There is nothing to be found in France of more interest, as showing how the pure Gothic style was evolved from the Romanesque, and this process of development proceeded from the interior construction till its expression followed externally. The fluting of the columns outside St. Rémi is a peculiar feature of this church, though not uncommon elsewhere in Early work. The latest part of the building, of course, is this South transept already referred to. Its conception is particularly satisfactory, the proportions are good, and the details are excellent. For Flamboyant design the effect is unusually restrained, and somewhat rectilinear in treatment, presenting as it does a refined, rich result, owing largely to the traceries and sculptures being enhanced by the severity of the bold flanking buttresses and surrounding plain ashlar masonry so boldly handled.

The genesis of the chevet of St. Rémi we have already dwelt upon; but we have not alluded to its five apsidal chapels opening upon the ambulatory by three graceful arches, as at Notre Dame de Châlons. The windows of the choir date from the opening years of the thirteenth century. The clôture between the piers round the chancel belong to the modern Renaissance style, in harmony with St. Rémi's monument standing isolated to the rear of the high altar. Looking from the west, the effect behind the row of candles on the retable remains in the memory as very splendid and satisfying.

Louis V. of France was buried at St. Rémi in 954, and his wife Gerberger rested by his side, their son Lothaire being brought to join their sepulchre. The Revolution destroyed nearly all these monuments. Only a dozen statues were left from the old shrine of the Patron, whose effigy also was fortunately recovered. These twelve figures represented the peers of France, and in 1803 they were grouped

grotto-like in the form of a tomb. The present marble monument, of which we reproduce a photograph, only dates from 1847; but the work has distinct merit quite above the average of that date, which was not, of course, a specially brilliant period of art in Europe. The figures placed between the side columns of this sarcophagus, as seen in our view, certainly appear to be marked by character and expression. We do not know how far the building has been preserved during the war outrages of last month. We cannot tell, either, what has become of the ten fine tapestries so long displayed in the triforium of this church, in illustration of the career of St. Rémi. Robert de Lenoncourt, the archbishop, gave these tapestries to this church in 1531. A list was exhibited at the end of the aisle, giving the names of kings and princes, archbishops and abbots of St. Rémi, as well as other great personages interred near the grave of the Patron. The interior of the church remained in wonderfully good repair; but outside great age had naturally left its mark on its clean-looking cream-coloured masonry. The very lovely old western portals, for simple dignity and impressiveness, contrasted, some thought, very favourably with those of the cathedral, where the arches always seemed to us somewhat over-stilted and too elaborated. The old convent was richly endowed in 848 by Archbishop Hinemar; but the Abbatial buildings of St. Rémi have long been occupied by the Hotel Dieu. A delightful cloister still remained fairly complete as a record of the original character of the Abbey.

The interests of the city were not centred alone in its ecclesiastical buildings. Among its architectural examples of domestic importance may be named the "Maison des Musiciens" built for the poet Guillaume de Machau in the Rue de Tambour during the 14th century, beside another hôtel of the same period hard by. The Roman "Porte de Mars," as it is called, well known as a famous example of its kind, has been attributed to Agrippa, who is said to have built the archway when governor of Gaul, in honour of Julius and Augustus Cæsar. Rheims alone in France possessed gates with Pagan names. "De Cérés," for example, opened into the countryside towards Rethel; "De Mars" towards the Roman road, the military way of Cæsar from Laon to Soissons; the Gate "de Venus," leading to lovers' walks and rendezvous, and the "Porte Basche," said to have been the "Porte Bacchus," opening into the vineyards of Ay and Epernay. The other gate was "de Lumière," which stood facing the east in the walls of the city.

AN ECONOMICALLY-RUN HOT-AIR BATH.

The hot-air bath is a well-recognised necessity of town life. In the well-appointed hotel, the mansion, even at St. Stephen's for our four-hundred-pounders, its installation is a matter of course. There is really no reason why it should not be more often added, in a small way, to the conveniences and comforts of modern civilisation in the smaller provincial towns, in every decent hotel, and in the numerous small hospitals, the number of which increases yearly all over the country. If run as a business proposition, however, there must be nothing "small" about our bath in the sense of limitation of the size or appointments thereof, nor must any of the indispensable accompaniments be omitted.

The accompanying drawings illustrate a scheme for a bath suited to be efficiently

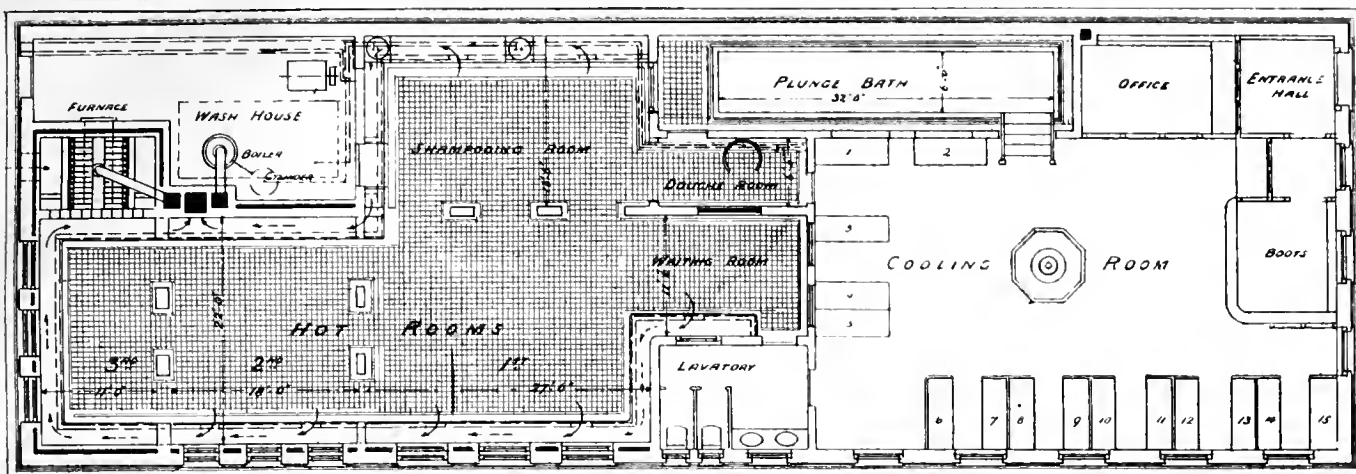


FIG. 1.—A Small Turkish Bath.

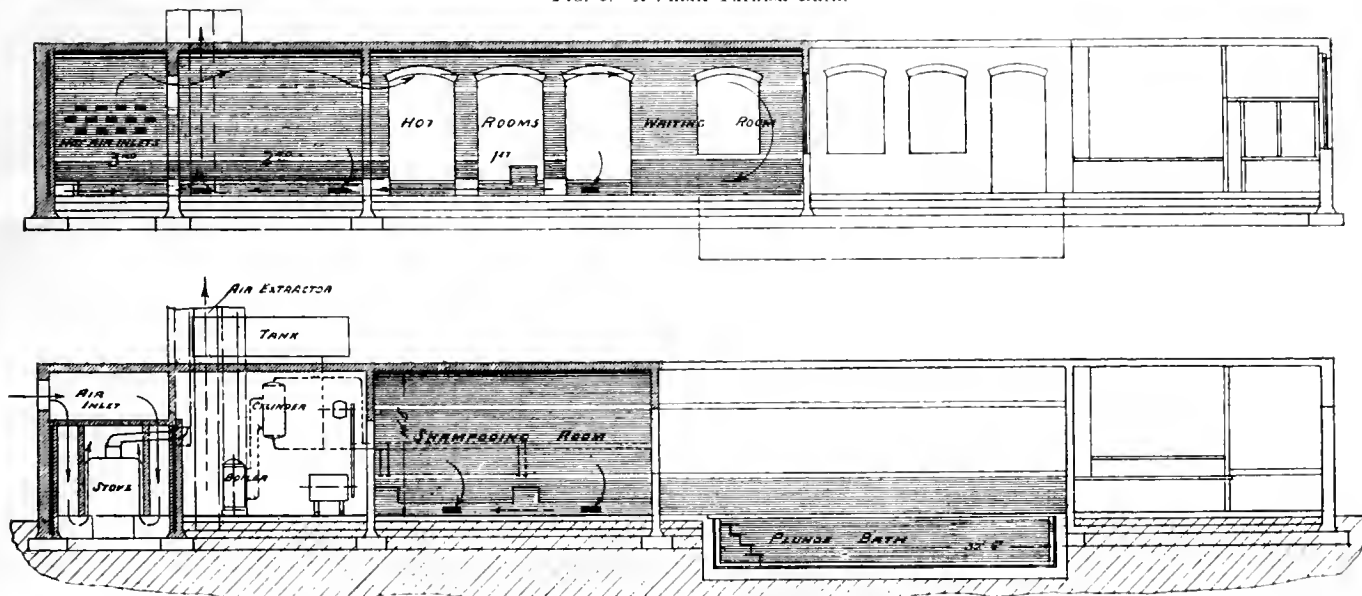


FIG. 2.—A Small Hot Air Bath.

run by two men and a boy, and might easily insure commercial success where one man was the proprietor. He would, of course, need to work hard in shampooing bathers, have a properly-qualified assistant, and a youth who could look after the pay-office, accounts, and cooling-room service. If small hot-air baths are to "pay," some such economical method of management and working is a necessity. Given this, many more modest little baths could be successfully promoted. The whole idea, in the present plan, is based on these premises—as, for example, the placing of the shampooing-room in a position where an attendant within can look practically over and through every part of the bath, while the furnaces, etc., are most conveniently to hand.

One reason why economical running is a necessity is because, although we may use the expression a "small" hot-air bath, in a literal sense, such an establishment is an impossibility. A certain minimum of size and accommodation is necessary, for the reason that the clientele of the bath is quite special, and has certain habits which, unless met by suitable appliances and planning, their patronage will be sought in vain. Moreover—and a more practical, if not more urgent, reason—a really small public bath (one, that is, with cubical space too restricted) cannot be properly ventilated with suitable rate of air-flow. What theory may indicate as possible, several practical difficulties will negative on making the attempt. In private baths the conditions are not similar.

The desiderata, therefore, are: (1) Sufficient

area and cubic space, to the end that the bath habitué may not be impressed with a sense of oppressive confinement, and that efficient heating and ventilation may be effected; (2) a full complement of rooms and appliances; (3) compact and suitable planning, conducive to economical management. So long as the recognised bath routine can be carried through, the refinements of the large modern city establishment can be ignored. Cleanliness, pure air, effective heating, a reasonable spaciousness, are prime considerations, the lack of which will immediately react prejudicially on visitors and injure commercial prospects. In a small bath, one may safely omit the "steam-room," now a feature in most large baths, and the more reasonably because such largely savours of a "fad." Pure dry air is the real requirement of a bath that is Roman rather than Eastern in origin. The problem in an average bath is not how to add moisture, but how to keep it down, where the lavatorium is practically part of the suite of hot-rooms.

A most necessary addition to a small bath is a room, lobby, or annex to the hot-rooms conveniently provided so that any bather awaiting the shampooing process may not have to remain longer than suits his comfort in the hot-rooms. This is a point strangely neglected in almost every class of bath. Such a waiting-room should have the temperature of the lavatorium or shampooing-room, and is indicated, as an improvement on existing practice, in the present plans, off the tepidarium, or first hot-room, and forms also the approach-way for bathers. Here, if the shampooers

are engaged, the bather can wait his turn in the minimum temperature—say 110deg. at most. On the lines of management here assumed, this sensible adjunct is most desirable.

The whole complement of rooms comprises three sudatory chambers of about customary relative areas, the tepidarium being the largest; a shampooing-room, a small douche-room, and a plunge-bath annex. The cooling-room is of the combination order—dressing and cooling as by far the best, most compact, and appreciated, as a practical arrangement, by the modern bather. It has a pay-office and boot-lobby, and accommodates fifteen couches—ten in dual screened compartments, and five in the open room. A wash-house is arranged off the shampooing-room, and therein are the heating-furnace chamber, coke-store, and boiler. In these days of universal electric-current supply, a small motor-driven washing-machine is shown, and a similar motor, or means of utilising the machine motor, for additional fan exhaust-ventilation is contemplated. Much more reliable ventilation will be thus assured.

The furnaces are of iron with air-heating convolutions. This saves a lot of trouble, and accepting as a practical measure the system of hot-air supply, however much we may feel drawn towards pure radiation as a fundamental basis for *heat-baths*, this enables one here to crank round the furnace instead of necessarily fixing it directly facing down the axis of the suite of hot-rooms. In other words, as we do not get any radiant heat, but simply a supply of hot air, if convenience

suggests turning the heating-chamber laterally, we can do so without loss of efficiency. Thus, in the present case, it being desired to bring the furnace as close as possible to the shampooing-room, we turn it round 90deg., as indicated on the plan. The door from the shampooing-room therefore commands the whole of the stoke-hole and wash-house and its fittings.

The air is drawn round the convolutions as ordinarily; the fresh air is introduced some height above ground-level, as a desirable practice. This means, however, that the extractor shaft must be of sufficient height to draw down the fresh air. As shown, this extracting flue is kept hot and ventilation assisted, and the taller this extractor, the greater the draught, as in an ordinary chimney; but we should, in these days, always add, at any rate as auxiliary, an electric-motor fan, possibly in a by-pass flue. It should be noted that all bath ventilation is more or less affected by weather conditions; and it follows that, whereas one day all may be as it should, at another time this is not so; hence the wisdom of a fan to fall back on in emergency. The main principles should be, first, plenty of extraction power, and then a superfluity of variously disposed hit-and-miss ventilation gratings. By this means the bath attendant, experienced in the little eccentricities of the special ventilation, may set the gratings according to conditions of the moment. These outlet ventilating grids should fit properly, so that they really do cut off all air when so required to act. They are disposed in the dwarf walls of the marble-topped benches, in the hot-rooms, and in the shampooing room.

Apart from special ventilating device, there is a natural tendency in baths heated on the hot-air system, for the fresh air to flow along the ceilings, and back along floors, much as generally indicated by the long arrows in the sectional view, and accordingly, as the writer long since pointed out in the BUILDING NEWS, one might imagine it feasible to provide a floor midway between the solid bath floor and the ceiling, so that bathers might be in a stream of fresh air. In practice, no doubt, there are back-flows about each room, so that the fresh air is fairly distributed to the several apartments.

As the coke required for furnaces is not of itself an item to make or mar commercial success, it is unwise to try too much economising at this point. Were this not a rational argument, one would do well to provide only a small doorway between each hot-room and between the tepidarium and shampooing-room. For the reason advanced, we show a more open arrangement, burning possibly a little more coke, but better insuring vigorous ventilation and air-change. Between the hot-rooms and the shampooing-room are three arched openings. It would be vain to attempt to predetermine the exact number and position of grids required for this; therefore, as suggested above, a generous and excessive provision should be made all round, leaving the bath attendant to adjust as his experience dictates.

The main idea indicated by the plan is a narrow-frontage site, for economy. A strip of ground has been sacrificed in order to get side lights to the bathrooms. Such lighting produces a very different effect to the cellar-like baths of expensive city sites. The several rooms could be built over or roofed, in simple manner, with a good, roomy, lantern light centrally in the cooling-room. The drainage would be run out in the side strip of ground, the shampooing-room drained by a covered channel through the wash-house, the douche-room connecting by channel to that of the

lavatorium. The plunge-bath would need preferably a sluice-valve and overflow in pit at head of bath, and would preferably be drained by pipe under shampooing-room, etc. The plunge-bath, originally drawn 25ft. long, seemed somewhat short, and has been shown lengthened, with exit steps placed at right angles. A good plunge is appreciated by bathers, and commercially benefits any bath.

The hot-room walls have a cavity and double windows; the ceiling would be best in enamelled iron, pugged over (as with slag-wool); but of late years manufacturers have introduced several novelties worth examining as to their suitability for hot-room ceilings. The idea is to stop useless radiation, and so economise fuel.

The bath fittings comprise: shampooing basins, with hot and cold services; a needle-bath and ordinary jet and wave douches, all with hot and cold water from the cylinder and boiler in the washhouse. All pipes would be exposed and neatly arranged on the bath walls, in accordance with modern plumbing practice. The hot-air bath is cut off, from the cooling-room, etc., by the doors into bathers' waiting-room, and into the plunge-bath chamber. Thus this latter is practically in the cooling-room. The splash of the plunging bather may here perhaps be considered objectionable to somnolent occupants of the cooling-room. In this event, a glass screen, with rubber curtain dipping into the water mitigates the evil, leaving merely the noise of the walrus-like emergence from the waters of the plunge.

DUNDEE SCHOOL BOARD AND THEIR ARCHITECT.

At the last meeting of the School Board for Dundee the reconstruction and extension of the Harris Academy was considered in connection with a report by measurers on tenders for mason work, joiner work, and iron work, amounting in all to £21,000. The letter stated that the price of timber and steel had recently risen considerably, but that the price of mason work should not be affected by the crisis, and if at the conclusion of the war the timber and steel markets became more normal, the work might be done more cheaply.

Mr. Bisset, chairman of the Board, said that in December last Mr. J. H. Langlands, the Board's architect, had submitted an estimate that the work could be done for £17,000, but in view of the tenders for only three of the contracts, it appeared that the total cost would be about double what the architect had estimated nine months ago. It had not been suggested by the measurers asked to report that the war accounted for such an enormous increase, and he could not help thinking that the architect's estimate was an inaccurate one. In view of such a serious situation, he was prepared to move that they depart from the scheme, and request the architect to send in his account, reserving any objections they might have to it, and in the event of the Board resolving on a new scheme, to have it determined by competitive plans, and to that end to consider the termination of the agreement with the official architect.

The Rev. George Smart said the Board was in a difficulty, but he advised that they should have the matter taken up by a private conference. Mr. P. Reid supported the chairman, remarking that desperate diseases required desperate remedies. The Rev. Canon Turner observed that as the architect's honour was at stake, he might wish to submit his plans to the challenge of competitive architects, and to abide by their decision.

The chairman said he wished to avoid the appearance of rushing the matter, and the Board decided to depart from the scheme submitted, and to take up the question of the architect at a private conference.

HOUSING CONDITIONS IN DUDLEY.

An inspector of the Local Government Board recently visited Dudley for the purpose of investigating housing conditions in the borough. The Local Government Board have communicated with the town council, stating that they have learned from their inspector's report that the standard of housing accommodation for the working classes in the borough was low, and that the conditions under which many of the working classes were living left much to be desired. The inspector fully confirmed the opinion of the medical officer of health, that increased and better housing accommodation for the working classes was very urgently required. He reported that he found in all parts of the borough old and dilapidated houses, built in courts, without back space or sufficient light and air, and that of some hundreds of houses of this type visited by him nearly half appeared to be in such a state as to be unfit for human habitation, while many more, though not unfit, were of a most undesirable type, and would require extensive repairs and alterations before they could be regarded as being in a state reasonably fit for human habitation. The inspector understood that the medical officer was of opinion that large numbers of houses were unfit for human habitation, but regarded himself as forced to refrain from representing them under the provisions of Section 17 of the Housing and Town-Planning Act, 1909, owing to the fact that there was insufficient accommodation for persons of the working class who would be displaced if the council took action under that section.

The Board had not overlooked the list of vacant and suitable houses forwarded to them by the town clerk in May last; but they considered that these, very few of which had more than two bedrooms, were utterly insufficient to enable the town council adequately to deal with the very grave state of affairs revealed by their inspector's report. It appeared to them that the considerable shortage of habitable houses for the working classes was not likely to be met by private enterprise, and they strongly urge the town council to proceed at once with the preparation of a scheme for the provision of a large number of working-class dwellings (each with three bedrooms), under Part II. of the Housing Act, 1890. The inspector was of opinion that from 300 to 400 additional houses of this type were required, but they would not press for the erection of these in one instalment.

ARCHITECTURAL AND BUILDING CONSTRUCTION PLATES.*

Part II. of this excellent series is in every way equal to its predecessor, which we noticed some time back. It consists of thirty drawings, covering an advanced course, the plates, as before, being 20in. by 13in., all contained in a serviceable portfolio. Loose copies of each plate can be had at 3s. net per dozen, an advantage likely to be taken of largely by teachers and lecturers. All the drawings are fully figured, the lettering is simple, and where useful full-size sections and details are given.

The plates cover, as regards Brickwork: Foundations in soft soils, bonds in brickwork, prevention of damp, entrance doorway and niche, and drainage details. Masonry: Doorways and windows. Carpentry: Timbering for excavations, arch centres and shoring, "double" floor, "framed" floor, fire-resisting floors, timber partitions, queen-post roof-truss, mansard roof-truss, and composite roof-truss. Tiling and plumbing: Roof and gable finishings. Steel and Ironwork: Bresssummers, beams, and girders; steel roofs, supporting flat ceilings, open steel roofs, graphic staties of roofs. Joinery: External doors, internal doors, solid frame casement windows, solid frame bay window, cased frames with sliding sashes, skylights and lantern-lights, staircase (doglegged in two

* Architectural and Building Construction Plates Part II. By WALTER R. JAGGARD, F.R.I.B.A., Cam. Bridge University Press, R. Clay, Fetter-lane. 6s. net.

flights), and staircase (open newel in three flights).

We congratulate the author on his lucidity and discretion. There is nothing given we could spare and little we should add. Practical experience and teaching facility of more than ordinary ability have seldom been so usefully combined as in the production of this series of well-graduated problems, which any pupil fit to be an architect or builder can follow, and from which he will concurrently gain a wholesome sense of proportion and fitness of design.

OUR CEMENT EXPORTS.

The following statement shows for a recent year the value of cement exported from Germany, Austria-Hungary, and the United Kingdom, respectively, to all destinations:—

Exported from Germany (1912)—	
Portland cement, Roman cement, and hydraulic cements (tufa, trass, puzzolana, and puzzolana-sand, &c.)	£1,723,900
Exported from Austria-Hungary (1913)—	
Portland cement, Roman cement, and other artificial cement	215,900
Exported from the United Kingdom (1913)—	
Cement for building and engineering purposes	1,273,100

In 1912 the value of Germany's exports of cement to the United Kingdom were valued at only £28,600, while no cement was exported from Austria-Hungary to this country.

The following statements show for a recent year the value of cement exported from Germany, Austria, and the United Kingdom, respectively, to the Colonial and neutral markets specified:—

GERMAN MARKETS IN 1912.

Portland cement, Roman cement, and hydraulic cements (tufa, trass, puzzolana, and puzzolana-sand, &c.)

Exported to—	£	Exported to—	£
British India	19,800	Morocco	3,200
Ceylon	8,500	China	5,000
British South Africa	6,000	Dutch East Indies	55,770
British West Africa	6,400	Philippines	40,300
Australia	133,800	Argentina	51,600
Norway	31,300	Brazil	281,300
Sweden	14,050	Chile	142,300
Denmark	16,950	Colombia	1,300
Belgium	28,900	Peru	8,600
Netherlands	249,700	Uruguay	29,800
France	56,800	Ecuador	3,900
Switzerland	1,250	Venezuela	8,100
Portugal	3,500	United States	21,100
Spain	10,100	Costa Rica	5,400
Russia	111,700	Panama	1,500
Turkey	50,900	Mexico	11,800
Egypt	3,500	Total to above markets	£1,444,850
Portuguese East Africa	20,800	Total to all destinations	£1,723,900

The value of Germany's exports of cement to the above markets amounted to £1,444,850, or 81 per cent. of her total exports to all destinations in 1912.

The principal destinations to which the cement was exported, and the value of such exports in each case, were as follows:—Brazil, £281,300; Netherlands, £249,700; Chile, £142,300; Australia, £133,800; Russia, £111,700; France, £56,800; Dutch East Indies, £55,770; Turkey, £50,900; Philippines, £40,300; Uruguay, £29,800; and Belgium, £28,900; while a fair trade was done with the United States, Portuguese East Africa, and India.

AUSTRIAN MARKETS IN 1913.

Portland cement, Roman cement, and other artificial cement.

Exported to—	£	Exported to—	£
British India	1,900	Turkey, European	1,515
Australia	1,900	Asiatic	11,910
Italy	2,510	Egypt	5,600
Bulgaria	16,600	Tripoli	11,920
Roumania	2,500	Argentina	18,400
Montenegro	900	Brazil	12,800
Greece	500	Total to above markets	£109,080
Servia	1,175	Total to all markets	£215,900
Russian, European	11,850		
Asiatic	7,100		

Austrian exports of cement are much smaller than those of Germany or the United Kingdom. Her principal markets in 1913 and the amount sent to each were as follows:—Bulgaria, £16,600; Russia, £18,950; Turkey,

£13,425; Tripoli, £11,920; Argentina, £18,400; and Brazil, £12,800.

UNITED KINGDOM MARKETS IN 1913.

Cement for building and engineering purposes.

Exported to—	£	Exported to—	£
British India	241,800	Turkey, Asiatic	4,000
Ceylon	47,100	Egypt	31,000
British South Africa	110,400	Tripoli	—
British West Africa	66,700	Portuguese East Africa	14,300
Australia	48,200	Morocco	2,800
Norway	100	China	100
Sweden	1,800	Dutch East Indies	100
Denmark	200	Philippines	—
Belgium	800	Argentina	164,000
Netherlands	8,900	Brazil	203,500
France	2,200	Chile	45,500
Switzerland	100	Colombia	900
Portugal	7,000	Peru	500
Spain	23,500	Uruguay	11,300
Italy	200	Ecuador	—
Bulgaria	—	Venezuela	800
Roumania	100	United States	6,100
Montenegro	—	Costa Rica	100
Greece	—	Panama	200
Servia	—	Mexico	7,400
Russia, European	1,500	Total to above markets	£1,054,700
Russia, Asiatic	—	Total to all destinations	£1,273,100
Turkey, European	1,500		

Our exports of cement to the markets specified above amounted to £1,054,700, or 83 per cent. of our total exports to all destinations in 1913.

One-half of our aggregate exports to the markets specified goes to the five British possessions shown at the head of the table, while one-third goes to Argentina and Brazil. The balance is spread over a number of small markets, of which the more important in 1913 were Spain, Egypt, Chile, and Uruguay.

From a perusal of the foregoing figures it is clear that the United Kingdom holds a very strong position in British India, Ceylon, British South and West Africa, Egypt, and Argentina, while we do a fair trade with Spain; Germany, on the other hand, has a long lead in Australia, Netherlands, Brazil, and Chile, and does a large part of the trade in the less important South American markets.

In the smaller markets it may be said that Germany supplies the major part of the cement required in Western Europe, while Austria supplies that required in Russia, South-Eastern Europe, Turkey, and the Levant.

To sum up, it would appear that the maximum value of German and Austrian export trade in cement, which might, under present circumstances, be diverted to British manufacturers, is as follows:—

(a) In the United Kingdom market—	
German trade (1912)	£28,600
Austrian trade (1913)	—
Total	£28,600*
(b) In Colonial and neutral markets—	
German trade (1912)	£1,444,850
Austrian trade (1913)	109,080
Total	£1,553,930*

making a grand total of £1,582,530.*

The following particulars are available as to the demand for cement in certain markets abroad:—

BRITISH SOUTH AFRICA.

The following statement shows the value of the imports of cement into the Union of South Africa during the years 1912 and 1913, according to countries of origin:—

	1912.	1913.
United Kingdom	£77,924	£95,187
Germany	3,965	5,033
All countries	114,921	125,616

The United Kingdom supplies the major portion of the cement imported into the Union of South Africa, but experiences a certain amount of competition from Germany. In course of time, practically the whole demand of the Transvaal will be supplied from local works. The cement manufactured in Pretoria is regarded as equal to the best imported, and sells at approximately 8s. per bag of 188lb. net weight, 1 1/2 per cent. discount, delivered free on mines. "Although the demand for locally-

* The German figures for 1912 and the Austrian figures for 1913 have been added so as to give an idea of the bulk of the trade in a year.

made cement is, as stated, developing to very large proportions in the Transvaal, the total imports of cement into British South Africa have not diminished during the last three years. This, of course, implies that the demand for cement is greatly extended, and the trade of British manufacturers has not been restricted, so far as the total imports are concerned. British firms cannot expect to do any business in this market without local representation."

Further reference to the increasing output of the Pretoria cement works is made in the following extract from H.M. Trade Commissioner's report for the year 1913:—"With regard to the trade in cement, attention must be drawn to the great advance in the operations of the Pretoria Cement Company, a local concern producing a high-grade cement. The output of this factory has, of course, materially affected the position of oversea-made cement in the Transvaal Province. A second factory is being erected in the Orange Free State, which will be able to compete with the imported article in almost any part of the Union. The imports of cement from oversea are likely, therefore, in the course of time, to disappear almost entirely from the import trade returns of the country. The building-up of local industries for the manufacture of articles in which the United Kingdom formerly held the premier position, must naturally effect a reduction in her relative percentage position, and this is a consideration which must be kept clearly in view when analysing the trade results of recent years and succeeding periods. The following are the values of the imports of cement into the Union of South Africa during the last six years, showing an advance from £114,921 to £125,616 in the past twelve months:—

Year.	Value.
1908	£78,786
1909	65,448
1910	116,841
1911	104,405
1912	114,921
1913	125,616

"The actual consumption throughout the Union, however, increased far beyond the limit indicated by these figures, for the local factory itself produced some 900,000 bags, which is the equivalent of 450,000 casks."

AUSTRALIA.

The growing importance of Portland cement in the import trade of Australia, and the increasing severity of German competition are seen from the following figures, showing the quantity and value of the imports from all countries and from the United Kingdom and Germany respectively, during the period 1910-1912:—

Total imports from all countries.—			
Year.	Quantity.	Value.	
1910	1,612,004	£138,716	
1911	1,670,117	151,331	
1912	2,603,792	261,680	

Imports from—				
Year.	United Kingdom.	Germany.		
	Value.	Percentage.	Value.	
			Percentage.	
1910	£79,032	56.9	£36,420	33.1
1911	62,708	41.1	72,753	48.0
1912	69,599	26.5	144,564	55.2

From the foregoing it will be seen that while, in spite of the rapidly increasing production of cement in Australia, the import trade about doubled in the three years under review, British participation in 1912 was less than half of what it was in 1910. On the other hand, Germany's share of the trade in 1912 was more than half as large again as in 1910.

There can be little doubt that the unsatisfactory position of the United Kingdom is due in a very large degree, if not entirely, to the lower freights paid by Continental manufacturers, and their ability to obtain regular space for shipments of cement. The difference in the freight paid by British and German manufacturers is more than sufficient to neutralise the preference in import duty, amounting to 3d. per cwt., which the former enjoy.

The following extract from a communication received in May, 1913, from the Imperial Trade Correspondent at Brisbane is of interest as indicating that German manufacturers, having captured a large share of

the import trade, are turning their attention to the increasing importance of the Australian output of cement:—"There are reports that a local firm have been making investigations in connection with the deposits which they control close to Brisbane, and in conversation with one of their directors I was informed that they are in touch with a very powerful German cement manufacturing company, who propose to send some of their experts out here to test the quality of the Queensland deposits. An inducement is being offered to the German manufacturers in the way of an interest in the venture in return for their services and knowledge of the business."

Commenting on the effect of the war on commercial conditions in the Commonwealth, H.M. Trade Commissioner stated, on August 20, 1914, that stocks of cement in Australia are decreasing, but a large amount of German cement is in the Griefswald, held as a prize at Fremantle. In view of the large quantities formerly coming from Germany, cement from other sources of supply should be in demand; on account of the high freights ruling, it seems probable that the local production will be stimulated."

NEW ZEALAND.

In his report for 1913, H.M. Trade Commissioner states:—"Such imports of cement as exist are British, but the local industry is strongly entrenched, and is yearly reducing importation. It is said that the duty could now be dispensed with, as the good quality of the local make is now recognised; Government departments will buy no other, and overseas freights and the cost of casks alone act as a protection to the New Zealand products."

"Cement, as indicated last year, is being satisfactorily manufactured locally, and the drop in the imports from £39,000 to £17,000, in spite of the increasing demand for reinforced concrete, bears out the statements in last year's report."

BRITISH INDIA.

The following statement shows the value of the imports of cement from the under-mentioned countries into British India during the fiscal years ended March 31, 1911, 1912, and 1913:—

	1910-11.	1911-12.	1912-13.
United Kingdom	£271,875	£262,957	£365,621
Germany	11,965	11,812	44,164
Austria-Hungary	3,973	4,457	6,762
All countries	307,899	299,771	457,478

The United Kingdom holds a strong position in this market; but it is not-worthwhile that imports from Germany were nearly four times as much in 1912-13 as in the previous year, whereas those from the United Kingdom, Austria-Hungary, and all countries showed roughly only an increase of 50 per cent. in each case.

An Austrian Consular Report from Madras states that in 1913 the imports of cement into that Presidency were two and a half times as great as in the previous year. While British products still account for 90 per cent. of the total imports, it is stated that German cement is beginning to make its competition severely felt, and the appearance of Continental cement generally in this market has forced down the price of the British product. It is not, however, anticipated that Continental cement will gain a permanent place in India, particularly as several highly efficient and well-equipped factories are now in operation in the country, and are capable of turning out at a low price a material quite equal in quality to the imported brands.

ZANZIBAR.

A recent American Consular report states: "A certain quantity of English, German, and other cement is brought into Zanzibar for local consumption and for distribution to the mainland. The greater quantity used is of English manufacture, and the largest single consumer is the Department of Public Works. A good deal of cement is being used on the two German railways, which are being extended, leading out of Tanga and Dar-es-Salaam, and the Public Works Department of the East Africa Protectorate is also a consumer. Prices

should be quoted c.i.f. Zanzibar, Mombasa, or Dar-es-Salaam.

"At all the coast ports cargo is unloaded by means of lighters, and is often exposed, especially during the rainy season, to bad weather. Belgian cement is received in wooden casks, tin-lined, German and English in iron drums, and Norwegian in casks, lined with a thick waterproof paper."

EGYPT.

The following statement shows the value of the imports of cement into Egypt from the undermentioned countries during the years 1912 and 1913:—

	1912.	1913.
United Kingdom	£E53,683	£E31,458
Germany	4,668	2,565
Austria-Hungary	23,083	15,844
All countries	168,210	107,860

Portland cement of United Kingdom origin is being ousted in Egypt by brands of Portland cement made elsewhere, and the reason given is that the genuine British brands cannot be obtained because British manufacturers are too full of orders for other parts of the world to cater for the smaller Egyptian orders. The reason for this can hardly be accepted, and is probably offered by contractors as an excuse for supplying cheaper imitation Portland cement.

RUSSIA.

The following statistics relate to the imports of cement into Russia from the United Kingdom for the period 1907-1911:—

Year	Portland cement, artificial or natural—		Value.
	Quantity.		
1907	6,722	poods	2,688 roubles
1908	4,927	"	1,967 "
1909	5,724	"	1,717 "
1910	407,868	"	124,945 "
1911	1,318,469	"	335,542 "

Cement, Roman, mixed, slag, and all others—			
Year	Quantity.		Value.
1907	288	poods	116 roubles
1908	1,253	"	501 "
1909	96,863	"	20,058 "
1910	122,035	"	36,612 "
1911	734,834	"	217,210 "

In forwarding the above statistics, H.M. Commercial Attaché at Petrograd, in a despatch written in August, 1913, stated:—

"The trifling importation from the United Kingdom up to 1909 has made good strides forward, especially in 1911. Thus, the import from the United Kingdom has risen from 6,722 poods of Portland cement in 1907 to 407,868 in 1910, and to 1,318,469 in 1911; and of cement, Roman, mixed, slag and all others, from 288 poods in 1907 to 122,035 in 1910, and to 723,834 in 1911. The imports from Germany into Russia have, however, increased in a very much greater proportion. British firms have, however, within the last few years evidently got some hold of the trade."

GREECE.

An Austrian Consular report from Salonika states that the imports of cement in 1912, which came largely from Austria and Germany, amounted to 9,025 tons. Ordinary Portland and Roman cement were imported. The increase in imports from 6,589 tons in 1911 is ascribed to the fact that most of the building in progress is being carried out in armoured concrete.

SERVIA.

According to a German Consular Report most of the cement used in Serbia is made in the country. Of the £4,000 worth imported in a recent year, Austria-Hungary supplied £3,200 worth, and Germany the remainder.

The Austrian Consul at Uskub reports that Austria-Hungary sends cement to this town; but the Hungarian manufacturers have only been able to hold the trade by reason of the facilities they can offer for quick deliveries.

BULGARIA.

The Austrian Consul General at Sofia, in his report for 1911, states that the competition of two Bulgarian factories, one at Penega and one at Plevna, is making itself felt to an increasing extent. The locally manufactured material is of inferior quality to the imported, but its immunity from import duty makes it saleable at a lower figure. The price for local cement in 1911 was 75 to 80 francs per ton, including sacks. Of imported cements the Hungarian (Beochmer) has the greatest sale.

TURKEY.

The following information is extracted from a report drawn up by the American Consul-General at Constantinople in January, 1912:—

"Cement forms an important item of Turkey's purchases from Austria-Hungary, Germany, and the United Kingdom. Austrian cement, known as the Beochmer cement, from Budapest, sells to the extent of about 7,000 tons a year. The price is 46 francs per ton, sacks included. The price in barrels is 43 francs per ton, barrels included in weight. About 3,000 tons of Lanckenfelt cement from Trieste are sold each year at the same prices as the brand just mentioned.

"The largest cement exporters into Turkey are the Germans, due principally to the extensive use of their product in the construction of the German railroad in Anatolia. The Westphalia Cement Syndicate sells about 10,000 tons of cement to Turkey. The price, in sacks of 50 kilos each, is 43 francs per ton, an allowance of 30 centimes each being made upon the return of the sacks. When sold in barrels the price is 46½ francs per ton. The increase in price of barrel cement is due to the high cost of wood in Germany.

"Cement is used in Turkey for concrete work, stairs, and tiles, and for decorative purposes. Foundations are now laid in iron and cement to resist earthquake shocks. Buildings are generally faced with a lime and sand mixture, although sometimes ordinary black cement is used, after which it is limewashed.

"Ten years ago no Portland cement was used in Turkey. Since then there has been a continuous growth in its employment, until in Constantinople alone there has been a 30 per cent. yearly increase in the use of cement."

The Austrian Consul-General at Constantinople gives the amount of the annual importations of cement into Turkey at about 573,200 quintals, of which some 150,000 to 200,000 quintals are represented by shipments to Constantinople. Among the principal countries of supply are: Austria-Hungary (with 136,950 quintals in 1912), Great Britain, and Germany.

The local production is, however, beginning to supplant the imported product. One Constantinople firm produces 25,000 tons per annum, and is expected shortly to be able to increase this to 60,000 tons. Another firm also manufactures about 25,000 tons annually, and intends doubling this output in the near future.

TURKEY-IN-ASIA.

The following extracts are from the report of the Special Commissioner sent by the Board of Trade to Syria in 1910:—"Small quantities of British Portland Cement—some 500 to 600 barrels—are annually imported, but only for special requirements of the Beyrout waterworks, and the electric tramways in Beyrout and Damascus. The quality of this cement is much appreciated by those who have used it; but it is too dear in price, and, consequently, cannot be imported for general consumption.

"The annual sale of cement in Beyrout is estimated at about 8,000 to 12,000 barrels. With the increase in house-building, the consumption promises to be greater every year. The building of electric tramways in Beyrout increased the consumption last year, and the quantity then imported was not less than 16,000 barrels.

"Dealers state they have frequently attempted to get into touch with manufacturers in the United Kingdom. They say they are willing to place trial orders; but it has hitherto been difficult to get British manufacturers to put up cement in small barrels; this point has now been settled, for the few manufacturers who supply the small quantities required send whole and half-barrels as desired. Dealers also state they rarely receive replies to letters and inquiries which they address to British manufacturers, even when the letters are written in English. These difficulties, and the impossibility of coming in contact with British firms who might be disposed to trade with Syria, have made local dealers give all their attention to

the importation of other brands. Importers express much regret in being unable to deal in British cements; the trade is a very important one, and if prices can be suited, British manufacturers may find it worth while to give the Syrian market some attention, and to endeavour to secure a fair share of the supply."

ARABIA.

An American Consular Report drawn up in July, 1912, states:—"Cement is proving very popular for construction in Aden, although its use here is still in the experimental stage, due principally to intense heat. A row of cement houses was recently erected by the Aden Settlement Office for office clerks, and it seems to meet the entire satisfaction of both. The claim is made that cement is cheaper than stone and that it lends itself to quick construction.

"On the other hand, cement has not been a big success in French Somaliland, where a building was recently erected at a cost of approximately 25,000dol. (£5,200). Shortly after its completion so many cracks appeared in the walls that the building has been regarded as unsafe, and now remains unoccupied. Native contractors are disposed to blame the intense heat and the moisture in the air."

MOROCCO.

The Austrian Consul at Tangier draws attention in a recent report to the steady growth in the imports of cement into Tangier, which reached a value of about £28,000 in 1912. Great Britain, France, and Germany control this trade. Cement is delivered in casks of 180 kilos., at 14-15 pesetas. It is also sold in sacks of 50 kilos. at 65 to 80 pesetas a ton.

TRIPOLI.

According to a German Consular Report the use of cement in Tripoli is not yet very widespread, though some increase has taken place since the Italian occupation. One-half of the imports come from Italy, and more than half of the remainder from Austria. The small import from Germany is ascribed to the higher cost of transport. Slow-setting Portland cement is chiefly required, and sells at 26s. to 27s. 7d. per ton f.o.b. Tripoli, including insurance and packing in casks or sacks. No legal standard has yet been established, but manufacturers usually send a small sample in order that users may test it. Landing during the months November to March is frequently difficult and risky.

NETHERLANDS EAST INDIES.

The "London Chamber of Commerce Journal," dated February, 1912, states, on the authority of the Belgian Consul at Batavia, that the trade in cement in the Netherlands Indies shows considerable development. The value of the imports in 1905 was 952,338 florins; in 1906, 945,237 florins; in 1907, 1,476,958 florins; in 1908, 1,411,352 florins; and in 1909, 1,493,053 florins (298,811 barrels). So far, Germany and Belgium have been practically the only countries supplying cement to the Netherlands Indies; but this will soon be no longer the case, as the products of a Hong Kong cement company have appeared on this market, and the Padang-Sumatra cement factory also will shortly reach the producing stage. The last-named establishment, which will possess a modern equipment with a capacity of 300,000 barrels a year, expects to remove all foreign competitors from this market.

The year 1910 was particularly favourable for the cement trade in Java, on account of activity in the building industry and the large public works in progress, such as the construction of a port at Soerabaya, and the improvement and extension of those at Samarang, Macassar, and Tandjong Priok. The following were the imports of cement to Java during 1909 and 1910:—

	1909.	1910.
Netherlands	146,697 barrels	196,856 barrels
Germany	20,637 "	87,698 "
United Kingdom	7,383 "	23,390 "
All countries	194,721 "	315,591 "

A large part of the imports of cement attributed to the Netherlands is stated to

come from Germany. The price in 1910, c.i.f. at Batavia, of German Portland cement was 5.75 to 6 florins a barrel of 200 kilos. Cement is imported to the Netherlands Indies free of duty.

An Austrian Consular Report from Batavia calls attention to a yearly increase in the importations of cement, due to activity in the building trade. The quantities imported into Batavia in 1912 from the undermentioned countries were as follows:—

Netherlands	270,629 barrels
Great Britain	35,556 "
Belgium	72,605 "
Germany	77,239 "

It is remarked, however, that the shipments coming from Holland doubtless include some cement of German origin. In 1912 a cement factory was erected in Padang (Sumatra), and is apparently being profitably conducted, as its shares have gone up 25 per cent. in value.

CUBA.

"The total importation of cement during the first fiscal year of the Cuban Republic (1902-3) amounted to 169,467 barrels; the importation for the fiscal year 1910-11 amounted to 851,806 barrels, or an increase in eight years of over 400 per cent. The following table shows the imports of cement from the undermentioned countries in 1902-3 and in 1909-10:—

Country.	1902-3.	1909-10.
Germany	11,865 barrels	1,954 barrels
Great Britain	7,666 "	7,088 "
All countries	163,167 "	649,766 "

"The only cement factory of any importance in Cuba turns out a very good grade of Portland cement, which finds a ready market at prices equal, or slightly below, those of the imported article.

"The price of cement in the Havana market ranges from 2.40dol. (10s.) to 2.80dol. (11s. 8d.) per barrel, delivered, in large quantities, up to about 3dol. (12s. 6d.) per barrel in small lots, the New York export price governing at all times.

"As to the relative merits of the different cements used in Cuba, it can be said that the Cuban cement is considered to be nearly equal in grade to the American product, and the price is about the same, or, in some periods, slightly less. The European cement is not considered to be as good as the American, but the lower price at which it is sold enables it to find a limited market."

PANAMA.

The issue of the "London Chamber of Commerce Journal" dated September, 1914, states:—"It is reported that cement finds a good opening in the Panama Republic. It is supplied largely by Germany. The price of cement at Colon is 11s. per cask of 180 kilos., including Customs duties."

The Special Commissioner recently sent by the Board of Trade to Central America reported as follows:—

"The following were the imports of cement during the years 1908-10:—

Year.	Weight.	Value.
1908	6,085,000 kilos	£14,700
1909	6,801,300 "	11,100
1910	10,816,000 "	15,500

"In 1910 Germany supplied 22 per cent. of the total imports, the British share being unimportant. British cement is recognised as being of the best quality, but importers state that it is at least 10 per cent. higher in price than Belgian. Recent increases in British freights are a handicap in this as in some other lines. Cement packed in bags must be used as soon as received, as otherwise it rapidly deteriorates, owing to the climate."

SALVADOR.

The Special Commissioner reported that the average annual import of cement during the period 1908-10 was under £2,000. Of recent years there have been several buildings erected in which reinforced concrete was employed, notably the handsome Government offices in the capital. As the country is subject to earthquakes, it is probable that the use of reinforced concrete for building will increase.

NICARAGUA.

The Special Commissioner reported that over 166 tons of cement were imported in 1910, valued at £1,400. More than one-third came from Germany.

COSTA RICA.

The following is extracted from the Special Commissioner's Report:—

The following were the imports in 1908-1910:—

Year.	Weight. Tons.	Value. £1,000.	From Germany Per cent.
1908	2,202	6.5	46
1909	4,059	11.0	44
1910	4,278	10.2	42

COLOMBIA.

The Special Commissioner reported:—"The imports of cement at Barranquilla rose from 775 tons valued at £1,423 in 1909 to 3,437 tons, valued at £5,500 in 1911. Germany's share of the trade was about one-third."

VENEZUELA.

The Special Commissioner stated that cement is produced to some extent in Venezuela. Imports in 1910-11 and 1911-12 were as follows:—

Year.	Quantity. Tons.	Value. £1,000.	Germany. Per cent.	United Kingdom & Possessions. Per cent.
1910-11	10,760	18.8	29	17
1911-12	10,002	18.6	21	34

The Special Commissioner adds:—"The greater part of that entered as British was from Trinidad, but it may possibly have been of foreign manufacture. The Government is the largest buyer in the country, on account of the various public works under construction."

CHILE.

The "London Chamber of Commerce Journal," dated June, 1913, states, on the authority of the Belgian Vice-Consul at Santiago, that the cement generally in demand in Chile is artificial cement, which is the only kind accepted for public works. It has to fulfil certain conditions, and be subjected to tests at the Government Laboratory at Santiago, which supplies a certificate. The strength required for a cement for public works is (1) traction, 12 kilos. per square centimetre after seven days, and 18 kilos. after 28 days; (2) compression, 120 kilos per square centimetre after seven days and 180 kilos. after 28 days. There are three cement factories in Chile, the two chief of which produce respectively 200,000 and 70,000 tons a year. The cements made in the country are excellent, and the two factories mentioned have quite modern equipments. Chilean cements, however, cannot be sold at low prices, on account of the dearthness of fuel. Chile is consequently dependent on foreign sources for most of her requirements. Competition, already keen, increases daily. The two chief marks imported are the German "Alsen" and an English brand. Cement is packed in barrels of 180 kilos. gross and 170 kilos. net. Payment is usually at 90 days' sight.

The American Vice-Consul at Valparaiso, in a report drawn up in July, 1912, states:—"Chile's imports of cement for the past two years were:—

	1910.	1911.
Great Britain	81,841 barrels	112,882 barrels
Germany	236,233 "	343,641 "
All countries	401,041 "	511,882 "

"To obtain the total consumption of cement in Chile there must be added to the foregoing figures about 150,000 barrels of native manufacture for 1911, which gives a grand total of 661,882 barrels for that year."

BRAZIL.

H.M. Consul General at Rio de Janeiro, in a despatch written since the outbreak of war, emphasises the necessity for British firms, hoping to compete successfully in tenders for Government contracts, to establish competent representatives in Brazil. He adds that such contracts can, moreover, only be executed by firms carrying large stocks.

ARGENTINA.

The issue of the "London Chamber of Commerce Journal," dated March, 1914, states:—"In consequence of great activity in the building industry in Argentina, espe-

cially in Buenos Aires, there is an excellent demand for cement. In place of the old low-built houses, buildings of six to eight floors are being erected, constructed of iron girders and concrete. As the attempts which have been made several times to start a cement factory in Argentina have not succeeded—the price of coal and the wages of workmen being very high—the imports of cement have steadily grown in recent years, and in 1911 were 76,364 tons greater than in 1910. During the first six months of 1912 the imports were 330,471 tons, valued at £727,038, or only 60,000 tons less than during the whole of 1911. Among the chief suppliers of cement to Argentina in 1911 were the United Kingdom with 73,843 tons, value £162,455, and Germany, with 41,904 tons, value £92,189.

Two sorts of cement are imported to Argentina, natural Portland and artificial Portland. The strength of the first is 25 kilos. per square centimetre after 28 days; it is employed for simple work, and is of a clear yellow colour. The strength of the second is 40 to 50 kilos. (35 kilos. minimum) per square centimetre after 28 days. This is darker in colour, and is known as black Portland. Only the latter cement is used in Government work and for buildings of reinforced concrete, hydraulic work, etc. Imported cement, of whatever quality, should not contain more than 3 per cent. of magnesia or free lime. Casks should be strong, and lined with paper on the inside to avoid damp. In order to obtain a good sale for a cement in Argentina, the necessary steps should be taken to get the brand or mark approved for use in public works. For this purpose the authorities (Obras de Salubridad) make ten tests of different consignments of the cement which it is desired to import. If, as a result of these tests, the cement conforms to the requirements of the 'Pliego Oficial,' it may be used in public works, and is classed amongst the approved brands or marks.

Prices of Portland cement vary according to the freight and the activity of the building industry. For artificial Portland cement wholesale prices are from 10s. 8d. to 11s. 3d. per cask of 180 kilos., c.i.f. Buenos Aires; those who have their own means of transport buy c.i.f. Puerto Madera. Prices are based on freight at 26s. 6d. a ton. When orders are for a whole ship's cargo, it is preferable to use sailing ships, which readily find return freight (quebracho, tallow, etc.), and the freight is then only about 20s. a ton. Besides the customs duty it is necessary to note the following additional expenses: 1s. 2½d. per ton for each operation of loading and discharging, 2s. 7½d. per ton per month for warehousing; 4s. 5d. for carriage to the centre of the town. Cement is imported exclusively in casks of 180 kilos. gross weight.

SIAM.

An American Consular Report, issued in January, 1912, states: "Concrete construction is extensively employed by the Siamese Public Works Department and private concerns for foundations of large public buildings, walls of canal locks, and sewers, in the construction of bridges, and for many other purposes; but the cement needed is not manufactured locally, although abundant material for its production is found not far from Bangkok. The customs returns show a steady increase in the amount of cement imported yearly. It should be noted that these countries that have direct shipping connections with Siam have profited most in the cement trade."

CHINA.

An Austrian Consular Report from Shanghai gives the following figures relating to the imports of cement in 1911 and 1912:—

	1911.	1912.
Total imports	4,127,000	4,700,000

The heavy decrease in the volume of imports is due to the rapid development of local production. Hong Kong, Japan, and Indo China are the principal suppliers.

German imports showed an increase of about £1,000, reaching in 1912 a total value of £4,650. This is, however, a quite inconsiderable fraction of the business secured by Germany in this market a few years ago.

WHO INVENTED THE CIRCULAR SAW?

Mr. Kerner Greenwood writes to the "Journal of the Society of Estate Clerks of Works": "In the description of joiners' tools in your Journal, please note that the circular saw was invented and first worked at Mansfield, my native town. It was driven by water from the river Maun. Mr. Stevenson (the great authority on timber) can possibly corroborate this."

Mr. Stevenson writes concerning the invention of the circular saw: "I have long been familiar with the claim of Mansfield as the cradle of this invention, but for confirmation could not get much beyond the evidence of W. Horner Groves in his history of Mansfield (1894), of which I have a copy. There is an earlier history of the town by Mr. Harrod, published in 1801, now rare, which I have been anxious to consult on this subject. Six years ago I went to Mansfield for that purpose, inquired at the free reference library, and after some waiting was told that the volume was out. Later I paid a second visit, to be told the same story, when I remarked that "there may be some error—would you look further?" the end of which was that the library did not possess a copy. I need not remark that I was somewhat surprised! Mr. Horner Groves has the following, which does not appear to go back to Harrod's time (p. 215):—

"Another distinguished son of the town was a man named James Murray (son of "Old Murray," made famous by Lord Byron), the inventor of the great labour-saving appliance, the circular saw. Encyclopædias are silent as to the name of the inventor; but there is no doubt as to Murray being the first to devise this system of cutting wood and other materials. The factory in which he worked and in which he ran the saw is that now occupied by Messrs. Barringer and Brown in Bath-lane. The original saw, which is about 6in. in diameter, is in the possession of Mr. J. Whittaker, J.P., of Rainsworth Lodge. James Murray was the son of the faithful and favourite "Old Joe Murray," servant to Lord Byron, and lived with him for a long number of his best years. It is said the first attempt to use the saw was made upon a turnip, and, succeeding, wood was next tried, with equal success."

"Mr. Horner Groves gives no date or reference. I was tempted to search my copy of 'Laird's History of Notts,' published in 1820, which gives the following under Mansfield (p. 380):—

"The patent circular saw was also invented here by James Murray, a workman employed by Mr. Brown, an ingenious turner and mechanic. By means of this invention ten times the quantity of work can be performed, and that in a much neater manner and with less labour than by a common saw."

"Laird here informs us that the invention was made the subject of a patent, and from the published date of his work the grant was before 1820. A search of the list of patents before this date would no doubt yield the exact year it was taken out or sealed."

"William White, of Sheffield, in the first or earliest 'History, Gazetteer, and Directory,' of Mansfield, and for the matter of that the county, published in the year 1832—now a very rare work indeed, of which I obtained a copy last year from a friend who dispersed his library on leaving for Australia, has on p. 521 the following:—

"Two late ingenious mechanics of this town deserve a notice in its history—viz., John Rogers, who made great improvements in the double-point net machine, and James Murray, who invented the circular saw, for which his employer, Mr. Brown, obtained a patent."

"This confirms the patent, and informs us it was taken out by, or granted to, Mr. Brown."

"At Mansfield it was not an invention following or waiting upon the introduction or general application of the steam-engine to wood-turning, for Mr. Brown's premises were a water-mill on the river Maun, which flows through the town. The subject does not appear to have yet been fully written up;

but the evidence points to a wood-turner's rotary lathe, possibly that of a bobbin-turner, worked by water, in which this primitive 6in. diameter circular saw was evolved and first revolved by an ingenious operative named James Murray. I am not aware that this particular claim advanced on behalf of Mansfield has ever been contested; if so, it would be during the run of Mr. Brown's patent. Here, again, on a dark spot a search of the patent lists might emit some light."

W. S.

THE LONDON COUNTY COUNCIL.

The meetings of the London County Council were resumed on Monday, after the recess. A report presented by the Stores and Contracts Committee showed that the war is affecting to some extent many of the Council's stores and general maintenance contracts, the contractors finding themselves unable, for various reasons, to meet the full obligations under their contracts. In some of these cases the committee have terminated the contracts and are obtaining supplies as and when required under special quotations, pending the making of new contracts, and in a few other cases special arrangements are being made. From time to time tenders or quotations for the supply of stores from firms controlled wholly or largely by persons of German or Austrian nationality have been accepted. After making inquiries in each case, the committee are arranging, if the facts justify that course, to have no further dealings with the firms in question.

The chairman, in his brief review of the work of the past year, which was taken as read, said the assessable value of the County of London on April 6, 1914, was £45,112,965, which did not show the same rate of increase as in previous revaluations. The average rate levied in 1913-14 in the administrative county was 7s. 7-16d. in the pound, and in the county, excluding the City, it was 7s. 9-02d. in the pound, as compared with 7s. 6-82d. and 7s. 5-06d. respectively for the preceding year. Working-class dwellings had produced a gross rental of £227,100. The number of persons in occupation on March 31, 1914, was 37,569. The approval of the Local Government Board was awaited to a scheme for the development of the remainder of the White Hart Estate as a garden suburb. The Tabard-street improvement scheme would displace 4,552 persons of the working class, and on the cleared site dwellings would be erected for 2,580. The monetary loss caused by fires during the year was £339,080. The value of property insured in London in 1889 was £932,598,661, and in 1912, £1,132,491,717.

The Council agreed without comment to the recommendation of the Special Committee on the Electricity Supply of London that notice be given of the intention of the Council to consider, on November 10, a proposal that it shall take the necessary measures for promoting in the session of Parliament for 1915 legislation dealing with the establishment of a new electricity undertaking for the County of London and certain adjoining districts.

It was reported that from the various departments 3,592 officers of the Council had responded, as reservists and volunteers, to the country's call. From the architect's department 137 had gone, and from that of the chief engineer 84.

The Building Act Committee reported that the municipal map of London, prepared under the authority of a resolution of May 16, 1911, is now ready for publication. The map is in sets of twenty-eight sheets, with a key sheet, and the price of a set will be 31s. net, separate sheets being sold at 1s. 3d. net each. There is also an index to the map, the price of this being fixed at 2s. net.

Permission has been given to the Liverpool and London and Globe Insurance Company, Ltd., to erect a temporary office building at the corner of the Mall Approach and Spring-Gardens during the improvement of the approach to the Mall from Charing Cross.

It was recommended that in connection

with the execution of alterations to the Peckham Picture Playhouse a much-needed widening be effected at the junction of Ryelane and High-street, Peckham, at an estimated cost of £1,750.

ARCHITECTS' WAR COMMITTEE: PROFESSIONAL EMPLOYMENT SUB-COMMITTEE.

PREVENTION OF UNEMPLOYMENT.

A fund has been started for providing work for architects whose means of livelihood are practically stopped by the war. The administration of this fund is in the hands of the above sub-committee at 28, Bedford-square, London, W.C., which is occupied firstly in ascertaining those architects in actual need of employment in consequence of the war; secondly, in evolving schemes of a useful nature by which these architects may be temporarily employed; and, thirdly, in appealing for financial support.

(1) Architects in actual need of employment in consequence of the war are invited to submit their cases to the Hon. Secretary at 28, Bedford-square, W.C. These cases will be considered by a sub-committee in strict confidence.

(2) Suggestions are invited for schemes of a useful nature by which architects may be temporarily employed. For instance, small fees might be offered for measured drawings of buildings of architectural or historical interest, or for civic survey work. It is thought that the various architectural and other societies throughout the country would be glad to co-operate in giving effect to these proposals.

(3) The War Committee have already issued an appeal for funds, and it is hoped that this appeal will meet with a liberal response. The proportion of this fund available for the purpose of providing work can only be regarded as a nucleus, and a generous support should be forthcoming from all who realise that the present opportunity is an exceptional one for undertaking the work proposed. The main object of the sub-committee is not to distribute benevolent aid, but to provide architects with temporary work of such a character that at the termination of the war their work would be of a distinct value to the community.

BRUGES.*

The old capital of West Flanders is so familiar to many of us that this sympathetic account of it by the well-known Editress of "Fellowship Books," will attract many readers, and Mr. Charles Wade's illustrations enhance its interest considerably. In her first chapter Mrs. Stratton tells the story of Bruges, with some allusion to the prosperity and decline of Danme, a neighbouring village and formerly the Port of Bruges. The second chapter treats of the belfry, the public buildings, and markets. The third chapter tells of the streets and quays, showing views likely to be overlooked by the casual visitor. The fourth chapter is concerned with the Béguinage, the Hôpital St. Jean, and the ancient almshouses. The fifth chapter, contributed by Mr. Arthur Stratton, F.R.I.B.A., the husband of the authoress, gives an interesting analysis of Brugean domestic architecture. It deals with the façades, and shows a number of types of different periods. The last chapter is about the churches.

When the war is over English folk for years to come will flock in greater numbers over to Belgium, and Bruges will be one of the special places none will miss. No better preparation for the appreciation of its beauties can be recommended than the early purchase and enjoyment of this excellently produced volume.

The statue of King Edward VII. which is being erected at Aberdeen will be unveiled by Lord Provost Maitland on the 30th inst.

* Bruges: a Record and an Impression. By MARY STRATTON. London: B. T. Batford, Ltd. 5s.

COMPETITIONS.

LONDON COUNTY COUNCIL SCHOOLS.—The London County Council Schools Competition, for which Mr. J. W. Simpson, F.R.I.B.A., was the assessor, has now been settled. Fifty-eight designs, as we said a few weeks ago, were sent in. For the Linda-street Schools, York-road, Battersea, the plans of Mr. Arnold Mitchell, F.R.I.B.A., of 17, Hanover-square, is placed first; and for the Billingsgate-street Schools, Church-street, Greenwich, Messrs. H. T. Wright, F.R.I.B.A., and Mr. Henry Chapman, A.R.I.B.A., 38, Grainger-street, W., Newcastle-on-Tyne, are awarded the first place. It will be remembered that by the terms of the competition, as advertised in our issue of May 1 last, competing architects were at liberty to submit designs for both or either of the above-named schools. Thirteen schemes have been submitted for the Greenwich school and forty-five for the school at Battersea. The whole of the plans will be on view in the Whitechapel Art Gallery, near Aldgate Underground station, next week.

A new rectory is in course of construction at Ellisfield, Hampshire, from plans by Mr. W. J. Jolly, P.A.S.I., architect and surveyor, Eltham, the contractors being Messrs. H. J. Goodall and Son, of Basingstoke.

In the London Sheriff's Court, on Friday, Mrs. Harriet Peterson was awarded £300 for the compulsory acquisition by the London County Council of 90ft. of the back-garden of a house in Balham High-road required for the building of a school.

The foundation-stone of a new parochial hall in Kensington, of which Mr. F. Rimmington is the architect, was laid by the Bishop of Liverpool on Wednesday afternoon. The building is being erected as a memorial to the late Canon Dyson Ryeroff, who was for thirty-six years vicar of the parish. The hall is to be used for Sunday-school purposes, lectures, and social gatherings.

The new chapel of Pusey House, in Alfred-street, St. Giles's, Oxford, was consecrated by the Bishop of Oxford on Sunday. The chapel, which was illustrated in our issue of August 2, 1912, and May 30, 1913, has been built from plans by Mr. Temple Moore, F.R.I.B.A., of Hampstead. The walls are of Blagdon stone, with Weldon stone dressings. The style is an adaptation of the 14th-Century Gothic. Messrs. Benfield and Loxley, of Oxford, are the builders.

A Local Government Board inquiry was held at Bradford on Friday into an application by the corporation for sanction to borrow £100,000 for the purpose of acquiring the site and buildings of the Royal Infirmary and making a capital contribution towards the provision of new infirmary accommodation. It was stated that the new infirmary would cost £200,000 towards which £80,000 had been promised; but the remainder could not be raised voluntarily at present. The scheme for the purchase of the present infirmary and the contribution by the corporation to the new infirmary had been approved by the city council.

At the Chester Consistory-court, on Friday, the vicar and wardens of St. Peter's, Rock Ferry, were authorised to take down five bells, recast them, and hang them, with a new tenor bell, in the tower of that church, upon a new iron framework. The rector and wardens of the parish church of Wallasey received authority to erect a parclose screen in St. Hilary's, Wallasey, to separate the side chapel from the transept and the south aisle. A faculty was granted to the vicar and wardens of the parish church of Frodsham permitting them to replace the old Communion-table with one of oak, and erect a credens of oak with saintly and other figures carved above it.

The Stoke-on-Trent Corporation have succeeded in obtaining substantial financial help from the Government towards the cost of the public relief works in the Potteries. The Road Board were to give assistance to the improvement of Federation-road, Burslem, at a cost of £4,682; the conversion of Watadoo-road, Burslem, from a macadam road to a road paved with setts, at a cost of £11,113; the widening of Trentham road, Stoke, at a cost of £1,067; and the diversion of Stone-road, Longton, at a cost of £2,347. None of these roads is properly eligible for Road Board grants; but, in view of special circumstances, the Board decided to make a grant of £5,000 towards the cost of the four roads. A further grant of £2,120 has been obtained from the Local Government Board for the additional cost of employing unemployed labour.

Our Illustrations.

FRANCIS HOLLAND SCHOOL, PARK ROAD, N.W.

The Francis Holland High School for Girls was founded in 1878 by the late Canon Holland, and occupied premises in Upper Baker-street from its foundation up to a few months ago. The property has now been acquired by the Metropolitan Railway for their extensions at Baker-street Station, and a site in Park-road has been leased from the Portman Estate for the new building. The building is being faced with small red facing-bricks, with Portland stone dressings. The whole of the floors and staircases are of fireproof construction, and the internal joinery is of whitewood, stained and waxed. Mr. James Carmichael is the builder, and it is hoped the building will be ready for occupation during the summer of next year. Mr. Henry T. Hare, F.R.I.B.A., is the architect. The drawing reproduced was hung at the Royal Academy Exhibition this summer.

RADBROKE HALL, CHESHIRE.

This house lies about two miles outside the country town of Knutsford, in Cheshire. It is built of Portland stone. Internally the ground floor will be panelled throughout, excepting in the inner halls, which will be finished and enriched in plaster. The music-room has a curved and enriched ceiling, with walnut framing up to the springing, with two tiers of panels divided by a chair-rail. The room measures 40ft. by 20ft. We give plans with the perspective. The entrance-hall, library, and morning-room will be lined with oak panelling to the ceiling of a similar character, the library having fixed bookshelves along one side and niches on either hand of the fireplace. The oval dining-room is to be panelled in fibrous plaster, and all these rooms have enriched ceilings. Except in the servants' quarters the floors throughout are of stone or oak. The builders are Messrs. L. Brown and Sons, of Wilmslow, and the architect, Mr. Percy Scott Worthington, M.A. (Oxon.), of the firm of Messrs. Thos. Worthington and Son, Brown-street, Manchester. The drawing reproduced was shown at the Royal Academy this year.

On behalf of the corporation, the Aberdeen Art Gallery Committee have purchased the picture by William Dyce, R.A., entitled "Little Goody Two-Shoes."

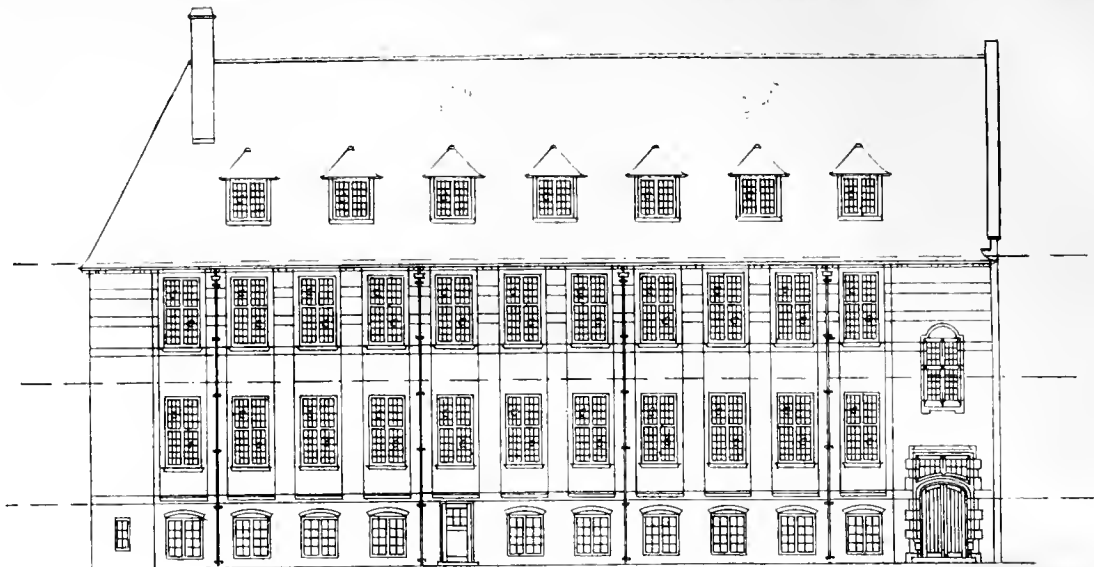
The funeral of the late Mr. John Briggs Poole, builder and contractor, of Railway-street, Littleborough, whose death, at the age of 65, occurred on the previous Tuesday, took place on Friday, in the graveyard at St. Andrew's Church, Dearnley.

Owing to a recent revision of South Kensington regulations, Mr. Banister Fletcher's weekly lectures on Gothic Architecture at the Victoria and Albert Museum on Mondays will be at half-past four, instead of five o'clock as previously advertised.

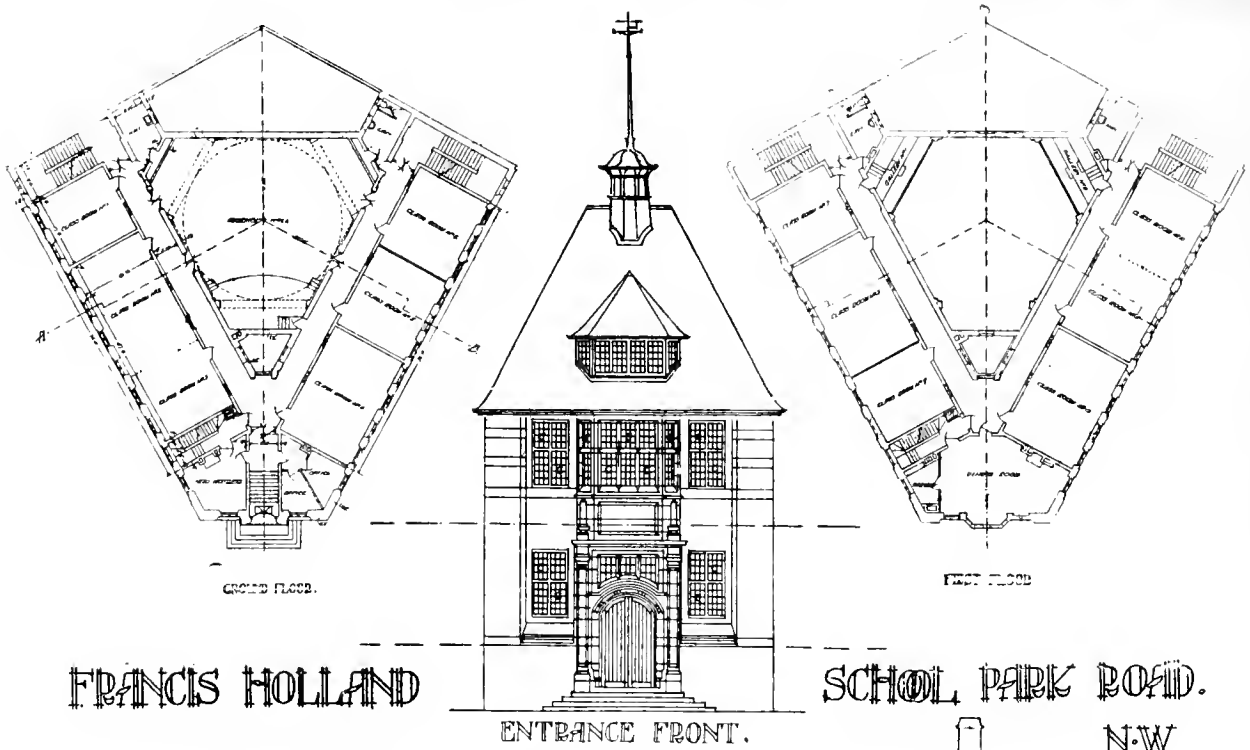
A new school at Moorpark, Renfrew, was opened on Friday. It provides an infant department to accommodate 400 infants, a medical inspection room, special rooms for woodwork, cookery, and laundry, and a janitor's house. The new school occupies an acre and a half of ground, and adjoins the original school.

A Local Government Board inquiry was held at the Courthouse, Driffield, on Wednesday week, before Mr. W. E. Fletcher, into an application by the East Riding County Council for sanction to borrow £13,425 for the provision of an isolation hospital of thirty-two beds at Great Driffield by the East Riding Hospital Committee.

Twelve candidates for the office of borough engineer of Salford have appeared before the finance committee of the town council, and from these the following five have been selected for further consideration: Mr. J. P. Wakefield, city surveyor, Wakefield; Mr. L. Roseware, borough engineer, South Shields; Mr. J. Lord, borough engineer, Halifax; Mr. E. B. Martin, borough engineer and waterworks engineer and manager, Rotherham; and Mr. E. Worrall, surveyor to Stretford Urban District Council. The boroughs and districts with the governing bodies of which the selected candidates are at present associated will be visited.



ELEVATION to PARK ROAD.

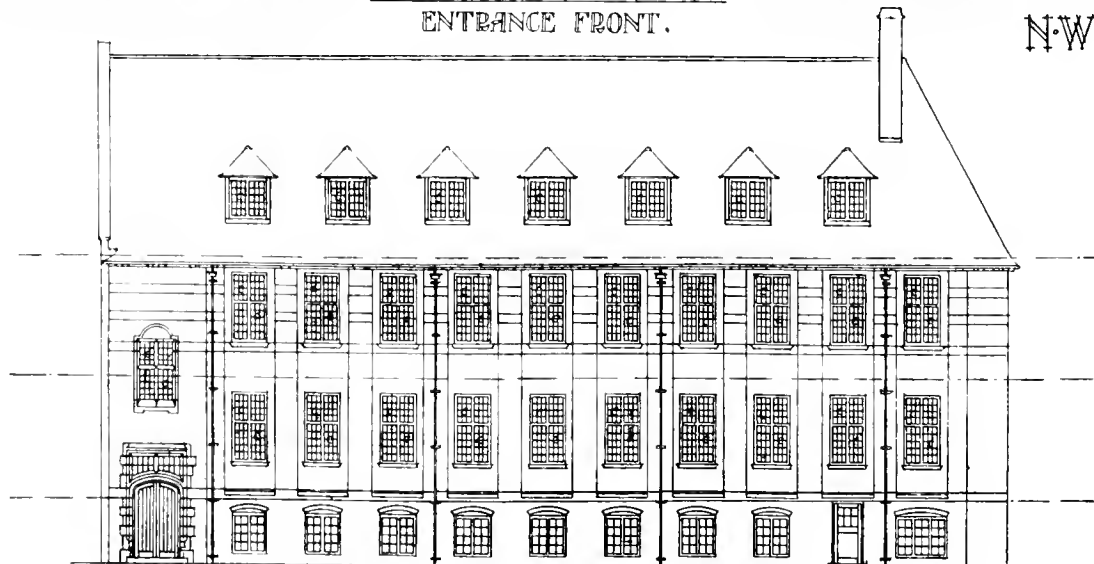


FRANCIS HOLLAND

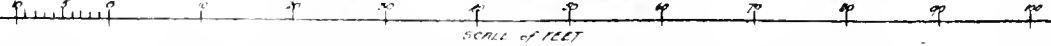
SCHOOL, PARK ROAD.

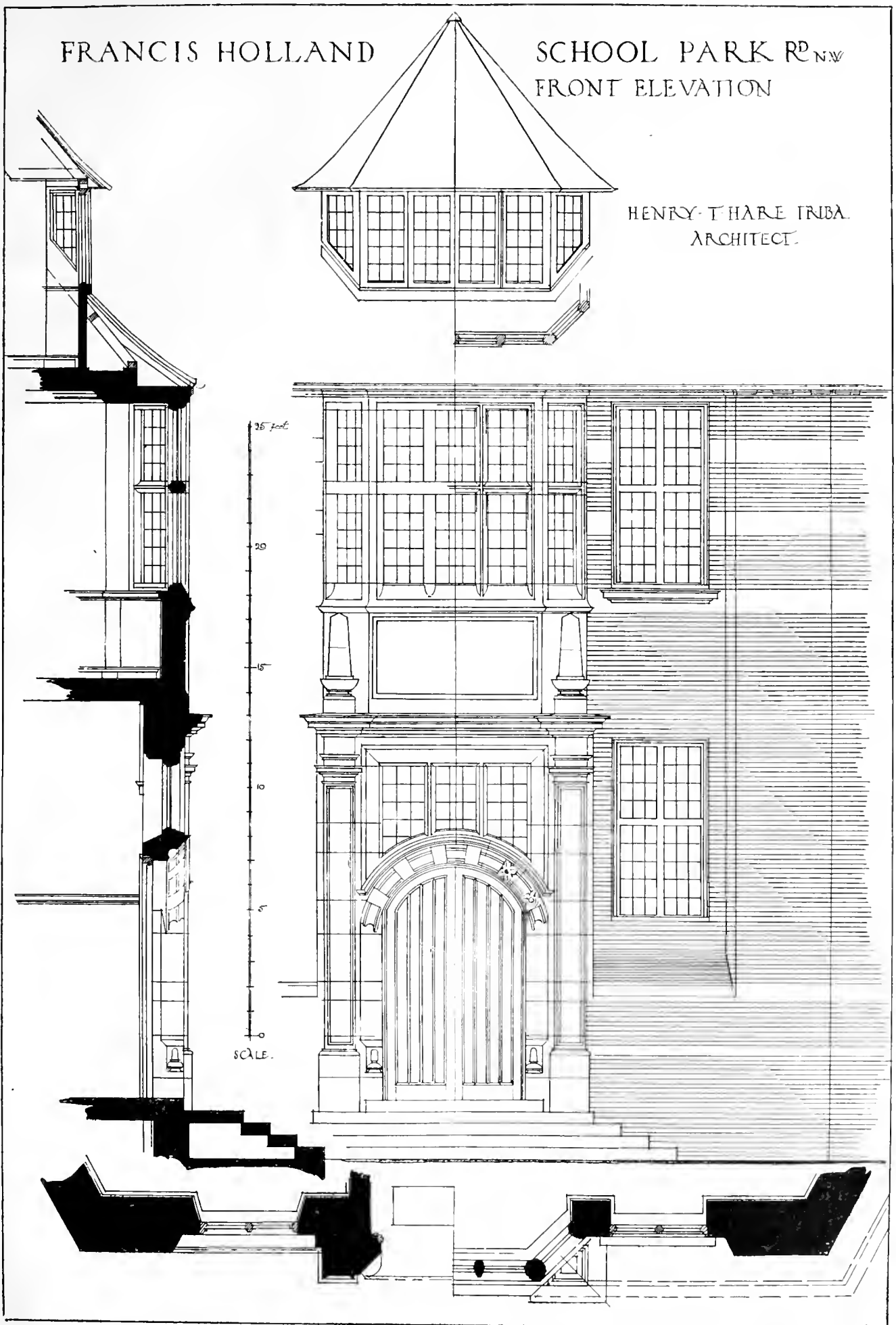
N.W.

ENTRANCE FRONT.



ELEVATION to UPPER PARK PLACE.





THE FRANCIS HOLLAND SCHOOL, PARK ROAD, N.W.—MR. HENRY T. HARE, F.R.I.B.A., Architect.

Building Intelligence.

A YEAR'S BUILDING IN GLASGOW.—At the last meeting of Glasgow Dean of Guild Court, Dean of Guild Roxburgh, who presided, in the course of his annual statement said that the outstanding feature of the year just closed was that the movement for the better which took place in the building trade during the first year of the extended area of the city had not only been maintained, but improved upon, in the second year. The number of linings had risen from 499 to 542 during the year. A better criterion of the improved state of trade, however, was the valuation of the work authorised, and that had risen from £993,216 to £1,052,147, an increase of £58,931. This was the first time since 1905-6 that the million had been exceeded. The total sum was made up of new work amounting to £860,607, and alterations and repairs amounting to £191,540. These figures showed an increase upon last year's figures of £53,054 in respect of new buildings, and an increase on the valuation of additions and alterations of £5,877. This meant that on all sorts of building the city was spending about £1 per head of the population; on dwelling-houses only some 3s. to 4s. per head. When they remembered the unsatisfactory housing conditions which existed, it did not seem as if everything possible was being done to improve the conditions. He regretted that there was an increase in the number of one-apartment houses. There were 55 linings granted for warehouses, shops, and offices, the valuation of new work being £198,842, and additions and alterations, £23,313. For workshops, manufactories, stores, etc., 259 linings were granted, the valuation of new work being £348,201, and alterations, £77,841. Twelve linings were granted for churches and halls and ten for schools.

KIRKSTEAD.—At Kirkstead, South Lincolnshire, a chapel belonging to the abbey destroyed at the Dissolution has been restored for public worship, and was dedicated last week. It is a gem of Early English architecture, 43ft. 6in. long by 19ft. 6in. wide, with lancet windows and vaulted roof, the walls and vaulting decorated with the carved foliage, and the easternmost boss having a representation of the Lamb and Flag. Here and there distinct traces of the old colouring have been discovered by removal of the limewash, and behind the figure of a knight wearing a barrel helmet of the 13th century period was found part of a consecration-cross on the south wall. Over the west doorway, with its elegant shafts and dog-tooth ornament, is a window of vesica shape, with an arch let into the outer wall on each side. At the Dissolution the building was saved for the parish; but the property passed from the Earls of Lincoln to a Presbyterian family, and the church was used in the 18th century by the Presbyterians. A lawsuit in 1812 decided that the Church of England was entitled to the building and graveyard, and the Presbyterians to the endowment. Some poor attempts at restoration were made in 1819; but the church was abandoned about thirty years later, and came to be regarded as an old ruin on a private estate. At the instance of Archdeacon Wakeford and under the direction of Mr. James Weir the desecrated building has been cleansed through out, its bulging walls and the roof restored to its proper pitch.

At Hawksbridge, Oxenhope, on Saturday, memorial-stones were laid of a new Baptist school-chapel to take the place of a building erected in 1832. The new chapel, which occupies a site on the opposite side of the road, will cost about £1,800.

At a meeting of the Carlisle City Council on Tuesday it was decided, on the recommendation of the health committee, to carry out the improvement of the main roads of the city by re-forming them with tarmacadam at a cost of £12,500, and undertake the sewerage of the areas added to the city by the extension of the boundaries, from the parishes of St. Cuthbert's Without, Wetheral, and Belle Vue, at a cost of £14,600 as soon as possible.

PROFESSIONAL AND TRADE SOCIETIES.

THE ARCHITECTURAL ASSOCIATION.—The annual general meeting of the Architectural Association will be held at 18, Tufton-street, S.W., on Monday week, the 26th inst., when an address will be delivered by Professor Selwyn Image, M.A., entitled "Art and the War." The dates of the subsequent meetings already fixed are Mondays, Nov. 23, Jan. 25, Feb. 22, and March 22.

GERMAN CHARACTER IN TOWN PLANNING.—The course of lectures on civic design and town planning, arranged by the Birmingham University, opened on Thursday in last week, in the Technical School, Suffolk-street. Mr. Raymond Unwin, F.R.I.B.A., of London, the lecturer, mentioned that his illustrations would be largely drawn from towns in Germany, France, and Belgium, which occupied the public mind very much at the present time. Town planning in Germany since 1870, he thought, gave a great insight into the character of the people, and into much which had happened during the last four months. In German town planning they saw evidence of thoroughness and concentration and other qualities; but, at the same time, there was a lack of imagination which led to pushing an idea to an extreme point and neglecting other things. For instance, the Germans had concentrated on wide main streets, which, though unquestionably producing a fine effect, had led to congested tenement buildings and high land prices. Their thoroughness was indicated by the complete way they had dealt with every point in town planning—industries, transit, recreation, and so on—but lack of imagination had led them to overlook several important things.

ROYAL TECHNICAL COLLEGE ARCHITECTURAL CRAFTSMEN'S SOCIETY, GLASGOW.—At a meeting of the above society, held in the college on the 9th inst., Mr. Alex. Davidson, president, in the chair, Professor Gourlay, B.Sc., A.R.I.B.A., delivered a lecture on "The Orders of Architecture." After introductory remarks on architecture, style, proportion, scale, and use of mouldings, the professor explained the meaning of the term "Order" as applied in architecture, and dealt with the distinctive features of the Five Orders, also with their development from Greek and Roman times till the Renaissance. In showing how the Orders may be studied, he explained the method of drawing them, and illustrated the intimate connection that existed between the Order and the building to which it belonged. He then urged that the Order and the building should be studied together as one work of architecture, which they really were. Thereafter a series of interesting slides were shown of Greek, Roman, English, and local buildings, to enforce the principles enunciated.

ULSTER SOCIETY OF ARCHITECTS.—A meeting of the council of this society was held on October 2 at the rooms of the society, 9, Howard-street, Belfast. The chair was occupied by Mr. N. Fitzsimons, F.R.I.B.A. A letter was read by the secretary from the Royal Institute of British Architects, requesting the society to appoint a war committee for the Province of Ulster, to act in co-operation with the Central War Committee of the Royal Institute in London. It was unanimously decided to accede to the request of the Royal Institute, and the following gentlemen, representing the profession in Ulster, were appointed to act as a war committee: Messrs. N. Fitzsimons, T. Houston, W. J. Gilliland, R. M. Young, J. J. McDonnell, J. McC. Robinson, R. E. Buchanan, J. St. J. Phillips, J. A. Hanna, H. Lamont, J. R. Young, H. Seaver, and T. W. Henry, hon. secretary.

A memorial to the late Rev. Dr. Landsborough was unveiled in Henderson Church, Kilmarnock, last week. It is in the form of two stained-glass windows. The subjects are Charity as typified by the Good Samaritan, and Christ Blessing the Children. The windows are the work of Mr. Arthur A. Webster, and are in the Mediæval Flemish style.

Correspondence.

"CAPTURING TRADE."

To the Editor of the BUILDING NEWS.

SIR,—Many people speak and write about "capturing German trade" as if it were a merchantman just off the coast, which could be taken by one of H.M. gunboats. Trade really means the exchange of services, and if your correspondent, Mr. Chas. H. Luke, desires to put this question to the test, let him consult recent files of the newspapers, and see what dyers, glass manufacturers, and others think about the subject. As a matter of fact, in the light of recent experience, the idea of "capturing German trade" has really become a back number.

Mr. Luke dates his letter from Manchester, which is rapidly becoming stagnant through the paralysis of the cotton trade. It is ridiculous to talk of "capturing" a foreign trade when we cannot retain our own trade. The lessons your correspondent and many others have to learn is that we have paid a great deal too much attention to matters abroad and neglected—criminally, in my opinion, neglected—our own home affairs. If "the man from Mars" could (unintercepted by the censor) pay us a visit, whatever would he think of the silent mills and workshops, whilst millions of people are going without adequate clothing; or of the warships conveying food across the seas with half the land of England lying derelict? Here is plenty of trade to "capture."

And the result of our neglect? Let the closed exchanges give the answer. Building up "our" foreign trade on paper that the first breath of adversity scatters. The "paper merchants" of Manchester and Liverpool are now endeavouring to "get on the taxes," and it looks as if they would succeed. The wise man of old was right: "The eyes of the fool are in the ends of the earth." When we build our trade as most of your readers build their houses—for home consumption—we shall arrive. Then the Kaiser will have nothing to fight about.—I am, etc.,

JOHN BAGOT.

138, St. Amnes-road East, St. Amnes-on-the-Sea, Oct. 10, 1914.

SECOND LONDON SANITARY CORPS FOR SERVICE ABROAD.

SIR,—Capt. Arthur J. Martin, M.Inst.C.E., is forming a 2nd London Sanitary Corps, which has volunteered for service abroad. The chief duty of the new company will be to supervise the water-supply and camps and billets, reporting defects, and instructing the squads of the combatant units.

The company will be a branch of the R.A.M.C.T.F., and the men whom he is now enrolling are drawn from the various professions and trades connected with sanitation, mostly engineers, surveyors, architects, sanitary inspectors, and a sprinkling of men from the building trades.

To me this seems a grand opportunity for a number of our members, and especially the students, to join the corps, and I shall have much pleasure in bringing before Captain Martin the names of any who communicate with me. Application, however, may be made to him direct at the Duke of York's Headquarters, Chelsea, S.W., or, should he not be there, ask for Lieutenant Cave or the orderly sergeant.—I am, etc.,

HORACE BOOT, President.

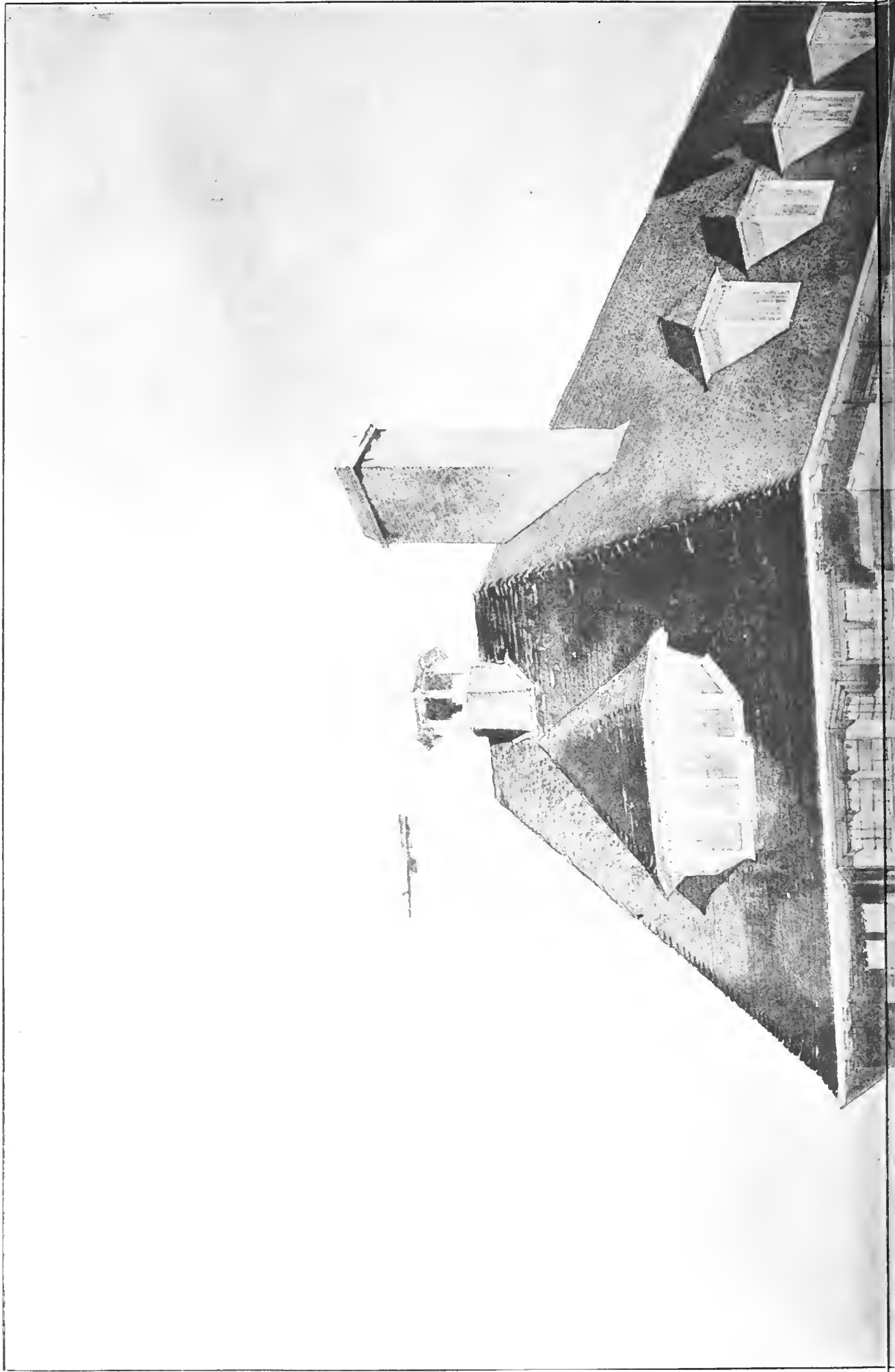
The Institution of Municipal Engineers, 39, Victoria-street, Westminster, S.W., October 8, 1914.

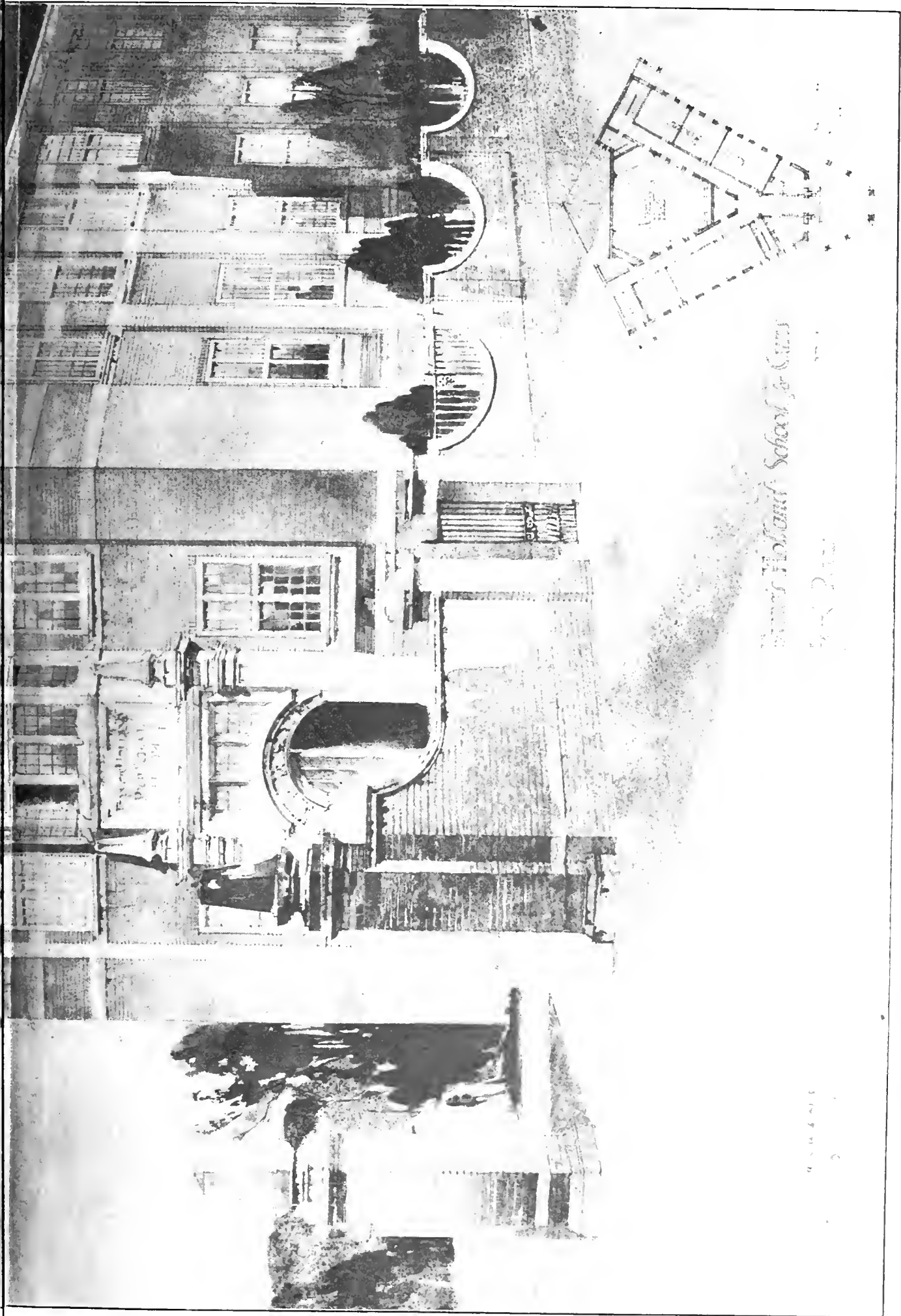
The corporation of Glasgow have instructed their city engineer to expedite the preparation of plans for the Bridgeton public hall, which is estimated to cost £14,000, in order that the work may be put in hand as quickly as possible.

An inquiry was held at Foulton, Norfolk, on Monday, into an application by the Swaffham Rural District Council to borrow the sum of £1,238 for housing purposes. The inquiry was conducted by Mr. H. A. Chapman, F.R.I.B.A., an inspector of the Local Government Board.



THE BUILDING NEWS, OCTOBER 16, 1914.



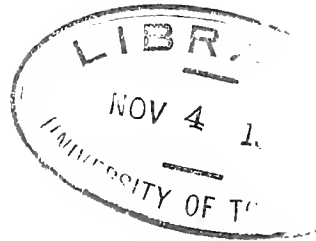


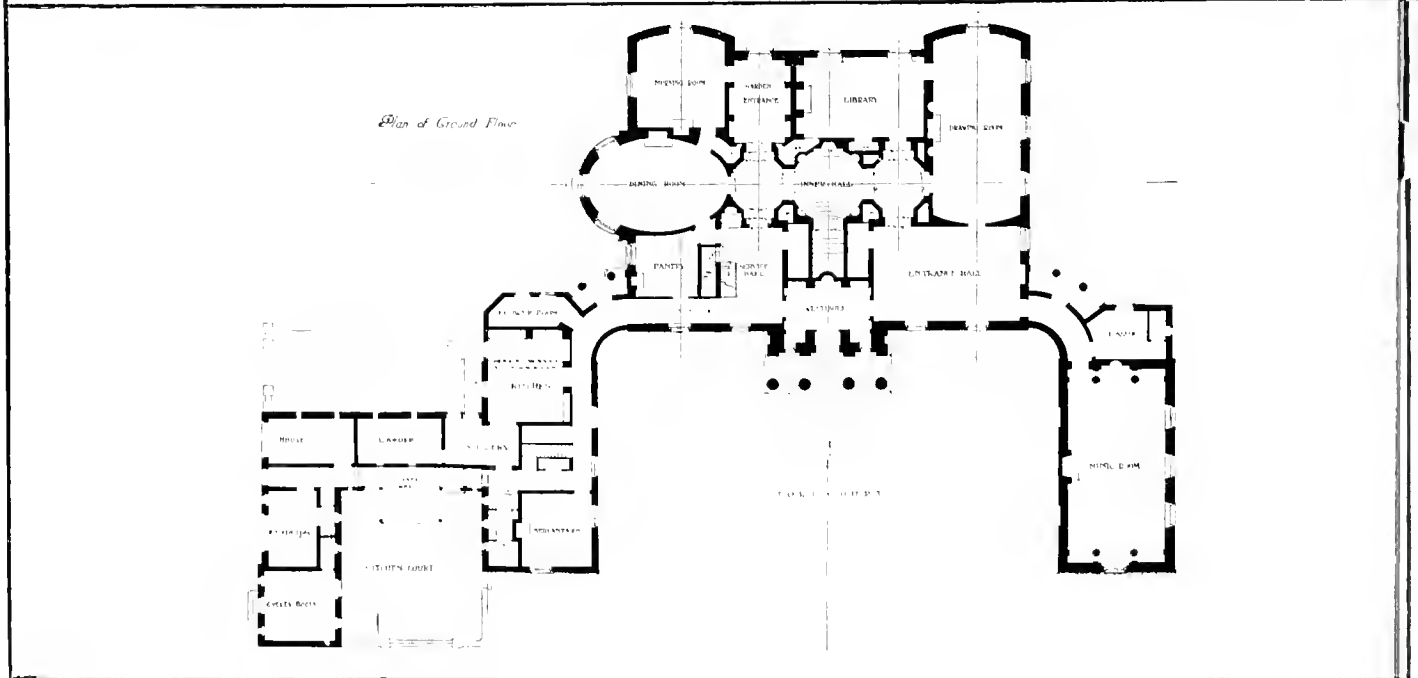
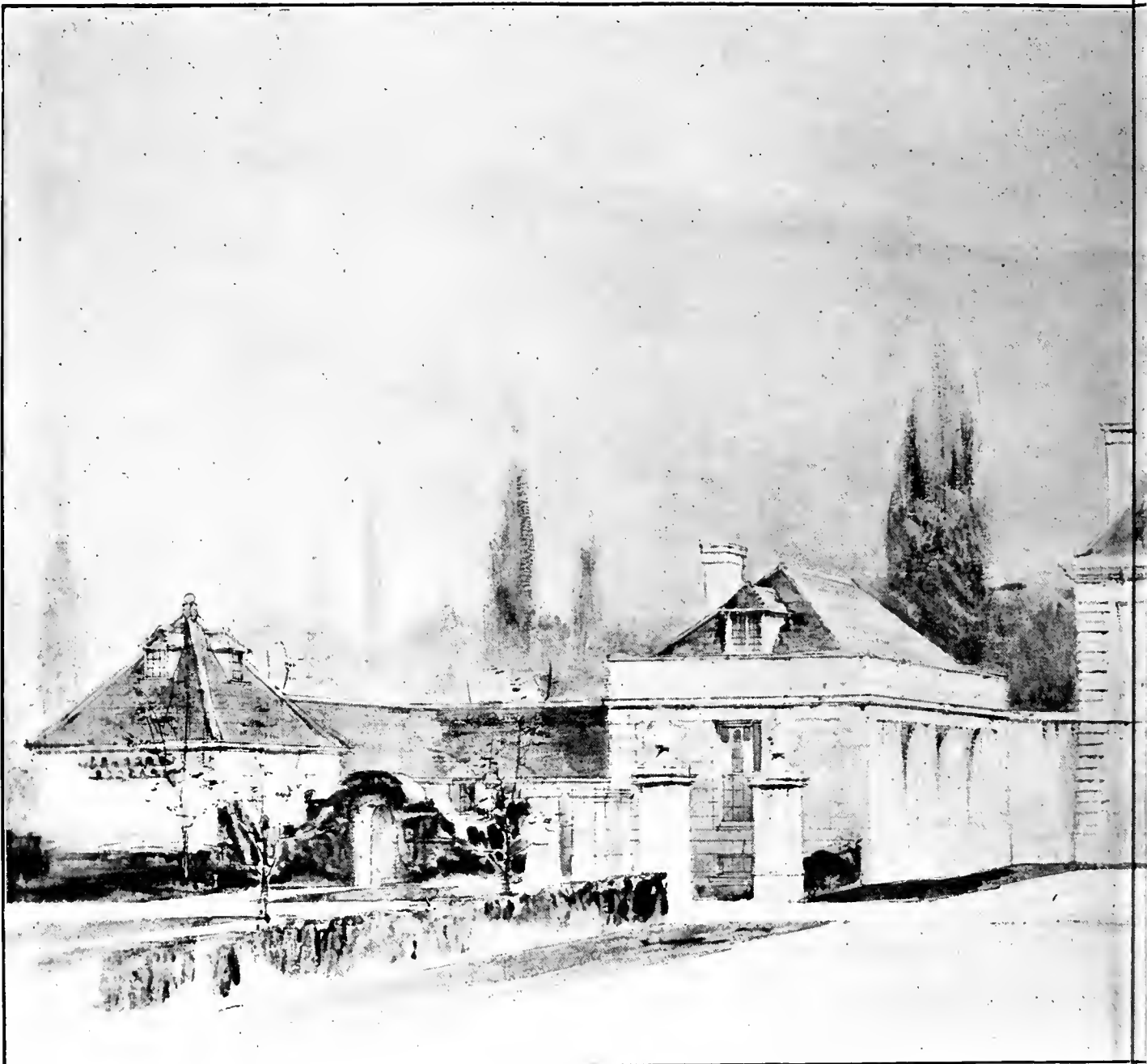
Francis Holland School for Girls

1904

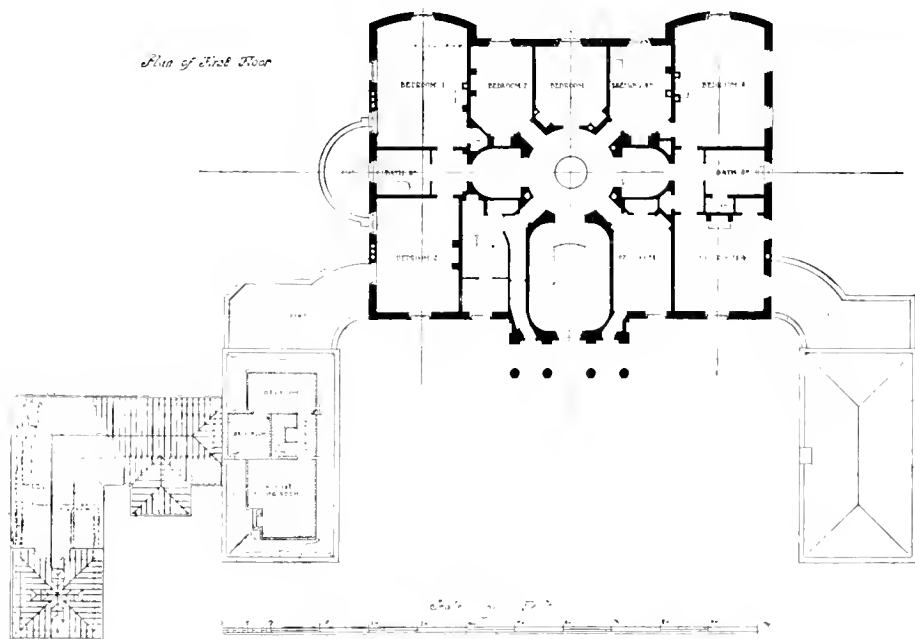
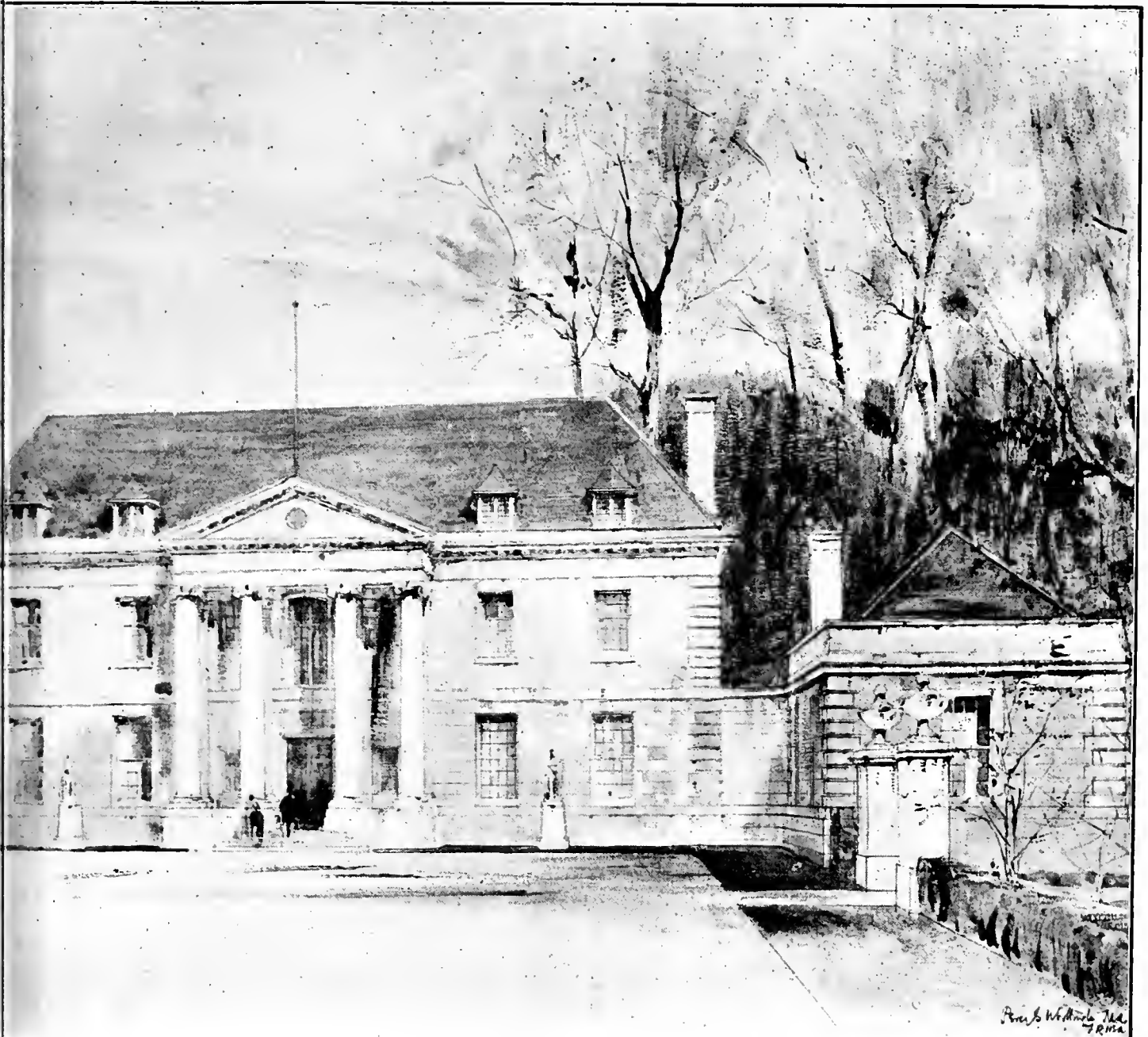
THE FRANCIS HOLLAND SCHOOL, PARK ROAD, LONDON, N.W. MR. HENRY T. HARRIS, F.R.I.B.A., ARCHITECT.







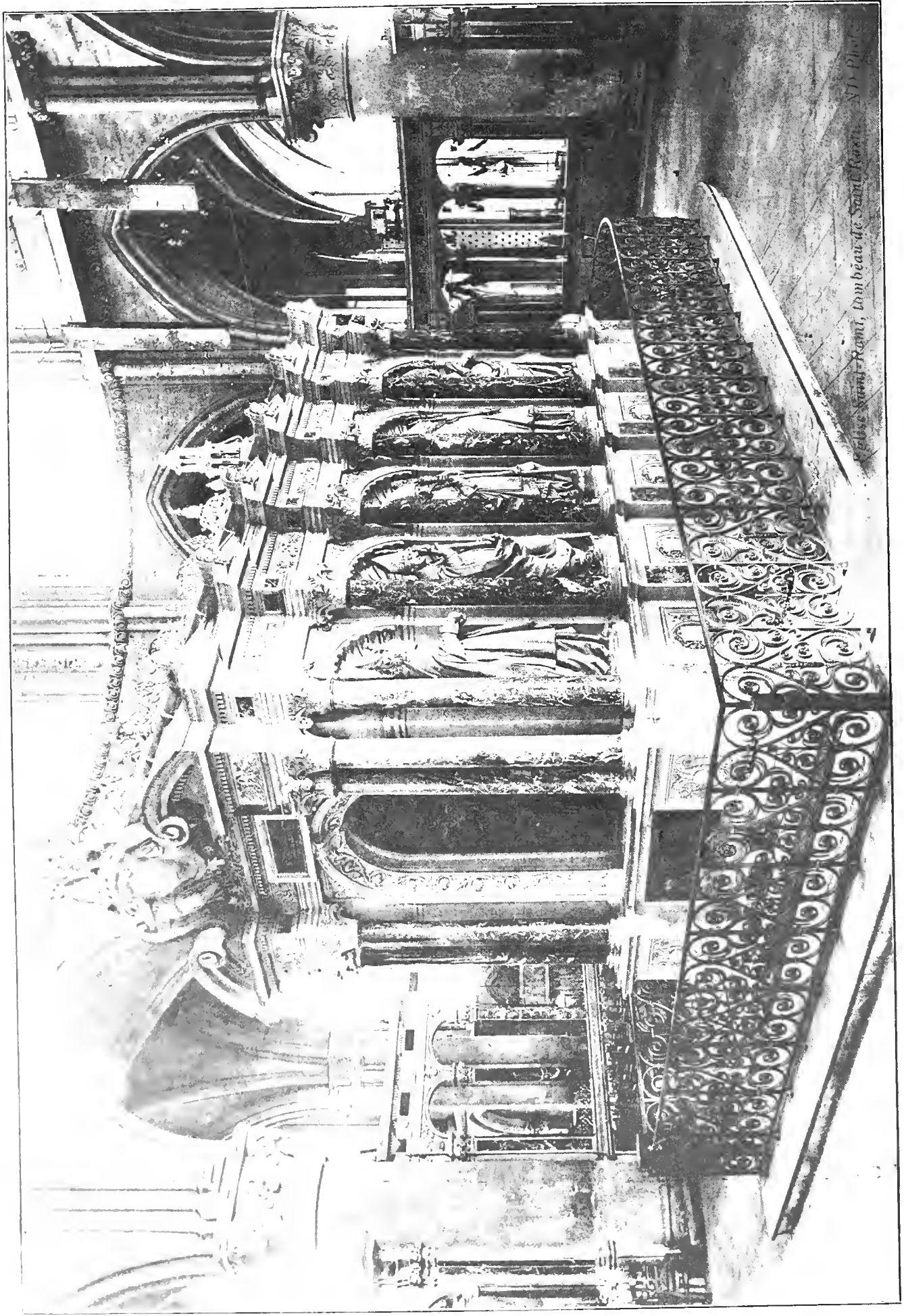
RADBROKE HALL, KNUTSFORD, CHESHIRE.—Mr. PERCY SCOTT WORTHINGTON





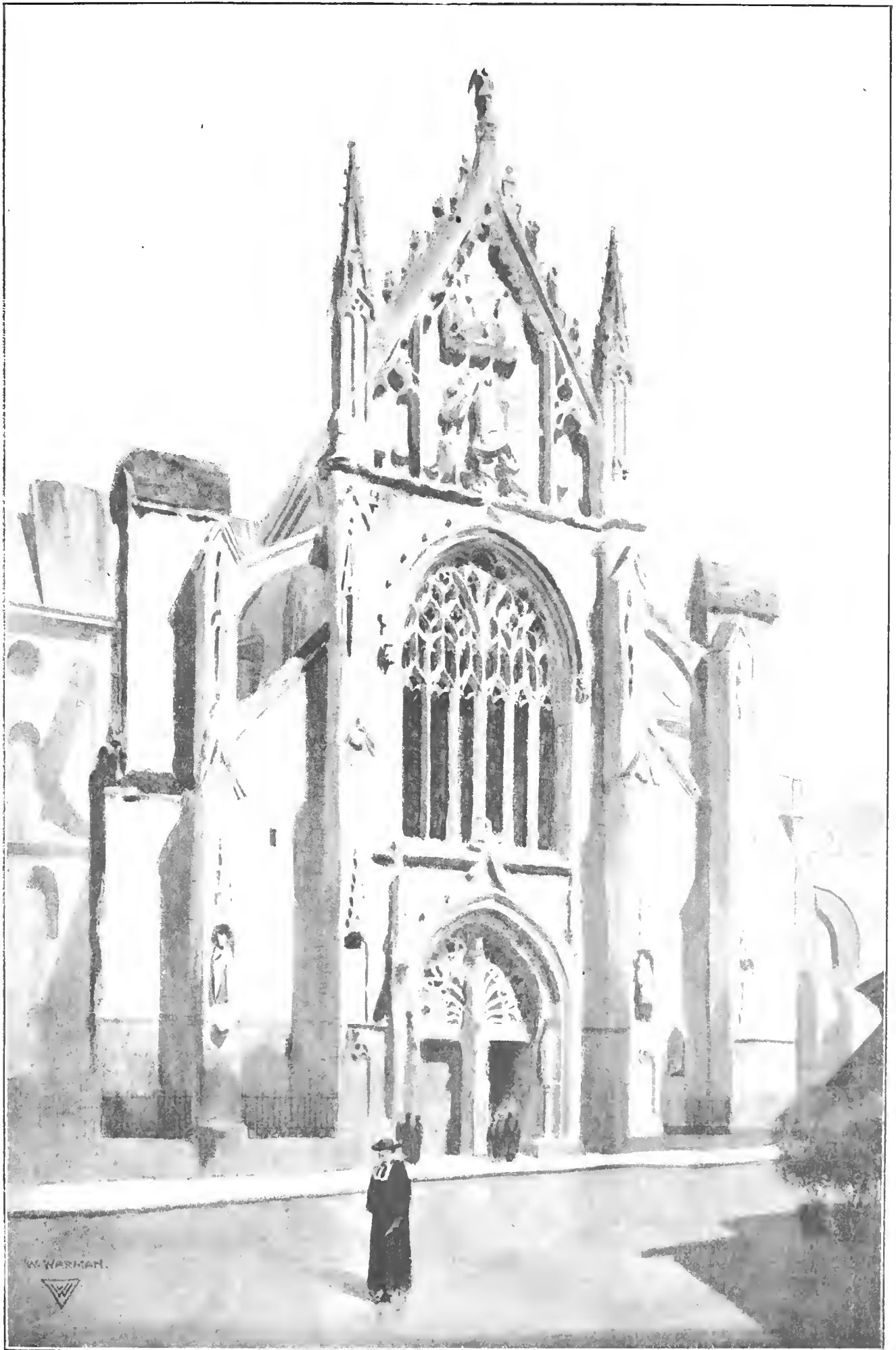
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Abbaye Saint-Remi, Dombes de Saint-Remi. N.Y. Photo.

THE FOUNDER'S TOMB IN THE CHOIR. ABBEY CHURCH OF ST. REMI, FRANCE. (Shelled by the Germans.)



SOUTH TRANSEPT. ABBEY CHURCH OF ST. REMI, FRANCE.
Drawn by Mr. W. WARMAN. (Shelled by the Germans.)



Currente Calamo.

At the meeting yesterday (Thursday) afternoon of the Westminster City Council, the general purposes committee reported the reception of a letter from the London Asphalte Company, Ltd., dated August 26, asking, in view of the abnormal conditions prevailing in consequence of the war, the council's consent to a further postponement of the execution of the paving work in Vane-street, as well as that of Bruton-place, until next spring. The shipments of rock asphalte were, they added, almost completely suspended, and their stock of suitable material was all but exhausted. The works committee added that they had since received a letter from the company, dated Sept. 23, stating that they had succeeded in securing a parcel of asphalte rock, although at a considerably increased cost. In view of the large increase in the cost of the material and freight, the latter having risen more than 100 per cent., the company asked the council to grant an increase in the contract price of, say, one shilling per yard. The committee recommended the council to pay the London Asphalte Company at the rate of one shilling per yard over and above the contract prices in respect of the paving of Vane-street, but no increase in respect of the paving of Bruton-place, from which contract the company could, they reported, be released. Mr. Hemming moved that the recommendation be referred back to the works committee for reconsideration. Although trading ostensibly as a London firm, the directors and shareholders were Germans, living in Germany. Before passing so abominable a recommendation he would like to know why the execution of the work was postponed from the beginning of July until September. A member defended the company, stating that the company was registered in England, and, in a sense, was English. Other firms had asked for, and received, advances in prices.—Mr. G. W. Lawrence, chairman of the general purposes committee, said he had been informed, and would be able to show in committee, that the extra 1s. per yard would not only cover extra cost of material and freight, but yield a handsome profit to the company. After some discussion, Mr. E. Howley Sim, A.R.I.B.A., chairman of the works committee, in reply, said the execution of the contract was postponed from July 4 to September 7 at the request of the council, and in compliance with the request of a hospital which would be affected by the repaving. It would, therefore, be only reasonable to accede to the application of the company; but as the council appeared to wish it, he would agree that the committee's recommendation be referred back. This was unanimously agreed to.

Painters, writers, designers, and all who have to do with shop fascias and the like have been kept quite busy since the war began. There have been, and especially in some localities of London and elsewhere, numerous quick-changes in the way of nomenclature. Sometimes in a single night German names have vanished from over shops, and been replaced by bright British cognomens in the morning. It was wonderful—this popularity of John Bull and this breaking out of Smith and Brown where foreign words stood before. And now comes an Order in Council dealing drastically with the names of what it shortly calls "Alien

Enemies," which will give more work for painters and writers the other way round—that is, in the way of restoration. For this Order decrees, with bald brevity, that our alien enemies here shall only use and continue to use the names by which they were known at the commencement of the war. It applies, further, to all firms and persons carrying on business under foreign names. So all these quick changes of fascias and the rest are merely wasted money, and the old trading titles must forthwith be put up again, or there will be summonses and fines. As those who were naturalised before the war would not be technically alien enemies, they can probably take new names, if they do so properly, by deed-poll enrolled in Chancery.

Local inquirers in Edinburgh are not unreasonably asking why more rapid progress is not being made with the additions to the Royal Scottish Museum. This extension was originally planned for execution in three sections, the public expectation being that the work would be advanced continuously from section to section until all three were completed within a reasonable time. The first section, which includes courts and galleries for the accommodation of natural-history specimens, and also a new wing of the great hall, has been in the builders' hands for a considerable period. But the pressing consideration, in view of the need for maintaining employment in the city, is that all the arrangements have yet to be made for beginning the second section. H.M. Office of Works are understood to be waiting upon the Treasury. By this time steps should have been taken to place the contracts and set the work going without any pause in the building operations. The situation is peculiarly favourable for action in line with Mr. Lloyd George's promises to include in the Estimates all the Government buildings set down for treatment in the near future. The scheme as a whole has been fully considered and approved. The parts completed or in process of erection have been conceived in relation to that whole. The Government are, in fact, committed to the erection of museum buildings on an arranged plan, from the University along the Lothian-street frontage up to and including the east side of Brighton-street, whether the work be carried out quickly or with long spells of waiting. That it should be undertaken quickly and pushed to an early conclusion is in every way desirable.

An important report by the Birmingham Special Housing Committee, appointed fifteen months ago to inquire into the housing conditions of the poor of the city, shows conclusively that a large proportion of them are existing under conditions detrimental to their health and morals. Building has ceased to keep pace with the growth of the population. "Any scheme of rehousing even the population now provided with inadequate accommodation would have to contemplate the erection, sooner or later, of not less than 50,000 houses." The migration of the working classes from the centre to the suburbs has almost ceased, because the erection of new houses has greatly diminished. A resumption of suburban building is a necessary preliminary to more drastic measures in the centre. The best way of aiding the resumption of suburban building, the committee reports, is for the council to purchase estates in the undeveloped areas.

and after developing them by constructing roads, laying sewers and mains, and providing easy access; to let off the building plots to public utility societies and builders, imposing suitable restrictions on ground rents. Assuming this policy to be successful, migration from the centre, it is believed, will **once more** take place, and ultimately reconstruction of the old city on improved lines will become possible. For this purpose it is urged that a town plan should be at once prepared to which all alterations to streets or buildings should be made to conform as far as possible, and that the city should be divided into areas to be reconstructed after different periods of time. Pending the reconstruction, the committee advocate a continuance of the policy of calling upon owners to put their property into more habitable condition.

We have no fault to find with the recommendations, as far as they go, though we have from time to time lately published letters from responsible Birmingham surveyors which confirm our belief that private enterprise would have been equal to the task of acquiring land and erecting the badly-wanted houses, had it not been penalised, as it has been everywhere else, by Mr. Lloyd George's land policy, and by the unfair burdens he has laid upon builders. Our contemporary, the *Birmingham Daily Post*, commenting on the report, well says: "The wiser policy is, surely, to deal with old defective houses as at present, calling upon their owners to amend their faults at their own cost, or pull them down, and simultaneously to ease, if possible, the way of the speculative builder, who would gladly supply as many houses as the population needs, and more, if he could see his way to doing so with reasonable security to himself. At bottom the whole question is one of finance." But we doubt, with much past experience and observation, whether a municipality, "with cheap capital," can lay out estates more economically than the private owner. What it can do, of course, as our contemporary points out, is—in the words of the report itself—to allow "greater latitude in the materials for kerbs and channels, and possibly for the paving of footpaths." And in other things besides, which at present needlessly harass the builder, raise rents paid by the workers, and drive capital to seek other fields of investment.

A joint committee composed of ten members of the American Institute of Architects and as many members of the National Association of Builders' Exchanges met on September 15 in the Master Builders' Exchange, No. 20, South Seventh-street, Philadelphia, to consider the question of adopting a uniform form of building specifications and contracts. Owing to the fact that much confusion and misunderstanding has been caused in the past by vaguely or inaccurately worded specifications and contracts, both the National Association of Builders' Exchanges and the American Institute of Architects, at their last conventions, provided for a special committee, composed of members of both bodies, to take up the question of providing a uniform system of specifications and contracts. Mr. Frank Miles Day, of Philadelphia, is presiding over the conference.

The annual convention of the Saskatchewan Association of Architects will be held

at Saskatoon next Wednesday; and it is understood that they will approach the provincial government to secure the protection of their members. In the past, it is held, they have been frequently approached to get out plans for buildings which were never erected and for which they could not, therefore, claim any fee. It is now proposed that whether such building goes ahead or otherwise, legislation should permit the architect to collect three and a half or four per cent. of its value as remuneration for his plans. Such legislation would place the profession on the same footing as medicine or law, which is the aim. The claim is, of course, a just and reasonable one, and we trust it will be recognised.

WATER SUPPLY AND SANITARY MATTERS.

WATER SUPPLY IN WEST KENT.—At the meeting of the Bexley Heath Urban Council last week a report was received from Mr. C. E. Baker, representative of the Kent districts on the Metropolitan Water Board, as to the work it is proposed to carry out to improve the supply to West Kent. The matter had been discussed by a committee, and, subject to the approval of the Board, work involving an expenditure of £155,000 would be put in hand as soon as the necessary powers could be obtained, and the engineers were bringing up a report as to works for a supplemental supply for Kent from the Thames. These works were necessitated by the rapid growth of population in the Kent area, which was as much as 12½ per cent.

The urban district council of Wanstead have received sanction from the Local Government Board to borrow £47,614 for main-road improvements in the district.

A group of children's homes is to be built at Stanway, near Colchester, for the Lexden and Winstree Board of Guardians. Mr. J. W. Start, of Colchester, is the architect.

The partnership heretofore subsisting between H. G. Coales and H. W. Johnson, architects and surveyors, at Market Harborough, under the style of Coales and Johnson, has been dissolved.

Mr. George Nicholas Yourdi, of Ditton Dene, Surbiton, resident engineer, under the corporation of Birmingham, of the Elan Valley water-works, 1893-1907, who died on September 4, aged sixty-four, left £17,638 gross.

The Colony Club of New York is about to be housed in new premises to be built at the corner of Park avenue and 62nd-street in that city. Messrs. Delano and Aldrich, of 4, East 39th-street, New York, are the architects, and the outlay will be 400,000 dol.

The Nantwich Rural District Council on Saturday instructed their surveyor, Mr. C. E. Davenport, to prepare plans, specifications, and quantities in connection with the suggested scheme for the erection of four pairs of cottages at Aston, and submit them to the committee as soon as possible.

The Bristol City Council has decided to adopt the recommendations of the Bristol Docks Committee for the construction of additional cold-storage at Avonmouth Docks. The plans provide for the construction of a seven-floor warehouse, length 215ft., depth 105ft., height 100ft., on a site behind "D" shed, at the Royal Edward Dock. It is proposed at the commencement to insulate the three upper floors for cold-storage, and to utilise the three lower floors for the warehousing of general goods. The lower portion of the warehouse will be converted into cold-stores as the increase of trade necessitates.

The tramways department of the Leeds Corporation are hurrying on the carrying out of several works with the object of providing employment for the out-of-works. The construction of the new tramway-line at Guseley has been begun this week, and a start has been made with the erection of the overhead equipment for the railless cars which will run from the White Cross, Guseley, through Otley to Barley. The construction of the tramways extension from York road to Halton has also been commenced, and the workmen will get to work on the new tramways offices at the junction of Swinegate and Lower Briggate within the next two or three weeks. These new offices will cost £32,000.

LEGAL INTELLIGENCE.

LANDLORD'S LIABILITY FOR DEFECTIVE AREA RAILINGS.—*Dobson v. Horsley.*—In the Court of Appeal, on Wednesday, judgment was given by Lords Justices Buckley, Phillimore, and Pickford in this action, where an important question of the liability of landlords to keep up the protective railings to basement areas was raised. The action was tried before Mr. Justice Ridley and a common jury in the King's Bench Division in December last, and was fully reported in our issue of December 12, 1913, p. 848. The plaintiff, an infant who had been injured by falling through a gap in area railings, sued through his father as next friend, the father being a tenant of one room in the house where the accident occurred. The negligence alleged was that the area railings were not kept in a proper state of repair, and the plaintiff's father alleged that the attention of the landlord's surveyor was called to the defects in the railings, and that he promised to have them repaired. The jury, in their verdict, stated that the railings were defective, but were unable to agree as to what notice was or was not given to defendant. They assessed the damages at £137 15s.—Mr. Justice Ridley treated the case as to notice as not being made out, and gave judgment for the defendants. Plaintiff now applied for judgment or a new trial. For defendants, counsel cited "*Cavalier v. Pope*," "*Ryall v. Kidwell*," "*Lane v. Fox*," "*Martin v. Watkinson*," "*Huggall v. McKean*," "*Cameron v. Young*," "*Harrold v. Watney*," "*Miller v. Hancock*," and "*Huggett v. Miers*." The plaintiff relied upon "*Miller v. Hancock*," which was distinguishable from "*Cavalier v. Pope*." The counsel also referred to "*Hargroves, Aranson, and Co. v. Hartopp*." The Court of Appeal now unanimously upheld the decision of Mr. Justice Ridley and dismissed the appeal.

BURNLEY CORPORATION AND ITS DEMOLITION ORDERS.—Important Ruling.—A King's Bench Divisional Court, consisting of Justices Coleridge, Horridge, and Shearman, had before them on Wednesday a special case stated by the Local Government Board under the Housing and Town-Planning Act, 1909, in the matter of John F. Lancaster, Licentiate R.I.B.A., and the Mayor and Corporation of Burnley. Mr. Lancaster was appealing to the Local Government Board against an order by the Burnley Corporation for the demolition of six houses in Eugene-court, Burnley, on the ground that they were unfit for human habitation.—Mr. Brook Little (for the appellant) said the order for the demolition was served on August 7 of last year, after Mr. Lancaster had unsuccessfully appealed against closing orders which had previously been made. Mr. Lancaster bought the houses in December, 1912, to convert them into warehouses, and by the following April he had so dismantled them that they could not be used as dwelling-houses. The grounds of his appeal were that there was no intention to use the houses for human habitation, that they were not a nuisance or a danger to the public, and that the course adopted by the corporation was oppressive. Counsel contended that the corporation had no power to make such an order unless the premises were being used as dwelling-houses.—On behalf of the Local Government Board, Mr. Branson said this was the first case of its kind stated under Section 39 of the Act. It was therefore of importance, and the Board sought the opinion of the Court upon the question of law, in order to enable it to decide Mr. Lancaster's appeal.—Mr. Turner (for the Burnley Corporation) submitted that the section only gave the Local Government Board power to make orders such as it gave to local authorities.—Mr. Justice Coleridge said the case raised an important question under the Act. Section 39 seemed to give very wide powers to the Board to rescind demolition orders on any reasonable ground. It seemed to cover such a case as the present one if the Board were satisfied that the houses were no longer to be used for habitation. The policy of the Act was to give the Board the widest possible discretion to do what was equitable, and to confirm, vary, or quash orders made by local authorities. This answered the question raised. Our previous comments on this case will be found on p. 297, September 19, p. 305, October 10, and p. 341, October 17, 1913.

Ridcliffe Urban District Council decided on Monday to apply to the Local Government Board for sanction to spend £4,300 in laying out as a playing field a piece of land given by the Wilton Estate, and also to improve a roadway in respect to which the estate has given 2½ acres of ground and undertaken to contribute £500 towards the cost of the improvement.

Our Office Table.

In the course of a lecture at University College, Gower-street, W.C., on "French Cathedrals in the Fighting Line," delivered on Monday afternoon, before an overflowing audience, Professor F. M. Simpson referred to Rheims Cathedral as the perfect blend of strength and refinement both internally and externally. It represented the full development of 13th-Century French Gothic, and in its internal proportions it attained the ideal. The chief damage from shells had been the destruction of the magnificent roof over the nave choir and transepts. This roof, certainly the finest the lecturer had seen, had a tie-beam 8ft. to 10ft. above the vault instead of a foot or two, and this deep space between the covering had proved the salvation of the interior of the cathedral. The stained glass had been greatly injured. The chief damage to the beautiful sculpture was to that in the northern of the triple portals and the western façade. Prof. Simpson suggested that some of the indemnity to be claimed from the invaders ought to be earmarked for restoring the cathedral.

The Trades' Training Schools, 153, Great Titchfield-street, Portland-place, W., which have been temporarily closed, are reopening on the 26th inst. The schools are open only to craftsmen following their trade as a means of gaining a livelihood, and are carried on to improve the technique of each craft by instructing the men who actually earn their living by their labours therein. The last annual report is published, and can be had at the schools. Mr. H. Phillips Fletcher, F.R.I.B.A., is the director.

At the last meeting of the city council of Liverpool, the proposal of the housing committee to proceed with the erection of houses on the Gore-street, Jordan-street, and Sparling-street areas, at a cost of about £25,000, was opposed, it being suggested that the expenditure should be postponed in accordance with the advice of the Chancellor of the Exchequer. Building materials, it was stated, were now from 20 to 25 per cent. above the normal. Mr. Kyffin-Taylor, M.P., chairman of the committee, refused to accept the suggestion. The First Commissioner of Works was expediting all public works, and was recommending private firms to do the same. The cost of material had increased from 15 to 20 per cent. in the last two years, but it had not gone up as a result of the war. The building trade was largely at a standstill, and he believed that it was better to find employment rather than relief. The proposals of the committee were approved, and the work will go forward.

The council of the Welsh Housing Association, at their meeting in London on Tuesday, adopted the following resolution, on the motion of the president (Lady Boston): "That the council of the Welsh Housing Association is of opinion that the conditions of housing of the working population throughout the urban and rural districts of Wales and Monmouthshire are of so deplorable a nature, and the necessity for reform on a large scale is of such imperative importance, that the appointment of a central Welsh housing authority appears to be the only action likely to prove effective for solving the problems involved."

At their last meeting the town council of Birkenhead confirmed a recommendation of the health committee appointing Mr. T. Taliesen Rees, F.R.I.B.A., for a minimum period of three years as architect to advise and assist the corporation in connection with reconstruction schemes and the erection of working-class houses. Alderman E. G. Mason, in submitting the recommendation, said that for some time the committee had been contemplating a scheme for erecting a considerable number of working-class dwellings. The scheme would be a large one, and would entail a great deal of labour both on the part of the committee and of the architect. They were anxious to make the scheme a new, original, and economical one, and one that would be worthy of the town

in every way. It was originally intended to obtain competitive designs, but in view of the delay which would be caused and the desire of the committee to take advantage of the new Housing Act, under which financial assistance for such schemes was granted, and also the probability of a large amount of unemployment among those employed in house construction, they decided to recommend the appointment of Mr. T. T. Rees. The scheme, under which both the Gilbrook estate and the land off Old Chester-road would be utilised, would provide for the erection of 400 houses, and taking an average cost of £180 per house, a capital expenditure of £72,000 was foreshadowed.

During the months of July, August, and September, 1914, the Road Board indicated additional advances to highway authorities, amounting in the aggregate to £373,562, of which £269,280 was by way of grant, and £104,282 by way of loan. The advances made and indicated up to Sept. 30, 1914, amount to £5,927,486. Of this total £4,375,742 is by way of grant, and £1,551,744 by way of loan. The formal grants completed with the approval of the Treasury during the last quarter, amounting to £902,657, were applied as follows:—Road-crust improvements, £493,461; road widening and improvement of curves and corners, £3,545; road diversions, £1,699; reconstruction and improvement of bridges, £3,950; new road, western approach road to London, 75 per cent. of actual cost, estimated at £400,000.

A meeting of the town-planning committee of the Birmingham City Council was held on Friday under the presidency of Mr. Neville Chamberlain, when the report was drawn up for presentation to the council on Tuesday next. This report will ask the council to approve of the complete scheme for North Yardley, and also to authorise the committee to apply to the Local Government Board for permission to prepare a scheme for South Birmingham. The latter is the next step in pursuance of the instructions given in July of last year, when the committee were empowered to give notice of their intention to apply to the Local Government Board. The area scheduled contains about 8,400 acres, and has several districts in which development is proceeding more or less rapidly. It extends practically from the south side of Coventry-road to the east side of Pershore-road. On the outer side it follows the city boundary, and on the inner side it follows the contour of the built-up area.

The Cowlud Water Board discussed on Friday the relative merits of a bridge or culvert for carrying the water supply across the river Conway, the two mains laid in the bed of the stream at Dolgarrog having both burst. Mr. T. B. Farrington, the engineer to the board, reported that the borings were very favourable for a culvert, but there were objections to a culvert of a very serious kind. When a pipe burst in a culvert it could not be reached until the water had been pumped out, and whether the culvert were of cast iron, steel, or concrete there was always danger of a subsidence. Further, if a burst occurred at a time when the river valley was flooded the mains could not be got at until the flood subsided. In his opinion the board would be well advised to erect a bridge over the river at this point. The height of it would have to be about 14ft. 6in. above the top of the bank, to give a sufficient clearance for vessels navigating the river. A bridge strong enough to carry the pipes, and to stand the storms which raged at times down the valley, would also be strong enough for foot passengers, although he feared that there would not be sufficient foot-passenger traffic to make it a source of revenue. The board decided unanimously that Mr. Farrington be instructed to draw up plans and estimates as soon as possible for the construction of a bridge.

At a meeting on Monday of the School Board for Edinburgh a report on the question of the board's agreement with their architect, Mr. Carfrae, was submitted by a joint committee of the building and the finance and

law committees. In a previous communication the Edinburgh Architectural Association expressed the view that there was a degree of injustice, in that the designing of the various schools under the control of the board had in the past been placed in the hands of one architect, and not distributed, either by means of competition or otherwise, amongst the practising architects in the city. The joint committee agreed to recommend that the board give to Mr. Carfrae the required six months' notice of their intention to terminate their present agreement with him as their architect, in order that they might be free to consider any new arrangement which they might deem advisable.—Mr. Marwick, who submitted the report, explained that there was no reflection upon Mr. Carfrae. It was an impersonal matter. The board desired to have a free hand. The report was unanimously adopted.

The annual report of Mr. John Atkinson, A.M.I.C.E., the borough surveyor of Stockport, for the year ended March 31 last, shows that 266 plans were submitted and approved, a number only exceeded in 1911 during the past five years. Three hundred houses were completed during the year, and about 150 are in course of erection. The length of new streets opened was 1,685 yards, and about 30 acres of land was absorbed for building operations. Numerous street improvements were carried out, and others are in progress. During the year the area of the borough has been enlarged by the addition of the district of Hendon Norris to the north-west, having an area of 1,574 acres, and giving a total area to Stockport of 7,059 acres. The borough is now almost equally divided between Lancashire and Cheshire. The population is now estimated at 126,040, or 17.85 per acre and 4.22 per house.

A series of examples of historical furniture, many of which have not heretofore been exhibited, is now installed in the Hall of History in the older United States National Museum buildings at Washington, D.C. In addition to the Colonial and Revolutionary furniture there are a number of French and English pieces of early times and types. These, together with more recent examples, bring the collection through the Civil War period, making the exhibition complete in every way.

For the first time in the history of the brick and tile-making industry of the Canadian Dominion, red roofing-tiles are being manufactured. The plant that is turning them out is located near Mimico.

The town council of Bury, Lancs., have decided to proceed with the Walmsley housing scheme for the erection of fifteen pairs of semi-detached houses and eighty-four houses in blocks.

Authority has been given by the Local Government Board to the urban district council of Surbiton to prepare a town-planning scheme in respect of an area of about 1,553 acres in the urban district.

A central hall for the Lancashire and Cheshire Miners' Federation in Bridgeman place, Bolton, has been formally opened. Messrs. Bradshaw, Gass, and Hope, of Silverwell street, Bolton, were the architects. The cost of the building was £10,000.

A carved-oak reredos, with side panelling, given in memory of the late vicar of St. Andrew's, Cheddar, the Rev. Preb. Frederick Arthur Clarke, has just been erected in the Trinity Chapel of that church. It was designed by Mr. Fredk. Openshaw, A.R.I.B.A. It is intended to proceed as opportunity permits with the further fitting and furnishing of the chapel.

The widening of the southerly side of Milnrow-road, Rochdale, from near Newbold-street to Wallhead Mill, opposite St. Ann's Church, a distance of 720ft., has now been completed with the exception of the paving and flagging, which will be carried out next year. The work carries on the scheme under which Fingrove Bridge was reconstructed and widened. The road has been widened from a minimum of 27ft. 6in. to a minimum of 42ft. throughout. The negotiations involved the culverting of Stanney Brook, the lowering of the level of a field on the right hand side, and the removal and alteration of buildings at Wallhead Farm. The cost has been £3,500.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (To-day).—Junior Institution of Engineers. "The Latest in Home Lighting," by Walter T. Dunn, 39, Victoria-street, S.W., 8 p.m.

Manchester University: Department of Architecture. "Italian Mural Paintings," by J. Ernest Phythian, 5 p.m.

MONDAY.—Victoria and Albert Museum. "Gothic Construction as Exemplified in English and French Cathedrals," by Baillister F. Fletcher, F.R.I.B.A., 4.30 p.m.

THURSDAY.—British Museum. "Egyptian Temples," by Baillister F. Fletcher, F.R.I.B.A., 4.30 p.m.

Society of Architects, Scrutineers' Report on Ballot for Officers and Council, 7.30 p.m. Lantern-Lecture on "Some Belgian Towns Affected by the War," by G. A. T. Middleton, A.R.I.B.A., past Vice-President, 8 p.m.

FRIDAY (Oct. 23).—Glasgow Architectural Craftsmen's Society. "Modes of Measurement," by T. Whyte, F.R.S.

Mr. W. Mitchell, of Banchory, has been appointed by the Laurencekirk Town Council borough surveyor, assistant sanitary inspector, and inspector of the sewage-disposal works.

Mr. Thomas Lawrence, working bricklayer, of Stevenage, secretary of the North Herts Independent Labour Party, has been placed on the Commission of the Peace for Hertfordshire.

A grain exchange is to be built at the corner of Nineteenth and Harvey streets, Omaha, Nebraska, at an estimated cost of £65,000 sterling. The architect is Mr. F. A. Henninger, of National Bank Buildings, Nebraska.

The Worcester City Council decided on Tuesday, on the recommendation of the streets committee, to carry out an improvement in St. Martin's gate at a total cost of £3,400. An application will be made to the Local Government Board for a loan.

The engagement is announced between Luke Val, eldest son of Sir Luke Fildes, R.A., and Lady Fildes, of 11, Melbury-road, Kensington, and Mariel, only child of Sir William Goscombe John, R.A., and Lady John, of 24, Greville-road, St. John's Wood.

The return of new building operations for which permits were issued in United States municipalities during August shows a decline of 4 per cent. on those for the same month in 1913, and this decrease will doubtless be perceptibly augmented when the returns for September are published.

The Bridgwater Rural District Council have rescinded a resolution passed on April 1 adopting a scheme for widening Wembdon-hill (a dangerous declivity) without the gradient being altered, and providing for a road 20ft. wide, with a footpath. When this scheme was adopted, in April, the council was not then aware of the fact that the Road Board would contribute 75 per cent. of the total cost of the scheme for making a new roadway from Wembdon-road to the bottom of Sandford-hill, so as to avoid the dangerous hill in question. The larger scheme has now been adopted, subject to a grant of £1,000 from the Somerset County Council.

At St. Bartholomew's Church, Norton le Moors, there has been dedicated a stained glass window presented to the church by the brethren of St. Martin's Lodge, Burslem, in memory of the late Rev. E. J. Bromley-Kingston, P.P.G. Chaplain, rector of the parish, and the late Mr. J. R. Roden, P.M. and treasurer. The window reproduces the badge of the Burslem Lodge, depicting St. Martin sharing his garment with the beggar. The design also includes the symbols of offices held by the deceased brethren—the open Bible for the chaplain, and the cross-keys for treasurer. The window was executed from drawings by Mr. F. Bettany, P.P.G.R., and Mr. E. T. Watkin, both members of St. Martin's Lodge.

Opportunity was taken by the Edinburgh Photographic Society of their opening meeting of the session on Friday night to make the interesting presentation to the corporation of the city of the first completed portfolio of the survey which the society has undertaken of Edinburgh and district. The portfolio contained photographs taken in George-square Ward, and is the first instalment of what it is hoped will be a permanent pictorial record of the topography of the city and district, of all buildings of historical or architectural interest, and of the social life and customs of the city. The meeting was presided over by Mr. R. Glode Gwyer, the president. Lord Provost Inches acknowledged the gift, remarking that it was a historic record which would be greatly prized by future generations.

TRADE NOTES.

Messrs. Wills, Ltd., are removing to new premises at Lincoln House, High Holborn, W.C. Their telephone numbers will remain as before, and the telegraphic address will be "Keysate, Holb., London."

Under the direction of Mr. C. Davidson, architect, Paisley, the Boyle system of ventilation (natural), embracing Boyle's latest patent "Air-pump" ventilators and air-inlets, has been applied to the South U.F. Church Halls, Paisley.

Mr. Gilbert Walterhouse, who was carrying on his practice at 1, Temple Fortune House, Hampstead Garden Suburb, N.W., has joined the Universities and Public Schools Corps, and he has asked Mr. Herbert A. Welch, A.R.I.B.A., to make it known that he, in Mr. Walterhouse's absence, is carrying on his work at 7, New-square, Lincoln's Inn, W.C.

The firm of civil engineers who have had the work in connection with the Lewes sewage-works report that all experiments that they made with the powder Pudlo, for making cement waterproof, were perfectly successful. Practical proof of this description, perhaps, counts more with architects than even the satisfactory tests made by expert cement-testers which the makers of Pudlo publish.

McNeill's Leadonite dampcourse is being used in the construction of the Royal Gwent Hospital, Newport, Mon. The builder is Mr. C. H. Reed, of 1, Malpas-road, Newport. Leadonite is composed of a layer of sheet-lead sandwiched between two thicknesses of McNeill's pliable mastic asphalt, and forms a damp-proof course of exceptional durability, and has many advantages over slates, as well as being very economical. Full particulars will be sent on application to the sole manufacturers, F. McNeill and Co., Ltd., Government contractors, Bunhill-row, E.C.

Messrs. Kerner-Greenwood and Co., King's Lynn, have made arrangements with a firm of high repute, who will guarantee their "Pudloed" cement work to be absolutely perfect and waterproof. They undertake the waterproofing of all kinds of concrete work, such as "Pudloed" roofs, and also renderings on tanks, cellars, swimming-baths, etc. Indeed, some of their agents tell us they supply builders and plasterers who now waterproof most difficult work on the lines of "no cure, no pay." Many architects, having tried "Pudlo" upon small, unimportant flat roofs are now specifying "Pudloed" roofs for very important buildings: a great financial saving.

CHIPS.

Mr. James S. Cree, of Aberfeldy, has been appointed district road surveyor to the Highland District Committee of the Perthshire County Council, in succession to the late Mr. Bell.

Haddington Town Council have under consideration the repair of the town cross, from the top of which the sculptured goat—the burgh emblem—was cast down a few weeks ago during a gale. The council have agreed to consult Mr. Rhind, sculptor, Edinburgh, with reference to the restoration.

Mr. S. H. Tulloch, M.Inst.C.E., has conducted an inquiry on behalf of the Local Government Board into the Hoylake and West Kirby Urban District Council's application to borrow £2,100 for the purpose of widening and improving Langlane, West Kirby.

At the meeting on Monday of the urban district council of Brixham it was reported that the stone now deposited in the new breakwater extension amounted to about 123,500 cubic yards, or about 57 per cent. of the total contract quantity, being an increase of 19,500 cubic yards, or 9 per cent. of the total, during the past eight and a half weeks. This gave an average of 2,240 cubic yards per week, as compared with an average of 1,910 per week for the eleven weeks ending July 9.

After many unavoidable delays, the Sir William Cook Memorial Home for Consumptives on Romsley Hill has recently been completed, and, owing to the war, has been informally brought into use. It contains 110 beds (65 for men and 45 for women). The site, on the southern slope of Romsley Hill, commands one of the most extensive and most beautiful views in the Midlands. The architect is Mr. F. W. Martin, of Birmingham, who received instructions to proceed with the administration block and one wing, the estimated cost being £14,000. While this section was being erected, it was decided to extend the institution not only to the original dimensions of sixty beds, but to further enlarge the scheme to 110 beds. The entire cost has been about £36,000.

The plans of Mr. R. M. Butler, F.R.I.B.A., of Dawson-street, Dublin, have been adopted by the Castlebar District Lunatic Asylum Committee for the extension of the asylum building and isolation hospital. The cost is estimated at £22,435.

On Friday a Local Government Board inquiry was held at the town-hall, Burnham, Somerset, respecting the new urban area included of late in the Burnham district. Mr. T. Foster Barham presented the case for the council. Mr. W. H. Chowins explained the proposals to spend £2,900 in sewerage, and £558 in water-supply works.

At the town-hall, Stamford, Mr. A. H. Chapman, one of the Local Government Board inspectors, conducted an inquiry into the town council's application to borrow £4,071 for the erection of 24 workmen's dwellings on the Conduit-road. The plans were explained by Mr. F. R. Ryman, the borough surveyor, who said the houses would let at 4s. 3d. weekly, and on that basis would yield a profit of £9 16s. 8d. per annum.

Since the opening of the war, no fewer than 600 applications have been made to the Local Government Board for sanction to borrow money, amounting in all to two and a half millions, to defray the cost of various schemes. The Board is pushing these inquiries forward, especially in the smaller towns and larger villages, where the need for keeping employment going is far greater than in the larger towns.

The two-light window which has been placed in Kilburn Parish Church, East Riding, to commemorate the life and work in the parish for many years of the late vicar, Rev. Ralph Prowde, M.A., and his wife, was last week unveiled by Viscountess Helmsley, and dedicated by the Bishop of Beverley. The window, which contains full-length figures of St. Aidan and St. Hilda, was designed by Mr. Guthrie, of Glasgow.

The Port of London Authority gives the gratifying statistics that, notwithstanding the partial stoppage of timber supplies from the Baltic, the tonnage of ships entering the Surrey Commercial Docks for the six months ending September 26 amounted to 755,600, against 790,000 tons for the corresponding period of 1913, or only a falling off of 34,000 tons. These figures will, like those of the docks on the north side of the river, show striking increases for the second half of the year.

A conference of representatives of the riparian authorities of the River Stour has appointed a committee to approach the Essex and East and West Suffolk County Councils to promote a Bill for establishing a public body to control the river and its navigation. The Development Commissioners are to be approached to provide the necessary funds for carrying out an improvement of the river. A firm of consulting engineers who have reported on the proposals estimate that a scheme of improvement can be carried out for about £60,000.

The City-road Cottage Baths, at Nos. 2 and 4, Worthington-street, Bradford, were opened on Monday. This is the eighth institution of its kind, and four more are being provided. They are designed to give facilities to the poorer classes of the city, and the one just opened comprises nine slipper-baths, one douche-bath, two lavatories, and attendance-room. Two ordinary dwelling-houses have been utilised, in accordance with the usual Bradford practice, in order to reduce the expense, and the cost has been £675.

The New South Wales Government is considering a proposal to construct a short railway from Gregra, near Molong, to Canowindra, in order to work quantities of marble along the route. Mr. Baker, of the New South Wales Technological Museum, has declared that the marbles of New South Wales are the best in the Commonwealth. The State's marble-fields at Bowen Park are unexploited because of the cost of haulage to Manildra Station, fourteen miles away. The development of the quarries would mean employment for many men, and limekilns would be established, as lime-burning is a companion industry.

The rural district council of Dartford have referred to their highways committee the proposal to participate in meeting the cost of constructing a new lower road from Dartford to Erith. The proposed road will, if adopted, be two miles and twenty yards long, and its construction will cost £19,232, towards which the Road Board and the Kent County Council offer to advance £12,482. The Erith and Dartford Urban District Councils are prepared to contribute their proportion of the remaining £6,750. The owners are giving the land, and will construct footpaths 8ft. wide on each side of the road, which will be 40ft. in width.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Rolled Steel Joists, English	Per ton.	Per ton.
Wrought-Iron Girder Plates	£7 10 0	to £7 12 6
Steel Girder Plates	7 0 0	" 7 5 0
Bar Iron, good Staffs	7 2 6	" 8 2 6
Do., Lowmoor, Flat, Round, or Square	6 5 0	" 8 10 0
Do., Welsh	22 0 0	" 0 0 0
Boiler Plates, Iron—	5 15 0	" 5 17 0
South Staffs	8 0 0	" 8 15 0
Best Suedahill	9 0 0	" 9 10 0

Angles 10s., Tees 20s. per ton extra.

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—	No. 18 to 20.	No. 23 to 24
6ft. to 8ft. long, inclusive	Per ton.	Per ton.
gauge	£13 0 0	£13 10 0
Best ditto	13 0 0	14 0 0

Wire Nails (Points de Paris)—	3 to 7	8	9	10	11	12	13	14	15	B.W.G.
	8/3	8/9	9/3	9/9	10/3	11/-	11/9	12/6	13/6	per cwt.

Cast-Iron Columns	Per ton.	Per ton.
Cast-Iron Spandrels	£6 17 6	to £8 10 0
Rolled-Iron Fencing Wire	8 5 0	" 8 10 0
Rolled-Steel Fencing Wire	7 5 0	" 7 10 0
Cast-Iron Sash Weights	5 10 0	" 5 15 0
Cut Floor Brads	9 15 0	" —
Corrugated Wire, 24 gauge	16 0 0	" —
Galvanised Iron Strand, 7 ply.	14 5 0	" —

B.B. Drawn Telegraph Wire, Galvanised—	0 to 8	9	10	11	12	B.W.G.
	£10 10s.	£10 15s.	£11 0s.	£11 5s.	£11 15s.	per ton.

Cast-Iron Socket Pipes—	3in. diameter	Per ton.	Per ton.
	4in. to 6in.	£6 2 6	to £6 7 0
	7in. to 24in. (all sizes)	6 0 0	" 6 5 0
		5 7 6	" 6 0 0

[Coated with composition, 5s. od. per ton extra, turned and bored joints, 5s. per ton extra.]

Pig Iron—	Per ton.
Cold Blast, Lillieshall	10s. 0d. to 117s. 6d.
Hot Blast, ditto	70s. 0d. to 75s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 3/4 per cent.)—	
Gas-Tubes	75 p.c.
Water-Tubes	7 1/2 "
Steam-Tubes	6 3/4 "
Galvanised Gas-Tubes	65 "
Galvanised Water-Tubes	6 1/4 "
Galvanised Steam-Tubes	5 1/2 "

OTHER METALS.

Spelter, Silessian	Per ton	£21 5 0	to	£21 7 9
Lead Water Pipe, Town		21 0 0	"	—
" " Country		24 15 0	"	—
Lead Barrel Pipe, Town		25 0 0	"	—
" " Country		25 15 0	"	—
Lead Pipe, Tinned inside, Town		26 0 0	"	—
" " Country		26 15 0	"	—
Lead Pipe, Tinned inside and outside		28 10 0	"	—
Composition Gas-Pipe, Town		29 5 0	"	—
" " Country		27 0 0	"	—
Lead Soil-pipe (up to 4 1/2 in.) Town		27 0 0	"	—
" " Country		27 15 0	"	—

Lead, Common Brands	17 17 6	"	18 12 6
Lead Shot, in 25lb. bags	24 15 0	"	—
Copper Sheets, sheathing & rods	75 0 0	"	75 10 0
Copper, British Cake and Ingot	61 0 0	"	65 0 0
Tin, English Ingots	163 0 0	"	164 0 0
Do., Bars	146 0 0	"	146 10 0
Pig Lead, in cwt. Pigs (Town)	22 0 0	"	—
Sheet Lead, Town	23 10 0	"	—
" " Country	24 5 0	"	—
Genuine White Lead	31 15 0	"	—
Refined Red Lead	35 0 0	"	—
Sheet Zinc	Price on inquiry.		
Old Lead, against account	16 10 0	"	—
Tin	8 10 0	"	—
Cut nails (per cwt. basis, ordinary brand)	0 12 9	"	—

* For 5 cwt. lots and upwards.

SLATES.

Blue Portmadoc	in. in.	£ s. d.	per 1,000 of
	20 x 10	12 12 6	1,200 at r. stu.
" "	16 " 8	6 12 6	" "
Blus Bangor	20 " 10	13 2 6	" "
" "	20 " 12	13 17 6	" "
First quality	20 " 10	13 0 0	" "
" "	20 " 12	13 15 0	" "
" "	16 " 8	7 5 0	" "
Eureka unfading green	20 " 10	15 17 6	" "
" "	20 " 12	18 7 6	" "
" "	18 " 10	13 5 0	" "
" "	16 " 8	10 5 0	" "
Permanent Green	20 " 10	11 12 6	" "
" "	18 " 10	9 12 6	" "
" "	16 " 8	6 12 6	" "

BRICKS. (All prices net.)

Table listing various brick types and prices, including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks for Facings, etc.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed brick types and prices, including White, Ivory, and Salt Glazed, Buff, Cream, and Best, etc.

MOULDED BRICKS.

Table listing moulded brick types and prices, including Stretchers and Headers, 8d. each, 1 1/2 each, etc.

Table listing various sand and ballast types and prices, including Tbanee Sand, Pit Sand, Thames Ballast, etc.

Table listing Portland Cement and Blue Lias Lime prices, including Best Portland Cement, Ground Blue Lias Lime, etc.

STONE.*

Table listing various stone types and prices, including Red Mansfield, Darley Dale, Red Corsehill, etc.

* All F.O.R. London.

Table listing Bath Stone, delivered on road waggons, and other stone types with prices per foot cube.

TILES.

Table listing various tile types and prices, including Plain red roofing tiles, Hip and Valley tiles, etc.

OILS.

Table listing various oil types and prices, including Rapeseed, English pale, Ditto, brown, etc.

GLASS (IN CRATES).

Table listing various glass types and prices, including English Sheet Glass, Fourths, Thirds, etc.

VARNISHES, &c. Per gallon.

Table listing various varnish types and prices, including Fine Pale Oak Varnish, Pale Copal Oak, etc.

The first of a course of five lectures on "Sanitary Building Construction" was given at Carpenters' Hall on Thursday in last week, by Mr. H. D. Scarb's Wood, F.R.I.B.A.

The trustees of the National Art Congress Studentships Fund have awarded their first scholarship of £40, tenable for one year, to Mr. George Bernard Mason, a student of the Victoria-street School for Jewellers, Birmingham.

On the recommendation of the improvements and finance committee, the City Corporation have adopted an arrangement for acquiring the freehold interest of the Mercers' Company in the ground needed to widen the public way in front of 9, Wood-street and Mitre-court, for £1,900.

CHIPS.

A new church hall at Addiewell, N.B., built from designs by Mr. W. Baillie, architect, of Glasgow, was formally opened on Saturday by the Moderator of the Church of Scotland.

The rural district council of Chelmsford have accepted the resignation of Mr. G. Andrassey, assistant engineer, he having secured the position of assistant to the water engineer of Wakefield.

Mr. James Newth, a retired cabinetmaker, of Dursley, Gloucestershire, has just attained the age of 100. Mr. Newth has never smoked, and has always been a very moderate drinker.

The county council of Essex have decided not at present to appoint a deputy county surveyor in succession to Mr. A. J. Lyddon, who has been made outdoor engineering assistant; but Mr. Lyddon's late office has been filled by the appointment of Mr. Arthur Ellson, senior assistant in the office of the county surveyor, as chief engineering assistant in the main roads department.

Speaking before the Midland Counties Institution of Engineers at their Nottingham meeting on the increasing shortage of timber pit-props, Mr. G. Spencer said he had bought for purposes of experiment second-hand metal tubes, 3 1/2 in. in diameter. These he had cut in lengths of 4ft. 10in. At the top and bottom there was a tapered plug which fitted inside the tube, and between the plugs coal dust and sawdust were inserted and compressed.

The city council of Hull have unanimously passed a resolution calling the attention of the Government to the great increase in the prices of building and other materials, rendering it difficult to carry out much necessary work, contrary to the declared desire of the Government as expressed at the beginning of the war, and urging the Government to fix prices in order that the work of the nation might proceed as evenly as possible.

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OGILVIE & CO. Mildmay Avenue, ISLINGTON, N. EXPERTS in HIGH-CLASS JOINERY. ALTERATIONS & DECORATIONS. ESTIMATES FREE. FOR Olivers' Seasoned Hardwoods, WM. OLIVER & SONS, Ltd., 120 Bunhill Row London E.C.

TENDERS.

* * * Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

Table listing tender information for Aberystwith, including names like Rees, D. J., Blaenarerech, James and Richards, Brongest, etc.

ABERDEEN.—For supplying and erecting a steel and corrugated iron roof for the new goods shed at Waterloo Quay, for the Harbour Commissioners and the Aberdeen, Newcastle, and Hull Steamship Co., Ltd.

Bryden and Middleton, Glasgow £1,222 14 6 (Accepted.)

AMMANFORD.—For the construction of the Rhydymaerdy Bridge across the river Aunman opposite the Pantyffynon railway station, for the Llandilofawr Rural District Council and Ammanford Urban District Council:—

Table listing contractors and amounts for Ammanford bridge project, including Mercer, G. Lilanely (£7,500 0 0) and Thomas Bros. Pontardawe (7,200 0 0).

BARKING, N.—For the supply of six new cast-iron plungers for the vertical sludge pumping engines at the Northern Outfall, for the London County Council:—

Table listing contractors and amounts for Barking plungers, including Clewton, Goodfellow, and Co. (£175 0 0) and Seagars, Ltd. (120 0 0).

BIRKENHEAD.—For alterations to premises purchased for school clinic purposes by the education committee:—

Table listing contractor Rothwell, P., Birkenhead (£330 0 0) (Recommended for acceptance.)

BIRMINGHAM.—For the erection of printing works, Summer-road, Erdington. Messrs. Skelcher and Machin, 156, Edmund-street, Birmingham, architects and surveyors:—

Table listing contractors and amounts for Birmingham printing works, including Langley, J. (£1,224 0 0) and Stephens, G. T. (1,207 0 0).

BLAINGOWRIE.—For the Bridge of Cally and the Perth-Contar Angus' road improvements, for the Eastern District Committee:—

Table listing contractor Callander, D., Fortar (£1,554 5s. 10d. and £1,014 13s. 6d. respectively) (Accepted.)

BOSTON, LINES.—For the supply of materials for footpath construction, for the Boston Rural District Council. Accepted tenders:—

Table listing contractors Lavender and Bateman (242 tons) and Ellis and Everard, Ltd. (185 tons).

BOSTON, LINES.—For alterations to the workhouse, for the Boston Guardians:—

Table listing contractor Pett and Benfield (£138 0 0) (Accepted.)

BRISTOL.—For building a school for 640 children in Baptist-street, Baptist Mills, for the Bristol Education Committee. Accepted tenders:—

Table listing contractors Clark, E., and Sons (£3,735 0 0) and Haden, G. N., and Son (7 4 0 0).

CANE HILL.—For erection of superstructure of additional accommodation for nurses at Cane Hill Lunatic Asylum, for the London County Council:—

Table listing contractor Thomas and Edge, Woolwich (£1,793 0 0) (Accepted.)

CANNOCK.—For the erection of a school (500 places), for the Cannock Urban District Council. Messrs. Bailey and Solon, Bridge-street, Walsall, architects:—

Table listing contractors and amounts for Cannock school, including Sapcote and Sons (£6,890 0 0) and Guest, J., and Son (6,670 0 0).

COLNEY HATCH, N.—For the erection of the superstructure of a nurses' block at Colney Hatch Asylum, for the London County Council:—

Table listing contractor Mattock Brothers, Wood Green (£2,087 0 0) (Accepted.)

DEPTFORD, S.E.—For raising the small water tank and for roofing the large water tank at the baths and wash-houses, Laurie-grove, for the borough council:—

Table listing contractors and amounts for Deptford tanks, including May, Mortimer, and Co., Ltd. (£399 17 5) and Hether Green (396 0 0).

CROSSNESS, S.E.—For the supply of four cast-steel valves for the vertical pumping engines at the Southern Outfall, for the London County Council:—

Table listing contractors and amounts for Crossness valves, including Firth, T., and Sons, Ltd. (£284 0 0) and Darlington Forge Co., Ltd. (235 0 0).

DUNDALK.—For reinforced concrete stairway, for the urban district council. The town surveyor, Dundalk, architect:—

No tender accepted; matter deferred.

HAMMERSMITH, S.W.—For the repair of the carriageway of Hammersmith Bridge, for the London County Council:—

Table listing contractors and amounts for Hammersmith bridge repair, including Wimpey, G., and Co., Ltd. (£1,893 13 4) and Griffiths, W., and Co., Ltd. (1,720 18 8).

KIRBY.—For supply of pipes in connection with the water supply, for the High Furness Highway Divisional Committee:—

Table listing contractor Cockrane, Middlebrough (£286 11 7) (Accepted.)

LAMBOURNE.—For enlargements at Lambourne council school, for the Essex Education Committee:—

Table listing contractor Potter, H. (£1,286 14 2) (Accepted.)

LEICESTER.—For painting, &c., the exterior of the isolation hospital, Groby-road, for the sanitary committee. Mr. E. G. Mawbey, M.I.C.E., borough surveyor:—

Table listing contractors and amounts for Leicester painting, including Colman, G. (£333 13 5) and Johnson, J. E., and Sons (330 0 0).

LIVERPOOL.—For alterations and additions to the port sanitary offices, Princes landing-stage, for the corporation:—

Table listing contractor Haugh and Pilling, Liverpool (£550 0 0) (Recommended for acceptance.)

LIVERPOOL.—For erection of labourers' dwellings on the Spurling-street area, for the corporation:—

Table listing contractor Costain, R., and Sons, Liverpool (£6,900 0 0) (Recommended for acceptance.)

LIVERPOOL.—For erection of labourers' dwellings on the Gore-street and Jordan-street areas, for the corporation:—

Table listing contractor Hall, W., and Son, Ltd., Liverpool (£17,953 0 0) (Recommended for acceptance.)

LONDON.—For the supply of a jib crane depot for the third section of the central car-repair required: Babcock and Wilcox, Ltd., Faringdon-street, E.C. Accepted tenders:—

Table listing contractor Eroadbut, T., and Sons, Ltd., Huddersfield (£610 0 0) (Accepted.)

LONDON.—For the supply of wheel-tires, for the London County Council. Accepted tenders:—

Table listing contractor Bessemer, H., and Co., Ltd. (3,000 driving-wheel tires, at £1 3s. each, and 2,000 pony-wheel tires, at £1 each) and Cammell Laird and Co., Ltd. (500 driving-wheel tires, at 22s. each, and 500 pony-wheel-tires, at 19s. each).

LONDON.—For carrying out building works in connection with the rearrangement of tramways substations and sub-station plant, the provision and laying of cables, and the laying of cable ducts, fixing of feeder pillars, &c. for the London County Council:—

Table listing contractors and amounts for London tramway works, including Wall, C., Ltd., Chelsea (£2,918 0 0) and Gosdon, G., and Sons, Kilburn-lane (2,852 0 0).

Supply and laying of high and low tension cables:—

Table listing contractors and amounts for cable supply, including Siemens Bros. and Co., Ltd. (23,119 12 4) and Glover, W. T., and Co., Ltd. (23,110 13 8).

(Estimate of the chief officer of tramways, £22,170.) Laying of stoneware cable ducts, &c.:—

Table listing contractors and amounts for cable ducts, including May, Mortimer, and Co., Ltd. (£5,971 3 8) and Hether Green (5,971 3 8).

LONDON, W.—For works involved in the diversion of the east branch of the Counters-creek sewer where it passes under the bridge carrying Ladbrook Grove-road over the Great Western Railway, in connection with the widening of the railway at this point, for the London County Council and the Great Western Railway Co.:—

Mowlem, J., and Co. (accepted) as per jobbing schedule of prices.

LONDON.—For the supply of Portland cement as required for the tramways department under schedule No. 73A, for the London County Council:—

Byford, J., and Son, Ltd., Moody Wharf, Poplar. (Accepted.) (Thirty-three firms invited to tender.)

LONDON.—For the supply of clean river ballast (schedule No. 74b) and clean, sharp river sand (schedule No. 75a), as required for the tramways department, for the London County Council:—

Sabey, H., and Co., 7, South Wharf, Paddington. (Accepted for both contracts.) (Twenty-four firms invited to tender in each case.)

MAIDSTONE.—For the extension of the boiler house at the electricity works, for the town council:—

Table listing contractors and amounts for Maidstone boiler house extension, including Barney, G. (£1,243 0 0) and Elmore and Son (1,176 0 0).

NORTHAMPTON.—For private street works in Fife-street, for the corporation:—

Table listing contractor Fisher, G. J. (£395 0 0) (Accepted.)

NUNEATON.—For erecting children's home, for the guardians. Mr. E. P. Shepherd, M.S.A., Nuneaton, architect. Quantities by the architect:—

Table listing contractors and amounts for Nuneaton children's home, including Deut, E., Tamworth (£1,487 13 3) and Dallow, J., and Son, Birmingham (1,341 0 0).

ONSETT.—For the construction of a sewer, for the rural district council. Mr. C. M. Shiner, A.R.I.B.A., surveyor:—

Table listing contractors and amounts for Onsett sewer, including Carter, H. J., Ltd. (£918 0 0) and Mrs. F. W. (568 18 4).

PLYMOUTH.—For supplying and fixing iron railings at Prince Rock, for the corporation:—

Table listing contractor Gratrix and Sons (£287 10 9) (Accepted.)

PLYMOUTH.—For seating accommodation in the council chamber, for the corporation:—

Table listing contractor Pearn Bros. (£389 0 0) (Recommended for acceptance.)

POPPLAR.—For adapting the cloakroom as a boiler house at the Bow Creek School, for the London County Council:—

Table listing contractor Maddison, W. J. (£217 0 0) (Accepted.)

RAMSLEY.—For the supply of Portland cement for 12 months, for the town council:—

Table listing contractors and amounts for Ramsley cement, including Port, S. R. (accepted) (£1 15 0) and Associated Portland Cement Manufacturers (1909), Ltd. (1 14 9).

SLAM.—For providing 27 open lattice type girder bridges of various dimensions on the northern extension of the Royal Siamese State Railways:—

Cleveland Bridge and Engineering Co., Darlington.

SIBLE HEDDINGHAM.—For erection of smallpox hospital, administration residence, and foundations for temporary buildings, for Halstead Rural District Council. Mr. N. J. Aver, Sible Heddingham, Essex, architect. Quantities by the architect:—

Table listing contractors and amounts for Sible Heddingham hospital, including Gladwell, H. W., Walton-on-Naze (£1,520 5 0) and Barrell, E. B. and Mr. Wivehoe (1,267 13 7).

WALTHAMSTOW, N.E.—For the erection of boundary walls and fencing around the Billet-road site, for the education committee. Mr. H. Prosser, M.S.A., architect to the committee:—

Table listing contractors and amounts for Walthamstow boundary walls, including Maddison, W. J., Canning A. (£399 0 0) and Webb & Co., Walthamstow (1,375 0 0).

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House

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Maison Ve. Cliquot-Ponsardin, Rhenns (a Vintners' Hall shelled by the Germans), from a water-colour drawing by Mr. William Warman.
 Camberley Heath Golf Club House. View and plans. Mr. H. Reginald Poulter, Architect.
 London County Council Elementary Schools Competition:—Selected Design for the Schools, Linda-street, Battersea. View, plans, sections, and elevations. Mr. Arnold B. Mitchell, F.R.I.B.A., Architect.
 Selected Design for the Schools, Billingsgate-street, Greenwich. View, plans, and section. Messrs. Henry T. Wright, F.R.I.B.A., and Henry Chapman, A.R.I.B.A., Architects.

OUR ILLUSTRATIONS.

Haggerston Castle, Northumberland. View, plans, and detail of front. Mr. James B. Dunn, F.R.I.B.A., Architect.

LONDON COUNTY COUNCIL SCHOOLS COMPETITIONS.

[WITH ILLUSTRATIONS.]

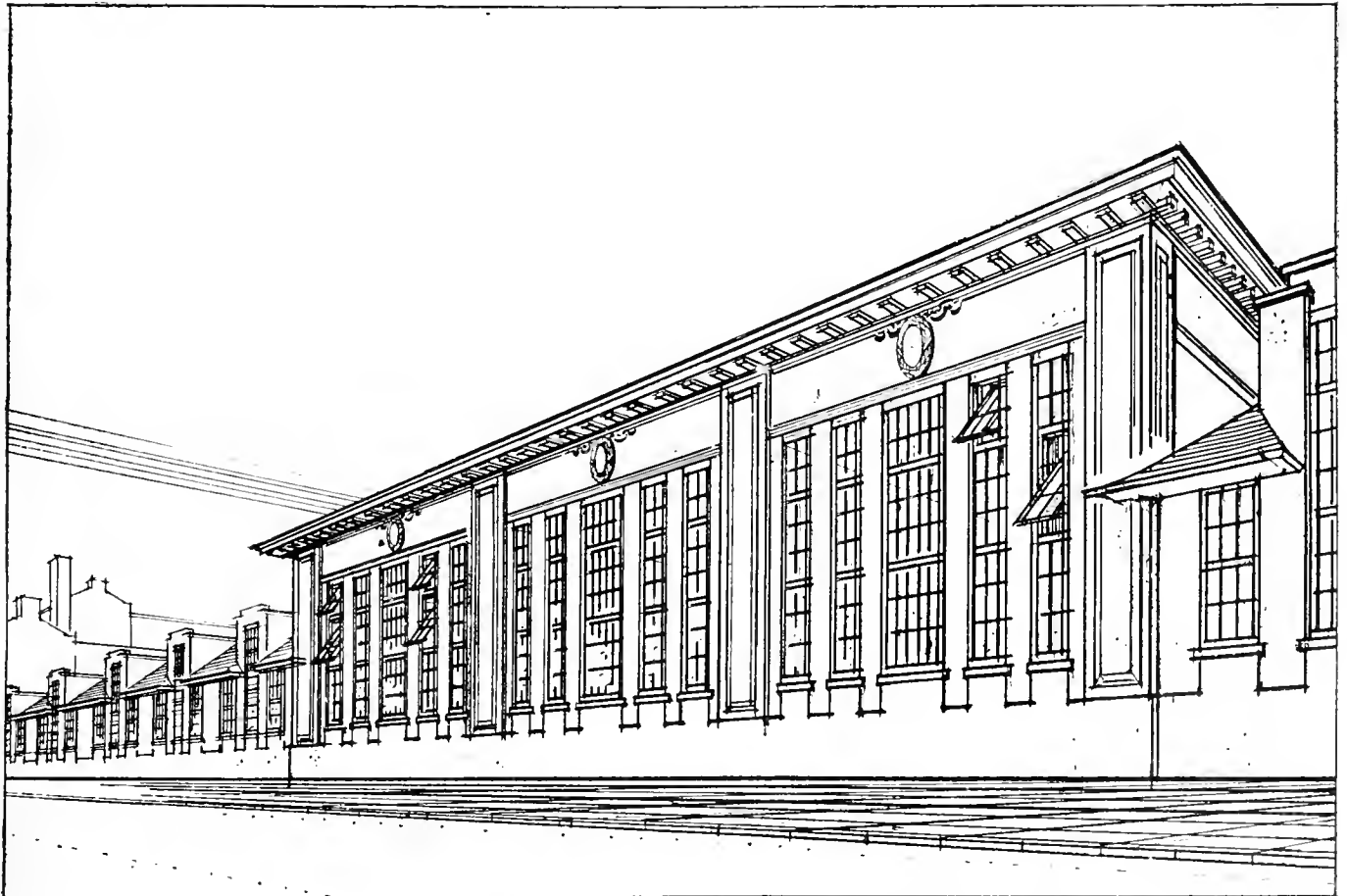
The results of this outside competition enterprise on behalf of the Education Board of the London County Council are certainly satisfactory, and two admirable up-to-date schools will be added to the educational equipment of the Metropolis. The average merit of the competing plans is good. The proposals generally do not

respect. The drawings have been on view all this week in the Whitechapel Art Gallery in the High-street, near by Aldgate Underground Station. We published the award last Friday, when we also stated that only thirteen designs were submitted for the Greenwich schools, and forty-five for the schools at Battersea.

THE BATTERSEA SCHOOLS.

This preference for the bigger scheme, providing for boys 392, girls 392, infants 468,

be built on the Linda-street land, only one architect out of all the competitors hit upon the idea of placing all three of his departments on the ground floor, thus arranging the boys, girls, and infants on one and the same level. This arrangement has been so adroitly accomplished, and worked out in so original a manner, that the assessor, Mr. John W. Simpson, can have had little difficulty in according the first place to its author, Mr. Arnold B. Mitchell, F.R.I.B.A., 17, Hanover-square,



THE BATTERSEA SCHOOLS: THE THREE HALLS, LINDA STREET FRONT.
 Mr. ARNOLD B. MITCHELL, F.R.I.B.A. Architect.

exhibit any special degree of novelty, though one or two of the schemes, both as regards their contrivance and architectural treatment, are noteworthy. It invariably happens, in all contests of this sort, that not a few designs submitted can only be described as excessively poor, and this competition is no exception in this

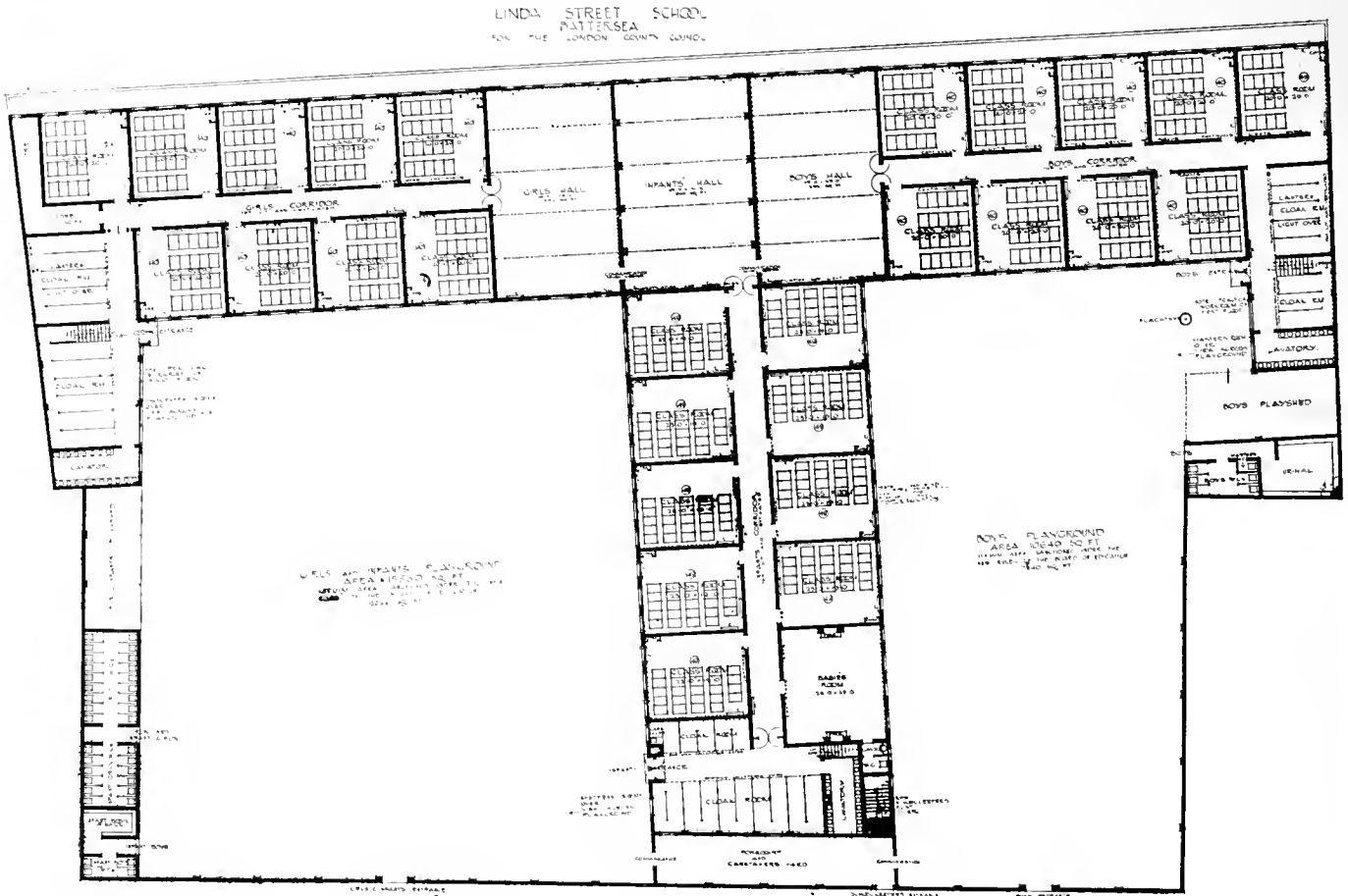
may be accounted for as a consequence of the awkward outline and other restrictions of the area and contour incidental to the site for the smaller school in Billingsgate-street. But the most remarkable circumstance connected with this competition is that, although so large a number of architects prepared plans for the buildings to

W. The accompanying illustrations show how this lay-out has been managed, and the plan will save the necessity of any detailed description. We therefore limit our remarks to the more salient points which strike us as most important. Generally, the advantages of this scheme are self-evident, while the cost, as esti-

mated, compares well with the majority of the possible proposals we might name among those from which the final choice was made. It is not easy, of course, to decide their relative merits, or to determine, either generally or in detail, between a tall building of three floors and an individual plan of one story. Usually the expense of the one method of building, as contrasted with the other, has much to do with a decision. Mr. Mitchell's school, however, cubes up at 414,970ft., and the price per place is figured out at £14 9s. 1d. The total cost, including £1,000 for the playgrounds, is estimated at £18,097, taken at 8d. per foot-cube, and also providing £300 for the basement. The boys' playground is of

façade does not quite do its design justice. The dormers breaking up in the roof behind the eaves-gutters of the lower wings scarcely conduce to architectural grace, specially in so diminutive a building. This feature is, however, consequent upon the practical efficiency secured by keeping the top of all the classroom windows level with the continuing ceiling from side to side, leaving no pocket for vitiated air above the middle of the apartments. The same advantage is secured in the three meeting-halls, where the lights necessarily come at the east and west ends of these rooms. Ten of the twenty-seven classrooms face the east, eight face west, and all have blow-through vents, the same as in

sions to the S.E. Mr. Harold R. Atchison, of Sheffield, is the author. The plans marked No. 6 are of a higher order, being very straightforward, and capably laid out on three floors, with the babies' below, and workrooms over. These are projected from one end of the halls in rather too isolated a way, perhaps, the objection being that a passage use is made of the halls. The elevations in outline are unpretentious. Messrs. Buckland, Haywood, and Farmer, of Birmingham, sent in this set, which is a first-rate one, not likely to be overlooked. The elevations of No. 7, by Mr. H. J. Mauchip, of Muswell Hill, are good, also his well-considered plans, though he evidently thinks it no objection



THE BATTERSEA SCHOOLS: SELECTED DESIGN.—Mr. ARNOLD B. MITCHELL, F.R.I.B.A. Architect.

10,649ft. super. in area, and 15,550ft. area is provided for the girls and infants. The recreation-grounds, apart from their exact dimensions, are roomy and square; also, they are free from dark, cold corners, and big shadows from tall school premises are avoided, which cannot, of course, be done when a big block of accumulative altitude is dumped down in the middle of a restricted site. The school in Mr. Mitchell's lay-out skirts the frontage-line in Linda-street, and in the middle of its length, or thereabouts, all three of the assembly-halls are economically arranged, side by side, in a most ingenious and novel manner. The infants' school abuts on to the end of the central hall; from thence it is carried forward, bisecting the playgrounds almost as far as the second frontage of the site in Wilson-street, where the school-keeper's house is located above the juniors' cloakrooms and lavatories, next their entrance. The teachers' rooms come over the lavatories in each school, and also practical rooms in both cases. The elevation of this wing facing Wilson-street is certainly good; but perhaps the view shown of the Linda-street

the majority of the best other plans submitted. The entrances are nicely distinct, and the cloakrooms, latrines, and lavatories are capitally managed in a subordinated way, keeping down heights to moderate cost, and leaving good space for the playgrounds. Stock-brick facings and reinforced brickwork or concrete rendered with cement, where exposed, will be employed with steel-framed roofs. There is no reference in the award to a second design in either competition, and the order of the hanging of the strainers in the gallery gives no idea of preference, so we do not attempt any such distinction. Keeping still to the Battersea schools, we start with No. 1, sent in by Messrs. Marshall and Tweedy, of Newcastle, in which three stories are used, with a somewhat over-broken-up outline of plan, which is set crossways on the site, and having the assembly-hall wing projecting like a transept. The classrooms face S. and E. The details of the building show an intimate acquaintance of school design. No. 5 is less fraught with projecting features, but is very similar in disposition to the first one named, but omitting exten-

to pass through the assembly-halls on each of his three stories. This last objection is avoided by Messrs. Wright and Chapman, of Newcastle (the winners of the Greenwich school), whose No. 13 is a workmanlike scheme for Linda-street, marked by excellent architectural treatment. Unfortunately, the perspective is weak and thin in its delineation. Passing on to No. 22, we find Messrs. Cleland and Hayward, of Wolverhampton, put their block back from Linda-street and get good playgrounds. They insure a suitable exterior with flat roofs, the classrooms facing S.E. Their corridors occur partly along outside walls; but otherwise the details of arrangement are not very unusual in character. No. 23, by Mr. Frank E. Taylor, of Kingston, Surrey, puts the assembly-hall to the S.W., and most of his classrooms to the N.W., the buildings being in the middle of the site, and they are well planned for school purposes. All these plans are on three floors. Messrs. Chas. Dorman and Son, of Northampton, go in for an internal courtyard in No. 26, having verandahs on two sides, and if it does break away from the commonplace, the scheme

looks very unlikely to win adoption. Next to it, Mr. Chas. J. Dawson, of Gracechurch-street, in No. 27, has adroitly spread out an angle-set plan which would make a first-rate school, having a hall 52ft. 4in. by 28ft. 9in. This room is put on the axial lines of his building by its going immediately north. His proposal is an able performance. The sun-print copy of the view spoils the perspective sketch.

Another first-rate spread-out plan is No. 28, by Messrs. Figgis, Wilson, and Munby, who propose to erect it at the N. end of the land, where it would, if the elevations are understood, look uncommonly like a big factory. No. 30 has a hall

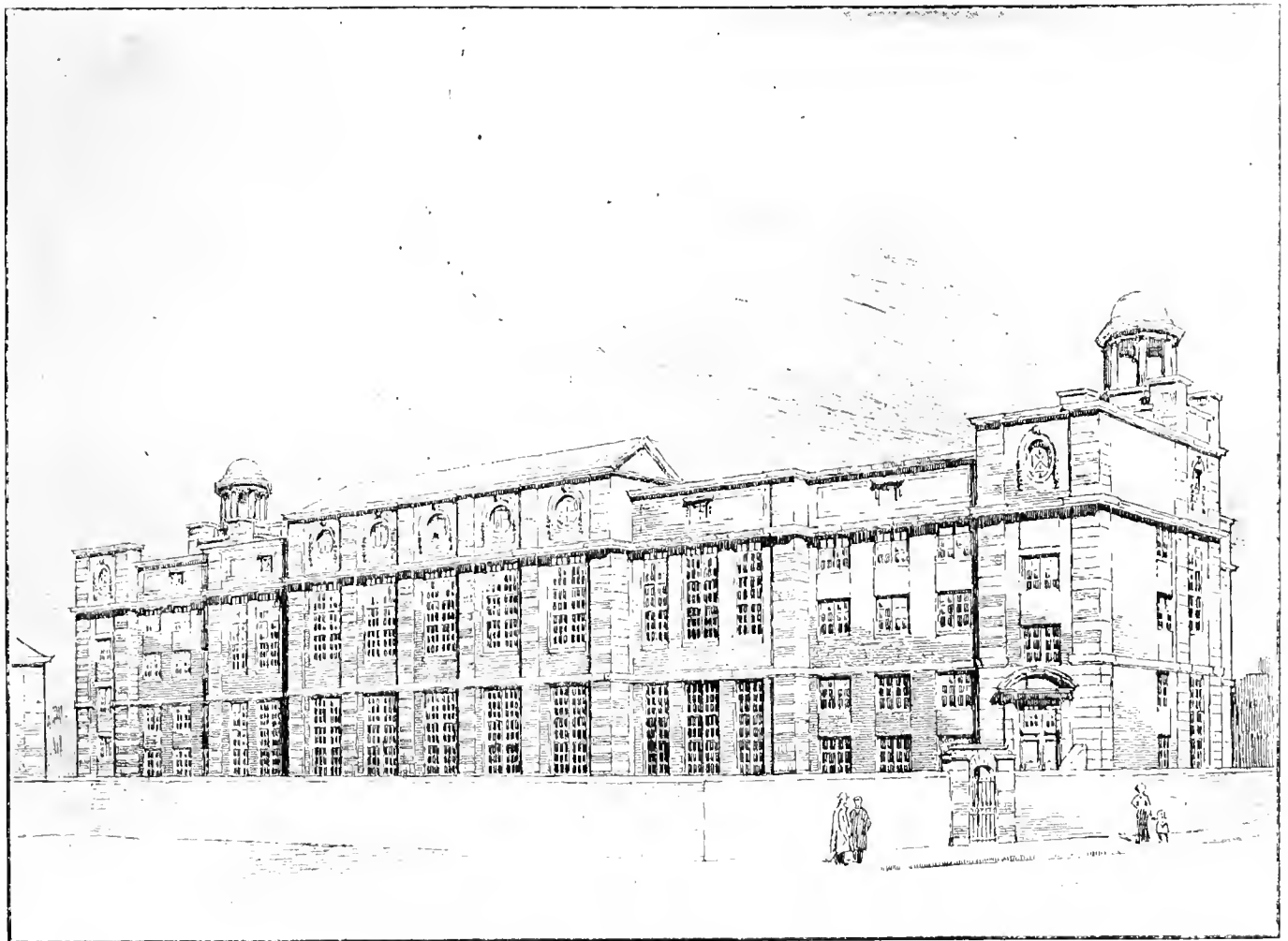
is Mr. P. J. Haywood, of Richmond, Surrey, No. 52, by Messrs. Crouch, Butler, and Savage, is quite one of the best proposals in the gallery, very capably and compactly set out, with the elevation shown in bald outline, unaccompanied by a perspective. The assembly-halls are on the south extremity, with the practical workrooms added on.

Harking back in our serial comments, we may speak of No. 31, by Messrs. T. E. Murray and Son, of Battersea, who send a scheme of partly one story; but otherwise it scarcely calls for comment. Their infants' school is along Linda-street, and the L-shaped other block is on two floors,

small internal areas for light, and the elevations hardly redeem this plan, which bears the authorship of Mr. A. H. Fitzgerald, of Tynemouth.

THE GREENWICH SCHOOLS.

The best of the thirteen plans for the buildings in Billingsgate-street is the selected design, No. 50, by Messrs. H. T. Wright, F.R.I.B.A., and Henry Chapman, A.R.I.B.A., 38, Grainger-street, W., Newcastle-on-Tyne. Some of the remaining dozen plans would no doubt provide good schools; but not one of them is equal to the chosen one which Mr. J. W. Simpson has selected, and no doubt the



THE GREENWICH SCHOOLS (WEST VIEW): SELECTED DESIGN.
Messrs. H. T. Wright, F.R.I.B.A., and Henry Chapman, A.R.I.B.A., Architects.

partly used as a passage, and classrooms facing N.E. The design is not attractive architecturally; but the plans evince acquaintance with this class of buildings. The author, Mr. P. A. Robson, of Westminster, deserves this much credit. No. 39, by Messrs. Alfred W. S. Cross and Sutton, figures out as an excellent school on three floors; but they, too, make it necessary to pass and re-pass through the hall, so perhaps authorities do not mind this difficulty. The elevations of this design are severe, in a Georgian type of work simply elementary, as such buildings ought to be. Messrs. Castle and Warren, of Norfolk street, Strand, put turrets at the end of a more picturesque facade, and the classrooms in their plan (No. 42) face west. No. 41 is a unique scheme having a quaint lay-out with very big projecting wings, and in the semicircular body of this plan radiating classrooms come. The assembly-hall (40ft. by 35ft.) projects at one end of the frontispiece. The architect

standing awkwardly in the midst. No. 33 is an **H**-shaped plan, with the hall in the central projection (55ft. by 27ft.), and the entrances are in the upper corners of the outside wings. The corridor space seems somewhat excessive; but the author, Mr. W. G. Wilson, of Henri-street, has submitted a very businesslike plan with pleasing elevations done in a good style. Mr. Louis Ambler, of Temple-avenue, in No. 36 is not so happy in his three-storied building, placed midway upon the land. The hall, mainly lit at one end, is 55ft. long, and so looks as if it might be rather gloomy. No. 37 is a well-informed scheme by Messrs. Spalding, Myers, and Theobald, of Chertside, having the infants' school one-story high, and the other schools on two floors located across the site. The stairs occur directly at the ends of the corridors, and the east is set out at 221.50. This is a nicely-designed proposal. For compactness, No. 46 is distinguished by the squeezing in of extremely

grace and freshness of its facade largely induced his decision. Most of the classrooms face east, and both the playgrounds are open to the south. The building bisecting the site stands N. to S. The school is for mixed seniors (232 places), and junior mixed on the ground floor for 200 pupils. The staircases are placed at the extreme ends of the block, and the entrances are all well arranged, while windows in the outside walls amply light each flight. Mixed infants and juniors have a door at either extremity of this school, next to the corner classrooms, which are shown for the required extension. The central corridor extends from end to end, and the mezzanines accommodate teachers' and cloakrooms, etc., in the proper way. The assembly-halls figure 52ft. 6in. by 24ft., and are 11ft. high, like all the classrooms. A capital playground is accommodated on the roof giving 7,484-sq. ft., with a fine playshed and ample closets for the girls. An emergency exit stairs is also provided. The

boys' playground below figures 5,640ft. in area, and that for the infants gives 5,670ft. super. The babies' room (for thirty-six children) is in the centre of the ground-floor front, and is figured 30ft. by 20ft. It has a projecting and isolated lavatory, with closets close at hand. Over this room is placed the boys' workshop, for forty students. There are seven classrooms (for forty) in both the senior schools, each room measuring 21ft. 8in. by 20ft. This compactly-worked-out plan is very complete and workable; every classroom has blow-through ventilation, like the hall, which is isolated for quiet's sake. The cost is estimated at 7d. per foot cube, and, including £50 for equipment, is priced at £10,875. The schoolkeeper's cottage is a capital little house, well placed at the end of Baker's-yard. The boys enter from Page's-avenue, and the girls' and infants' doors are in Billingsgate-street, where the frontage gives the site a curved or round outline running from S. to W. The importance of the façade is enhanced by the playshed wall on the summit of the building in the middle of the elevation, and this attic-looking extension is flanked by the tall parapet-walls enclosing the playground. The five bull's-eye openings in the mural treatment of the shelter greatly add to the good effect on the west side of the school. At each end over the staircases is a cupola-topped turret of suitable design. The big mullioned windows have double transoms to the classrooms and halls. Smaller but harmonising fenestration is employed for the mezzanine accommodation. The elevations gain strength in design by the bold stone-banded brick piers, and the square openings in the top parapet-walls relieve the appearance, which as a whole is very superior to ordinary elementary-school buildings of London, which have long failed to sustain the character imparted to the older School Board schools with which the late J. J. Stevenson was associated as architect.

Messrs. Nicol and Nicol's plan, No. 51, runs the limitations of the site too hard at both ends, and the classrooms strike us as being too deep: otherwise the scheme has much to commend it. No. 49 is triangular in shape, and peculiarly like a warehouse in external appearance. A feature is made of open verandahs overlooking an internal triangular court introduced for light and air. No economy of space seems by this device to have been saved on the land area, and if it is a bold bid for attractiveness, it fails to secure a good result. Mr. J. A. Meikle, of Clapham Common, is the author. No name is given in the list which we saw as to the author of No. 48. The plan is not so compact as No. 50, and the playground has awkward angles and corners which hinder supervision and encourage nasty tricks on the top of the building, where the boys and girls share the roof space, separated by a 6ft. hurdle-fence. The halls (40ft. by 30ft.) look too square. Messrs. Alfred W. S. Cross and Sutton's plan, No. 57, is among the foremost in merit. It is a good, concise scheme, having mansard roofs over the playsheds on the roof recreation-place, and set cleverly at the ends of the main fronts, thus giving a pavilion effect which is appropriate and quite legitimate. The entrance staircases do not come quite so well as in No. 50 in regard to their lighting, and the cloakrooms are not so nicely placed. The halls figure 15ft. 8in. by 27ft. 6in. Most classrooms face east. The babies' room and workrooms are set one over the other at the south end. The narrow-way lobby next the entries is not quite a happy provision with the swing doors set as they are. The building seems to crowd the site too much, though the elevations would

detail out well in an architectural manner. No. 58, by Mr. H. F. Murrell, of Chancery-lane, bends its contour in obtuse-set angles to adapt the frontage of the school to the Billingsgate-street shape of the site. The halls measure 50ft. by 24ft. in the centre, located facing the playgrounds at the rear. The cloakrooms are certainly very ample, and the stairs are put more towards the middle of the block than in many other schemes, being set between the class- and cloak-rooms. The treatment is elementary and suitable architecturally. Messrs. Cleland and Hayward, of Wolverhampton (No. 53), put their building facing N. and S. across the site, with a big internal-area court, and the assembly-halls (40ft. by 27ft.) at the back. All classrooms face southerly, and the lay-out looks over-complicated, while the façades are ordinary.

We have given throughout the competitors' estimates of cost without challenging them. That some of the designs shown could not be possibly carried out at the cost named we think likely. Clause 16 of the Conditions expressly warns competitors that all designs had to be prepared in strict conformity with the regulations issued by the L.C.C., the Board of Education, the L.C.C. regulations as to steelwork and reinforced concrete, and the London Building Act, and that it was to be clearly understood that instructions to proceed would only be given subject to the approval of any design by the authorities administering the Acts, by-laws, and regulations specified.

THE PHILOSOPHY OF COLOUR.*

By GEORGE H. MORTON, M.S.A.

UNIVERSALITY OF COLOUR.

Of all the natural phenomena that affect our senses colour is probably the most universally appreciated. Without any perceptible mental or physical effort it disposes to the mind, through the eye, a sense of beauty, and gives us more constant and general pleasure than we experience from perhaps any other sensation. Unlike sound, colour is seldom disagreeable, nor does it assert itself in a really disagreeable manner. There is a similarity between the sensations of sound and colour—they are often compared. Both are caused by vibrations, not of the same kind, but still vibrations, which affect the mind—sound through the medium of the ear, light and colour through the medium of the eye. The majority of the sounds we hear seem to me disagreeable—the noise of traffic, the motor-horn, the steam-whistle, and many other noises are irritating, and were it not that we have become gradually accustomed to them, would be more noticeable and objectionable than they are. At any rate, we are usually glad to get away from them and seek elsewhere for that repose and peace which a modern city seldom affords. Colour, on the contrary, though always present, like sound, is generally a gratification. This is pre-eminently the case in the country; but even in the town, though our streets and buildings may become gloomy, they are constantly enlivened by the dresses of women, the sides of vehicles, the shop-windows, advertisement posters, and many other objects reflecting colour. In the country and city alike the general effect is harmonious but neutral, for there is seldom much positive strong colour present, and when there is, distance lends enchantment to the view. The more brilliant colours are in small quantities, and only appear vivid when near to us: in the country flowers constitute the chief source, and in the town dress, and the other causes to which I have just referred. The present tendency for brighter colours in outdoor dress seems to me justified. Colours which in themselves might be considered aggressive and in questionable taste, add considerably to the brightness of our streets, and are advan-

tageous to the general colour effect. Colour in outdoor dress until recently seems to have been the monopoly of our Continental neighbours. Colour is usually—and, perhaps, exclusively—associated with art; indeed, it would be difficult to imagine art in a general way without it. In recent years, however, it occupies an important and increasing place in science. It is essential to chemistry, to astronomy, to psychology, to physiology—at any rate, so far as the eye is concerned—and forms part of the science of physics itself. Further, it may be considered entirely from the scientific side as the science of chromatics. To consider and study the various phenomena, to ascertain the relations between the æsthetic, scientific, and other facts and ideas concerning colour, instead of accepting it in the haphazard manner we generally do, constitutes in my mind a Philosophy of Colour. The more we study colour the more do we desire to trace out those laws concerning it, recognising the fact that colour, like other sensations which we experience, is governed by definite connections of fixed order and uniformity. From these facts and phenomena we form conceptions and ideas of a reasonable kind, and comparing the relations existing between them, obtain a clearer understanding and a wider and truer knowledge of the real value of colour.

HISTORIC COLOURS.

The appreciation of colour is not a modern conception. It has been peculiar, not only to most civilisations, but to barbarous people, though with the uncivilised it was commonly used in a crude and primitive manner. Even with so great a civilisation as the Ancient Egyptians, and most Oriental races, the number of colours employed were few; they were generally confined to the three primary pigment colours—red, yellow, and blue. With the Egyptians these colours were applied to fill in spaces already outlined. There was no light and shade or graduation of colour. The effect was monotonous and severe, exhibiting a crude harmony, in which delicacy and charm were neglected, if not entirely absent. Owing to the crudeness of the colours of the Egyptians and contemporary races, it can easily be imagined that the hard colour effects of that period were not altogether compatible with the refinement of the Greeks, whose idea of beauty was largely concentrated on form, symmetry, and proportion. This conception was realised to so great an extent, and with such a delicacy of perception never before appreciated, and to which no modern civilisation has attained, or is likely to attain, unless social and other conditions alter considerably. Colour, though subservient to form, was by no means absent from Greek art. In Pausanias and Pliny accounts of the Greek paintings are most minutely described. From these descriptions one might imagine that there never had been anything so beautiful. The only examples, however, of Greek colours that survive are the terracotta vases, the colours of which are largely due to, and naturally result from, the material employed in the making. All the paintings have perished, not a single shred remains; but, from the descriptions, paintings of very considerable magnificence adorned the Greek buildings, and the sculptured ornaments and mouldings were defined by colour. The colours used by the Greeks were deficient in variety, and, like those of the Egyptians, were few. Pliny tells us that they consisted only of red and yellow—probably gold—with white and black. Unlike the Egyptians' colours, they were more sparingly and subtly employed. The Greeks seemed to have used colour—as we might imagine they would do—to define and emphasise that beauty of form the perfection of which was their one great aim. To give a clear outline, and at the same time produce that mellowing and softening effect which the judicious use of colour is capable of attaining, and thus combine various details into one harmonious whole. Colour, therefore, to the Greeks was of secondary importance in its application, but of general importance in creating a refined bloom over a whole scheme, producing a sort of atmosphere which enhanced

* The Presidential Address to the Literary and Philosophical Society of Liverpool, delivered Oct. 5, 1914.

the general effect. In the Greek temple it is everywhere apparent that the object was to attain a perfection worthy of the gods. In the Roman temple the aim seems to have been self-glorification. The lavishness of the Romans naturally revived brilliant colours; but they, like their predecessors, used few colours. The brilliancy of the colour decorations unearthed at Pompeii and Herculaneum testify to the extraordinary permanence of the pigments employed; but are practically limited to the three primary colours. These decorations, done by Greek artists, give evidence of the excellence of the work; they indicate a freedom of style and a command of the brush entirely absent from earlier work. In the examples that survive there is an almost perfect harmony of colour, though as time went on splendour and grandeur of effect resulted in a gaudiness of colour, rather than intrinsic beauty. The charm of Oriental colours is well known; but they, again, seem to be confined to the primary trinity of red, yellow, and blue, with black and white. These simple colours were not mixed together, so as to obtain compound colours, but were so balanced that when viewed at a distance they appeared blended, and presented a neutralised bloom. In the result obtained the predominating colour asserted itself, and gave the hue to the otherwise colourless effect. It was only on a nearer inspection that the brilliance and freshness of the colours became apparent. The Arabs and the Moors obtained magnificent effects in this way. At Cairo the dome of one of the mosques appears coloured a soft green tone, remarkable for its freshness, considering that no direct light shines upon it. On a near inspection it is found that instead of being painted one even tone, it is dotted all over with purple and yellow spots on a white ground, leaving parts of this ground exposed. Distance causes these colours to blend and produce a most beautiful tone, impossible to obtain by pigment mixture. But the most remarkable effect of the colour is that it is not stationary; its hue seems to change as we look upon it, varying from a bluish to a yellowish green. This extraordinary impression may be explained by the fact that the vibrations of light which excite the sensation of yellow being stronger than those that excite violet, the two colours do not affect the eye simultaneously, hence they are each asserting and reasserting themselves, and cause a sort of movement which, as compared with one dull, even tint, might, I think, be fitly termed living colour. We experience similar effects in paintings from nature. Take a white cottage, for instance, in sunlight. It is not like a sheet of white paper, but, owing to its rough surface and the construction of our eyes, is reflecting all sorts of prismatic tints, so that in painting we have to use broken colour of every conceivable hue to obtain a natural and realistic effect. The Impressionist school appreciates the value of this method of combining colours in the highest degree, producing luminous effects, with, as Mr. Ruskin describes, "not only light in the sky, but light from it." As regards Early Christian art, Byzantine and Gothic, we still find that the colours employed almost entirely consisted of the three primary pigment colours, similar to those used by the Orientals, but different as regards design, and symbolic of Christianity. It was not until the Renaissance that an enlarged appreciation of colour is apparent, and even in the works of the great painters of that time a preference for the purer primary colours is observable, especially in giving prominence to the principal points of a subject. Whether this limitation of the colour-sense to practically three primary colours was due to the inability to see or discriminate the more subtle or complex colours which we are now able to distinguish, or whether these early colourists never thought of combining or mixing colours together, it is difficult to determine. It may have been that the eye was at fault and was unable to combine colours, that the three sets of nerves responding to three colours acted independently, in which case all compound colours would necessarily be impossible.

Whatever was the explanation, the fact remains that the colours appreciated and employed from the most ancient times were few—seldom more than three—with white and black. It seems probable that the ancients could only distinguish the strongest contrasts, similarly to the child, or the savage, of to-day, whose ideas of colour correspond with his conception of music, which amounts to little more than the beating of a drum to an accompanying chant on one note.

COLOUR-BLINDNESS.

It has been suggested that in remote ages people did not see colours at all, but that the colour-sense has gradually developed. From this period of no sense of colour, recognition of some three strong, clearly-defined elementary colours gradually evolved, followed by the appreciation of the almost unlimited range of tones, shades, and hues which we are able to distinguish to-day, for it has been estimated that the eye can now discriminate not less than three million distinct tints, and can tell the 360th part of white added to any colour. There can be no doubt that the colour-sense has gradually developed, and there probably was a time when colour was unperceived and practically did not exist. It has been argued that modern colour-blindness is the reversion to that state when all were colour-blind. Total colour-blindness is comparatively rare, but partial colour-blindness is much more common than is generally supposed. The partial colour-blind are often unaware of the defect, and, naturally, resent any suggestion of it. It has been estimated that one person out of every eighteen has an imperfect colour-sense, though the defect is almost exclusively confined to the male sex. Women are seldom colour-blind, and, generally speaking, have a keener colour-perception than men and derive more pleasure from it. Partial colour-blindness may account for the different names given by different individuals to the same colours. At any rate, it seems to prove that we do not all see colours exactly alike, or are excited by them in the same manner or degree. Blue, for instance, is often named green or purple. The term red to some people indicates almost an orange, to others a warm purple. Any slight difference in the nerves of the retina that respond to colour would account for this variability of the colour-sense. The different notions people have, however, concerning the names of colours may be due to another cause—the relativity of colour. The hue of a colour depends on the other colours with which it is associated or placed in juxtaposition. A colour always appears tinged with the hue of the complementary of the contiguous colour. Thus any colour placed next green would appear of quite a different hue when next red. For instance, grey next red appears pale green, but next green has a pale pink hue. Blue next purple presents a greenish hue, next yellow it assumes an almost purple hue. The different ideas as to the names of a colour is, therefore, hardly avoidable in a subject of so relative a character and of such chameleon-like properties. Ignorance of colour terms may also explain the inability of some persons to name a colour correctly. It used to be a method of testing people whose occupations necessitated an exact or normal colour-sense to require them to name particular colours, and it was often concluded erroneously that those unable to do so, or who named them incorrectly, were, at least partially, if not altogether, blind to colour. The defect in many cases was found to be, not in the eye, but in an ignorance of the colour terms—not knowing the names of the particular colour shown. The method generally adopted now is, I believe, to mix together a number of various coloured wools and require the persons being tested to sort them out and place each individual skein together. The mistakes made by the partial colour-blind are often very remarkable and variable. Persons affected with colour-blindness are usually insensible to red, though there are cases when other colours are invisible, and red predominates. Colour-blindness may be caused by a long exposure to one strong colour. It is recorded that

some observers, in order to test the effect of one strong colour upon the eye, wore spectacles of ruby-coloured glass for several hours. This prolonged action of the red light upon the eye finally, to a considerable extent, tired out and destroyed the nerves responding to red vibrations, so that on removing the spectacles only two colours in the spectrum were visible; red was entirely absent, just as in the case of those who are actually blind to that colour. All red objects appeared to them to be dull green or brown. That the eye tires of one colour though keenly sensitive to another is well known, and as the weariness increases so also does the ratio of a more intense appreciation of its opposite or complementary colour. Red, for instance, appears more brilliant and intense when placed in juxtaposition with, or immediately following, its complementary, green. The particular nerves excited by red become wearied by their prolonged effort, while those unaffected, responding to green, are not only able to respond to their particular colour, but, in consequence of the action on their wearied fellows, are able to appreciate it to a far higher degree. The effect of any colour upon the eye is rendered more vigorous when preceded by its complementary colour, more dull or indistinct when accompanied by other similar colours, and more light and dark respectively when in association with deeper or lighter tones. Perhaps the most lasting and agreeable impressions are when colours are attended or followed by their complementary or opposite colours, which, if combined, would produce grey or white; perhaps the least pleasant when one primary or brilliant colour is viewed alone for a lengthened period of time. Though no impressions are actually painful of themselves, unless intensely vivid, they may be disagreeable, and, if prolonged, injurious, to the eye.

NECESSITY OF CHANGE.

Colour, therefore, is not only important in our surroundings, but change in our colour environment is essential. In our homes it is not only pleasant and enlivening, but desirable, that the colours in each apartment should be different. If they were each of the same colour, and that a strong positive colour, our eyes would suffer even to a possibility of partial colour-blindness. Were it not for this necessary change of colour, particular retinal nerves would be over-excited and strained, to their detriment; but change of colour permits the different colour-appreciating nerves alternative excitement and rest. When all these nerves are excited simultaneously, as in the case of white, the eye has no rest. The physical desire for change in colours accounts for what is often attributed to mere fashionable caprice. A particular colour in decoration or dress is popular, and one frequently hears the question, "What is the new colour?" For instance, if purple—or its more fanciful and attractive names, heliotrope, amethyst, or violet—is popular for a time, then its complementary orange will be the new colour and fashionable afterwards. The eye has been satiated with purple, and tires of it; it requires change. The nerves responding to purple are wearied by their prolonged effort, and those excited by orange have rested so long that they desire to assert themselves, and the so-called tango red or orange is the result. It is not so much a question of fashion, but of the natural requirements of the eye. The change I have indicated has actually occurred during the past year or two, and similar changes are continually taking place. Change, however, does not entirely depend upon the substitution of one colour for another. We may have the required contrasting colour in one scheme—as, for instance, in an apartment where a particular colour and its complementary are both present. A scheme of decoration in which the ceiling, instead of being painted the "eternal" white, was coloured a tone complementary to the general colour of the walls and woodwork, would be eminently satisfactory. This opposite colour would not only enhance the beauty of the other colours, but would relieve the eyes whenever they turned towards it. As, for instance, a room

in which the walls were red and the wood-work dark oak might have the ceiling a dull grey green. A scheme in which the prevailing tones were amber might have the ceiling colour a complementary tone of purple. Such schemes would be the more lasting because we have the necessary change or opposite colours constantly in evidence. If change of colours in our surroundings is not provided, Nature seems to force it upon us. We observe, say, a red object for a few moments, and then close our eyes; the same form appears, but not the same colour, instead we see its complementary or opposite colour, green, thus indicating a yearning of the eye for change. The effect of shadows is also remarkable; they are usually tinted with the hue of an opposite colour. Our own shadows on a sunny day are a distinct purple, due to the prevalence of so much yellow from the sun. The shadows from a red-brick wall appear tinted green—red's complementary colour. A unique example of the value of complementary colours in a scheme, and one that illustrates this point, is the interior of St. Mark's, Venice, probably one of the finest colour effects in the world. The walls are of a kind of purplish brown marble, and the ceilings mainly gold mosaic. These colours are complementary to each other. The gold gives the marble marvellous purple hues that of itself it does not really possess. The eyes of an observer imperceptibly wandering from ceiling to walls, and from walls to ceiling, are constantly being refreshed—the gold creates the desire for purple, and the purple the desire for gold, so that the beauty of both colours is greatly enhanced, and the eyes never tire.

The difference in our ideas of colour at different times is an interesting subject. Some thirty years ago William Morris inaugurated a period of dull, dark tones, which was followed by the "greenery-gallery" school. The interior of our homes were made gloomy or sickly by jaundiced tints, producing effects calculated possibly for poetic meditation and study, but hardly in accord with the more sporting, extravagant, and exciting influences now prevalent. The colour-sense was hardly excited at all; people lived in a calmer sort of atmosphere, men were more serious, and women affected Mediaeval dress and manners. But this was before hotel life and the motor-car came into being, and sport became the all-absorbing topic of interest. These more exciting conditions have consequently brought about a preference for those exciting and brilliant colours abhorred by our forefathers, referred to with scorn by Lady Jane in "Patience" as the "primary colours," and quite incompatible with the "foof in the grave young man" of thirty years ago. Brilliance is essential to sport. The club's university and school colours, the colours at a race meeting, all tend to the interest and excitement of the game, and create an enthusiasm that would otherwise be dampened, if not absent, to a very large extent. The prevailing colours of an age consequently reflect, as it were, the idiosyncrasies and temperament of the period; but the preference for a particular colour also denotes the character of the individual. A person who requires large doses of strong colours before he can appreciate them must necessarily be less refined than he who finds a real aesthetic gratification in subdued and delicate tones. As in music, the people who can only enjoy a catchy music-hall song or a ragtime melody—so called—lack that refinement which a genuine appreciation of a Beethoven sonata or a Wagner overture denotes.

Colour is largely concerned with our health. If we surround ourselves with gloomy and dull colours we naturally become gloomy and pessimistic. We have all experienced the depressing effect of the dull, damp weather of winter, and felt how our spirits revive at the first indication of spring and summer. This is largely due to colour, the blue sky, the fresh, bright, green leaves, and the colours of flowers. The sensations we appreciate in nature we also appreciate in our indoor surroundings. I am perfectly certain that persons may become melancholy, irritable, and unhappy by the colours

they have to endure, and their health suffers as a natural consequence. Some colours excite and irritate, others have a soothing and healing effect. Red and yellow stimulate the physical functions, whereas blue and green have an opposite effect. A person of an anxious, nervous, excitable disposition should avoid certain colours which would be beneficial to anyone of an opposite temperament. It has been found undesirable to place dangerous lunatics in a red room—doing so brings out, or encourages, their violent tendencies. Similarly, to confine a melancholic in a dull, dark room would possibly increase his morbidness, whereas bright colours and cheerful surroundings would tend to brighten his mind and cure him. It has even been suggested that colour accounts for some of our actions, that we are not really to blame for many things we do which we ought not to do, because it is all due to the colours with which we live. A contributor to "Punch" relates that if "instead of going to lawyers" when things run off the rails a bit, we called in a colour expert, "all sort of horrors might be avoided," for he would prove that our misdoings were owing to our colour environment. "Punch" also tells of a miserly old lady who has a taximeter fixed in her own motor-car, and expects anyone driving with her to pay what it registers, and that colour experts say that if it were not for the frightfully dull, dusty purple in which all her rooms are decorated, she might "part quite freely" and be ever so generous.

It has been advocated that instead of taking drugs, we should subject ourselves to colour influence. Mr. R. Dimsdale Stocker, in a little book called "Colour as a Curative Agent," describes the different colour remedies and the methods to be followed in applying them. He also points out the effects of different colours on the affections, passions, and other emotions of life. Experiments have been made upon vegetable life with remarkable results. Some plants, under red glass, have grown to four times their normal size; others, under blue and green glass, have perished. It is argued that if such changes take place in the vegetable kingdom the influence of colour upon animal life may be considerable. The source of light and colour is the sun; its rays give life. Each of these rays, caused by different-lengthed vibrations, represented by different colours, possess definite properties which affect our physical, mental, and moral life. The evil effect of colours upon us may be partially due to dull, dirty shades, to want of a proper harmony or balance of colours, to the contrasts being too strong. A good deal depends on our individual dispositions, but it is generally the result of an excessive amount of one colour or white. I have told the story before of the lady who, to use her own words, had a great partiality for red so much so that she had most of her rooms painted in that colour. A few months after the work was done she complained of the monotony of it, but still more of the colour fading to a dull brown. On my inspecting the work I was struck by the intensity of the red, and on being asked as to the cause of the deterioration or fading, replied that to my eyes the colour was as bright as it well could be, but that she herself was gradually becoming colour-blind to red, due to her eyes being constantly and almost exclusively excited by that one colour. Her general health was also affected.

Another personal experience I may relate was the case of a clergyman who had his study walls covered with a bright red wallpaper. Calling upon him one day, I found him at work in his dining room. He told me that he always felt uncomfortable in his study, that he became restless, and could not settle to work. I suggested altering the colour of his walls to a neutral green; this was done, and peace and serenity were restored to him. A local example of the effect of red may be experienced at the new Adolph Hotel. The smoke-room there has red walls, red carpet, and red furniture. Most people on entering the room experience a peculiar excitable sensation, and do not seem to remain in it long. I generally find

the room empty. What would have been the effect if the ceiling and woodwork had also been red it is unpleasant to contemplate. The absence of colour altogether, though not so pernicious as a long exposure of one strong colour, is very undesirable. A grey tone may be tolerated, but a pure white is objectionable and injurious to the eyes. One has only to remain in a white tent for some time to experience the effect. Snow-covered land is somewhat analogous. The effect of white upon the eyes of Arctic explorers is well known. Darkened spectacles are worn, not so much on account of the intense cold, but because of the blinding effect of the continuous and unchanging white upon the eyes.

From my preceding remarks it may be concluded that colour is not only an aesthetic gratification and a means of distinguishing and defining form, it is a necessary requirement of the eye which suffers when exposed to inharmonious colours, to the sustained action of one strong colour, and to light without colour. If the eye suffers, the general health will also be affected. This subjective consideration of colour, however, is only one side of a two-sided subject. Colour has also its objective side. We experience sensations which we call colour, but objects in nature cause these sensations. It is well known that colours do not exist outside ourselves, but are caused by vibrations of light upon the retina of the eye. Were it not that the eye is sensitive to colours these different vibrations would be, practically, imperceptible degrees of heat. White light consists of different-lengthed vibrations, each producing a different colour sensation, simple or compound; but so long as these vibrations remain united the impression is white. Something then takes place in the light when it shines upon natural objects, or on these objects themselves, in order to separate the different vibrations and produce the various colour sensations upon the retina. This something is the power which all natural bodies have of selecting their own particular colour, though no natural body actually creates colour. It simply absorbs or destroys a part of the white light shed upon it and rejects the remainder. The portion so rejected, and not that retained, determines the particular colour.

The combination of pigments, of flowers, of green leaves—indeed, of all things—is due to this combination of reflection with the phenomenon of absorption. Coloured light must be reflected or it would be invisible. If not reflected the result would be black. All colour pigments are composed of minute particles mixed with a vehicle that has the power of shifting the white light shed upon them and selecting and destroying certain rays, whilst the particles reflect the remainder. The condition of the petals of flowers, or green leaves, is just the same. A white lily, for instance, if it were quite smooth would have the appearance of thin glass; it is, however, composed of a vast quantity of minute cells, so that it resembles finely-powdered glass, from each little particle of which light is reflected, backwards and forwards, and there being nothing in the lily to cause the reflection of any one ray over another, the light is white. A scarlet geranium is similarly composed, but its particles or cells are imbued, as it were, with a colour matter which absorbs or devours all the green and blue rays from the white light shed upon it, and the unabsorbed scarlet is reflected. All green leaves owe their colour to the same cause—light passing backwards and forwards through an absorbing colour, which extinguishes its red rays, and, on being reflected back to the eye, excites the sensation we name green. The colours of pigments and of all natural bodies are, therefore, the unabsorbed rays of light shed upon them, and explain the objective side of colour.

As regards the eye, returning to the subjective side of our subject Helmholtz has said "that if any optician had sent him an instrument so full of defects he would be justified in sending it back with the severest censure." In spite of so great an authority, I feel that of all human instruments it is the

one with which we would least willingly part. With one portion of it are we now concerned—the retina, which consists of ten different layers. One of these divisions, the so-called layer of rods and cones, has the power of appreciating the sensations of light and colour. The rods and cones seem each to have their peculiar functions, and though both probably serve as, or respond to, elements of light, it is more especially the functions of the rods, whilst the perception of colour is due—possibly exclusively—to the cones. These cones seem to consist of three sets of nerves, which respond to certain vibrations of light and produce the sensations of three fundamental, or primary, colours. One set, being stimulated by the strongest vibrations, produces the sensation of an orange red, and another set, being acted upon by vibrations of medium length, produces a brilliant green, and the third set, responding to the short and weaker vibrations, produces the sensation of a violet or purple of a bluer hue than is perhaps commonly understood by that term. All vibrations, however, may, and probably do, act on the three sets of nerves simultaneously; but those that produce red, green, and violet affect most powerfully the particular set of nerves specially designed for their reception. All other colours are due to two or three sets of nerves being excited in varying degrees, either simultaneously or in rapid succession. Upon the three sets of nerves being fully excited in their proper relative proportions the sensation of white is the consequence.

In perfect colour combinations or schemes it is essential that the different sets of nerves should be excited, so that no one set will be unduly tired or injured. This is what constitutes the real harmony of colour. A scheme which only excites one set of nerves—that is, one colour—and thereby creates a desire for another colour, or colours, cannot be considered harmonious or satisfactory. We usually speak of colours harmonising when they match or are similar; but this is not harmony in the strict or more exact sense of the term, which must include the exciting of all the colour-appreciating nerves. In a paper that I read before this society some years ago on "Colour Harmony" I was taken to task on this point. How was it, I was asked, that a yellow cornfield with red poppies was so harmonious when those colours excited only two sets of nerves—those responding to yellow and red? I replied that they of themselves were not harmonious, and do not constitute the whole of the colour visible, the large amount of blue sky must also be recognised and taken into account, which, with the yellow and red of the corn and poppies, presents an almost perfect colour harmony, and by which the three senses are excited. Owen Jones, in his "Principles of Colour," states that no composition can ever be perfect in which any one of the primary colours is wanting, either in its natural state or in combination, and that the various colours of a composition should be so blended that the objects coloured, when viewed at a distance, should present a neutralised bloom. Objectively therefore, as well as subjectively, an harmonious scheme of colour should include all those colours which are necessary to excite the three colour sensations.

As a matter of fact, the impression of one pure colour upon the retina seldom, if ever, occurs. It is generally in conjunction with at least a small mingling of those other colours which would tend to neutralise or deaden its intensity. We probably, therefore, never see colours absolutely pure. Were we to do so, they would be so intense as to dazzle the eye by their brilliancy, and be similar to looking direct at the blazing sun. Though the excitement of the three primary colour sensations is essential to a true colour harmony, yet they should not be effected in a crude and elementary manner by pigments or objects reflecting hard contrasts of colour, which would be equivalent to three loud harmonious notes as compared with music. The beauty and art of colouring is to get these harmonious impressions in the most subtle and least apparent manner possible. We find in Nature when it develops a colour

scheme does so by tones of little contrast, using contrasting colours only to accentuate or emphasise points in a scheme, and then only very sparingly. Crude and hard contrasting colours are a sign of primitive man, indicating a lack of development in colour appreciation. Almost any butterfly or flower will give us a lesson of the way to obtain colour harmony, while the Ancient Egyptians, the present savage, or the child can scarcely be relied upon for good taste in colour. The appreciation of this beauty of colour harmony is one of the certain indications of refinement and civilisation, just as much as the appreciation of harmony in music indicates the same thing in the community and the individual. There are some authorities who hold the opinion that there can be no such thing as colour discord. Though not agreeing with this opinion, I consider that any inharmonious combination may be made harmonious without altering any of the colours in question, but by adding another colour, or colours, to the scheme, so as to satisfy the requirements of the eye.

That the million of tints which the eye is capable of distinguishing is due to the excitement of three-colour sensations, in varying proportions, seems to me a very wonderful phenomenon. It appears specially attractive because of the difference in the names given to the three primary or fundamental colours by the physicist and the painter. The physicist asserts that the primary colours are red, green, and violet, while the painters tell us that they are red, yellow, and blue; both the scientist and the painter, however, seem to make the same initial mistake. They use the word "colour" as a noun or substantive, whereas, as applied to the primary colours, it acts as an adjective, describing particular sensations on the one hand and particular pigments or substances causing those sensations on the other. There is all the difference in the world between a sensation and the object causing it. There is as much difference between a primary colour sensation and a primary colour pigment as there is in sound between the note we hear and the object causing it, between the music we appreciate and the violin or other musical instrument producing the sensation.

This difference between the subjective and objective sides of colour indicates that the colours of each set of primaries may be, and in fact are, fundamentally different. As colour does not exist outside ourselves, the primary sensations—orange-red, green, and violet—must be unquestionably the real primary colours, using the term colour as a noun; but this fact does not necessarily imply that red, yellow, and blue are not the primary pigments. On the contrary, taking into account the phenomena of absorption and reflection, it seems to me that the colours of the primary pigments will be the reverse or opposite of the primary sensations. They will be the colours reflected after the colours of the primary sensations have been absorbed or destroyed. Now, the opposite of orange-red is blue, the opposite of green is a bluish-red, and the opposite of violet is yellow. These colours—blue, red and yellow are the colours of the primary pigments.

From my remarks it will be concluded that the subject of colour is deeper and goes further than a mere attraction of the eye or a simple aesthetic gratification. It has a physical and scientific side which bears much the same relation to colour as the laws of sound and acoustics bear to music. It is never stationary for a moment of time because of the movements both in Nature and in the human organ of sight. Colour idealises and adds a charm to all visible things. Its influence is unlimited, for everything that comes within the range of vision usually excites a colour sensation. In painting it gives to form an interest and an interpretation of Nature impossible to obtain without it. It is colour more than anything else that endows a flat surface with the resemblance of reality and nature. It adds a radiance that no mere photographic presentation of a scene can give. It has to do with and affects our health, our temper, our happiness. It indicates and influences our

dispositions and characters. As vitiated air injures our health through the lungs, as distracting sounds affect our health through the ear, so bad colouring affects our health through the eye.

Colour, therefore, should be studied and considered not only from the æsthetic and scientific sides, but also from the point of view of reason and sense. This consideration of colour, to my mind, constitutes its philosophy.

THE ARCHITECTS' WAR COMMITTEE.

A recent report of the Architects' War Committee (Mr. C. Stanley Peach, Hon. Secretary), states that in response to the appeal sent out the sum of £219 5s. for the Prince of Wales's Fund and £664 12s. for the General Fund for the assistance of architects in case of distress arising out of the war have been received up to October 7.

In reply to the letter offering the services of architects to the Government the committee have received a letter of thanks from the Right Hon. Joseph Pease and intimation that the letter had been circulated among the Government departments interested, and an acknowledgment has also been received from the War Office.

The committee received a request from the adjutant of one of the new battalions of Lord Kitchener's Army to provide an architect to get in tenders and superintend the erection of huts, and the request was complied with within a few hours. The War Committee were also requested to find picked mechanics for special service. The work was undertaken by the Architects' Volunteer Training Corps, under the direction of the Architectural Association, and the whole of the men required were found within the time stipulated. Further calls also at very short notice were promptly met.

In this connection the officers of the Architects' Volunteer Training Corps desire to thank the architects and builders of London and the trade organisations for their prompt attention to the appeal and the energetic way in which they have all worked to assist the Government in finding the men wanted. All who helped are requested to accept this notice of thanks, as, in view of the magnitude of the work and the number of letters received, it is quite impossible to write individually.

The Benevolent sub-committee are considering, in conjunction with the Architects' Benevolent Society and representatives of the Architects' and Surveyors' Approved Society, a scheme for joint action for the relief of distress among architects which may arise in consequence of the war. A scheme for finding employment has been outlined by Mr. H. V. Lanchester and adopted in principle by the sub-committee. The scheme may be described shortly as a proposed inauguration of civic surveys of all the larger cities. The surveys are to cover the following ground: Archaeological, Social and Recreative, Educational, Hygienic, Commercial, Traffic, Valuation. The idea is to provide complete data upon which to base town-planning schemes. An additional scheme is also being prepared which is based on the original proposals made by the Society of Architects—the measurement of buildings of historical and architectural interest, etc.

The selection committee, in co-operation with the allied societies, are preparing lists of architects in all parts of the country competent to undertake works which, so far as can be foreseen, are likely to be required by the Government. A circular letter has been sent to the allied societies asking them to draw up schemes for dealing with distress, etc., in their particular localities. Up to the present time the committee have no information of any exceptional distress among architects.

An organisation has been formed under Mrs. Maurice Webb to keep in touch with all men at the front who have joined the Regular Forces through the Architects' Volunteer Training Corps, to send them comforts and to look after their wives and families, and see that they have all allowances to which they are entitled and every

assistance which can be given. The wives and daughters of London architects are earnestly requested to give all the assistance in their power to this organisation, and to send any gifts for men at the front to Tufton-street. Mrs. Webb will be glad to hear of any ladies who would be willing to call on the wives and families in their particular neighbourhood, and who would specially look after those in charge of the children of widowers while the fathers are at the front.

SHEFFIELD CORPORATION AND THEIR SURVEYOR.

The City Council of Sheffield, at their last meeting, considered, and after some discussion adopted, a report by a special committee for rearranging the work of the city surveyor's department; "but," says the *Sheffield Daily Telegraph*, "it was not carried without protest from members, who felt that, after twenty-five years' service, the treatment which is being meted out to Mr. Wike is not quite that which might be expected from a large and important city like Sheffield." The *Sheffield Daily News* remarks: "There is no doubt that the rearrangement will mean a heavy addition to the cost of civic administration. We do not object to that if extra efficiency is secured—regarding which there is so far very little evidence. We are extremely dissatisfied with the whole matter, and especially with the part the Conservatives have played in it."

The Lord Mayor, in moving the adoption of the report of the special committee (of which he is chairman), said he wished to remove, if he could, the impression that had been given that the committee had been guided by a desire to shelve an old servant. The committee had again and again expressed the high appreciation of the work which Mr. Wike had done in various directions, such as the sewage works, the bridges he had built, and the improvements he had looked after, the parks he had laid out, and other matters.—Alderman Osborn said, as one who had worked with Mr. Wike ever since he entered the city council, he wished to testify to the thoroughly conscientious and devoted manner in which he had done his work. The report was one which the city council would be wise in endorsing, because it would be a gain to the organisation of the city. He hoped it marked the respect they all had for their city engineer and surveyor for so many years. It would enable him to do less work, and to continue those services which he was best qualified to render to the city.—Alderman Wardley moved an amendment that the recommendations concerning the city engineer's department be referred back. He explained that when he and Councillor Holmshaw were added to the committee they could not get to know the reason for the change in the city engineer's department. Nobody, however, suggested that the city engineer had done anything that would disqualify him in holding the high position which he had held so long. What they did get to know was from outsiders. If Mr. Wike, who had been city engineer for twenty-five years, said he was willing to take a position involving less responsibility than his previous duties, he did not agree with him. If it were through ill-health he would agree with him. Sheffield had got to that important stage in its development when it required the whole-time service of a very efficient engineer. They had not another man under the corporation who could act as Mr. Wike's substitute. Alderman Wardley referred to the valuable engineering projects Mr. Wike had carried out, in which he had saved the city thousands and thousands of pounds in relation to town planning. An outsider who was in the know told him that Mr. Wike was not an easy man to get on with. In making bargains for the improvement of the city he never once forgot that he was a servant of the corporation, and was "a hard-backed bargain-striker." He had reason to believe that that was the main thing some people had against him. It was a very unsatisfactory report, and he felt

there must be some ulterior motive behind it.—Alderman Marsh said the spirit and intention of the committee was that Mr. Wike should be regularly employed for the next seven years—a very fair period.—Councillor G. E. Stenbridge thought they would have had some reasons put before the council for the retirement of Mr. Wike. After twenty-six years' service to the city, surely there should have been some reference in the report to the faithfulness of that service. During the last twenty-five years the city of Sheffield had very greatly progressed, and there had not been the slightest charge brought against Mr. Wike that he was not acting always in the interests of the city. He had a splendid record. Mr. Wike was unpopular with certain professional gentlemen in the city. This was because he looked after the interests of the city, and the council ought to be very guarded in their vote that afternoon, lest they unwittingly did an injustice to a valued servant. Would it not have been a courteous and kindly act to have allowed Mr. Wike to retain the statutory title of city engineer and surveyor?—Councillor Short said in vain had he looked through the report for any evidence that Mr. Wike was incapable of carrying out the duties of the office of city engineer. It seemed to him that if Mr. Wike was a suitable person—as the report indicated—to sit as an arbitrator and consultant for other corporations, it would be profitable for the Sheffield Corporation to retain him in his present position. Because Mr. Wike had, throughout his career, fought strongly on behalf of the corporation, and of the citizens of Sheffield, there appeared to be underlying the whole report a marked desire to sacrifice him in the interests of architects, valuers, estate agents, builders, and property owners.—Alderman Irons said he knew quite well that Mr. Wike had been unpopular with the professional classes. Mr. Wike's "great offence" was apparently this—that he had been heart and soul in the interests and service of Sheffield.—Councillor Appleyard considered this the boldest and most cold-blooded report that had ever been presented to the council; but thought it would be in the interests of Mr. Wike if they allowed it to pass, and rejected the amendment.—The Lord Mayor stated that Mr. Wike had expressed to him his agreement with the terms of this report, and had written to Sir William Clegg saying, "We had several interviews, and, after considering all the circumstances, I agreed to the terms embodied in the report."—Alderman Wardley: "All the circumstances!"—Alderman Wardley's amendment was then put to the meeting and lost, 15 voting in favour, 30 against, and four remaining neutral.

THE LONDON COUNTY COUNCIL.

At the meeting of the London County Council on Tuesday, the Education Committee gave particulars of the work proceeding in connection with the erection of thirteen elementary schools and two secondary schools, and the enlargement of ten elementary schools and two secondary schools. The total additional accommodation thus provided will amount to 16,093 places, at an estimated cost of £409,259. In addition, nine other schools are being structurally improved by the provision of halls, etc., at a cost of £118,708, and five schools are being rebuilt at a cost of £83,523. The erection of the Furzedown Training College and hostels, Wandsworth, and the provision of hostels at the Avery Hill Training College, Eltham, including the adaptation of Southwood House as a hostel, are also, it was reported, in progress, the amount of the accepted tenders being £47,488 and £42,141 respectively. The committee have accepted tenders amounting to £19,173 for painting and cleaning and other minor work; and have also accepted tenders, amounting to £854 and £2,243 respectively, for installing electric light at three schools and carrying out heating work at seven schools. Expenditure of £4,470 has been sanctioned for improving the heating

arrangements at fifteen schools, and of £5,876 for carrying out other jobbing work at fifty-six schools, the work to be carried out by local contractors. In ten other cases tenders have been invited for similar work.

The Establishment Committee reported with regret the death of Mr. C. J. Ashton, a senior assistant in the Architect's department, who had served with zeal and efficiency for a period of nearly twenty-four years. On the recommendation of the committee, Mr. Andrew T. Taylor, F.R.I.B.A., was appointed to fill a vacancy on the committee.

The General Purposes Committee reported the receipt of a patent for arms for the Council, together with the Royal Warrant signed by his Majesty. The Royal Warrant grants to the Council authority to bear on its common seal, shields, or otherwise, the arms following—viz.: Barry wavy of six on a chief the cross of St. George charged with a Lion of England. The shield ensigned by a mural crown. In the Patent the arms are described as follows: Barry wavy of six azure and argent on a chief the last the cross of St. George charged with a Lion of England the shield ensigned with a mural crown gold.

THE DUNDEE SCHOOL BOARD AND THEIR ARCHITECT.

Mr. J. H. Langlands, architect to the Dundee School Board, has sent a letter to that body in defence of his estimate for the extension of the Harris Academy, which had been criticised, as we reported in our last issue, p. 488. The estimate was £17,100, and later schedules for three of the contracts totalled £21,000, and it was calculated that on that basis the total could not be under £30,000. In his letter, Mr. Langlands says his personal character and professional reputation have been attacked, and he demands that the charge against him should be made definitely and specifically, in order that he may have the fullest opportunity of clearing his character. He adds that the reason for the difference between his estimate and one by the architect to the Education Department in Whitehall was that he based his figures on a style, quality, and finish at that time adopted and in use by the Board. The department's figures were based upon a calculation for work and finish of a superior quality.

A convalescent home is about to be built at St. Annes-on-Sea for the Blackburn Charity Organisation Society, at a cost of £3,000. Messrs. Briggs, Wolstenholme, and Thornely, of Liverpool, are the architects.

The interior of the church of St. Paul, Weston-super-Mare, has recently been further enriched by the addition of clergy- and choir-stalls, and the provision, between the chapel and chancel, of a screen. The dedication, by the Bishop of Taunton, took place last week.

The foundation-stone has been laid at Foleshill, near Coventry, of a new Roman Catholic church and schools. The estimated cost is £11,000. The architects are Messrs. Arthur Harrison and Geo. B. Cox, of Birmingham, and the builders are Messrs. Bowen, of Birmingham.

At the last meeting of the West Bromwich Town Council the electricity committee were authorised to apply to the Local Government Board for sanction to borrow £5,547 for expenditure on generating plant and cable to enable the committee to deal with the increased demands for electric current.

The Plymouth Corporation decided at their meeting on Monday, on the recommendation of the finance committee, to refer back for reconsideration a proposal by the water committee to construct a new aqueduct between Burrator and Roborough, for the conveyance of water. The cost of the undertaking was estimated a year ago at £60,000, and it was admitted that the work was very urgent.

New municipal technical schools have just been built in Bolton-street, Dublin, from the designs of Mr. C. J. MacCarthy, F.R.I.A.I., the city architect. The building occupies an isolated site, and is Italian Renaissance in style, and three stories in height. The ground-floor story is faced with white stone, and the floors above with red bricks, stone being used for the quoins, dressings, pediment, and open balustrade.

Our Illustrations.

HAGGERSTON CASTLE, NORTH-UMBERLAND.

Haggerston Castle dates back as far as 1388, having been originally the seat of the Haggerstone family. The old castle had been destroyed by fire in 1618, with the exception of the principal tower. The estate and castle passed into the hands of the Leyland family in 1858. The present proprietor, Mr. Christopher J. Leyland, under the direction of the late R. Norman Shaw, R.A., rebuilt the mansion-house, making extensive additions in 1894, the old tower being incorporated in the new house. In November, 1911, a disastrous fire occurred, which destroyed a considerable portion of the mansion, necessitating practically the entire rebuilding of the house, with the exception of the main walls and kitchen wing, which were less seriously damaged. The work was begun almost immediately, and in the course of rebuilding the opportunity was taken to make a number of improvements. The whole of the south and west elevations were entirely redesigned, a new porte-cochère being added, and in place of a slated roof over the domed entrance, destroyed by fire, a new copper dome was substituted, and the upper portion of the dome was rebuilt. Mr. James B. Dunn, F.R.I.B.A., architect, of Edinburgh, has designed and supervised all this considerable work just finished. A formal garden has now been also laid out, an old disused lodge being arranged as a tea-house and rebuilt in a central position. The stone used for the rebuilding of the mansion-house was from "Blackpasture," North-umberland. The stone for the garden walling and random paving was from Hailes Quarry, near Edinburgh, mixtures of white, grey, and pink being used. The tower shown in the distance is used as a water-tower in connection with the mansion-house, there being three separate supplies, the water storage being collected into large iron tanks. This tower was added at the same time as Mr. Norman Shaw carried out the other alterations. The principal contractors engaged on the work were the following:—Mason and joiner works, Robert Hall and Co., builders, Galashiels; slater work, Wm. Anderson and Son, Edinburgh; plumber work, Hugh Weir, Edinburgh; plaster work, Leonard Grandison, Peebles; heating, W. Richardson and Co., Darlington; electric light, J. Ross Stevenson and Co., Edinburgh; principal finishings of main staircase and other panelling, Scott Morton and Co., Albert Works, Edinburgh; panelling of main hall, John Taylor and Sons, Ltd., Edinburgh. Mr. Alexander Auld acted as clerk of works throughout. We give a general view, with plans, also a double-page sheet of details of the front. We shall at an early day, give an interior view of the entrance-hall, which Mr. Norman Shaw designed, and also a photograph of the garden elevation, as completed by Mr. James B. Dunn, the architect of the rebuilding now completed.

MAISON VE. CLIQUOT - POUSSARDIN, RHEIMS, SHELLD BY THE GERMANS.

This interesting vintners' building furnishes a typical contemporary example of French design, carried out in red brick and stone. As a colour scheme the whole façade produces a remarkably distinctive and rather bold effect. The purpose of the premises is reflected in the detail, typical of a vintners' hall and business. The frieze comprises five mosaic panels, depicting the manufacture of Champagne. The intervening sculptural trusses are pleasing as an attempt to produce an originality of treatment. For decorative ends a bronze flag-staff is set on either hand of the central arch, and the entrance doors are of bronze. Over the portal is a decorative spreadeagle, executed in mosaic, with a filling of glass and glass blobs, which are distinct from the ends of glass bottles. Mr. William Warman, of "Bodian," Arthurden-road, Brockley, made this drawing at Rheims recently, and has lent us his water-colour

executed on the spot. The building probably has suffered, like most of the city, from the late bombardment by the Germans.

✓ CAMBERLEY HEATH GOLF CLUB-HOUSE.

The drawing of this clubhouse, which is herewith reproduced, was exhibited this year at the Royal Academy. The building was erected in connection with the new links near Camberley, and it is situated on high ground, commanding extensive views of the surrounding country. In execution the plan was varied to a certain extent. Externally the walls are of brick, covered with white roughcast, the roofs are tiled with hand-made, sand-faced "antique" tiles, made by the contractor at the Aldershot Brick and Tile Works. The chimney-pots are blacked, and the casements, etc., are divided up by stout wood bars. Internally the walls are finished with plaster and Hall's washable distemper in light tints, the paintwork being kept a very dark brown throughout. The dining-room has an open-timber roof, with wood trusses, the timber being stained dark, the space between the rafters being plastered to match the walls. In the main rooms the fireplaces have been built up in thin, hand-made, sand-faced bricks and roofing tiles, to the special designs of the architect. The flats were carried out by Messrs. Eugert and Rolfe, of Poplar, London, E. The general contractors were Messrs. George Kemp and Co., of Aldershot, Hants. Mr. H. Reginald Poulter, of Camberley, is the architect.

LONDON COUNTY COUNCIL SCHOOLS COMPETITION.

(Full particulars of these two selected designs will be found in our first article this week.)

Mr. T. Deacon, of Morrision, has been appointed building inspector to the Swansea Corporation Housing Committee.

Plans have been adopted by the Essex Education Committee for the erection of a secondary school at Barking at a cost of £9,400.

The new organ in the chapel of Lancing College, built at a cost of £4,200, was dedicated by the Bishop of Chichester on Thursday in last week.

The Barry Urban District Council have received the sanction of the Local Government Board to borrowing £6,900 for a scheme of housing.

The village church of St. James, Honeychurch, Devon, has just been reopened after restoration, including the reslating of the roof and new arch-beams, carried out at a cost of £400.

The city council of York have found a difficulty in obtaining lead pipes for the distributors at the sewage filter-beds, and have accordingly ordered steel pipes for the ten beds now nearing completion.

A block of flats is about to be built on the site of Nos. 9 to 13, New Cavendish-street, and Nos. 21 to 25, Hallam-street, Marylebone. Mr. Frank T. Verity, of Sackville-street, W., is the architect.

A parochial hall and institute are about to be built in Pollard-row and Florida-street, Bethnal Green, in connection with the church of St. James-the-Great. The architect is Mr. E. T. Dunn, of Hford.

Hull Corporation have adopted a scheme for the New George-street district, which is to involve an expenditure of upwards of £100,000, and includes the provision of 250 model dwellings for working-class families.

St. Stephen's Clubhouse, at the corner of the Victoria Embankment and Westminster Bridge-road, which was recently gutted by fire, is being reconstructed from plans by Messrs. Forsyth and Maule, of Oxford-street, W.

Preliminary plans have been prepared for a freight terminal and warehouse to be erected for the Cleveland and Youngstown Railway Company at the intersection of Broadway and Orange Avenue, in Cleveland, Ohio, at a cost of £50,000,000.

The rural district council of Atherstone have adopted a scheme prepared by Dr. Lupton, consulting engineer, in conjunction with Mr. H. J. Colby, their engineer, for supplying the whole of the district with water from the new boring at Warton. The estimated cost is £18,158.

COMPETITIONS.

YORK.—The competition for St. Clement's Model Club, York, the plans for which we understood were to be sent in at the end of July last, has not been decided yet, owing, we learn, to the war. It appears uncertain, seemingly, when an award will be made, therefore. The moratorium possibly has intervened, and the architects who prepared plans must wait a while longer.

The Bishop of Kingston dedicated at St. Bartholomew's Church, Battersea, last week, a chapel altar, a rood, and a stained-glass window.

Additions are about to be made to the West London Hospital, Hammersmith-road, from plans by Mr. W. H. White, F.R.I.B.A.

Extensive works of sewage-disposal are being carried out for the urban district council of Cannock. The contractors are Messrs. Moss and Son.

A new organ is being placed in St. Luke's Parish Church, Cannock. The contract has been taken at £985 by Messrs. Norman and Beard, of London and Norwich.

Halifax Town Council have sanctioned the promotion of a Parliamentary Bill which is to include proposed tramway extensions to Elland, Stainland, and Southowram.

The late Alderman James Birch, aged sixty-seven, of 30, Blossom-street, York, plumber, Lord Mayor of York 1908-9 and 1909-10, who took a prominent part in the advocacy of plumbers' registration, left £5,662.

A stained-glass memorial window has been dedicated in St. Winnow Church. The subject is "The Visit to the Tomb," from a painting by a Norwegian artist. The work was executed by Messrs. Jones and Willis, of London.

Mr. R. A. Herold, Forum Building, Sacramento, is completing plans, which will be submitted to the California State Board of Supervisors shortly, for the new county hospital building to be erected near that town at a cost of about 500,000 dol.

New stores are about to be built for Messrs. Guinness, on Penrose Quay, Cork, adjoining the terminus of the Great Southern and Western Railway Co. The plans were prepared by the firm's engineer, and the contract has been taken at £3,000 by Messrs. John Delaney and Son, of Cork.

In connection with the London County Council's work of indicating the houses in London which have been the residences of distinguished individuals, tablets have recently been erected commemorating the residences of Benjamin Franklin at 36, Craven-street, and of the brothers Adam at 4, Adelphi-terrace.

The Parliamentary Bills Committee of the Glasgow Corporation have prepared a draft Provisional Order with a view to obtaining Parliamentary powers to carry out their water and park schemes. Powers are sought (1) to increase the sources of the water supply for the city, (2) to acquire Balloch Estate for a public park, and (3) to authorise the corporation to borrow an additional £100,000 for park purposes.

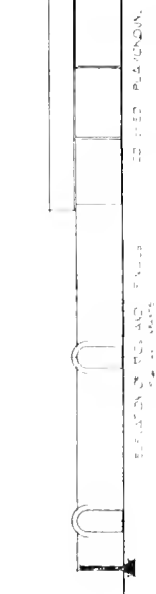
The Oldham Town Council have decided to apply to the Local Government Board for borrowing powers for £8,255 for the construction of new bowling-greens, the laying out of a recreation-ground at Strimesdale, and for street-improvements in Lees-road and Hollins-road; and also to ask for a grant from the Road Board towards the sum of £9,000 to be spent on two improvements in Ripponden-road.

Mr. Henry M. A. Murphy, Local Government Board inspector, has issued his provisional order confirming an improvement scheme made by the South Dublin Rural District Council under the Labourers Acts. The order provides for the erection of 220 cottages in South Dublin in the electoral divisions of Clondalkin, Palmerston, Rathfarnham, Tallaght, Tereure, and Whitechurch. Four hundred and eighty-two cottages have already been built in the rural district, so that the new scheme brings the number of cottages to slightly over 700.

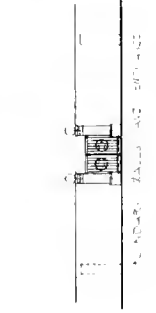
An interesting discovery has been made in the parish church of Mellis, near Eye, Suffolk. It has been thought for a long time that there ought to be in this ancient building a piscina near the altar in the south chancel wall. By tapping the wall it was at length brought to light, after being bricked and plastered up for many years. The bowl is especially good, showing six scallops, and a rose in the centre, with four holes for the drain. The discovery is due to Mr. Poyuter, of Diss, who recently found another piscina in Mickfield Church.

LINDA STREET SCHOOL
BATTERSEA
FOR THE LONDON COUNTY COUNCIL

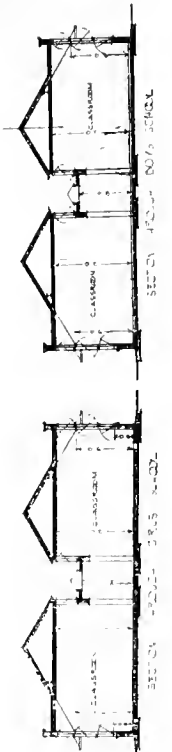
DESIGNED BY MR. ARNOLD B. MITCHELL
ARCHITECT



ELEVATION TO ROAD AND PLAYGROUND

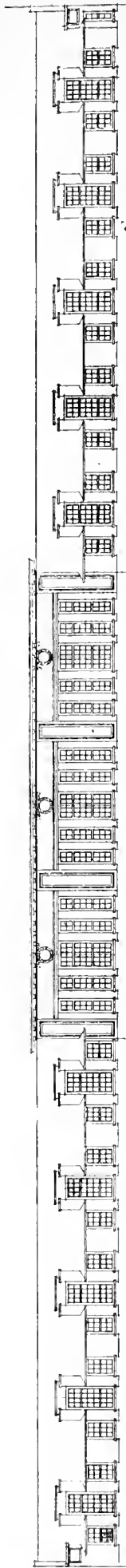


ELEVATION TO ROAD AND PLAYGROUND

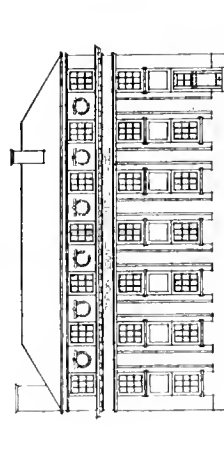


SECTION THROUGH BOYS' SCHOOL

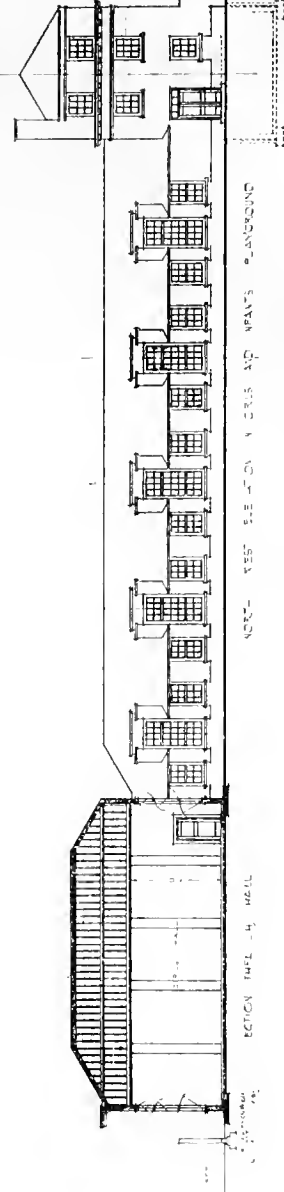
SECTION THROUGH GIRLS' SCHOOL



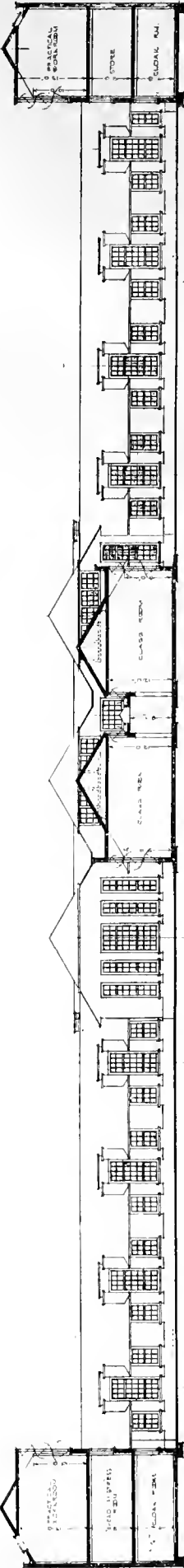
ELEVATION TO LINDA STREET



ELEVATION TO FISON STREET



NORTH-WEST ELEVATION TO GIRLS AND NEARS' PLAYGROUND



SOUTH-WEST ELEVATION TO BOYS' PLAYGROUND

CROSS SECTION THROUGH GIRLS' SCHOOL

SOUTH-WEST ELEVATION TO GIRLS AND NEARS' PLAYGROUND

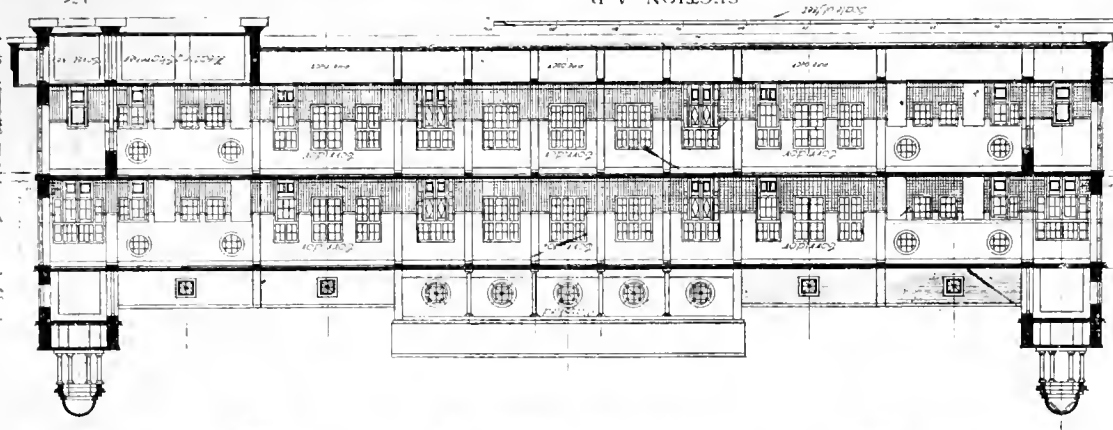
SECTION THROUGH GIRLS' SCHOOL

SECTION THROUGH GIRLS' SCHOOL

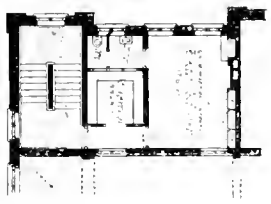
SCALE OF FEET

THE BATTERSEA SCHOOLS: SELECTED DESIGN.—MR. ARNOLD B. MITCHELL, F.R.I.B.A., Architect.

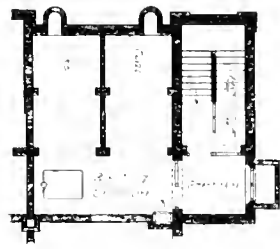
SECTION A-B



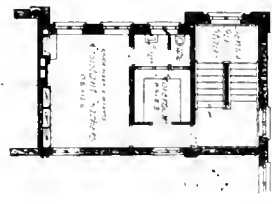
MEZZANINE



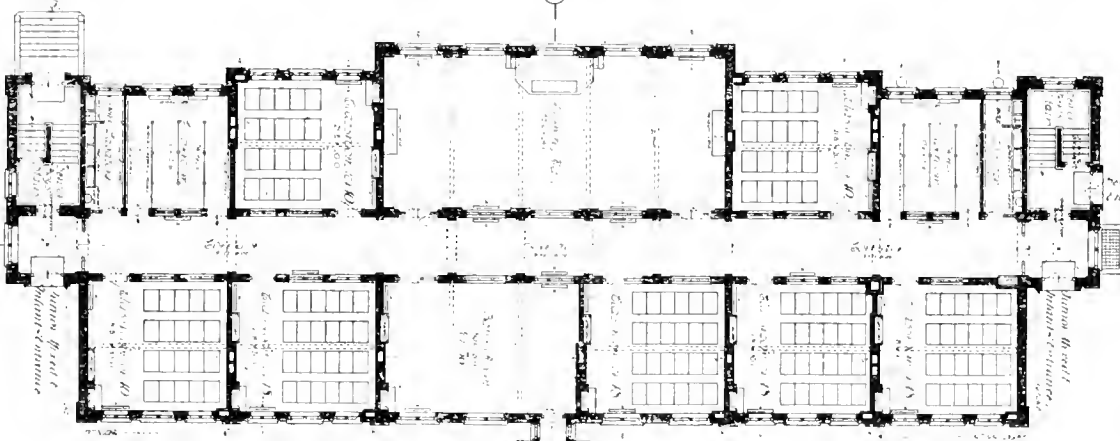
BASEMENT PLAN



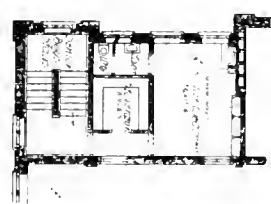
MEZZANINE



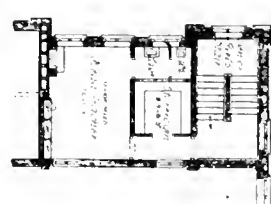
GROUND FLOOR PLAN



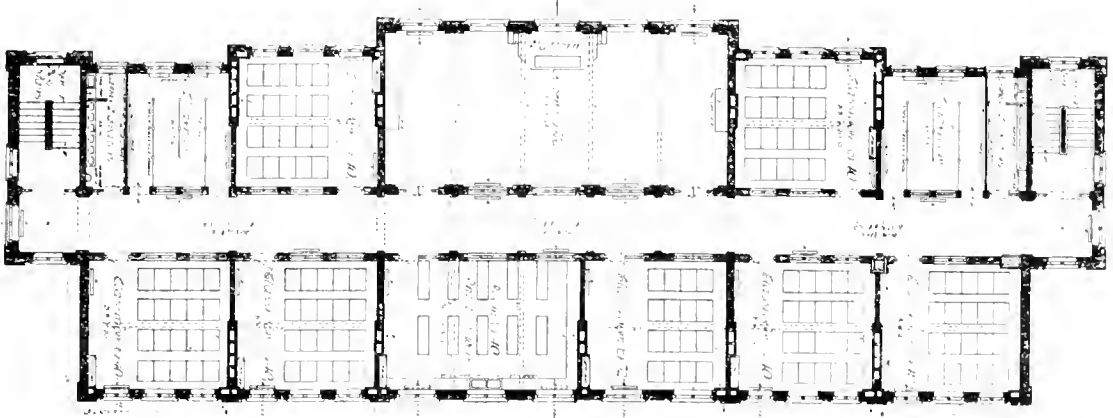
MEZZANINE



MEZZANINE



FIRST FLOOR PLAN



THE GREENWICH SCHOOLS: SELECTED DESIGN.—Messrs. H. T. WRIGHT, F.R.I.B.A., and HENRY CHAPMAN, A.R.I.B.A., Architects.

PUDDLING OR RAMMING CONCRETE AFTER PLACING.

When concrete first came into use (says the "Contract Record"), dry mixtures were used almost exclusively, and, in order to obtain compact and dense concrete, considerable tamping was necessary. Times have changed, however, and nowadays nearly all concrete mixed for placing in forms, except that placed under the direction of students of the "old school," is mixed wet, and ramming or tamping dispensed with entirely, the mixture being churned or puddled just enough to remove the entrained air.

Still, we occasionally hear of some superintendent, inspector, or engineer in charge of construction work demanding that concrete, even if it is wet, be placed in 6in. layers and thoroughly tamped. With such concrete tamping defeats its very purpose, for the top will be flooded with water mixed with pure cement, thus robbing the concrete of cement and reducing its strength, and making the concrete of a non-uniform mixture by forcing the large aggregate to the bottom. A wet mixture of concrete such as can be spouted by gravity should never be tamped or rammed with heavy tools; stirring, spading, or puddling with forks, spades, or rods is all that is required to allow the entrained air to escape and the voids to be filled. When wet concrete is used it is also very important to see that the concrete be placed or poured in such a way as to prevent the formation of air-pockets, thus reducing the puddling or spading necessary. Even with "dry" concrete there are dangers to be incurred by "too much tamping"—that is, by forcing the stone to the bottom and weakening the concrete by disturbing it after setting has begun. As in most work, there is a happy medium which must be struck in order to obtain the best results in ramming or puddling concrete.

When wet concrete is used the rate of progress of the work is much more rapid than when dry concrete is used, since it can be placed in thicker layers and requires less attention in the matter of puddling, if carefully placed. Wet concrete, then, it can be said, is the result of the general tendency towards the use of more economical methods in concrete-construction work.

The Humber Conservancy Board has decided to defer sine die the scheme for improving the Humber at an estimated cost of £375,650. The Board of Trade has sanctioned the construction of a training-wall and revetment up to high-water level on the north side of Read's Island, estimated to cost £25,000.

A faculty has been granted in the Gloucester Consistory Court to Mrs. Higgins, of the Red House, Newent, to insert stained glass, representing Christ in the midst of the Doctors, in the three light window in the south Lady-chapel of Newent Church. The window will commemorate the jubilee of the priesthood of the Rev. (Canon) W. H. Connor, rector of the parish.

The modern cathedral of Queenstown has just been completed by the erection of a tower and spire, forming a new landmark from the sea. Designed originally by Messrs. E. Welby Pugin and G. C. Ashlin, the work, which has extended over some forty years, was continued under the direction of Mr. Ashlin, and more recently of Messrs. Ashlin and Coleman. The late Alderman Meade, of Dublin, was the original contractor. The spire has been built by Mr. John Sisk.

Six cottages have been built at Cressy, Salop, for the Alcham Rural District Council under the powers conferred by the Housing Act of 1909. The houses are built alongside the Sherton road, in proximity to the village. They are semi-detached. Each dwelling contains a living room, kitchen, and three bedrooms, and has attached to it a large garden. The cost of erection, including £23 for water mains and £24 for fencing, was £975. The land was practically given by Lord Barnard at a nominal price of £24 and the total expenses amounted to £993. All the cottages have been let, the rents, inclusive of rates, being fixed at 3s. 9d. per week. The plans were prepared by Mr. H. Asher, surveyor to the rural council, and the contractor was Mr. A. H. Woodhouse. The formal opening took place on Thursday in last week.

PROFESSIONAL AND TRADE SOCIETIES.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.—Prizes and Studentships 1915 and the War.—At a meeting of the Council on Monday, October 19, 1914, it was resolved to postpone the prizes and studentship competitions for 1915 until the year 1916. Further, that those candidates who, under the age limit, are eligible in 1915, shall be considered eligible for the prizes and studentships competitions for the year 1916.—The Royal Institute Final Examinations.—The Board of Architectural Education announce that the designs submitted by the following students, who are qualifying for the Final Examination, have been approved: Subject XVI. (a) Design for an Island Hotel and Tea Gardens: F. M. Cashmore, R. Frater, L. Heywood, J. D. Hossaek, G. B. Howcroft, M. D. N. Koch, W. V. Lawton, C. L. Page, C. D. St. Leger. (b) Design for a Dairy and Farmstead: N. A. Blackburn, H. F. Chandler, J. C. Farrer, C. Grellier, A. L. Horsburgh, N. Keep, W. V. Lawton, S. A. H. Mackey, J. Moore, J. J. Nathanielsz, T. Rayson, P. N. Stedham, G. O. Venn, A. G. Wood. Other subjects: H. N. Fisher, Design for College Library; A. Smith, Design for Group of Cottages.—The Syllabus of Meetings.—The following ordinary meetings of the Royal Institute will be held on Monday evenings, at 8 p.m., at 9, Conduit-street, W., during the ensuing session:—Nov. 2, Opening meeting; Nov. 16, "The Future of the Surrey Side," by Paul Waterhouse; Dec. 14, "The Work of the Late John Belcher, R.A.," by J. J. Joass; Jan. 18, 1915, "Ecclesiastical Buildings of North Italy," by F. C. Eden; Feb. 15, "Spanish Architecture," by Andrew N. Prentice; March 15, Paper (subject to be announced); March 29, "King's College Hospital," by W. A. Pite; April 19, "The Design and Construction of Buildings for Industrial Purposes," by Segar Owen; May 17, "The Evolution of the Architectural Competition," by H. V. Lanchester; June 21, (8.30 p.m.), presentation of the Royal Gold Medal.

THE SURVEYORS' INSTITUTION.—The session of the Surveyors' Institution will open on the 9th prox., when the President, Mr. Howard Chatefield Clarke, will give his presidential address. The gold medal awarded by the council in respect of the best paper read during the previous session will be presented to Professor W. G. Fearnside in respect of his paper on the part played by water in macadam road construction. Ordinary general meetings will be held on Nov. 23, Dec. 14, Jan. 11 and 25, Feb. 8 and 22, March 8, April 12 and 26, and May 10. On November 23, Mr. Edwin Savill will read a paper on "The Home-grown Wheat Supply Available in War Times." The remainder of the session will be taken up in discussing the acquisition of land for public purposes, introduced by Mr. Andrew Young and Mr. L. O. Mathews; Land Tenure, introduced by Mr. Joshua Bury and Mr. J. G. Head; Rating, introduced by Mr. Isaac Dixon and Mr. E. H. N. Ryde; and Housing, introduced by Mr. Strachan Gardiner and another.

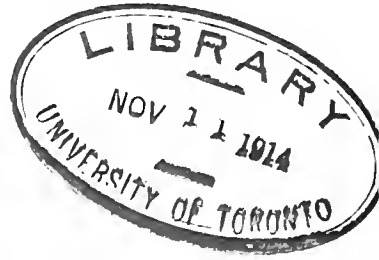
EARLY TOWN PLANNING.—Mr. Raymond Unwin, F.R.I.B.A., lecturing on town planning at the Technical School, Birmingham, on Friday, dealt with the early history of the methodical building of cities. The efforts of the Greeks, who were perhaps the first to conceive the orderly planning of towns, were, he said, towards great perfection in a very limited field. Their temples were planned and built with marvellous perfection of detail; the fitting of the stones was carried out by the use of planes. The mouldings and the arrangements of decorations, although extremely simple, were most refined. Students of early town planning had to consider a people concentrating on a very limited field with great perfection as their objective. Whether that degree of perfection arose from the use of slave labour he did not know. Many thought the art of the Greeks and the art of the Middle Ages, which produced the great Gothic cathedrals, had much in common; but in the case of the

latter there was not that attempt at precise perfection and finish which marked the Greek art. The Greeks could always command a large amount of controlled labour, whereas when the Gothic cathedrals were built there was no labour of that kind. Plans of Athens (showing the buildings on the Acropolis), of Piræus (where town planning appeared to have been attempted on definite lines), of Priene (with its streets running at right-angles), and of Ephesus were thrown on the screen and explained in detail by the lecturer.

GLASGOW.—The quarterly general meeting of the Glasgow Institute of Architects was held on October 15 in the secretary's chambers, 115, St. Vincent-street, Glasgow, Mr. John Watson, F.R.I.B.A., president, in the chair. The secretary reported with regard to the matters dealt with by the council since the previous general meeting. The following were the principal items: (1) Deadlock in regard to Wright Work Modes of Measurement. Conferences and correspondence with the following bodies: Scottish National Building Trades Federation, Faculty of Surveyors, and the Edinburgh, Dundee, and Aberdeen Architectural Societies. (2) Honour of knighthood conferred on Sir John James Burnet, LL.D., R.S.A. (3) Proposed View Tower in Queen's Park. (4) Correspondence with town clerk regarding erection of Kelvin and Clyde bridges. (5) Alexander Thomson Travelling Studentship postponed.

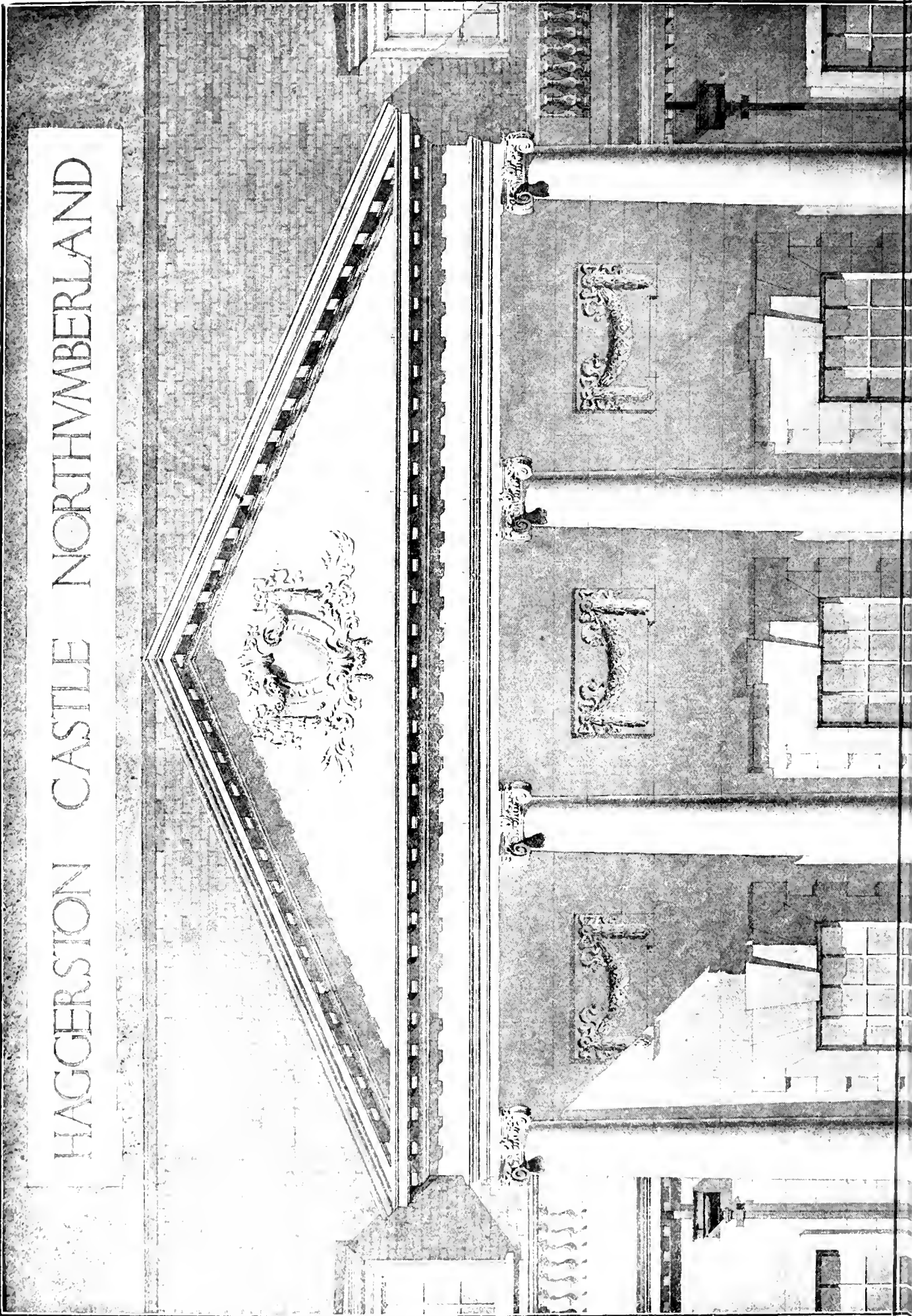
THE BUILDINGS AND WATER-SUPPLY OF ANCIENT ROME.—At the inaugural meeting on Saturday night of the Engineering Society of the University of Bristol, the president for the session 1914-15, Professor Munro, delivered an address, the subject being the buildings and water-supply of Ancient Rome. The Romans were essentially a constructive race, highly educated, and a people who understood the principles of hydraulics. Ancient Rome was supplied with water by means of four aqueducts, which delivered 51,000,000 gallons daily. This quantity is much in excess of modern demands, and to-day the surplus water which still flows through the old aqueducts is utilised for electric light. Professor Munro laid particular stress upon the beautiful gateways and arches which the Romans constructed whenever it was necessary for an aqueduct to traverse a highway. Of the supply for Rome, a length of 242 Roman miles lay underground, while 42 were above ground. Fountains were a particular feature in Roman construction, and many are still to be found in a state of remarkable preservation. The marvellous condition of effectiveness in which the Roman constructions remain is due chiefly to the stone which was used in their construction. Tufa, a stone of volcanic origin, and soft enough, when first exposed, to be worked with bronze tools, produced an exceedingly hard and durable building-stone on exposure to the atmosphere. Another stone of aqueous origin, known as Travertine, was cut out in blocks for building purposes of 2ft. square cross section by 1ft. long, and these blocks are characteristic of Roman remains to-day. Many of the Roman buildings were constructed of concrete, with the result that whole structures, such as the Pantheon at Rome, appeared as though cut out from a solid block of material. In many cases triangular bricks, 3in. thick, faced the concrete buildings. Professor Munro concluded his address with a description of the Pantheon, circular in form, and possessing walls 20ft. in thickness. The dome was originally covered with gold-plated bronze, but this was appropriated by Constantine. The building seems to have served every purpose, from a sweating-room for the baths in the time of Agrippa to a mausoleum for the Kings of Italy at the present time.

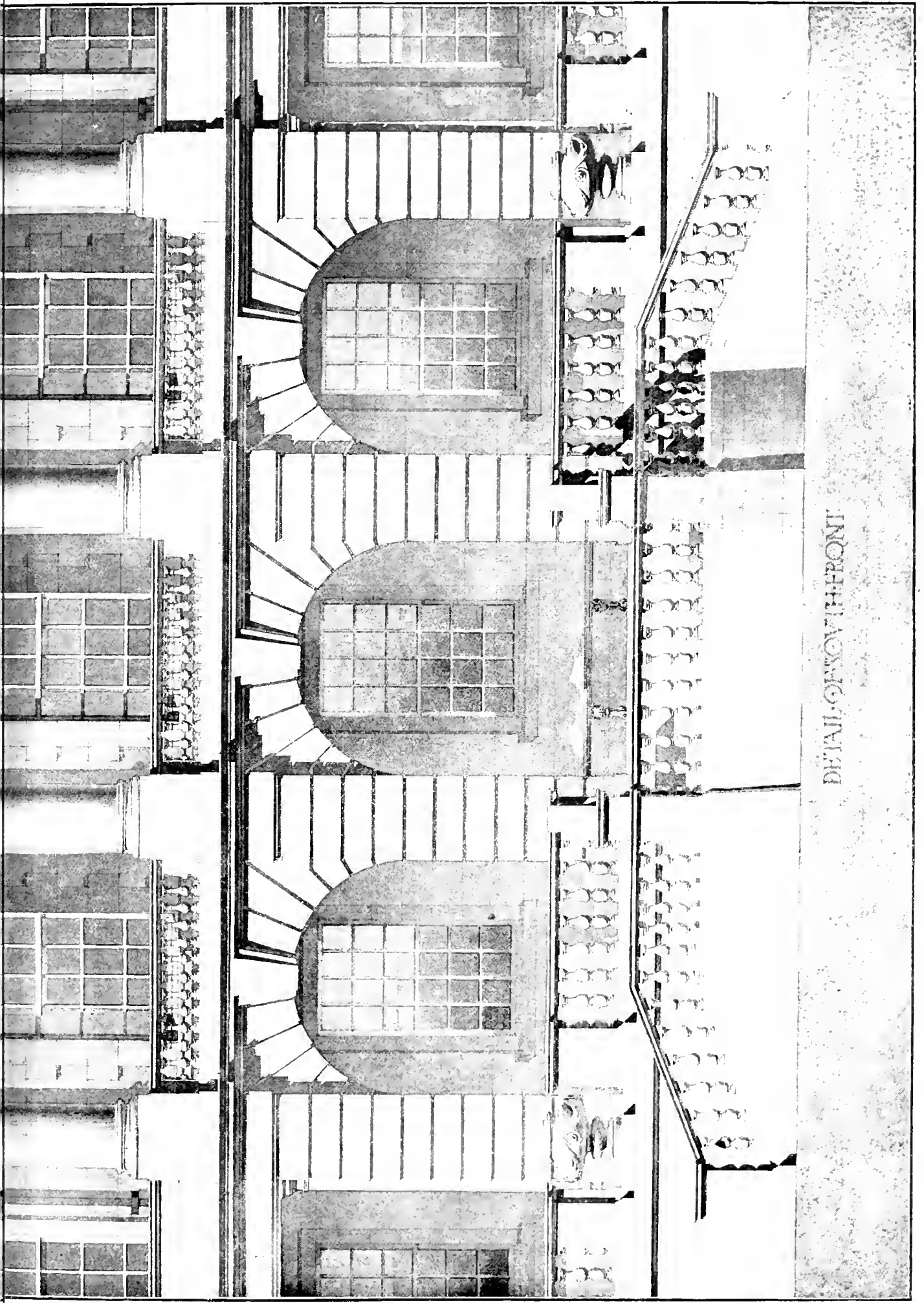
AN ENIGMATICAL BUILDING AT WROXETER.—Presiding at the annual meeting of the Shropshire Archaeological Society at Shrewsbury, on Friday evening, the Rev. Prebendary Auden stated that the excavations at Wroxeter were still going on,



THE BUILDING NEWS, OCTOBER 23, 1914.

HAGGERSTON CASTLE NORTHMBERLAND





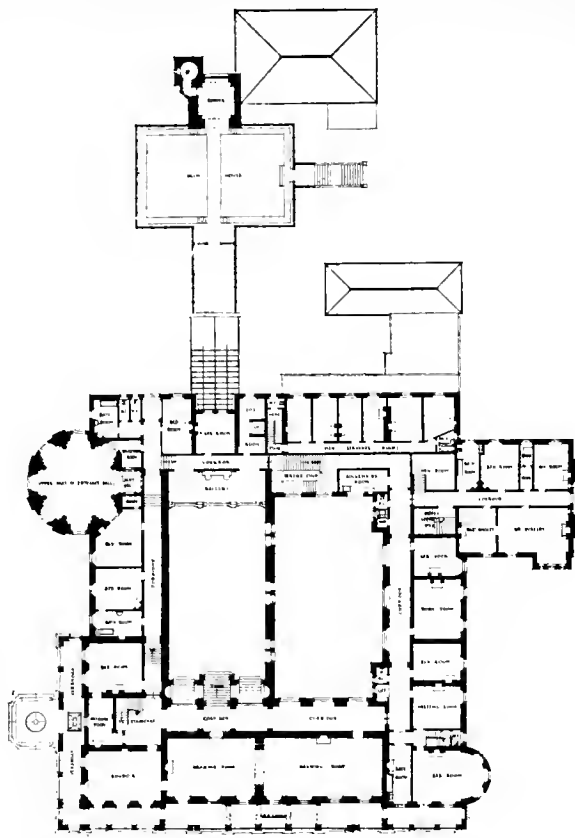
DETAIL OF SOUTH FRONT

DETAIL OF SOUTH FRONT, HAGGERSTON CASTLE, NORTHUMBERLAND.—MR. JAMES B. DUNN, F.R.I.B.A., ARCHITECT

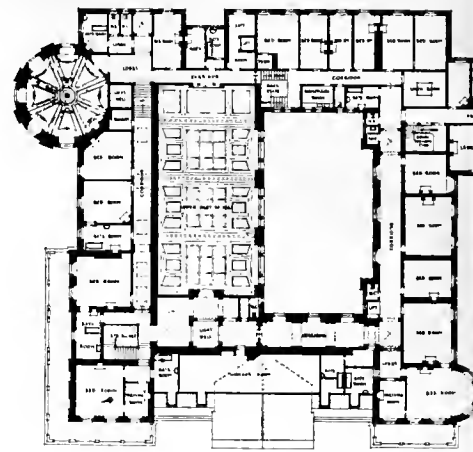


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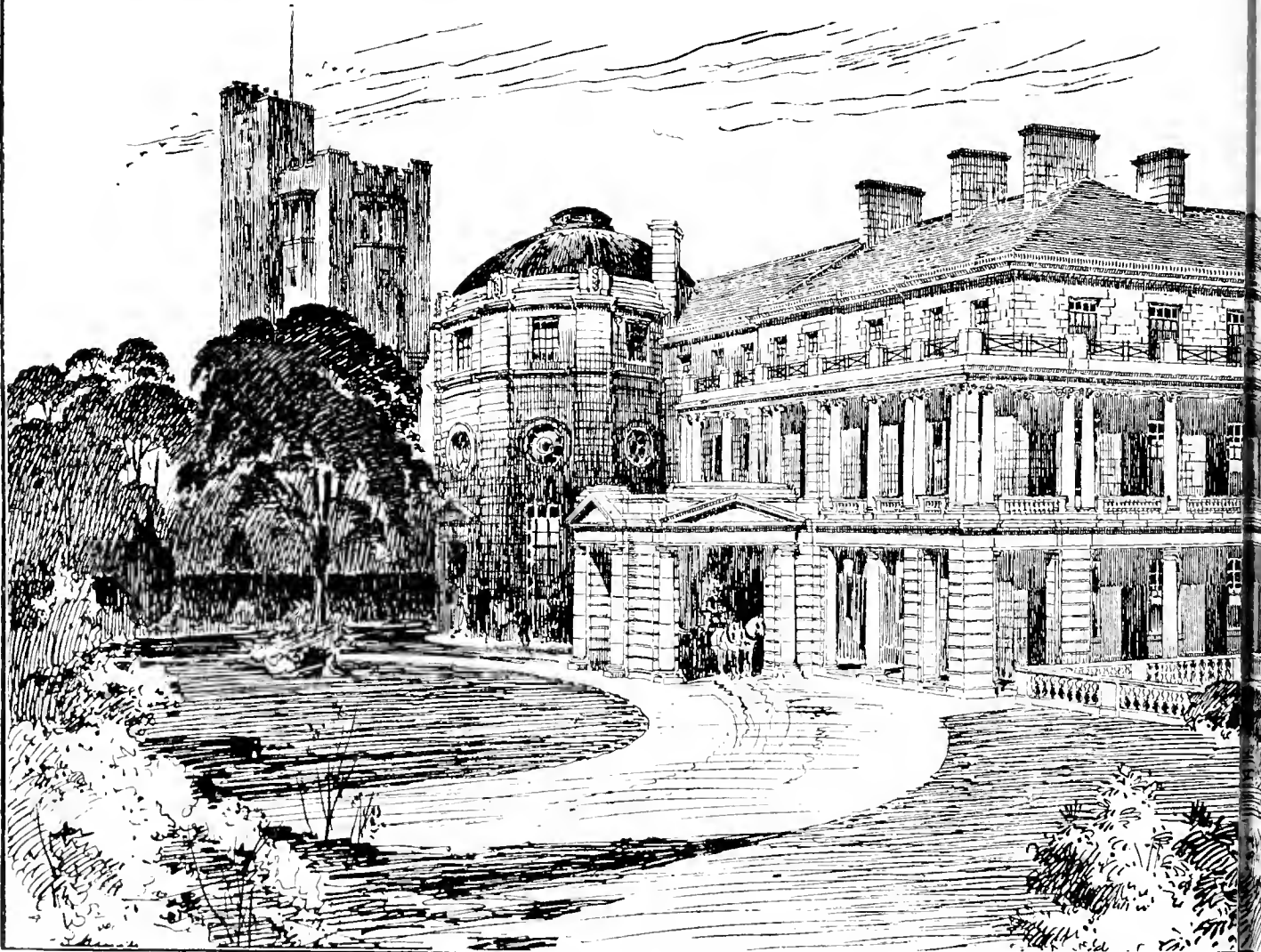




PLAN OF FIRST FLOOR

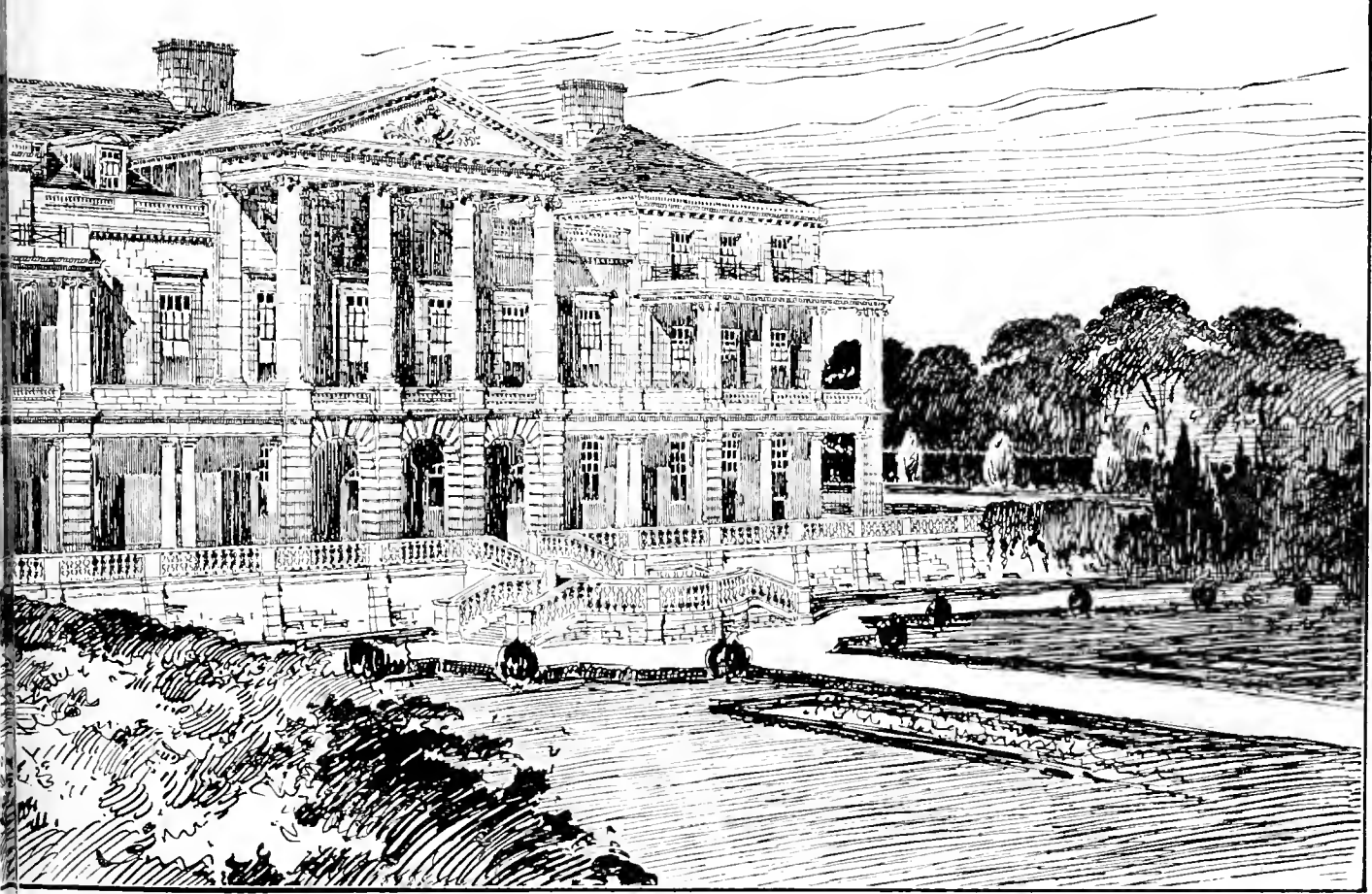
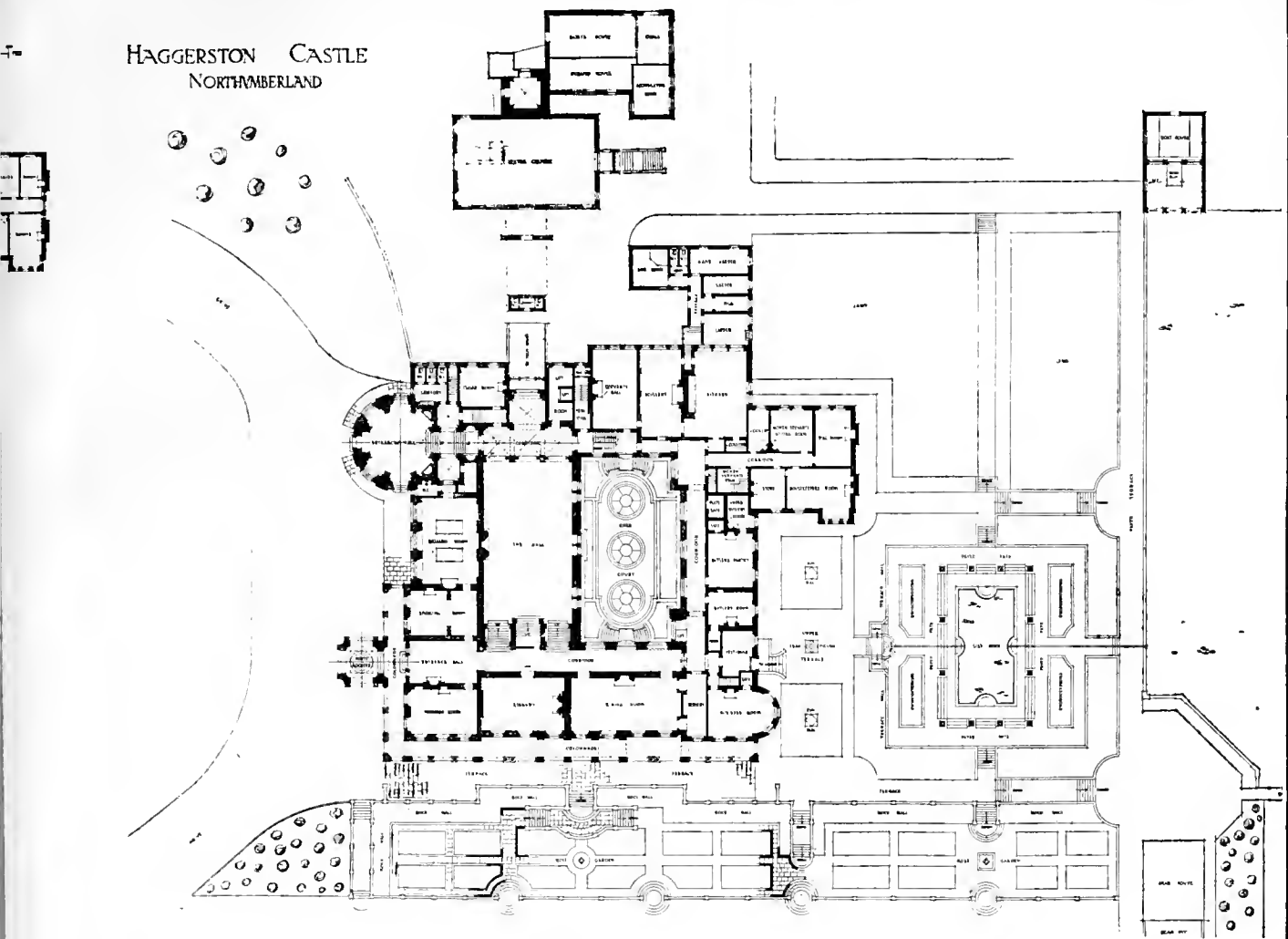


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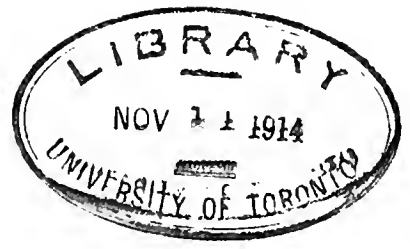
HAGGERSTON CASTLE, NORTHUMBERLAND

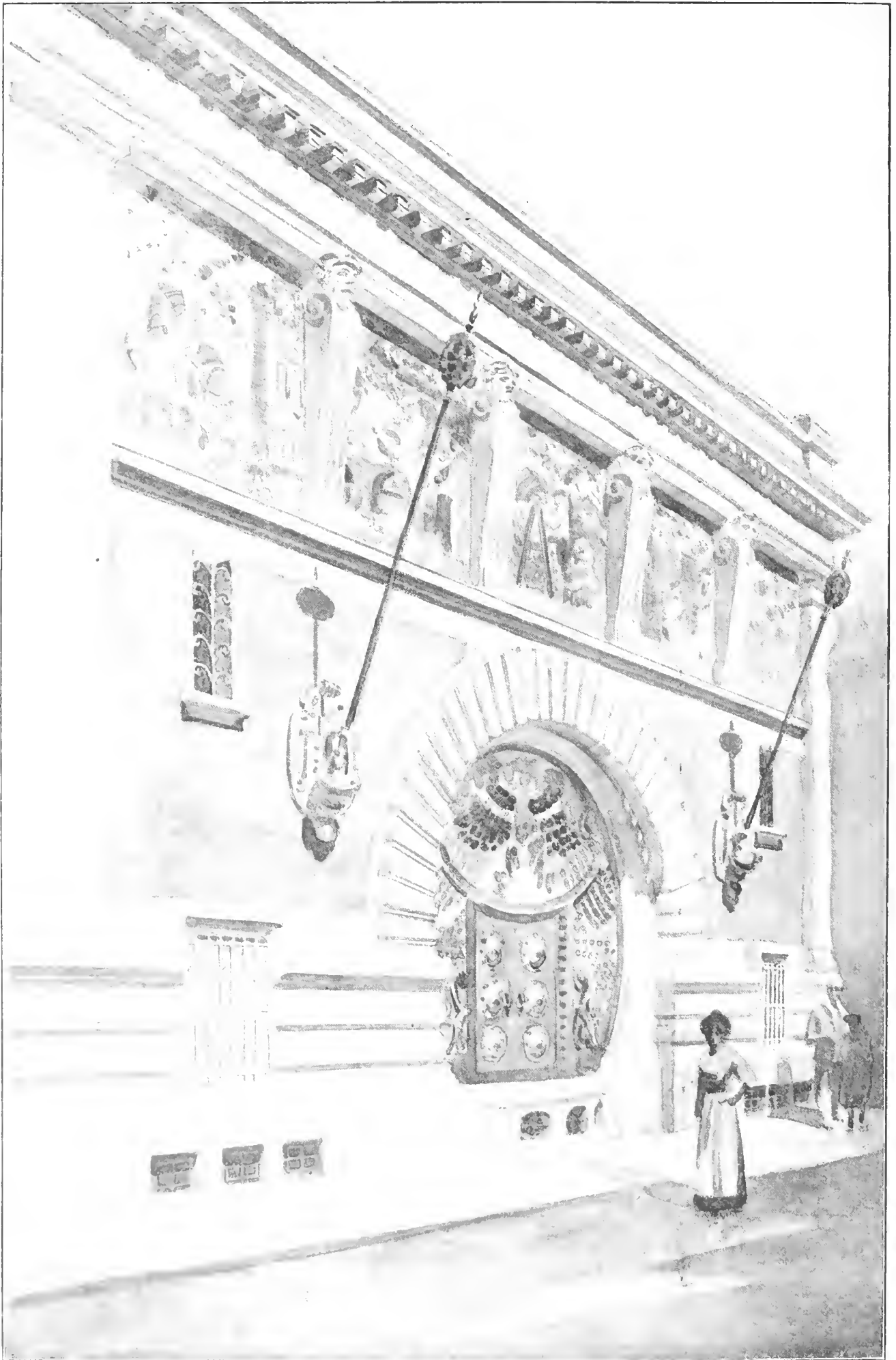
HAGGERSTON CASTLE
NORTHUMBERLAND



D.—Mr. JAMES B. DUNN, F.R.I.B.A., Architect.



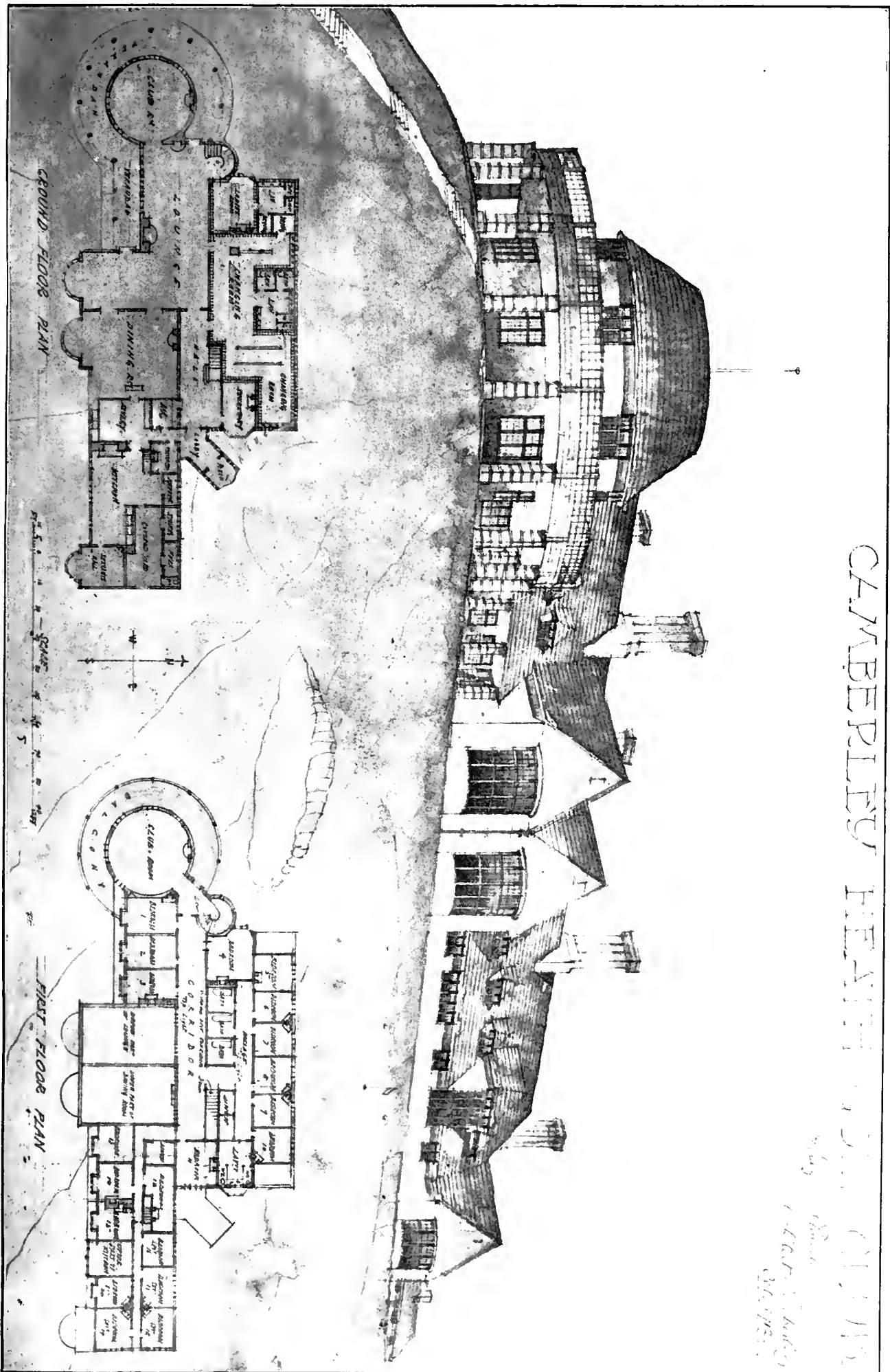




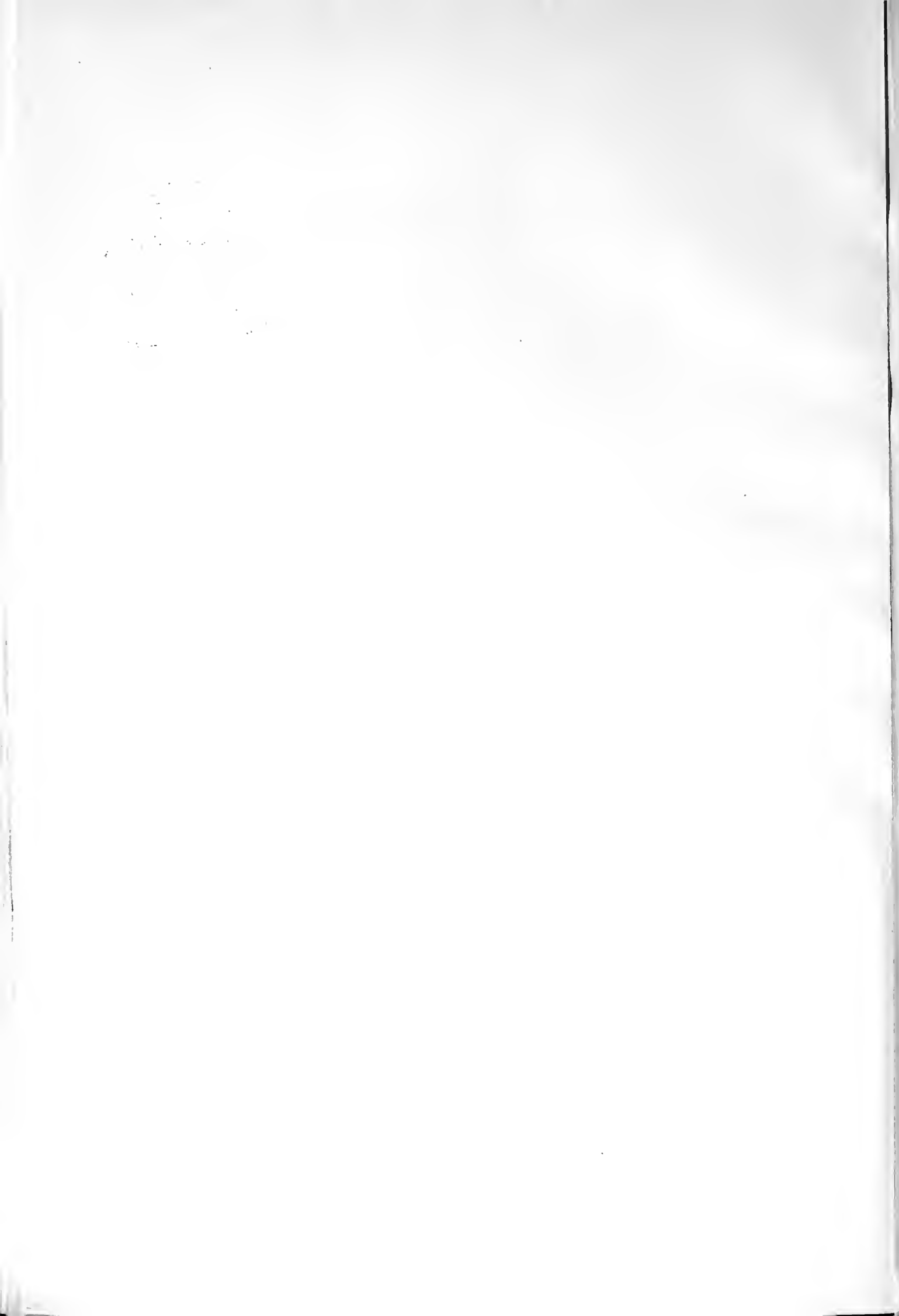
MAISON V.E. CLIQUOT-POUSARDIN, RHEIMS (A Vintners' Hall Shelled by the Germans).
From a Watercolour Drawing by Mr. W. WARMAN.

CAMBERLEY HEATH GOLF CLUB HOUSE

Designed by
M. H. REGINALD POUTLER
Architect



CAMBERLEY HEATH GOLF CLUB HOUSE.—M. H. REGINALD POUTLER, Architect.



and would be continued for a little while longer. The recent finds included two of special interest. One was a large house fronting on to the Watling-street, and containing a considerable number of rooms, and the other was a puzzle to everybody. He had met Professor Haverfield on the ground, who confessed he had no theory to offer as to what the discovery was. Of course, there were only the foundations, but these related to buildings of two distinct dates. He (Mr. Auden) thought it was most likely an amphitheatre or a theatre of some kind, but at present it was an unsolved problem. The Rev. C. H. Drinkwater said his impression was that the building referred to was a copy of the Stadium at Rome, on a very rough scale.

MANCHESTER SOCIETY OF ARCHITECTS.—Mr. F. B. Dunkerley, the new president of this society, in his address at the opening meeting, referred to what he called "the most notable architectural event of the year—the final settlement of the great Exchange problem." He thought it was greatly to be regretted that the city council and the exchange authorities could not come to an arrangement to carry out the larger and bolder scheme which was put forward, whereby the whole of the land from Market-street to St. Ann's-street would have been available. The solution adopted was, after all, only a compromise, and it would not commend itself to future generations, who would wonder how it was we failed to avail ourselves of so fine an opportunity for a great city improvement. Unfortunately, it was very seldom an English corporation rose to an occasion like this. Our public buildings in nearly all our great cities and towns were placed in cramped and inadequate sites, and excellent buildings looked starved and mean without a dignified setting. The criticism so often brought against English architects—that they could not design a great civic building—was largely due to the fact that they seldom got the opportunity. However, as regards the actual competition, on the whole this was conducted on very fair lines, and they had no reason to complain of the result, for the successful firm was a local one; they offered the senior partner, their vice-president, Mr. Cass, cordial congratulations on his successful treatment of a very difficult problem. They were also very glad to see that another local firm, Messrs. Halliday and Paterson, both members of that society, secured the third premium, and, Mr. Dunkerley continued, "The old Infirmary site is still unoccupied save by a few jerry sheds and a great many weeds. I find it rather difficult to speak coolly on this topic. Here is the finest site in the city serving for years no better purpose than a rubbish heap, a miserable eyesore and a magnificent testimonial to the weakness and vacillation of our city government, and a splendid advertisement for the business capacity of the citizens. The interest charges alone during all these years since the purchase of the site by the city must amount to a prodigious sum, which has been absolutely wasted, and the continuance of this waste should be stopped, and the site put to some useful purpose. The necessity for a new central library is very urgent, and increased accommodation is almost equally wanted for art-gallery purposes, and if the council is unwilling to provide for both on this site, it should, I consider, build the library there and extend the present art gallery. But whatever is done, I hope we shall see a termination of the policy of vacillation." The president appealed to all who practised architecture in the district to join the society. He also reminded members that in April next the society will complete its fiftieth year of existence. There was at present small cause for jubilation. Even the annual dinner might this year be abandoned, but he hoped the jubilee year would not pass unnoticed, and that the society might at least organise a small exhibition of drawings to commemorate the work of those who had been chiefly responsible in the past century for the adornment of the city.

THE PHAROHS AND THE PYRAMIDS.—In his second lecture at the British Museum on Egyptian Architecture, delivered on Thursday afternoon in last week, Mr. Banister Fletcher penetrated, by the help of lantern-views, into the innermost recesses of the Pyramids, rock-cut tombs, and mastabas. He discussed the different theories as to Pyramid-building, the "step" theory, the theory of gradual growth during the reign of the owner, and the theory of the whole plan from the beginning. He then passed through the disguised entrance, down the low hidden passage, and by the gallery of approach into the tomb chamber of Cheops in the heart of the Great Pyramid (B.C. 3733). There, in a triple sheath of granite sarcophagus, sycamore coffin, and bituminous mummy-cloths, lay the body of the dead Pharaoh, while the Ka watched over the royal dead till the soul should return to the body. From tomb-chamber to outside air was an air-shaft, which may have been either sanitary or mystical in origin; either a mere ventilator or a passage for the Ka to the world without. Though these massive mounds of masonry give a relatively small return in the higher beauties of art, they have revealed much of the soul of the Egyptian, who not only believed that this life is but a pilgrimage, but acted on his belief.

The death occurred on Friday of Mr. George Foggitt, architect, of Yeadon, near Leeds, aged seventy-two. Besides following his profession, Mr. Foggitt acted as clerk to the Yeadon Burial Council for nearly thirty years.

Mr. R. H. Bicknell, an inspector from the Local Government Board, held an inquiry at the Town Hall, Croydon, on Tuesday, respecting an application from the corporation for sanction to borrow £61,931 for street improvements and works of drainage.

A silver shield, together with a money prize, given by the Worshipful Company of Plumbers, has been awarded to Mr. Frank Kitson, a student at the Salford Royal Technical Institute, who came out first in plumbing tests open to all Lancashire.

The improvement and buildings committee of the Manchester Corporation received a deputation on Friday from the House Builders' Association concerning certain building by-laws. The committee heard what the deputation had to say, and promised to consider the matters carefully.

Mr. John Henry Eustace Hart, formerly of the Public Works Department, Bombay, has died at his residence, Hollywood, Streatham, S.W., at the age of eighty-one. He went to India in 1854, and joined the Department in the following year. He was appointed chief engineer in 1885, and became Secretary of Public Works and irrigation in 1887, retiring in 1888.

At the last meeting of the Westminster City Council, Mr. Joseph E. Parr, A.M.I.C.E., for the past three years assistant superintendent in the drawing-office of the Birmingham Corporation, was appointed chief draughtsman in the works department, at a salary of £200 a year, rising to £250. For the vacancy, which occurred through the recent death of Mr. H. B. Hayes, 31 candidates offered themselves.

Mr. W. H. Collin, an inspector appointed by the Local Government Board, held an inquiry at the Middleton Town Hall, on Wednesday week, into applications by the town council for sanction to borrow £950, for the purchase of land and premises in Townley-street, and £18,000 for the erection thereon of a new town-hall. Mr. F. Entwistle conducted the case on behalf of the corporation, and stated that the town-hall was to be built from plans by Mrs. Alec Horsnell, of Doughty-street, Bloomsbury, whose plans were selected in a competition in which 107 designs were submitted. Strong opposition to the scheme was offered on behalf of the Middleton Property Owners' Association.

The dedication of the new institute which has been erected at King's Broadway as a memorial to the late Dr. Enall Lane, Dean of Rochester, was performed by the Bishop of Lichfield on Thursday in last week, the Bishop of Rochester subsequently performing the opening ceremony. The institute is a two-story brick building, situated within a short distance of the church. On the ground-floor there is a concert- or assembly-hall and two smaller rooms. Upstairs, there are a billiard-room and a committee-room. The building has been erected by Mr. W. E. Ward from his own plans, at a cost of about £730.

Building Intelligence.

MIDDLETON, LANCs.—The corporation are about to build twenty-four houses in the Boarshaw district, at an estimated outlay of £5,000. The adopted plans were submitted in an open competition by Mr. T. A. Fitton, architect, of Middleton and Manchester, and consist of two distinct types, one of which shows cottages for the working classes in groups of four, and the other a larger type to be built in pairs of semidetached cottages. The latter are to face Boarshaw-road, and will contain small entrance-hall, parlour, living-room, scullery, larder, coal-place, w.c., on ground floor, and three bedrooms, with separate bathroom, on second floor. The smaller houses will face a new road to be constructed off Boarshaw-road, and will contain a good living-room, scullery (with bath and cover to same), larder, store, coal-place, w.c., and three bedrooms. The whole of the houses will be fitted with cupboards, wardrobes, sinks, boilers, hot and cold water, shelving, picture-rails, etc., and the plots of each block will be fenced off and ample garden space provided at the front and back of the houses. The houses will be fitted with electric light throughout.

Mr. Walter Hunter, M.Inst.C.E., of Chartfield-avenue, Putney-hill, and Victoria-street, S.W., whose death took place on September 9, aged seventy-four, has left £38,015.

The Metropolitan Water Board decided at their last meeting to apply to Parliament for powers to construct reservoirs at Eltham, Grove Park, Sundridge, etc., and sink certain wells for the improvement of the supply in Kent.

Mr. Geo. Temple-Poole, A.R.I.B.A., C.E., president of the West Australian Institute of Architects, the chairman of the adjudicating board in the abortive Canberra Parliament Buildings competition, has just had a sad bereavement in the demise of his wife.

The urban district council of Penmaenmawr, at their last meeting, passed a resolution of condolence with the widow and family of the late Mr. J. S. Coverley, formerly the surveyor to the council, and later for many years a member, and for one year chairman, of the authority.

With regard to the application of the Rhyll Council for permission to borrow £2,500 for further improvements on the promenade, the Local Government Board have intimated that they will not withhold their sanction, under the circumstances, if the council start the work before an inquiry is held.

At the last meeting of the Cardiff Corporation, the city surveyor, Mr. W. Harpur, reported on the reconstruction of the tramway tracks in Queen-street and in Nineva-road. The cost had been £5,174, or £3 19s. 3d. per yard of single track in the former thoroughfare, and £4,600, or £4 6s. 2d. per yard in the latter, a little below his estimate of the expenditure.

The directors of the Canada Cement Company have declared a quarterly dividend of 1½ per cent. on the preferred stock for the current quarter. General Manager Jones states that, while the company, in common with other companies, is feeling the effects of the curtailment of business, they saw no reason why the preferred dividend should not continue.

At their last meeting the city council of Sheffield agreed to appropriate a site in Bow-street for the erection of offices and other buildings for the electricity department. The Electric Supply Committee had proposed to institute an open competition for the new premises; but on the motion of Col. Hughes and Sir William Clegg, an amendment was carried confining the competition to architects practising in the city. Opposing the amendment, a Mr. Barton remarked that, judging by Sheffield architecture, Sheffield architects would do better at a few ideas were introduced into their upper stories.

It has been reported to the city council of Westminster that, in connection with the Argyll-street improvement demolitions they have presented two ceilings and some detail of friezes from No. 9 Argyll-place to the Victoria and Albert Museum; that a Georgian mantel-piece and grate from the same house has been placed on permanent loan in the London Museum; and that lengths of plaster friezes and cornices from Nos. 6 and 9, Argyll-place and No. 23, Great Marlborough-street have been given to the Geffreys' Museum, Shoreditch.

Currente Calamo.

At the meeting of the City Corporation yesterday Thursday afternoon, the Lord Mayor presiding, Mr. G. W. Young, chairman of the Streets Committee, brought up a report relative to contracts for paving works with the London Asphalt Co., Ltd., and Bradshaw's Asphalt Co., Ltd., and recommending:—a. 1. That the necessary steps be taken to forthwith determine all contracts with the said companies, the directors and shareholders of which are all Germans and resident in Germany. 2. That the attention of his Majesty's Government be directed to the amounts payable to the London Asphalt Company, and their advice be asked on the matter. b. Recommending that his Majesty's Government be asked to obtain power to determine, as from the commencement of hostilities, all contracts with companies the directors and shareholders of which are predominantly German or Austrian or subjects of any other country with which England may be at war. c. Relative to the expiration, on September 28 ult., of the contract with the Val de Travers Asphalt Co., Ltd., for the maintenance of the carriageway pavement of Long Lane, Aldersgate street, to Central Markets, and submitting for acceptance an offer of the said company to continue such maintenance for one year, or less, at the rate of 2s. 6d. per yard super. per annum, being an increase of 6d. per yard super. per annum on the former price. Previous to the reception of the report the Corporation had sat in camera for three-quarters of an hour, and the report having been read by the assistant town clerk, Section a., with Clauses 1 and 2 were unanimously adopted, and Section b. being submitted, Mr. A. C. Morritt, M.P., suggested the adoption of the word "Great Britain" for "England" and this was accepted, a good-natured laugh being raised. Mr. J. R. Poteman, M.P., however, that the section should be referred back for redrafting, as it might happen that the managing director was a German or Austrian, while a majority of the English directors were put on the board for appearance sake, or some of the shares might be transferred to English holders. Mr. Young expressed his willingness to take the section back, and seconded the motion. Mr. Morritt, M.P., said that probably the Government were contemplating fresh legislation on the subject; he should try to get a government bill drafted what was a safe proposition. Mr. Young replied that the section was amended should be referred back at the earliest possible opportunity, and the section's details were referred to the Secretary, who was a friendly Englishman.

At the same meeting the Corporation was informed that the Victoria Company and the Corporation had approved of the drawings for the alterations to the Bridge and the Victoria Company had agreed to the company's proposals, the site of Herbert's Wharf. The Corporation approved of the plans, subject to the necessary alterations being made to the Victoria Company's proposals. The Corporation also approved of the plans for the alterations to the Victoria Company's proposals, subject to the necessary alterations being made to the Victoria Company's proposals.

The House of Lords on Wednesday dismissed an appeal by the Commissioners of Inland Revenue against a decision of the Court of Appeal that the Southend-on-Sea Estates Company, Ltd., were not liable for undeveloped land duty in respect of certain lands which they had leased before 1910, and of which they had power to resume possession at any time, for building or other purposes. It was contended by the Crown that, although the company had no wish to develop the land, inasmuch as they had the power to do so, they were liable to pay duty. Earl Loreburn, who delivered the leading judgment, said that he did not think the landlord had power to determine the tenancy, because that power only arose when there was a purpose, and it was admitted that in this case there was no such purpose. He did not think it was possible to determine a tenancy unless circumstances existed which would enable the landlord to support his determination in a court of law. That, as we said when the case was before the Courts below, was surely sufficiently obvious, and it will be well for all concerned specially to note the decision of the House of Lords.

Even the moratorium gets into the Law Courts, and, indeed, with the war it seems likely that what the lawyers lose on the swings they will make on the roundabouts! For instance, an important point as to rent and re-entry under a lease was raised last week, which turned upon the effect of the Postponement of Payments Act lately passed. A landlord, on August 25, sued his tenant for rent in arrears and for possession. But for the moratorium, which did not expire until October 4 as to rent, the case was undefended. It was admitted that plaintiff could not get his rent, having sued too soon. He, however, claimed possession of the premises under the usual clause giving a right of entry after twenty-one days' default, on the ground that this was a separate right, of which he was not deprived by the moratorium or the statute. Mr. Justice Scrutton held that this right of re-entry was not really an independent thing, as argued, but was simply an auxiliary proviso to secure the payment of rent; and as there was no rent recoverable when the writ was issued, neither could the right of re-entry be enforced, and the defendant got judgment. The same principle would apply to an action claiming forfeiture of a lease for the nonpayment of ground rent, if begun before the expiration of the moratorium.

Whether because German firms in the recent past, posing as "British," have succeeded in doing so much reinforced concrete work we do not know, but the faculty with which concrete foundations have been used by the Germans in Belgium for mounting their heavy guns has evidently prompted the inquiries whether German-owned buildings situated in the unlikely event of an invasion of this country by the enemy. Rules made upon premises in London and elsewhere are stated at Remyth and elsewhere, such at least that the authorities are alive to the situation, and necessary investigations are being made in all parts of the United Kingdom. A similar course, of course, are being taken in respect of buildings in other parts. The use of concrete in buildings is a matter for which the walls and floors are of the same material, and the fact that processes employed by persons of German

nationality or origin were so constructed may not unnaturally lay both owners and builders open to the suspicion of treachery. Concrete foundations put down to support heavy machinery may have no possible military value, and we may reasonably trust the authorities to take competent opinion in each case. That such opinion should be taken, and that investigation may be very necessary, is certainly advisable.

The many appeals for comforts for our men at the front and in training are being suitably responded to; but there is one "comfort" which is lacking, and complaints about it from several of the camps reach us, and that is sound sleep at night and ease by day, owing to the objectionable presence of vermin. This appears to be owing partly to the fact that men who joined with a small private kit, and who have not yet received uniform or a change of linen, lack all usual facilities for personal cleanliness, and partly to the fact that sleeping blankets are gathered and distributed daily indiscriminately, so that precautions by those able to take them are of very little use. The long spell of dry weather, and the dust, have, of course, been favourable to the multiplication of the pests. One correspondent protests to us that he and his company will be "eaten up alive before they can get at the Germans," if something is not done. The matter is really of importance because loathsome consequences soon follow the unchecked prevalence of the worst of all the plagues of Egypt, and the horror of all cleanly people. Meanwhile, friends of men complaining will do well to arm their sons and husbands with one of the palliatives. There is a Dalmatian powder sold by most chemists, which, sprinkled on the bedding and rubbed well into the person, quite unobjectionably mitigates the discomfort caused by vermin, and a tin or two of it, or some similar preparation, would be appreciated by a good many of our men just now, who are struggling valiantly to rid themselves of these objectionable parasites.

A new lock for bedrooms and private rooms of importance in hotels and similar institutions, and one which prevents effective manipulation by "skeleton" or "pass" keys, has just been introduced by Messrs. Joseph Kaye and Sons, Ltd., of 93, High Holborn, London, W.C., and Leeds. It is admitted by hotel managers and proprietors generally that security is required when the guest is in occupation of the room or rooms, and not when the guest has paid his bill and left the hotel. The simplest and most effective means of insuring this are combined in this invention by making all the locks different by means of the levers, and in such a manner that no guests' keys, or ordinary keys, may be made into a "pass" key with a common file or any other means, the bedroom doors being used in the ordinary way, knob inside and with key outside. Experience shows—and in some cases the experience has been costly to the hotel—that at present it is possible to alter guests' keys into "skeleton" or "pass" keys by means of a common file, and any mechanic can say that it is quite a simple operation. This lock is absolutely proof against any such alteration of a guest's or ordinary key. If filed, the key is rendered useless for opening the lock it was made for. The lock has further advantages, inasmuch as the master keys are larger than the guests' keys, and

totally different to the usual type of master key. In the event of a guests' key being "lost" or getting into doubtful hands, the lock, or locks, may be altered to a different key, thus making the old key inoperative, the master key working just the same. Should the contingency arise rendering essential a completely different master key, this may also be done without altering in any way the ordinary working of the guests' keys. This lock is made in Kaye's high-class manner, with gunmetal fittings and for long life. A very large number of locks can be made on this system, all different in their levers and under one master key. Messrs. Joseph Kaye and Sons, Ltd., are supplying all the locks to Waterloo Station (L.S.W. Railway); Fleetway House, Farringdon-street; New Law Courts, Kingston, Jamaica; Winchester College Extension, Institution of Mechanical Engineers' Extension, Anglo-South American Bank, City of Leeds Training College, and no less than thirty banks during the present year.

OBITUARY.

Mr. David Smart, architect, died at his residence, Rockbank, Perth, on Friday. Mr. Smart, who was a native of Ayth, was within a fortnight of his ninetieth birthday. After serving his apprenticeship in Edinburgh, he started his professional career in Perth about sixty years ago, and during his long business connection with that city he had acted as architect for numerous public buildings in the city and county. He is survived by a widow and three daughters.

The death of Mr. William Young, architect, of Park-road, West Hartlepool, occurred on Monday morning. He was sixty-one years old, was born at West Hartlepool, and was trained as a pupil at Thornaby. He formerly sat in the town council of West Hartlepool, and was prominently connected with the National Cyclists' Union.

Strong opposition was forthcoming at a Local Government Board inquiry at Rhyd on Friday, relative to an application by the council for sanction to a loan of £4,500 for the rebuilding and enlarging of the amphitheatre at the pier entrance, a structure which has been a grievous eyesore for several years. The Local Government Board inspector, Mr. P. M. Crishwaite, elicited that the architects and quantity surveyor's estimates varied from £4,500 to £4,756, and he suggested that if these estimates were prepared before the war the council could not now expect to receive tenders anywhere near those amounts. The Rhyd Palace Company opposed the scheme on the ground that the council meant to enter into competition with private enterprise in the matter of theatrical entertainments.

At the town hall, Sheffield, Mr. R. G. Hetherington, M.I.C.E., has held an inquiry into an application of the city council for power to borrow £70,000 for further works of secondary treatment of the city's sewage. Mr. C. F. Wike, city engineer, said the scheme prepared in 1904 estimated to cost £270,263 was now approaching completion. In spite of increased cost of labour and materials, it would be completed for the sum of £262,993. He explained in detail the present scheme, which would bring the final effluents quite within the requirements of the West Riding Rivers Board and in accord with the latest proposals of the Royal Commission on Sewage Disposal. It would include a modern pumping plant at Blackburn Meadows, in the borough of Rotherham, capable of lifting 45,000,000 gallons per day to the required height, and the filter-beds, occupying an area of nine acres, would have a similar maximum capacity per day. Mr. C. L. des Forges, town clerk of Rotherham, said his corporation considered it a nuisance since 1875 sludge through Rotherham to Kibburb. As to the sewage works, Rotherham had always objected to their presence in its district. Dr. H. M. Wilson, for the Rivers Board, stated that they were quite convinced of the necessity for these works. Although in the winter the effect of the effluent on the River Don was not very marked, in the summer it caused an offensive nuisance. The scheme would produce an excellent effluent.

Correspondence.

INCREASED CHARGES FOR ASPHALTE UNWARRANTED.

To the Editor of the BUILDING NEWS.

SIR.—I have followed with much interest the development of the question of trading with alien enemies, as applied to asphalte, and am rejoiced to see that in one case, at least (that of the Westminster City Council), the question of paying an increased price has been referred back.

To anyone who has any experience of this business it is an occasion of great surprise that an asphalte contractor should ask for 1s. per yard increase, to cover the extra cost and freight of this material, as that sum would verily yield a handsome profit on the extra cost. I trust the Westminster City Council will steadily refuse to accede to this request.

As regards the difference between asphalte blocks manufactured in France and those manufactured in this country, I need only point out that a certificate of origin is no guarantee of the purity of manufacture of asphalte blocks, and it is a far better and safer course to deal with companies manufacturing these blocks over here, as then not only can architects and engineers be shown certificates of origin of the raw material, but they can, in addition, inspect the manufacture into blocks, and satisfy themselves that only the pure material is being used, and that they are getting what they pay for.—I am, etc.

F. J. L. ROBERTSON, Secretary.
Claridge's Patent Asphalte Co., Ltd.,
3, Central-bldgs., Westminster, S.W.

ROYAL ENGINEERS' OLD COMRADES' ASSOCIATION CIVIL EMPLOYMENT REGISTRY.

SIR.—We beg to bring to your notice that, in connection with the above association, a labour department has been formed to assist good men to obtain suitable employment on their return to civil life, after they have completed twelve or twenty-one years of service, or when transferred to the Army Reserve, after shorter periods of service.

Attention is drawn to the fact that this association is the only one in existence dealing solely with men who have been members of the Corps of Royal Engineers; also that these men are placed in a somewhat different category to those offered by other institutions of a similar nature, in so far that a large percentage of them, upon entering the corps, must prove themselves qualified tradesmen, and they are usually employed at their respective trades or in some other important work during their service; indeed, a very large number of men receive special training in many of the most technical details of the various trades, and it is suggested that this knowledge would prove most valuable to their employers in civil life.

Capable and reliable men of good character only will be recommended for employment. It is, therefore, hoped that in the event of vacancies occurring all will be good enough to give this association an opportunity of submitting candidates. Branches of this association have been formed in nearly all large countries of the United Kingdom and in some states abroad. Candidates would, therefore, probably be forthcoming from the district in which the employment was offered.

The secretary at his quarters will be glad to render every assistance to employers of labour to find suitable candidates, who, if offered a given place, will prove their worth and give satisfaction, as many ex-Royal Engineers are now doing where firms have been good enough to give them an opportunity. Trusting we may repay your kind co-operation in this matter.—I am, etc.

Signed F. S. LISTON, C.E.,
President, Central Committee, Royal Engineers' Old Comrades' Association,
Horse Guards, S.W.

CAPTURING TRADE.

SIR.—Mr. John Bagot is right—it is at home that we must look for means to improve trade. In the British Isles we have millions of acres of unused and underused land suitable for agriculture, building, and mining, and also millions of people who would gladly devote themselves to the production of more food, houses, and minerals. To trouble about foreign markets while this vast undeveloped home market is in our midst is surely to prove our stupidity and the wisdom of the one who said "The eyes of the fool are in the ends of the earth."

German trade is not to be "captured" in the sense that that word is generally used. English traders will secure the orders that have hitherto gone to Germany when they can supply the goods or render the service better or cheaper than our competitors, and only then. But the building industry has little to hope for in that direction; it is a home industry, and it depends for its prosperity upon four things: cheap land, cheap materials, abolition of taxes and rates on buildings, and prosperous purchasers and tenants of its products. All these essentials can be secured by taxing all land on its true capital value, and untaxing buildings, machinery, and other improvements. This will increase the market supply of land, and thereby cheapen it. More land being put to use not only means more building operations and agricultural activity, but also more coal, slates, bricks, and other building materials, and, therefore, lower prices. The easiest and, therefore, the most sensible way to improve British trade is to see that British land is put to good use, and to untax British industry.

There is no trade that more needs stimulating than the building trade, and all connected with its many branches should study this question without delay. I shall be glad to send to any of your readers who will apply to me a copy of the memorial that was signed by 176 Members of Parliament and which contains the practical programme of land values taxation.—I am, etc.

ARTHUR H. WELLS.

1, Princess-street, Albert-square, Manchester, Oct. 18, 1914.

The Admiralty have let a local quarry company Dunderdale the contract for the first new road to be constructed within the Roshin area. The road, which will cost over £12,000, will stretch northwards for 3,000ft. from the 3rd gate. Its width will be 100ft., with three footpaths, two of 4ft. 6in. and one of 6ft., and with two rows of trees. Meantime a width of 160ft. of the tract will be seen in grass pending the laying of tram-rails, and to a width of 320ft. tram-macadam will be laid.

At the last meeting of the Town and Council, the special committee presented a report in which they asked the powers to purchase for £450 land and property in St. James-street for the purpose of providing covered swimming-baths for the district. The committee also recommended that the borough surveyor be instructed to prepare plans and specifications for the erection of a covered swimming-bath and slipway, with an estimated cost of £2,000. The committee's resolution was adopted, but in regard to the latter, Councillor F. S. Ingham proposed as an amendment that the application for a purchase should be invited to send in plans. This amendment was not seconded, and the resolution, which would not exceed £3,000, was adopted.

A difference which has previously manifested itself between the most prominent firms of Edinburgh, and the corporation has again arisen in relation to the contracts for the erection of public wash-houses at Mile-croft, S.W. Edinburgh, the plumbers made a representation to the corporation that in the erection of wash-houses, the plumbers of Edinburgh, who wash-houses are erected, patterns of work which are not to be used within their province should be treated separately and not be subject to the general conditions. The corporation stated that it was not in a position to alter the stipulations of the contracts, and they maintained that it was not their intention to have a renewal of the work at Mile-croft wash-houses. As a protest, the plumbers have now refused to tender for the erection of the work.

LEGAL INTELLIGENCE.

POWER TO RESUME POSSESSION AND UNDEVELOPED LAND DUTY.—In the House of Lords on Wednesday, Lords Loreburn, Atkinson, Parker, Sumner, and Parmoor gave judgment in the appeal raised by the Crown in the action "Commissioners of Inland Revenue v. Southend Estates Co." The point raised was whether a lease of agricultural land valued at over £50 an acre, containing a power enabling the landlords to resume possession of any portions they might require for building or other purposes, rendered the land liable to undeveloped land duty under the Act of 1910. Mr. Justice Scrutton had held that the lessor was liable under the circumstances to duty, but his decision was reversed by the Court of Appeal. Their view was now upheld by the House of Lords, who dismissed the appeal of the Crown, with costs. Earl Loreburn, the other lords concurring, held that the mere existence of the power to use, certain conditions being complied with, the land for building purposes did not render the lessor liable to undeveloped land duty.

IN RE G. ROBINSON, BIRMINGHAM.—An application for discharge from bankruptcy has been made at Birmingham County Court, before Judge Amphlett, K.C., by George Robinson, formerly carrying on business as a builder at 73, Bath-row, Birmingham. The Official Receiver (Mr. A. S. Cully) stated that the receiving order was made on October 2, 1911, on the debtor's own petition, and the public examination was concluded on November 6, 1911. According to the bankrupt's statement of affairs, the liabilities were estimated at £3,015 10s. 5d., but the proofs actually submitted amounted to £3,216 2s. 5d. The assets were estimated by the bankrupt to produce £1,035 13s. 1d.; but they realised £1,433 15s. 5d. This difference between the actual value of the assets and the bankrupt's estimate was accounted for mainly by the stock-in-trade and fixtures realising by auction considerably more than the bankrupt's estimate. The preferential and other claims payable in full were stated by the bankrupt to be £135 0s. 11d., and the amount of such claims was £39 16s. 1d. A first and final dividend of 7s. in the pound was paid on proofs for £3,216 2s. 5d. The bankrupt stated he was now managing his son's business. His Honour granted the discharge, subject to two years' suspension.

WATER SUPPLY AND SANITARY MATTERS.

OTTAWA RIVER WATER SUPPLY.—Complete plans and specifications for the Ottawa River water system have been laid before the Ottawa Board of Control by Messrs. Hazen and Whipple, New York. The mouth of the intake will be 500ft. out in the river. The purification plant, reservoir, and other works will be placed at the junction of Scott-street and Parkdale-avenue. A reservoir with a capacity of ten million gallons and also a smaller one, will be built. The entire works are designed to meet the requirements of the city for an average supply of twenty-five million gallons daily; but the full capacity will be thirty-five million gallons. The purification plant will be similar in its general design to plants in operation at Westmount, Que.; Cincinnati, Ohio; Columbus, Ohio; and New Orleans, La. It will consist of large coagulating basins, mechanical filters, and pure-water reservoirs. The intake pipes will be double the capacity of the present installation. Space is allowed in the low-level station for another unit of thirty-five million gallons. Unqualified approval of the scheme has been given by Mr. J. Wadsworth Smith, chief engineer of the New York city waterworks.

Excavation has started on the new Registry Office which is being built at Toronto at a cost of 100,000d. The architect is Mr. C. S. Cobb, of Toronto.

The foundation-stone of the new parish-hall of St. Gabriel's, in Goodhind-street, Bristol, was laid on Friday by the Bishop of Bristol, Dr. Nickson. The hall will have accommodation for about 160 persons, and the plans have been prepared by Sir Frank Wills and Sons, of Bristol.

A lecturing tour on "Town Planning" through all the principal cities of the Australian Commonwealth, commencing in Sydney, is being carried out by Mr. W. B. Davidge, A.R.I.B.A., F.S.I., district surveyor for Lewisham under the London County Council, who has been attending the British Association Meetings in Sydney and Adelaide. Mr. Davidge is accompanied by Mr. Charles C. Rable, a New Zealand journalist, who has spent ten years in England as assistant secretary to the Garden Cities and Town Planning Association.

Our Office Table.

A resolution of sympathy has been addressed by the Ancient Monuments Board of England, Scotland, and Wales to the French Ambassador and the Belgian Minister. The resolution is signed by the chairmen of the three boards, Mr. Lionel Earle, C.B.; Sir J. Stirling Maxwell, and Sir E. Vincent Evans, and expresses "the horror and indignation with which the boards have received the news of the wanton destruction by the common enemy of the famous and beautiful monuments of the countries involved—monuments which were justly the pride, not only of their native land, but of the whole civilised world. Such losses are, alas! irreparable, and must ever remain a bitter memory, the record of a chapter in the annals of mankind which will brand with indelible infamy the minds which conceived and the hands which carried out so idle an outrage against civilisation." Universal concurrence in these expressions of indignation and sympathy will be felt by all civilised people.

Mr. John Wynne, F.R.I.B.A., of Manchester, has been presented with an illuminated address by the council of the Moss Side East Ward of the Manchester Liberal Federation, expressing the personal affection of the members of the council, and their admiration of Mr. Wynne's public services to the district. The address testifies that through the whole of the long time that Mr. Wynne had been in their midst he had laboured to promote the wellbeing of the district, and had faithfully served the inhabitants and the electors, formerly on the local board, then on the urban district council, and recently, since amalgamation, for six years on the Manchester City Council. The address also acknowledges that Mr. Wynne has given of his best to the Liberal council, and had been faithful to his duties as a public man and a citizen, and expresses the hope that he may be long spared to exert the same influence in the cause of justice and righteousness that he had exerted for so many years. Mr. W. Johnson, the chairman of the council, made the presentation, supported by Councillor Bown, the Rev. W. E. Coller, and Mr. Merton Boor, who all spoke of the good work that Mr. Wynne had done.

Three courses of Chadwick public lectures, fully illustrated with lantern-slides, are to be given this season. The first three will be delivered on Saturdays, Nov. 14, 21, and 28, at 3 p.m., at Bedford College, Regent's Park, N.W., by Dr. A. T. Nankivell, medical officer of health for Poole, Dorset, who will speak upon "Camp, Ship, and Hospital Hygiene." A second series will be given by Sir Donald Ross, K.C.B., F.R.S., on Fridays, Dec. 4 and 11, at 8.15 p.m., at the London School of Economics, Clare Market, Kingsway, W.C., the topic being "Government and Military Sanitation in the Tropics." The third course will be delivered by Dr. F. M. Sandwith, at 5.15 p.m. on January 15, 22, and 29, at the Royal Society of Arts lecture-hall, on "War and Disease." Admission to all these lectures will be free. With the sanction of the Medical Director-General of the Navy, and by arrangement with the surgeons-general of the respective ports, a course of three Chadwick lectures on naval hygiene: (1) "The Progress of Naval Hygiene and its Effects on the Health of the Navy," (2) "The Health of the Ship," (3) "The Health of the Sailor," will be given by Professor W. J. Simpson, C.M.G., M.D., in the Mayor's Room, Town Hall, Portsmouth, on Fridays, Nov. 27 and Dec. 4 and 11, at 9 p.m., and in the R.N. Hospital, Plymouth, on Saturdays, Nov. 28, Dec. 5 and 12. Further particulars of these and other Chadwick lectures may be obtained from the secretary, at the offices of the Chadwick Trust, 8, Dartmouth-street, Westminster.

At Tuesday's meeting of the Birmingham City Council it was decided, after a long discussion, to adopt a recommendation by the education committee, that in future the cost

of all alterations and improvements to school buildings and new furniture be paid out of current revenue, instead of by loan. The tramways committee submitted a comprehensive scheme for the construction of new tramways, including the extension of the existing tramway at Selly Oak through Northfield and Longbridge to the city boundary at Rednal. Proposals were also made for the purchase of additional rolling-stock, the total estimated cost of the whole scheme submitted being £128,240. The proposed extension from Selly Oak to Rednal was deferred owing to the present unfavourable financial situation. The other recommendations were agreed to. The town-planning committee's scheme for the North Yardley and Stechford area was cordially approved, and authority was given for the preparation of a scheme for the adjoining South Birmingham area.

The Library Committee have (says the *City Press*) secured possession of a most valuable and interesting illuminated manuscript on the Arms of the City of London. It is the work of one William R. Smith, Rouge Dragon, in the early years of the 17th century, and was executed by him on commission from the Corporation for the sum of £30. How and when it passed out of the hands of the Corporation no one can say, but the autograph of a subsequent owner affords circumstantial evidence that the work disappeared from the Guildhall very shortly after delivery. The manuscript gives the first representation of the use of the dragon as supporters, and of the City motto. Previously, the earliest record was 1633. A similar manuscript was prepared by the same author in 1605, and is now in the Bodleian Library. The fact is significant that the same Herald in depicting the City coat in 1588 and again in 1605, omits the supporters and the City motto, whereas in 1609 he adds the dragons as supporters and the City motto. The natural inference is that the supporters were added to the Arms between 1605 and 1609.

"Electric Light Fitting," by S. C. Batstone, A.M.I.E.E. (London: Whittaker and Co., 2, White Hart-street, E.C., 5s.), is an excellent treatise on wiring for lighting, heating, and other domestic uses of electricity, and the laying down of small installations. It is very fully illustrated, and thoroughly practical, and will solve many difficulties of daily work. There is very little space devoted to theory, but the opening chapter is lucid, and will enlighten the ordinary student and practical man more than most of that in many books which give little else.

Reinforced concrete roof-tiles have been placed on a number of buildings constructed in connection with the Catskill Aqueduct, according to the last report of the Board of Water-Supply of New York City. The tiles were made of 1:2 mortar reinforced with 1½ in. by 3 in. wire mesh. All tiles except the hip-tiles were made with the weather surface up, shaped and surfaced with special steel screen. The hip tiles were cast in sand moulds. Under test the flat tiles showed an ultimate strength of 30lb. per inch of width when centrally loaded on a 35in. span, and were impervious under a 3in. head of water when twenty-eight days old. In place, they also stood well under rains and snows, showing no leakage at any time. From the satisfactory results of this experiment it was determined to use concrete tiles to roof all aqueduct superstructures.

Under the title of "The Magnet of Commerce" the Great Central Railway Company has issued a most interesting account of the great Midland coalfield. The developments which are constantly taking place in the coalfields of Yorkshire, Lancashire, Nottinghamshire, Derbyshire, and elsewhere, and the opening of the new dock at Inmingham certainly called for such periodical interesting and useful information to the coalowner and colliery manager, as well as the exporter and the numerous business firms and trades associated with coal, colliery machinery, etc. The railway com-

pany has an interest in both the seller and buyer, and we are sure the various statistics and information compiled in the volume will be useful alike to the sender and receiver.

The annual report of Mr. Charles F. Wike, the city engineer of Sheffield, states that the condition of the building trade in the city, and the laying out of new streets during 1913, shows a slight improvement as compared with 1912 with respect to works or business premises, but not as to dwelling-houses in which there is a small decrease. There is, however, a substantial improvement in the deposit of plans for the development of land to be laid out as streets. The number of plans submitted to the plans sub-committee was 1,019. Of these 999 plans were for buildings, building work, or drainage, and twenty for new streets, sewers, or watercourses, being forty-five more than in 1912. Of the total number (999) of building plans, 906, or 90.69 per cent., were approved; 768, or 76.87 per cent., being approved on first presentation to the committee. The figures for 1913 show an increase as relates to streets of 330 per cent., of sewers 449 per cent., of watercourses 353 per cent., as compared with the figures for 1912. The aggregate length of proposed streets and sewers approved on plans during the last twenty-five years is 80½ miles of streets with sewers, and an additional length of 13½ miles sewers only. Plans for new buildings, additions and alterations to existing buildings, or drainage, numbering 926, were approved during the year, being an increase of 61 plans (10.61 per cent.) more than approved in 1912. The number of new houses shown on approved plans was 695, being a decrease of nine houses (1.01 per cent.) below the number approved in 1912. This number was a decrease of 421 houses (37.52 per cent.) below the number approved in 1911. The number of other new buildings approved on plans during the year was 771, or 59 (8.28 per cent.) more than the number approved in 1912. These buildings included 161 factories and workshops, or additions thereto, 63 sale-shops, offices and warehouses, 29 churches, schools, and other public buildings, 10 picture theatres and billiard saloons, temperance hotels, and additions to nurses' home and other public institutions. The number of houses erected and certified for occupation during the year was 542, being a decrease of 161 houses (or 22.91 per cent.) as compared with the number certified in 1912. This is 670, or 55.29 per cent. less than the average number (1,212) erected and certified during each of the five previous years, 1908 to 1912 inclusive. The houses erected during 1913 were mainly in the Darnall, Endcliffe, Fulwood, Greystones, Hillsboro', Sandygate, Wadsley, Winebank, and Woodseats districts. The number of houses erected and certified in 1913 makes the aggregate number of houses erected in the city under by-laws during forty-nine years (since the year 1864) amount to 57,248, showing an average yearly rate of increase of approximately 1,168 houses. These figures, with an average rate of 4.75 persons per house, give an aggregate increase of 271,928 in the population during the period stated. Among the other buildings completed during the year were eight churches and nine picture palaces. The dangerous buildings, walls, or other structures dealt with during the year numbered 229, and these were demolished or otherwise dealt with so as to secure the safety of the public or the occupiers. Mr. Wike's report contains numerous tables and is illustrated by diagrams, and a large-scale plan, in colours, of the new and old sewage-disposal works for the city.

Mr. Alfred Massey, formerly and for many years surveyor and sanitary inspector to the urban district council of Newport, Salop, died on Wednesday in last week, at his house, The Moat, Newport, aged seventy-seven years.

Mr. R. H. Bicknell, M.I.C.E., Local Government Board inspector, held a public inquiry at North Shields, yesterday, in reference to an application by the Tynemouth Corporation for sanction to borrow £6,000 for the construction of a new market shed at North Shields Fish Quay.

MEETINGS FOR THE ENSUING WEEK.

- FRIDAY (To-day).—Town Planning Institute.** "Wide Roads for Cities," by John A. Brodie, M.I.C.E. 92, Victoria street, S.W. 8 p.m.
Glasgow Architectural Craftsmen's Society. "Modes of Measurement," by T. Whyte, F.R.S.
MONDAY.—Victoria and Albert Museum. "The Cathedral Group at Pisa," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
WEDNESDAY.—St. Paul's Ecclesiological Society. "Hereford Cathedral," by E. W. Harvey Piper, St. Paul's Chapter-House, E.C. 8 p.m.
THURSDAY.—British Museum. "Temples and Palaces of Babylon and Assyria," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
Victoria and Albert Museum. "The Universal Arts," by S. C. Kaines Smith, M.A. 4.30 p.m.
Institution of Electrical Engineers. Opening Meeting. Inaugural Address by Sir John Suell. 8 p.m.

Trade News.

WAGES MOVEMENTS.

WAGES AND HOURS OF LABOUR.—The Board of Trade report for 1913 on the changes in rates of wages and hours of labour in the United Kingdom, issued on Monday, states that the year was one in which there was an active demand for labour, especially in the first half, and wages rose in sympathy. The movement of wages has been in an upward direction since 1910, and reached its culminating point in the first half of 1913. After the month of August, however, there began to be a falling off in those branches of the metal trades in which changes in wages are automatically regulated by fluctuations in the selling prices of pig-iron and manufactured iron and steel. In spite of the set-back in the iron and steel trades, the net effect of all the changes of the year was to increase wages by £179,000 a week, an amount which has only been exceeded, during the last twenty years, in 1900 (£208,500) and 1907 (£201,000), both years of very good employment. Of the increase of £179,000 per week in 1913, coalmining accounted for £102,000, the building trades for £23,000, and engineering and shipbuilding for £13,500. The increases in the building trades were much greater than those recorded for any previous year, considerably exceeding the total advance in these trades during the preceding thirteen years. In eleven of the last twenty years wages have risen, and in nine they have fallen, with the result that wages show a net increase of over £30,000 during twenty years in the weekly wages of all classes of work-people, except agricultural labourers, seamen, and railwaymen. It will be noted that in the building and other trades insured against unemployment, the percentage of unemployment has remained this autumn lower than at the corresponding periods last year. The return for the week ended October 16 was 4.46, as compared with 4.80 a week previously, and 5.79 a month ago.

The parish church of Wrexham has been reopened after the erection of a new alabaster rosettes, the repaving of the sanctuary and chancel in black and white marble, and the filling with stained glass of the apse windows. Sir T. G. Jackson, R.A., was the architect.

It is announced that the Canadian Vickers Company are going to erect a dry-dock at Montreal, at a cost of 165,000 dollars. The plans are being prepared by Sir William Aird, of Glasgow. The dock will be 182ft. long. An addition to the Harbour Commissioners' grain elevators, to cost 800,000 dollars, is also to be erected.

Sir W. B. Richmond, K.C.B., R.A., tersely writes: "Under the ashes of Rheims, Louvain, and Termonde he buried German 'Kultur' Under cities, towns, and villages in France and Belgium the Germans have buried their reputation. They have made themselves outcasts; they are outside the pale of civilisation. The name of their ruler is anathema in cultured, civilised, humane Europe."

At the meeting on Tuesday of the Colwyn Bay Urban District Council, plans were submitted by the surveyor, Mr. W. Jones, for a service reservoir which is to be constructed on the top of the high land near Mechdre recently acquired. The land occupied by the reservoir will comprise seven acres, and the reservoir will have a capacity of 11,000,000 gallons. The value of the land set apart for the reservoir was estimated at £455, and the rest of the estate, which will be used for a public park, was valued at £205.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

	Per ton.	Per ton.
Rolled Steel Joists, English	£7 10 0 to	£7 12 6
Wrought-iron Girder Plates	7 0 0 "	7 5 0
Steel Girder Plates	7 2 6 "	8 2 6
Bar Iron, good Staffs	6 5 0 "	8 10 0
Do., Lowmoor, Flat, Round, or Square	22 0 0 "	0 0 0
Do., Welsh	5 15 0 "	5 17 0
Boiler Plates, Iron—		
South Staffs	8 0 0 "	8 15 0
Best Scadshill	9 0 0 "	9 10 0

Angles 10s., Tees 20s. per ton extra.
 Builders' Hoop Iron, for bonding, &c., £8 15s. to £9.
 Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—

No. 18 to 20.	No. 22 to 24
6ft. to 8ft. long, inclusive gauge	£13 0 0 to £13 10 0
Best ditto	13 0 0 to 14 0 0

Wire Nails (Points de Paris)—

	Per ton.	Per ton.
3 to 7 8 9 10 11 12 13 14 15 B.W.G.		
8/3 8/9 9/3 9/9 10/3 11/4 11/9 12/6 13/6 per cwt.		

	Per ton.	Per ton.
Cast-Iron Columns	£6 17 6 to	£8 10 0
Cast-Iron Stanchions	6 17 6 "	8 0 0
Rolled-Iron Fencing Wire	8 5 0 "	8 10 0
Rolled-Steel Fencing Wire	7 5 0 "	7 10 0
Galvanised	8 15 0 "	9 5 0
Cast-Iron Sash Weights	5 10 0 "	5 15 0
Cut Floor Brads	9 15 0 "	—
Corrugated Iron, 24 gauge	16 0 0 "	—
Galvanised Wire Strand, 7 ply, 14 B.W.G.	14 5 0 "	—

B.B. Drawn Telegraph Wire, Galvanised—

0 to 8	9	10	11	12	B.W.G.
£10 10s.	£10 15s.	£11 0s.	£11 5s.	£11 15s.	per ton.

Cast-Iron Socket Pipes—

3in. diameter	2 6 to	£6 7 0
4in. to 6in.	6 0 0 "	6 5 0
7in. to 24in. (all sizes)	5 7 6 "	6 0 0

[Costed with composition, 5s. 0d. per ton extra; turned and bored joints, 5s. per ton extra.]

Fig Iron—

	Per ton.
Cold Blast, Lillieshall	10s. 0d. to 117s. 6d.
Hot Blast, ditto	70s. 0d. to 75s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—

	75 p.c.
Gas-Tubes	71½ "
Water-Tubes	67½ "
Steam-Tubes	65 "
Galvanised Gas-Tubes	61½ "
Galvanised Water-Tubes	55 "

OTHER METALS.

	Per ton	£21 5 0 to	£21 7 9
Spelter, Silesian	23 10 0 "	—	—
Lead Water Pipe, Town	24 5 0 "	—	—
" " " Country	24 10 0 "	—	—
Lead Barrel Pipe, Town	25 5 0 "	—	—
" " " Country	25 10 0 "	—	—
Lead Pipe, Tinned inside, Town	26 5 0 "	—	—
" " " Country	28 0 0 "	—	—
Lead Pipe, Tinned inside and outside	28 15 0 "	—	—
" " " Country	26 10 0 "	—	—
Composition Gas Pipe, Town	27 5 0 "	—	—
" " " Country	26 10 0 "	—	—
Lead Soil-pipe (up to 4½in.) Town	27 5 0 "	—	—
" " " Country	27 5 0 "	—	—
" " [Over 4½in. 41 per ton extra.]			
Lead, Common Brands	17 17 6 "	18 12 6	
Lead Shot, in 28lb. bags	24 15 0 "		
Copper Sheets, sheathing & rods	75 0 0 "	75 10 0	
Copper, British Cake and logot	64 0 0 "	65 0 0	
Tin, English Ingots	163 0 0 "	164 0 0	
Do., Bars	146 0 0 "	146 10 0	
Pig Lead, in cwt. Pige (Town)	22 0 0 "		
Sheet Lead, Town	23 0 0 "		
" " " Country	23 15 0 "		
Genuine White Lead	30 15 0 "		
Refined Red Lead	30 0 0 "		
Sheet Zinc	—	Price on inquiry.	
Old Lead, against account	15 10 0 "		
Tin	8 10 0 "		
Cut nails (per cwt. basis, ordinary brand)	0 12 9 "		

* For 5 cwt. lots and upwards.

SLATES.

	in.	in.	£ s. d.	per 1,000 of
Blne Portmadoc	20 x 10	12 12	6 1,200	at r. stn.
" " "	16 "	8 "	6 12 6	" "
Blue Bangor	20 "	10 "	13 2 6	" "
" " "	20 "	12 "	13 17 6	" "
First quality	20 "	10 "	13 0 0	" "
" " "	20 "	12 "	13 15 0	" "
" " "	16 "	8 "	7 5 0	" "
Eureka unfading green	20 "	10 "	15 17 6	" "
" " "	20 "	12 "	18 7 6	" "
" " "	18 "	10 "	13 5 0	" "
" " "	16 "	8 "	10 5 0	" "
Permanent Green	20 "	10 "	11 12 6	" "
" " "	18 "	10 "	9 12 6	" "
" " "	16 "	8 "	6 12 6	" "

BRICKS. (All prices net.)

Table listing various types of bricks and their prices, including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks, and various facing bricks.

Net free on rail, or free on boat at works.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed bricks with different finishes like White, Ivory, Buff, Cream, and others, along with their prices.

MOULDED BRICKS.

Table listing moulded bricks such as Stretchers and Headers, and various sizes and finishes.

Table listing Portland Cement and Blue Lias Lime with their respective prices and specifications.

STONE.*

Table listing different types of stone like Red Mansfield, Darley Dale, and Greenhill, with their prices per foot cube.

* All F.O.R. London.

Table listing Bath Stone and other stone products with their prices per foot cube.

Table listing Portland Stone in random blocks of 20ft. average, delivered on road wagons.

TILES.

Table listing various types of tiles including Plain red roofing tiles, Hip and Valley tiles, and Ornamental tiles.

OILS.

Table listing various oils such as Rapeseed, Cottonseed, Olive, and others, with their prices per ton.

GLASS (IN CRATES).

Table listing different types of glass like English Sheet Glass and various sizes.

VARNISHES, &c.

Table listing various varnishes and finishes like Fine Pale Oak Varnish, Pale Copal Oak, and others.

TRADE NOTES.

Under the direction of Mr. John Farrar, architect, 2, Coleman-street, E.C.4, Boyle's latest patent "air-pump" ventilators have been applied to the St. George's Parish Hall, Park-road, Hornsey, N.

In spite of the difficulties caused by the War, Messrs. Waygood-Otis, Ltd., are having a steady flow of new work, and are able to keep their works in full operation, although about 200 of their employees have left for military or naval service.

The well-known "Lion" brand inodoriferous felt, manufactured by F. McNeill and Co., Ltd., of Lamb's passage, Bunhill-row, E.C., is being used in the construction of the new post-office at Bicester.

Messrs. Robert Barclay and Co. have had constructed for them recently a new warehouse in Whitworth-street West, Manchester, and we notice that the concrete blocks forming both the backs and sides of this building have been treated with "Pudlo," which makes cement waterproof.

Sir Valentine R. Grace, Bart., J.P., D.L., has joined the firm of Messrs. Palgrave and Co., architects and surveyors, Bloomsbury-square, W.C., with whom he has been associated for some years, and the style and address of the firm will remain as hitherto.

The urban district council of Alford have appointed Mr. W. W. Walker to the posts of surveyor and inspector of nuisances.

Mr. G. F. Grimwood, borough surveyor at Monmouth, has resigned that position in order to take up a Government post in Nigeria.

Mr. John Willmott, a member of the firm of Messrs. Joseph Willis and Willmott, contractors, Warnley, died a few days ago, aged 58 years.

The partnership hitherto subsisting between G. Clark and F. Clark, builders and contractors, at Cambridge, under the style of Clark and Sons, has been dissolved.

Mr. Francis Horner, estate agent and valuer, of Queen-street, and The Lawns, Thorpe Hamlet, Norwich, has been appointed as sheriff of Norwich for the ensuing year.

At the last session of the Norwich Consistory Court a faculty was granted to remove the west gallery of the parish church at Braconash, to re-seat the nave and chancel, and to carry out general restoration works.

The first ordinary general meeting of the session 1914-15 of the Surveyors' Institution will be held on Monday, November 9, at 8 p.m., when the president, Mr. Howard Chatfield Clarke, will deliver an opening address.

The city council of Vancouver are inviting competitive designs for the development of the proposed civic centre. Premiums amounting to 5000l. and 2500l. will be given to the first and second designs respectively. The closing date for entrance is November 30.

The new stadium for McGill University, Montreal, is in course of erection. The architects are Messrs. Percy E. Nobbs and Hyde, of Beaver Hall Hill, Montreal, and the general contractor Messrs. L. A. Ott and Company, also of Montreal. The estimated cost is 100,000l.

At Bradford, the Regent Picture House, in Manningham-lane, has just been opened. The auditorium measures 106ft by 60ft., and accommodation is provided for 1,500 persons. Attached to the house are winter gardens. Mr. H. W. Rogerson, M.S.A., of Bradford, was the architect.

Additions are being made to the Schools of Rural Economy at Oxford from plans by Messrs. N. W. and G. A. Harrison, of that city.

The Local Government Board has sanctioned the Southampton Urban District Council borrowing £1,707 for an extension of the local gasworks.

The rural district council of Cheddle have adopted a scheme for a water supply to the village of Werrington, prepared by Mr. J. Wilcox. The scheme, which will also supply the county lunatic asylum at Cheddleton, is estimated to cost £14,410.

On the site of the old passenger station at Howrah near Calcutta, extensive goods offices are about to be built by the East Indian Railway Co. The building, of three floors, will cover an area of 355ft by 10ft. Mr. Stephen Wilkinson, of Dalhousie-square, Calcutta, is the architect.

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TENDERS.

. Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ABERPORTH.—For erecting a school at Aberporth, for the Cardigan County Education Committee. Mr. G. Dickens-Lewis, L.R.I.B.A., M.S.A., Aberystwith, architect:—
 Rees, D. J., Cardiganshire ... £1,795 0 0
 James and Richards, Newcastle Emlyn ... 1,730 0 0
 George and Michael, Pembroke Davies, Watkin, Lakenfield Llanybyther ... 1,587 11 0
 Jones, B., Henllan (accepted) ... 1,150 0 0

BAILDON.—For erection of a residence in the West-lane, Baildon. Messrs. Nunn and Bracwell, Bank Chambers, Bingley, architects. Accepted tenders:—
 Masons:—
 Wildman, D., and Son, Bingley Joiners ... £575 0 0
 Crowther and Holmes, Bingley... Plumber:— 310 0 0
 Dyson, J., Baildon ... Plasterers:— 125 17 0
 Holmes, W., and Son, Baildon... Tiler:— 118 0 0
 Thornton, W., Bingley ... 66 0 0

BARROW.—For alterations to the workhouse, for the guardians:—
 Sleath, F. (accepted) ... £320 0 0

BILLERICAY.—For the construction of 184 lineal yards 7in. pipe sewer at Laindon-road, Billericay, for the rural district council. Mr. R. J. W. Layland, surveyor:—
 Harris Bros., Billericay ... £128 0 0
 Moss and Newitt, Pitsea ... 122 0 0
 Ilea, W., Southend ... 115 0 0
 Jackson, W., Forest Gate ... 113 0 0
 Lingwood, W., jun., Remford* ... 106 0 0
 * Accepted.

BIRMINGHAM.—For supplying and laying about 300 yards of standard-gauge track, yard, road, and other works in connection with railway sidings and yard at Lifford, Birmingham, for the Ten Acres and Strachey Co-operative Society, Ltd., Birmingham. Messrs. Home-Morton, Kerr, and Gibson, M.I.C.E., engineers:—
 Wilson, J., and Sons ... £2,219 2 9
 Fenwick, R., Ltd. ... 2,074 0 0
 White, J., jun. ... 2,039 12 6
 Elvins, T., and Sons ... 1,750 0 0
 Trentham, G. P., Ltd.* ... 1,583 0 0
 * Provisionally accepted. (All of Birmingham.)

BOSTON, Lincs.—For alterations to the cottage home on Brothcroft-road, for the Boston Board of Guardians:—
 Dawson, W. E. (accepted) ... £102 10 0

CHARING CROSS, W.C.—For reconstructing the urinal in York-place, Villiers-street, for the Westminster City Council:—
 Dent and Hellyer, Ltd. ... £168 0 0
 Adamsez, Ltd. ... 156 0 0
 Doulton and Co., Ltd. ... 135 0 0
 Farrer, W. E., Ltd. ... 124 0 0
 Finch, B., and Co., Ltd. ... 123 10 0
 Davis, Bennett, & Co. (accepted) ... 109 0 0

COLCHESTER.—For draining the cricket-ground, for the Essex County Council:—
 Impey, G. (accepted) ... £162 17 2

CRICK.—For erection of a county school at Crick, for the Northants County Education Committee:—
 Webster, W., Guisborough ... £1,895 0 0
 (Accepted.)

DERRY.—For erection of the free library and art gallery extension, for the corporation:—
 Walkerdine (accepted) ... £5,547 0 0

DERRY.—For erection of the Normanton library for the corporation:—
 Watson, R., and Sons ... £4,770 11 9
 (Provisionally accepted.)

DERBY.—For erection of the Alveston branch library, for the corporation:—
 Pegg and Bailey ... £5,150 0 0
 (Provisionally accepted.)

DEVIZES.—For erection of six working-men's dwellings, in three pairs, at the Butts, Potterne, for the Devizes Rural District Council:—
 Blackford and Son, Calne... £1,598 0 0
 Parsons Bros., Westbury... 1,435 0 0
 Offer, G., Devizes ... 1,380 0 0
 Waight and Oatley, Pewsey ... 1,333 0 0
 Holloway, J., and Son, Worton... 1,293 9 6
 Maslen, L., and Sons, Devizes* ... 1,156 0 0
 * Accepted.

DUNHAM-ON-THE-HILL.—For the extension of a water main in the parish of Dunham-on-the-Hill, near Chester, for the Chester Rural District Council:—
 Trentham, G. P., Ltd., Birmingham ... £324 0 0
 Edwards, B., Dodleston, Chester ... 311 0 0
 Christie, C. A., Colwyn Bay ... 300 0 0
 Jowett Bros., Chester (accepted) ... 280 0 0

DORKING.—For kerbing, channelling, and metalling the carriage-way, and gravelling the footpaths of Knoll-road, length 1,300 lineal feet, for the Dorking Urban District Council. Mr. W. A. Clegg, C.E., Council Offices, Dorking, engineer:—
 Arthur and Son, Dorking... £1,135 19 4
 May and Son, Ashted, Surrey ... 1,021 15 0
 Ilea, E., Croydon ... 966 16 2
 Free and Sons, Maidenhead ... 901 16 10
 Carey, S., Bexhill ... 890 0 0
 Longhurst and Sons, Dorking ... 839 6 3
 Streeter, A., and Son, Shalford, Guildford (accepted) ... 761 9 1

EDINBURGH.—For seating new town-hall, for town council. Mr. J. A. Williamson, A.R.I.B.A., architect. Specifications by Mr. James A. Williamson, A.R.I.B.A., Edinburgh, city architect. Accepted tenders:—
 The Bennett Furnishing Co., Glasgow ... £397 16 4
 Beck & Windebank, Birmingham 244 0 0

FARNFIELD.—For executing works of painting at Farnfield reformatory, for the London County Council:—
 Wallace, R., Merstham ... £120 0 0
 Jarvis, G., Weybridge ... 95 0 0
 Wickens, T., Charlwood, near Hareley (accepted)... 80 0 0

GREATNESS, MID-KENT.—For building 16 cottages, for the Sevenoaks Rural District Council:—
 Woodhams (accepted) ... £2,930 0 0
 (Lowest of 15 tenders received.)

HANWELL, W.—For works of painting at the cemetery, for the Westminster City Council:—
 Jamieson, A. (accepted) ... £65 6 0

HOLLINGBOURNE.—For the repair of the board's offices, for the Hollingbourne board of guardians:—
 Cruttenden and Sons (accepted) £89 10 0

HOLLOWAY, N.—For the supply of 240,000 creosoted deal paving blocks, 3in. by 9in. by 5in., required in connection with the reconstruction of the tramway lines in Seven Sisters-road, for the London County Council:—
 Millars' Timber and Trading Co., Ltd., Commercial-road, E. ... £11 2 6
 Gabriel, T., Sons, and Burtons, Cannon-street, E.C. ... 11 0 0
 Burt, Boulton, and Haywood, Ltd., Cannon-street, E.C. ... 10 17 6
 Improved Wood Paving Co., Ltd., Queen Victoria-st., E.C. ... 10 17 0
 Howard, W. W., Bros. and Co., Trinity-square, E.C. ... 10 15 0
 Acme Flooring and Paving Co. (1904), Ltd., Victoria Park, E.* ... 10 13 9
 * Accepted.

KIRKCALDY.—For the erection of Blairhill school, for the Kirkcaldy School Board. Mr. W. Williamson, F.R.I.B.A., Royal Banks Buildings, Kirkcaldy, architect. Quantities by Mr. James Gentles, F.F.S., 47, Townsend-place, Kirkcaldy:—
 Builders:—
 Smith, G., and Sons* ... £3,611 17 7
 Scott, T., and Co. ... 2,104 4 10
 Plumber:—
 Nicol, W., Buckhaven ... 768 1 11
 Iron and smith:—
 Barnet and Morton ... 492 1 10
 Plasterer:—
 Page, R. ... 376 13 11
 Slaters:—
 Lawson, J., and Sons ... 239 6 0
 Asphaltes:—
 Flood, F. B., and Co., Edinburgh ... 132 9 3
 Painter:—
 Rolland, J. C., Methel ... 131 3 4
 Tiler:—
 Field, W., Edinburgh ... 108 6 6
 Ironmongery:—
 Barnet and Morton ... 91 17 2
 * Amended offer.—Glazier work, heating, and ventilation, also furniture, left over for future consideration. (Rest of Kirkcaldy.)

LONDON, S.W.—For carrying out works of repair upon part of Wimbledon Park-road, Southfield, for the Wandsworth Borough Council:—
 Parry, E., and Co. ... £90 0 0
 (Borough engineer's estimate, £84.)
 (Recommended for acceptance.)

LONDON, W.—For constructing a brick-built urinal at the corner of Shepherd's Bush Green, for the Hammersmith Borough Council. Mr. H. Mair, M.I.C.E., borough surveyor:—
 Roberts, C. P., Dalston ... £398 0 0
 Roberts and Co., Earl's Court-road, W. ... 356 10 0
 Dickens, W. J., Ealing ... 331 0 0
 Clark, G. W., Uxbridge-road, W. ... 319 0 0
 Hughes and Co., Ltd., Mortlake ... 311 0 0
 Atkinson and Sons, Fulham ... 269 0 0
 Jones, H. & S., West Brompton... 258 10 0
 Lea, H. and L., Regent-st., W.* ... 257 0 0
 * Accepted.

LONDON, W.—For wood paving in Dalling-road, for the Hammersmith Borough Council:—
 Griffiths and Co., Hamilton House, Bishopsgate, E.C. ... £3,969 5 0
 (Recommended for acceptance.)

LONDON.—For the supply of two petrol-electric chassis to carry Maxim's ladders, for the fire brigade committee of the London County Council:—
 Stevens, W. A., Ltd., Maidstone (accepted), each chassis... £762 0 0

LONDON, E.—For repairs to their institutions, for the Mile End Guardians. Accepted tenders:—
 Repairs, &c., at scattered homes:—
 Sharpin, W. S., Bow ... £150 0 0
 Repair of isolation building:—
 Hocking, Old Charlton ... 101 0 0
 Building foot linen destructor:—
 Jackson, E., Stepney ... 75 0 0

LONDON, S.W.—For the supply of 125,000 metallic filament traction lamps, for the London County Council:—
 General Electric Co., Ltd., Queen Victoria-street, E.C. ... £8,150 0 0
 Electrical Co., Ltd., Charing Cross-road, W.C. ... 7,816 5 0
 Edison & Swan United Electric Light Co., Ltd., Ponders End... 7,816 5 0
 Symons Bros. Dynamo Works, Ltd., Dalston, N.E. ... 7,633 2 6
 Ditto alternative * Accepted. ... 7,816 5 0

LONDON.—For the reconstruction of carbon motor generators in tramway sub-stations, for the London County Council:—
 Newton Bros., Derby (accepted) £7,680 8 0
 (Lowest tender received.)

MACCLESFIELD.—For construction of a surface water sewer, for the corporation. Mr. S. C. Baggett surveyor:—
 Bull, S. ... £213 0 0
 Hyslop, A. and S., Manchester ... 199 0 0
 Roylance, G. and Co., Ltd. ... 173 0 0
 Werthington, W. H., Ltd., Manchester ... 163 0 0
 Simpson, G., and Co. ... 157 0 0
 Gorton and Wilson* ... 148 0 0
 Gosling & Stafford, Manchester Rest of Macclesfield, * Recommended for acceptance.

MELTON MOWBRAY.—For the extension of the cemetery on the Thorpe-road, Melton Mowbray, for the Melton Mowbray Urban District Council. Mr. E. Jeeves, surveyor:—
 Morley and Sons, Keighley ... £1,692 9 7
 Tebbs and Mottishaw, Derby ... 1,251 1 2
 Burn, H., Leicester... 992 3 2
 Clarke, E. ... 883 0 0
 Butteriss, C. ... 855 0 0
 Denman and Newham ... 840 0 0
 Fendell, R. ... 805 6 0
 Emery and Co., Birmingham ... 791 9 11
 Barron and Sons, Borrowash, Derby* ... 792 9 8
 * Accepted subject to certain conditions. Rest of Melton Mowbray.

NEWPORT.—For the supply of railings for service reservoir, for the corporation:—
 Baker, W. A., Newport ... £59 0 0

RISCA.—For erection of three pairs of houses at Risca. Mr. H. T. Davies, "Glendale," Risca, architect:—
 Richards, D., Risca... £1,512 0 0
 Pritchard, J., Risca... 1,500 0 0
 Hatherly and Co., Penarth ... 1,500 0 0
 Berry, T. J., Newport ... 1,440 0 0
 Lewis, J., Pontymister ... 1,356 0 0
 Redwood, L., Risca... 1,350 0 0
 Lewis, W. H., Newport ... 1,280 0 0
 Green, J., Crosskeys ... 1,260 0 0
 Jerman, W., Risca (accepted) ... 1,335 0 0

ROSYTH, FIFESHIRE.—For the construction of a new road within the Rosyth area, for the Lords of the Admiralty:—
 Balmuir Quarry Co., Dunfermline (accepted) about ... £12,000 0 0

ROYSTON.—For additions and alterations of sewers, and the construction of flushing tanks, for the Royston Urban District Council:—
 Wallis, H. S., Ltd., Ipswich ... £220 0 0
 Jacklin and Co., Herts ... 182 0 0
 Hinkins, W. H., & Son, Herts* ... 162 10 8
 * Accepted. Surveyor's estimate, £172.

SEAFORD.—For erection of two workmen's houses in Chichester-road, for the urban district council:—
 Wilkinson, W., Seaford ... £598 0 0
 (Accepted.)

SEVENOAKS WEALD.—For the erection of Council school, for the Kent Education Committee. Mr. Wilfrid H. Robinson, M.S.A., architect:—
 Woodhams, F., Sevenoaks ... £721 10 0
 Wise, S. and Brightman, Ltd., Hythe ... 695 0 0
 Jarvis, E. W., Tonbridge... 650 0 0
 Hodges, W., Sevenoaks ... 570 0 0
 Treasure Bros., Orpington ... 559 0 0
 Leanard Lown & Co., Holloway ... 549 0 0
 Banks, W. P., Sevenoaks* ... 529 0 0
 * Provisionally accepted.

ST. ALBANS.—For erection of a boardroom at the workhouse, for the guardians:—
 Dumpleton, C. W. (accepted) ... £2,980 0 0

STRATFORD.—For the supply of new furnace crowns to No. 1 boiler at Abbey Mills pumping-station, for the London County Council:—
 Thompson, J., Wolverhampton £150 0 0
 Spurr, Inman, and Co., Ltd., Wakefield ... 130 0 0
 Yates and Thom, Ltd., Blackburn ... 130 0 0
 Clayton, Sons, and Co., Ltd., Leeds (accepted) ... 110 0 0

STREATHAM S.W.—For repair of part of Mount Ephraim-lane, Streatham, for the Wandsworth Borough Council:—
 Lane, S. ... £398 10 0
 Borough engineer's estimate, £512.
 (Recommended for acceptance.)

STREATHAM, S.W.—For paving that part of Idlecombe-road, Streatham, which lies between Southercroft-road and Welham-road, for the Wandsworth Borough Council:—
 Woodham, H., and Sons ... £1,126 0 0
 Borough engineer's estimate, £1,251 15s. 7d.
 (Recommended for acceptance.)

SWINTON.—For the supply of street-lighting equipment, for the corporation:—
 Lancashire Electric Power Co. ... £1,800 0 0
 (Accepted.)

TOTTENHAM.—For fencing work at the cemetery, Church-lane, Tottenham, for the Tottenham and Wood Green Burial Board. Mr. J. C. S. Mummery, 13, Fitzroy-square, W., architect:—
 Harris and Wardrop, Limehouse, E. ... 42,950 0 0
 Knight, H., and Son, Tottenham ... 2,795 0 0
 Porter, A., Tottenham ... 2,742 0 0
 Pike, F., Ponders End ... 2,730 0 0
 Newby, C. J., and Bros., Southgate ... 2,559 0 0
 Groves, J., and Son, Tottenham ... 2,474 0 0
 Barker, G., New-road, E.* ... 2,270 0 0
 * Accepted.

ULVERSTON.—For executing the Kirkby Ireleth water-supply extension, for the Ulverston Rural District Council. Mr. W. F. Y. Molineux, 24, Queen-street, Ulverston, engineer:—
 Hyslop, Manchester ... 4185 0 4
 Dolaghan and Mulcaster, Whitehaven ... 357 10 0
 Birch, B., Grange-over-Sands ... 233 7 6
 Airey, J., Hawkshead ... 219 0 0
 Shuttleworth, R., Ulverston* ... 178 7 0
 * Accepted.

Pipes:—Cochraue and Co. (accepted), Manchester Fittings: Blakeborough & Sons (accepted), Brighouse.

WALKER-ON-TYNE.—For the erection of a mortuary and laundry at the fever hospital, for the corporation: Miller, S., Newcastle (accepted) about £5,500.

WALSALL.—For supply of a gas-boasting plant, for the corporation:—
 Keith, J., and Blackman Co. ... £314 0 0
 (Recommended for acceptance.)

WHATFIELD.—For carrying out works of water supply, for the Cosford Rural District Council. Mr. C. D. Bright, Polstead Heath, Colchester, engineer:—
 Downs & Stephenson, Hadleigh £660 0 0
 Barrell, B. B., and M., Wivenhoe 572 0 0
 Dunningham, A., Hadleigh* 517 16 0
 Dimmock, M. J., Bildeston ... 533 5 0
 * Accepted.

The opening of the new town-hall erected by Edinburgh Corporation at Portobello will take place on Friday in next week, the 30th inst. The hall, which is Renaissance in style, and was designed by Mr. James A. Williamson, A.R.I.B.A., city architect of Edinburgh, has been under erection for two years, and the cost has been approximately £8,000.

It is in contemplation by the City Corporation to organise a loan exhibition of famous naval and military pictures at the Art Gallery at the Guildhall in aid of one of the national funds. A proposal to exhibit Belgian and Dutch works of art had to be dropped owing to the difficulty of procuring the best specimens from the public and private collections of these countries.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

* Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

NOTICE.

Bound copies of Vol. CVI. are now ready, and should be ordered early (price 12s. each, by post 12s. 9d.), as only a limited number are done up. A few bound volumes of Vols. XXXIX., XLI., XLVI., XLIX., LIII., LXI., LXII., LXIV., LXV., LXVI., LXVII., LXVIII., LXIX., LXXI., LXXII., LXXIII., LXXIV., LXXV., LXXVI., LXXVII., LXXVIII., LXXIX., LXXXI., LXXXII., LXXXIII., LXXXIV., LXXXV., LXXXVI., LXXXVII., LXXXVIII., LXXXIX., XC., XCI., XCII., XCIII., XCIV., XCV., XCVI., XCVII., XCVIII., XCIX., C., CI., CII., CIII., CIV., CV., and CVI. may still be obtained at the same price; all the other bound volumes are out of print. Most of the back numbers of former volumes are, however, to be had singly. Subscribers requiring any back numbers to complete volume just ended should order at once, as many of them soon run out of print.

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R. L. MORRIS.—We regret to hear that things are so slack your side. At present things are not favourable here, but we believe they will look up as soon as we settle the Germans. Many of your British brethren are helping to do that. Why not come over and bear a hand?

ALPHA.—Under clause 30 of the R.I.B.A. Form of Agreement and Schedule of Conditions for Building Contracts, the architect is empowered to obtain from the general contractor an approximate statement of the work executed, based upon the original estimate, and under clause 20, all specialists, merchants, tradesmen, and others executing any work or supplying any goods for which provisional sums are included in the specification, who may be at any time nominated, selected, or approved by the architect, are declared to be sub-contractors employed by the contractor. To these sub-contractors the contractor is answerable, and before the architect issues his certificates from time to time, it is his duty on behalf of his employer to make sure that the money included in previous certificates for provisional amounts has been paid by the contractor. Your proposed clause provides for empowering the building owner to ascertain from the sub-contractors as to whether they are being paid; but this information should, in the ordinary way, be ascertained by the architect, whose responsibility, so long as he is acting for the employer, should not be impaired or transferred. If no architect is engaged, the wording suggested might stand; but the final paragraph presumes that an architect is to issue certificates, and as he in all cases ought to insist upon the production of all receipts from all sub-contractors prior to the issue of his final certificate, no better guarantee could be produced in evidence than these receipts that the employer has secured a valid discharge from liabilities under the contract.

LIST OF COMPETITIONS OPEN.

Oct. 25—Cottage Home, Oulton, Suffolk	F. W. Osborne, Clerk, Crown-street Hall, Lowestoft.
.. 31—Laying Out Show Grounds, Wayville West, Adelaide	The Secretary, Royal Agricultural Society of South Australia, 23, Weymouth-street, Adelaide.
.. 31—Drawings for Police Buildings and Fire Station, St. Helens. (Assessor)	A. W. Bradley, M.I.C.E., Town Hall, St. Helens.
Nov. 18—Extension of Laundry at Workhouse; also Converting House in St. John-street into Cottage Home, Howden	H. Green, Clerk, Howden.
Dec. 1—Tuberculosis Hospital, Southend-on-Sea	E. Elford, Boro' Eng., Town Clerk's Offices, Southend-on-Sea.
.. 31—Planning Workmen's Settlement, Campine Coalfield	M. le President de la Commission pour l'Aménagement des Agglomérations Industrielles, Rue de Louvain, Brnssels.

LIST OF TENDERS OPEN.

BUILDINGS.

Oct. 23—Lane Ends School, Grindleton	West Riding Education Com.	The Education Architect, County Hall, Wakefield.
.. 23—Asylum, Enlargement of, Bracebridge, Lincoln	Visiting Committee	F. Parker, Archt., The Square, Boston, Lincs.
.. 23—Reroofing Willey-place, Highfield Mills, Ossett	Guardians	Holtom and Fox, Archts., Corporation-street, Dewsbury.
.. 23—Verandah at Workhouse, Howden	Town Council	H. Green, Clerk, Howden.
.. 23—Bathing Establishment, South Cliff Gardens, Scarborough	Edinburgh Magistrates & Council Corporation	H. W. Smith, A.M.I.C.E., Boro' Eng., Town Hall, Scarborough.
.. 23—Corn Exchange, Alterations to, Grassmarket	Hampshire County Council	J. Williamson, A.R.I.B.A., Public Works Office, Edinburgh.
.. 24—Thornbury Car Depot, Extensions to, Bradford	Burgh School Board	The City Architect, Town Hall, Bradford.
.. 26—School, Additions to, Brook-street, Basingstoke	Tramways Sub-Committee	A. L. Roberts, Archt., The Castle, Winchester.
.. 26—No. 11, Tyntaldwyn-road, Additions to, Troedryhiw	Parish Council	T. E. Rees, M.S.A., Bank Chambers, Mertyhr Tydfil.
.. 26—Merkinch Public School, Additions to, Inverness	General Works Committee	The Clerk, 42, Union-street, Inverness.
.. 26—Tramway Shelter at Southern Cemetery, Manchester	Visiting Committee	The City Architect, Town Hall, Manchester.
.. 26—Hospitals, Alterations to, Oldmill Poorhouse, Aberdeen	South Manchester Guardians Corporation	A. H. L. Mackinnon, Archt., 245, Union-street, Aberdeen.
.. 26—Tar-macadam Plant Shed, Coventry	Urban District Council	J. E. Swindlehurst, City Eng., St. Mary's Hall, Coventry.
.. 27—West Ham Asylum, Extension of, Goodmayes	Guardians	The Borough Engineer, Town Hall, West Ham.
.. 27—Farm Students' Quarters, Styal, Manchester	Hford Urban District Council	F. H. Overmann, 49, King-street, Manchester.
.. 27—Electricity Works, Extension to, Keighley	Urban District Council	H. Webber, A.M.I.E.E., Boro' Elec. Eng., Keighley.
.. 27—Taking Down Chimney Stack, Caerphilly	Sanitary Committee	A. O. Harpur, Sur., Council Offices, Caerphilly.
.. 27—Poor-Law Institution, Renovation of, Brighton	W. Skilbeck Corporation	H. Burfield, Clerk, Parochial Offices, Princeps-st., Brighton.
.. 27—Refuse Destructor, Suffolk-road, Seven Kings	Tramways Department	H. Shaw, M.I.C.E., Town Hall, Hford.
.. 28—Girls' Intermediate School, Extensions to, Abergavenny	Belper Rural District Council	Johnson, Richards, and Jones, Archts., Abergavenny.
.. 28—Caretaker's Cottage, Schools, Extension to, Wood Green	Masboro' Equit. Pioneers' Soc.	W. P. Harding, Clerk, Town Hall, Wood Green.
.. 28—Detached Residence, Arnsdie	St. Michael's Vicar	R. B. Barker, L.R.I.B.A., Arnsdie.
.. 28—Laboratory, Baguley Sanatorium, Manchester	Rural District Council	The City Architect, Town Hall, Manchester.
.. 28—Warehouses and Shopfronts, Langley Moor	Luton Rural District Council	J. A. Robson, Esh Winning.
.. 28—Knightwood Hospital, Extension of, Glasgow	Parks Committee	J. Lindsay, Town Clerk, Glasgow.
.. 28—Extension to Hollinwood Car Shed, Oldham	Guildhall Feoffment Trust	The Borough Surveyor, Town Hall, Oldham.
.. 29—Municipal Offices, Alterations to, Exeter		The City Surveyor, 8, Southernhay West, Exeter.
.. 29—Culvert under Highway, Kilburne		R. C. Cordon, Sur., Duffield.
.. 29—Branch Stores, Loughton-en-le-Morthen		J. Platts, Archt., High-street, Rotherman.
.. 29—Renovating Iron Church from Portchaw to Maesteg		F. Rogers, Hon. Sec., 7, Cavan-road, Maesteg.
.. 31—Labourers' Cottages (11), Middleton		J. Stanton, Clerk, Middleton, Ireland.
.. 31—Eight Cottages, Soudon		H. Pickering, 18, Princes-street, Dunstable.
.. 31—Belle Vue Library, Repairing, Halifax		J. Lord, M.I.C.E., Boro' Eng., Town Hall, Halifax.
.. 31—Six Almshouses, Northgate-street, Bury St. Edmunds		S. Naisb, M.S.A., 7, Hatter-street, Bury St. Edmunds.
.. 31—Edward VII. Wings, Royal Agricultural Col., Cirencester		Oatley and Lawrence, Archts., 25, Orchard-street, Bristol.
.. 31—Braddeek School, Additions to, West Taphouse		A. E. Skentelber, Archt., Lostwithiel.

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OUR ILLUSTRATIONS.

New Premises for the Co-operative Wholesale Society, Manchester. In course of erection on the old Town Hall site at Cardiff. Mr. F. E. L. Harris, A.R.I.B.A., Architect.

Haggerston Castle, Northumberland. Interior of the Entrance Vestibule, built from the design of the late R. Norman Shaw, R.A., and exterior view of one front of the New Mansion just completed. Mr. James B. Dunn, F.R.I.B.A., Architect.

House, Forest Row, Sussex. View and plan. Messrs. T. Geoffrey Lucas, F.R.I.B.A., and Arthur Lodge, A.R.I.B.A., Architects.

House at Huntercombe, Oxfordshire. View and plan. Mr. O. P. Milne, F.R.I.B.A., Architect.

Loudon County Council New Elementary School, Emily-street, Paddington, W. Mr. W. E. Riley, F.R.I.B.A., Superintending Architect to the Loudon County Council, Architect.

A Guide to Gothic Architecture.

HINTS ABOUT EASEMENTS.

The practical difficulties of architects and surveyors in laying out estates, or in designing or extending buildings, are often much increased by the discovery of unexpected easements affecting the property with which they are dealing. Shortly put, an easement is some privilege acquired over the property in question by a person other than the owner. Nor is the existence of an easement always easily discovered. The land may look all right, and seem to be quite free of any such privileges or, as they are technically called, servitudes. And yet, later on, some claim is made which may not only compel some alteration in the plans, or some modification of the design, but may also lead to a costly compromise; or, what is even worse, a long litigation. In the country such unexpected easements are generally found to be old rights of way, or for running water; in towns and cities the more common claims are those in regard to light and air. As to ancient rights of way, it is especially hard to be sure that none are existing, or claimable, over a large piece of land with an old title. There may be no sign of a gate or a stile, while even a path may not be visible, and yet some right of way may turn up later. Of course, there are the title-deeds of the property—sometimes with plans, but frequently without—to be consulted and considered. All this has generally to be left to the lawyers; but with all their caution, it does occasionally happen that, concealed in the wide terms of an old grant or conveyance, a right of way claimed later on by some enterprising person has a legal existence of a kind which must be got rid of to save trouble. Then there are rights of way for water, or watercourses, which are not discoverable upon the surface, as they run partly underground, but which may raise all sorts of difficulties afterwards. Sometimes, indeed, such rights of waterway are only found on digging foundations for the proposed building, as no one connected with the land knows of their existence. In such cases the only trouble may be the disposal of the water itself; although its presence will often readily raise doubts as to a right of watercourse or the like.

As to ancient lights, there should be no such dilemma; for, of course, there must be windows visible in the adjoining tenements to which the rights would apply. But even with this guidance, the architect may find it far from easy to decide how close he can go to the dominant tenement, or how high he can make his building, so as to leave a light sufficient to satisfy the easement. Much must depend upon the natural character of the premises affected,

and upon the whole facts of the situation as they touch upon the quality and quantity of light required and hitherto enjoyed. Upon the whole of this question it may be noted that recent important decisions of the Courts have taken a more reasonable and practical view than that laid down in the earlier authorities. Still, an experienced architect will know there is always a possibility of litigation, out of which no one but the lawyers concerned, is likely in the end to gain any benefit. Therefore, it is often advisable, where there may be any doubt upon the point, to get into communication with the owner of the easement, and adjust the matter, both as to space that shall be left between the new building and the old, and also in regard to the height to which the intended erection shall be carried. Cases have occurred where, for want of care and full consideration, a new structure has been put up, which infringed ancient lights so closely that the owner of the easement has been able to obtain a mandatory injunction, after notice given, to pull it all down again. This sort of thing, however, rarely happens nowadays, and the Courts will only make such an order in a very bad case.

In reference to right of way, it may be noted that this easement consists of the right to walk over the ground affected. It gives no claim to a certain width of way, unless, of course, that has been agreed upon, or the grant itself includes a right of way for horses and carriages or carts and the like. It sometimes happens that a private road or wide path has become a right of way, and the owner of the land wishes to use it for purposes which will reduce its width. It seems to have been clearly decided that he can do so legally if he leaves a sufficient central or side path for foot-passengers, or, in cases where this is necessary, for horses and vehicles. By that means a wide strip of land, hitherto devoted to this right of way, may be narrowed and reduced so as to give a few more feet for the use of the architect. But here—as, indeed, in regard to all these easements—it is essential to consult the original grant, covenant, or condition upon which the legal title is founded. Sometimes a stated width of road is agreed upon, and a plan put upon the deed; in which case it could only be slightly modified. But where the right of way is simply a right to pass over the surface, then as long as a sufficient path is left open for passage there would be no breach, although the accustomed road had been made narrower, to the advantage of the servient owner.

An easement in a watercourse gives a right to the continued flow of water in a

defined channel over, or under, the land as hitherto. Sometimes there may be only a small stream, which, in the dry season or in summer, is hardly, if at all, visible, and yet which, when the rains come, or at other times, is an important matter for the dominant owner. Or maybe this right to an easement of running water is complicated by the stream arising from a spring which is intermittent in its action, and, indeed, depends upon percolation and the conformation of the surrounding country, as well as on the rainfall. If an owner of land has a right to a stream running over it from the adjoining land on which there is a spring in which this water rises, legal difficulties would occur if this spring were blocked so as to stop the water-course. This might come up either upon a claim to an easement or on the ground of natural right. But, either way, the architect would do well to inquire into the whole matter. For, apart from the building point of water getting into the foundations, there would always be the chance of some complex claim by the dominant owner, involving legal and judicial arguments and decisions. Some people might be inclined to disregard a small rising spring of water giving only a slender stream; but it is not always found wise to do so in the end.

The law of England does not recognise any right of easement either in a prospect from, or the privacy of, a dwelling. In Ancient Rome more aesthetic considerations prevailed, and a right to the continued enjoyment of a beautiful view could be acquired by a sufficient length of time. Our own lawyers have never taken that line. In one of the early cases, where an attempt was made to claim this form of easement for a fine view, the Judge laid it down bluntly that "The law don't give an action for such things of delight." And so the law stands to this day. Where, for instance, the home of an ancient family has for generations—if not, indeed, for centuries—looked out upon a noble natural prospect of river or ravine, of mountain or of valley, it seems hard that this view can be shut off by any lucky land speculator who buys a plot on which he can erect a building that will do so. The Courts can do nothing, and there is no claim for damages. The only remedy such an owner has is to buy up the land in question. So an architect advising his client can tell him that, though his design is really based upon the existing view from the property, its continuance cannot be guaranteed, unless, indeed, his surrounding land is large enough to render its blocking out by a new-comer practically impossible.

In the same way an uninterrupted view of a house may be of much value in a busi-

ness aspect, as, for instance, of a shop-window, or a trade sign, or an advertisement. But here, again, there can be no easement, as it is also really a right of prospect. A leading case upon this point was about a shop in Bond-street, which could be seen a good way off, and the view of which would be much reduced in length by alterations being made in the adjoining premises. The Court refused to interfere, as the shop-window, when approached, was as visible as before, although it could not be seen from so far away as hitherto. In the same way, and on the same ground, it was held that there was

adjoining surface subsided and the owner's building fell down, there might be a claim for damages based upon this right to support acquired as an easement. In fact, the right to the support of land from the adjoining land practically carries with it the right of support for the building upon the land that is affected by the adjoining excavation. There can also be a right of lateral support in regard to old buildings which join, and lean against, each other. In such a case, where one is pulled down for rebuilding, the other must be shored up, and maintained; as otherwise, if damage follow to it, there would be a legal

impracticable to compress the entire subject of Gothic architecture within the given limits without unduly condensing it. The story in the book before us is, therefore, in the main, almost confined to the elucidation of English art, and is brought to a close with the end of the 14th century, the consideration of the florid work of the essentially English building art of the 15th and early 16th centuries being promised in a second volume, to be published hereafter.

The nomenclature adopted by the author for the various styles suggests, directly the book is opened, that the scope will be, to a large extent, limited to a survey of our national architecture, for Mr. Bumpus



FIG. 1.—THE CATHEDRAL OF ST. MARTIN, YPRES.

no ground of action for obstructing the view of a pawnbroker's sign of three balls, which he had long enjoyed, because there was no easement in such a view in prospect. The result is that where no reduction of an ancient light can be shown, in such cases there is no remedy, although the business damage may really be considerable. Another point has been raised which is on the same level as the right to a prospect, and this is as to a claim for uninterrupted privacy. Where, for instance, the owner of an adjoining piece of land builds a house and opens windows that overlook the garden, etc., of premises that have hitherto been quite private, it was once claimed that he could be prevented from so doing. But the Courts held that the Law could not recognise any such right of privacy, nor could an easement arise even if this privacy had been enjoyed for generations. Every man can do as he likes on his own land, subject to such rights as his neighbour has acquired over it. When an adjoining owner finds windows are newly opened over his property, and against his privacy, he must build a wall or erect a board to prevent this interference, and there is no other legal remedy available.

Amongst easements which may cause trouble to an architect or his contractor is the right of an owner to lateral support from the land adjoining his property. When, in building upon this land, it is necessary to excavate, great care must be taken in the way of shoring up and maintaining the soil which relies for its level and safety upon the lateral support of the land that is being excavated. For if, as a result of deeply digging away the soil, the

claim by the owner, based upon his easement of support, and there have been several cases of this kind. Questions have also arisen in regard to the right of support to land from subjacent water, and which have been difficult to determine. Where an owner, for the purpose of building a church, excavated his land, and, as the result, drew away a volume of water from beneath the surface of the land upon which some cottages had been built, a claim was made, based upon the easement of the right to support from this underlying water. The claim failed; but it cannot be said that the principle has yet been decided. In many cases, indeed, a layer of water underground forms no small part of the soil and foundation, and may be regarded as a portion of the land itself upon which buildings are supported.

A GUIDE TO GOTHIC ARCHITECTURE.*

Great courage has been displayed by Mr. T. Francis Bumpus in deciding to pace afresh so well-trodden a path as the story of the evolution and development of Gothic architecture. Mr. Bumpus has given us, in rapid succession, a series of delightful and scholarly books on the cathedrals and churches of England and Wales, France, Belgium, Scandinavia, Germany, and Italy, based upon personal observation of the edifices described and upon much research and original study. In essaying to bring his comparisons and conclusions into a single half-guinea volume, he seems to have found it

employs the familiar and easily-followed names of Norman, Transitional, Early English, Decorated, and Perpendicular of Rickman, Parker, and Willis, reserving for his more infrequent references to Continental architecture, where these terms are obviously inapplicable, the titles Romanesque, Early and Middle Pointed, and Flamboyant. Those who are acquainted with the author's other works will expect him to write as an ecclesiologist rather than from a strictly architectural viewpoint, and will anticipate enlivening allusions to the connection with the mistress art of her handmaidens, carving and sculpture, wall-painting, stained glass, and other ancillaries, and they will not be disappointed. Mr. Bumpus has an easy, fluent pen, and the knack of making his subject interesting and attractive to the uninitiated reader, while his judgment is sound and his conclusions are defensible. In an introductory sketch he contrasts and compares English and French work, pointing out that our architecture ever excels in detail; but French art, while possessing noble massing and complex outline, exhibits a certain poverty and meanness of detail, beyond a given point of excellence. Take, for example, that great factor in design, mouldings. The Frenchman's mouldings seem either underdone or overdone in thought. His strong mouldings are coarse and cumbersome; his graceful mouldings attenuated and over-refined; his playful mouldings tricky and fantastic. His mouldings can never satisfy the Englishman who has drunk deep from the waters of his native land. But if our builders excel in detail, they are not daring and aspiring, like the French and Italians. So it comes to pass that, unlike those nations, we have no unfinished cathedrals, and that in our richest late work there is still a perceptible air of control. The individuality and diversity of

* A Guide to Gothic Architecture. By T. FRANCIS BUMPUS. Crown 8vo, cloth, 260pp., 143 illustrations. 10s. 6d. net. London: T. Werner Laurie, Ltd., 8, Essex-street, Strand, W.C.

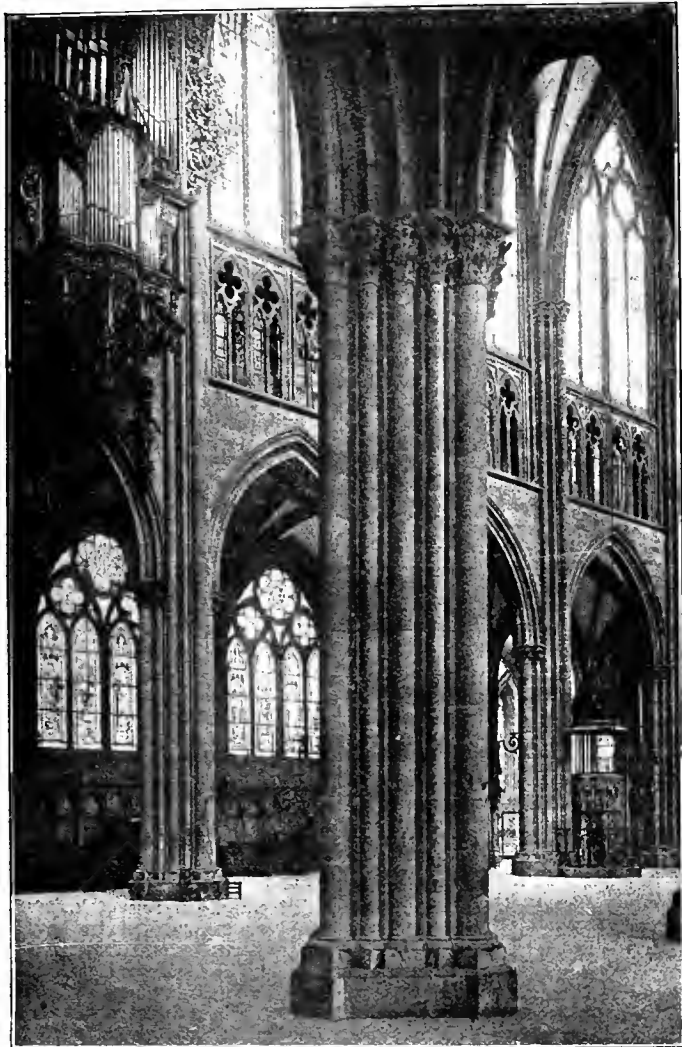


FIG. 2.—ACROSS THE NAVE, STRASSBURG CATHEDRAL.

our great buildings is very striking. The author gives an historical sketch of the fabric of the church from the earliest ages to the middle of the 11th century, and then treats in much detail, and with a wide knowledge, the successive developments of the

old engravings, and some useful pages of details of the several styles from drawings by Mr. G. H. R. Watson. By the permission of Messrs. T. Werner Laurie, Ltd., we reproduce three of the full page illustrations. Fig. 1 shows a building of special interest

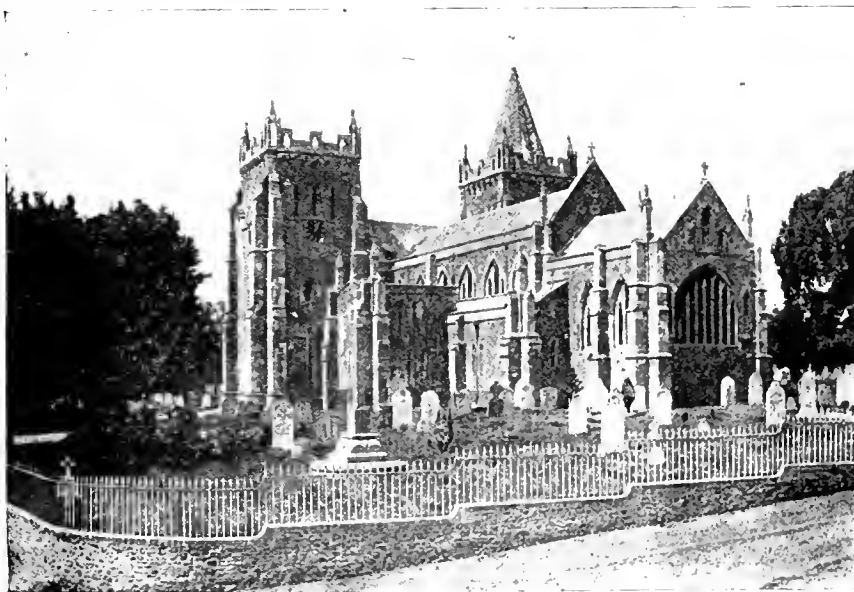


FIG. 3.—OTTERY ST. MARY CHURCH, DEVONSHIRE.

Gothic edifice in the 12th, 13th, and 14th centuries.

The volume before us is attractively got up and strongly bound in cloth and excellently illustrated by photographs, a few copies of

at the moment, as situate in the western headquarters of the Allied Armies—the Cathedral of St. Martin in the decayed city of Ypres. The choir and north transept, which we see from the north-east, are the oldest portions

of the fabric, dating from 1221. These portions of the cathedral, and especially the graduated lancets in the clerestories, are among the most refined examples of work of this period to be seen in Western Flanders, and alike in plan and in detail exhibit French influence. At the rear is the tower, a dull, heavy structure, 190ft. in height, added in 1434, from a design by Master Eltenhove, of Malines. Of a very different type is Fig. 2, the Late 13th-Century nave of Strassburg Cathedral. Our view is taken from the first bay from the west-end in the south nave aisle, looking north-east. The huge nave is out of all proportion to the small and severely simple Romanesque transepts and apsidal choir, which had only been finished a century when this new western extension was built. The nave, which was completed in 1275, is 42ft. in width between the clustered piers, 120ft. in width from aisle wall to aisle wall, 170ft. in length from west-end to transept openings, and 99ft. in height from pavement to vault. Hanging on to the north nave arcade wall, at the second bay from the west, is a largely and richly-treated pendent organ, built in 1489; further to the east is a pulpit constructed two years earlier. The splendid internal effect is greatly enhanced by the rich stained-glass windows. Our third illustration shows the picturesque and dignified parish church of Ottery St. Mary, with its transeptal towers, only paralleled by those of Exeter Cathedral. The nave aisles and transepts are middle 13th-century work, and were dedicated in December, 1260, by Bishop Bronescombe; the nave, chancel, and great Lady-chapel of two bays were rebuilt by his successor, Bishop Grandisson, c. 1360; and the chapel on the north side of the nave dates from the 16th century, having been added before 1530 by Cicely, Marchioness of Dorset, afterwards Countess of Stafford, daughter and heiress of Lord Bonville. The church was restored at an unfortunate epoch (1849-50), by William Butterfield.

The author's "Introduction to Gothic Architecture" is primarily written for the cultured layman, but contains very much of interest to every architect, and will appeal to a widespread and numerous body of readers. It is provided with a serviceable, freshly-written, and very full glossary, and with alphabetical lists of the principal English buildings of each period dealt with, and the value of the work for reference purposes is greatly enhanced by the comprehensive and accurate index.

THE ARCHITECTURAL ASSOCIATION.

The opening meeting of the sixty eighth session of the Architectural Association was held on Monday evening at the headquarters, 18, Tufton-street, Westminster, under unprecedented circumstances. The President, Mr. Maurice E. Webb, M.A., is serving his country in the ranks of the Royal Engineers, and, therefore, the delivery of his inaugural address is perforce adjourned sine die. The chair was occupied by Mr. H. Austen Hall, F.R.I.B.A., acting President and senior Vice-President. Many of the members and students are also at the front or engaged as Territorials, and the attendance of the younger men was less than usual. Several of the senior members of the profession and many ladies were present, and the interest was well maintained. The Hon. Secretary, Mr. H. M. Fletcher, announced that a vacancy existed on the Council, caused by the lamented death, by a motor car accident in August last, of Mr. F. Dare Clapham. Nominations would be received at the next meeting, on November 23. He stated that Mr. H. B. Newbold and Mr. Detmar J. Blow had been reinstated as members, and read a list of nominations of 27 ordinary and 15 country members.

The Acting President, who was welcomed with hearty applause, referred to the fine example set by their president in enlisting in the New Army, an example which had been followed by over two hundred members. The action gave great cause for pride of port, and was deeply significant of the meaning and objects of the Association, in

which proverbially action took precedence of words. Their reputation was being well maintained by the response of their members to a national appeal of unusual urgency. Many of them had not been able to follow Mr. Webb, owing to other and necessary work as well as family ties and responsibilities; but he hoped that all members who were free to do so would join the Army without delay, and that those who could not so serve would join the A.A. Training Corps. They much regretted the omission of the President's address, which they hoped to hear on a future occasion, when it would be doubly welcome after the long waiting. Professor Selwyn Image had kindly come forward to fill the gap, and had accepted his invitation to lecture that night on the War in relation to Art. During the coming session they wanted to carry on the educational and other work as efficiently as possible. The feeling of confidence which all possessed in the ultimate issues of the war ought to be reflected in the ordinary fulfilment of their duties. The school was going on as in usual times, although half their students had enlisted. The conversazione would be abandoned this year, and the meetings would be reduced in number and would only be held once a month. Their energies would be diverted from the usual channels and concentrated upon matters of national defence. Already their War Service Bureau had enlisted 150 men for the Army. The Training Corps for those not eligible, and others unable, to enlist numbered 350 men. A committee had been formed to supply members and their comrades serving in the Army with such comforts and extra things that they might need most, and all gifts for this purpose would be gratefully received by Mrs. Webb and forwarded to them. The Association was also co-operating with the R.I.B.A. in preparing to meet distress that might arise among members of their own and kindred professions. The Association was registering those without employment and finding it for them, and their Insurance Committee was putting its organisation at the disposal of the War Committee, who would be able to alleviate distress as it should arise. In conclusion, Mr. Hall said he had received a letter from Mr. Maurice E. Webb, written from Chatham, in which he remarked: "The A.A. men here are fit and well. Our colonel tells me in a letter to-day that he has made special arrangements for grouping us together. He very much appreciates the type of men sent by the A.A., and would like more of them later on. . . . We are all determined to eat our next Dinner in Berlin, and it looks as though we ought to make a record attendance, unless the casualties are more than usually heavy." He then called upon Professor Selwyn Image, M.A., to give his lecture upon

SOME THOUGHTS UPON ART AND WAR.

Professor Image, in the course of his address, observed that they ought first of all to realise the meaning of the present terrible war, one of unexampled horror and extent. It was one literally and simply of ideals, of fundamental or bedrock principles. We were as a nation fighting for our lives against Prussianism, which represented an insatiate craving for material dominance over other men and an unrestrained acceptance of the doctrine that might was right. The acceptance of these principles of conduct led inevitably into unscrupulousness, terrorism, lying, cruelty, treachery, and every dishonourable species of meanness. In view of the selfish ambition no treaties were sacred, no pledges to observe certain laws of warfare, no consideration of responsibility to the world at large for its common treasures of history and art. If art was merely an amusement, a dilettante curiosity, the pretty or exciting toy for hours of idleness, a means of livelihood for certain professional men, the question of the righteousness which should govern the thoughts and actions of a nation had little or nothing to do with art. But they all knew that it was not that. Art was one of the vital permanent, universal

interests of the human race. One of the horrors, the universally bewailed disasters, was that with this vital human interest war seemed to play such havoc. During the past three terrible months no atrocities had shocked the world more than the ruin wrought at Louvain, at Malines, and at Rheims; and at various places threatened by the German invaders, in spite of immediate terror and anxiety, it was notable that the inhabitants' first care had been to remove their artistic treasures as far as possible into safety. Beyond all doubt the war had already played sad havoc with priceless treasures of art. It had destroyed some, and they were irreplaceable—nothing, no one can restore them. In another sense, and nearer home also, the war will for many a day play sad havoc. The lives of many of those whose business it is to produce art will assuredly be straitened in days immediately ahead. Yet the effect of war on art has never been wholly bad. Nay, on occasions it has been quite the reverse. Some of the finest art the world has ever seen has been wrought amid days and surroundings very far from peaceful. We should remember how much of the great art of Greece, of Italy, and of the Gothic builders was thus wrought. The incomparable statue in the sacristy of San Lorenzo was worked out by Michael Angelo when he was actually engaged as commander in defending Florence from the invasion of the infamous Alessandro. There is some force in the paradox that war and art are not always enemies, and that peace is not always art's best friend. For art has her dangers, which come from men's frivolity, their absorption in sumptuousness and luxury, their over-attention to trivialities and mere curiosities, their morbid excitement after titillating novelties, and their resultant shallowness of judgment and sane appreciation. Perhaps it is only such a war as the present—a war for the sake of fundamental ideals, that can give us, for art and conduct generally, a salutary shock. War may indeed be a cleansing purge, a sharp awakening, a recall to sanity and to a re-adjustment of our estimate of things. Thus war is a bitter, and may possibly be a long, discipline; but the day will come when men will look upon this time, and will be thankful to have been recalled to a sense of the things that really matter. Men will then realise what disaster waits upon overweening pride, greedy of and trustful in material power, and upon a culture which dares openly to scoff at the injunctions of morality.

Mr. W. Curtis Green, ex-President, proposed a vote of thanks to Professor Image for his interesting, inspiring, and timely address. With the lecturer, he believed that this time of trial would eventuate in the ultimate advancement of the art of architecture. They were all proud of the patriotic action taken by their President, and his two hundred fellow-members and students, in enlisting for the front; they looked forward to welcoming them back and to seeing Mr. Webb in the presidential chair next year, when they hoped to hear his inaugural address.

Sir Aston Webb, R.A., seconded the vote of thanks to Professor Image, who had given them a most eloquent and suggestive lecture. It recalled the historic occasion on which Ruskin delivered before the Association an address which formed the substance of "The Two Paths." He was present that evening under difficult circumstances. He was, so far, the only President of that Association who had been privileged to see his son succeed him in that chair. It was a little more than thirty years ago—when his son was a bright little chap of four years old—when he occupied that position, and he had been looking forward with eager interest to hearing the presidential address that evening; but he felt that his son was doing his duty in joining the Royal Engineers, a corps which had a certain affinity with their profession. As to the address, he thought that art had often flourished in periods of strife. War seemed often to have stimulated men to the greatest energy of production and to have brought out their very best. He might recall,

for example, the life of Isabella d'Este, Duchess of Mantua, who was always at feud with her neighbours in Italy, France, and the Papacy. Yet this incomparable Isabella was a great patroness of art, and at her commission Mantegna, Titian, and Raffaele all embellished her collection with the choicest works. Another case was the terrible French Revolution of 1793. During that very period there was sitting in Paris a Commission of Arts, who prepared and formulated plans for the beautification of Paris. These designs were necessarily laid aside for generations; but in the days of Napoleon III. they were brought to light and formed the foundation for the grand improvements carried out by Baron Haussmann. So in these present times of trial it might be that architects would employ their time on great imaginative schemes which would bear fruit at a later date. Although they had to deplore the irreparable losses to art and architecture which had occurred at Louvain, Rheims, and other cities, it was probable that some cities had been preserved from destruction by the obvious beauty of their buildings. In particular it was possible that we owed the salvation of Antwerp to the respect felt for its wonderful cathedral spire. Where their interests coincided with the preservation of important buildings even the most vulgar blackguards sometimes stayed their hands. He hoped that as gold was tried and purified by fire, out of the present calamities the cause of art might yet rise to greater heights.

Mr. G. H. Fellowes-Prynn, Past-President, said that they had in the lecturer a deep thinker, as well as a poet and artist. Professor Image had succeeded in showing them that war was not an unmitigated evil. It had brought about a reconciliation in politics and a unity not hitherto seen in this country, had united to her her Colonies, and had awakened a fresh energy and enthusiasm. The history of art in Egypt, Greece, Rome, and throughout Medieval Europe had shown that in times of war, and more especially immediately afterwards, there had been a great artistic development.

Mr. W. A. Pite, Past-President, remarked that in 1896, at the time of the Austro-German campaign, Ruskin delivered a memorable address at the Royal Military Academy at Woolwich on war, which was afterwards expanded into the "Crown of Wild Olives." All the great developments in nations had been the sequence to, if not the outcome of, war.

The chairman then put the vote of thanks to Professor Image for his scholarly and most enjoyable address, and observed how that while they shared Sir Aston Webb's disappointment at his son's absence, the Association was working on the programme Mr. Maurice Webb had laid down for the session.

The vote of thanks was carried by acclamation, and was briefly acknowledged by Professor Image.

THE SOCIETY OF ARCHITECTS.

A special general meeting of the Society of Architects was held at 28, Bedford-square, London, W.C., on Thursday, October 22, 1914, at 7.30 p.m. The President, Mr. Percy B. Tubbs, F.R.I.B.A., having taken the chair, the minutes of the previous meeting, which had been printed in the "Journal," were taken as read, and were confirmed and signed. The scrutineers' report on the ballot for the election of Officers and Council, 1914-15, was then received.

The result of the voting was as follows: President: E. C. P. Monson, F.R.I.B.A., F.S.I., 179 votes. Vice-Presidents: A. Alban H. Scott, M.R.San.Inst. 179; and Edw. J. Sadgrove, F.R.I.B.A., 178. Past Presidents: Albert E. Pridmore, F.S.I., 179, and Percy B. Tubbs, F.R.I.B.A., 179. Honorary Secretary: George H. Paine, 179. Honorary Treasurer: P. M. Beaumont, A.M.Inst.C.E., 179. Honorary Librarian: Gilbert A. Harrison, 179. Members of Council: E. J. Partridge, 173; Col. F. S. Leslie, R.E., 172; J. Herbert Pearson, 172; Henry Adams,

M.Inst.C.E., F.S.I., 170; R. A. Jack, 169; T. Stewart Inglis, 167; B. D. Cancellor, 165; Herbert W. Matthews, 164; Herbert O. Ellis, 163; Noel D. Sheffield, 163; R. Cecil Davies, 159; Alfred J. Taylor, 159; Thomas Wallis, 153; Charles E. Salmon, 151; Harry Gill, 149; B. R. Tucker, 149; Henry R. Cooper, 148; F. C. Moscrop-Young, 146. Not elected: Herbert Freyberg, F.S.I., 129; Geo. E. Dickens-Lewis, 118.

There being no observations on the report, it was resolved that it be adopted and entered on the minutes. The chairman then invested the newly-elected President, Mr. E. C. P. Mounson, F.R.I.B.A., F.S.I., with the badge of office, making reference to his long service on the Council of the Society, and also to his service to the country as an officer of H.M. Territorial Forces.

The new President, on assuming office, expressed his thanks for the honour conferred upon him, and his sense of the responsibility involved in his acceptance of it, more particularly in view of the example set by his immediate predecessor and other Past-Presidents, whom it would be his desire to emulate in promoting the interests of the Society. He concluded by moving a vote of thanks to the scrutineers, which was accorded with acclamation.

Mr. A. H. Salisbury (Member) moved a vote of thanks to the outgoing President, Mr. Percy B. Tubbs, who, he thought, deserved well of the Society for the way in which he had piloted it during the two somewhat critical years which had followed the prolonged negotiations with the R.I.B.A. on Registration and the proposed fusion of the two bodies. The President had, of course, been loyally supported by the Council and the members, but nevertheless full credit was due to him for his personal share in the success which the Society had achieved in its continued growth in numbers and influence.

Mr. B. R. Tucker associated himself with the proposal, and the vote was carried with enthusiasm.

Mr. Percy B. Tubbs, in a brief reply, referred to some of the matters in which he had been more particularly interested, such as the establishment by the Society of the Beaux Arts Committee. His actions in this respect had been at the time severely criticised by some of the professional journals, but they had since amply atoned by the support they were now giving to the movement.

The Secretary announced four nominations for membership, and reported that the Council had approved the work done by the holders of the Travelling Studentship and Scholarship, and had confirmed the awards. The drawings were on view. He also announced that the Council had admitted Frederick Juniper, of 2, Victoria-villas, Sarderburg-road, Finsbury Park, N., to the Register of Graduates on his qualifying by examination.

A ballot was then taken for the election of the following candidates for membership, and was declared to be unanimously in their favour: Frank Bethell, 3, Broad-street-buildings, Liverpool-street, E.C.; John F. Hennessy, F.I.A., N.S.W., Norwich Chambers, 58, Hunter-street, Sydney, N.S.W.; Andrew Gordon Maitland, Academy-street, Tain, Ross-shire, Scotland; Albert Edwin Mander, "Glencoe," 91, Gosberton-road, Balham, S.W.; Thomas Martin, 3, Staple Inn, Holborn; Paul Harold Solon, Kingscourt, Bridge-street, Walsall; John Morris Williams, Blackmill, nr. Bridgend, Glamorganshire; Leonard Winn, 27, Boscawen-street, Truro.

Mr. G. A. T. Middleton, A.R.I.B.A., Past Vice-President, then gave a lantern lecture on "Some Belgian Towns Affected by the War." He exhibited many slides of his own, supplemented by others lent by Mr. Ellis Marsland and Mr. E. W. Harvey Piper. He also showed a number of views of the damage done by the German bombardment. These slides had been specially made by Mr. George Trotman, from photographs made available by the courtesy of the Central News and of the "Glasgow Record."

Several Belgian architects were present,

including Mr. Alfred Portielje, the Secretary of the Royal Society of Architects, of Antwerp. The lecturer aroused the interest and sympathy of his audience by his method of handling the subject, and contrasting, purely from a professional standpoint, the conditions of prominent buildings in such places as Louvain, Malines, Tournai, and others, before and since their occupation by the enemy. He confined his observations chiefly to Belgium, but later in the evening, at the chairman's request, showed a number of slides illustrating the damage done to Rheims Cathedral, and other buildings in France. At the conclusion of the lecture, which lasted some two hours, a very hearty vote of thanks was accorded to Mr. Middleton.

Mr. William Woodward, F.R.I.B.A., one of the survivors of Mr. Middleton's party to Belgium twenty-five years ago, associated himself with the expression of thanks, and gave some amusing reminiscences of the visit.

The meeting closed with the passing of the following resolution: "That the Society of Architects desires to express its profound sympathy with the French and Belgian Governments on the irreparable loss sustained by those countries, and, indeed, by the whole world, through the wanton destruction by the common enemy of many works of art and of architecture, such as have been the pride of architects for generations."

THE HANGING OF WALLPAPER.

An incident in a wallpaper manufacturer—met with in Switzerland induces me to give the matter publicity. The rooms of a new hotel in the Engadine had been papered, and afterwards, to the regret of the proprietor, a large portion of the better-class papers turned out spotty and shady. He showed me over the rooms, and I noticed that those papered with cheap papers were perfect, whereas those where better-class papers had been used showed very serious defects. In some instances the walls were covered with yellow and yellowish-red spots, in others dark streaks appeared, and very often an entire length had turned yellow. The paperhanger, who was sent for, declared the fault to lie with the bad quality of the paper used, and was much astonished when I simply told him that he did not understand how to hang better-class papers. He drew attention to the fifty perfect rooms, and also to his own experience and reputation all over the country as a careful workman. One ingrain paper which was the most at fault was selected for trial. Fresh starch paste was made, and in my presence the paperhanger recommenced papering with the aid of another workman. A brush was used for the pasting, which, when not in use, was thrown down on the paper on the table. The man used a large quantity of paste, folded each length, placed it on the floor, and after pasting four lengths in all, commenced hanging. This being completed, he closed the windows and doors carefully. The next morning the result was as before, all the lengths being spoiled, but more especially in the places where the brush had been allowed to lie, yellow spots being visible. The strips furthest from the door appeared the darkest.

The next day I commenced to paper my room myself, in the presence of the paperhanger. I had one length only placed on the table at a time, and coated very sparingly. The brush was not thrown carelessly on the paper when not in use, but put aside. Each length was finished without interruption and hung at once. After the room was finished I opened all the windows and doors, to the disgust of the decorator, who said that air-bubbles would form under the paper. The result next morning, however, showed a faultless room. No spots, no creases, no defects whatever. The paperhanger now confessed, with shame, that he must admit that he had not understood how to do the work properly, and the remaining papers were hung without difficulty. The explanation is very simple. Formerly, in the

manufacture of papers, rags and chemical pulp were used, whereas now nearly all paper is made from mechanical pulp. The fibre of the paper is loose, therefore, and it sucks up paste to a much greater extent. Formerly, again, in printing hard mineral colours were used; aniline dyes at the present time take their place, and are much more easily dissolved in water.

Instead of animal size, vegetable size is used. The result is, whereas that in earlier times wallpaper had to be soaked, now this must be avoided. If the back of the paper becomes so much moistened that the liquid gets through the paper, it dissolves the ground colour and destroys the aniline dye. This explains why it is necessary that in the first instance only one length has to be pasted at a time, and why the doors and windows must be opened to facilitate the drying of the paste. On this occasion I made the test of placing a pasted length under the other lengths on the table, the air being thus excluded, and the paper compelled to dry itself. Next morning the colour was destroyed; the paste, through having penetrated the paper, had dissolved the dye; the vegetable matter in the size was decomposed owing to lack of air, and the whole paper was covered with red and yellow spots.

Ingrain papers are more easily affected than any others. The material consists of a sheet of white pulp and a sheet of wool. Both are very little sized, as the wool will only adhere to very soft materials, and the white back of the ingrain has to be made so as to absorb very easily. The consequence is that the paste penetrates the paper far more quickly, and it is, therefore, essential that ingrains must be hung as speedily as possible. Owing also to the fact that the aniline dye now in use for better-class papers is very easily destroyed, it is necessary that the paperhanger should work with carefully cleaned vessels and brushes.

If starch-paste or flour-paste stands a length of time, organic acids are formed which, although not perceptible by smell, will yet affect the colour of the paper. Aniline dyes are very susceptible to organic acids, and even the presence of small traces destroys the dye and causes yellow spots to appear.—"The Australasian Decorator and Painter."

BUILDING PRICES AND THE WAR.

At a town-planning conference at Norwich last week, the chairman introduced a discussion on the increased cost of building operations during the war. It had been brought to the notice of his council that there was likely to be an attempt to force up prices owing to the war. As far as they could make out, many people, without the slightest justification, were saying that it was an opportunity for putting up prices. The National Council got into communication with the Master Builders' Association, and found that three things would be affected—namely, woodwork, glass, and lead. The price of lead had now come down, but the price of the others had gone up. They had to consider whether this rise in the prices would justify them in interfering by going to the Government and asking them to take up the matter nationally, on account of the holding up of building materials. They felt they were not quite prepared to go as a deputation to the Local Government Board until some real and actual case of vastly-increased cost due to the holding up of materials was discovered. They had a conference a month ago with the master builders as to the extra cost in the building of cottages owing to the war, and the general consensus of opinion was that the advance on a £150 cottage was, roughly, some £4 or £5. The conference did not recommend any reduction in wages. Building up to now had been a very remunerative occupation, and builders and brickmakers had been having a fairly good time. There was a considerable margin which might be curtailed in order to bring down the cost of cottages. Even if a cottage cost £5 more, he thought it could be easily met out of economies in other directions. If, however, they found prices

were so unreasonable that they could not go on building, the council would join and help them to take action. Mr. G. E. Hawes, a Norwich builder, said the prices of some materials had advanced from 10 to 20 per cent. Small master builders in the city of Norwich could not build houses at such a cost and make them pay.

Mr. C. W. Hill, of Barnet, said the Local Government Board had issued a list of twenty firms of merchants who would supply building materials at cost price for relief works. That would include the building of cottages.

The secretary asked if the price of bricks was up in Norwich.

Mr. Gunton, of Costessey: For some years past all the brickmakers about here have been anxious to cut each other's throats, and they have pretty well succeeded. (Laughter.) There are always two sets of prices—one for the man who will pay ready money, and one for the man you know is never going to pay.

Mr. Cockerill, of Yarmouth, said timber could be bought to-day in Norway and Sweden as cheaply as at this time last year. The only thing that increased the price was the higher rate for freights and insurance.—Mr. Stapleton, of Spalding, master builder, said that at present a £10 rise on an ordinary pair of cottages would cover matters. Timber was the only thing affected just now. Ultimately the conference adopted the following resolution: "That this conference is of opinion that the best method of dealing with distress caused by unemployment in the building trade during the war period is by building cottages for the working classes in districts where they are needed, and urges local authorities in the Eastern Counties to put in hand the preparation of schemes without delay."

A GRAPHIC METHOD OF ASCERTAINING THE REINFORCEMENT OF RECTANGULAR AND SQUARE SLABS IN REINFORCED CONCRETE.*

By FRANK H. HEAVEN, A.R.I.B.A., P.A.S.I., Honoursman and Medallist in "Building Construction and Drawing," etc.

In designing reinforced-concrete slabs, as in floors, etc., considerable calculation is entailed in ascertaining the varying values of the reinforcement necessary. Usually a width is taken along the major and minor axes in the case of a rectangular slab, and along the centres in the case of a square slab, and calculations made as for a singly-reinforced concrete beam. In the case of slabs with uniform loads and supported only at all edges, the usual method is to ascertain the reinforcement as for a singly-reinforced beam, having a width of 12in. parallel to the major and minor axes in rectangular slabs, and parallel to the centres in a square slab, and a depth equal to the thickness of the slabs; and having ascertained this value for these widths of sections, to repeat same for each 12in. width in the slab parallel to the axis under treatment.

In the case of slabs with uniform loads and fixed at all edges, a considerably greater number of calculations would be necessary; in fact, a separate calculation for each 12in. width parallel to the major and minor axes in rectangular slabs, and parallel to the centres in square slabs, would be necessary, because, in the case of the various widths parallel to any one of the axes the bending moment would be different in each, as the fixed support given by the sides would tend to reduce the bending in a graduating scale from the centre width, where it would be at a maximum, to the outer widths, next the sides, where there would be no bending on their sides immediately next the support, as they would be rigidly fixed.

If we allow that the stress-strain curve is parabolic and not a straight line, then having calculated by the usual formulae the area of reinforcement required in the centre width parallel to any axis, then the areas required for any adjoining parallel widths in the same

cross-section can be conveniently ascertained by means of a parabolic curve, having the span of the slab along the cross-section under treatment as its base, the area of the reinforcement required in the centre width of that cross-section as its height, expressed in any unit, and the area of reinforcement

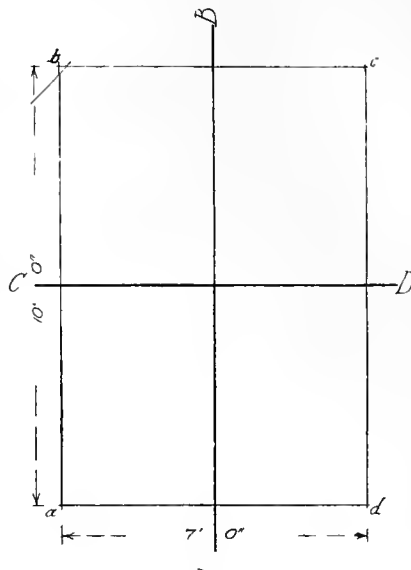


FIG. 1.

required at a point next the support of the slab at the sides as zero; then the areas required at any intermediate points along the cross-section may be ascertained by scaling off from the diagram, using the same unit scale as that to which the area required in the centre width has been plotted as the height of the parabola.

For example, take a slab *abcd* of any dimensions (Fig. 1). The major axis is *AB* (say 10ft.); the minor axis is *CD* (say 7ft.) Calculate the area required for the centre 12in. width parallel to the major axis *AB*. Having obtained same, which we will assume to be .567sq.in., draw a line *ab* (Fig. 2) equal in length to *CD*, to any convenient scale. Bisect *ab* in *c*. Drop a perpendicular from *c* equal in length to

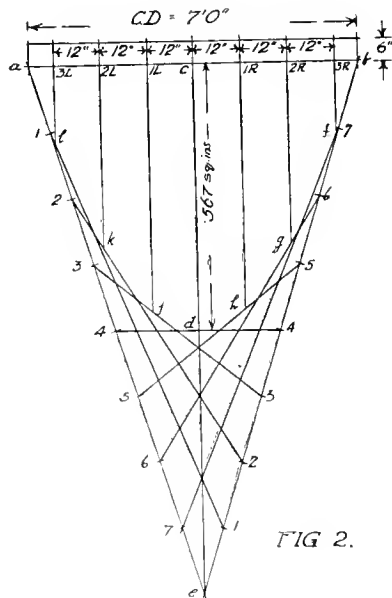


FIG. 2.

.567sq.in. to any convenient unit scale. Construct on this data a parabola having *ab* as its base and *cd* as its height. A convenient method of doing this is to extend *cd* to *e*, making *ce* equal to twice *cd*. Join *ae* and *eb*. Divide *ae* and *eb* into any equal number of parts. Number them 1, 2, 3-7, commencing from *a* on line *ae*, and from *e* on line *eb*. Join 1 on *ae* to 1 on *eb*, and 2 on *ae* to 2 on *eb*, and so on until 7 on *ae* is

joined to 7 on *eb*. This will give the necessary parabola. Draw another line above *ab* and parallel to it at a distance equal to the thickness of the slab—say in this case, 6in. Mark off on each side of *c* distances of 12in. and number them as 1L to 3L and 1R to 3R, and at each point so determined drop perpendiculars to meet the parabolic curve in *f*, *g*, *h*, *d*, *j*, *k*, and *l*. Scale off the lengths of these perpendiculars to the same scale as that used in determining *cd*; then, if the value given to the line *cd* represents the area of metal required in the centre width of the slab parallel to the major axis, the lengths of the ordinates from 1L, *j*, to 3L, *l*, and 1R, *h*, to 3R, *f*, must represent the areas of metal required for the 12in. widths parallel to the major axis of the slab, of which the points 1L to 3L and 1R to 3R are the centres.

A similar procedure is necessary to arrive at the areas required for the 12in. widths parallel to the minor axis *CD*. First calculate the area required for the centre 12in. width parallel to the minor axis *CD*. Assume same to be .468sq.in. Draw a line *ab* (Fig. 3) equal in length to *AB* to any convenient scale. Bisect same at *c* as before and drop a perpendicular *cd* equal in length to .468sq.in. to any convenient scale of units. Construct a parabola as before, and mark off the 12in. distances on either side of *c*, and drop perpendiculars 1L to 4L, and 1R to 4R, to meet the parabolic curve in *f*, *g*, *h*, *i*, *j*, *k*, *l*, and *m*, and scale off the lengths of

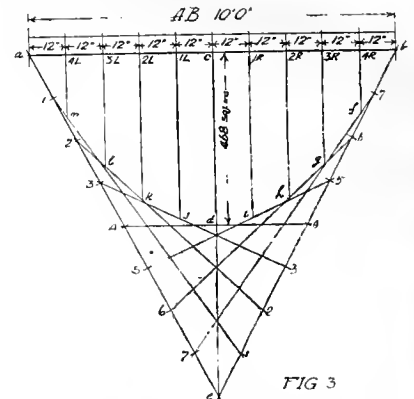


FIG. 3.

same, which will represent the areas of metal required for 12in. widths parallel to the minor axis of the slab, of which the points 1L to 4L, and 1R to 4R, are the centres.

The slabs being uniformly loaded, there is no necessity to construct the full parabola; one-half will be sufficient, as the other half is but a repeat.

In the above remarks we have assumed the 12in. widths of the slab parallel to the major and minor axes to be separate beams; but the second report of the Royal Institute of British Architects' Joint Committee on Reinforced Concrete, in Appendix III., adopts Grashof's formulae for the maximum bending moment on flat plates, which is based on the identity of the deflection at the point of intersection of any two cross-sections at right-angles to each other. This is correct in the case of a square slab; but in the case of rectangular slabs the values differ; therefore, to conform to this theory, which would appear to be safe—because should any accidental load on the slab be such as to cause the safe bending moment of the slab along its minor axis to be exceeded, the safety of the slab would be affected and the factor of safety reduced, although the safe bending moment of the slab along its major axis had not been reached. Therefore it would follow that we must adopt the value of the area of reinforcement for the centre 12in. width parallel to the major axis, as being constant for the major and minor axes in our diagrams. The diagrams must, therefore, be correspondingly amended to conform to this hypothesis. One diagram could, therefore, be made to show the graphic calculations for each axis by using the base of the parabolic curve as one-half for the major axis and one half for the

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minor axis, and the same vertical line cd dropped from c as the value of the area required in the centre 12in. widths parallel to both axes; but for clearness and accuracy it will be better to construct two separate diagrams, one for the major and one for the minor axis, drawn as shown in Figs. 1 and 2, and as described in the text thereto; but with the alteration that the vertical line cd will be the same in both diagrams. It will, therefore, follow that the parabolic curve and the relative values of 1L and 1R, etc., will be greater in the case of the calculations of a cross-section along the minor axis than in that of a cross-section along the major axis.

In practice the values obtained for the various 12in. widths must be divided up into a convenient number of rods or bars spaced at a convenient distance apart, and it is best, in any one slab, to keep the same size bar and to vary the distances apart of the same, rather than to vary the size of the bars and keep the distance apart of the same constant.

LONDON COUNTY COUNCIL.

At the weekly meeting of the London County Council on Tuesday, the Building Act Committee recommended that Mr. Percie Ion Elton be appointed district surveyor for Putney and Roehampton, to fill the vacancy caused by the death of Mr. T. W. Willis in May last. The committee reported that the gross amount of fees received from the district in 1913 was £356; but the amount this year showed a considerable decrease. For the vacancy twenty-five candidates offered themselves, of whom four did not possess the necessary certificate of competency, and four others withdrew their application. The short list of selected candidates consisted of Messrs. P. I. Elton, J. E. Mundell, and J. Dovaston. The Establishment Committee recommended that the salary (£600 a year) of Mr. J. H. Coste, the chemist in the Public Health Department, be increased to £650 a year, as from July 29 last, rising a year later to £700 a year. The reports were adopted.

The General Purposes Committee reported, with regret, that already some fifteen of the Council's employees serving with the Forces of the Crown had lost their lives. In its service, the committee remarked, the Council awarded pensions to the widows and dependents of men in the Fire Brigade killed in the execution of their duty, and they recommended that the Government be informed that, in the opinion of the Council, the allowance made by the Government to the wives of soldiers and sailors who lost their lives while serving with the Forces should be not less than such pensions. After some discussion an amendment instructing the General Purposes Committee to consider as to continuing payments to widows and dependents in receipt of less than £1 a week, was accepted by Mr. E. Gray, the chairman of that committee.

Replying to Mr. Reynolds, Mr. H. Kingsley Wood, the chairman of the Building Acts Committee, said inquiry had been made concerning certain buildings and premises in London which were or had been occupied by Germans or Austrians, and as to which applications had recently been made to permit of alterations. The inquiry was directed mainly to the strategical positions of the premises. All reports which disclosed a prima-facie case for investigation had been forwarded at once to the proper authorities, and a like course would be pursued in regard to any future reports which might be received.

Plans are being prepared for the new central station which it is proposed to erect at Quebec at a cost of 1,000,000dol. The building will be the joint project of the Canadian Pacific and Trans-continental railroads. The architects are Messrs. Palmer, Hornbostel, and Jones.

The Board of Managers of the Manhattan State Hospital for the Insane contemplate the erection of new buildings for the State Hospital. The sum of 365,000dol. has been appropriated by the Legislature of the State of New York for the new buildings.

OBITUARY.

We regret to announce the death, at a nursing home in Kensington, after a long illness, of Mr. Lewen Sharp, of Duke-street, Adelphi, and Brook Green. As architect of the Apollo Theatre, in Shaftesbury-avenue, the florist's shop premises in Tavistock-street, Strand (illustrated by us on July 13, 1913), and other well-known buildings, Mr. Sharp, who was fifty-two years of age, had gained a reputation for sound design. He was a prominent member of the National Liberal Club. In 1902 Mr. Sharp captured Brixton for the London County Council from the Moderates, and held it through two successive elections until the Progressive debacle in 1908. He was defeated then, but was elected alderman, and served in that capacity until 1909. While on the County Council he was chairman of the Fire Brigade Committee, and during his term of office introduced the bell on the fire-engines as a substitute for the old method of shouting. Mr. Sharp, who had been obliged by illness to curtail his activities during the past five years, leaves a widow and two sons. The funeral service took place at St. Augustine's Church, Queen's Gate, W., on Tuesday morning.

Sir Francis Powell, the distinguished painter, died at his home at Dunoon, Firth of Clyde, on Tuesday, aged eighty-one years. Sir Francis, who was born at Pendleton and was trained at the Manchester School of Art, was the only son of William Frederick Powell, a Manchester merchant, and Mrs. Powell, a clever flower-painter in water-colours. In 1858 Sir Francis married Elisa, daughter of Joseph Lockett, of the Strange-ways Engraving Works, Manchester. She died in 1912, and in June of this year he was married to Miss Annie McNab, aged twenty-three, a member of his household and daughter of a Dunoon painter. Sir Francis Powell had long been president of the Royal Scottish Society of Painters in Water-Colours, and his subjects were largely drawn from Highland scenery. He was founder of the Scottish Water-Colour Society and chairman of the two successful Glasgow International Exhibitions. His chief works are "Ben Nevis" (1869), "The Channel Tug" (1872), "Loch Cornisk" (1875), and "Goat-fell from the Sea" (1901).

Colonel William Booth Bryan, V.D., chief engineer to the Metropolitan Water Board, died suddenly at the Savoy Hotel, late on Tuesday night. He was taken ill while in his office in Savoy-court, and was removed for medical treatment to the hotel, where he died later. Colonel Bryan, who was sixty-five years of age, was the son of Mr. John Bryan, a Nottingham lace manufacturer. From 1873 until 1876 he was the borough engineer of Burnley, and in the latter year he was appointed borough and water engineer of Blackburn. He left Blackburn in 1882 to be chief engineer of the East London Waterworks Company, and held that position until the Metropolitan Water Board was formed in 1904, when he was transferred with the undertaking, and subsequently became chief engineer to the Board. From 1889 to 1903 he was lieutenant-colonel commanding the 2nd Tower Hamlets Volunteer Rifle Corps, and he was hon. colonel of the 17th Battalion County of London Regiment. He was a member of the Council of the Institution of Civil Engineers. The funeral service will take place at Christ Church, Chislehurst, to-morrow (Saturday) at 2.15 p.m. Owing to Col. Bryan's death the Thomas Hawksley lecture, announced by the Institution of Mechanical Engineers to be delivered at the Institution for this (Friday) evening, has been indefinitely postponed.

The annual general meeting of subscribers to the Incorporated Auctioneers' Benevolent Fund was held at the Auction Mart on Monday, Mr. S. Walker presiding. The report for the year ended June 30 showed receipts from subscriptions £380, as against £386 in 1913, and a donation of £10 10s. from the Estate Exchange. Annuities paid during the year amounted to £451 15s., and grants to £258. Mr. Daniel Watney was re-elected chairman and treasurer.

COMPETITIONS.

GATESHEAD.—At the last meeting of the town council the education committee reported that out of nineteen competitive plans for the proposed school in King Edward-street, they had selected the plan marked "T," and submitted it to the council for approval. The plan was that of Mr. F. W. Purser, 10, West-street, Gateshead.

GLASGOW CARLYLE MEMORIAL.—The designs and models sent in for competition for the proposed Carlyle memorial in Glasgow have been placed in the position in the South-east Pavilion of Kelvingrove Art Galleries, and will be open to the public till to-morrow (Saturday). Suggestions or recommendations from subscribers will be welcomed by the committee before a selection is finally made.

The Court of Sewers for Brigg have appointed Mr. A. R. Haynes, of Mansfield Woodhouse, to the post of surveyor of sewers.

A communication has been received by the town clerk of Scarborough from the Local Government Board, sanctioning the borrowing of £16,700 for the improvements to be undertaken on the South Cliff.

The Staffordshire Joint Tuberculosis Committee have purchased a plot at the rear of premises in Parson-street, Dudley, as a site for a dispensary, and have instructed Mr. Howard Dickenson to prepare plans for the building.

Mr. J. H. McDowell, of Montreal, is the architect and Mr. F. Hoadley is the engineer for a new theatre, which is to be erected on St. Catharines-street, Montreal, at a cost of 200,000dol. The building will be of brick and terracotta construction.

Rodin's statuary group, "Burghers of Calais," the gift of the National Art-Collections Fund, has been placed in position in the Victoria Tower Gardens, Westminster. It stands on a pedestal 17ft. high, and has the mass of the Victoria Tower as a background.

The erection of the Sacred Heart Cathedral at Prince Albert, Sask., is proceeding satisfactorily. The new edifice will be 162ft. by 75ft. in dimensions, of brick and stone construction. The estimated cost is 150,000dol. The architect is Mr. A. G. Creighton, of Prince Albert.

The town council of Southampton received at their last meeting a letter from the Local Government Board sanctioning a loan for £27,350 for the purpose of water-supply, £20,350 being for reconstruction of reservoir, £2,000 for connecting mains, and £5,000 for wells and headings.

At Barmouth Urban District Council, on Monday, it was reported that the Local Government Board had agreed to sanction the purchasing of Cellfechan Farm, situated at the back of the town, for purposes of public walks and pleasure-grounds, at a price of £2,300. The council approved of a scheme for widening the roads on the Llanaber-road, for which the Road Board had given a grant of £600, and the county council £150, so as to relieve unemployment in the town.

At the Merchant Adventurers' Hall, York, the great brick fireplace in the committee-room, which has been concealed behind a commonplace nineteenth-century stove, has been opened out. It is covered in by an elliptical, half-timbered canopy, having a width of 12ft. 6in., and a depth of 4ft. 3in., and is now paved with slabs of Hopton Wood stone, the hearth and moulded kerb being of the same material. The walls are of York-made thin bricks. A dog-grate with canopy, and a carved oak bench on either side have been provided. The restoration has been carried out under the direction of Mr. Gedge Benson, A.R.I.B.A., of Nunthorpe-avenue, York.

The Roman Catholic Church of St. Mary at Uttoxeter, of which the nave was built in 1837-39 from Pugin's design, and the chancel and lady-chapel added in 1873, has just been reopened after an enlargement amounting to reconstruction. The chancel has been extended; a new organ-chamber has been built on the northern side of the chancel; formerly the site of the Lady-chapel; whilst a new Lady-chapel has been built on the southern side of the chancel. A mosaic, "The Annunciation," executed by Miss H. Martin, of Westminster, fills a panel 6ft. square. A carved triple archway of stone and marble is fixed as a screen between the choir and Lady-chapel. The architect was Mr. H. Sandy, and Messrs. Wilcocks, of Wolverhampton, were the builders.

Corrente Calamo.

The opening meeting of the A.A. on Monday night, if naturally less numerously attended than usual, had more real interest for most present than many in the past; and Mr. Selwyn Image's plea for reality and his reminder that war—perhaps because it is always real—has in the past proved not unfavourable to art, will find responsive echoes, we feel sure, everywhere. In the recent past the deadening influences of our own grasping commercialism, our baneful and vulgar luxury, and our frivolous quest of distraction amid paltry pleasures, have convinced many of us for some time past that a time of storm and stress was due if British character was to be maintained and British pluck braced anew to its manifold responsibilities. Art will share the wholesome discipline and the benefits of it. Architecture will purge herself of some things which, if not exactly "made in Germany," have been Germanised into the flabby dilettantism that rotted in Germany itself into the Rococo, and have been here the secret delight of mere professors and pedants. For all of us the lesson is that just as to-day—

"In native swords, in native ranks,
Our only hope of freedom dwells."

so, when victory brings peace with honour, our one safeguard in all that concerns our art and our lives will be the exclusion of more German products than some we have already begun to taboo as builders.

It is satisfactory to learn, from the reply of Mr. H. Kingsley Wood, the chairman of the Building Acts Committee, to Mr. Walter Reynolds's question, put at the meeting of the London County Council on Tuesday, that the quite possible risks in connection with premises in London occupied by Germans and Austrians, or recently subjected to building operations, are not being overlooked. Mr. Kingsley Wood stated that investigations had been made, and a report had been forwarded to the proper authority, a few of the premises being in what might be described as strategic positions. If a prima-facie case for further investigation arose, it was added, the result would be promptly communicated. The chairman of the Building Acts Committee's well-established reputation as one of the acutest lawyers in the kingdom, and his wholesome vigilance exercised in other directions, are ample guarantees that no unnecessary interference will be attempted on the one hand, and on the other that precautions, which few just now will deny are dictated by common prudence, will not be neglected.

The Inhabited House Duty is one of the perpetual puzzles of the law. It is still based upon the House Tax Act of 1808, and after over a century of litigations about its meaning, every word is now pretty well crushed with judicial decisions. The recent judgment of the House of Lords in the case of the Westminster School is a refreshing reference to a common sense construction of the Act. The Inland Revenue wanted to include in their assessment of this institution for Inhabited House Duty their school hall, library, and classrooms, although these were separate buildings in which no one lived, on the ground that all these things came within the scope of the word "offices," as used in that ancient statute. Mr. Justice Horridge had declined to take this view, as

there was no structural connection between the house itself, which was inhabited, and these separate buildings, nor would he hold that the old term "offices" could have been meant to cover a school hall or a library or the like. The Court of Appeal, somehow or other, reversed all this, and made the tax payable upon the whole. Now the House of Lords has restored the ruling of the Judge below, the Lord Chancellor waiving aside the decided cases of the last hundred years, and holding that "offices" meant stabling, laundry, etc., and such other things as go with a dwelling-house. The point is important to property-owners and builders, because although this duty is a tenant-tax, its increased range of assessment is apt to frighten people from buying or renting houses with offices and outbuildings.

Mr. R. Caulfeild Orpen, of Dame-street, Dublin, president of the Royal Institute of Architects in Ireland, makes the gratifying announcement that so far as Ireland is concerned the war has hardly affected the cost of building works. The principal item, wages, shows, he says, no change. There is practically no change in the cost of stone, bricks, cement, timber, slates, metal goods, or fireclay goods. The prices of a few items have, no doubt, advanced considerably, but the value of these is small compared with the value of other material used in building work. The prices of some materials, which advanced upon the declaration of war, have since been lowered to normal levels. In order to check and record prices, a committee representing the Royal Institute of Architects, Ireland, the Dublin Building Trades Employers' Association, and the Merchants' Associations (and of which Mr. Orpen himself is the chairman) meet regularly, and compare local prices with the prices ruling in other centres of Great Britain. The public, therefore, may rest assured that prices cannot be advanced in Dublin without justification.

Mr. J. R. Cooper, the town clerk of Walsall, put his points excellently on Monday night in his lecture to the local workers on the War Emergency on the reclamation of waste lands as a source of profitable employment in times of distress. In a little country like this we allow in one limited area in the Midlands 30,000 acres to remain a barren, blighted desert. Much of it would well repay cultivation; more of it might profitably be built on, or laid out as recreation grounds and playing-fields. All that is wanted is money and labour, supplemented by a little more common-sense on the part of the Development Commissioners. Little of the land is worth more than £6 an acre, and compulsory powers should be given to acquire it at that figure. The Development Commissioners have been approached by the Re-forestation Society, but made it a condition of any grant they might give that the money should be repaid by the local authority with compound interest at 3 per cent. It is most necessary, therefore, at the present time to convert the Development Commissioners to a more reasonable state of mind, if only because of the many advantages of the scheme, one being that it might find work for the many refugees whom the country is welcoming to its shores.

At an adjourned meeting of the Birmingham City Council, held on Tuesday, approval

was given in its entirety to the important report of the special housing inquiry committee, outlined in our issue of the 16th inst., p. 509. This report, which represented the labour of fifteen months by the committee, was submitted to the council by Mr. Neville Chamberlain, who devoted a great part of his speech to the question of municipal housing, the adoption of which in Birmingham was not recommended. Although it had been tried in Liverpool, Mr. Chamberlain pointed out that the cases of the two cities were not analogous, for in Liverpool the problem was limited to 8,000 houses, whereas in Birmingham 50,000 houses were involved. The council, as a body, were favourably disposed towards the report, and discussion, in which there was little criticism, took place only on the formal resolution of approval. The council also adopted the report of the public health and housing committee, recommending alterations and extensions of West Heath Hospital, at an estimated cost of £8,660.

A valuable report on reinforced concrete has been issued in a small volume by the Engineering Society of China, for the receipt of which we are indebted to Mr. C. H. Godfrey, M.I.C.E., the municipal engineer of Shanghai. The report is published by Messrs. Kelly and Walsh, Ltd., printers, Shanghai; but no price is stated, nor whether it is for sale. The report deals, naturally, with locally found or manufactured cement, sands, and reinforcement. The tests, which have been comprehensive and carefully conducted, show somewhat high results; but it is noted that they are only intended to indicate the relative strengths of the various kinds of bars. The methods and results are fully illustrated. Some notes are added of tests of local materials other than concrete, and with regard to the fire-resisting qualities of the latter. The effect of electrolysis is attracting considerable attention just now, and experiences of local engineers thereon were sought. It would appear therefrom that there is no special cause of apprehension so far as Shanghai is concerned.

Mr. John Charles Nicholson has been elected Master, and Mr. Harry M. Williams and Captain H. J. Bertram, Wardens, of the Painters' Company.

A new county school for boys is about to be built in Frith-road, Dover. Messrs. G. H. Denne and Son are the contractors, their tender having been accepted at £12,890 by the Kent Education Committee.

At the last meeting of the sanitary committee of the Manchester Corporation a scheme for the erection of a further 120 houses on the Blackley Estate was provisionally approved, subject to the sanction of the corporation.

The Carlisle Health Committee are applying to the Local Government Board for sanction to borrow £22,000 for the carrying out of sewerage-works for Uppery, Blackhall, and Belle Vue. In granting the extension of the city boundaries, Parliament required an undertaking that the corporation would carry out a sewerage scheme for these areas.

The curriculum of the Department of Architecture of Michigan University at Ann Arbor, Mich., states in its preface that "in no time of the history of the United States has there been so much interest as is now manifested in good architecture. Classes of buildings which formerly were hardly considered from an artistic point of view—such as factories, warehouses, and the like—are now being designed by architects. Many large corporations have come to a realisation of the value of buildings which are at once adequate, attractive, and interesting. The art-development of which architecture forms but a part has barely begun in the United States."

Building Intelligence.

BEACONSFIELD.—A new church of St. Michael and All Angels is in course of erection in the growing district near Beaconsfield station. The plans, prepared by Mr. G. H. Fellowes-Pryne, F.R.I.B.A., provided for a church to accommodate 647 adults, and there is being built in the first instance three bays of the nave, to accommodate 260 persons, at an estimated cost of £3,274. The committee have received donations and promises amounting to £2,690. The tender of Messrs. Franklin, Ltd., of Deddington, has been accepted, the foundations are now laid, and the work is progressing. The main western gable rises to a height of 45ft., and a large traceried window forms a central feature, with smaller windows on either side. A porch projects forward under the central window. The plan is cruciform, with a broad nave 77ft. 6in. in length, having aisles and single transepts placed north and south, and a chancel 35ft. 6in. in length and 22ft. wide. A chapel is placed on the southern side, and the organ chamber, vestries, and lavatories are on the north side of the chancel. The nave is divided into five bays, the columns being enriched by twisted cavits and carved ornament.

BRISTOL.—The building in course of erection near the King Edward Memorial in Whiteladies-road, Clifton, as the home of the Bristol branch of the Royal Colonial Institute, is so far advanced that the public are enabled to judge of the external effect, and expressions are being made by local residents in appreciation of the great improvement made at this corner by the erection of a building so well adapted to the awkward site, and an addition to the architectural monumental buildings which surround the open space where several roads diverge. The architects (Messrs. Bridgman and Bridgman, A.R.I.B.A. and M.S.A.) have introduced into the sculpture ornaments emblematic of the British Empire, and designed a building which it is confidently believed will, when liberated from the scaffolding and hoardings, prove to merit the favourable criticisms and comments. The design was illustrated in our issue of August 8, 1913; but the building as executed is one story less in height, and varied in other respects. It is the gift of Mr. T. J. Lennard, J.P., ex-sheriff of Bristol.

AN EDINBURGH TOWN-PLANNING SCHEME.—The town-planning committee of Edinburgh Town Council have held a meeting in the City Chambers with the owners interested in the land proposed to be included in the town-planning scheme for the Fountainbridge district of the city. Mr. Ross represented Messrs. James Williamson and Bros., proprietors in the district; and Fountainbridge Mission Church (which is affected by the proposed scheme and has two years of a lease to run) was also represented. Mr. Ross stated objections to the scheme on the ground that the corporation proposed to acquire a large area of ground belonging to Messrs. Williamson, and to leave in their hands a small strip of ground behind Fountainbridge Institute, about 100 yards long and 58ft. broad, which, from its want of depth, would be incapable of development. Further, the buildings which at present existed upon this strip of ground would be rendered useless for their present purpose through severance from the rest of the subjects. Objection was also taken to the probable interference with the accesses and window lights of the Coliseum building.—Mr. Marwick, architect, who was also advising Messrs. Williamson, suggested that the corporation might acquire the whole of Messrs. Williamson's property, and that the area they now proposed to leave in the hands of his clients should be utilised for the accommodation of the tenants who were to be dispossessed. The committee agreed to a motion recommending the town council to pass a resolution to submit the scheme for the approval of the Local Government Board.

GREENCROFT.—The new schools at Greencroft, West Stanley, were opened on Friday. The schools have been erected by the Durham County Education Authority. The design of the whole scheme is somewhat of a novel character, inasmuch as the buildings are proof against subsidence from colliery workings, the foundations being entirely of steel girders, resting on small concrete piers; the entire superstructure is framed in steelwork, and the main and division walls are framed in timber and covered inside and out with steel perforated sheeting on the Hy-rib system; the interior is plastered, and the exterior is cemented and finished roughcast. The accommodation provides for 900 children in three divisions; cookery and manual rooms are also provided. Messrs. Marshall and Tweedy, 17, Eldon-square, Newcastle-on-Tyne, were the architects, the contractor being Mr. W. Hall, Gateshead; the heating being executed by Messrs. Dinning and Cooke, Newcastle. Mr. Crighton acted as clerk of works.

STOKE ON-TRENT.—On Thursday in last week the foundation stone of a new Roman Catholic school at Stoke was blessed and laid by the Archbishop of Birmingham, the Most Rev. Edward Hsley, D.D. The building will have certified accommodation for 276 pupils, although it will be possible to seat 336 if required. The Northcote Memorial school has a frontage to Knowle-street, and is situated at the back of the Catholic church grounds. It will be a two-story building, comprising six classrooms, two teachers' rooms, cloakrooms, and lavatories, the two upper rooms being divided with a collapsible partition. The floors are of fire-resisting construction, being in concrete, and laid with pitchpine blocks. Throughout the buildings the rooms and corridors will have glazed tile dadoes, and be heated with a low-pressure hot-water system. Playground accommodation will be provided, which will be asphalted. Thorough ventilation will be secured to all the rooms by opening windows on two sides of each room, giving cross-ventilation. There will be two entrances. The total cost, apart from furniture and site, works out at a little less than £8 per head. The architects are Messrs. Wood and Goldstraw, of Tunstall and Hanley, and the contractors are Messrs. Meiklejohn and Son, Stoke-on-Trent.

SUTTON COLDFIELD.—Specifications and plans for the erection of wooden huts at Sutton Coldfield, for the accommodation of the officers and men of the 1st and 2nd Birmingham Battalions of the Royal Warwickshire Regiment, have been issued. The contracts will be placed the second week in November, and the buildings are to be available for occupation by the troops within two months. The plans, which have been prepared according to War Office designs, provide for commissariat, guard- and orderly-rooms, officers' and non-commissioned quarters, shower-baths, and a barrack ground. For each battalion there will be thirty-eight huts, each accommodating thirty men (or a total of 1,140) and separate estimates will be required for external covering in wet weather—boarding and corrugated iron. Each hut will be lined with matchboarding.

WHITTINGHAM ASYLUM.—The new annexe to the Whittingham County Asylum, near Preston, was formally opened on Monday. Whittingham already accommodated 2,100 persons, excluding the staff; the annexe is designed for 790, including those engaged in administration. The building has necessitated extensive additions to the general service of the asylum, such as the power-house, the bakery, and the laundry, and a new sewage installation, capable of treating 40,000 gallons a day, has also been provided. The total cost of the annexe and the incidental work will approach £150,000, and £15,000 has been allowed for furnishing. Messrs. Sykes and Evans, of Manchester and Rochdale, are the architects, and Messrs. E. Taylor and Co., Ltd., of Littleborough, the general contractors.

Our Illustrations.

NEW PREMISES FOR THE CO-OPERATIVE WHOLESALE SOCIETY, LTD., MANCHESTER.

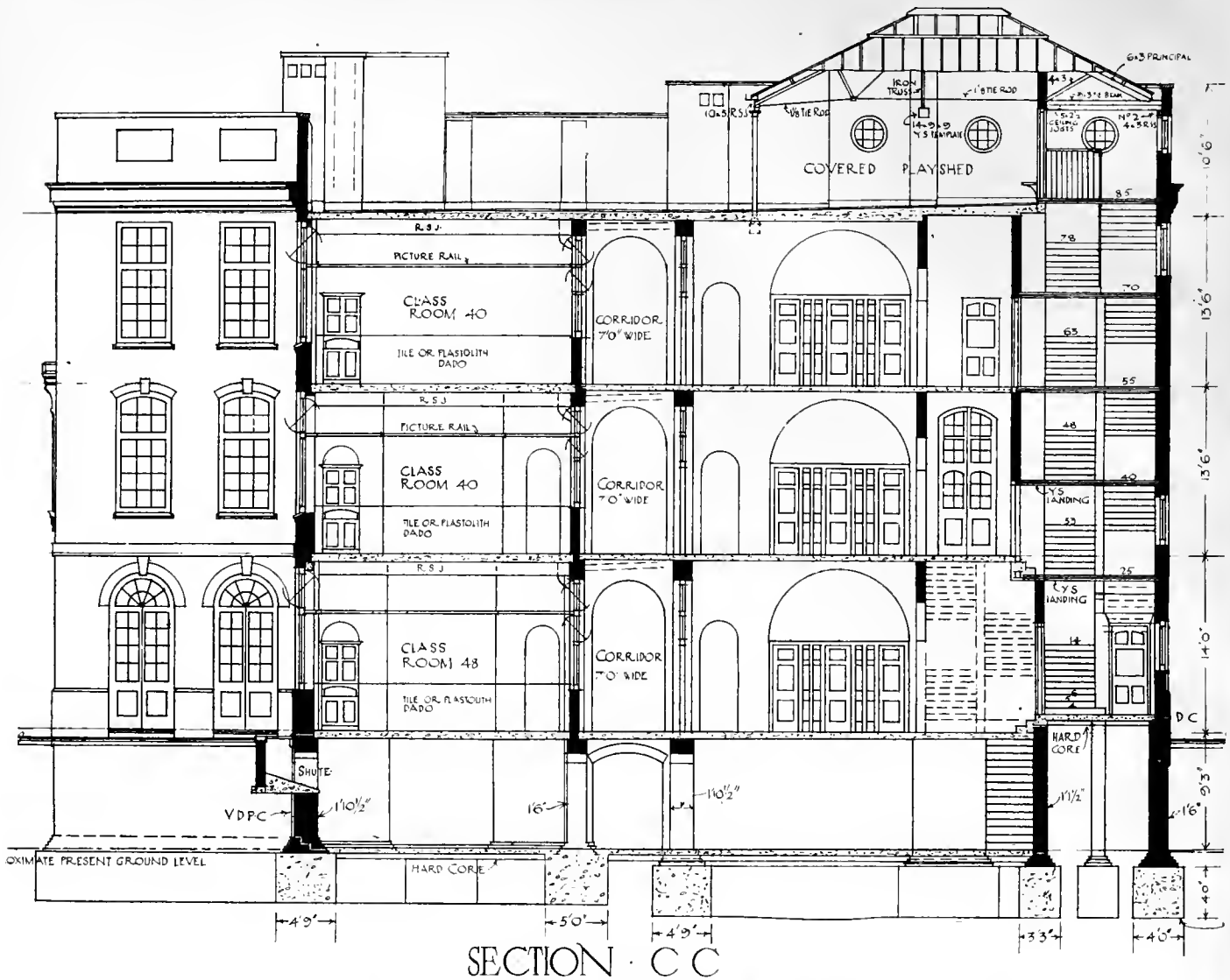
The Society having acquired the site of the old town-hall, police- and fire-brigade station, and old post-office in St. Mary-street, and having lately demolished the greater portion of those buildings, are erecting new premises, of which we give an illustration. The new buildings will have a frontage of about 170ft. to St. Mary-street, and a return frontage of about 15ft. to a new 40ft. street connecting St. Mary-street and Westgate-street. The Westgate-street portion of the site will, for the present, remain unoccupied. There will be eight floors, including basement. The principal entrance is to be in the centre of the St. Mary-street front, and in the new street there will be a loading entrance to a large central covered loading-way. Accommodation for the grocery and provision department is to be in the basement and on the ground and first floors, the latter having a large general sale-room for the accommodation of retail societies' buyers. On the second, third, and fourth floors the drapery, boot and shoe, and furnishing departments will be situated, with joint packing and receiving department on the ground floor, adjoining the central loading-yard. On the fifth and sixth floors will be situated an assembly-hall (73ft. long by 53ft. wide), with dining-room in conjunction therewith, and subsidiary rooms for various purposes. Access to all floors will be approached by a central stone staircase, provided with high-speed passenger hoist in the well, and, in addition, there will be a secondary stone staircase as an alternative means of exit. For warehouse purposes there will be three electric goods hoists running in fireproof hoist-wells. The elevations are in Portland stone, with plinth and entrances in blue Pennant stone. The work is being executed by the Society's own building department, under the direction of their architect, Mr. F. E. L. Harris, A.R.I.B.A., of Manchester.

HAGGERSTON CASTLE, NORTH-UMBERLAND.

Last week we published a general view with plans of this mansion, lately rebuilt after a big fire by Mr. James B. Dunn, F.R.I.B.A., architect, of Edinburgh. We also gave a double-page detail of one of the main fronts. To-day we reproduce a photograph of the entrance vestibule or octagonal hall, which was preserved from the fire. It is of particular interest, having been built from the design of the late R. Norman Shaw, R.A., who was the architect of the demolished mansion, one of the latest buildings by this famous architect. The dome over this entrance-hall has been covered in copper in lieu of the slated roof. The second photograph illustrates the garden front of the new buildings, designed by Mr. James B. Dunn, who also laid out the formal gardens, which are very extensive.

HOUSE AT HUNTERCOMBE, OXFORDSHIRE.

This drawing was shown at this year's Royal Academy Exhibition, in illustration of a new house which stands right up on the Chiltern Hills, close to the well-known golf course at Huntercombe. From these hills an unrivalled view of the Thames Valley towards Dorchester is obtained. The principal rooms are arranged so as to command this view in a south-westerly direction. A Queen Anne motif very simply treated has been used for the exterior. The walls are built of a grey Reading brick of rough texture, and the dressings to windows and doors are of red brick. The roof is covered with red hand-made tiles. Jalousies have been put to all windows on the south and west sides. Inside the treatment is quite simple, the house being mainly used as a golfing and summer residence. The garden has been laid out in keeping with the house.

SECTION C C
LONDON COUNTY COUNCIL ELEMENTARY SCHOOL, EMILY STREET, PADDINGTON.

Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect.

The builders are Messrs. Walden and Cox, of Empstead Works, Henley-on-Thames, Oxon. Mr. O. P. Milne, F.R.I.B.A., architect, of London, was responsible for the house and garden work.

HOUSE AT FOREST ROW, SUSSEX.

This drawing was exhibited at this year's Royal Academy, illustrating a house for a site in Sussex, the plan being premiated in a competition instituted by the proprietor to insure the best handling of the land. In the centre is a room designated "The Garden Hall," leading out on to the terrace. The dining-room is on the right, next the kitchen wing, and the drawing-room is on the left, adjacent to the little library. A feature is made of the staircase. There are nine bedrooms, including attics. Messrs. Geoffrey Lucas, F.R.I.B.A., and Arthur Lodge, A.R.I.B.A., of Hitchin and London, the architects, lent us the water colour which we have reproduced. The cost, £3,215, includes garage, man's room, and lighting plant, without the garden house.

LONDON COUNTY COUNCIL NEW ELEMENTARY SCHOOL, EMILY STREET, PADDINGTON.

This school accommodates 1,024 children in three departments, of boys, girls, and infants, in a three-story building. The whole of the classrooms and assembly halls have a south aspect, and are cross-ventilated. The cloakrooms and lavatories are the full height of the story, and are cross-ventilated and disconnected from the classroom corridors. Separate rooms are provided for the head teachers and assistant teachers in each de-

partment, and lavatory and w.c. accommodation is provided for them within the building. The babies have a large sunny room at the west end of the building, and practical work-rooms are provided in each of the senior departments. The playground areas are approximately 30sq. ft. per unit for each department, the infants being on the south side of the school. A playground and offices are also provided on the roof for girls. Mr. W. E. Riley, F.R.I.B.A., Superintending Architect to the London County Council, is the architect of the building, which is one of the most complete and well designed of the many erected under his supervision.

CHIPS.

The workhouse infirmary at Southampton is being enlarged. Mr. F. A. Gutteridge, of that town, is the architect, and Mr. A. J. Colborne the builder.

The Local Government Board have sanctioned loans to the Darlington Corporation of £24,000 for street improvements, £4,170 for a water-tube boiler and a cooling tower at the electricity works.

Two large concrete and steel structures are being built on the foreshore at Polka Hole by the River Wear Commissioners. They are to be sunk in the South Docks to form foundations for new coal-loading facilities which the Commissioners have in hand. The caissons are about 30ft square and 26ft. high.

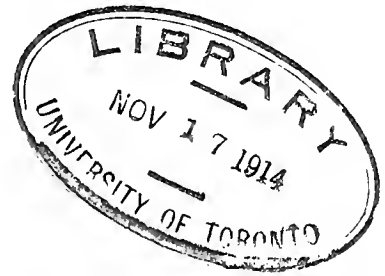
Two new gymnasiums, for the use of men and women students, are about to be added to the equipment of Stanford University, San Francisco. The trustees have adopted plans prepared by Messrs. Bakewell and Brown, architects, of 251, Kearney-street, San Francisco, and the estimated outlay is over £40,000 sterling.

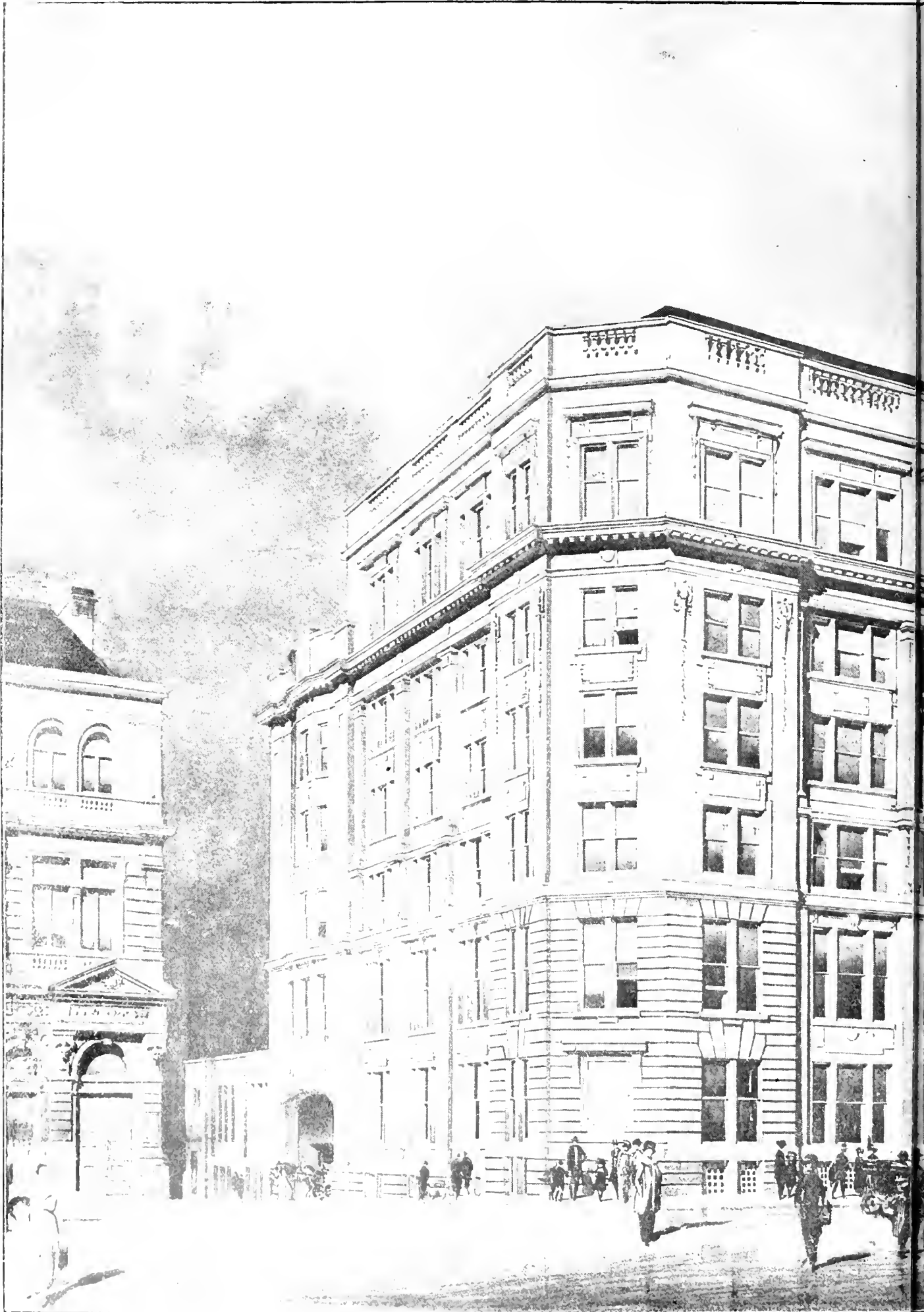
The electricity committee of the city council of Belfast have instructed their engineer to prepare a complete scheme of electrical extensions in conformity with the recommendations of the experts, Sir John Snell and Mr. W. J. Pratten.

An agreement has been arrived at between the corporation of Edinburgh, the Edinburgh and District Tramways Company, Ltd., and their lessees, Messrs. Dick, Kerr, and Co., under which the Corporation take over at a valuation the rolling stock, cables, plant, and stores of the tramway company, as from June 30, 1919, or at an earlier date if agreed upon between the parties.

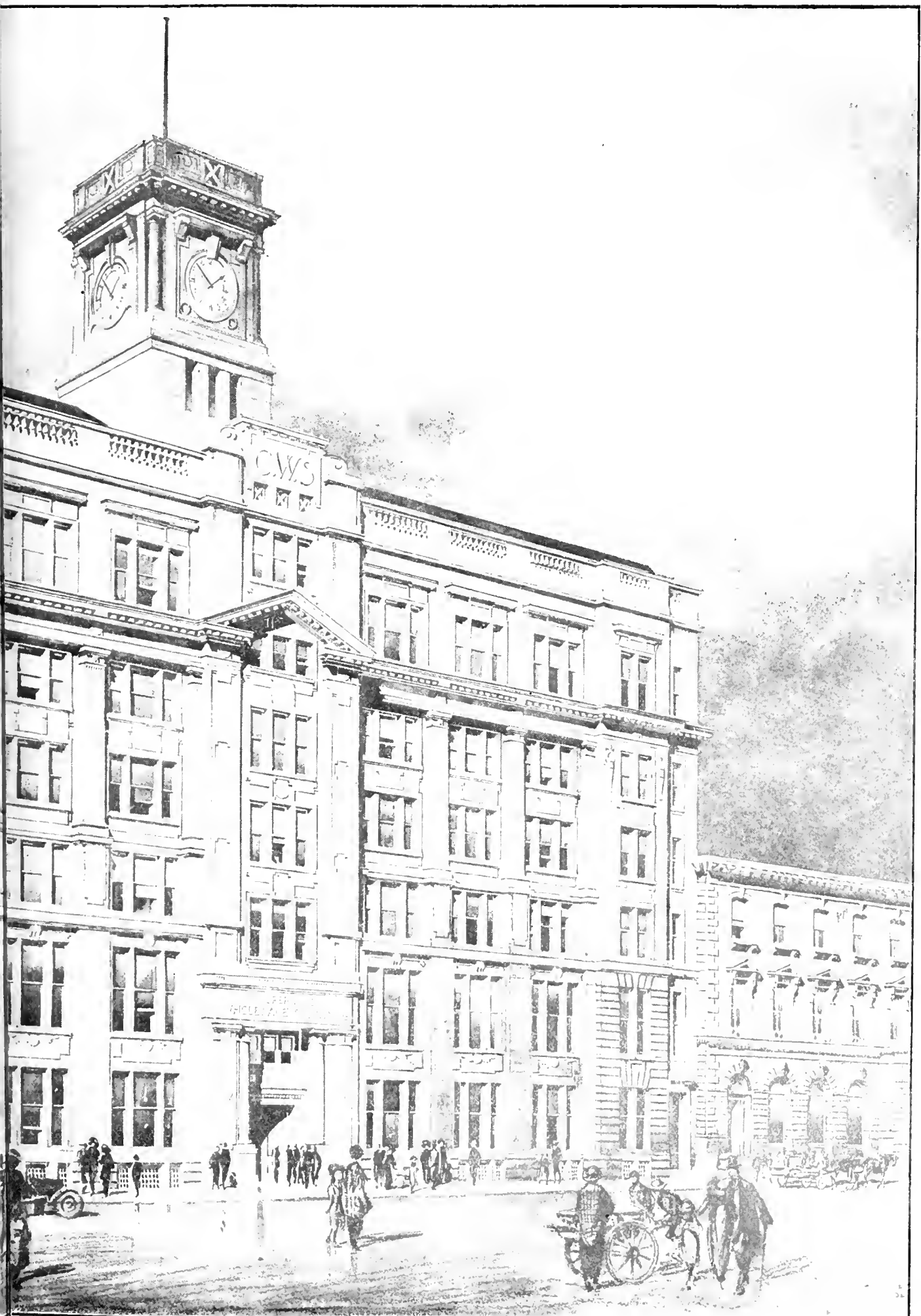
The New York "Sun" building at the corner of Park-row and Frankfort-street, in that city, will be razed in a few months, and plans are now being made by Mr. Frederick Putnam Platt, architect, of 1123, Broadway, New York, for a new office building to be erected on the site. The "Sun" association will occupy seven floors in the American Tract Society building at Nassau and Spruce streets, where extensive alterations are being made for the newspaper plant.

From Winnipeg comes the cheering report that work is proceeding on all building contracts with the exception of the provincial Government jobs and the Ames-Holden building. The leading contractors are practically unanimous in saying that there has been no cessation of work on their various undertakings, which involve the expenditure of two or three million dollars. One firm of contractors, the Carter-Halls-Aldinger Co., have in hand in Winnipeg the new drill-hall, the addition to the Grain Exchange, the Quebec Bank and the Olympia building. At Calgary they have the new Merchants' Bank building, and at Moose Jaw a large contract for the Canadian Pacific Railway. Messrs. Frid-Lewis and Company are proceeding with eleven contracts, four of which have been taken on since the war started.





NEW PREMISES FOR THE CO-OPERATIVE W
In Course of Erection on the Old Town Hall Site, St. Ma



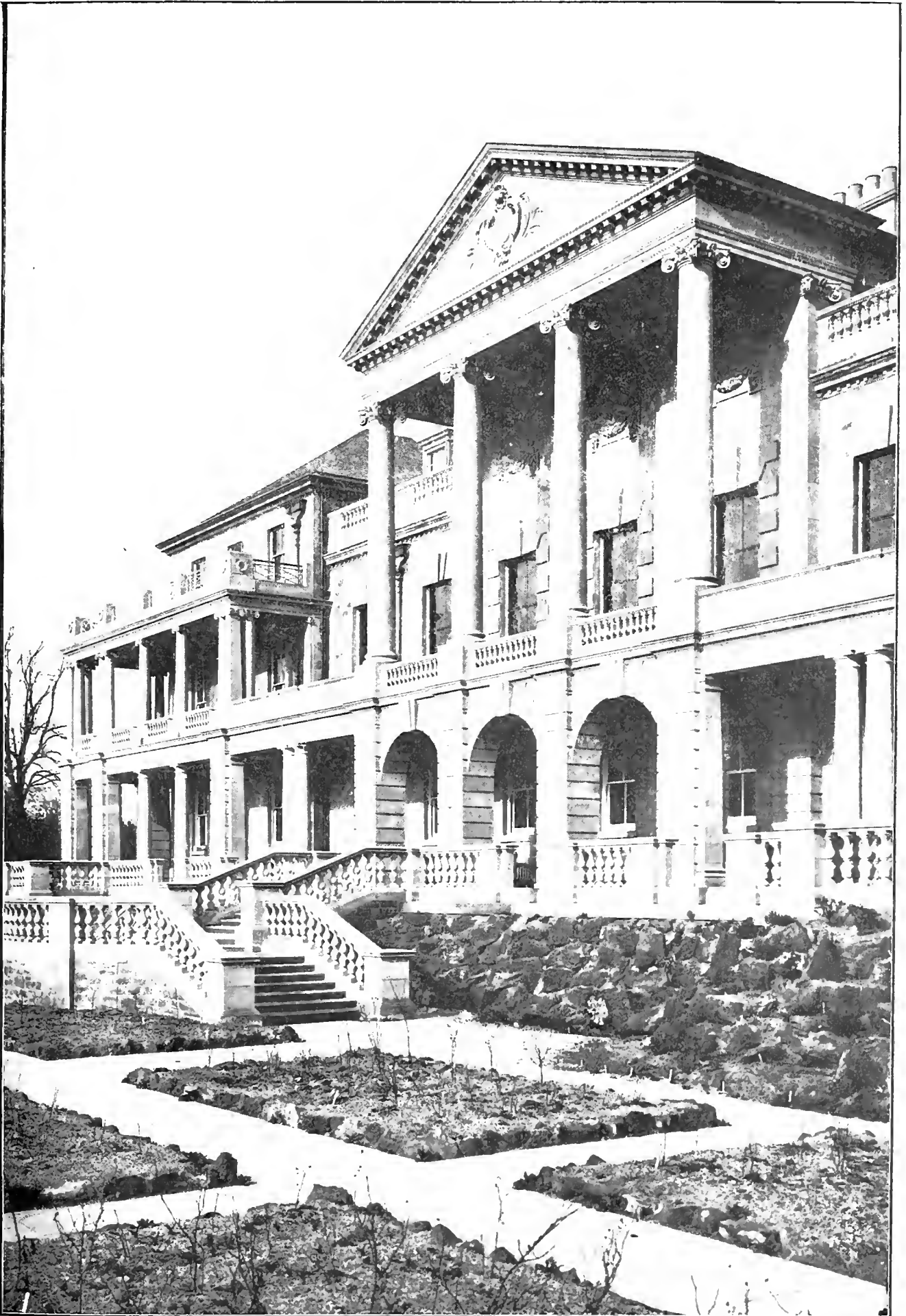
WHOLESALE SOCIETY, LIMITED, MANCHESTER.
Street, Cardiff.—Mr. F. E. L. HARRIS, A.R.I.B.A., Architect.







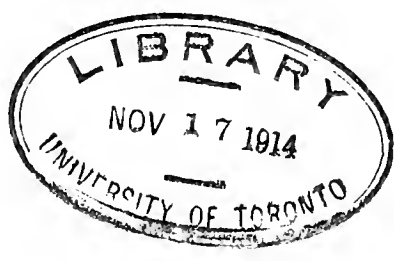
HAGGERSTON CASTLE, NORTHUMBERLAND. THE ENTRANCE HALL AND A VIEW OF ONE FRONT OF THE NEW MANSION

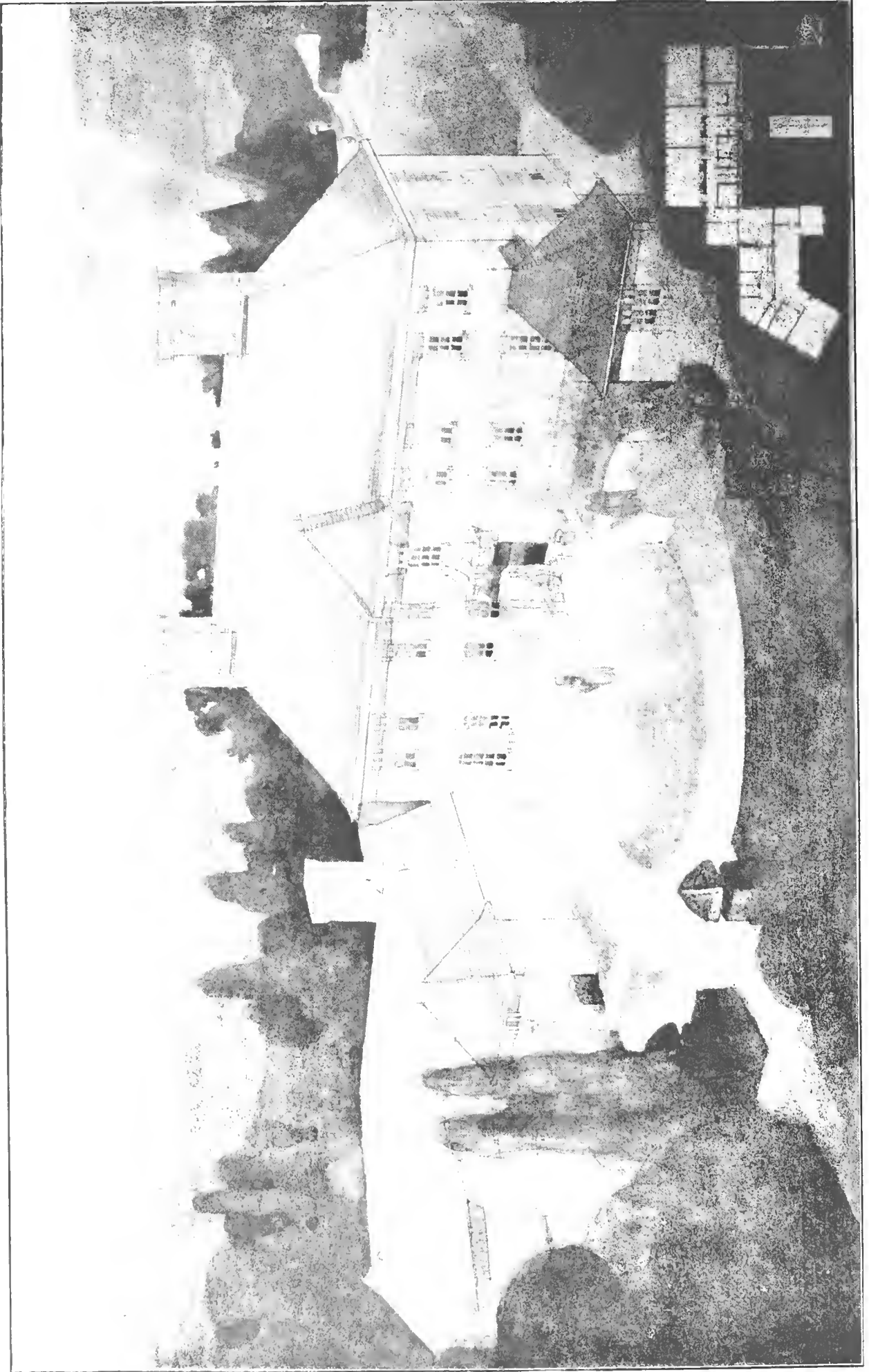


VESTIBULE (Designed by the late R. NORMAN SHAW, R.A.)
JUST COMPLETED.—Mr. JAMES B. DUNN, F.R.I.B.A., Architect.

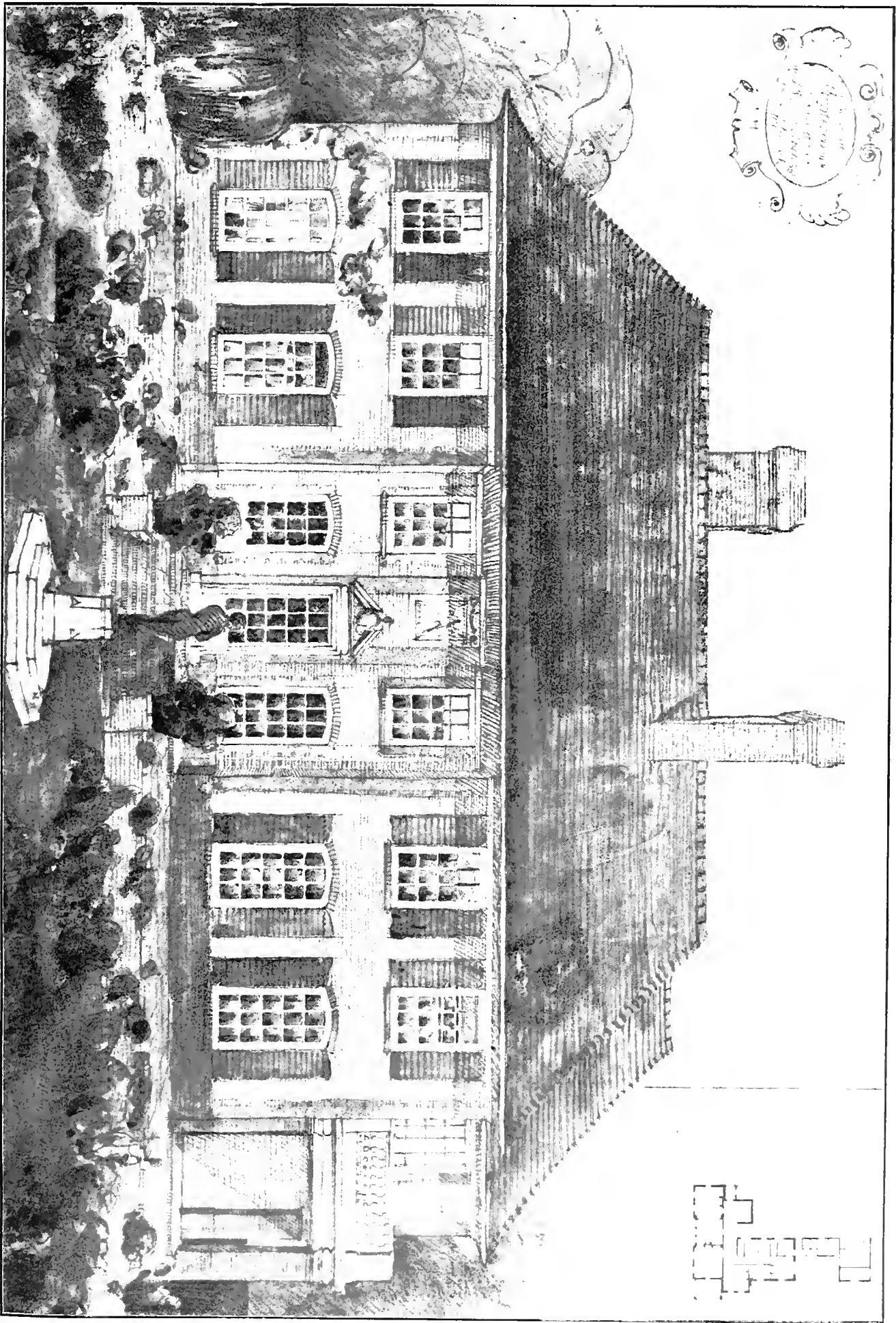
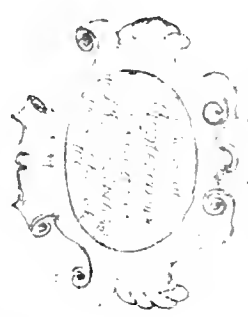


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HOUSE, FOREST GATE, SUSSEX.—Messrs. T. GEOFFREY LUCAS, F.R.I.B.A., and ARTHUR LODGE, A.R.I.B.A., Architects.

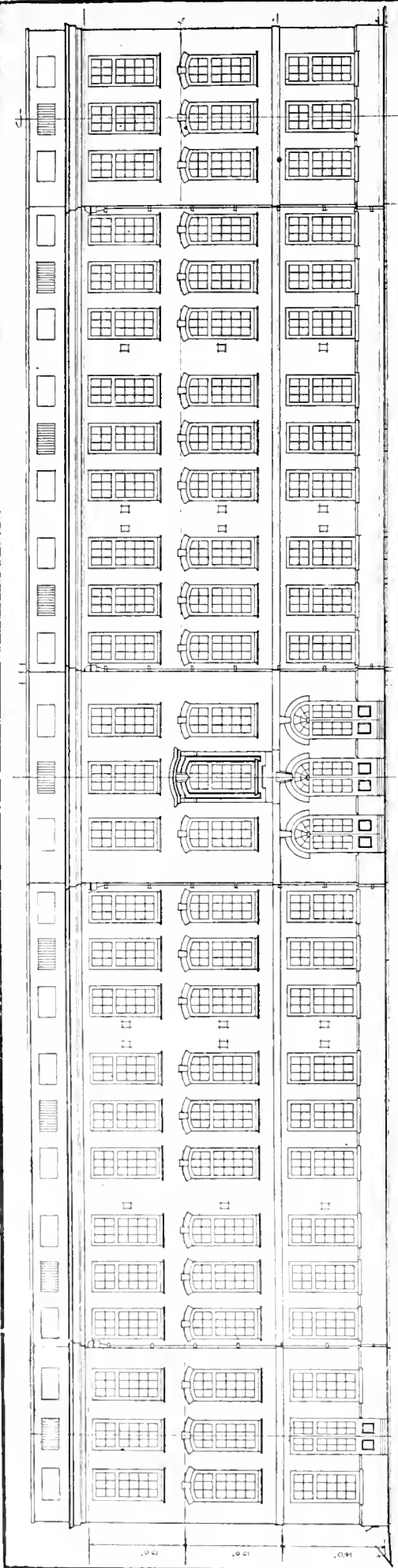


HOUSE AT HUNTERCOMBE, OXFORDSHIRE.—MR. OSWALD P. MILNE, F.R.I.B.A., Architect.

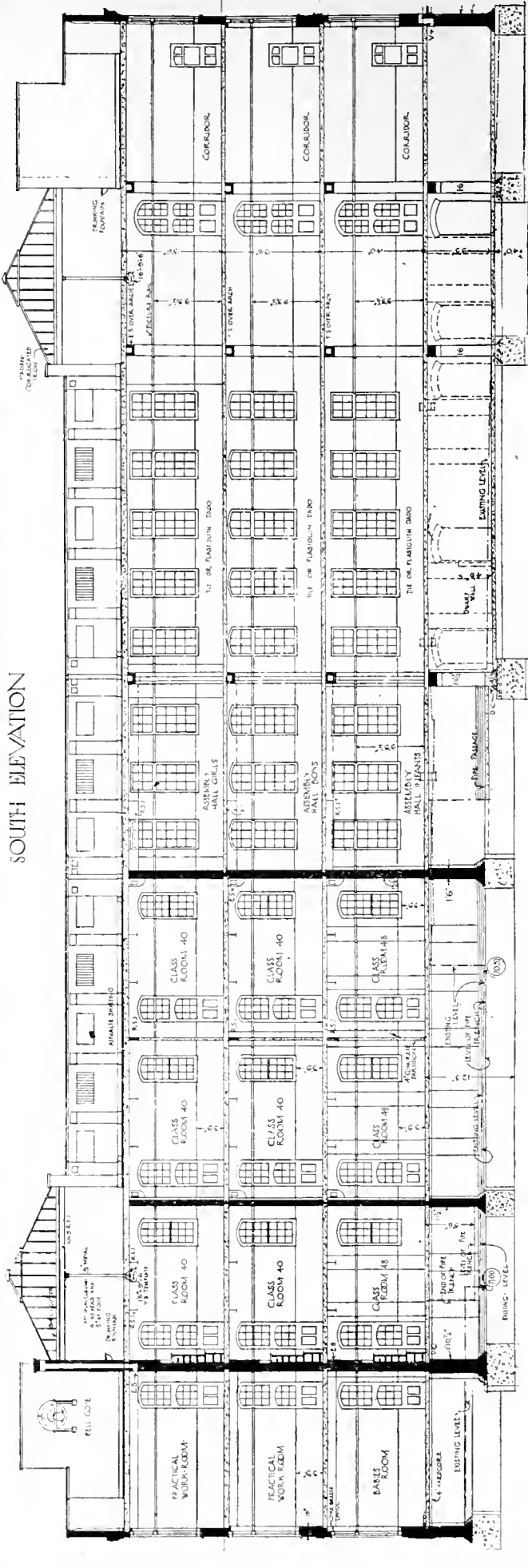




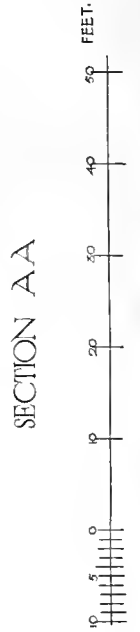
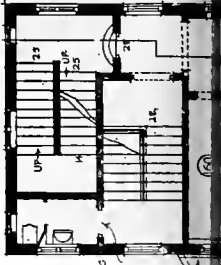
THE BUILDING NEWS, OCTOBER 30, 1914.



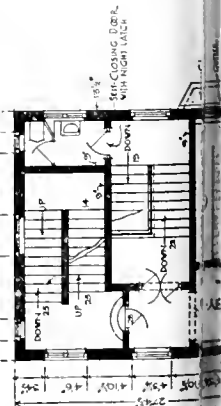
SOUTH ELEVATION

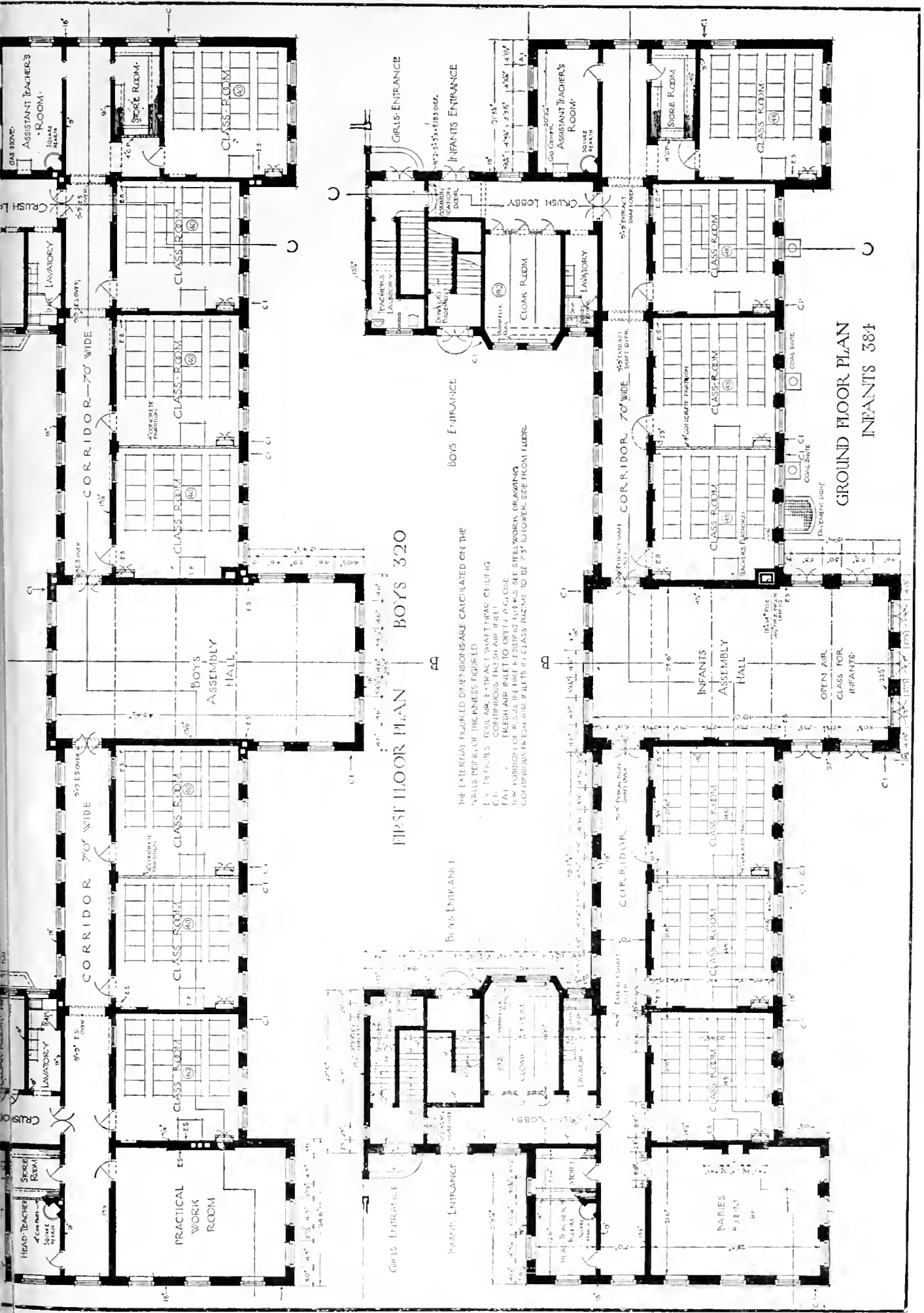


SECTION AA



NOTE: IT SHOULD BE PARTICULARLY NOTED THAT THE FIGURED DIMENSIONS'.





FIRST FLOOR PLAN BOYS 320

GROUND FLOOR PLAN INFANTS 384

THE EXTERNAL FINISHED DIMENSIONS ARE CALCULATED ON THE WALLS BEING OF THICKNESS FIGURED

E.S. DETAILS FOR ARE EXTRACT SHAFTHED CHIEFLY CONTIGUOUS TO THE TOP OF THE WALL

C.I. DETAILS FOR ARE EXTRACT SHAFTHED CHIEFLY CONTIGUOUS TO THE TOP OF THE WALL

LOW POSITION OF THE WALLS BEING FIGURED TO BE 7.5" BELOW SIDE FROM FLOOR

LONDON COUNTY COUNCIL ELEMENTARY SCHOOL, EMILY STREET, PADDINGTON.

Mr. W. E. RILEY, F.R.I.B.A., Superintending Architect.



PROFESSIONAL AND TRADE SOCIETIES.

AMERICAN SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.—A syllabus of engineering mathematics which is published by a committee of the Society for the Promotion of Engineering Education, of which Professor Huntington, of Harvard, is the chairman, has already run through two editions, and a third is now being prepared. It is proposed to make some changes and modifications, although the committee will be unable to make all of the changes which they desire at the present time. The council of the society has decided to hold the 1915 meeting of the society at the Iowa State College, Ames, Iowa, June 22-25, 1915. Dean Marston, of the Iowa State College, is president of the society. This makes Ames all the more desirable for the meeting-place next year.

BRISTOL ASSOCIATION OF SAW-MILL PROPRIETORS.—The annual meeting of this association was held on Monday, under the presidency of Mr. J. G. Wightman (Messrs. Heber Denty, Ltd.) There was a good attendance. The following officers were elected:—Chairman, Mr. J. G. Wightman (Messrs. Heber Denty, Ltd.); vice-chairman, Mr. S. H. Milsom (Messrs. H. B. Milsom and Son); hon. treasurer, Mr. R. W. Jennings (Messrs. C. Jennings and Co.); secretary, Mr. W. F. Bowman, St. Leonard's Chambers, 7 and 9, St. Nicholas-street, Bristol. The report of the past year's work stated that one of the most important items successfully dealt with was that of unemployment insurance in connection with the proposed special extension order as applied to sawmilling, including machine woodwork. This matter was initiated by the Board of Trade on May 7, 1914. The executive immediately took the subject in hand, and after conducting the necessary mutual correspondence, forwarded on June 4, 1914, to the Board of Trade the requisite protest. The particulars needful were, on June 8, 1914, forwarded all members in the form of a printed letter, foolscap size, with exhibits, enclosed (A. B. C. D), giving the fullest details. The chairman was elected to give evidence on behalf of this association, but his services were not required, because on July 3, 1914, notice was received to the effect that the whole proceedings were adjourned "sine die." In connection with unemployment insurance the Board of Trade returns showed that in the case of woodworking machinists the rate of unemployment in August, 1914, was 4.1, as against 2.2 in August, 1913. The executive added that the association, upon receipt of information from the Board of Trade as to this inquiry, at once informed all the known sawmilling associations in the country of the fact, so that, if necessary, all could work together.

EGYPTIAN TEMPLES.—In his lecture at the British Museum, delivered on Thursday in last week, Mr. Banister Fletcher described the various types of Egyptian temples in all their magnitude, majesty, and mystery. The normal type was, he explained, seen in the temple groups of "hundred-gated Thebes." Built by kings for kings, as tokens of Royal piety; they were added to during successive reigns, and their growth was—like that of an English cathedral—gradual, and contained the records of dynasties. Forbidding and imposing without, mysterious and secret within, they differed totally in purpose from Greek temple, Christian church, and Mohammedan mosque, for no public ritual was celebrated within them. In the mysterious processions on the temple roof and in the hidden rites in the inner recesses of the temple the people had no part. Priest and king alone might pass beyond the hypostyle hall and through successive halls of approach into the Royal oratory. The seal of secrecy was set upon the sacred precincts, which were guarded by the girdle wall. Grandest of all was the Great Temple of Ammon at Karnac, connected, as it was, with the Temple at Luxor by a long avenue of sphinxes. Six pairs of mighty pylons were added by successive

kings, and in its hypostyle hall, with forests of supporting columns, we saw the first trace of the clerestory window, which, in traiered stone and stained glass, became such a delightful feature in Gothic cathedrals. This Great Temple of Ammon, the stupendous rock-cut temple of Abu-Simbel, as well as the colossi and obelisk, all bore the sign-mannal of the building activities and advertising genius of Rameses the Great.

LIVERPOOL ARCHITECTURAL SOCIETY.—In view of all the circumstances occasioned by the war, the council of this incorporated society announce that they have decided not to proceed further with their prospective arrangements for the delivery of lectures. The sessional meetings for 1914-15 will, therefore, not be held.

ROCHDALE BUILDERS AND TECHNICAL TRAINING.—At the half-yearly meeting of the Rochdale Master Builders' Association, held at the Ritz Café in that town, the president (Mr. T. Howarth) in the chair, Alderman J. R. Heape addressed the members on the apprenticeship question and technical education generally. Acknowledging the gift of five guineas from the president for prizes to building-trade students as evidence of the interest which building employers were taking in efforts to promote efficiency, Mr. Heape expressed the hope that the association would continue to render support to trade classes by paying official visits to them, by requiring junior apprentices to attend them, and by recognising technological certificates as one qualification for the promotion of workmen. Compulsory attendance at day-classes had been suggested; but the times were not favourable to large schemes of educational development. Still, some arrangement might possibly be made between the association and the education authority for day-classes during certain winter months, when little outdoor work in the erection of buildings can be done. Many day-classes for engineering apprentices existed, but there were none for builders. Could Rochdale be pioneers again? A discussion took place, in which Messrs. C. H. Dryland, T. Woolfenden, T. Wilkinson, J. E. Holden, and others took part. Mr. Woolfenden moved and Mr. Wilkinson seconded: "That this meeting approves in principle of the proposal to improve the technical education of builders' apprentices, and agrees to form a committee to co-operate with the education committee to achieve this." This was carried.

SURVEYORS' INSTITUTION, JUNIOR MEETING.—The President of the Surveyors' Institution has awarded to Mr. Bernard Gasson, of 1, Pattison-road, Childs Hill, N.W., the prize for the best paper submitted for reading during the coming session. The paper is entitled "Some Elements of Specification Writing." Mr. Gasson is to read his paper at the Institution on Monday, November 16.

THE SANITARY INSPECTORS' ASSOCIATION.—The annual meeting of the Sanitary Inspectors' Association (South-Western Centre) was held at the Public Health Office, 40, Prince-street, Bristol, on Saturday last, when there were present Messrs. J. Crathorn (chairman of the centre), W. A. Craven (hon. secretary), E. J. Burr, G. E. Bush, F. Clifford, T. J. Crofts, G. H. Gibson, A. Gitsam, A. E. Hall, H. Hasell, E. T. Hawkins, A. E. King, H. C. Leat, T. Lowther, W. Parsons, J. B. Paske, J. A. Robinson, F. R. Slade, G. Watts, J. Wilkinson, W. J. Wroford, W. H. Williams, and others. Thanks were given to members who had contributed papers during the past year. Following the election of officers, a paper was read by Mr. E. J. Burr, district inspector, Bristol, on "The Sanitary Specialist: his Uses and Limitations." A discussion followed, in which the following members took part: Messrs. Lowther, Bush, Slade, Crofts, Gitsam, Crathorn, Craven, and Leat. A vote of thanks to Mr. Burr closed the meeting. At the meeting of the new council, which took place afterwards, Mr. H. C. Leat was unanimously elected chairman of the South-Western Centre for

the ensuing year, and Mr. G. H. Gibson vice-chairman, with the following to serve on the council: Messrs. A. E. Bonham, J. Crathorn, Craven, and Leat.

Mr. W. E. L'Estrange Duffin, M Inst C.E., has tendered his resignation of the office of county surveyor of Waterford, after nine years' service.

The fine 13th-century Church of St. Mary, Tunstead, Norfolk, is about to be repaired and restored at a cost of £1,282. The architect is Mr. P. M. Johnston, of Champion-hill, S.E.

The church of St. Padarn at Llanberis, built thirty years ago, is about to be extended by lengthening the nave at a cost of £1,427, thereby adding 105 seats. The architect is Mr. Harold Hughes, of Bangor.

New Y.M.C.A. premises are about to be built in St. Andrew-street, Edinburgh, from plans by Mr. G. Washington Browne, of that city. The town council have unanimously sanctioned the height to be 82ft., or 2ft. above the limit for that thoroughfare.

The new through road between Llandudno and Colwyn Bay, which is to be made by the two local authorities through a joint committee, with funds largely contributed by the Road Board, will find considerable employment for unskilled labour during the coming winter.

Mr. Paul Marny, who died at his Scarborough residence on Saturday, was widely known as a painter by his studies of Continental architecture, and his pictures of Rheims Cathedral and other buildings have much interest. They adorn many of the Royal palaces of Europe.

Professor S. J. Fountain, formerly head of the Department of Architecture and Architectural Engineering of the Agricultural and Mechanical College of Texas, died on August 15. He has been succeeded by Professor Rolland Adelsperger, formerly professor of architecture at Notre Dame.

Mr. William Brown, joiner and contractor, Pittenweem, died at his house in Charles-street on Thursday in last week. Mr. Brown, in his younger days, carried on a large business, and took a keen interest in public affairs, having been for a time a member of the town council, latterly acting as Procurator-Fiscal of the burgh. He was in his 79th year, and has left a widow and a grown-up family.

Bishop Harding, of Washington, D.C., announces that Mrs. Archibald D. Russell, of Princeton, N.J., has made a gift of 500,000dol. to the building fund of the Episcopal Cathedral of St. Peter and Paul at Mount St. Alban, Washington City. This seems to be the edifice of which the late Mr. S. F. Bolley, R.A., and Mr. H. Vaughan, of Boston, Mass., were the joint architects, and which was described and illustrated in our issues of August 2, 9, and 16, 1907.

The foundation-stone of the new Church of St. Cyprian, Stanley-grove, Kirkmanshulme, was laid on Saturday by the Dean of Manchester. Accommodation will be provided for nearly five hundred worshippers, and the cost will be about £8,000. The church will be built of brick and red stone, and will have a square tower. The designs have been prepared by Mr. Temple Moore, of London, and the work is being carried out by Messrs. Thorpe, of Old Trafford, and Mr. J. B. Kendall, of Manchester.

The Aberdeenshire County Council decided on Friday to endorse resolutions passed by a conference of representatives from the counties of Aberdeen, Elgin, Inverness, and Banff in favour of the improvement of the old Military-road from Ballater to Grantown on Spey, via Gairnshiel, Cockbridge, the Leicht, Tomintoul, and Bridge of Brown. The committees from the district councils will report to the Road Board the extent of the proposed road within each of these districts, and will also strive to ascertain whether these district committees are prepared to make any contribution towards the cost of the construction and improvement of the said road.

The Bishop of Winchester on Saturday consecrated the Church of England portion of the new cemetery which the Winchester City Council have purchased for £600 at Magdalen Hill, Alresford-road, from the Ecclesiastical Commissioners. The site has been laid out under the direction of the city surveyor (Mr. W. V. Anderson). The grounds, 20 acres in extent, command an extensive view of Hampshire downland, and have been planted with a variety of trees. There are two entrance-gates, and a caretaker's residence, carried out in brick, flint, and stone. In the centre of the grounds a site has been reserved for the erection thereon of a chapel.

Correspondence.

MAPS AND MODELS FOR MADRAS.

To the Editor of the BUILDING NEWS.

SIR,—Your readers will learn in another column that a valuable collection of maps, models, etc., consigned to H.E. the Governor of Madras, was lost in the *Clan Grant* on the sinking of that steamer by the *Emden*. This collection was destined to be exhibited in Madras, under the supervision of Prof. Patrick Geddes, who has just arrived there at the Governor's invitation, to advise as to the development of the city and on social and housing conditions generally.

As the loss of this unique collection handicaps Professor Geddes most seriously in the important work he has undertaken, an effort is being made by those who appreciate the valuable contributions he has made to the problems of civic development, to replace the salient features, and to forward, as soon as possible, a collection on a smaller scale, but representative in type of that now lying at the bottom of the Indian Ocean.

Through the generosity of the Architects' Professional Employment Committee a staff is now engaged on preparing maps and diagrams; but the only means by which it appears possible to provide for the historic section, comprising maps, prints, and views of cities in past ages, is by a request to all possessing these to lend or give them to the collection.

I, therefore, on behalf of the Exhibition Emergency Committee, venture to appeal to your readers to co-operate by sending to me at 47, Bedford-square, W.C., whatever they may be willing to spare that falls within the following category:—Plans, views, or lantern-slides illustrating—

1. Ancient and modern cities.
2. Historical buildings.
3. Restorations of cities or important buildings.
4. Geological, physical, botanical, and ethnographical maps, charts, diagrams, and pictures.

Large panoramic views would be especially suitable. It is hoped that the collection may be completed by November 7.—I am, etc.,

H. V. LANCHESTER.

Chairman of Emergency Committee.

47, Bedford-square, W.C.

PROFESSIONAL CLASSES WAR RELIEF COUNCIL.

SIR,—May I ask the support of your paper in bringing the appeal of the above fund to the notice of your readers? Large numbers of the professional classes are in urgent need of the sort of help this fund is intended to give, and your assistance would be of the greatest possible value.

Directly the war broke out the distress expected to arise therefrom among the industrial population was at once anticipated, and taken in hand to be dealt with adequately by the National Relief Fund. The response to the Prince of Wales's appeal was immediate and generous, with the result that there is little fear of irremediable upheaval of conditions among the industrial classes.

This fund, however, as everyone knows, makes grants only to the local distress committees and the Soldiers' and Sailors' Families Association. It does not, therefore, touch in any way the great distress already prevalent among the professional classes, for men and women of this class cannot appeal for help to the local distress committees, who possess no adequate machinery for dealing with such cases.

Yet this class is the one hit most promptly and severely by the dislocation of business, and by the sudden, unexpected cessation of the demand for luxuries. In fact, not only are all the professions which depend upon the conditions of peace and the fluency of the market practically at a standstill, but also the creative and artistic professions, such as literature, journalism, the stage, art,

etc. All these rely upon the conditions of peace or the demand for luxuries, and that demand is gone. However long the war may last, it is certain that the dislocation in the professions will continue for some years after peace has been made.

Many small but hitherto prosperous homes will be broken up through the mainstays being thrown out of work, or through the men, moved by the needs of their country, having enlisted as ordinary privates, receiving, of course, as such, the ordinary pay of a private. This is, naturally, insufficient to keep the home together on anything like the standard of living that has hitherto been attained. In many cases also financial difficulties may arise because securities cannot be realised or loans negotiated. It is obvious then, since there is no control organisation or general fund to meet the distress already so prevalent, that the need for such a fund is very great.

During the last few weeks, therefore, there has been in process of formation an organisation to be called the Professional Classes War Relief Council. This council is composed of the nominees of the principal professional institutions, such as the architects, surveyors, engineers, musicians, authors, etc., etc., as well as representatives of the chief societies engaged in relief work (in order to promote valuable co-operation), with the result that it is a very representative and powerful body of business men and women. The council does not propose to offer any form of charity in relief, as this would naturally be both impossible and undesirable; but it does propose to give certain centralised forms of assistance, which will, it is hoped, tide over the critical period of the war, enabling people so severely hit to resume their normal status when the war is over.

The majority of the professional societies have their own benevolent funds; these are, and must remain, quite independent; but it will insure the most adequate return for outlay being obtained if certain forms of assistance are centralised, and made available for their use.

The chief forms of assistance arranged are in matters of education, training, emigration, maternity aid, and temporary employment, all of which are worked under separate representative sub-committees of men and women whose positions and capabilities fit them especially for dealing with their special departments. For example, the education committee is composed of the presidents of the principal scholastic associations, and has as its objective the arrangement of co-operation with the proprietors and governing bodies of schools, by which children whose parents through financial stress are unable to pay the usual school fees will be maintained at school at reduced fees, assisted by a grant from the funds of the council, thereby insuring both the continuity of the schools, many of which would otherwise have to close down owing to the withdrawal of pupils, and also the uninterrupted education of the children, which is so vitally important to the national life.

The training and emigration committee proposes chiefly to arrange free training for those professions for which it has been ascertained that openings exist either at home or in the overseas dominions. This will apply mainly to men and women in already overstocked professions. Numbers of domestic and emigration colleges have offered free or greatly reduced trainings to the council, and these scholarships are immediately available. The maternity assistance committee proposes to open a maternity nursing home for wives of professional men, staffed by voluntary doctors and midwives. A suitable building has already been generously lent for the purpose. It is also proposed to give free maternity assistance in their own homes, so long as those homes can be kept together. This committee and staff comprise some of the most eminent men and women in the medical world.

The temporary employment committee has been organised to develop opportunities for temporary employment in works of public and national relief, while people are waiting

to be placed in permanent work. The Women's Emergency Corps and the National Union of Women's Suffrage Societies have opened certain temporary workrooms for needlework, toymaking, etc., for professional women, which they have arranged to make available to nominees of the council.

It will be seen how far-reaching and important the work of this council is, for it affects not only the conditions immediately confronting us while the war lasts. It may develop on such lines as would be of permanent value in forming a centre for all information relative to the conditions and opportunities of employment in the various professions.

It is necessary to form a central fund to carry on this great work, this fund being used to organise and maintain the various forms of assistance proposed; to help those members of professions which are not organised, and have, therefore, no benevolent funds to provide assistance for the families of professional men who have given up all to enlist for the service of their country.

All those who have this very real need at heart are earnestly invited to give practical support by sending donations to the treasurer, Professional Classes War Relief Council, 13 and 14, Prince's-gate, S.W. Cheques to be crossed Messrs. Coutts and Co.

I may add that the following members of our own professions are members of the council: Mr. B. I'Anson Breach, past-president, Auctioneers' and Estate Agents' Institute; Mr. H. Chaffield Clarke, President, Surveyors' Institution; Mr. H. M. Fletcher, Hon. Secretary, Architectural Association; Mr. A. Goddard, Secretary, Surveyors' Institution; Mr. Charles Harris, Secretary, Auctioneers' and Estate Agents' Institute; Mr. George Hubbard, Vice-President, Royal Institute of British Architects; Mr. Ian MacAlister, Secretary, Royal Institute of British Architects; Mr. C. B. Marshall, secretary, Land Agents' Society; Mr. E. Neyton, President, Society of British Architects; Mr. H. C. Peake, Past-President, Institution of Mining Engineers; Mr. P. Strzelecki, Secretary, Institution of Mining Engineers; Mr. Percy B. Tubbs, Past-President, Society of Architects; Mr. Paul Waterhouse, Architects' War Committee; Mr. J. T. Woolley, President, Auctioneers' and Estate Agents' Institute; and Mr. F. R. Yerbury, Secretary, Architectural Association.—I am, etc.,

HOWARD CHATFIELD CLARKE.

102, Bishopsgate, London, E.C., Oct. 28.

SECOND RESERVE, LONDON SANITARY COMPANY.

SIR,—Your readers will be glad to hear that, through the publicity which you so kindly gave to my recent appeal for recruits, and the good offices of the various professional societies, the ranks of this company are now filled.

As an engineer I am proud of the way in which the members of my own and allied professions have come forward, in many cases giving up good positions, and placed their ability and experience at their country's service.

I am still receiving daily many applications from well-qualified men in all parts of the country. I am placing their names on a waiting list, with a view to filling casual vacancies. They will also, of course, be available in the event of the War Office deciding to form any additional sanitary companies.—I am, etc.,

ARTHUR J. MARTIN.

Capt. R.A.M.C., T.F.

Duke of York's Headquarters, Chelsea, S.W., Oct. 26, 1914.

A Local Government Board inquiry was held at the town-hall, Wallasey, by Mr. Courtney Clifton, on Monday evening, into the application of the Wallasey Town Council for sanction to borrow £11,546 for the erection of thirty-two dwelling houses and eighteen cottage flats on land between Poulton-road and Lowe-lane, Poulton.

LEGAL INTELLIGENCE.

DISPUTED BUILDING CONTRACT.—In the King's Bench Division, Mr. Justice Rowlatt has been engaged throughout this week in the hearing of an action brought by Messrs. Richard Moreland and Son, Ltd., builders, of 80, Goswell-place, against the Bosch Magneto Co., Ltd., of 40 and 42, Newman-street, Oxford-street, for the recovery of £2,639 13s. 2d. for work done and materials supplied. Mr. Clavel Salter, K.C., and Mr. W. H. Moresby (instructed by Messrs. G. and G. Keith) appeared for the plaintiffs; and Mr. Colam, K.C., and Mr. A. H. Chaytor, K.C. (instructed by Messrs. Rehder and Higgs) were for the defendants. The plaintiffs are steel and concrete constructors and contractors. In the statement of claim it was alleged that in October, 1912, and January, 1913, the defendants, through their architects (Messrs. Hobden and Porri), requested estimates from the plaintiffs for certain materials and work in respect of intended new premises to be erected by the defendants in Tottenham Court-road. The estimates which were supplied by the plaintiffs, so far as they related to steel-construction, were accepted at the price of £1,808, and so far as they related to concrete-construction work at the price of £1,692. The plaintiffs duly supplied the materials and performed the work. In the agreement and specifications made between the defendants on the one part and Messrs. W. J. Fryer and Co., Ltd., the defendants' builders, both steel and concrete construction-work was provided for as a provisional prime-cost item, and it was one of the terms of the agreement that the defendants would pay the plaintiffs therefor, and for extras thereupon, on the certificate of their architects and agents; and the architects, as a matter of fact, did issue certificates for amounts unknown to the plaintiffs. It was also a term of the agreement that the architects might certify direct to the plaintiffs for the steel and concrete work and extras in the event of the failure of Messrs. W. J. Fryer and Co., Ltd., to pay the plaintiffs; and Messrs. Fryer and Co. did, in fact, so fail. Defendants from time to time paid to the plaintiffs sums on account to the amount of £1,050; but before the completion of the contracts the defendants repudiated the agreement and declined to allow the plaintiffs to complete their work, and refused to pay any further sums. For the defence it was contended that there was no privity of contract between the plaintiffs and the defendants after the failure and liquidation of Messrs. Fryer and Co. The defendants said that the plaintiffs, as sub-contractors to Messrs. Fryer, asked to be allowed to complete the steel and concrete work for £450 and a sum for extras; but the offer was refused, on the ground that the amount was excessive, and the only terms on which the plaintiffs were told that they would be allowed to complete the work at the defendants' expense were that they should do so for such sum to be paid by the defendant company as the architects should certify to be fair. Accordingly the plaintiffs did complete the work, and were duly paid sums on account. The architects had certified that £273 13s. 11d. was a fair and proper price for the amount of the work done since the failure of Messrs. Fryer and Co., leaving a balance of £73 due beyond £200 already paid on account; and the defendants, while denying liability, for the sake of peace brought into court a further sum of £400, and contended that this was more than sufficient to satisfy all claims by the plaintiffs.—Mr. Clavel Salter, in the course of his argument, urged that the essence of the contract was that the defendants said to the plaintiffs, "If we accept your offer we will tell the builder to send you a formal order." He submitted that the transaction amounted to an absolute direct contract. The price was agreed to—Messrs. Hobden and Porri said, "Very well—£1,808"—and nothing else remained to be agreed, and the work was to be done. The fact was never even announced to Messrs. Fryer, the builders; they were the merest messengers in the matter. They did not know about the steel, and they did not know what was to be done. It was work to be done outside them and over their heads for Messrs. Hobden and Porri.—His Lordship: The question arises as to the authority of Messrs. Hobden and Porri to make a contract on behalf of the Bosch Magneto Co.—Mr. Salter said that what was done in this case was daily practice.—His Lordship: I wish they would make it clear to whom these special tradesmen are to look.—Mr. Salter said it was clear all these specialists who were so important an item in modern building, understood their position.—His Lordship: If they do understand it, that is all right.—Mr. Salter: Oh, they do.—Mr. Richard Moreland, managing director

of the plaintiff company, gave evidence in support of the plaintiffs' case. In cross-examination he said the arrangement was made with Messrs. Hobden and Porri.—Mr. Colam, K.C.: I put it to you that you acknowledged to Messrs. Hobden and Porri that you understood that you were making this contract direct with Fryer, and that you made your terms with Fryer and Co., and looked to Fryer only?—No.—Counsel quoted a letter in which the plaintiffs wrote to Fryer and Co. thanking them for their letter accepting the plaintiffs' terms for the concrete floors, and arranging terms of payment with Messrs. Fryer.—For the defence, Mr. Colam called Mr. Hobden, the architect, who said he told Mr. Richard Moreland that this was a contract between him and Messrs. Fryer.—His Lordship: Then why did you not confirm it in a letter? Mr. Moreland knew it was so, and there was no necessity to confirm it.—His Lordship: The Bosch Magneto Co. would not have had this litigation if you had done that.—In answer to Mr. Salter, witness said that Messrs. Fryer could have done this work themselves if they had had the appliances. They had a legal right to say that they would do the work themselves.—Mr. Porri (of the firm of Hobden and Porri, architects) also gave evidence. He described the interview between Mr. Hobden and himself and Mr. Moreland. Mr. Hobden said, "You quite understand, Mr. Moreland, that you are doing this work for Fryer, and not for our client"? And Mr. Moreland replied that he quite understood.—His Lordship: Did you think there was any risk of anybody thinking that he might be doing it for your client? I cannot say.—His Lordship: I am far from saying that you are not trying to tell us the truth; but you might have thought of this conversation afterwards, as I told your partner yesterday.—Witness: It was a serious conversation, and Mr. Hobden made it quite clear to Mr. Moreland that he must understand that it was clear that he was working for Fryer.—His Lordship: You will make it clearer next time, Mr. Porri?—In cross-examination by Mr. Salter, witness said that matters of this kind, where special tradesmen were employed, were dealt with by the architect to save the inconvenience of putting them through the builder. The account for this work would have to be sent to Messrs. Fryer. Messrs. Moreland were not paid by Messrs. Fryer with proper promptitude, and they frequently complained about it. Witness and his partner fully recognised their grievance, and suggested that they should stop deliveries.—Mr. Wilfred Richard Andrews, formerly manager for Messrs. Fryer and Co., said that when he saw the bills of quantities he did not know who had given estimates for the steelwork and concrete. After he got the contract he found that the estimates which he got in were higher than those referred to by the architects. He therefore asked Mr. Porri to arrange the matter with Messrs. Moreland, and he did so. As regards the concrete, he also found that he could not do the work at the prices stated in the bills of quantities.—Mr. Colam, in addressing the Judge, asked his Lordship to make up his mind as to which story he believed in reference to the two conversations between Messrs. Hobden and Porri and Messrs. Moreland. The vital question was whether the order could be given by Fryer or whether it came within the business of the architects. The building-owner had the right absolutely to take the contract for the special tradesman's work from the builder and to give the contract to whomsoever he pleased.—Mr. Clavel Salter submitted that the law as laid down by Mr. Justice Channell and in the Court of Appeal was that where they got the relation which necessarily arose between the building-owner, the builder, and the tradesman under the system of provisional sums, and where the building-owner had selected the tradesman, and had obtained from the tradesman his tender, and had decided to accept that tender, and then instructed the builder to send a formal order, then upon the proper construction of that document the builder was the agent of the building-owner in ordering these goods.—His Lordship reserved judgment.

A TIMBER TRADE ARBITRATION. Mr. Justice Bankes and Mr. Justice Shearman heard on Friday an appeal by Mr. Louis Ellison, cabinetmaker, of Cheetham, Manchester, to set aside an arbitration award made against him in favour of Messrs. John Kendall and Co., timber merchants, Liverpool. Mr. Dehn, for the appellant, explained that the dispute which went before the arbitrator, Mr. Christy, had reference to a parcel of timber sold to Mr. Ellison. Mr. Christy found that the sellers misrepresented the grain when offering the timber, and awarded the buyer 51. per cubic foot allowance, the expense of the arbitration to be paid

by the sellers. But, said counsel, the buyer claimed the right to reject, and did reject. He suggested that the arbitrator had gone outside his jurisdiction in going beyond the question whether the goods were right or wrong. His case was, first, excess of authority; then, that the award was bad on the face of it because it was an error of law. The arbitrator had said the goods were not as described, and had then found that the remedy was that the buyer was to have an allowance.—Mr. Justice Bankes: But that is the right remedy in the circumstances, according to the view of the arbitrator.—Their Lordships dismissed the application, with costs. Mr. Justice Bankes said it bad to be borne in mind that the dispute was a commercial dispute, and the arbitrator was quite within his jurisdiction in his award.

STATUES, MEMORIALS, &c.

THE KING EDWARD VII. STATUE AT ABERDEEN.—The granite statue of King Edward VII. is to be unveiled at Aberdeen to-morrow (Saturday). The monument has been designed by Mr. Alfred Drury, R.A., and it is the largest granite statue cut in one block that has been made in this country. The King William statue at London Bridge is somewhat larger, but it is composed of three or four pieces. The Aberdeen statue itself consists of a standing figure in white Kemnay granite, 10ft. 6in. in height, on a lofty pedestal, the whole erection rising to a height of 25ft. The figure is draped in the robes of the Order of the Garter, with the sceptre in the right hand, the orb in the left. On each side of the pedestal—which is of red or Peterhead granite, and is 14ft. 6in. in height—stands a group in bronze, about 6ft. in height, representing respectively "Peace" and "Unity." Round the neck of the pedestal runs a bronze enrichment. In the centre panel of the frieze is a St. Andrew's shield with a figure on it, while the remaining panels contain the names of the British colonies. The work of cutting the figure in granite from Mr. Drury's plaster model was entrusted to Mr. Arthur Taylor, sculptor, Jute-street, Aberdeen.

WATER SUPPLY AND SANITARY MATTERS.

PENCOED, GLAMORGANSHIRE.—The Local Government Board has recently approved the scheme of sewerage and sewage-disposal for Pencoed prepared by Mr. T. J. Moss-Flower, C.E., Westminster and Bristol, and tenders are to be at once invited for the carrying out of the work, which involves the construction of about five miles of sewers, with railway- and stream-crossings, detritus, balancing sedimentation, humus, storm, and other tanks, sludge-beds, percolating-filters, filter-beds, engine-house, engines, pumps, pump-well, and other incidental works.

The corporation of Swansea have appointed Mr. T. Deacon, of Morriston, as building inspector.

On the motion of the Lord Provost, Mr. James Macintyre Henry, F.R.I.B.A., has been nominated for re-election as Lord Dean of Guild of Edinburgh for the ensuing year.

At the last meeting of the City of London Corporation, Mr. Kekewich, chairman of the library committee, mentioned that there had recently been discovered on Corporation property a Samian bowl dating from fifty years after the birth of Our Lord. It was a very fine specimen—the most perfect which had been found anywhere—and it would be of the greatest interest to antiquaries.

A special correspondent of the *Times* states that an extraordinarily fine collection of photographs of almost every inch of Rheims Cathedral has been preserved. They were taken, he says, by a native of Rheims who has made the architecture and adornments of the cathedral his hobby in life. "When the necessary funds have been collected, it will be possible to restore all that has been burned or shot away with the most minute accuracy." But this will not restore the poetry, the beauty, the history, the craftsmanship, of Rheims.

It is officially announced that the Postmaster-General has accepted the tender of Messrs. John Mowlem and Co. (Limited), Grosvenor Wharf, Westminster, for the construction of the railway tunnel from Paddington to the Eastern District Office, authorised by the Post Office London Railway Act, 1913, for conveyance of mails. The tunnel will be six miles in length, and there will be half a dozen intermediate stations. It will be of narrow gauge, and parcels and letters will be transmitted in electrically-driven trucks going at thirty miles per hour.

Our Office Table.

The committee of the Royal College of Art Sketch Club state that the annual exhibition will only be held in a modified form this year. It will be open on Saturday, October 31, 1914, from 1 till 5 p.m., and will remain open each day during the following week from 10 a.m. to 4.30 p.m., closing on Saturday, November 7, 1914. There will be no private view. It is the intention of the students to devote a good portion of the Sketch Club funds to some scheme of work connected with the war. Entrance either from Exhibition-road or Queen's Gate, South Kensington.

At the invitation of the President and Council of the Royal Academy a meeting of the presidents of the principal artistic societies has been held at the Royal Academy, to consider the best means of concentrating the efforts of artists on a single scheme in aid of charities which are in special need at the present time. It was decided to hold an exhibition at the Royal Academy on and after January 1, similar to that held at the City Guildhall in 1900, with the object of raising funds for the Red Cross Society and the Artists' General Benevolent Institution. Sir Edward J. Poynter, who presided, announced that the King and Queen had consented to be patrons of the exhibition. An executive committee was to organise the exhibition.

In addition to the awards announced in April for papers read at the meetings, the Council of the Institution of Civil Engineers have made the following awards for papers published in the "Proceedings" without discussion, during the session 1913-14: A Telford gold medal to Mr. J. V. Davies (New York), Telford premiums to Messrs. W. C. Popplewell (Manchester), A. J. Knowles (Cairo), H. Gaskell, jun. (Widnes), P. Rothera (Trichinopoly), the Crampton prize to Mr. H. F. Carew-Gibson (London), and the Mauby premium to Mr. W. M. Griffith (Bareilly, India). The Webb prize for the best paper on railway machinery published during the past three years has been awarded to Mr. Henry Fowler (Derby), and the Indian premium for 1914 to Mr. P. Rothera (Trichinopoly). The Council have made the following awards in respect of students' papers read during the session 1913-14: The "James Forrest" medal and a Miller prize to Mr. J. E. Swindlehurst (Birmingham), and Miller prizes to Messrs. T. C. Grisenthwaite (Glasgow), H. J. C. Harper (Bristol), W. P. Nevett (Birmingham), J. M. L. Bogle (Manchester), E. A. Cross (Birmingham), S. Brassey Edwards (Manchester), G. T. Cotterell (Bristol), D. D. Stanier (Newcastle), W. E. Gurry (London), H. Taylor (Birmingham), and R. C. Rattray (Manchester).

The officials of the Outlook Tower, Edinburgh, have reason to fear that the valuable Cities and Town Planning Exhibition, the formation of which has formed a conspicuous part of their recent activity, has been totally lost through the steamer *Clan Grant* having been sunk in Indian waters by the German cruiser *Emden*. By special invitation of the Governments of Bombay, Madras, and Bengal the exhibition was invited some time ago to the capitals of these Presidencies. It was placed on board the *Clan Grant* at Liverpool about the middle of September, and was proceeding to Madras. Fortunately, Professor Patrick Geddes and Mr. Alistair Geddes travelled by another boat, and have now landed safely. In connection with the exhibition Professor Geddes was to have lectured and advised in India on various aspects of town planning and the reconstruction of Indian cities. A conservative estimate of the loss places it at £2,000 to £3,000; but that does not include the labour which has been applied to it by enthusiastic workers for many years. Mr. Lanchester's appeal for help in repairing, so far as is possible, the collection, appears on the preceding page.

The "Hackney and Kingsland Gazette" reports that at last week's meeting of the Hackney Borough Council, Councillor H. E. Davenport, J.P., moved that an account of £4 6s. 8d., due to Bradshaw's Asphalt Company, Ltd., be not paid, as the firm was largely German-owned.—Councillor H. C. Rawl (chairman of the finance committee) said it was an English company, but the bulk of the shares were held by Germans. Two cheques for £24 and £6 had been previously drawn for the same firm, but they were being held back. It was decided to retain all three cheques.

The very successful auctions held at Tokenhouse-yard last week by Messrs. Fuller, Horsey, Sons, and Cassell, Messrs. Horne and Co., and Messrs. A. and W. Richards instance the extent to which investors are ready to take advantage of the opportunities presented in the present very limited market when offers are made through well-known firms of high standing like those mentioned. On November 3 Messrs. Fuller, Horsey, Sons, and Cassell will dispose of the lease of the riverside premises known as Pimlico Wharf, next to Vauxhall Bridge, thus affording a favourable opportunity to many of our readers who comparatively seldom have the chance of securing such eligible and such accessible premises.

The cause of the cracking of reinforced concrete when the reinforcing material discharges current into the concrete has been found to be the formation of rust upon the anode. In the report of the Committee on Electrolysis at the Atlantic City Convention of the International Association of Municipal Electricians, Mr. Leon Taylor, the chairman, stated, on the authority of the Bureau of Standards, that this formation of rust takes place only at temperatures around 100deg. Fahr., and that damage to the concrete is therefore not to be expected unless the density of the discharge is very high, or some other conditions keep the concrete above the critical temperature. The addition of a fraction of 1 per cent. of salt to concrete increases its conductivity and destroys the passivity of the iron. Salt should, therefore, never be used in structures that may be subject to electrolytic action.

"Rapid Earthwork Calculations," by C. E. Housden (London: Longmans, Green, and Co., 1s. 6d.), embodies improvements suggested by reconsideration of the author's "Practical Earthwork Tables," which it is believed will enable earthwork quantities to be ascertained more quickly and with less labour than in any other way. The tables certainly facilitate the calculation of the cubical contents of long embankments or cuttings carried over a rough ground, rising or falling to a considerable extent.

The British Uralite Company (1908), Limited, report that for the year ended June 30, 1914, the operations of the company have resulted in a profit for the period of £330 6s. 9d., which, together with the balance brought forward from the previous year of £351 ls. 11d., amounts to a total of £681 8s. 8d., which it is proposed to carry forward. The directors regret that the trading for the year has not resulted in a larger profit; but this is entirely due to the increase in prices of raw materials, and the excessively keen competition from abroad, resulting in a reduction of sales at lower prices. In addition, two unfortunate accidents have happened at the works, one to the Diesel engine, and the other to one of the presses, which seriously interfered with the manufacture. For the last few months, however, trade has shown very considerable improvement, and unless some untoward circumstances should arise, the operations of the company should show a satisfactory result for the current year. An outlay on new plant of £1,858 12s. 8d. has been made during the year; this is mainly in respect of additional engine-power, and a press for dealing with Asbestone sheets of larger size than those hitherto manufactured by the company. This latter installation, which is now running, should give very satisfactory

results in the future, as a considerable demand has sprung up for these sheets which hitherto the company has not been able to fulfil.

MEETINGS FOR THE ENSUING WEEK.

- SATURDAY (TO-MORROW).**—Institution of Municipal Engineers. Meeting of Eastern and North-Eastern Districts at the Guildhall, Lincoln. 11.45 a.m.
- MONDAY.**—Victoria and Albert Museum. "Churches of North Italy and Sicily," by Banister Fletcher, F.R.I.B.A. 4.30 p.m.
University College, Gower-street, W.C. "Reinforced Concrete in Municipal Engineering Works," by Professor Ernest R. Matthews. 5.30 p.m.
Society of Engineers. "Use of the Hydraulic Mining Cartridge," by James Tenge. 7.30 p.m.
Royal Institute of British Architects. Opening Address of the Session by the President, Ernest Newton, A.R.A. 8 p.m.
- TUESDAY.**—Institution of Civil Engineers. Inaugural Meeting of the Session. Address by the President, B. Hall Blyth, M.A., and Presentation of Medals awarded by the Council. 8 p.m.
- WEDNESDAY.**—Royal Archaeological Institute. "Arrangements and Fittings of Mediæval Churches in England," by Aymer Vallance, M.A., F.S.A. Burlington House, Piccadilly. 4.30 p.m.
- THURSDAY.**—British Museum. "The Palace of King Minos," by Banister Fletcher, F.R.I.B.A. 4.30 p.m.
- FRIDAY (Nov. 6).**—Glasgow Architectural Craftsmen's Society. "Steel Construction," by G. Malthy and P. B. Hegg. 8 p.m.

The late Mr. George Williams, Albany-road, Stroud Green, N., builder, left net personality £24,167 and a gross amount of £25,760.

General Sir George Higginson, who is eighty-nine years of age, opened a new council school at Slough on Saturday. The Montem Council School is situated within a hundred yards of the famous mound at Salt Hill, where for nearly 400 years one of the most picturesque of school customs was observed.

Madame Clara Butt unveiled on Saturday a memorial to Mr. Wesley Woodward, a skilful cellist, and one of the bandmen who went down on the Titanic. The memorial, of bronze and granite, has been erected in a shelter on the parade at Eastbourne, opposite the bandstand. It has been erected by Mr. Godfrey Garrard, of Eastbourne.

An inquiry was held in the council chamber, Sevenoaks, on Friday, by Mr. H. S. Stewart, A.R.I.B.A., Local Government Board inspector, into the application of the Sevenoaks Urban District Council for the loan of £5,500 for the purpose of a housing scheme. The clerk said the application related to the erection of sixteen cottages, and it was proposed to purchase eight acres of land for £1,500, which was less than £200 an acre. It was intended to use only one acre upon which to erect the sixteen cottages, and keep the remaining seven acres in allotments.

Messrs. Batsford will publish early in November "The English Parish Church: an Account of the Chief Building Types and of their Materials During Nine Centuries," by the Rev. J. Charles Cox, LL.D., F.S.A. The work will be fully and attractively illustrated from photographs and drawings, including a special series of plans. Dr. Cox is well known for his important writings on ecclesiology. He has long studied the churches of England, the majority of which he has personally visited, and in the present volume he gives a bird's-eye view of the whole of his fascinating subject.

At the City Guildhall, on Tuesday, Mr. W. H. Collin, an inspector of the Local Government Board, held an inquiry into the Corporation's scheme for the improvement of Cloth Fair by demolishing the picturesque but insanitary existing buildings, which are largely of wood, and rebuilding on the site. Evidence in support of the scheme was given by Dr. Howarth, medical officer of health for the City, Mr. B. T. Swinstead, and Mr. Finch, the last named stating that the scheme was estimated to cost £43,000. Mr. Howard Ruff, on behalf of the Royal Society of St. George, objected to the scheme, which, he said, would sanction an act of vandalism. The area contained the last of the Domestic architecture of the 16th and 17th centuries remaining in one grouping. Mr. Niddrett, who represented the Corporation, replied that the Society for the Protection of Ancient Buildings had written declaring that they would support the demolition of the houses. The inquiry was closed.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Table listing various iron products such as Rolled Steel Joists, Wrought-Iron Girder Plates, Steel Girder Plates, Bar Iron, and Boiler Plates, with prices per ton.

Table listing Galvanised Corrugated Sheet Iron in different gauges and sizes, and Wire Nails (Points de Paris) in various sizes.

Table listing B.B. Drawn Telegraph Wire, Galvanised, and Cast-Iron Socket Pipes in different diameters.

Table listing various types of Cast-Iron Columns, Cast-Iron Stanchions, Rolled-Iron Fencing Wire, and Galvanised Wire Strand.

OTHER METALS.

Table listing various metals including Spelter, Lead Water Pipe, Lead Barrel Pipe, Lead Pipe, Lead Soil-pipe, and various types of Lead and Tin.

SLATES.

Table listing different types of slates such as Blue Portmadne, Blue Bangor, and Permanent Green, with prices per 1,000 of 20 x 10 or 12 x 6.

BRICKS.

Table listing various types of bricks including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks, and various facing and plastic bricks.

GLAZED BRICKS.

Table listing glazed bricks in different colors and finishes, including White, Ivory, Buff, Cream, and various second colors.

MOULDED BRICKS.

Table listing moulded bricks such as stretchers and headers in different sizes and finishes.

STONE.

Table listing various types of stone including Red Mansfield, Darley Dale, Red Corshill, and Greenhill, with prices per foot cube.

Table listing Bath Stone, Portland Stone, and various types of stone delivered on road waggons or at different stations.

TILES.

Table listing various types of tiles including Plain red roofing tiles, Hip and Valley tiles, Ornamental tiles, and Staffordshire (Hanley) Reds.

OILS.

Table listing various oils such as Rapeseed, Cottonseed, Olive, Seal, Coconut, and various lubricating oils.

GLASS (IN GRATES).

Table listing different types of glass in grates, including English Sheet Glass and Hartley's English Rolled Plate.

VARNISHES, &c.

Table listing various types of varnishes and finishes such as Fine Pale Oak Varnish, Pale Copal Oak, and Superfine Pale Elastic Oak.

The rural district council of Becking have accepted the resignation of Mr. G. E. Muffard, surveyor for the eastern district.

Receiving orders have been made in the cases of Hubert Gilford, Woodgate, Highfield-road, Purley, architect, and Arthur Cecil Gen. The Avenue, Tadworth, architect.

On the completion of twenty-five years' service as borough engineer of Leicester, Mr. E. George Mawley has been presented with an illuminated address by the members of his staff.

Chief Officer J. H. Bleazard, president of the Association of Professional Fire Brigade Officers, died at Barrow on Tuesday. Mr. Bleazard joined the local brigade as callboy, and has been superintendent since 1897. He had been connected with the fire service for forty years.

* All F.O.R. London.

TRADE NOTES.

Boyle's latest patent "Air-pump" ventilators have been applied to the new drill-hall, Yarm-on-Tees.

The directors of Claridge's Patent Asphalt Co., Ltd., are holding a reception for the inspection of their new offices at 3, Central Buildings, Westminster, S.W., to-morrow (Saturday), at 11 o'clock.

The architects for the Yarm Territorial Headquarters, Middlesbrough, report that they have used Pudlo, the powder which makes cement waterproof, in the basement of this building, the result being extremely good.

CHIPS.

Mr. Thomas Bishop, sanitary inspector, Leith, has been appointed by the Edinburgh Corporation chief sanitary inspector for the city.

The War Office has sent a communication to the Lord Mayor of Bristol intimating that a number of carpenters and labourers are urgently needed for Government work at Salisbury Plain.

A fire occurred on Wednesday afternoon at Messrs. Marshall, Knott, and Barker's sawmills, adjacent to the Alexandra Dock, Grimsby. Large quantities of timber and machinery were destroyed, the damage amounting to several thousand pounds.

At the Prestatyn Urban District Council meeting on Monday night a discussion arose as to the giving of preference to local contractors for work required. It was proposed that a 5 per cent. preference be given, but this was defeated by one vote. At the same time the council decided that it would give a committee power to decide what contracts should be advertised, a motion that all contracts over £5 be published and tenders invited being defeated.

The Norwich City Council agreed at their last meeting to the appointment of Mr. Henry Wood, A.M.Inst.C.E., as deputy city engineer at a salary of £200 per annum, rising by £20 a year to £300, with an annual allowance of £20 on condition that he provides a motorcycle. Mr. W. G. Powell was appointed first assistant to the city engineer, his salary being advanced from £160 to £175, and Mr. R. A. Winfield was appointed second assistant in the same department. The Lord Mayor explained that the appointments were necessitated by the resignation of Mr. Harold Collins (son of their city engineer, Mr. A. E. Collins), who had been appointed borough engineer at Colchester.

The housing schemes proposed by the sanitary committee and approved by the Manchester City Council were the subject of inquiry on Wednesday evening by a representative of the Local Government Board. The proposal is to borrow £30,376 for building houses on the Temple Estate, Cheetham, and £8,973 for providing furnished houses in Tebbutt-street.

Lord Hunter, in the Scottish Court of Session at Edinburgh on Friday, upheld the contention of the Board of Agriculture for Scotland in the action by Mr. Scott Plummer, of Sunderland Hall, Selkirkshire, for £3,850, being the unpaid balance of the amount found due to the pursuer from the defenders in respect of depreciation in the capital and saleable value of the pursuer's estate, as a result of the constitution thereon of small holdings. His Lordship held that there was no warrant in the Small Landholders Act for such a compensation claim.

Nottingham Corporation by a large majority decided on Monday to proceed with important Trent navigation works, towards the cost of which the Development Commissioners have promised an advance of £50,000. The rate-payers will contribute £100,000. The scheme is to improve the navigation of the River Trent between Nottingham and Newark, and it was urged that the effect of the proposal would be to make Nottingham an important inland port. Employment would be given to many unemployed by the scheme.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

* * Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

Telephone: Gerrard 1291.

Telegrams: "Timeserver, Estrand, London."

RECEIVED.—F. and G.—B. P. C. M., Ltd.—R. U. D. C.—A. H. and Son.—S. W. and Co.—J. D. R.—V. Ltd.—A. D. D. and Sons, Ltd.—F. B. and Co., Ltd.—H. B. Co., Ltd.—R. and J. B.—H. O. H. M.—H. and G.—T. C. S. Co., Ltd.—W. L. G.—Sir J. J. and Co., Ltd. L. Co., Ltd.—C. H. P.—J. and Co.

B.—Yes. N. C. O.—Thanks, no. MALA FIDES.—We see no grounds for your assumption. UNFAIR.—We cannot deal with allegations made in letters to other journals.

D. O.—You can tell the judge so, of course; but he will want very good evidence, we expect, before he accepts "a mutual understanding" that is not in the contract.

H. A. WELCH.—We have not given a small country railway station in our Designing Club for many years, and cannot refer you to any designs of that sort of recent date in our pages.

"BUILDING NEWS" DESIGNING CLUB.

SECOND LIST OF SUBJECTS.

B.—A small stone-built covered-in market-hall on a central open level site, the out-to-out dimensions of the building being 95ft. long from N. to S., and 85ft. wide from E. to W. Each corner of the premises to have a square shop, 20ft. out-to-out, with open glazed fronts on the two external elevations, and each shop to have a private door leading into the market-hall, which will be cruciform on plan; but the difference caused by the width of the open-ended transepts on the E. and W. sides, these being 50ft. wide in the clear, and the N. and S. transepts being 40ft. wide in the clear, may be rectified by a central column or pier on the E. and W. of the crossing, and projecting piers or pilasters may be employed on the corners of the shop walls inside the building facing N. and S. This will make the middle space, or "crossing," of the market-hall square above the floor-area space, and permit of a small domed roof rising on pendentives in the usual way on a low drum, against which the roofs of the four transepts may end. A middle-column treatment is to be employed to the façades of the E. and W. transept openings. At the N. and S. ends of the building an arch may span the opening between the two shops at the corners. The roofs of these shop pavilions may be either flat or conical in shape, suitably treated for lead covering. The height of the market-hall to top of inside cornice to be 20ft. Roof soffit open and plastered. The shop ceilings need not be so tall. One 6in. step to floor of shops and hall above the paved space round the market, and a series of granite posts, 3ft. high, to be arranged 9ft. away from the walls, to keep carts off the plinth at the angles of the building. The details of lighting and also glazing to keep out weather at ends of transepts left to competitors. Roofs of iron and concrete, asphalted outside and plastered within. Stone to walls to show as ashlar. Style Late Renaissance plainly treated. Plate-glass to shops, movable stalls next walls inside market. Scale, 8ft. to inch. Plan, two elevations, and section; also view sketch of exterior. The plan may be drawn to the scale of 1/16th to the inch if desired, on account of size of the sheet as per rules. All drawings, with coupon pasted on back (next name and address of the member), to reach the BUILDING NEWS office on or before Saturday, November 28 next.

LIST OF COMPETITIONS OPEN.

Table listing competitions open with details of location, value, and contact information. Includes entries for Wayville West, Adelaide; Helens; London; Southend-on-Sea; and Campine Coalfield.

LIST OF TENDERS OPEN.

BUILDINGS.

Table listing tenders open for various buildings across different locations. Includes entries for Rotherham, Maesteg, London, and various other towns, detailing the nature of the building work.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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Strand, W.C.

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OUR ILLUSTRATIONS.

National Amalgamated Approved Society's Building, Enston-road, London, N.W. View and plan. Professor Beresford Pite, F.R.I.B.A., Architect.
Church of St. Mary, Harrogate. View and plan designed by Mr. Walter H. Brierley, F.S.A., Architect.
Aston Hall, Warwickshire, 1618-1635. Elevation and details of front. Measured and drawn by Mr. F. E. Williams, Architect, 1914. General plan by Mr. J. Alfred Gotch, F.S.A., and Photograph of Grand Staircase.
Police and Fire Station, Reigate. Mr. Joseph Sunlight, Architect.

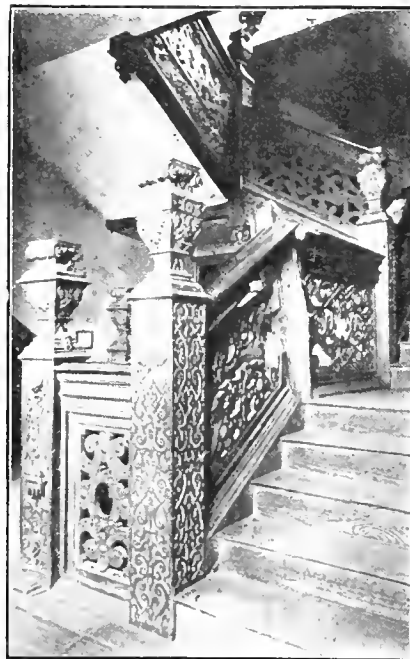
ASTON HALL, WARWICKSHIRE, AND JOHN THORPE, ARCHITECT.

[WITH ILLUSTRATIONS.]

We do not remember having seen any elevational drawing of the entire façade of Aston Hall hitherto published elsewhere like that which we reproduce to-day. The chief architectural interest of this mansion consists in the scheme of its plan, which not only displays marked differences as compared with most of its contemporaries, but shows distinctive deviations in its layout from all that had been done before. The omission of a geometrical representation of this elevation to scale in all the recently issued works dealing with the growth of English Domestic building may be accounted for, owing to the change which has taken place during the last decade in the prevailing taste of the day, by which preference is accorded to the illustrations of buildings erected at a much later date. The majority of the newer books on such historic architecture are chiefly devoted to works belonging to the eighteenth century, including others carried out some years after that. The genesis of modern household contrivance furnishes, however, no better instance of the evolution of planning than Aston Hall, and for this reason it is deservedly reckoned to be one of the most distinguished as an illustration of this particular departure, which took a hundred years to bring about. Apart from that circumstance, this building stands for a type of British architecture which, in its way, is almost as unique as the short-lived style of the beautiful Tudor manor-houses, which anticipated the so-called "Early Renaissance," a departure in design at once admirably adapted to the exigencies of the English climate, while it also combined therewith other inherent merits that cannot fail to influence the National spirit of design in the future. This style presents greater facilities for picturesque combinations, coupled with the obvious advantage of accommodating interior contrivance consequent upon the freedom of window provision incidental to the less-restricted conditions allowable, as contrasted with the stereotyped symmetry so essential to buildings planned on rigid Classical lines. The box-like balances of the more lugubrious Georgian manner are favoured by to-day's passing fashion, which assumes that the style is more monumental, more scholarly, and perhaps more palatial. Bigness of detail and massively-appointed interiors may distinguish the "Later Renaissance"; but it is doubtful whether the style of John Thorpe's time is not more homely and naturally better

adapted to domestic comfort. Whoever the architect of Aston Hall may have been, he intentionally subordinated the central hall, while retaining a relative scale for that apartment; consequently the disposition of this plan remains quite distinctive, as a precise exemplar hitherto unknown among all else of its kind then erected in this country.

Burton Agnes, in Yorkshire (1602-10) is



GRAND STAIRCASE, ASTON HALL.

one of the last big houses which repeated the old English traditional hall on the historic lines peculiar among fourteenth century and earlier instances. Their arrangements are well known, as, for instance, at Haddon Hall, in Derbyshire, with a Mediaeval kind of traceried wooden screen set below the minstrels' gallery at one end of the apartment, the kitchen and butteries to the left, and the bay window on the right; the location of the family rooms beyond the dais at the head of the hall and generally a grand staircase more or less adjoining. John Thorpe, in designing Kirby Hall, Northamptonshire, adhered to this ancient refectory principle, and as a connoisseur of date it may be mentioned that he laid Kirby's foundation-stone in 1570. Later in life he grew less conservative, accommodating himself to the spirit of the times and

wants of his clients. Aston Hall, therefore, not only differs from Burton Agnes, but it is entirely altered from Kirby, to which Inigo Jones added the forecourt. Montacute, in Somersetshire, also a modification of the old type, is quite unlike Aston Hall, and in this connection other variations of similar details could be instanced. The change thus illustrated synchronises with the growing tendency, then in its initial stage, for introducing the "dining parlour." That innovation gradually reduced the pre-eminence of the hall, and led to its more immediate association with the entrance portal, and soon the hall became a means of approach instead of still being recognised as dominating the plan, and retaining the character of the hall proper as the centre of family life. This development began simultaneously with the influence of Italian architecture in Great Britain. At Aston Hall the large hall, though still placed in the middle of the plan, was schemed as an entrance-hall pure and simple, with the main doorway of the house set in the centre of its side. At Blickling Hall, near Aylsham, a further departure was adopted by its architect, whose plan was being carried into execution in 1620, when John Thorpe's Warwickshire mansion, near Birmingham, was building. The Marquess of Lothian's beautiful home in Norfolk not only has its hall subordinated as an entrance vestibule, but the grand staircase is treated as its predominating feature, with the overhanging gallery above carried round to connect the two lateral wings of the house, thus relinquishing all semblance to the long established usage of the hall with the dais and tables for dining. At Blickling, too, the kitchens are housed in a separate wing, which stands to the left of the turfed quadrangular forecourt, a corresponding wing to the right being devoted to stable buildings. A fine feature originally was made of the similarly-enclosed forecourt at Aston Hall, though there only two pavilions, called lodges, for falconers, served to emphasise the angles of its frontispiece, as set out in the accompanying plan. The year 1618 saw Aston Hall commenced. It was completed in 1635; but during that period Lord Townshend started Raynham Hall, a stately red-brick house in Norfolk, from the designs of Inigo Jones, in 1630. That mansion presents a remarkable contrast in more ways than one to much that was being built elsewhere at that time. Not only was the hall subordinated, but the raison d'être of the grand staircase, too, was abandoned, owing to the employment of a great flight of external steps leading

up to the elevated main floor set up over a big half-basement.*

The geometrical drawings which we reproduce were made quite lately by Mr. F. E. Williams, of Coppice-road, Birmingham, to whom we are indebted for their loan. The accompanying plan of Aston Hall has been kindly lent us by Mr. Herbert Batsford, from "The Early Renaissance of England," by Mr. J. Alfred Gatch, F.S.A., whose handy and excellent history has attained its second edition this year. The monumental folios issued in 1894 by the same author and publisher, entitled "The Architecture of the Renaissance in England," include a photograph of the front of Aston Hall; but the first entire view of the façade as a whole given in a serial architectural publication was the general perspective drawn for the BUILDING NEWS by Mr. Maurice B. Adams, and given as a double-page plate in our number for September 27, 1889, printed with a ground-plan mainly based upon the lay-out, which occurs in "Old Warwickshire Houses" by Mr. William Niven, who also published a monograph of Aston Hall.

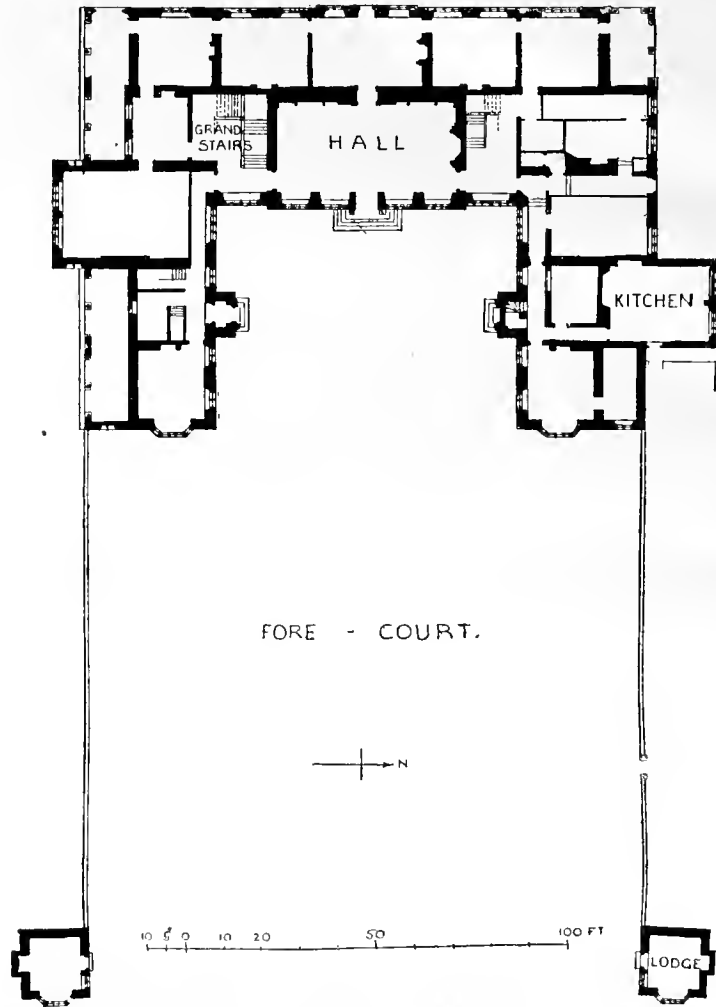
As compared with Sir Henry Hobart's mansion at Bleking, or with Cobham Hall in Kent, which is known to be partly the work of Inigo Jones, the detail of Aston Hall is not specially good, and only ranks as second-rate. It actually marks a deterioration in this respect from houses built in the reign of Elizabeth, and also in the days of James and Charles I. The ogee-shaped roofs of its towers are, however, very characteristic of this "traditional" style, and the location of these towers, though not exactly set in the angles of the building, as often happened, are not otherwise unusual. The central tower, coming over the entrance, by being built entirely upon a support of timbering, is a most questionable piece of construction resorted to in order to avoid encumbering the first floor and spoiling the hall below. This apartment furnishes the means of access in the middle of the house, with the chief rooms disposed round it on the ground floor. The ceiling of the hall is panelled and enriched with elaborate designs of a geometrical order, alternating with unicorns, lions, stags, and other quadrupeds modelled in plaster in relief. The many short flights of the grand staircase, leading to the first floor, have balustrades of open scrollwork between the big square-bodily-carved newels, covered on their faces with arabesque patterns, very characteristic of the 17th century. The accompanying view is from a photograph kindly sent us by the Keeper of the Birmingham Museum, Sir Whitworth Wallis, F.S.A., who now has Aston Hall under his charge. The chapel, where the marble floor was long covered with boarding, is reached by a short colonnaded cloister. It was once draped with tapestry, and it then had an altar lit by sconces. Above this chapel is the great drawing-room, 39ft. by 23ft., and having a handsome chimney piece, also a deep frieze round the room, with figures in high relief. "King Charles's bedroom," with its beautiful ceiling of strapwork, and the tapestries on the walls, is on the left, and Lady Holte's chamber is on the right. The Long Gallery measures 136ft., and is 18ft. wide, being 16ft. high. This gallery is divided into thirteen bays by Ionic pilasters, with double-transomed windows placed in five of these compartments. The chimney piece, resting on caryatides, is large, and typically rich, done in marbles and alabaster. This part of the house is

reckoned to be rather later than the rest. The saloon is on the ground floor, placed at the back of the hall in the centre, as at Raynham, built by Inigo Jones.

Over the entrance the inscription records that Sir Thomas Holte enclosed the Park when he commenced building in 1618, also that the mansion was advanced sufficiently to enable him to go into residence in 1631, the finishing, as we have said, being continued for four years. Wyatt Papworth possibly was not very far wrong in attributing the completion of Aston Hall to Inigo Jones, as mentioned in his useful little book, "The Renaissance and Italian Styles of Great Britain" (Batsford). It seems not unlikely that the

certain as to whether John Thorpe was the architect of Aston Hall or not. No doubt the actual building is much varied from these first draughts, and, of course, the plans do not represent the enlargements subsequently made. The question as to the claims of John Thorpe or Inigo Jones for the credit of their ultimate design is undetermined, though Wyatt Papworth's subsequent inquiries at any rate suggest a solution in favour of John Thorpe, who, at any rate, had a large amount of house-building to do, and was more than a surveyor or draughtsman, as certain writers have somewhat needlessly alleged.

Little Charlton, Kent, built for Robert Filmer in 1612, was one of John Thorpe's



ASTON HALL: GROUND PLAN (1618-35).

From "Early Renaissance Architecture in England," by Mr. J. A. Gatch, F.S.A. Second Edition. 1914. (Batsford.)

skill of "the Marquis-would-be-Jones" (as Sir Francis Kinaston called Jones, in his "St. Poules") was brought into requisition in carrying out this mansion. The staircase at Crewe Hall, Cheshire, constructed between 1615 and 1636 for Sir Randal Crewe, very closely resembles the design of that of Aston Hall, and this similarity warranted Richardson and other antiquaries in assuming that Inigo Jones built them both. The original plan of Crewe Hall was signed "I. J." and this document probably exists still, for it was in the possession of Mr. J. W. Jones, of Nantwich, during the latter half of the last century.

The original sketch-plans for Aston Hall attributed to John Thorpe, form part of the interesting collection of his autograph and other drawings preserved in Sir John Soane's Museum; but although authorities express a diversity of critical opinions as to the authenticity of these drawings, no one seems to have been able to decide for

latest-known buildings; but we are not sure when he made these original plans for Aston Hall, and we cannot fix their probable date by the actual erection of the house, which was commenced in 1618. Moreover, the date of the death of John Thorpe remains uncertain. Very likely, however, the working drawings were prepared about 1616. Wyatt Papworth, in furthering his inquiry, found that Peter Cunningham, in 1867, drew attention to the following entry in the 1634 edition of "The Gentleman's Exercise" (page 162), by Henrie Peacham, which reads as follows: "Coat of arms azure, a star or, between three crescents argent, belonged to the Abbot of Tame, whose name was Thorpe, and now borne of Master John Thorpe, of the Parish of Saint Martins-in-the-Field, my especial friend and excellent geometrician and surveyour, whom the rather I remember because he is not only learned and ingenious himself, but a furtherer and favorer of all excellency whatsoever, of

* Plans of Raynham Hall are given (on good size in Messrs. Inigo Priggs and H. Turner's folio, "Some Architectural Works of Inigo Jones," published by Batsford in 1901.

whom our age findeth too few; and lastly, the aforementioned Master John Thorpe, his sonne, to whom I can in words never bee sufficiently thankful."

We thus learn that father and son are mentioned, and other evidence exists in proof that a John Thorpe was living in 1590, 1606, 1609, and 1611, also in 1612. This identical coat of arms thus described is germane to mention as appearing in Burke's "General Armoury" (page 1,012, 1878 edition), appended to the name of "Thorpe of London and Northampton," and a reference to the register of burials of St. Martin's parish—the "Royal church" in Trafalgar-square hard by, in which so many painters and artists were interred—shows between the years 1600 and 1624, two Richards and one Rebecca Thorpe, and on September 23, 1618, the name of "Johne Thropes" is set down. The variant spelling of the names in these old records proves nothing, while in being transcribed, mistakes occurred and spelling got altered. At St. Martin's vestry there is some reason also to believe that the present registers are copies of older lists. The question remains unsettled, however, as to the identity of this "Johne Thropes" with John Thorpe, the architect. Certainly it is a curious coincidence that his date of burial should agree with the year of the beginning of Aston Hall, for which Thorpe's plans, inscribed "Sir Thos. Holt," can still be seen close at hand in Lincoln's Inn Fields. Comparing this architect's known work elsewhere, and bearing these circumstances in mind, it is not improbable that he really did design this house. It is known that John Thorpe was associated with Bernard Jansen at Audley End, Essex, in 1616, having worked at that job previously during six years. What more likely than that he should at that same date have completed the drawings from these sketch plans for Aston Hall before that mansion was actually started? The details of its scheme do not harmonise with the taste of Inigo Jones, who was the first Englishman to realise the significance of the Italian Renaissance.

Sir John Soane bought the Thorpe folio of plans for his museum on April 10, 1810, from the Greville Library. The drawings are not entirely restricted to the designs made by Thorpe himself, and it is unlikely that he was the architect of all the buildings which he depicted in this "Pattern book," which he made for his own use. Any man who had been employed on this considerable scale as an architect would hardly have escaped all mention in contemporary literature, and besides their differences of style for those still traditional days would be beyond the powers of one and the same individual designer, however versatile he might be. The internal evidence of the collection, however, demonstrates that Thorpe made all these drawings, judging from the draughtsmanship and handwriting, though few of the sheets are signed. The folio consists of 280 pages, and the studies were made in the book itself, except a few pasted in on the blank sheets. Some are records of finished buildings, such as Holdenby, Northamptonshire, built before 1580 (now destroyed). This house was said to have been from Thorpe's design, because a plan and elevation occur in this volume, whereas he merely made a survey of it in 1606, and also on the plan of Amptill, in the same folio, the words "Enlarged per J. Thorpe" only mean that he drew it out to a bigger scale. He built Longford Castle, Wilts, in 1580, for Sir Thos. Georges, Holland House, Kensington, for Sir Walter Cope (1606-7), "was perfected by me, J. T."; and probably Thorpe was associated with the demolished house, finished in 1568, for Sir Richard Sackville, at Buckhurst, Sussex; also that he made additions to Knole, near Sevenoaks,

Kent, in 1603-5. Rushton Hall, Northants, came earlier (1595); but in "The Buildings of Sir Thomas Tresham" (1883), Mr. J. Alfred Gatch shows Rothwell Market House, "The Triangular Lodge," and Lyveden New Building, all designed by Thorpe. His visit to France in 1600 enlarged his outlook, no doubt, and facilitated his power of imagination. While he was abroad, he made drawings of Faubourg St. Germain and other houses near Paris, the same year that he was commissioned by the King to survey the Duchess of Suffolk's land. His book of drawings belonged to the Earl of Warwick, and Horace Walpole referred to it in "Anecdotes of Painting" in 1780. Professor Blomfield, in his "History of the Architecture of the Renaissance in England," speaks rather disparagingly of John Thorpe, saying that "our certain knowledge about him is not very far removed from that ignis fatuus of archeology, John of Padua," and suggests that Thorpe derived his knowledge from mere "pattern books," few of which, however, save the much-debated one left to the world by Thorpe himself and Inigo Jones's sketch-book preserved at Chatsworth, which, besides Col. Cope's collection at Broke Hill Hall, Afreton, seem to have survived in England, as illustrative of this tentative period (1520-1620).* Mr. Blomfield records his opinion that Thorpe saw details "through Mediaeval spectacles, using them with much adventurousness," and from further strictures it may be gathered that the same authority evidently fails to appreciate Thorpe's "freakish" plans, though Inigo Jones himself was not above ingenuities of the same category, as shown at Chilham Castle, Kent, while his architectural sketches exhibit some abandon of fancy, not to mention Jones's extravagancies for the Court revels. Mr. Blomfield acknowledges that Thorpe was the architect of several houses, though he gives credit to Sir Thomas Tresham for Lyveden New building, and we suppose the Market House, if not the "freakish" Triangular Lodge, which Mr. Blomfield admired sufficiently to warrant his publishing the best sketch of that odd structure by John Thorpe which we have seen hitherto. The City of Birmingham bought Aston Hall and what remained of its park in 1864, and the mansion has been since then used as a public museum; but some of the rooms are appropriately furnished, and still retain their original decorations. The hippopotamus and rhinoceros, which used to badly block up the hall, have been taken to the Natural History Museum in the City; but the giraffes, so long in the way in Aston Hall, became so full of vermin, that they had to be destroyed.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Many years have passed since the opening meeting of the session at the Royal Institute of British Architects has been so divested of ceremony as was that held on Monday evening. The attendance of members and visitors, including one or two ladies, was under three score; the proceedings were late in beginning, and were over in half an hour, and the President, Mr. Ernest Newton, A.R.A., who was heartily received, did not wear, as is usual on special occasions, the badge and chain of office, while his address was, as will be seen, restricted in scope to matters arising out of the war. Even the customary vote of thanks was omitted from the programme.

Mr. E. Guy Dawber, hon. secretary, announced that since the close of last season they had suffered many losses by death, including the Earl of Wemyss and March, Hon. Associate; Messrs. John Brooke, of Man-

* John Shute's "First and Chief Grounds of Architecture" was published ten years before Inigo Jones was born.

chester (for three years a member of the Council), F. Dare Clapham, and James Herbert Stones, of Blackburn, Fellows; A. C. Bulmer Booth and James Lindsay, of Glasgow, Associates; and William Bell, Godfrey Colles, Thomas Sinclair, and William Cowley Stevenson, Licentiatees. It was also stated that the Council had nominated for membership fifteen Fellows, forty-one Associates, and one Hon. Associate.

THE OPENING ADDRESS

was then read by the President as follows:—

The President is supposed to employ himself during the recess in preparing an address for the opening night. Unfortunately—or, may I say, fortunately for you—my time has been occupied in other ways, and you will be relieved to know that I am not going to inflict an address upon you. I felt, and I am sure you will agree with me, that this was not a time for dimers, addresses, and the usual accompaniments of the opening night of the session. Our thoughts are elsewhere, and although I think we ought, as far as possible, to carry on the necessary business of the Institute, I feel that social functions would be out of place. I shall, therefore, content myself with a very simple statement of what we have done, are doing, and propose to do during the session which technically opens to-night. On the outbreak of the war the Institute formed, with the co-operation of other architectural bodies, a War Committee. The machinery, being new, has creaked a little; but I think I may say that it is now running smoothly and doing useful work. Subscriptions were also invited for the Prince of Wales's Fund and for relieving distress amongst architects caused by the war. The Institute gave a donation of 100 guineas in August to the Prince of Wales's Fund—£249 11s. have now been collected, and £210 have been forwarded to the treasurer of the Fund as a first donation. We have been able to hand over £591 19s. 6d. for the relief of distress consequent on the war to the Architects' Benevolent Society, which proposes to open a special account for this purpose. The Professional Employment Committee, believing that it is better, if possible, to provide employment than to relieve by means of doles, is arranging a programme of work which might usefully employ men whose ordinary practice has come to a standstill: £162 8s. has been received specially earmarked for this purpose, and the committee hope to receive further financial support, not only from architects, but from the public generally. The Selection Committee is concerning itself in tabulating useful information with respect to special services that may be required by the Government, and in organising assistance to carry on the work of architects who have joined the Forces. They have already done most useful and valuable work.

The Architectural Association has concerned itself more with the military part of the War Committee's programme. Many of its members, following the high example of self-sacrifice and devotion to his country of Mr. Maurice Webb, the President, have enlisted in the New Army. Not content with this, they have formed an Architects' Volunteer Training Corps. This corps has been able to assist the Government and Regular Forces by acting as a recruiting agency to enlist and classify men volunteering for military service, and in many other ways. The scheme has met with the approval of distinguished military officers, and has, I understand, been recommended by them to Lord Kitchener as the model to which all the unofficial training corps throughout the country should conform. It is obvious that this important work cannot be done without expense, and there is at present no particular fund on which the corps can draw. The Council of the Institute has made a grant of £50, but further contributions are required. Under the presidency of Mrs. Maurice Webb a committee has been formed to keep in touch with, and look after, the welfare of the Architectural Association recruits, and those whom they have left behind, and I hope, although I know you are receiving appeals every day, that this par-

ticular appeal will touch you very nearly, and that all who can respond to it will do so generously. Some copies of the circular have been distributed to the meeting. I am afraid that, so far, I have done nothing but call your attention to the various funds which invite donations, but you will, nevertheless, allow me to say that none of the subscription lists are closed, and that contributions to all of them will be welcome. Architects have responded well to the call for soldiers, and so far as I have been able to get information, there are probably not less than one thousand serving with the Colours. I feel that we have reason to be proud of our young brethren, who have been ready, without a moment's hesitation, to give up comfortable homes and good prospects to serve their country at a time of need. In regard to internal affairs, I have thought it right—and here, again, I am sure of your approval—to drop for the moment all controversial matters, and, therefore, no further steps have been taken in connection with the new Charter. I hope that when the time comes for going forward with the work, this period of trial and anxiety through which we are passing may draw the sting of controversy, and that we may concentrate on our many points of agreement, rather than on those few on which we differ. Let us bear in mind, too, that Fellows, Associates, Licentiates, and men outside the Institute or any other body are now serving their country under the one title of "registered," or, rather, enlisted soldiers; any further distinction will be earned by their own ability and bravery.

It has been decided to hold the examinations as usual; but the Council have resolved to postpone the prizes and studentships competitions for 1915 until the year 1916, and that those candidates who, under the age limit, are eligible in 1915, shall be considered eligible for the competitions for the year 1916. I find that my short address has already grown much longer than I meant it to be; but I feel that I cannot conclude without reference to the terrible havoc wrought by Germany in her mission to spread "culture" throughout Europe. On the destruction of Louvain we, in common with the Royal Academy, the Society of Antiquaries, and other bodies, sent a protest to the American Ambassador, which was duly forwarded to Washington. Since then we have felt that all further protests would be useless. The spread of "culture" continues; Rheims has suffered irreparable damage, and day by day adds to the list. We can only offer our heartfelt sympathy to our Allies. Belgium has lost priceless treasures, but she has preserved the most priceless of all—her honour. I have said that we can only offer our sympathies, but we can do something more. Many French and Belgian families have come to England. Let us seek them out and do all that we can, not only to see that their material needs are provided for, but to make them feel that they are welcome. I will conclude by moving the following resolution: "That messages be transmitted to the Governments of France and Belgium, expressing on behalf of the members of the Royal Institute of British Architects their profound sympathy with the people of those countries in the terrible losses which they have suffered by the destruction of so many of their most famous and beautiful buildings and monuments."

Mr. Reginald Blomfield, R.A., seconded the motion, remarking that he felt too strongly the terrible losses sustained by the Germans' destruction of so many beautiful buildings on the Continent to trust himself to speak on the subject.

The motion was agreed to in silence, and the President observed: "It only remains for me to announce that at our next meeting, to be held on Monday, the 16th inst., Mr. Paul Waterhouse will read a paper upon 'The Future of the Surrey Side.'"

NEW SCHEME OF EXAMINATIONS.

The following modifications in the scheme of examinations will come into effect after July, 1915:—

PRELIMINARY EXAMINATION.

The examination in the following subjects will be discontinued:

1. Short English Composition.
2. Writing from Dictation.
3. Arithmetic, Algebra, and Elements of Plain Geometry.
4. Geography and History.
5. Latin, Italian, French, or German (one language only).
8. Elementary Mechanics and Physics.

But every candidate for Registration as Probationer must satisfy the Board that he has attained a sufficient standard of general education. The examinations set out in the Kalendar will be regarded as indicating the required standard. Examination in Subject No. 6 (Geometrical or Perspective Drawing) and Subject No. 7 (Freehand Drawing) will be retained as at present. The admission fee will be £2 2s., as at present; but relegated candidates will be required to pay a fee of £1 1s. for each subsequent attempt for all examinations after that of June, 1915.

INTERMEDIATE EXAMINATION.

The admission fee for examinations subsequent to that of June, 1915, will be £6 6s., and relegated candidates will be required to pay a fee of £3 3s. for each subsequent attempt.

FINAL EXAMINATION.

The admission fee for examinations subsequent to that of July, 1915, will be £6 6s., and relegated candidates will be required to pay a fee of £3 3s. for each subsequent attempt.

SPECIAL AND COLONIAL EXAMINATIONS.

The admission fee for examinations subsequent to that of July, 1915, will be £10 10s., and relegated candidates will be required to pay a fee of £5 5s. for each subsequent attempt.

THE EXAMINATIONS AND THE WAR.

The Council of the R.I.B.A. wish it to be known that generally every consideration possible will be shown to candidates who have joined the Colours, and they will be conceded the following specific privileges:—

Candidates for the Intermediate Examination whose Testimonies of Study are approved to be registered as Students. Candidates for the Final Examination who have had one or more problems in design approved may be exempted from submitting others.

THE EXAMINATIONS AND FOREIGN STUDENTS IN ENGLISH ARCHITECTURAL SCHOOLS.

The Council have decided to allow candidates other than British subjects who are desirous of possessing evidence that they have obtained the status, though not the rank, of an Associate of the Royal Institute, to sit for the Final Examination, and in the event of their passing, to furnish them with a certificate to that effect.

THE LONDON COUNTY COUNCIL.

At the meeting on Tuesday of the London County Council, the Improvements Committee reported that in connection with the widening of High-street, Wandsworth, and East Hill, proceedings were recently taken by the trustees of the East Hill Baptist Chapel for an injunction to restrain the Council from proceeding upon a notice to treat served upon the trustees for the acquisition by the Council of a portion of the forecourt, wall, gates, and railings of the chapel. Upon a motion in the action coming before Mr. Justice Joyce, he held that, as substantial alterations would have to be made to the main building to render it suitable for use after the forecourt had been added to the roadway, the taking of the land in front of the premises would be an interference with the main structure of the building, and he therefore granted an injunction restraining the Council from proceeding under the notice to treat. On July 21 last the Council decided to appeal against the decision. The appeal came on, the committee added, for argument on October 13, before the Master of the Rolls and Lords

Justices Kennedy and Swinfen Eady, and a considered judgment was given on Oct. 23, when their lordships were unanimously of opinion that the facts of the case were such that it was clear, if the improvement was carried out as proposed by the Council an interference with the main structure of the building would result, so as to bring the case within the proviso, and thus prevent the Council acquiring a portion only of the premises for the purpose of the widening. Their lordships confirmed the order made by Mr. Justice Joyce, with costs against the Council. The committee are advised that no useful purpose would be served by an appeal to the House of Lords, and recommended that no appeal be made from the decision.

The Building Act Committee reported that the Home Secretary was now prepared to confirm an amended set of by-laws for the regulation and control of hoardings and similar structures used for advertising and exceeding 12ft. in height, subject to certain modifications, both of which the committee advised the Council to agree to. One suggestion by the Home Secretary is that No. 3 of the proposed by-laws, which provides that no hoarding shall be erected to a greater height than the height of the front main wall of any building within fifty yards, should be amended by the substitution of the word "feet" for the word "yards." It is also suggested that a clause dealing with refuse from hoardings should be added to by-law No. 8, and that the words "and any advertisement exhibited at such time" in by-law No. 10 should be omitted for the reason that a by-law in the form made by the Council would require any new advertisement placed on an existing hoarding to conform to the by-laws, and would thus derogate from the statutory provision exempting existing hoardings from the operation of the by-laws for a period of at least five years.

The proposed by-laws are as follows:—

By-laws for the regulation and control of hoardings and similar structures used for the purpose of advertising when they exceed 12ft. in height.

Definitions:

1. In these by-laws, unless the context otherwise requires:—

"Advertisement hoarding" means any hoarding or similar structure, or any part thereof, exceeding 12ft. in height, on or over any land, house, building, structure, street or public place, and used for the purpose of advertisement.

"Street" includes any highway, and any road, bridge, lane, path, footway, mews, square, court, alley or passage to which the public have access.

"Metropolitan Borough Council" means the metropolitan borough council in whose district an advertisement hoarding is erected or fixed or intended to be erected or fixed.

Submission of plans to borough council.

2. No person shall erect or fix or cause to be erected or fixed any advertisement hoarding without first submitting complete plans and sections of such hoarding to the metropolitan borough council. Such plans shall be sufficient to show the construction and position of the hoarding or structure with regard to the street and adjacent houses, if any, and be accompanied by a statement of the height of the hoarding or structure and of the materials of which it is to be constructed, and by a statement of the name and address of the owner of such hoarding and of the owner of the land or premises upon which it is to be erected.

Height of hoardings.

3. No person shall erect, fix, or retain or cause to be erected, fixed or retained any advertisement hoarding to a greater height than the height of the front main wall of any building within 50ft. on either side of such advertisement hoarding or in any case to a greater height than 30ft.

Hoardings not to project over the public way or beyond the general line of buildings.

4. No person shall erect, fix or retain or cause to be erected, fixed or retained any advertisement hoarding so as to project or be on or over the public way or more than 3in. beyond the general line of buildings in any street or part of a street, place or row of houses.

Maintenance and repair of hoardings.

5. The owner of, and, in his default, any person in receipt of any rents or profits from the use of any advertisement hoarding shall maintain such hoarding in a proper state of repair and security.

Owner to exhibit name and address.

6. The owner of every advertisement hoarding shall exhibit and keep exhibited his name and address in a conspicuous position on the front thereof and in such character as to be clearly legible.

Advertisements to be exhibited in a neat and orderly manner.

7. No person shall exhibit, or cause to be exhibited, on any advertisement hoarding any advertisement that is not placed on or upon or affixed to such hoarding in a neat and orderly manner.

Removal of unsightly advertisements and refuse.

8. Where any advertisement exhibited on any advertisement hoarding is defaced or in an unsightly or

form condition, the person exhibiting such advertisement, and, in his default, the owner of and any person in receipt of any rents or profits from the use of such hoarding, shall on receiving notice in writing to that effect from the metropolitan borough council remove such advertisement within such time as may be specified in such notice, and if any paper or other material affixed to any advertisement hoarding and used for or in connection with any advertisement becomes detached, the person exhibiting such advertisement, and in his default the owner of and any person in receipt of any rents or profits from the use of such hoarding shall forthwith remove or clear away such paper or other material.

Names and addresses of persons exhibiting advertisements to be furnished when required.

9. The owner of, and, in his default, any person in receipt of any rents or profits from the use of any advertisement hoarding shall, when required by the metropolitan borough council, furnish the name and address of any person exhibiting any advertisement on such hoarding.

Exemption of existing hoardings.

10. Any advertisement hoarding in use at the time of the making of these by-laws shall be exempt from the operation of these by-laws for a period of five years from the date of the confirmation thereof.

Saving for certain hoardings.

11. Nothing in these by-laws shall apply to any hoarding erected or set up for the purpose of any building operation so long as such hoarding is used for such purpose only.

Application of by-laws.

12. These by-laws shall apply to the whole of the Administrative County of London excluding the City of London.

Consideration was adjourned for a week of the report of the Special Committee on London Electricity Supply, recommending that legislative power be sought for the establishment of a new electricity undertaking for Greater London.

A DISMAL YEAR IN THE EDINBURGH BUILDING TRADE.

The annual meeting of the brethren of the Incorporation of the Guildry of Edinburgh was held in the City Chambers, Edinburgh, on Monday, Lord Provost Inches presiding.

The Dean of Guild, Mr. J. Macintyre Henry, F.R.I.B.A., in making his annual report on the work of the Dean of Guild Court, said he regretted exceedingly that he had to repeat the dismal tale of the last few years. When the Dean of Guild in 1912 gave the figures of £323,385 as the total value of the work that had passed the court in the previous year, it was thought that bedrock must surely have been reached, and this supposition seemed borne out by the figures of a year ago, which were nearly £522,000, an increase in one year of about £200,000. This year, alas! a different tale had to be told, the total value being only £259,000, a decrease in the last year of over £222,000, or 74 per cent. They would the more readily realise the enormous falling off there had been when he reminded them of the figures of 1903—viz., £894,328. Roughly, the value this year was only about one-third of what it was ten years ago. Last year was exceptional, because of the fact that no tenements of working class houses were erected, whereas this year twelve tenements were passed. The various kinds of buildings might roughly be classed as follows:—Houses, £48,000; public and other buildings, £152,000; alterations (being chiefly minor warrants), £118,000. This year they had no large public buildings to help their total, and even the boom in picture-houses, which helped last year considerably, had apparently come to an end, only one (for Portobello) having been passed. For Edinburgh, however, they had had one theatre or music hall, valued at £10,000, and a football grand stand, at £9,000.

The Dean of Guild of Glasgow recently stated that the total value of the buildings passed during the previous year in that city represented about £1 per head of the population, and of dwelling houses only 3s. to 4s. per head. It seemed to him rather a coincidence that the ratios in Edinburgh for the past year were almost the same—namely, 19s. and 3s. respectively; but, unfortunately, only about one-half of this work showed any sign as yet of being proceeded with, thus reducing the ratio to the acreage proportion of about 1s. 6d. per head of population as being spent on the erection of dwelling-houses, a class of work which in former years

formed a large proportion of the whole, and gave regular employment to a very considerable number of workmen. The large number of minor warrants for alterations and improvements on existing workmen's houses showed that the authorities were becoming more and more determined to exercise the powers they possessed of getting rid of unhealthy and insanitary dwellings. Although they did not mean much in value, these applications meant much in the lives of the poor tenants. Better sanitary accommodation, better light, and better ventilation was being provided; the old and unhealthy dark bed-closets were being opened up, and formed into open recesses; but much better it would be if even the open recesses could be done away with altogether, so that light and air could be freely admitted to every corner of the houses. Much was required by way of educating the working class tenants to appreciate the advantages of occupying the best possible class of house their wages could afford. The problem of the working man's house was becoming a serious one. Building materials were rising in price, wages were increasing, yet the cry was for cheaper houses. The erection of cottages for workmen was the ideal system so long as it could be placed on a sound financial basis, and he believed that two rooms and a bathroom could be provided in some situations at a smaller rental than £15 without jerry-building. In this connection a factor in the situation was, of course, the site values. No longer would land be feued at £200 and over per acre for dwelling-houses. On the other hand, no one would expect it for such a purpose at agricultural value. Its price, no doubt, would come to be regulated by questions of site and demand. A good deal had been done, and was being done, in clearing out condemned slum properties. In some cases the properties had been pulled down; in others, where the buildings formed interesting features of their old city architecture, or were sufficiently substantial to be remodelled, they had been utilised for workmen's houses or other purposes, the interiors being entirely reconstructed and modernised. In these cases the court encouraged the preservation and maintenance of old characteristic features, while requiring all necessary light and ventilation. Bad as business was in the court before the war commenced, it had since become much worse. He could see no hope of any general revival in the building trade for many years to come—even should the war come to an end before their next year's meeting.

On the motion of the Lord Provost, seconded by ex-Dean of Guild Wilson, Mr. Macintyre Henry was unanimously re-elected Dean of Guild for the ensuing year.

CAPTURING GERMAN TRADE.

SANITARY WARE.

The following statement shows, for a recent year, the value of sanitary ware exported from Germany and Austria-Hungary, respectively, to all destinations. Figures for the United Kingdom have been added for the purposes of comparison:

Exported from Germany (1912) —	
Pipes, soil-tiles, sinks, spouts, closet-basins, Ac., of common stone-ware; mangers and cattle troughs	£57,100
Exported from Austria-Hungary (1913) —	
Earthenware for technical and hygienic purposes	9,310
Exported from the United Kingdom (1913) —	
Sanitary ware of earthenware, Ac.	556,100

Of the German exports, sanitary ware to the value of £11,400 was sent to Austria-Hungary and £1,800 to the United Kingdom. Similarly, Austria-Hungary exported £3,960 worth of sanitary ware to Germany, but none to the United Kingdom; while the exports from the United Kingdom to Germany and Austria-Hungary were valued at £28,800 and £3,600 respectively.

Deducting these amounts from the totals shown above, it appears that the effective competition between the products of the three countries in colonial and neutral

markets, considered as a whole, was as follows:—

Exported from Germany (1912)	£43,900
" " Austria-Hungary (1913)	5,150
" " United Kingdom (1913)	521,000

The following statement shows, for a recent year, the value of the exports of sanitary ware from Germany and Austria-Hungary to their principal foreign markets:—

Country to which exported.	From Germany (1912).	From Austria-Hungary (1913).
	Pipes, soil-tiles, sinks, spouts, closet basins, Ac., of common stone-ware; mangers and cattle troughs.	Earthenware for technical and hygienic purposes.
British South Africa	£300	—
British India	200	—
Ceylon	50	—
Norway	4,400	—
Sweden	450	—
Denmark	100	—
Netherlands	3,700	—
Belgium	4,950	—
France	2,500	5
Switzerland	6,600	590
Spain	400	10
Italy	4,400	80
Greece	550	10
Roumania	600	3,860
Servia	500	540
Russia	5,650	30
Turkey	50	—
China	100	—
Japan	50	—
Brazil	750	—
Argentina	50	—
United States	4,850	20
Mexico	600	—
Other Colonial and neutral markets	2,150	5
Total to Colonial and neutral markets	£43,900	£5,150
Total to all destinations	£57,100	£9,310

The above statistics do not include the exports of the two countries to each other or Great Britain, these particulars being given in the first table.

It will be seen from the above statement that the export trade of Germany and Austria-Hungary in sanitary ware is small in comparison with the United Kingdom export trade, the value of the combined German and Austro-Hungarian trade to Colonial and neutral markets being less than one-tenth of the value of the United Kingdom trade with those countries. In view of the fact that the German and Austro-Hungarian markets are now closed to British manufacturers, involving a loss of trade valued at about £32,400, British manufacturers will, no doubt, be desirous of obtaining compensation for their loss of trade in those markets by endeavouring to obtain at least a portion of the trade hitherto done by Germany and Austria-Hungary in Colonial and neutral markets. Thus Germany's largest markets in 1912 were Switzerland, Russia, Belgium, United States, Norway, Italy, Netherlands, and France, these eight countries taking goods to the value of £37,000 from Germany. Austria-Hungary's principal markets for these goods in 1913 were Roumania, Servia, and Switzerland, these three countries taking sanitary ware of Austrian make to the value of, roughly, £5,000.

The maximum value of the export trade in sanitary wares which under present circumstances might be diverted to British manufacturers from their German and Austrian rivals may be summed up as follows:—

(a) In the United Kingdom market—	
German trade (1912)	£1,800
Austro-Hungarian trade (1913)	—
Total	£1,800*
(b) In Colonial and neutral markets—	
German trade (1912)	£3,900
Austro-Hungarian trade (1913)	5,150
Total	£9,050*
Making a grand total of £10,850.*	

* The German figures for 1912 and the Austro-Hungarian figures for 1913 have been added so as to give an idea of the bulk of the trade in a year.

The following particulars are available as to the trade in sanitary wares in certain markets abroad:—

CANADA.

The following statistics show the value of earthenware tiles, etc., imported into Canada from the undermentioned countries during the year ended March 31, 1913:—

Tiles or blocks of earthenware or stone, prepared for mosaic flooring.

From United Kingdom.	From Germany.	Total Imports.
£5,898	£219	£34,415

United Kingdom manufacturers of earthenware tiles, etc., appear to hold but a mediocre position in this market, their imports in 1912-13 amounting to, roughly, one-sixth of the total trade in that year. German competition is negligible.

SOUTH AFRICA.

The following statistics show the value of imports of earthenware pipes and piping into South Africa during the year 1912:—

United Kingdom	£5,567
Germany	104
All countries	5,801

United Kingdom manufacturers appear to hold the bulk of the trade in this market, their trade amounting to 95 per cent. of the total imports in 1912. As in the Canadian market, German competition appears to be practically non-existent.

EGYPT.

The following information is extracted from the August issue of the "Journal" of the British Chamber of Commerce of Egypt:— "The British manufacturer of earthenware pipes is supreme in this market. A large increase in the demand should be looked for during the next few years, until the new drainage scheme in Cairo is completed. Sewage disposal works, on a considerable scale, are also being carried out in Port Said, and important extensions in the drainage system of Alexandria are contemplated in the near future. Many of the more important towns in the interior will also probably undertake similar works as soon as funds permit. The share of the United Kingdom in the imports of tiles is practically negligible, only amounting to £E.21 in 1913, nearly all the rest coming from France, to the value of £E.5,544. As the United Kingdom succeeds in selling earthenware pipes it is difficult to understand her inability to obtain a share of the trade in earthenware tiles."

The following statistics show the imports of earthenware tiles and pipes, together with the share of the United Kingdom, for the years 1912 and 1913:—

	1912.	Total Imports.	Share of United Kingdom.
Earthenware pipes	£E.10,595	£E.10,025	833
Tiles	4,133	833	
	1913.		
Earthenware pipes	£E.11,326	£E.11,330	21
Tiles	5,544	21	

RUSSIA.

The British Vice Consul at Baku, in his report on the trade of that district for 1911, states that the imports of porcelain sanitary ware and appliances, which at one time were exclusively of British origin, are now supplied by Continental manufacturers.

The following is an extract from a letter addressed to H.M. Consul-General at Moscow, in April, 1914, by the Sanitary Department of the Moscow Town Council:— "Orders for earthenware drainpipes required by the Moscow Town Council for 1914 have already been given up to the full amount. Tenders for pipes required for next year will be decided on in August and September, 1914. The total quantity of piping used every year amounts to about 140,000ft., 154,000ft., of 5in., 6in., 8in., 10in., 12in., 14in., 15in., 16in., 18in., 22in., and 24in. diameter, with a corresponding quantity of cut parts. Each pipe must not be shorter than 1 metre. The measures and quality of the pipes must correspond with the technical conditions laid down in the plans."

The Acting British Consul General at

Moscow stated in April, 1914:—"Up to the present the order for piping has, I understand, been placed in Germany. In this connection I would point out that the Ministry of Commerce have informed the Moscow Town Council that the Russian Government have no objection to the placing of orders for drainage pipes with foreign firms."

GUATEMALA.

The Special Commissioner recently sent by the Board of Trade to Central America reported that there is an increasing demand for sanitary fittings, which is principally being met by the United States. British manufactures in this line, although recognised to be the best, are much too expensive for the market. A well-known English house lost an order two or three years ago because it could only offer installations at more than double the prices quoted by American manufacturers.

SALVADOR.

The Special Commissioner reported that in sanitary ware there is some sale for that of British manufacture, but probably the greater part is supplied by American manufacturers.

ARGENTINA.

The American Consul at Rosario, in a report to his Government dated August, 1914, states that Argentina offers a growing market for sanitary appliances. Imports of these appliances have rapidly increased, and the tendency to provide new houses with the most modern apparatus is very pronounced in the leading cities. Further evidence of the market is found in the considerable number of large Buenos Aires and Rosario importers making a speciality of such articles and keeping up important stocks of baths, sinks, washstands, etc. The public demands modern porcelain or enamelled appliances throughout, and the best demand is, of course, for medium-priced grades. Plain white baths, washstands, and waterclosets are the rule, and, while decorated articles are seen, dealers state that they find little demand. One of the principal importers in Rosario states that some five years ago miscellaneous bathroom accessories (not including parts of appliances that are imported with the apparatus itself) came almost exclusively from the United States, but that in the last few years United Kingdom and German manufacturers have gained ground.

The United Kingdom has almost a monopoly of the Rosario market as far as porcelain appliances are concerned, and dealers are unanimous in the opinion that other countries cannot compete in this line.

JAPAN.

The issue of the "London Chamber of Commerce Journal," dated August, 1912, states, on the authority of an American Consular Report, that in Kobe, as throughout Japan, there is no sewerage system. There are waterworks owned by the municipality, which puts the pipes, etc., into houses needing them and also does all the repairs. It might be advisable for firms desiring to sell their outfits to send catalogues to the mayors of the larger cities. With the exception of the foreign hotels, the Kobe Club, and a few of the foreign houses, there are no lavatories, waterclosets, bath-tubs, etc., such as are in general use in America.

CLARIDGE'S PATENT ASPHALTE CO., LTD., AND CLARMAC ROADS, LTD.

THE NEW OFFICES AT 111, CENTRAL BUILDINGS, WESTMINSTER, S.W.

On Saturday last the new offices of this leading and old-established company were opened by a reception attended by numerous friends and clients.

Mr. William Allhack, one of the directors, in the course of an interesting address, said: "It gives us great pleasure to welcome you here to day in our new offices. You all know the old ones we had in Surrey-street, and I feel sure you will agree with me in saying that these are a great improvement on those. The reason for us taking more commodious premises is a satisfactory one, inasmuch that

it is owing to our increasing trade in asphalt that caused us to do so.

"We have also, as you know, entered into another business, that of tarred-slag macadam, under the title of Clarmac Roads, Ltd. We started this with works at Bilston, and have since then acquired further properties at Chatterly, in Staffordshire. Our slag-heaps are some of the best in all England, consisting as they do of old cold-blast furnace-slag, which, owing to its infinitely greater durability over the present-day hot-blast slag, is so much more suitable for road-making. I think, gentlemen, that we shall do a big business in this, and shall try to do our best, too.

"It may, perhaps, interest you to have a few particulars of the growth of Claridge's Patent Asphalt Company. Formed in 1838, with a capital of £200,000, to work the patents acquired by Mr. Claridge, in five years it acquired such a firm hold in this country that the Board of Ordnance placed large orders for asphalt for fortifications, etc., throughout the kingdom. About 1860 the War Office entered into a contract with this company for all asphalt work, under the supervision of the Royal Engineers, which we held, giving unbounded satisfaction, for an unbroken period of forty years, when increasing competition made it an unprofitable contract from our point of view. We are also fortunate in having a fair supply of asphalt rock in stock, and further supplies on order and en route to our works, and we feel no fear as to being able to supply our orders, although these latter have enormously increased this last eighteen months or two years; this being largely due, gentlemen, to the advertising campaign we have carried on and to your kindly notice of our efforts.

"Some of the works we have in hand and on order include the Royal Mews, Buckingham Palace; new premises for the British-American Tobacco Company, Millbank; Robinson and Cleaver, Regent-street, W.; Institute of Chemistry, Russell-square; H.M. Stationery Office, Stamford-street; W. H. Smith and Son, Stamford-street; L.C.C. Schools, Emily-street, Paddington; Fire Brigade Station, Norwood; New Reservoir, Highters Heath, Birmingham, and one at Llanelly, South Wales; Redford Barracks, Edinburgh; Christ Church Cathedral, Oxford; Telegraph Offices, Sheffield; Royal Exchange, Manchester; and many others, including breweries, police-stations, etc., etc., too numerous to mention.

"With respect to Clarmac, this immediately found favour with surveyors, owing to its composition, being manufactured from the best hard cold-blast furnace-slag, and orders have been received from the corporations and councils of Southend-on-Sea, Marylebone, Beckenham, Coventry, Wiltshire, etc., etc. I thank you for your patience in listening to me, and in closing will only remark that we are, and always have been, fully alive to the power of the Press and the value of advertising."

Mr. F. W. Lennox Robertson, the present energetic secretary, in the course of his remarks mentioned that since its incorporation there had only been four secretaries to the company—Mr. F. W. Simms, who held the position for two years; Mr. J. Farrell, under whose active management the company progressed for fifty-four years; Mr. Wilkin-son, who resigned the position to take a seat on the Board in 1913, and himself.

That the energy and courtesy always displayed in their relations with all concerned by his well-known predecessors, are under his administration, already a guarantee of the continued and increased prosperity of the undertaking Mr. Robertson so actively administers, is a sufficient indication of the enterprise and discrimination of the influential directorate he serves, and of the best interests of the shareholders and their clients.

The Church of St. Peter's, Stanley, near Wakefield, which was a poor edifice, erected in 1821, was destroyed by fire some time since. It is being built on a larger scale from plans by Mr. W. D. Caröe, F.S.A., of Westminster, at an outlay of £11,350. Accommodation will be provided for 550 persons.

Currente Calamo.

The address of the President of the R.I.B.A., at its opening meeting on Monday night, was marked by timely terseness. It is no time just now, as Mr. Ernest Newton well said, for dinners and speeches; but we should have liked to have seen at least as good an attendance as gathered at the opening of the session of the Architectural Association. All will note, anyhow, that for the present all controversial matters at the Institute in connection with its internal affairs are to be dropped, and will heartily echo the hope of the President that this time of trouble may "draw the sting of controversy," and find us resolved when peace comes to concentrate on realities about which we are all agreed, rather than on points of difference. The many architects inside or outside the Institute who are now "registered, or, rather, enlisted, soldiers" will return with a fine sense of comradeship, and alive, nevertheless, to the value of unity and discipline. The Institute owes it to them to broaden its scheme presently to the uttermost, and so make the response to its summons to unanimity in defence of the art it represents as hearty and universal as that with which the call of the heart of the Empire has been responded to by its loyal units all the world over. That it will do so we do not doubt. That meanwhile it will foster and shield the rights of those who are fighting sterner battles at the front we are certain.

The moratorium—or, as it has not so impatiently been called in some circles, the "money-torium"—finally expired ingloriously on the 4th inst., although for bills of exchange, under certain conditions, it lives a fortnight longer. There has been a little confusion of thought as to the effect of this temporary expedient to keep up commercial credit at the crisis. The debts to which it applied did not die, as has often been too hastily supposed: they were merely placed in a state of suspended animation for the defunct period. That being over, they have now revived in all their vigour. Though they could not be recovered during this close time for debtors, they are once more payable. But many debtors, who rather enjoyed this freedom from being shot at, have mistaken the law's meaning in the matter. In a recent case (*Times*, October 30), Mr. Justice Scrutton gave an awakening judgment. The plaintiff had sued on July 25 for money due, as some supposed, wrongly. The defence was the moratorium, which here ended on Oct. 4, unless interest was paid to get a month further, which had not been done. The Judge held that the writ was rightly issued, though this had been doubtful, and that as the date was now passed he could give judgment for the money owing. In other words, he ruled that the fact of the remedy having been suspended for a period during the action was not a good defence when the time came to pay. It is very probable that there are other defendants in similar cases awaiting the same shock of surprise.

The legal position of a sub-contractor who has done work and supplied goods on the job, of which the building owner gets the full benefit, but who is not paid, because of the contractor's failure, is constantly coming before the Courts. The latest example is the case of Richard Moreland and Son, Ltd., v. the Bosh Magneto Co., Ltd., the evidence in

which was reported in our issue of October 30 and the judgment in that of to-day. The plaintiffs were sub-contractors for the steel and concrete construction in a building being erected by the builders, W. J. Fryer and Co., Ltd., in the Tottenham Court-road, for the defendants, who were the building owners. The claim was for £2,639. The defence was that there was no privity of contract between the plaintiffs as sub-contractors and the defendants as building owners. It was admitted that during the progress of the work the defendants had paid plaintiffs various sums, amounting to £1,050; but, before its completion, they repudiated the contract, and they had refused to allow plaintiffs to complete the work after the builders' failure, or to pay them anything further. Subsequently the plaintiffs did complete for the defendants; but the claim for this was really a separate matter, and the amount payable will be ultimately agreed or inquired into. The defendants' architects had had the usual interviews with the plaintiffs over the estimates, etc., referring them to the builders for a "formal order." There was an absolute conflict of evidence as to what was said by each side at these interviews, and neither party had been businesslike enough to confirm what they did say in writing. The architects of the defendants as building owners swore that the plaintiffs knew quite well that they were to look to the builders, and to them only. The plaintiffs maintained that they understood they were dealing with the architects as agents of the owners. But neither side could say that the point of liability had ever been put plainly to the other, and the usual correspondence, also, as usual, came to nothing definite.

Mr. Justice Rowlatt, who heard the case, which lasted several days, pointed out that there was nothing to prove that the plaintiffs knew who were the building owners when they sent in estimates and did the work. They dealt entirely with the architects, and they did not seem to have regarded them as agents for principals, even though undisclosed. The Judge, finding a direct conflict of evidence as to what was said at their interviews, with no written confirmation on either side, decided that the fact of the plaintiffs having debited the builders with their account, showed an election to charge them as the party liable, and he decided that there was no contract between the plaintiffs and the defendants. It may be noted here that this way of keeping the account would usually follow on the order having been given by the contractors, and would hardly seem conclusive in the trade, while it fails to give any weight to the other fact, that the defendants had made payments direct to the plaintiffs as their work proceeded. As to the second part of the case, regarding the builders as agents for the defendants, the building owners, as undisclosed principals, the Judge held that there was no evidence if any authority to W. J. Fryer and Co. to pledge the credit of the defendants, the owners, in regard to this special work. So, in the end, there was judgment for the defendants, with costs of the action, the sum payable to plaintiffs for the work done after the builders' failure to be adjusted. The Judge concluded by saying that "these disputes ought not to occur." We have repeatedly expressed the same opinion in these columns. He pointed out that it was perfectly easy for architects ordering work

of sub-contractors to make the position clear as to the builder's sole liability, and so protect their client, the building owner. That would certainly be good business. At the same time, once more the building owner in fact gets the benefit of the sub-contractor's work and material without his being paid for it, and, remembering the judgment of Mr. Justice Channell in a similar case, we think that more may yet be heard of the matter.

To Mr. Basil Auderton, M.A., and his coadjutors of the public library of the City of Newcastle-on-Tyne, all credit is due for the most useful Catalogue of Books of the Useful Arts, covering the years 1903-14, just published as a supplement to the original catalogue of 1903 of the books in the city library. The scheme of classification is lucid, and the index is an excellent one. The subjects are grouped under Useful Arts in General, Medicine, Engineering, Agriculture, Domestic Economy, Communication and Commerce, Manufactures, Mechanic Trades and Amateur Manuals, and Building. Pages 182-193 will especially interest many of our own readers. If more library authorities published such guides as this to the information attainable on their shelves, we venture to think the recourse thereto by all concerned would be beneficially and largely increased, and we recommend the volume to the study of all who desire the real purpose and usefulness of our public libraries to be furthered.

At the meeting of the City Corporation yesterday (Thursday) afternoon, Mr. G. W. Young, the chairman of the Streets Committee, brought up the following recommendation, which had been referred back for verbal amendment at the meeting a fortnight previously: "That His Majesty's Government be asked forthwith to obtain power for the determination of contracts with companies for the supply of goods imported from any country with which this country is at war, or manufactured, or partly manufactured, in any such hostile country, and for the determination of contracts with companies which are or were, on and subsequently to the first day of January, 1914, under the management of, or a majority of whose directors or shareholders are or were, during the said period, born subjects of any such hostile countries." The recommendation was adopted *nem. con.*, without discussion.

We congratulate Mr. Percy Henry Adams on his vigilance, as reported in our *Legal Intelligence* this week, and heartily endorse the magistrate's commendations. More of us might beneficially keep our eyes similarly open. There is a letter in last Wednesday's *Westminster Gazette*, from Mr. W. H. Ward, M.A. (Cantab.), F.S.A., A.R.I.B.A., in which he finds fault with a well-known London hotel for discharging some half-dozen naturalised German waiters, intimating that the only answer he "can make to the vicious patriotism of the directors" is to withdraw his custom. This is a free country still, and Mr. Ward is fully entitled to dine where he likes. And so are the rest of us promptly to follow his example if any hotel ever again employs German waiters, naturalised or not, as we hope we all shall. It may be, as Sir William Lyster told his hearers on Wednesday, that in "business" we have no enemies in Germany. As architects we have registered a protest against outrages which have

degraded Germans to a level of barbarism which places them outside the pale of association in any capacity with civilised beings, and which no amount of soft or other soap will efface for generations.

OBITUARY.

We regret to hear of the death of Mr. John James Webster, M.Inst.C.E., of 39, Victoria-street, Westminster, S.W., which took place suddenly on the morning of the 30th ult., at his residence, 81, Mount Nod-road, Streatham Hill, S.W. The funeral took place on Tuesday at Norwood Cemetery. Mr. Webster was well known as a designer and builder of notable bridges and piers in various parts of the country. He was born in 1845 at Warrington. He designed and constructed promenade piers at Dover, Bangor, Minehead, Llandudno, Menai Bridge, Egremont, and other places. Amongst his bridges are those at Cambridge, Bedford (two), Guildford, Northwich, and Warrington. His other work included the reconstruction and widening of Conway Suspension Bridge, the Portsmouth Bascule Bridge, Littlehampton Swing Bridge, and Cemaes Bridge, near Abergavenny. He also constructed the Widnes and Runcorn Transporter Bridge, and designed the gigantic wheel at Earl's Court and the Stadium in which the Olympic sports were held.

Mr. William Henry Hunt, of Westholm, Alresford, Hants, architect, who died on September 19, left £19,398 gross.

A new parsonage at Broughton, near Eccleshall, was dedicated last week. Messrs. Scrivener and Son, of Hanley, were the architects, and Mr. Felton, of Croxton, was the builder.

The Hereford Rural District Council have appointed Mr. Britten, at present surveyor to the Dover Rural District Council, as surveyor for their south district, in succession to Mr. R. C. Cordon, resigned. The salary is £150 a year, rising to £160.

The Sidmouth Urban District Council have accepted the tender of Mr. A. Carter, jun., of Exmouth, at £9,395, for the erection of forty-eight workmen's dwellings at Salter's Meadow, Landport, Sidmouth. The work will be proceeded with at once, and the houses be ready for occupation in twelve months. The plans were prepared by Mr. R. W. Sampson, architect, Sidmouth.

A report on the proposed new water supply for the city of Perth has been prepared. The scheme favoured is that of acquiring ground on the property of Bertha, on the north bank of Almond, where the latter joins the Tay, and there building a large pond into which water from the Tay could be pumped and allowed to settle before being pumped into the city reservoir. The estimated cost is £125,000.

At the meeting yesterday (Thursday) of the City Corporation, the Lord Mayor, Sir T. V. Bowater presiding, it was, after a long discussion, decided to appoint as the successor to Mr. H. Montague Bates, principal clerk in the Public Health Department (who retires in April next under the age regulation), Mr. W. P. Bicknell, at present the second clerk, at a salary of £700 a year. At the same meeting it was reported that the seven statues from Westminster Hall, offered by the Government in May of last year as a loan in perpetuity, had now been accepted by the trustees of the Crystal Palace, with the approval of H.M. Office of Works.

By his will, dated June 16, 1914, the late Sir Francis Powell, LL.D., R.W.S., P.R.S.W., of Torr Almain, Dumon, bequeaths to the Glasgow Art Club the album of water-colour drawings, in two volumes, presented to him by the members of the Royal Scottish Society of Painters in Water-colours. He leaves to the Royal Scottish Society of Painters in Water-colours a portrait of himself by Sir Lawrence Alma Tadema, O.M., R.A. To the Royal Society of Painters in Water-colours, London, he bequeaths his large water-colour picture, "Scurr Dubh," Loch Coruisk, if unsold at his death. Upon the termination of the life rent provision in favour of his wife, he directs his trustees to realise the whole residue of his means and estate, and to divide the residue in equal shares to and between the Royal Scottish Society of Painters in Water-colours and the Royal Society of Painters in Water-colours, London.

PROFESSIONAL AND TRADE SOCIETIES.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.—The winter session of the Birmingham Architectural Association was opened last Friday night, when the president (Mr. G. Salway Nicol) delivered his address. The association, he said, proposed to have an annual exhibition of architectural work, which would be thrown open to the public, the object being to stimulate interest in a branch of the art not generally sufficiently recognised and supported. It was essential for the progress of architecture that the public should support it. The association wished to take up the position of an advisory body to public authorities who were contemplating important building schemes, in order to avoid the many mistakes often made in the initial conception of big projects. Architecture depended not only upon the design of buildings, but also upon the skill and intelligence of those who carried it out; therefore they proposed to use their influence towards the training of skilled craftsmen in the schools of Birmingham. Having referred to the desirability of instituting lectures on architecture at the University, Mr. Nicol mentioned that in Birmingham they had some very fine buildings, but they were not looked after properly. They were often spoiled by ignorant additions and alterations. They had, for instance, in the Bull Ring an old market hall of very considerable merit in design, but it was evidently not considered so by the authorities, judging by the manner in which it had been treated. The lower part of the building had been covered completely with vulgar cast-iron sheets which spoiled the whole thing, and instead of a gain to the architecture of the city they had a great loss. There was, however, great hope for the architecture of a place like Birmingham if sufficient public sympathy and support were forthcoming.

INSTITUTION OF CIVIL ENGINEERS.—By the unanimous vote of the members of the Institution of Civil Engineers, the Kaiser's name was last Tuesday night removed from the roll of honorary members. In proposing that this step should be taken, the retiring president, Mr. G. Lister, said that civil engineers could no longer allow to remain on their roll the name of one who had sanctioned the conduct of war in such a brutal manner, and who alone was responsible for the present world misery. An appeal was made by the retiring president to the members on behalf of the Prince of Wales's National Relief Fund as his last official act before vacating the chair to his successor, Mr. Benjamin Hall Blyth, M.A.

MANCHESTER GAS ENGINEERS.—At the meeting of the Manchester District Institution of Gas Engineers, held on Saturday afternoon at the Grand Hotel, Manchester, Mr. J. G. Newbigging, chief engineer of the Manchester Gas Department, was re-elected president. All the other officers and members of the committee were also re-elected. Mr. James Braddock, of Radcliffe, one of the founders of the Institution, forty-four years ago, has been appointed honorary treasurer, in succession to the late Mr. Thos. Newbigging. Grants of ten guineas were made to the Prince of Wales' National Relief Fund and the Belgian Relief Fund. A sum of fifteen guineas was voted in aid of the Manchester University lectures on gas-meters.

THE SOCIETY OF ARCHITECTS.—In order that injustice shall not be done to graduates or students of the Society on active service, the Council have decided to suspend all the Society's competitions for the coming session, and, in the case of those on active service, to waive the age limit, so that all may start fair when the competitions are resumed in the following session or when the war is over, whichever shall happen first. The Council have approved the work done by the holders of the Travelling Studentship and Scholarship during the present session. The holder of the former, Mr. Charles Bell, of Aberdeen, receives £25 and a silver medal, and the holder of the latter, Mr. F. M. Cash-

more, receives £10. The Scholarship Competition this year only produced two entries, probably owing to the war. The designs were not considered of sufficient merit for the Scholarship to be awarded, but a prize of the value of £5 5s. has been given to the winner, Mr. Charles Bell, of Aberdeen.

ULSTER SOCIETY OF ARCHITECTS.—A general meeting of the members, associates, and students of this society was held at the society's rooms, 9, Howard-street, Belfast, on Friday, the 30th ult., at five o'clock p.m. The president (Mr. N. Fitzsimons) occupied the chair, and there was a good attendance of members. The hon. secretary (Mr. T. W. Henry) intimated that apologies for absence had been received from Messrs. T. Houston, F. H. Tulloch, Captain J. Ferguson, Lieut. J. R. Young, and Lieut. E. R. Kennedy. The minutes of the previous meeting having been read and confirmed, Mr. Gilliland moved, and Mr. R. M. Young seconded, that the secretary be instructed to send a letter of condolence from the society to Mr. W. C. Maxwell, on the great loss he had recently sustained by the death of his father. The objects of the war committee, which had been appointed at the request of the Architects' War Committee in London, were explained to the meeting by the president. A gratifying response to the war committee's appeal for volunteer services was received from the members of the society. A vote of thanks, passed by the Council of the Royal Institute of British Architects, thanking the Ulster society for holding and conducting the recent examinations of the Institute in Ulster, was read. The president said that it was gratifying to report to the meeting that, after considerable correspondence with the Board of Architectural Education of the Royal Institute of British Architects, the board had deputed one of its members to visit and report on the work of the Architectural School at the Belfast Municipal Technical Institute, and expressed the hope that after a favourable report the board would grant their formal approval of the scheme of architectural education in Belfast. A meeting of the war committee of this society was held at the rooms of the society, 9, Howard-street, Belfast, on Friday, the 23rd ult., at 3.30 p.m. The president (Mr. N. Fitzsimons) occupied the chair. The correspondence with the Architects' War Committee in London was read, and a number of matters arising out of the war conditions were discussed and dealt with by the committee. The Royal Institute of British Architects wrote asking for a list of Ulster architects at present serving with the Colours, and it was intimated that there were at present seven of the Ulster men at present with the Colours.

The chancel of the parish church of Tasburgh, Norfolk, is to be re-roofed, and a new organ-chamber will be provided.

Mr. James Jones, architect, Dolwen, Rhyl-lwysul Rural District Council.

Plans have been prepared in the office of the United States Supervising Architect for the enlargement of the Treasury Building, which is one of the oldest public structures in Washington, D.C.

At the last meeting of the Powley Regis Urban Council it was announced that the sanction of the Local Government Board had been received to a loan of £3,098 for laying out the cemetery at Powke-lane, Blackheath.

Mr. Alfred Shuttleworth has presented to St. Swithin's Church, Lincoln, a carved oak canopy, the design being that of Mr. Walter Tapper, F.R.I.B.A., of St. John's Wood, N.W. A similar canopy has been presented by Mr. Shuttleworth to All Saints' Church.

When the Local Government Board sanctioned the first instalment of the Rochdale Corporation sewage works extension at Roch Mills in May, 1911, they insisted that the second part of the scheme should be taken in hand within four years. The first instalment, which cost £31,500, was completed in September, 1913. Now pressure is being put on the corporation to undertake the second part and Mr. S. S. Platt, the borough surveyor, has been instructed to get out particulars regarding the work.

Building Intelligence.

EDINBURGH.—The works of extension and reconstruction in connection with the wash-houses at South Gray's Close and Greenside have now been completed, and the establishments have been reopened for public use. At South Gray's Close the older part of the premises, which were erected some twenty years ago, had to be demolished, and the buildings have been remodelled for the corporation. The establishment now consists of seventy washing-stalls, with hydro-extractors and drying horses. At Greenside, where a somewhat restricted area of ground was only available for extension, the building has had to be carried out on a minor scale. The engineering work in both cases has been carried out under the supervision of the city architect, Mr. J. Anderson Williamson, A.R.I.B.A.

HEDON.—A site of twelve acres of land at Salt End, near Hedon, on the river Humber, four miles from Hull, has been acquired by the Anglo-Mexican Petroleum Products Co., Ltd., of Finsbury-court, E.C., for an oil-storage installation. On this site an oil-storage depot, now approaching completion, has been constructed for the company by Messrs. S. Pearson and Son, Ltd. Four 95ft. storage-tanks, each capable of holding 45,800 barrels, and two 75ft. tanks, holding 28,800 barrels each, making a total of 236,800 barrels, or 33,800 tons, for fuel oil and other heavy products, and six 75ft. tanks for paraffin and motor spirit, capable of holding 26,800 barrels each, have been constructed, while storage accommodation for liquid bitumen for road-dressing is also provided. The future programme comprises further 95ft. and 75ft. tanks for paraffin and motor spirit. Tanks having accommodation for lubricating-oil storage on a scale corresponding to the above figures are also to be constructed hereafter. The tanks are surrounded by a wall consisting of clay and earth, sufficiently high to contain the contents of these tanks, so as, in the case of fire, to safeguard the surrounding property. There are some 3,000 yards of 6in. and 8in. diameter pipe lines with valves and fittings connecting the tanks with the discharging berth, pump house, barrelling shed and ear-filling standards. The boiler-house is equipped with a water-tube boiler designed to supply steam at a pressure of 160lb. per square inch. In the pump house are two steam-driven pumps for handling the heavy products, and in a separate building similar pumps are installed for paraffin and motor spirit. A barrelling and coopeage shed of corrugated iron, 95ft. long by 45ft. wide, is being built. About 500 yards of railway sidings, with weighbridge, are being constructed.

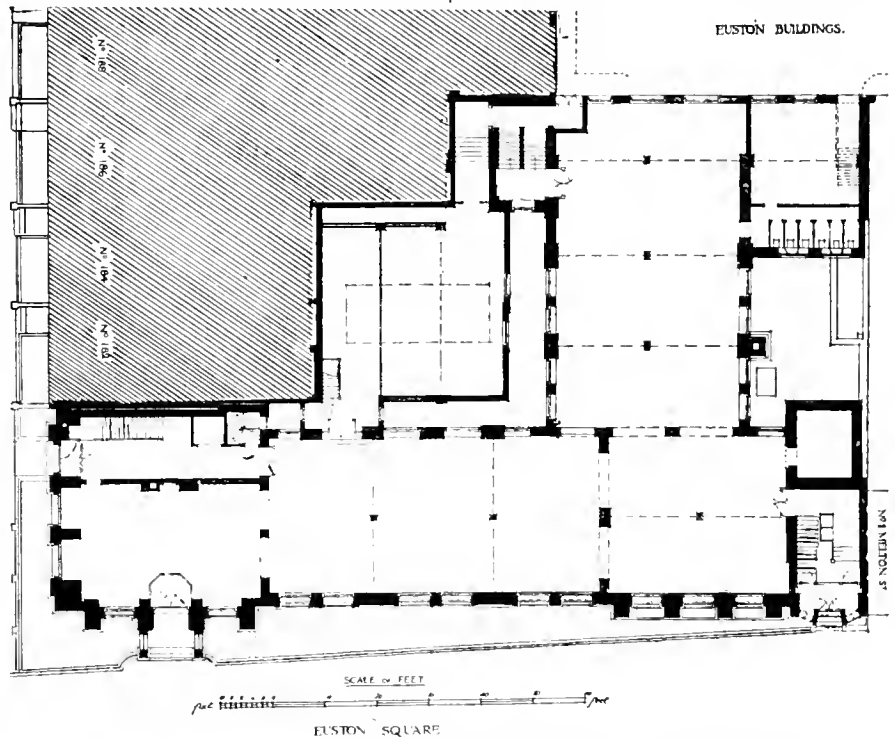
PORTOBELLO, N.B.—The new town hall at Portobello, built in this Firthside suburb by the Edinburgh Corporation under the terms of the Annexation Act, was opened on Friday. It occupies the site of Inverey House, in the High-street, which has been widened to 60ft., the new frontage being set back another 35ft. The hall, exclusive of the platform and a committee room over the entrance, accommodates 1,000 persons. It is approached by a central vestibule leading into a crush-hall 45ft. by 15ft. At either end of this hall staircases lead to the gallery level, while on the ground floor on either side of the central approach are cloak and retiring-rooms. The hall has been provided with two side corridors, which are taken out of the total width of the hall, thus reducing the projection of the galleries. At the first-floor level is the committee-room, which is capable of seating 120 persons. The platform, which is 30ft. wide at the front and 27ft. 6in. deep, is flanked by an ornamental proscenium, opening 33ft. 6in. in width by 25ft. 6in. in height. The main hall is 80ft. by 58ft. and 38ft. high. The roof is semi-elliptical in section and is pierced in its length at the spring by five semi-circular lunettes on either side. These are filled with easement windows. The roof is of steel construction and is finished in plaster, with

ornamental ribs placed between the lunettes. These main ribs are divided into sunk coffers, with mouldings slightly enriched, and the roof has dividing panels in plasterwork. The floor of the hall is laid on timber joisting for acoustical reasons, and a special dancing floor has been provided. This is constructed of pitch-pine, highly wax-polished, but the top is covered by means of a redwood floor in sections, which will form the floor when the hall is used for meetings. A cinema box has been erected at the upper part of the back gallery, and under the proscenium opening a cinema screen has been introduced. The hall has been equipped with

Our Illustrations.

NATIONAL AMALGAMATED APPROVED SOCIETY OFFICES, EUSTON ROAD, N.W.

This great organisation of Approved Societies under the Insurance Act has occupied and extended the modern block of offices on the west side of Euston-square. The perspective view shows the addition of a fourth floor which has been recently erected by Messrs. Foster and Dicksee, Ltd. The work was carried out from the designs of



NATIONAL AMALGAMATED APPROVED SOCIETY, EUSTON ROAD, LONDON.

Professor BERESFORD PITE, F.R.I.B.A., Architect.

electric-light fittings. Externally the building has been treated on a simple scheme of Renaissance. The work has been carried out from plans and under the supervision of the city architect, Mr. James A. Williamson, A.R.I.B.A. The cost has been £8,000.

Clydebank Dean of Guild Court had a busy morning on Monday, when plans for the erection of various buildings to cost over £50,000 were passed.

Works of sewerage for the village of Burntwood have just been commenced for the Lichfield Rural District Council. The contractors are Messrs. Childs and Withers.

A scheme is under consideration with a view to providing employment for carvers and cabinetmakers at High Wycombe. The local relief committee suggest a scheme of oak panelling and other work in the Guildhall and the town hall which would give employment to some sixty or seventy men.

A new Roman Catholic church is about to be built in Walsall-road, Cannock. It will accommodate five hundred persons, and its estimated cost is £5,000. Built of red brick, with stone dressings, it will have two chapels, a priest's sacristy, a choir (38ft. by 24ft.), a choir sacristy (37ft. by 15ft.), and the nave and aisles will be 62ft. by 51ft.

The Epsom Urban District Council has accepted a tender for the erection of sixteen houses for the working classes. At the suggestion of the Local Government Board, with a view to reducing the cost of the houses, it was decided to reduce the thickness of the walls from 14in. to 11in., introducing the principle of the cavity wall. An undertaking was given to the Local Government Board that the council will forthwith apply for an amendment of the existing by-laws so as to allow of the erection of 11in. brick cavity-walls for two story buildings.

Professor Beresford Pite, the architect of the original building. The drawing which is here reproduced was exhibited at the Royal Academy during this summer. The plan shows the area of the building facing Euston-square.

ST. MARY'S CHURCH, HARROGATE.

The small key-plan in the corner of the perspective shows the shape of the site for which Mr. Walter H. Brierley, F.S.A., designed this building, the boundary line tapering from north towards the east till the churchyard terminates in a rounded end, to obviate too acute an angle. The sacristy is consequently set back on the north side to accommodate the splay referred to, and the groined memorial chapel is designed to project beyond the eastern wall of the chancel for this same reason, the morning chapel for everyday use being situate at the end of the south aisle. The tower is shown to come over the south-west porch. This drawing, reproduced among our illustrations to-day, was accorded a post of honour in the middle of the west wall of the gallery when hung on the line at the Royal Academy Exhibition this year. The church is now in course of erection at Harrogate, from the plans of Mr. Walter Tapper, F.R.I.B.A., whose design we illustrated by a pair of views on Oct. 10 last autumn, he being the architect chosen in a limited competition. Stone is being used in the execution of the work in accordance with his drawings.

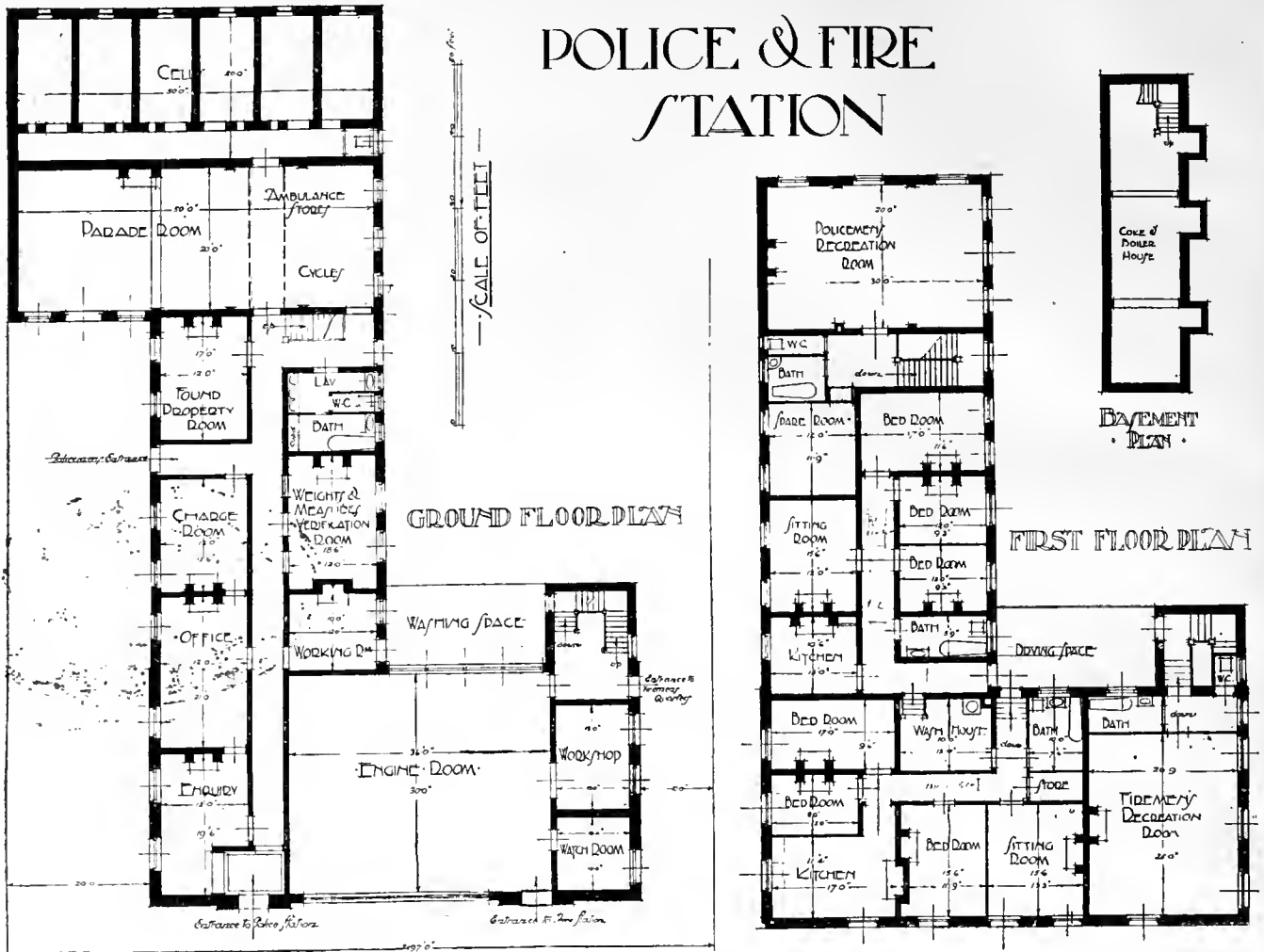
POLICE AND FIRE STATION AT REIGATE, SURREY.

(SELECTED DESIGN.)

The number of competitors for this building must have been large, because the first promuted set was numbered 78. The

BOROUGH OF REIGATE

POLICE & FIRE STATION



SELECTED DESIGN.—Mr. JOSEPH SUNLIGHT, Architect.

accompanying drawings illustrate the design finally adopted by the Reigate Town Council, after some minor revisions were made on the competition plan. It has been found expedient for economic considerations to dispense with the tower contained in the first competition design. In its place the staircase wing overlooking the drilliard will be carried up in the form of a tower, with the hose suspended in a well. Further facilities are provided for drill by fixing ladders on the side facing the drilliard. The architect is Mr. Joseph Sunlight, of St. Ann's-square, Manchester. The plans given herewith illustrate the arrangements, which are compactly and conveniently contrived. Mr. Vincent E. Harris, F.R.I.B.A., was the assessor.

ASTON HALL, WARWICKSHIRE.

(Our description of this double page will be found in our first article this week.)

The Hull Corporation have adopted a scheme for the new George-street district which is to involve an expenditure of upwards of £100,000, and includes the provision of 250 model dwellings for working class families.

At a meeting of Oakengates Urban District Council a letter was read from the engineers stating that the total cost of the sewerage scheme already carried out was £15,350, whereas the loan was only for £14,220—an excess over the loan of £1,130. This was accounted for by the engineers chiefly owing to the increased prices of material, between the preparing of the estimate and the letting of the contract. They further stated that it was imperative that the sewerage of New-street and Slaney-street be carried out before the wet weather sets in, in order to complete the scheme. It was resolved to send plans to the Local Government Board asking for sanction to a loan to cover the cost.

COMPETITIONS.

ARMY AMBULANCE DESIGNS.—Among the prizes offered by the Company of Coach Makers and Coach-Harness Makers of London for competition among British subjects engaged in coach and coach-harness making and motor-body making, or members of classes in connection with these trades, are two for designs for a horse-covered Army ambulance and two for those of an improved stretcher. For the best set of drawings for the ambulance, the Master, Mr. Charles J. Bennett, will give seven guineas, and the Company its silver medal. Particulars of these and the other competitions have been issued by the Clerk to the Company from the Hall, Noble-street.

LIVERPOOL.—The corporation invite designs for workmen's dwellings, to accommodate about 500 persons, and proposed to be erected on the site known as the Rathbone-street area. Premiums of £100, £50, and £25 respectively are offered for the first three selected designs, and the council have appointed Mr. H. Hartley, F.R.I.B.A., 8, Harrington-street, Liverpool, as assessor in the competition. The first premiated design will become the property of the corporation. A plan of site, together with a copy of the printed conditions and instructions, will be forwarded to the applicant on payment of a deposit of one guinea, which will be returned on the receipt of a bona-fide set of drawings. Designs and particulars of same are to be delivered at the office of Mr. E. R. Pickmere, town clerk, Municipal Offices, Liverpool, by 5 p.m. on February 8.

TUBERCULOSIS HOSPITAL, SOUTH-END-ON-SEA.—Members and Licentiates of the R.I.B.A. are advised that the conditions of the above competition are not in accordance with the Institute regulations, and the

Competitions Committee are in correspondence with the promoters with a view to their amendment.

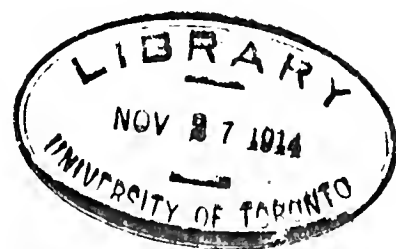
VANCOUVER, B.C.—An open competition is being held for plans for developing the new Civic Centre at Vancouver. To form the Civic Centre the following buildings will be grouped: City Hall, Public Hall and Auditorium, Public Library, Technical College, Museum and Art Gallery. It is proposed that the City Hall be erected first. In all probability the construction of the Technical College and Public Library will be undertaken soon afterwards. Next in order will be the Public Hall, to be followed by the Museum and Art Gallery. The City of Vancouver and the Provincial Government own an area of approximately eight acres, which will probably form the nucleus of the scheme. Designs must be addressed to the Secretary, Vancouver Civic Centre, Board of Trade Rooms, Molson's Bank Building, Vancouver, on or before twelve o'clock noon in the 30th inst. The committee's award will be made not later than December 31, after which date the designs will be exhibited in Vancouver.

The Local Government Board have sanctioned a loan of £6,750 to the corporation of Reading for road improvements.

The council of Sheffield University at their meeting on Tuesday appointed Mr. H. J. Davies to be demonstrator in Engineering, and Mr. F. Orme, B.Sc., to be demonstrator in Non-ferrous Metallurgy.

The death is announced of Mr. W. Edward Woolley, surveyor, Leicester. Mr. Woolley was the senior member of the firm of Messrs. W. E. and M. T. Woolley, Rectory Place, Loughborough, and last year was the President of the Surveyors' Institution.

589-592.





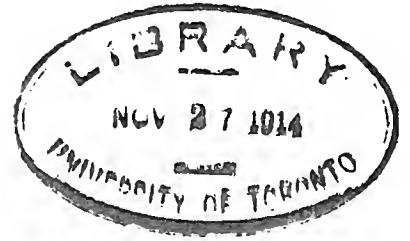
THE NATIONAL AMALGAMATED APPROVED SOCIETY'S OFFICES.



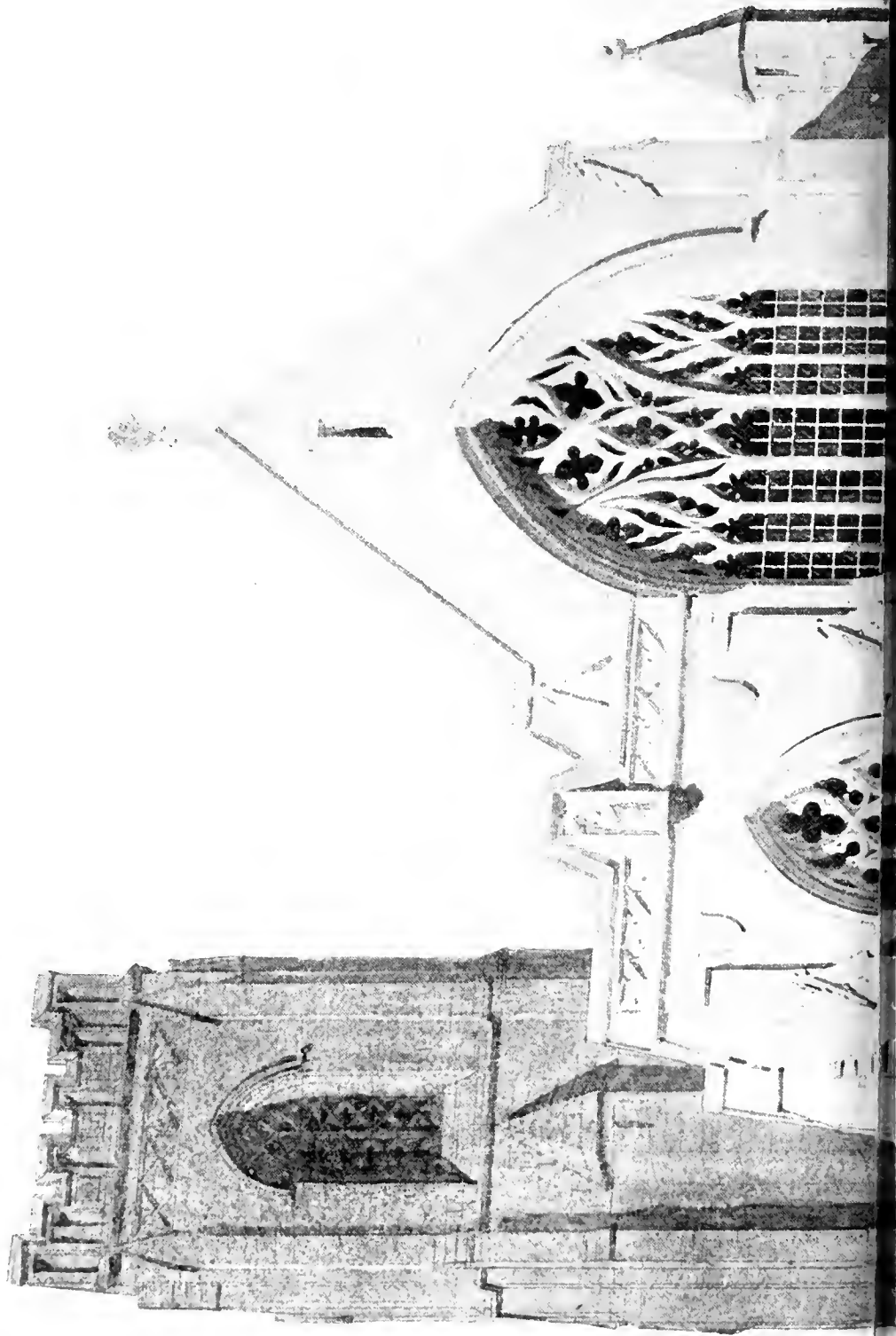
EUSTON ROAD, N.W.—Professor BERESFORD PITE, F.R.I.B.A., Architect.

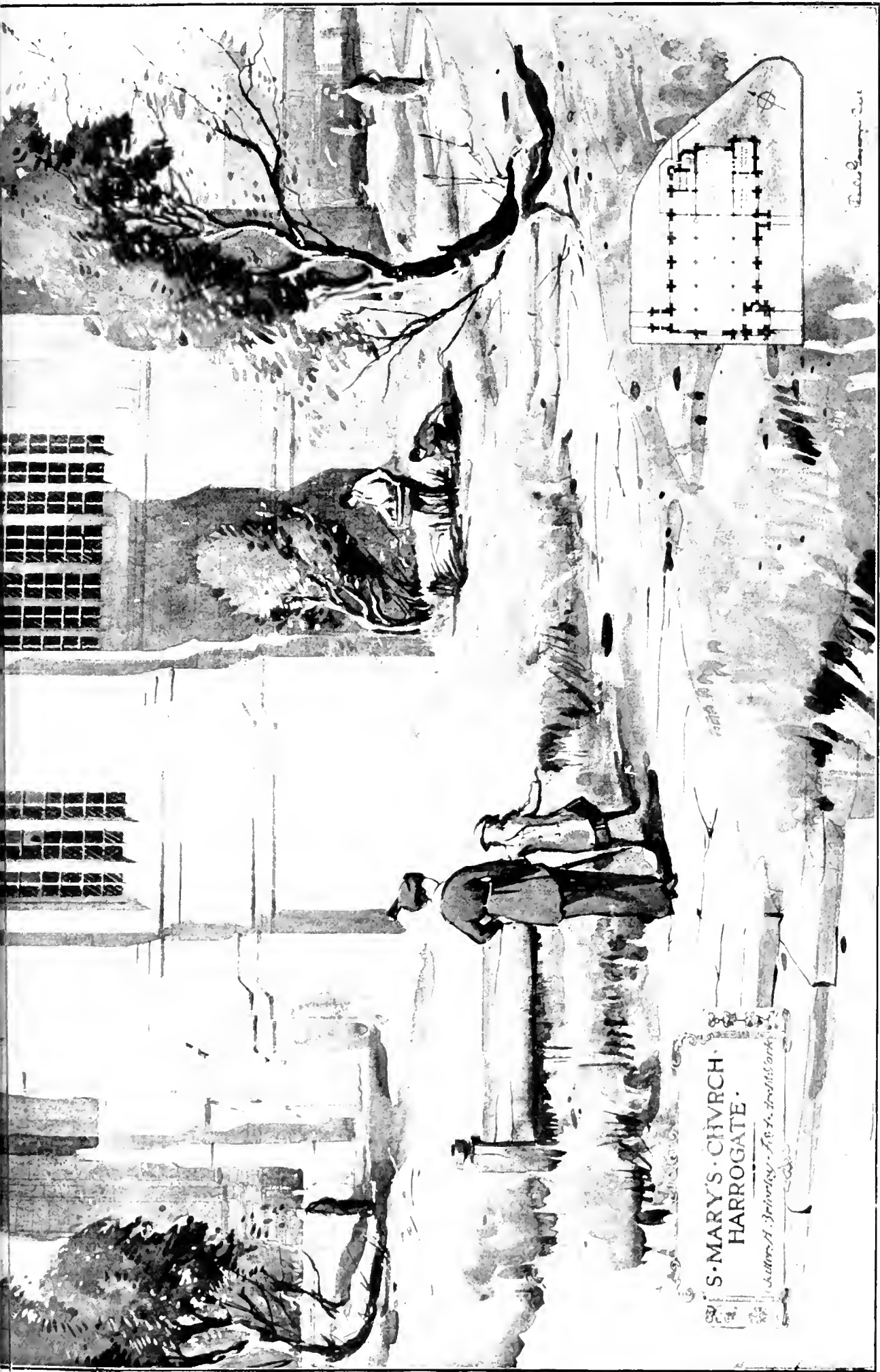


593-596



THE BUILDING NEWS, NOVEMBER 6, 1914.

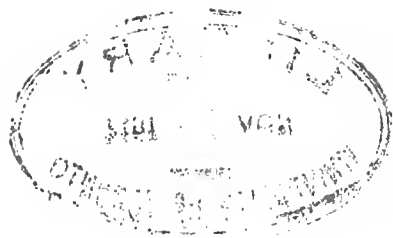




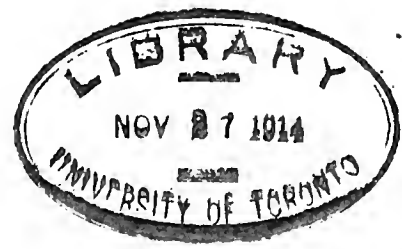
ST. MARY'S CHURCH.
HARROGATE.

Walter H. Brierley, F.S.A., Architect.

ST. MARY'S CHURCH, HARROGATE.—Designed by Mr. WALTER H. BRIERLEY, F.S.A., Architect.



597-600



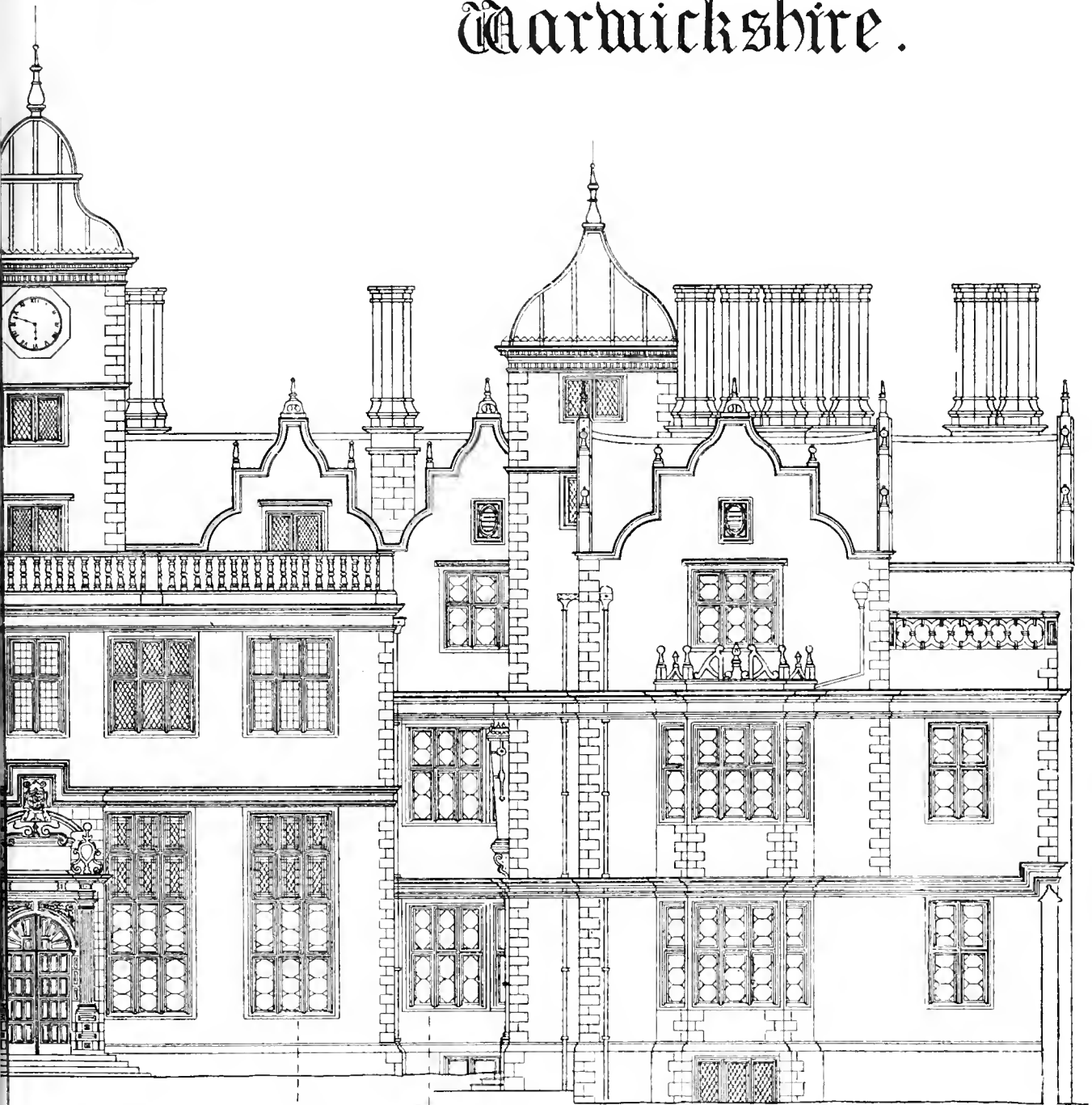
Aston Hall,



Entr

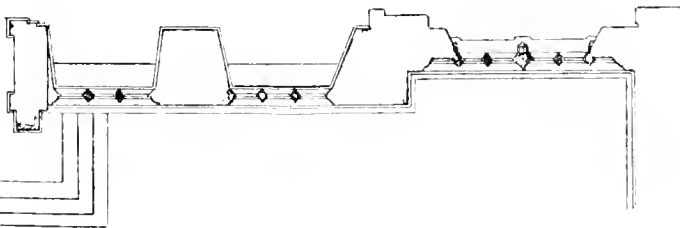
Gr

Cardwickshire.

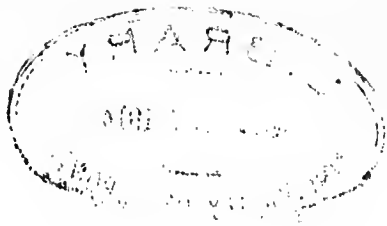


Front.

A B

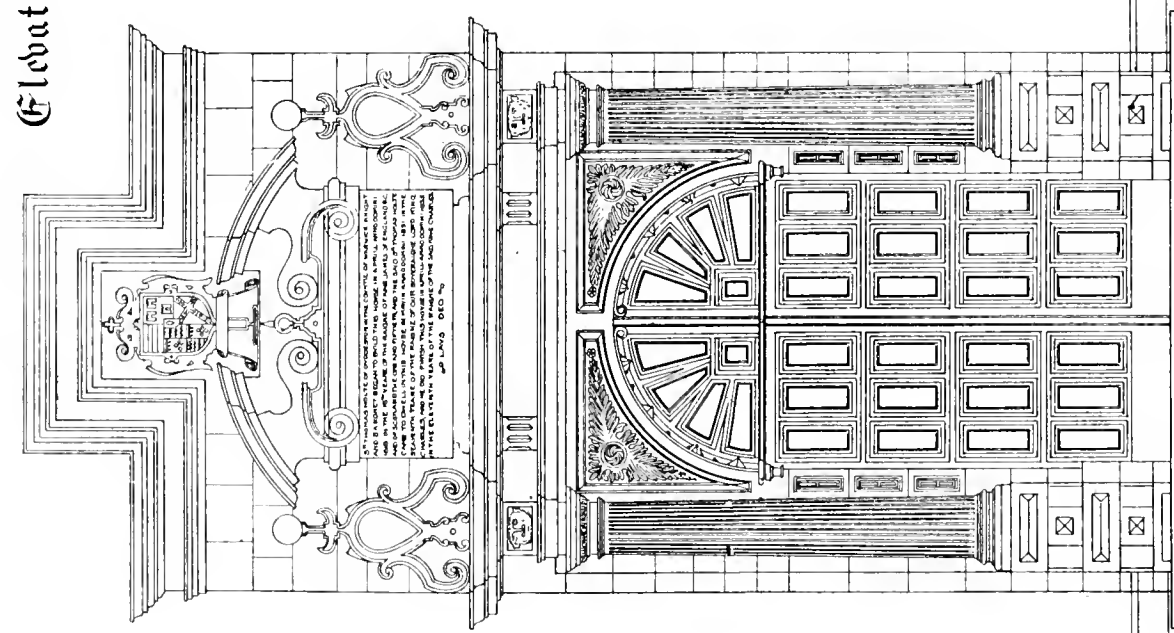


Plan.

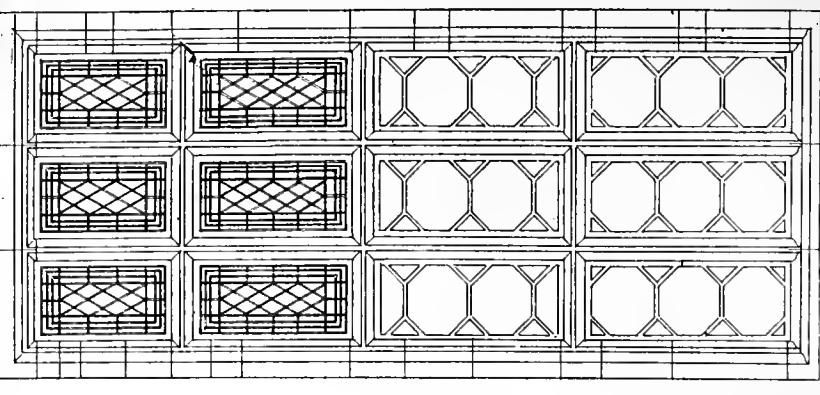




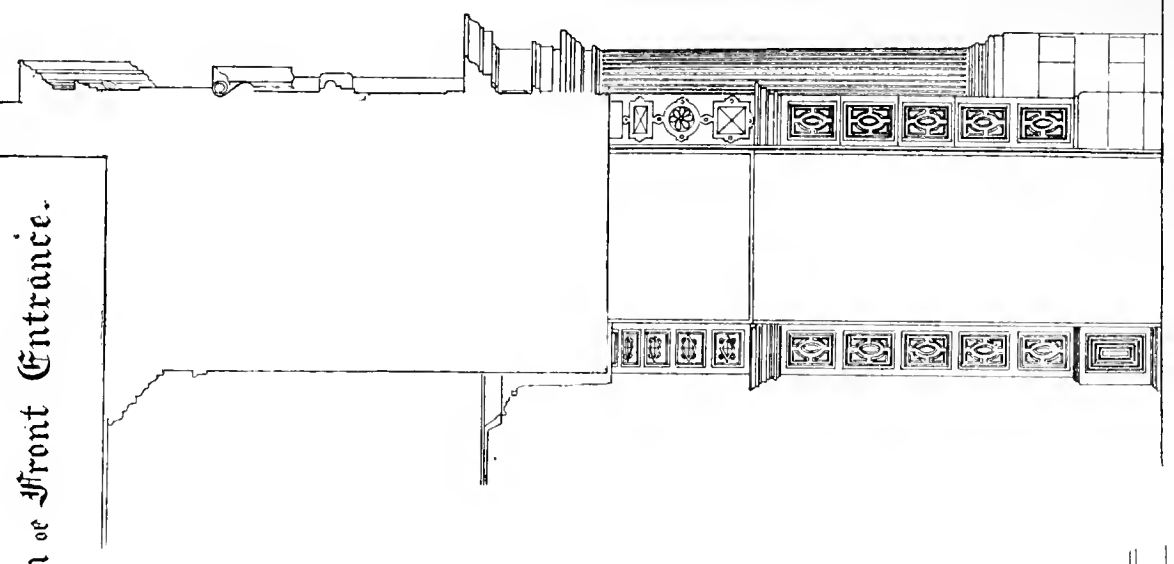
Elevation of Front Entrance.



Elevation of Window A.

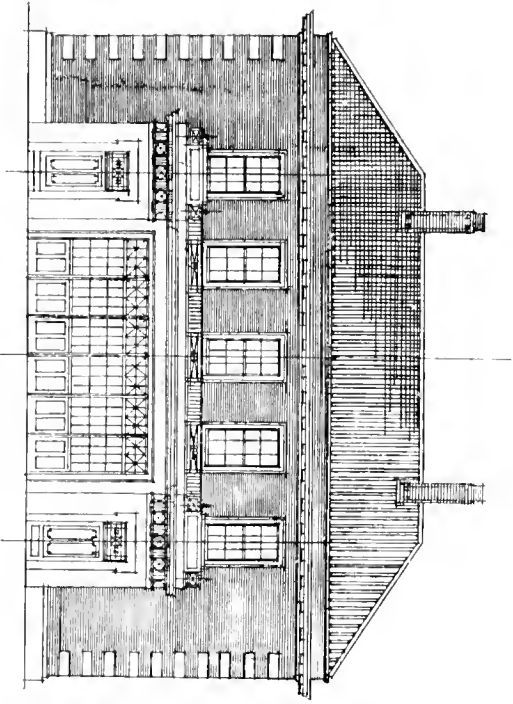


Section through Entrance.

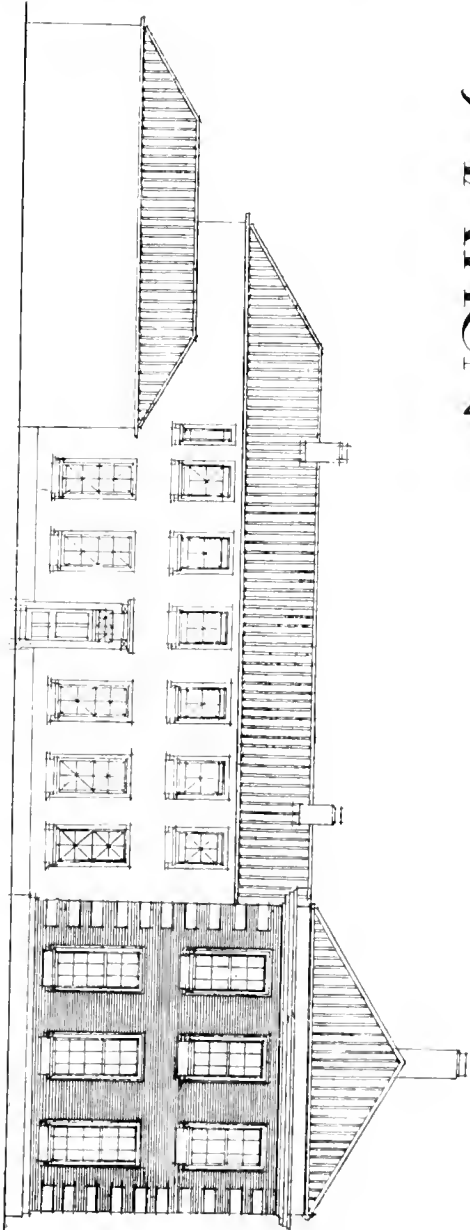


ASTON HALL, WARWICKSHIRE.—ERECTED A.D. 1618-1635. Attributed to JOHN THORPE, Architect. Details Measured and Drawn by Mr. F. E. WILLIAMS, Architect, 1914.

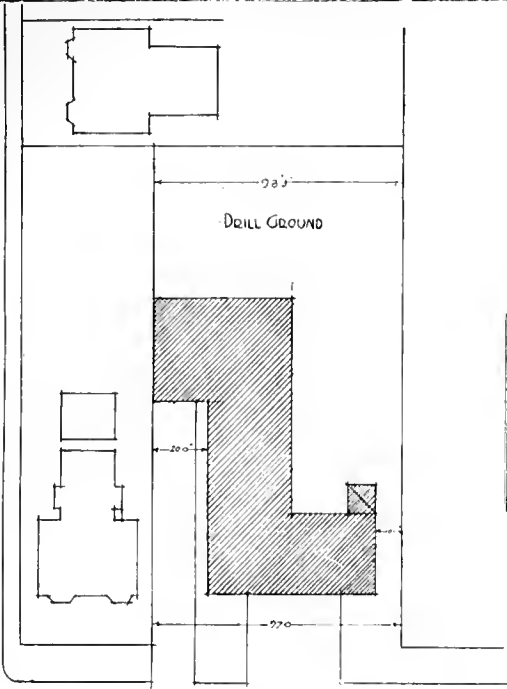
BOROUGH OF REIGATE PROPOSED POLICE & FIRE STATION



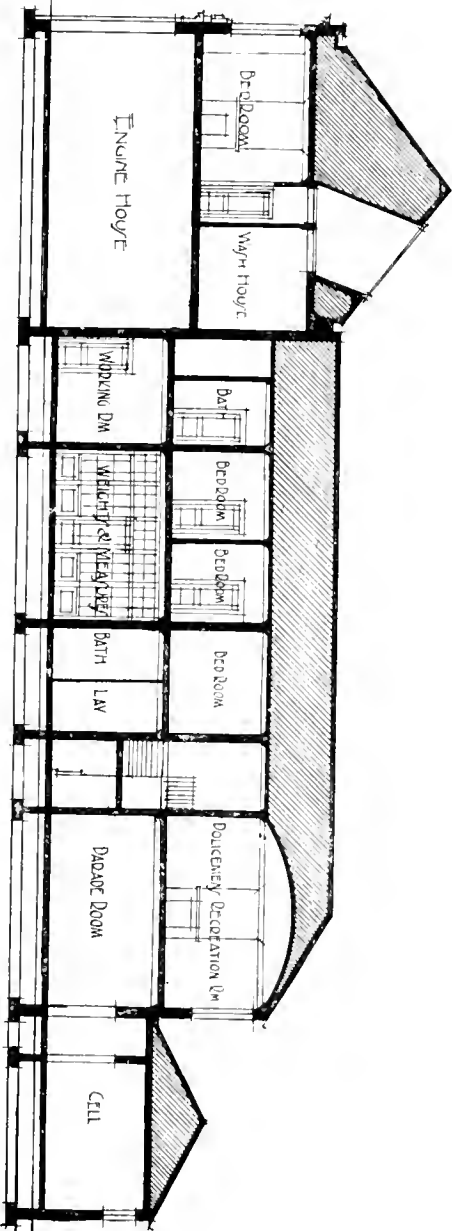
FRONT ELEVATION



SIDE ELEVATION

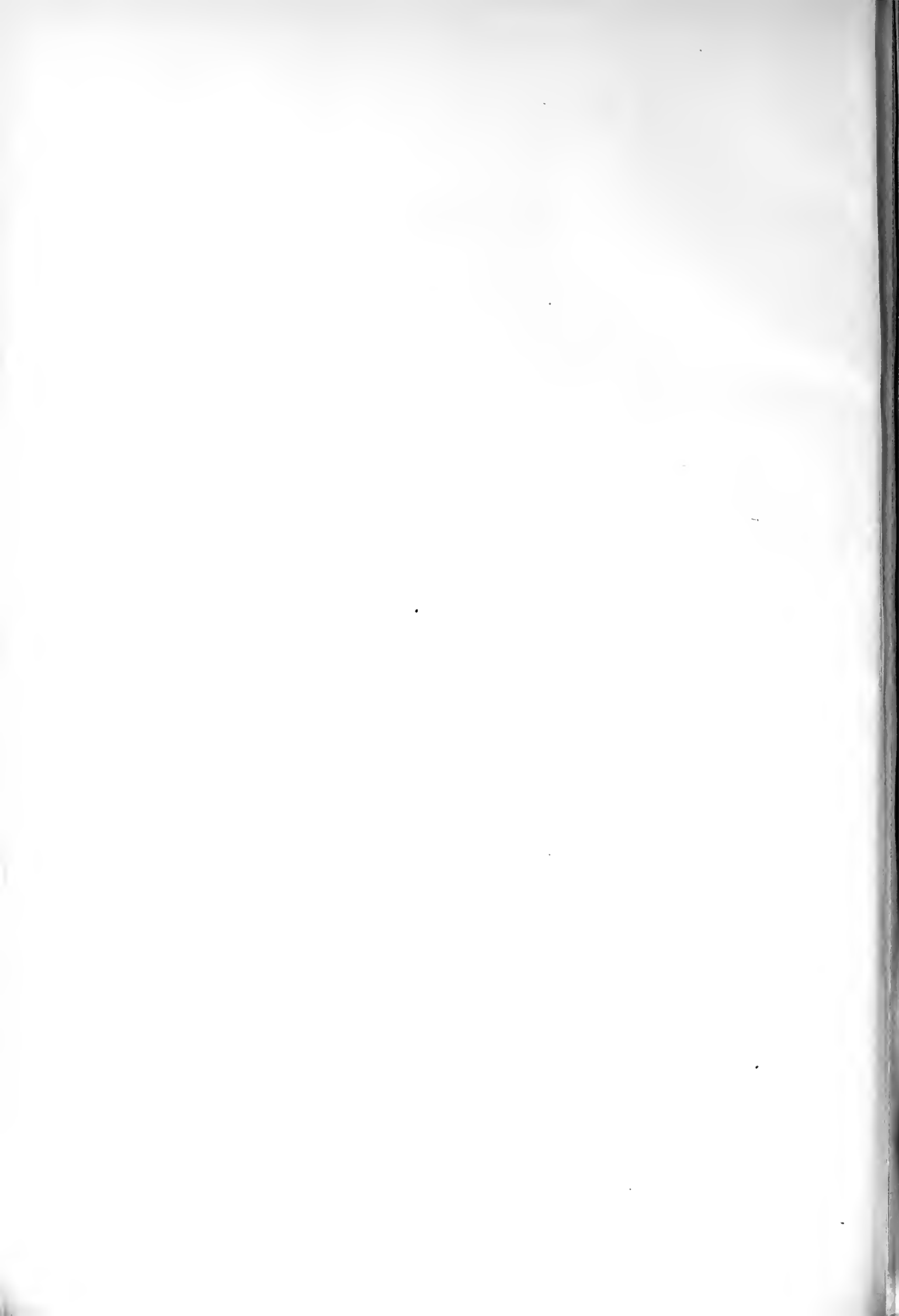


DRILL GROUND



SECTION A-B

SELECTED DESIGN.—MR. JOSEPH SUXMIGHT, Architect.



LEGAL INTELLIGENCE.

THE ARCHITECT AND THE ALIEN.—At Woolwich Police-court, on Tuesday, Georg Rozum, 36, a German artist, of Frome-street, Islington, was charged with travelling more than five miles without a permit. A police-inspector said the man registered himself in August as an Austrian. Mr. Percy Henry Adams, A.R.I.B.A., of West Hampstead and Craven-street, Charing Cross, W.C., said that he was travelling from Cannon-street to Eltham on Monday, and the prisoner entered the compartment at London Bridge. The prisoner spoke to someone else in the carriage, but did not appear to understand the answer, and witness asked, in German, whether he was a German. Rozum replied that he was a Bavarian, and witness asked to see his police permit, whereupon he produced a book showing that he was a member of the Landsturm. When he left the train at Eltham, Mr. Adams gave him in custody.—Rozum said he had been in England four months, and was seeking employment with a firm of lithographers at Eltham.—The magistrate, in ordering a remand, thanked Mr. Adams, observing that he acted with great discretion.

DISPUTED BUILDING CONTRACT.—In the King's Bench Division, on Friday last, Mr. Justice Rowlatt delivered judgment in the case of Richard Moreland and Son, Ltd., builders, of 80, Goswell-place, v. the Bosch Magneto Co., Ltd., of 40 and 42, Newman-street, Oxford-street. The action was brought to recover a sum of £2,639 13s. 2d. for work done and materials supplied in connection with the erection of certain buildings in Tottenham Court-road. The case was fully reported by us last week. The question at issue was one of liability as between the building-owners (the defendants) and their builders, Messrs. W. J. Fryer and Co., Ltd., and the case turned largely on the relations between the plaintiffs and the defendants' architects, Messrs. Hobden and Porri. For the defence it was contended that there was no privity of contract between the plaintiffs and the defendants after the failure and liquidation of Messrs. Fryer and Co, while building operations were still in progress, and one of the questions which his Lordship had to determine was as to the terms upon which the plaintiffs, as sub-contractors to Messrs. Fryer, were allowed to proceed with their steel and concrete work after the failure of Messrs. Fryer. His Lordship, in giving judgment, said the trouble in this case had been caused by the failure of Messrs. Fryer, defendants' builders, to pay the plaintiffs for work which in the ordinary course, if all had gone well, they would undoubtedly have been paid for. The question was whether the plaintiffs could make the defendants liable. At the end of 1912, Messrs. Hobden and Porri, the defendants' architects, were on the look out for someone to supply the constructional steel and concrete work that was required for the defendants' new buildings, and they got into communication with the plaintiffs, who sent in a quotation. Meanwhile the tender of Messrs. Fryer for the building work had been accepted, and on February 27, 1913, Messrs. Fryer wrote to the plaintiffs for a copy of their estimate. On the following day the plaintiffs wrote back to say that their estimates had been sent to Messrs. Hobden and Porri, and they referred Messrs. Fryer to them for the copy asked for. That letter was relied upon by plaintiffs' counsel as showing that at that stage the plaintiffs were unwilling to trust Messrs. Fryer at all and were scrupulously keeping out of relation with them, and were confining their dealings to the defendants. He was bound to say that that was not the real inference to be drawn—he thought it was incorrect. These gentlemen had called upon the architects and had asked them if Messrs. Fryer had the contract, and had asked the architects to be their friends in the matter, and that was how it was that they asked Messrs. Fryer to get the copy from the architects. It was suggested that during February there was an attempt by Messrs. Fryer to get the plaintiffs to reduce their figure, and he thought there probably was. He saw no reason for disbelieving the evidence on that point. On April 4 there was another letter from Messrs. Moreland to the architects conceding a reduction in the price of steel and dealing with matters of detail. That was relied upon as documentary evidence that Messrs. Moreland were offering to sell these goods and to do this work for the addressees of the letter. He did not think that was borne out. The evidence was not clear as to whether at that time Messrs. Moreland knew who were the building-owners. He did not apprehend that Messrs. Moreland knew much about them at any time. What was the effect of that? If they did not know who the building owners

were, they were offering to contract with Messrs. Hobden and Porri or their principals, whoever they might be. If they did not know who the principals might be, prima facie they were dealing with Messrs. Hobden and Porri. If Messrs. Hobden and Porri were not to be parties to the contract as agents making themselves liable as contractors who had a principal behind them, the plaintiffs, on their argument, were looking to Messrs. Hobden and Porri's building-owner. Conceivably they might have done so without knowing who he was or what he was, or what his standing was. He should think it not an improbable conclusion that they did so. The offer of Messrs. Moreland was accepted at an interview which was referred to in a letter of April 8, which read: "In accordance with your wish, we (Messrs. Hobden and Porri) have now arranged with Messrs. Moreland to supply and fix the steelwork," etc. That letter recorded a bargain made by Messrs. Hobden and Porri with the plaintiffs for the supply of these goods to Messrs. Hobden and Porri's principals, the building-owners. He (the Judge) did not think it was a contract at all; he did not think it was meant to be a contract. An arrangement was not necessarily a contract. He thought that what was done was that the architects on one side and Messrs. Moreland on the other were simply provisionally naming a figure at which the work would be done without binding anybody to order the goods. They had come to an understanding that that would be a firm offer if the arrangement proceeded. Therefore he thought that there was no direct contract with the Bosch Magneto Co. He had said he did not think there was a contract. Messrs. Moreland did not think so—they debited the builder with the work done. He thought that the fact that they so debited the builder was a very important matter. The vendor had elected to charge one of the parties to the exclusion of the other. On these grounds he had come to the conclusion that the first point of the plaintiffs—namely, that there was a direct contract between the plaintiffs and the Bosch Magneto Co.—failed, and he intimated as much to Mr. Cohn (defendants' counsel) when he saw the documents. If he was wrong in doing so, of course he would be put right. The second part of the case seemed to him more difficult. It was now said that although the contract was made with Messrs. Fryer, still there was an undisclosed principal—the Bosch Magneto Co.—behind. The question whether the building-owner could be made responsible, as an undisclosed principal, for specialities in a building contract had been considered in several cases. The right of the vendor or contractor to recover against an undisclosed bankrupt did not depend upon any transaction to which the vendor was expressly a party. He might think, and generally did think, that he was contracting solely with a person who turned out to be an agent on the other side; but if it turned out that the agent was a principal, although acting as agent in the matter, then that was a piece of luck of which the other party to the contract could avail himself on finding out. Whether he could do that depended upon whether the contract was made by the person alleged to be agent on behalf of the undisclosed principal, and under authority to create privity of contract between the undisclosed principal and the other party to the contract. There must be authority to create privity of contract. It had been held that the builder was an agent who was merely buying special things for his principal, so that the principal could be made liable if he was discovered. But it did not follow, where they had a prime-cost sum, that that was the intention. There was nothing in law to prevent a person saying to his builder, "Although this is a prime-cost sum, I am not going to have my credit pledged. Please let it be understood that I am not your principal, and don't hold me as your principal." It seemed to him that the authorities did not go the length of saying that whenever they got a state of affairs indicated by the bills of quantities and specifications in this case, that was enough. It was necessary to look at the position between the parties, and in this case it negatived the view that the builder had the building-owner's authority to pledge his credit. He thought that the cases which had been referred to in argument did not apply to cases where there was an undertaking by the builders, such as they found in these specifications, covering the work which was to be done by the specialist men. Therefore he thought the plaintiffs' case failed. The only other question was as to how he should deal with the work done by the plaintiffs after the stoppage. It was clear that Messrs. Moreland were not going to do this work when they were not getting paid by Messrs. Fryer, after the crash had come, unless

the Bosch Magneto Co. paid them. They said that they ought to be paid £450 for the balance. The answer to that was that they agreed to take the valuation of the architects as arbitrators. He (the Judge) could not possibly assess the sum, and he hoped the parties would agree to some amount. If necessary, but at their own risk, he supposed the plaintiffs would be entitled to an inquiry on that point. In conclusion, he might be permitted to make one general observation, and that was that these disputes ought not to occur. It was perfectly simple, perfectly easy, for architects to make the position clear, and he thought that the building-owner was entitled to have the position clear. It was perfectly easy to say, in writing, "Understand we have no authority to pledge, and we are not pledging, the credit of our principals." And when they went to the builder, it was perfectly competent for them to deal with the other side by saying, "Nothing in this contract is to give the agent the right to pledge the credit of the owner with the specialities man." He did not think these disputes ought to occur. Architects ought to make it their business to make the position of their clients so secure that they would not be exposed to these actions. He thought his judgment covered everything up to the time of the crash, and he thought the defendants ought to have costs of the action. His Lordship added that he would make a formal order after the parties had adjusted the matters remaining to be settled.

A BRISTOL APPEAL CASE.—An appeal from the Bristol County-court was mentioned before the King's Bench Divisional Court, consisting of Justices Coleridge and Shearman, on Friday. The case was that of the United Stone Firms, Ltd., of Bristol, v. Messrs. Curral, Lewis, Martin, Ltd. Mr. Macnaughton, for the appellants, said the matter was an appeal from the Bristol County-court to the High Court. The appeal was lodged on July 6, and since then the appellants had thought better of their course, and desired now to withdraw the appeal, submitting to pay the costs incurred on the appeal. But the appellants, being a company in liquidation when the appeal was lodged, the respondents asked them to provide security for the costs. The appellants agreed to do so, and paid into Court as security £50. There was now a question in regard to the County-court costs, as to whether they should be deducted from the £50 paid into Court as security, after the costs of the appeal had been paid. Their Lordships now ordered, however, that, subject to the costs of the appeal, the balance should be handed out to the appellants.

COMPENSATION FOR TUBE RAILWAY TUNNEL.—Mr. Charles Meeson, of Cornwall parade, Church Enl, Finchley, recovered in the London Sheriffs' Court, on Monday, £100 compensation from the London and North-Western Railway Company for anticipatory depreciation in the letting value of a house of which he is lessee in Adelaide-road, Kilburn, on account of the construction of a tube railway. The claimant claimed that the company should purchase the property or, in the alternative, pay the value of the easement. Two tunnels are to be constructed 53ft. below the surface, and under the claimant's house and garden. The Railway Company's Act prescribed that where the tube was carried at a greater depth than 40ft. a jury should decide what damage, if any, was occasioned.

GERMAN PATENT SHUTTER.—At the Patent Office, Southampton Buildings, Holborn, on Friday, before the Comptroller (Mr. Temple Franks, Pickering, Ltd., Globe Elevator Works, Stockton-on-Tees, made application to suspend a German patent for lattice shutters. Mr. M. B. Mountain, of Victoria street, S.W., applied in regard to the same patent. Mr. G. K. Mills, who appeared for the appellants, said the patent was for an openwork shutter which rolled up flexibly in one direction, and was much used in Germany and Austria. Messrs. Pickering proposed to employ the shutters first in connection with lifts, whereas Mr. Mountain proposed to employ them for shop fronts. The Comptroller remarked that not more than one license seemed necessary if Messrs. Pickering could make all that was required. The patentee's agent suggested that Mr. Mountain's application would be quite well served if he withdrew and made some arrangement with Messrs. Pickering. Mr. Mountain agreed to withdraw provisionally. Mr. J. Forthgill, managing director of Messrs. Pickering, said he thought the additional expense involved by new plant would be about £300 or £400. They thought a fair price for the patent would be 5 per cent. on the invoice. Asked if the 10 per cent. royalty would not be fair, witness pointed out that the firm would have to pay the initial

cost of putting the patent on the market. The Comptroller said the license, if granted, would be for the period of the war. The patentee would be bound to offer him a reasonable license at the end of a term. In regard to the royalty, he asked if the patentee would accept $\frac{7}{8}$ per cent. The agent agreed to do so, and the inquiry closed.

ARBITRATION CASE AT BEDWAS.—Messrs. the Tre-Thomas No. 1 Building Club v. Messrs. Wm. Williams and Sons, New Tredegar, Mon., Contractors.—An arbitration took place some time ago between the Tre-Thomas Building Club, Ynysibir, and Messrs. William Williams and Sons, contractors, of New Tredegar, respecting the erection of 250 houses at Bedwas, and the award has now been taken up. Mr. David Morgan, F.R.I.B.A., to whom the dispute was referred, sat for eight days, and the proceedings were of a complicated character. Mr. A. T. James (instructed by Mr. D. Stanley Jones, Pontypridd) appeared for the club, and the contractors were represented by Mr. Ivor Bowen, K.C., and Mr. Hugh Jones (instructed by Messrs. Spickett and Sons, Bargoed). The original contract amounted to £44,484, of which £37,731 10s. 7d. had been paid to the contractors when the club took possession owing to the alleged want of diligence in proceeding with the work. The contractors contended that they were well in advance with their work when notice to take possession was given, and that there were certificates and money due to them. For the club, evidence was given by Mr. James T. Jenkins, M.S.A., architect, Porth, who was architect for the club; Mr. H. J. Gregory, architect, Porth; and Mr. Arthur L. Thomas, architect, Pontypridd; also Mr. Gomer Morgan, C.E., of Pontypridd. For Messrs. Wm. Williams and Sons, evidence was given by Mr. J. H. Phillips, architect, Caerphilly; Mr. R. S. Griffiths, architect, Tonypanddy; and Mr. James Turner, builder and contractor, Cardiff. In his award Mr. David Morgan found that the amount due to the contractors was £29,042 13s. 2d., less £869 18s., making the net sum now due £41 4s. This sum he awarded to the contractors, together with the costs of the arbitration proceedings. In the amount, £41 4s. awarded to the contractors there is included the sum of £350 for plant and materials. The arbitrator awarded also that the club were to have complete possession of the site, building plant, and materials thereon, which are to belong to the club absolutely.

Liverpool City Council have decided by an overwhelming majority to cease all dealings with some German firms under contract to supply certain requisites in connection with the city tramways, regardless of consideration for any legal question which such action might involve.

An edifice which was used as the parish church of the village of Aislaby from 1752, when it was built, until 1899, when a more seemly and commodious church was erected, has been transformed into a parish hall, and was opened by the Archbishop of York last week. The cost of the alterations and repairs—which have been carried out by Mr. W. Lawson, of Sleights, to plans by Mr. E. I. Hubbard, and under the supervision of Mr. A. E. Young, architect—has been £354. The alterations comprise a dado of pine, a new boarded ceiling and floor, and general repairs.

A creamery has just been opened at Campsey Ash, near Wickham Market, on a site given by the Right Hon. the Speaker. It comprises on the ground floor a general-purpose room, 49ft. by 26ft., cold store 20ft. 6in. by 14ft., washing-room, engine-room 38ft. by 12ft., and pump-room. On the first floor are milk and cheese stores. The walls are built with a cavity, and the roofs are insulated, to secure an even temperature. Messrs. Brown and Burgess, of Ipswich, were the architects, and Mr. G. R. H. Allen, of Wickham Market, was the builder. The engines were supplied by Messrs. Garrett, of Leicester, and the refrigerating plant by Messrs. T. and C. Hall, Ltd., Dartford.

At the recent meeting of the Lancashire Education Committee, it was reported that in March, 1910, the committee received from the Board of Education a list of 205 schools or departments the premises of which were regarded as unsatisfactory. The committee entered into an arrangement with the Board of Education that before March, 1917, the committee would have these schools put in order. The number of unsatisfactory school premises had been reduced from 205 to 25, and in the case of 15 of these new premises would have to be constructed. Of these 15 five would be built by voluntary school managers and the other ten by the county council.

Our Office Table.

The new issue of the R.I.B.A. Kalendar, published on Wednesday, shows a total of 858 Fellows, against 851 at the corresponding period of last year, the number of retired Fellows remaining as then, 32; there are now 1,694 Associates, against 1,621 in November last; while the class of Licentiates is beginning to show the inevitable reduction in numbers, due to deaths and other causes, the numbers now being 2,045, against 2,089. There are 12 Hon. Fellows, as against 10; 55 Hon. Associates, against 53; and 65 Hon. Corresponding Members (among whom are ten architects or archaeologists resident in Austria-Hungary and eight in Germany), against 67 last year. Altogether the roll-call shows an increase of 38 names for the twelve months.

It is understood that, in view of what has been disclosed at Antwerp and other places during the war, the Wood Green Council are having a thorough investigation and examination in that place, for the purpose of ascertaining the circumstances under which any unusual depth of concrete may have been used in factories or other buildings. For this purpose building contractors will be asked to furnish all information available, and special attention will be paid to houses occupied by persons of any nationality with which Great Britain is at war. A very wise precaution, especially with regard to structures erected of late by the "British" German firms who have been employed, and in view of the plausible "explanations" being put forward of the nature and purpose of some of the structures which are not unreasonably exciting suspicion.

According to the annual return, just published, there are 632 rural district councils in England and Wales. The sums repaid last year for principal and interest on sewerage and sewage-disposal works was £290,490, and on waterworks £161,431. The aggregate length of roads under the supervision of the council was 99,963 miles, comprising 5,027 miles of main roads. The average cost per mile of main roads in England was £85 16s., and in Wales £74 5s. On other highways the cost per mile was: England, £25 7s., and Wales, £15 18s. The sum raised by rates to meet general expenses during the year was £2,711,022, equivalent to an average rate of 1s. 2d. in the pound on the total assessable value. The highest rate in the pound for general purposes was 3s. 9d. and the lowest 1d. Rates raised during the year for special expenses amounted to £873,579, equivalent to an average rate of 8.8d. in the pound, the amount varying from a small fraction of a penny to 5s. 13d.

At the October meeting of the Todmorden Town Council it was agreed to support the memorial of the Society for the Protection of Ancient Buildings to the President of the Board of Trade, protesting against the demolition of Todmorden Hall by its owners, the Lancashire and Yorkshire Railway Company, in connection with their scheme for widening the main railway line. Alderman Ormerod pointed out that this Jacobean building had a connection with the Crown, through the Earl of Clarendon in the 17th century, and contained one of the finest oak mantelpieces in the country. Councillor Starkie declared that to destroy the building would be a shameful piece of vandalism.

"Foundations," by Professor Malvered A. Howe, M.A.S.C.E. (London: Chapman and Hall, Ltd., 5s. 6d.), is a short, but useful, textbook on ordinary foundations, including a brief resumé of the methods used in difficult work. Most of the matter more concerns civil engineers, but architectural students may read the first two chapters with benefit. The illustrations are all actual American structures.

It is stated in the Consular report on the trade of Genoa that at present there is little scope for the expansion of the trade of the commercial port of Spezia unless marble can be attracted from Carrara for shipment

abroad. The bulk of this marble is sent from the Massa-Carrara district in small sailing-boats to Leghorn; but it is calculated that some 2s. per ton could be saved in the cost of freight by sending it to Spezia, which is closer at hand. Spezia does not at present possess the necessary accommodation or appliances for dealing with the marble traffic, and it is, therefore, unfortunate that the contract for the enlargement of the port has not yet been placed. This traffic would provide a return cargo for the British colliers discharging at Spezia, which almost invariably have to clear in ballast.

There is further trouble with the proposed new building by-laws for Montreal, and the adoption of a new code is still a long way off. More than two years ago the drafting of the code was put into the hands of a committee representing the architectural, engineering, and contracting interests, and in turn the duties were delegated to Messrs. W. J. Francis and J. Venne. These gentlemen, after many sittings and the lukewarm support of the city council, drafted a number of by-laws, which were sent direct to the council without being referred to the general committee. The council asked the law department to study the code, and this entailed further delay. The city attorney's report is to the effect that the proposed new code will require revision to weld it into a harmonious whole. The matter has been referred to the legislation committee of the council.

Many East Anglian readers are familiar with the fine old red-brick building, Thoresby College, the door of which forms the main entrance to the property on Lym Harbour, known as the Thoresby Estate, occupied by Messrs. Kerner-Greenwood and Co., the sole makers of Pudlo, an illustration of which, and some interesting particulars, are given in "Charm No. 3," just issued by the firm to all architects, surveyors, and estate clerks of works in Great Britain. Thoresby was mayor of King's Lynn in 1502, and he built the college as a residence for priests. The door still bears the inscription, "Pray for the Soul of Thomas Thoresby, the founder of this place"; but at the time of the Reformation the words, "Pray for the soul" were chiselled out by the ascendant Protestants.

Among the several problems to be met in the recent construction of the concrete reservoirs in San Francisco was that of bonding asphalt to concrete. According to Mr. B. N. Abbott, after making unsuccessful attempts to apply the asphalt direct to the concrete in various ways, the expedient of first painting the surface with coal-tar was tried, and it was found that when applied in this way under right conditions the asphalt would adhere so firmly that after it had cooled it could not be broken away without bringing pieces of concrete with it. Mr. Abbott states that in order to secure this result the concrete surface was first scrubbed clean with a bristle brush, and over this a thin coating of hot coal-tar was "painted." The coal-tar should be heated in small quantities, brought just to the boiling point, and then applied immediately. Heating the coal-tar in large quantities, which necessitated some delay before it could all be used, did not give such good results, and the men were, therefore, not allowed to heat more at a time than they could apply quickly as soon as it began to boil. The asphalt was spread over the tarred surface in the usual manner.

The importance of conserving the existing timber resources and reserving areas for re-afforestation is receiving increased attention in South Australia. For some years tests with a view to establishing a comparison between the weight, strength, and other valuable qualities of the native and imported timbers have been conducted at the University of Adelaide. Some of the results attained were detailed in a lecture recently delivered by Professor R. W. Chapman, M.A., who mentioned that there were altogether thirteen different South-Australian-grown eucalypts, and some of them, when planed and polished, were exceedingly handsome. The sugar-gum (*Eucalyptus coryno-*

calyx) was one of the best-known timbers for strength. In fact, the Australian timbers generally were by a long way the finest for engineering purposes in the world. No other timber stood so successfully the drastic test to which the railroad sleepers were submitted. Another handsome timber was the manna gum (*Eucalyptus viminalis*), but it was not nearly so strong as the sugar-gum. So far as the physical properties were concerned, the best results were obtained from the pink gum, which grew over a fairly large extent of the country, but was a slow-growing tree. It was easily the State's best timber. It was wonderfully uniform, dense, and strong, and had an elasticity as strong as ash. The heaviest of the native timbers were the pink-gum, the sugar-gum, and the peppermint-gum, while the lightest was the red gum (*Eucalyptus rostrata*), which weighed, when seasoned, only 51lb. to the cubic foot. Sugar gums and stringy bark (*Eucalyptus obliqua*) made good beams. A comparison of the strength of the latter with that of the English oak proved the ratio to be 14 to 11, a considerable advantage in favour of the local timber. In one test of pressure across the grain, a specimen of Murray box, 8in. by 3in., had easily stood a pressure of 100,000lb.

Three new bells added to the peal in the tower of Chulmstock Parish Church have been dedicated by the Bishop of Exeter.

The United Methodist Chapel in Gill-street, Moston, near Middleton, which was recently destroyed by fire, has been rebuilt at a cost of £5,000, and was reopened on Saturday.

Mr. William Richard Rowland, of Ropley House, Fenny Stratford, retired timber merchant and contractor, died July 23 last, aged sixty-seven, leaving 39,792 gross, with net personalty £22,932.

Mr. R. S. Hetherington, an inspector of the Local Government Board, held an inquiry at Lewes on Tuesday, respecting an application from the town council for sanction to borrow the sum of £22,334, for works of sewage disposal.

The road board has provisionally sanctioned the scheme of the Chelmsford Town Council for widening Galleywood-road at an estimated cost of £5,000. Sir Daniel Gooch, Bart., has offered to give the necessary land required on the west side for the widening of the road.

Mr. Leonard Aldridge Tigar, A.M.Inst.C.E., of Southampton, has been appointed on the permanent staff of the public works department of the Federated Malay States. Mr. Tigar was a pupil of Messrs. Lemon and Blizard, Southampton.

The Pitt River bridge, in British Columbia, which has been built for the Canadian Pacific Railway Co., at a cost of £1,000,000, is nearing completion. The contractors for the sub-structure were the Foundation Company, and for the super-structure the Dominion Bridge Company.

The committee of the London Institution, in Finsbury-circus, have notified the continuing members that their rooms must shortly be vacated, in order that H.M. Office of Works may pull down the old building, and proceed with the erection of a suitable structure for the proposed School of Oriental Studies.

At the annual meeting of the Court of Governors of the National Library of Wales, held at the National Library temporary buildings, Aberystwith, Mr. Herbert Lewis, M.P., presiding, it was reported that the subscription to the building fund amounts to £17,095, but £3,000 more is needed to secure a second Treasury grant, and a further £6,000 to meet the contract now being executed.

The town council of Swansea have agreed to make application to the Local Government Board for authority to borrow £331,891, the estimated cost of carrying out the construction of a main intercepting sewer from the present borough boundary at Morriston to the Mumbles Head. The new sewer will provide for the requirements of a population of 250,000.

After three years' work, the Munster Grenchenberg tunnel, the longest now under construction wholly in Swiss territory, was pierced last week. The tunnel, which runs under the Jura range, is five and three-eighths miles long, as compared with five miles ninety-four yards of the Hauenstein tunnel. The traction is to be steam, and the new line, of which the Munster-Grenchenberg tunnel is part, is almost eight miles long. It will shorten by over ten miles the distance of the route via Delo to Lütchberg and the Simplon lines.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (TO-DAY).—Glasgow Architectural Craftsmen's Society. "Steel Construction," by G. Maltby and P. B. Hogg. 8 p.m.

MONDAY.—Victoria and Albert Museum. "Churches of North Italy and Sicily," by Banister Fletcher, F.R.I.B.A. 4.30 p.m.

WEDNESDAY.—St. Paul's Ecclesiastical Society. "The Romance of Ancient Brasses," by Walter E. Gawthrop, F.S.A.Scot. 8 p.m. Manchester Society of Architects. "The Art of Englishmen," by Roger Oldham, B. St. Mary's Parsonage, Manchester. 6.30 p.m.

THURSDAY.—British Museum. "Egyptian Architecture," by Banister Fletcher, F.R.I.B.A. 4.30 p.m. Society of Architects. Presidential Address by E. C. P. Monson, F.R.I.B.A., F.S.I. 28, Bedford-square, W.C. 7.30 p.m.

FRIDAY.—Town Planning Institute. "The Industrial Village," by Percy T. Runtun, A.R.I.B.A. 22, Victoria street, S.W. 8 p.m.

The urban district council of the city of Ely has adopted a sewerage scheme involving an expenditure of £17,060.

The urban district council of Withernsea have received the sanction of the Local Government Board to a loan of £2,500 for extensions of water-supply mains.

The architect of the new Union Station to be built at Quebec for the Canadian Pacific Railway Co. is Mr. Harry Edward Prindel, 915, New Birks-building, Quebec.

The trustees of the New Park-road Baptist Church, Brixton Hill, are about to erect a church and Sunday-school building upon a site at the corner of Telford-avenue and Streatham-hill.

An application from the urban district council of Holywell for leave to borrow £13,560 for the purposes of a housing scheme was the subject of an inquiry held in that town, before Mr. W. H. Collin, an inspector under the Local Government Board, on Tuesday.

Plans for extensive additions to the buildings at King's College, Aberdeen, have been under consideration by the plans committee of the town council of Aberdeen. These include the extension of the library and the erection of an examination-hall. The estimated cost is £20,000.

The building has been commenced this week of the Shipley Art Gallery at Gateshead. The site is a central one in the Shipcote district, near the old high school for boys. The gallery will start with a nucleus of five hundred of the best pictures in Mr. Shipley's collection. The contractors are Messrs. J. and W. Lowry, of Newcastle-on-Tyne.

The New-road to Epping on the borders of the Forest is being improved and reconstructed by the Essex County Council in two sections, that from the boundary of the urban district council of Woodford's area to the Robin Hood being estimated to cost £8,900, and the second portion, from the Robin Hood to the Wake Arms Inn, being estimated at £9,200.

Mr. F. W. Higginbotham, a well-known master plumber, of Undercliffe, Bradford, was found dead on Monday afternoon. He was hanging in the yard adjoining his works, and when the body was cut down life was extinct. Recently Mr. Higginbotham had been in ill health. At the inquest a verdict of "Suicide while of unsound mind" was returned.

At St. Columb, on Thursday evening in last week, Mr. Roger G. Hetherington, A.M.I.C.E., Local Government Board inspector, held an inquiry into the application by the St. Columb Rural District Council for sanction to borrow £210 for the purchase of a freehold field, containing about 2½ acres, situate at Trekenning, St. Columb Major, as a site for the erection of working-class dwellings. Mr. H. J. Weeks, surveyor, explained the building scheme, and gave information as to the water supply and drainage of the houses to the inspector.

The rivers committee of the Manchester Corporation held a special meeting on Monday at the town hall of that city to consider proposals for undertaking certain main drainage works so as to relieve or prevent unemployment in the city during the winter months. The committee have a number of men well skilled in drainage-works whose employment is about to cease, and they wish to retain their services. They have therefore appealed to the finance committee to consider the matter and report to the city council as to its financial aspect. The proposed works are needed, but they would not in ordinary circumstances have been undertaken just now.

TRADE NOTES.

Under the direction of Mr. T. Edmund Rees, M.S.A., architect, Bank Chambers, Merthyr Tydfil, Boyle's latest patent "Air-pump" ventilator has been applied to the Tabernacle Chapel, Troedyrhiw.

Under the direction of Mr. Ernest J. Elford, A.M.I.C.E., M.I.M.E., Messrs. Doulton and Co., Ltd., of the Royal Doulton Potteries, Lambeth, are supplying and fixing their All Fireclay double-way down-draught hospital-ward stoves to the new sanatorium, Southend-on-Sea.

Wall Paper Manufacturers will pay no balance dividend. The directors announce that for the year ending Aug. 31 last the profits amount to £151,499, showing a decrease of £38,175 as compared with the previous year. An interim dividend of 2 per cent. was paid on June 30 last on the ordinary shares, but no further distribution is recommended. The balance carried forward, however, is £33,972 larger than a year ago, at £114,697. At this time last year a balance dividend of 3 per cent. was paid, making a total of 5 per cent. for the twelve months ending August 31, 1913, and in addition £50,000 was placed to reserve.

Mr. Frederick Taylor, of 60, Eltham road, Lee, S.E., builder, who recently died at the age of fifty-three, left personalty amounting to £19,108.

The Local Government Board have accorded their sanction to the borrowing by the Hemel Hempstead Rural District Council of £3,790 for a housing scheme.

The will of the late Mr. John Bean Martin, of Malvern Lodge, Stred, the founder of the cement firm of Martin, Earle, and Co., Ltd., has been proved at £30,526.

Mr. Percy Edgar Ridge, M.V.O., of H.M. Office of Works, died at his home at Twickenham on Sunday last, aged fifty-five years. The funeral took place at the cemetery, Sutton, Surrey, on Wednesday afternoon.

Mr. M. K. North, an inspector under the Local Government Board, held an inquiry at Hendon on Tuesday into an application by the urban district council for sanction to borrow £27,726 for works of street-improvement.

Among other works of archaeological interest now in progress at Delhi are the exploration of the subterranean passages radiating from the old wells in the neighbourhood of the Ridge, and said to be the work of Firozshah Tughlaq.

The fourth annual Exhibition of British Arts and Handicrafts was opened at the Maddox-street Galleries on Wednesday by Adeline Duchess of Bedford, and will remain on view until Saturday evening in next week. The primary object of the exhibition is to promote and find a market for British craft-work. Particular attention has been devoted to toy-making.

At a meeting of Staffordshire Education Committee on Saturday, the agricultural instruction sub-committee reported that a letter had been received from the Board of Agriculture dealing with the sketch plans of the proposed Staffordshire Farm Institute prepared by Mr. J. Hutchings, A.R.I.B.A., of Stafford, architect to the committee, in consultation with Mr. J. M. Hotchkiss, county estate agent, and Mr. J. C. Rushton, county instructor in agriculture, and adopted by the committee.

The Faversham Board of Guardians, like several other members of authorities on the eastern side of England, are afflicted with nervousness. The reason they allege for not proceeding at present with a scheme for providing cottage homes for children is "the possibility of hostile raids and hostile bombs." If the state of mind exhibited by the Faversham Guardians were general, there would be an end of all building operations in Kent and in every other county on the east, south-east, and north-east coasts.

The Society of Dyers and Colourists, through their various sections, are taking an active interest in the means of coping with the shortage of dye-works brought about by the war. At the invitation of the West Riding section, Dr. F. Mollwo Perkin, son of the late Sir W. H. Perkin, will lecture on "The Present Condition of the Artificial Colour Industry in England" at the College, Bradford, next Tuesday. A strong committee, established at the instance of the Manchester section, is obtaining information regarding the resources of the British maker of dyestuffs and intermediate products, and also the demands for the articles necessary to enable the trade of the country to proceed.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Table listing iron products such as Rolled Steel Joists, Wrought-Iron Girder Plates, Steel Girder Plates, Bar Iron, good Staffs, Do., Lowmoor, Flat, Round, or Square, Do., Welsh, Boiler Plates, Iron—South Staffs, Best Scedshill, Angles 10s., Tees 20s. per ton extra.

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

Table for Galvanised Corrugated Sheet Iron—No. 18 to 20, No. 22 to 24, 6ft. to 8ft. long, inclusive Per ton. Per ton. Best ditto.

Table for Wire Nails (Points de Paris)—3 to 7, 8, 9, 10, 11, 12, 13, 14, 15, B.W.G., 8/3, 8/9, 9/3, 9/9, 10/3, 11/1, 11/9, 12/6, 13/6 per cwt.

Table for Cast-Iron Columns, Cast-Iron Stanchions, Rolled-Iron Fencing Wire, Rolled-Steel Fencing Wire, Cast-Iron Sash Weights, Cut Floor Brads, Corrugated Iron, 24 gauge, Galvanised Wire Strand, 7 ply, 14 B.W.G.

Table for B.B. Drawn Telegraph Wire, Galvanised—0 to 8, 9, 10, 11, 12, B.W.O., £10 10s. £10 15s. £11 0s. £11 5s. £11 10s. per ton.

Table for Cast-Iron Socket Pipes—3in. diameter, 4in. to 6in., 7in. to 24in. (all sizes), Coated with composition, 5s. Od. per ton extra, turned and bored joints 5s. per ton extra.

Table for Pig Iron—Cold Blast, Lillieshall, Hot Blast, ditto.

Table for Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2 1/2 per cent)—Gas-Tubes, Water-Tubes, Steam-Tubes, Galvanised Gas-Tubes, Galvanised Water-Tubes, Galvanised Steam-Tubes.

OTHER METALS.

Table listing other metals such as Spelter, Silician, Lead Water Pipe, Lead Barrel Pipe, Lead Pipe, Tinned inside, Town, Lead Pipe, Tinned inside and outside, Composition Gas-Pipe, Lead Soil-pipe, Lead, Common Brands, Lead Shot, Copper Sheets, sheathing & rods, Copper, British Cake and Ingot, Tin, English Ingots, Do., Bars, Pig Lead, in low, Pigs (Town), Sheet Lead, Town, Country, Genuine White Lead, Refined Red Lead, Sheet Zinc, Old Lead, against account, Tin, Cut nails (per cwt. basis, ordinary brand).

SLATES.

Table for slates listing Blue Portmadoc, Blue Bangor, First quality, Eureka unfading green, Permanent Green.

BRICKS.

Table listing various brick types and prices: First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks for Facings, Flettings, Prestressed Wire Cables, Red Wire Cables, Best Faceband Red, Best Red Pressed, Rnabon Facing, Best Blue Pressed, Staffordshire, Ditto Bullnose, Best Stourbridge Firebricks, 2 1/2 in. Best Red Ac-crington Plastic Facing Bricks, 3 1/8" Accrington Best Red Plastic Facing Bricks, 3 1/8" ditto Second Best Plastic ditto, Ditto Ordinary Secondary Bricks, Ditto Plastic Engineering Bricks, Sewer Arch Brick not more than 3 1/8 in thickest part, 3 1/8" Chimney Bricks fit for outside work, 3 1/8" ditto ditto through and through, 3 1/8" Beaded, Ovolo and Bevel Jambes; Octagons; 2 1/2" and 3/4" radius Bullnoses; Stock patterns, Accrington Air Bricks, 9" x 2 course deep, each, Ditto ditto 9" x 1 course, Accrington Camber Arches—3 course deep, 4 1/2" soffit, per foot opening, 4 ditto 4 1/2" ditto ditto ditto, 5 ditto 4 1/2" ditto ditto ditto, 6 ditto 4 1/2" ditto ditto ditto, 3 ditto 9" ditto ditto ditto, 4 ditto 9" ditto ditto ditto, 5 ditto 9" ditto ditto ditto, 6 ditto 9" ditto ditto ditto. Net free on rail, or free on boat at works.

GLAZED BRICKS.

Table for Glazed Bricks: White, Ivory, and Salt Glazed, Buff, Cream, Other Best, Second, & Bronze, Colours, Colours. Stretchers—11 17 6, 10 7 6, 13 7 6, 17 7 6, 11 17 6, Quoins, Bullnose, and 4 1/2 in. Flats—15 17 6, 14 17 6, 17 17 6, 21 7 6, 15 17 6, Double Stretchers—17 17 6, 16 7 6, 20 17 6, 24 7 6, 17 17 6, Double Headers—14 17 6, 13 7 6, 17 17 6, 21 7 6, 14 17 6, One side and two ends, square—18 17 6, 17 17 6, 21 17 6, 26 7 6, 18 17 6, Two sides and one end, square—19 17 6, 18 7 6, 22 17 6, 26 17 6, 19 17 6, Splays and Squints—17 7 6, 15 7 6, 21 17 6, 24 7 6, 17 7 6, Plinth and Hollow Bricks, Stretchers and Headers—5d. each, 4d. each, 6d. each, 6d. each, 5d. each, Double Bullnose, Round Ends, Bullnose Stops—5d. each, 4d. each, 6d. each, 6d. each, 5d. each, Rounded Internal Angles—4d. each, 3d. each, 5d. each, 5d. each, 4d. each.

MOULDED BRICKS.

Table for Moulded Bricks: Stretchers and Headers—8d. each, 8d. each, 8d. each, 8d. each, 8d. each, Internal and External Angles—1/2 each, 1/2 each, 1/2 each, 1/2 each, 1/2 each, Sill Bullnose, Stretchers, and Headers—5l. each, 4d. each, 6d. each, 6d. each, 5d. each, Majolica or Soft Glazed Stretchers and Headers—£22 17 6, £27 17 6, Compass bricks, circular and arch bricks of single radius 4 1/2 per 1,000 over above list for their respective kinds and colours, Camber arch bricks, any kind or colour, by 4 1/2 in. by 2 1/2 in.

Table for Bricks cut for Closets and Nicked Double Headers, £1 per 1,000 extra. * These prices are carriage paid in full truck loads to London Stations. Thames Sand 7 6 per yard, delivered, Pit Sand 7 0, Thames Ballast 6 0. Best Portland Cement 36 0 to 41 0 delivered, Ground Blue Lias Lime 21 C per ton delivered, Exclusive of charge for sacks. Grey Stone Lime 13 6 to 14 0 delivered, Stourbridge Fireclay in sacks 27s. 0d. per ton at railway station.

STONE.*

Table for Stone: Red Mansfield, in blocks, per foot cube £0 9 4, Darley Dale, ditto, 0 2 3, Red Corsehill, ditto, 0 2 2, Closeburn Red Freestone, ditto, 0 2 0, Ancaster, ditto, 0 1 10, Greenhill, ditto, 0 1 10, Chiswick, ditto (in trunk at Nine Elms), 1 10 1/2, Hard York, ditto, 2 0, Do. do. 6 in. sawn both sides, landings, random sizes, per foot sup. 0 2 8, Do. do. 3 in. slab sawn two sides, random sizes, 0 1 3. * All F.O.R. London.

Table for Bath Stone, delivered on road waggons, Paddington Depot per foot cube 0 1 7 1/2, Ditto, ditto, Nine Elms Depot 0 1 9 1/2, Beer Stone, delivered on rail at Seaton Station, 0 1 1, Ditto, delivered at Nine Elms Station, 0 1 7 1/2. Portland Stone, in random blocks of 20ft. average—Delivered on road waggons (Brown White at Paddington Depot, Whit Bed. Base Bed. Nine Elms Depot, or Pimlico Wharf) Per foot cube. £0 2 3 to £0 2 4 1/2.

TILES.

Table for Tiles: Plain red roofing tiles, 8s. d. Dlvrd. at 42 0 per 1000 ry.s.d., Hip and Valley tiles, 3 7 per doz., Broseley tiles, 50 0 per 1000, Ornamental tiles, 52 6, Hip and Valley tiles, 4 0 per doz., Ruabon red, brown, or brindled ditto (Edwarde), 57 6 per 1000, Ornamental ditto, 60 0, Hip tiles, 4 0 per doz., Valley tiles, 3 0, Selected "Perfecta" roofing tiles: Plain tiles (Peake's), 46 0 per 1000, Ornamental ditto, 48 6, Hip tiles, 3 10 1/2 per doz., Valley tiles, 3 4 1/2, "Rosemary" brand plain tiles, 48 0 per 1000, Ornamental tile, 50 0, Hip tiles, 4 0 per doz., Valley tile, 3 8, Staffordshire (Hanley) Reds or brindled tiles, 42 6 per 1000, Hand-made sand-faced, 45 0, Hip tiles, 4 0 per doz., Valley tiles, 3 6, Hartshill "brand plain tiles, sand-faced, 50 0 per 1000, Pressed, 47 6, Ornamental ditto, 50 0, Hip tiles, 4 0 per doz., Valley tiles, 3 6.

OILS.

Table for Oils: Rapeseed, English pale, per tun £28 15 0 to £29 5 0, Ditto, brown, 26 15 0 to 27 5 0, Cottonseed, refined, 29 0 to 30 0 0, Olive, Spanish, 39 10 0 to 40 0 0, Seal, pale, 21 0 to 21 10 0, Coconut, Cochín, 46 0 to 46 10 0, Ditto, Ceylon, 43 10 0 to 43 0 0, Ditto, Mauritius, 42 10 0 to 43 0 0, Palm, Lagos, 32 5 0 to 33 5 0, Ditto, Nut Kernel, 35 0 0 to 35 10 0, Oleine, 17 5 0 to 19 5 0, Speru, 30 0 0 to 31 0 0, Lubricating, U.S., per gal. 0 7 0 to 0 8 0, Petroleum, refined, 0 0 6 1/2 to 0 0 6, Tar, Stockholm, per barrel 1 6 0 to 1 10 0, Ditto, Archangel, 0 19 6 to 1 0 0, Linseed Oil, per gal. 0 2 3, Baltic Oil, 0 2 7, Turpentine, 0 2 9, Puty (Genuine Linseed Oil), per cwt. 0 9 0, Pure Linseed Oil, "Stority" Brand, 0 9 0.

GLASS (IN CRATES).

Table for Glass: English Sheet Glass: 15oz., 21oz., 26oz., 32oz., Fourths, 3d., 4d., 5d., 5 1/2d., Birds, 3 1/2d., 5 1/2d., 5 1/2d., 7d., Fluted Sheet, 4 1/2d., 5 1/2d., Hartley's English Rolled Tin, 3/16 in., Plate, 2 1/2d., 3d., 3 1/2d., White, Tinted.

VARNISHES, &c. Per gallon.

Table for Varnishes: Figured Rolled and Repousseine, 3 1/2d., White, Tinted, Fine Pale Oak Varnish, £0 8 0, Pale Copal Oak, 0 10 0, Superfine Pale Elastic Oak, 0 12 6, Fine Extra Hard Church Oak, 0 10 0, Superfine Hard-drying Oak, for seats of churches, 0 14 0, Fine Elastic Carriage, 0 12 0, Superfine Pale Elastic Carriage, 0 16 0, Fine Pale Maple, 0 16 0, Finest Pale Durable Copal, 0 18 0, Extra Fine French Oil, 1 1 0, Eggshell Flattening Varnish, 0 18 9, White Copal Enamel, 1 4 9, Extra Pale Paper, 0 12 0, Best Japan Gold Size, 0 10 0, Best Black Japan, 0 16 0, Oak and Mahogany Stain, 0 9 0, Brunswick Black, 0 8 0, Berlin Black, 0 16 0, Knottling, 0 10 0, French and Brush Polish, 0 10 0.

Mr. A. E. White has retired from the position of city engineer of Hull.

At Kidderminster Rural Council meeting on Tuesday a letter was received from the Local Government Board sanctioning the scheme submitted to them for providing a water-supply system for the parish of Churchill.

Mr. G. L. Sutcliffe, F.R.I.B.A., who has been responsible for much of the domestic architecture of the Hampstead, Ealing, and Liverpool Garden Suburbs, has just been elected to a vacancy on the Hampstead Borough Council.

The death is announced of a well-known and highly-respected clerk of works, Mr. George E. Bird. Mr. Bird, who was in his eighty-third year, had been a member of the Incorporated Clerks of Works Association since July, 1883, shortly after its formation.

CHIPS.

Mr. Edward Alcock, builder, Greasley, Notts, left £18,654.

Mr. Frank Ernest Jenkins, builder, Cheltenham, left £16,867.

Three new Council schools are about to be built in Derby by the education committee of the corporation on sites in Nightingale-road, Clarence-road, and Temple House.

The city council of Liverpool are considering a proposal to erect a smallpox hospital on a portion of the Sparrow Hall estate, Fazakerley, at an estimated cost of £30,400.

The partnership hitherto subsisting between T. H. Buckwell and R. Bullock, carrying on business as architects and surveyors at Royal Insurance Buildings, North-street, Brighton, under the style of Buckwell and Bullock, has been dissolved.

Mr. Evan Henry Davies, builder, Pengam, Glamorganshire, has been awarded £400 damages in an action for injuries caused by the alleged negligent driving of a motor-bicycle by Mr. Herbert Walter Davies, masonry contractor, Worcester.

Mr. H. M. Fletcher, hon. secretary, and Mr. F. R. Yerbury, the secretary, of the Architectural Association, have been appointed by their council to represent that body on the Council for Dealing with Distress Amongst Professional Classes.

Mr. H. C. Collins, an inspector under the Local Government Board, held an inquiry at Llanerchmedd on Monday into an application made by the Twrceylan Rural District Council for a loan of £2,455 to enable the council to purchase land and to erect fifteen workmen's dwellings.

The upper part of the tower, including the picturesque lantern of the Church of St. Dunstan-in-the-West, Fleet-street, E.C., is undergoing superficial repair. The tower, which was built in 1834, is being repointed and covered with a preservative solution. The work has been entrusted to Messrs. A. Barber and Sons, Fetter-lane.

The death is announced, at the age of sixty-nine, of Mr. Valentine T. Garland, a well-known artist, who resided at Kingsworthy, near Winchester. He was admitted a student of the Royal Academy in 1871, and was a regular exhibitor at the Academy and at the Royal Institute. He was one of the founders of the Winchester Art Society.

In our description of our illustrations of Haggerston Castle and the recent alterations which have been carried out there, in our issues of the 23rd and 30th ult., we omitted to state that two electric lifts—one passenger and one goods—as part of the rebuilding scheme, have been erected by Messrs. Smith, Major, and Stevens, Ltd., of the Abbey Works, Northampton.

Mr. Frank Kitson, of the Royal Technical Institute, Salford, has been presented with a shield as the best student plumber in a competition organised by the Lancashire County Education Committee among the plumbing students of the technical schools of the county. Mr. W. D. Caroe, F.S.A., F.R.I.B.A., the master, has made the formal presentation at a meeting of the Salford education committee.

The Bishop of Southwark on Saturday afternoon consecrated the Church of St. John the Divine, High-path, Merton, which has been built at a cost of £10,000, and provides seating accommodation for 550 people. The solid oak block which forms the retable above the altar is a single beam from Admiral Nelson's ship Victory. It was presented to the church by Captain Hyde Parker.

At a Local Government Board inquiry held at Nantwich on Tuesday with reference to the urban district council's application to borrow £17,000 for works of sewage-disposal, opposition was voiced on behalf of the Joint Hospital Board, whose hospital, recently built at a cost of £10,000, adjoins the site, and also by private owners. Mr. Baldwin Latham, the consulting engineer, said, in reply, that the hospitals at Croydon and Wimbledon were practically built on sewage-farms, and there were no two hospitals in the country which were more successful in their treatment of cases. Dr. Meredith Young, medical officer to the Cheshire County Council, said it was notorious that Nantwich had dabbled with the question for years. How the town had escaped being proceeded against he did not know. Now that it was proposed to irrigate sewage close to a site chosen for the erection of a sanatorium, he should advise the abandonment of that scheme.

FOR

Olivers' Seasoned Hardwoods,

WM. OLIVER & SONS, Ltd., 120, Bunhill Row, London, E.C.

TENDERS.

* * Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ABERGELE.—For the construction of about 237 yards of 12 in. and 137 yards of 9 in. stoneware sewer, for the Abergelle and Pensarn Urban District Council:—

Table with 2 columns: Name and Amount. Includes Allen and Owens, Rhyl (£332 6 6), Anderson and Co., Liverpool (280 2 6), Jones and Pritchard, Abergelle (279 0 0), etc.

ACTON.—For the construction of a women's convenience at The Mount, High-street, Acton, for the urban district council:—

Table with 2 columns: Name and Amount. Includes Galbraith Bros., Camberwell (£925 0 0), Roberts, A., and Co., Kensington (875 0 0), Kellett, H., Willesden (849 0 0), etc.

ANNFIELD PLAIN.—For carrying out private street works at Catchgate, Annfield Plain, for the urban district council. Mr. T. J. Trowsdale, surveyor:—

Table with 2 columns: Name and Amount. Includes Elliott and Loverick (£129 4 5), Douglass, J., Newcastle-on-Tyne (127 0 0), Castle, J. T. (122 16 6), etc.

BARNSELY.—For erection of an open-air school at Mount Vernon, for the Education Committee. Accepted tenders:—

Table with 2 columns: Name and Amount. Includes Porter, G., & Sons, Worsbrough (£894 14 0), Goodyear, W., and Son (726 0 0), Bro'ey, E. (490 0 0), etc.

BLACKBURN.—For erection of a fire station, for the corporation. Mr. W. Stirrup, F.R.I.B.A., Brazenose-street, Manchester, and 14, Richmond-terrace, Blackburn, architect. Accepted tenders:—

Table with 2 columns: Name and Amount. Includes Marshall and Dent, Blackburn (£16,809 0 0), Crunshaw Bros., Blackburn (11,517 0 0).

BOUGHTON-UNDER-BLEAN.—For an extension of water supply to the village of Boughton-under-Blean, for the Faversham Rural District Council:—

Table with 2 columns: Name and Amount. Includes Ball, A. H., London (£4,055 0 0).

BRADFORD.—For erection of buildings at the open-air swimming-bath, Lister Park, for the corporation. Accepted tenders:—

Table with 2 columns: Name and Amount. Includes Ellis Balmforth and Son (£907 7 0), Ellis Balmforth and Son (465 0 0), Obank, J. and P. (269 10 0), etc.

BRAMCOTE.—For erection of a verandah at the hospital, for the committee:—

Table with 2 columns: Name and Amount. Includes Wincott, G. E. and W. Nuneaton (£246 10 0).

BRIDGEND.—For making-up back lanes on the eastern side of Aeland-road, Bridgend, for the urban district council. Mr. W. F. Tindor, surveyor:—

Table with 2 columns: Name and Amount. Includes Evans, S. D., Coity (£160 0 0), Jones, B., inn., Coychurch (155 0 0), etc.

BRIGHTON.—For electrical supplies for the next three months, for the guardians:—

Table with 2 columns: Name and Amount. Includes Galhers, H. J. (accepted) (£150 0 0).

BURTON.—For alterations to the caretaker's cottage in St. Modwen's Orchard, for the town council:—

Table with 2 columns: Name and Amount. Includes Adams, G. H., Horninglow (£309 0 0).

CHISWICK.—For the making-up of Airedale-avenue (South), for the Chiswick Urban District Council. Mr. E. Willis, A.M.I.C.E., surveyor:—

Table with 2 columns: Name and Amount. Includes Wimpey, G., and Co., Hammer-smith (£985 0 0), Adams, E., Wood Green (868 8 4), etc.

EDINBURGH.—For erection of cottages at the Braid Hills. Mr. J. A. Williamson, Public Works Office, City Chambers, Edinburgh, architect. Quantities by Mr. B. M. Fraser, F.I.A., 78, Queen street. Accepted tenders:—

Table with 2 columns: Name and Amount. Includes Rae, D. (£461 0 0), Currie, A. (455 0 0), Mills and Donald (180 0 0), etc.

GILLINGHAM, KENT.—For building fifteen workmen's cottages in Toronto-road, for the town council:—

Table with 2 columns: Name and Amount. Includes Phillips, H. E., Gillingham (£3,627 0 0).

GREENOCK.—For widening Princes Pier, for the harbour trustees:—

Table with 2 columns: Name and Amount. Includes McBride, P., and Co., Port Glasgow (accepted).

HONNISEY.—For making-up passageway at the end of St. James's Parade, for the corporation:—

Table with 2 columns: Name and Amount. Includes Hill, R. W., Upper Holloway (£398 14 2), Adams, T., Wood Green (370 18 10), etc.

IPSWICH.—For the erection and completion of a smallpox hospital on Foxhall Heath, for the corporation. Mr. J. R. Mead, borough engineer:—

Table with 2 columns: Name and Amount. Includes Kenney, G. A., Ipswich (£4,766 0 0).

IPSWICH.—For alterations to the London-road Council school, for the education committee:—

Table with 2 columns: Name and Amount. Includes Death, W. H. (accepted) (£2,762 0 0).

IPSWICH.—For alterations to the municipal secondary school for girls, for the education committee:—

Table with 2 columns: Name and Amount. Includes Pollard & Skerritt (accepted) (£2,694 10 0).

KEIGHLEY.—For electric wiring and lighting of the textile and chemical departments, &c., for the education committee:—

Table with 2 columns: Name and Amount. Includes Richards & Rhodes (accepted) (£105 17 0).

KIDDERMINSTER.—For construction of an oven at the workhouse bakery, for the guardians:—

Table with 2 columns: Name and Amount. Includes Collins and Co., Bristol (£142, white glazed bricks £5 extra (accepted)).

KILBURNE.—For constructing a culvert under highway, for the Belper Rural District Council. Mr. R. C. Corden, Duffield, engineer and surveyor:—

(No tender being received for this work, the rural district council have decided to carry it out departmentally, at an estimated cost of £120.)

KIRKCALDY.—For laying Oriel-road with granite setts, for the town council. Mr. J. L. Lumsden, burgh surveyor:—

Table with 2 columns: Name and Amount. Includes Robertson, A. H., Inverkeithing (4746 6 5), Dobson, W., Edinburgh (563 12 7), etc.

LIMSFIELD.—For the construction of 157 yards of 6 in. stoneware sewer, for the Godstone Rural District Council. Mr. T. C. Barralet, surveyor:—

Table with 2 columns: Name and Amount. Includes Pink, J. J., Merstham (£282 0 0), Smith and Son, Croydon (258 0 0), etc.

LOWER BEEDING.—For the erection of a council school at Lower Beeding, Colgate, for the West Sussex and Chichester Joint Education Committee. Mr. H. P. Roberts, F.R.I.B.A., Thurloe House, High-street, Worthing, county education architect:—

Table with 2 columns: Name and Amount. Includes Gillam, G., Southwick (£1,898 10 0), Rowland Bros. (1,768 0 0), Baker, H., and Son (1,736 0 0), etc.

NORTH WOOLWICH.—For laying a new 210 in. main from Woolwich Manor-way and the entrance basin to the Royal Albert Dock, for the London County Council:—

Table with 2 columns: Name and Amount. Includes Pearson, S., and Son, Ltd. (£5,400 0 0).

SIDMOUTH.—For the erection of 48 workmen's dwellings at Salter's Meadow, Landport, Sidmouth, for the urban district council. Mr. R. W. Sampson, Sidmouth, architect:—

Table with 2 columns: Name and Amount. Includes Carter, A., jun., Exmouth (£9,395 0 0).

SOUTH HACKNEY.—For cleaning the interior of Upton House Industrial School, South Hackney, for the London County Council:—
 Fenn, J. Scott (accepted) ... £287 18 0
 (Lowest tender received.)

SOUTHAMPTON.—For clearing the site for the new Taunton's school at Highfield, Southampton, for the endowed schools governors. Mr. Gutteridge, of Southampton, architect:—
 Cawte, H., Southampton ... £236 10 0
 (Accepted.)

SOUTHAMPTON.—For the construction of a covered reservoir, for the corporation:—
 Moss, W., and Sons, Loughborough ... £18,581 10 0
 (Recommended for acceptance.)

(The twenty tenders received ranged from John Nichol, Southampton, £16,877, originally recommended for acceptance and since withdrawn, to Playfair and Toole, Southampton, £17,988. Engineer's protecting estimate, £20,543.)

STOKE-ON-TRENT.—For the execution of works of painting and decoration at the workhouse, for the board of guardians. Accepted tenders:—
 Exterior painting administrative block, bakery, and interior dining-hall:—
 Holding, I., Basford ... £112 10 0
 Exterior painting old school block:—
 Peake, A. R., Fenton ... 97 10 0

STOKE-ON-TRENT.—For making-up streets, for the town council. Accepted tenders:—
 Back Best street East, Fenton:—
 Barke and Son ... £266 14 6
 Back Paynter-street North, Fenton:—
 Bullock, W. ... 187 19 0
 Back Paynter-street South, Fenton:—
 Bullock, W. ... 166 5 0
 Back Nelson-street South, Fenton:—
 Barke and Son ... 123 13 9
 Back Marlborough-street North, Fenton:—
 Barke and Son ... 165 15 8

WIGAN.—For the painting of the tramway car sheds Woodhouse-lane, for the corporation. Mr. A. T. Gooseman, borough engineer:—
 Chivers, T., and Sons, Wigan-lane ... £275 0 0
 Fairbrother, C., Gidlow-lane ... 200 0 0
 Jenkinson and Steadman, Pemberton ... 130 0 0
 Wignall, W., Peet-street ... 112 0 0
 Bell and Sons, New Springs ... 95 0 0
 Gaskell, W., and Son, Millgate ... 80 0 0
 *Accepted. Rest of Wigan.

WOLVERHAMPTON.—For erection of a gymnasium and additional classroom at the girls' high school, for the education committee:—
 Tooby, F. J. E. (accepted) ... £1,965 0 0

WESTMINSTER.—For the supply of (a) about 30,000 9in. by 5in. wood blocks, and (b) 30,000 7in. by 5in. wood blocks, for the Westminster City Council:—
 English Brothers, of Wisbech (accepted) at £10 per 1,000 for (a) and £7 15s. for (b).
 Total amount of contract about £552 10s.

WESTMINSTER.—For the purchase of 10,000 5in. cross-sawn wood blocks, for the Westminster City Council:—
 Lee, J. H., and Sons (accepted) £7 10s. per thousand.
 Total amount of contract about £79 10s.

WOODFORD.—For erection of classrooms at the Woodford Bridge temporary school, for the education committee:—
 Cairns, W. J. ... £440 5 0
 (Recommended for acceptance.)

WROXHAM.—For erection of a residence at Wroxham, for Mr. S. Sutton. Messrs. Morgan and Bockingham, 1, Upper King-street, Norwich, architects:—
 Smith, J. S., and Son ... £1,667 0 0
 Youngs, J., and Son ... 1,615 0 0
 Gill, T., and Sons ... 1,569 0 0
 Searies Bros. ... 1,560 0 0
 Hannant, W. J., Norwich ... 1,487 0 0
 *Accepted.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

*Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

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"BUILDING NEWS" DESIGNING CLUB.

DRAWINGS RECEIVED.—"Pinto," "Wallbroke," "K," "Black Cat," "Mersey," "Romlna," "Kitch," "Little Willie," "Alpha," "Penwith," "Ogee," "September Morn."

LIST OF COMPETITIONS OPEN.

Nov. 18—Extension of Laundry at Workhouse; also Converting House in St. John-street into Cottage Home, Howden	£5	H. Green, Clerk, Howden.
Dec. 4—Tuberculosis Hospital, Southend-on-Sea	£100, £50, £25	E. J. Eford, M.I.C.E., Boro' Eng., Town Clerk's Offices, Southend-on-Sea.
.. 31—Planning Workmen's Settlement, Campine Coalfield	£400, £240	M. le President de la Commission pour l'Aménagement des Agglomérations Industrielles, Rue de Louvain, Brussels.
Feb. 8—Designs for Workmen's Dwellings (500 persons), Rathbone-street Area, Liverpool. (H. Hartley, F.R.I.B.A., Assessor)	£100, £50, and £25	E. R. Pickmerc, Town Clerk, Municipal Offices, Liverpool.

LIST OF TENDERS OPEN.

BUILDINGS.

Nov. 6—Caretaker's House, Glebelands School, Dundee	School Board	J. H. Langlands, Archt., 31, Murraygate, Dundee.
6—School, Adaptation of, Great King-st., Macclesfield	Education Committee	W. Grieves, Sec., Town Hall, Macclesfield.
6—Institution, Boiler House at, Conway	Guardians	S. C. Foulkes, Archt., Conway-road, Colwyn Bay.
6—Stratton-road Bakery, Additions to, Gloucester	Co-operative Society	E. A. Fryer, L.R.I.B.A., 18, Clarence-street, Gloucester.
6—Labour Exchange, Barry, South Wales	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
6—Workhouse, Extending Mortuary at, Pontefract	Guardians	Garside and Pennington, Archts., Pontefract.
7—Additional Classrooms, County School, Redruth	Cornwall Education Committee	S. Hill, Archt., Green-lane, Redruth.
7—Demolition of Two Chimneys, Leeds	Electric Lighting Works	G. W. Atkinson, Archt., 1, Mark-lane, Leeds.
7—Boys County School, Additions to, Penzance	Cornwall Education Committee	S. Hill, Archt., Green-lane, Redruth.
9—Tuberculosis Sub-Dispensary, Winsford		J. H. Cooke, hon. sec., Albert Infirmary, Winsford.
9—Temporary County School, Fryzeoch	Glamorgan County Council	The Education Architect, County Offices, Cardiff.
9—Hutments, Sutton Coldfield	Birmingham Equipment Com.	H. E. Stilgoe, M.I.C.E., Council House, Birmingham.
9—Schools, Resolves	Glamorgan County Council	The Education Architect, County Offices, Cardiff.
9—Children's Home, Loan to Sheilas at, Clarence rd., Derby	Guardians	R. Grantham, Clerk, Poor Law Offices, Derby.
9—Institution, Additions to, Bishop's Stortford	Guardians	A. W. Gwynn, Clerk, 29, North-street, Bishop's Stortford.
9—Labourer's Cottages (11), Rathdrum	Rural District Council	P. W. Sheehan, Clerk, Council Offices, Rathdrum.
11—Post Office, Alterations to, Torquay	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
11—Offices for Southampton, Harlepool	North-Eastern Railway Co.	W. Bell, Archt., Westgate-road, Newcastle-on-Tyne.
11—Cottages (32), Station Hill, Barnet	Urban District Council	The Surveyor, 49, High-street, Barnet.
11—Stock Rooms, Underhill Hotel, Hull	North-Eastern Railway Co.	W. Bell, Archt., York.
11—Verandah in Market Hall, Halifax	Markets Committee	J. Lord, M.I.C.E., Boro' Eng., Town Hall, Halifax.
11—Cottages, Brayton Waterworks, Selby	Urban District Council	B. McE Gray, A.M.I.C.E., Council Offices, Selby.
11—L. Atterline Workshop at Pellon, Halifax	Willis and Bates	W. W. Longbottom, L.R.I.B.A., George-street, Halifax.
11—School (23 places), Coppull	Lancashire Education Com.	H. Little, County Archt., 16, Ribblesdale-place, Preston.
11—Workmen's Dwellings (28), Waterloo road, Exbridge	Urban District Council	W. L. Eves, Sur., F.R.I.B.A., 51, High-street, Uxbridge.
11—Cottage, Chapel End, Sutton St. Edmunds	Holland County Council	E. J. A. Christie, County Land Agent, Sessions House, Boston.
11—Cottages (24), Shenley road, Boreham Wood, Elstree	Barret Rural District Council	A. J. Wilshire, Sur., Shenley road, Boreham Wood, Elstree.
11—Church at Styal, Cheshire	S. Manchester Guardians	P. H. Overman, F.R.S.A., 49, King-street, Manchester.
11—School House, Additions to, Uppaham		J. Wittet, Architect, Egin.
11—Nurses' Home, Crumpsall Institution, Manchester	Guardians	A. J. Murgatroyd, Archt., 2, Strutt-street, Manchester.
11—Workhouse, Additions to, Plumwell, Tisbury	Guardians	H. M. Caley, Archt., Tunbridge Wells.
12—Store, Alterations to, Station road, Fowey	R. Cornwall	C. Parkes Lees, Archt., Portland House, Lanteglos-by-Fowey.
12—No. 7, Belgrave Gate, Additions to, Leicester	Tramways Committee	Harding and Williams, Archts., New-street, Leicester.
14—Working-class Dwellings (24), Wells, Norfolk	Urban District Council	H. Kennard, A.R.I.B.A., 26, Great James-st., Bedford row, W.C.
14—Tuberculosis Dispensary, Ropery-lane, Chester-le-Street	Durham County Council	T. Sharpe, A.R.I.B.A., Shire Hall, Durham.
11—Sanatorium and Dispensary, Kirkcaldy	Town Council	W. J. Macindoe, Town Clerk, Kirkcaldy.
11—County Court, Extension of, Huddersfield	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
11—Dining Hall, West Riding Asylum, Monston, Leeds	West Riding Asylum Board	W. E. H. Barton, Archt., West Riding Asylum, Wakefield.
11—Cattle Market, Additional Bay to, Ings road, Wakefield	Corporation	J. P. Wakeford, M.I.C.E., City Sur., Town Hall, Wakefield.
11—Laboratories and Chestrooms at High School, Oxford	Governors	The City Estates Surveyor, Town Hall, Oxford.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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BUILDERS' ESTIMATES.

With the great increases in wages and the cost of materials, it is obviously necessary for a builder who is estimating for work in competition to use extra care and obtain prices for every item in the bills of quantities where the amount is large. For the excavator there is the increase in wages, the extra cost of lime and drain-pipes. The cement seems to keep to a settled price of 35s. a ton of 11 sacks, containing 22 centials—a price no doubt arranged by the makers in combination. The Bricklayer will vary a great deal, the extra cost of labour at 11½d. per hour prime cost for the mechanic, and 1d. increase for labourer, bringing the labour only to about £5 per rod of reduced work; and then the cost of bricks, say 35s. per thousand alongside in the Thames, to which sum has to be added the cost of unloading, carting, and stacking, and about 1s. per yard cube to add for lime. In this trade a slight increase must be made for labour for cutting and other extra items. If Fletton bricks are used, there is a decrease in the above cost of about 7s. per thousand; they would cost 28s. in trucks at the terminus.

In the provision for Water-supply, the huge cost of pipe must be borne in mind: lead pipe is now about 26s. per cwt. delivered. All items of labour only, such as attendance on other trades, must be raised in price. To the Mason the extra cost of labour, both of mason and labourer, is about the only item of importance to draw attention to at the present time.

The Slater and Slate-mason's items can be arrived at by reference to slate merchants who do this kind of work and fix complete if required.

The Carpenter is subject to very serious increases, and the supply of wood is not unlimited in the docks, so that any satisfactory quotation should at once be closed on; 3 by 9 4th yellow now costs £16 per standard in the docks—this is nearly 2s. per foot cube to begin with. Then comes cartage, unloading, sawing, and waste. 2½ by 7 are £14 10s. per standard, and 2 by 8 unsorted i.e., of various qualities—costs about the same; 2 by 9 yellow, £17. This higher price is accounted for by its being a favourite with speculating builders, this and 2 by 8 and 2 by 4 and 7 by 2½ being the sizes they mostly use. To the extra cost of the sawn deals and battens has to be added the present price of labour.

All old prices will have, therefore, to be added to. Joists, roofs, partitions, etc., rough boarding and matchboarding, slate battens, and similar items have also

increased in price. In the case of the joiner the increase depends on the quality of deals, etc., usually used by the builder. 3 by 9 good 2nds yellow Archangel is being sold at £22 10s. This is a price at which good pine could at one time be bought. 2 by 8 unsorted yellow (many of these could be used for joiner's work) cost £14. Some good 2 by 9 3rd yellow could be bought at £16 10s. All these prices are at per standard of 120, 12ft., 11½in. by 1½in., equal to 165cu.ft., and all prices are in the docks. To the above prices must be added the cost of cartage, unloading, and sawing, and waste; and nothing but dry, sound deals can be used for joiner's work—say two years in the docks, and then when cut up they should be put into a drying-room. To the cost of deals, etc., has to be added the labour at present prices, 11½d. per hour. Where a settled price has been used per foot super. for pricing, a sum of not less than 25 per cent. has to be added; 2in. four-panel, square-framed doors priced at 1s. per foot super. should now be 1s. 3d. Sashes and frames 15 to 20 per cent. advance should suffice, as there is less timber in them.

To all the Minor Labours a small increase must be made. A good deal depends, of course, whether the builder is in a large way of business, and has plenty of machinery, for, of course, imported skirtings and mouldings are costing more—say 20 per cent. Naturally, these prices will fall when business is more settled, and the war a thing of the past; the timber-merchants will find at present great trouble in replacing their stocks.

In adding to the prices of such things as treads and risers of staircase, the extra cost of bearers must be remembered, and, in fact, every item treated with the utmost care.

In the Smith's work, the cost of many of the cast-iron items have gone up, and where the quantity is large, there should be a special quotation obtained for it: columns and heavy castings especially.

Rolled joists are quoted £7 to £8 per ton; but still there should be a price obtained for the estimate. This war stops rolled ironwork from Belgium. There is the extra cost of labour to add in hoisting.

The Plasterer has mainly the advance in wages to be added; cement is about the same, lime a little dearer.

Plumber's work has largely increased in cost. Sheet-lead is now about 25s. per cwt. Largely owing to the war, the price has gone up by bounds; before this war the price was considered high. Zinc goes up with lead and solder. Add to this the

increase in cost of labour. These advanced prices bring the plumber and zineworker to almost unheard-of sums. Taking the cost of sheet-lead at 25s., say 5s. 6d. for the labour and solder to plain work to gutters, flats, flushings, etc., allow 9d. for waste, and then profit will make in all, say, 34s. to 35s. per cwt. Lead pipes will have to be increased in ratio, and very carefully priced; a ¾in. stout pipe, priced usually, say, at 1s. 1½d., should now be 1s. 4d.; a 1in. stout pipe, priced at 1s. 6d., should now be 1s. 9d.; a 1½in. ditto 2s. to 2s. 3d.; a 1½in. middling pipe, usually 1s. 11d. to 2s., should be increased to 2s. 4d.; and other pipes at the same rate of increase. All bends and soldered joints will have to be increased.

All Brasswork will have to be added to for increase in cost of solder and labour. A little must be added for labour, etc., in fixing baths, w.c.'s, urinals, lavatory-basins, etc., and any increase in the cost of the baths, etc., and cisterns.

For the Zinework, a price could be obtained for the work fixed complete from one of the companies who specialise in this kind of work.

In the Painter, the cost of white-lead, that follows that of lead, adds considerably to the price beyond the small increase in wages. This would amount to 1d. to 1½d. per four coats in oil, and in ratio the price for runs must be added to.

THE SURVEYORS' INSTITUTION.

OPENING MEETING.

The opening address was delivered by Mr. Howard Chatefield Clarke (President) at the ordinary general meeting of the Surveyors' Institution on Monday last. After a brief reference to the present condition of affairs, the President said: I shall attempt in this address to deal with the wider principles only, and avoid those more controversial details which are to be the subject of discussion at the ordinary general meetings during the present session, in fulfilment of the arrangement made last session after the reading of Mr. Dawbarn Young's paper on the Urban Land Report. But before entering upon my subject, I should like to enlist your agreement with the axiom that progress can only be attained by change, and that, therefore, however wedded we may be to an existing order of things, and however clearly we may see its advantages, we should be willing to weigh impartially and with an open mind suggestions which, although involving a departure from the old order, may contain within them the germ of progress. With this thought before our minds the discussions we are about to enter upon this session should prove of real and permanent value, not only to us individually,

but to that wider circle which embraces all those responsible for legislation and administration in connection with urban affairs, for, I venture to think, no body of professional men exists better equipped, by personal knowledge of the subject, for directing these necessary changes into channels which will command the confidence of the community. Of the many questions to which urban surveyors must devote their thoughts—housing, public improvements, transit, sanitation, and the like, all of which are so intricately connected that it is almost impossible to deal with one without reference to the others—the housing of our working population is the most important, and in many ways the most difficult. Its complications and its urgency have been immensely added to by the great increase in population which has taken place even during the thirty-five years which have elapsed since I first entered my father's office. In the area of Greater London, for instance, the population has sprung from 4,766,661 in 1881 to 7,252,963 in 1911, a total increase of 2,486,302, of which 1,793,638 is found in the outer ring. The increase of 692,644 found within the administration county alone is, as might be expected, a good deal less, for the unbuild-upon area within that portion naturally did not permit any considerable development. Nor is it London only which has shown this remarkable power of reproduction, the industrial areas in the North of England, in the Midlands, in Lancashire and Yorkshire, and in South Wales, have held their own, as, indeed, have purely residential districts, such as those which adjoin the Metropolis. The four Home Counties—Middlesex, Essex, Kent, and Surrey—for example, have increased their population by over one and a half millions in twenty years. But it is unnecessary for me to enlarge upon the importance of this subject; rather would I wish to discuss shortly the manner in which the difficulties inseparable from such large accumulations of persons in particular areas may best be met.

WORKING-CLASS HOUSING.

The two main agencies for providing housing accommodation for the working classes are the private investor and the local authority, while between these come charitable bodies, public utility, and similar societies, and co-partnership associations. But by far the largest number of houses of this class which are built are provided by private enterprise, a recent estimate placing the proportion as high as 99 per cent. It is, therefore, important to consider whether it is likely that the needs of the community will continue to be met through this agency, and on this question the following figures from the Inland Revenue Commissioners' Reports would seem to throw some light:—

Year.	Separate Tenement Dwellings.	Houses of Annual Values.			Total.	Increase over previous year.
		Under £10.	£10 and under £15.	£15 and under £20.		
1903-04	30,773	£3,122,330	£1,813,146	£858,287	5,833,536	* 41,549
1904-05	54,908	3,134,251	1,856,200	880,682	5,931,741	101,205
1905-06	58,737	3,148,779	1,915,248	924,815	6,047,579	112,838
1906-07	62,834	3,155,929	1,961,300	947,396	6,128,059	80,471
1907-08	65,000	3,163,000	2,005,000	975,000	6,208,000	79,950
1908-09	65,188	3,169,157	2,044,825	1,002,000	6,281,280	73,280
1909-10	72,944	3,175,388	2,089,449	1,031,580	6,368,441	87,181
1910-11	74,656	3,240,221	2,103,820	960,395	6,379,692	* 10,651
1911-12	79,759	3,242,347	2,151,552	985,608	6,159,257	80,165
1912-13	80,955	3,249,801	2,179,398	1,004,350	6,505,597	46,250

* During the years 1903-4 and 1910-11 the periodical revaluation of houses was made, which resulted in a number of houses, previously assessed at under £20, being placed in a higher category. The marked drop in these years must in part be attributed to that cause.

† Approximate figures.

These figures show that during the past ten years the number of dwelling houses, under £20 in annual value, erected yearly has tended to decrease, although with the increase in the population remaining normal one might have expected a growth in the demand for houses parallel with the improvement in the general standard of living and better knowledge of sanitation, which should result in a reduction in the average number of persons per room. It would seem, therefore, that this form of investment is

proving less attractive to the ordinary investor than was formerly the case, and a number of reasons for this are not difficult to find. In the first place, there is the effect of the 1910 Finance Act, which it cannot be denied has been considerable, in that, rightly or wrongly, builders, mortgagees, and others have been unsettled by the fear that their profits or security might be adversely affected. It would seem probable that the great falling off in the number of houses built during 1910-11, although partly due to the reason mentioned in the footnote to the table, must to a large extent be attributed to the feeling that, by the operation of the statute, this class of building had become more speculative.

GENERAL RISE IN PRICES.

This deterioration in the safety of the investment has been accentuated by the increase in the cost of building, which has been particularly noticeable during the ten years under review. Mr. Littler, the architect to the Lancashire County Council, in an official report issued rather more than a year ago, stated as a result of special inquiries from firms employed by his council, that the average rise in building materials during the past three years was as follows:—

	Increase per cent.
Labour 10 per cent.	12½
National Insurance 2 to 3½ per cent.	12½
Common bricks	14
Facing bricks	9
Glazed bricks	12
Lime	10
Portland cement	22
Rollad steel joists	20
Drain pipes	41½
Stone	10
Timber	30
Glazed ironmongery	18
Slates	7½
Lead	3
Cast-iron goods	60
Copper goods	29
Brass work	23
Wrought-iron piping	30
Glass	39
White lead	30

The report went on to say: "In addition to the above there are those branches of the trade which are usually executed by 'specialists,' such as heating, ventilating, railings, sanitary goods, etc. Generally speaking, I find that labour in connection with those branches has increased about 10 per cent., whilst the cost of cast-iron hot-water pipes has increased 50 per cent., ventilating materials 15 per cent., wrought-iron work 25 per cent., tiling 20 per cent., grates, etc., 42½ per cent., and sanitary goods 10 per cent." That there has been a general rise in price is corroborated by an examination of the current prices issued weekly by the BUILDING NEWS, and, as I feel sure all building surveyors will agree, by our own experience. Nor will this increase in the cost of building be lessened by strikes and

DEAR MONEY.

A third influence affecting the flow of capital for housing purposes is the cost of money. Ten years ago Consols could only be purchased to pay about £2 16s. per cent., and the return from other securities was in proportion. An investment in house property paying a net 5 or 6 per cent., therefore, compared favourably with other investments of equal safety; but just prior to the closing of the Stock Exchange Consols could be purchased to pay nearly £3 10s. per cent., while many attractive Canadian and other issues paying a fairly safe 5 per cent. had been placed upon the market. It is not difficult to understand why these, with their freedom from worry, their regular payment of interest, and their return of capital on a certain date, should absorb a good deal of capital which formerly went to the erection of houses. And there is another direction in which building is affected by dear money. Housing accommodation for the working classes has in the past been provided largely by the speculative builder, who, in spite of the abuse which has often been showered upon him, has, in fact, carried out a useful public work in this direction. But as a rule his capital is small, and his operations have been carried on mainly by means of borrowed money, with the result that the interest he has to pay has a marked effect, in the first place on the price he must obtain for the houses he builds, and in the second on the rent at which they can be let. For example, an additional 1 per cent. per annum on the capital employed in the erection of a house costing £250, inclusive of land, proportion of road construction and sewerage, would necessitate an additional 1s. per week in rent, and unless that extra sum were likely to be obtained without much difficulty there would be a strong inducement for the capital to discover another outlet.

THE BURDEN OF THE RATES.

There is also the undoubted effect which the great and continued increase in the burden of the rates must exercise upon building. The following table, taken from the latest available figures of the Local Government Board, shows how great that increase has been during the past fifteen years. Although the rateable value of property in England and Wales has expanded by 25,599 per cent., the total rates have grown by 76,488 per cent., the increase in the £ being 1.613s.

TABLE B.

Years ended Lady-Day.	Rateable Value.	Receipts from public rates.	P.c. of rates to rateable value.	Rates in £.
1897-8	£168,664,993	£37,605,368	22.296	4.452s.
1898-9	172,065,842	38,602,673	22.435	4.4870
1899-1900	175,622,758	40,734,219	23.194	4.6388
1900-1	180,406,420	42,993,668	23.832	4.7664
1901-2	186,562,760	46,438,764	24.892	4.9784
1902-3	191,106,528	50,328,412	26.335	5.2670
1903-4	194,716,894	52,941,665	27.189	5.4378
1904-5	199,355,590	56,047,715	28.114	5.6228
1905-6	202,858,961	58,255,544	28.717	5.7434
1906-7	207,067,675	59,557,199	28.762	5.7524
1907-8	209,801,680	59,627,577	28.409	5.6818
1908-9	212,757,450	61,273,458	28.800	5.7600
1909-10	215,309,542	63,260,940	29.381	5.8762
1910-11	217,180,184	65,152,239	29.999	5.9698
1911-12	218,588,250	66,369,000	30.363	6.0726

COST OF SITE.

I do not include the cost of the site among the more important factors influencing building operations, as except in central positions, it is comparatively small, and has far less effect upon the rent than is often supposed. The following table shows the amount payable weekly as rent in respect of land worth £100 per acre freehold, according to the density of its development. The sums which would be similarly payable in respect of land of greater or less value can readily be calculated.

Houses per Acre.	10	20	30	40
Return payable weekly in rent at 5 per cent.	d. 2.308	d. 1.154	d. 0.769	d. 0.577

lock-outs, such as those which we in London had to deplore for so many months prior to the outbreak of war. I will not attempt to adjudicate as to the rights and wrongs of that dispute; probably much might be said for and against either side; but I sincerely hope that in this case good may come out of evil, and that the increased sympathy and deeper fellow-feeling which has been born of a mutual anxiety and patriotism may make it easier in future to settle these questions by agreement or arbitration.

Nor, as a rule, is any difficulty experienced by those wishing to provide housing accommodation in finding suitable land for the purpose at reasonable rates. Mr. John Burns, while President of the Local Government Board, said: "In some cases we are aware that difficulty has arisen in regard to the acquisition of suitable land; but we have no reason to believe that any such difficulty exists generally. . . . It is remarkable that, notwithstanding the very simple powers of acquiring land compulsorily conferred by the Act of 1909, these powers have only been invoked in three cases."

PRIVATE ENTERPRISE SHACKLED BY FADDISTS' RESTRICTIONS.

Apart from a small minority holding very advanced views, all would, I think, prefer to see the provision of houses for our people undertaken by private enterprise; but few would agree that an attempt should be made to attract capital to this class of investment by reducing the standard of sanitation and amenity which has now been reached. It is sixty years since the Earl of Shaftesbury first drew public attention to the terrible condition of the hovels in which many of our people lived, particularly in London and the other great centres of population. Up to that period little control had been exercised over building; back-to-back houses were permitted, facing ill-ventilated courts, and conditions prevailed in parts of almost every large town giving rise to death-rates in those particular districts quite double those found in the more favoured parts. There is now a tendency to place greater and greater responsibilities upon the builders and owners of house property, and while it is impossible to say that this should not be done, a word of warning may not be out of place to the effect that such restrictions should be fair, reasonable, and free from any suspicion of faddism. Private capital is a valuable ally, but at the same time it is one which is easily frightened; it is, therefore, worth an effort to secure it on the side of those who wish to see the people well housed. This was recognised by Mr. John Burns, who, in a circular to district councils, issued at the end of 1912, said: "By-laws with respect to new streets and buildings are intended to operate in the interests of the inhabitants and to prescribe reasonable standards to which building development may fairly be called upon to conform with a view to securing stability, protection from fire, and healthy conditions, and it is obviously undesirable that the by-laws in any area should afford any ground for the suggestion that they are either unnecessarily restrictive or obsolete in character." This circular, I venture to think, was penned in the spirit which should govern all the relations between builders and owners on the one side and the sanitary authority on the other, whether touching upon by-laws, the provisions under the Town-Planning Acts, or other matters. Every facility should be given for introducing new and cheaper methods of construction, and I am inclined to think that, in the less closely populated districts, at any rate, so long as habitations are warm, dry, well-ventilated, and sanitary, the requirements of the local authority should be looked upon as being fulfilled; and that too great weight should not be attached to durability of structure. Houses, especially those occupied by the working classes, quickly become out of date, and, subject to the above essentials, it is desirable that it should be possible to "scrap" them when that time arrives, without too great a loss of capital.

EIGHTY THOUSAND HOUSES A YEAR WANTED.

The increase in the population of England and Wales between 1901 and 1911 was just over three and a half million persons, or a yearly average of 350,000. To meet this about 80,000 additional houses would be required annually, without counting the number required to replace those pulled down or condemned, and an expenditure of something like twenty million sterling would be entailed. The magnitude of these figures clearly indicates how important it is to look at the matter in a business light, and to avoid

doing anything unessential to the real well-being of the community, which might direct the flow of private capital towards other investments. So far as it is possible to foresee, it is unlikely that any real difficulty will arise in this direction with regard to the provision of the better class of working men's dwellings, capable of being let at rents which, although varying in amount in different towns, pay a reasonable interest on the outlay. The real difficulty exists in providing house-room, up to modern sanitary standards, for those who cannot pay rents fulfilling that requirement, and as it is an essential that the people shall be housed, if one source of supply fails another must take its place. Under the Labouring Classes Lodging-House Act, 1851, local authorities were first permitted to purchase, lease, or erect lodging-houses for the working classes, and legislation has from time to time added to these powers, until we come to the Housing of the Working Classes Acts, 1890 to 1903, and the Housing, Town Planning, etc., Act, 1909. Before attempting to refer to the provisions contained in these measures I should like strongly to urge their consolidation. The modern method of legislation by reference may have advantages when a Bill is being passed through Parliament, but the continued difficulty of interpreting a number of unrepealed measures all dealing with the same subject, which is thereby thrown upon those concerned in their administration, far outweighs the earlier and temporary advantage.

POWERS OF LOCAL AUTHORITIES.

Perhaps I may be forgiven for summarising very shortly what is doubtless already well known to you all—the three ways in which local authorities are empowered to go to work under the Housing of the Working Classes Acts. The principal statute, apart from that touching upon the cognate subject of town planning is the 1890 Act, part I. of which enables the authority to deal with large unhealthy areas or slums which can be made subject to an improvement scheme. In these cases the authority, after obtaining a confirming Order from the Local Government Board, must themselves undertake the cost of purchasing and laying out the lands included in the scheme and of erecting the buildings. Section 20 and Schedule II. make special provision for acquiring the land, while Sections 21 and 22 provide safeguards against the payment of excessive compensation for houses in unhealthy areas. Part II. lays down the method of dealing with small unhealthy areas by means of reconstruction schemes, of which there are two forms:

(A) Where an order for the demolition of a building has been made, and it is desirable that the authority should acquire the area for an open space, road improvement, erection of workmen's dwellings, etc., and

(B) Where the area is too small for an improvement scheme under Part I., but needs reconstruction owing to the bad arrangement of houses, streets, etc.

Power is also given under Section 38 to demolish buildings which, though not necessarily insanitary in themselves, by reason of their proximity or contact with other buildings, render the latter unfit for habitation. Part III. of the 1890 Act, as amended by the 1909 Act, empowers local authorities to lease or purchase land and to erect working men's dwellings. It may, therefore, be employed either in providing accommodation for persons displaced by schemes under Part I. and Part II., or for supplementing accommodation provided through other agencies where that has proved to be insufficient.

GOOD WORK OF THE L.C.C.

There has been a good deal of discussion as to which of these methods is likely to prove most advantageous in the end, and although such exchanges of opinion are not without profit, I think most practical men will agree that the reply must depend upon the circumstances of each case. Where a slum of considerable area has to be taken in hand, the London County Council to the excellence of whose work in this direction I may be permitted to bear witness have shown what can be done under Part I. of the Act. In 1893-5 they made their initial venture in connection with a huge slum—some 15 acres in

extent—in Bethnal Green, known as the Boundary-street area, and comprising a population of nearly 6,000 persons. I take the following description from one of the Chadwick Public Lectures given by Mr. W. E. Riley, the superintending architect to the London County Council: "In the majority of cases the ground floors of the houses were from 12in. to 18in. below the street-level; the widest street was barely 28ft. across; no house possessed a front door; no repairs were ever done to the houses; what backyards had ever existed had nearly all been roofed in and occupied as additions." The death-rate was over 40 per 1,000—nearly double that of the parish of Bethnal Green as a whole. Under the improvement scheme, streets from 40ft. to 60ft. wide, some planted with trees, and converging on a central open space, were laid out, and large blocks of tenements were erected, accommodating 5,380 persons. Time will not permit me to go fully into the details of this and the other London County Council schemes of which I shall speak; but I would refer those interested to the valuable series of lectures from which I have already quoted. The experience gained in the Boundary-street area naturally led to improvements in the planning of the blocks erected under other schemes, the latest of which, that known as the Tabard-street improvement, was approved by the Local Government Board in 1912. This will necessitate the clearance of an area of about 17 acres in Southwark and Bermondsey, the number of persons affected being about 4,500, with a death-rate of 36.8 per thousand. As vacant accommodation was found to exist within a mile capable of housing a large part of the displaced population, it was decided only to house about 2,500 on the area cleared, and to lay out the central portion of about five acres as an open space. A number of cottages will also be erected on adjoining land, and provision made for the storage of the barrows, etc., used by the street traders who form a large portion of the population.

OTHER SCHEMES.

Doubtless such great plague spots as the above could only adequately be dealt with by complete clearances under Part I.; but the experience of Birmingham and some other large towns has shown that much can be done under Part II. by means of reconstruction schemes, and at less cost to the public. Mr. Nettlefold, in his interesting book, states that the cost per head of rehousing under Part I. averages £77 15s. for the whole country, while "the cost of replacing hovels with good cheap houses under Part II. works out in Liverpool at £7 per house. Taking the average of five persons to a house, this works out at £1 8s. per head. The cost per head in Birmingham of similar work under Part II. comes to £1 4s. 3d." Mr. Nettlefold is, of course, referring here to the cost which would fall upon the public purse. In Birmingham the system has been to place the cost of reconstruction upon the owners, who are thus required to provide habitable dwellings in return for the rents they receive. The expense falling upon the local authority is merely that of administration, together with the cost of any buildings demolished, under Section 38, for the purpose of letting in light and air to the reconstructed portion. Although doubtless cases exist where the conditions are so bad that improvement is impossible without pulling down and laying out *ab initio*, the work which has been successfully carried out in Birmingham shows what can be done by less heroic measures in places where the cost of a complete scheme of rebuilding would make that course practically a financial impossibility. The following tables—for which I am indebted to the courtesy of the Local Government Board, who have kindly brought the figures down to June 13 last—show the action which has been taken by local authorities (Table C) under Section 15 of the 1909 Act, which deals with the additional responsibilities placed upon the owners of houses let to persons of the working classes with regard to keeping them in repair, and (Table D), under Section 14 of 1890 Act, in regard to closing and demolition. The increase in the figures since the passing of the 1909 Act is

satisfactory evidence that the interest shown by Mr. Burns in this subject, while President of the Local Government Board, is bearing fruit through the action of local authorities and their officers. Doubtless cases will occasionally occur where this action may seem arbitrary; but I am happy to say that, as a rule, the very considerable powers which have been given under the Housing Acts are used with discretion and tact, and to the ultimate advantage of both owners and tenants.

Both Part I. and Part II. of the 1890 Act are, as a rule, brought into operation to supply the needs of certain classes of working men who, from the nature of their employment, must live in close proximity to their work, and therefore have to be housed in central positions and upon costly sites. Where this is the case, there can be little option as to the nature of the dwellings to be erected, the value of the site practically limiting the choice to the tenement system. But when the conditions of employment are such that proximity to the centre of the town is not an essential, there is much to be said in favour of separate dwellings as more in accordance with English ideals of family life.

Action can then be taken under Part III. of the Act, cottages being built in newly-developed districts, where land can be obtained at comparatively low rates, and where an improvement and cheapening of the means of transit would open out the district for occupation by the labouring classes. Until 1900 the action of local authorities under Part III. was limited to the erection of houses within their own districts; but the amending Act of that year enabled them to buy land and build outside their districts. By proceeding under these powers a double advantage is gained: in the first place, the hygienic conditions are vastly improved, and an opportunity given to the tenants to enjoy surroundings and amenities which would be impracticable in a crowded neighbourhood; and, in the second, the cost in rent is considerably lessened. The following tables from the Statistical Officer's Report, 1908, are quoted by Mr. Riley in the Chadwick Lectures, and are interesting as offering a comparison between the rent of tenements in central London and that of similar accommodation in the suburbs; in the latter case the weekly cost of the workman's fare (Table E) by railway and (Table F) by tramway being added. Mr. Riley points out that since these tables were drawn up the fares have been reduced, resulting in an increase in the difference in favour of the suburban districts.

The London County Council since 1900 have provided, or are in course of providing, accommodation for about 29,000 persons in this way on the Tottenham Fields Estate, near Tooting; the Norbury Estate, near Croydon; the White Hart Lane Estate, Tottenham; and the Old Oak Estate, Hammersmith. The methods of laying out and the planning of the houses deserve very careful study by those interested in housing questions, and, if I may be allowed to say so, a great credit upon those responsible for them. As a London surveyor, I have, perhaps naturally, referred more particularly to the work done in the Metropolitan district; but what I have said may be taken to embrace similar activities in other towns, and I am again indebted to the Local Government Board for Table G, brought up to September 30 last, showing the loans sanctioned to local authorities for the purposes of the purchase of land and the erection of houses under Part III. of the Housing of the Working Classes Act, 1890, since the passing of the Housing, Town Planning, etc., Act, 1909, and the loans under consideration at the date mentioned.

These figures may be taken as an indication of the growth in the interest shown by local authorities in the subject during the past five years. In 1910 £107,132 was sanctioned for the erection of 527 houses by the local authorities, while in the first nine months of the present year £797,334 has been sanctioned for the erection of 3,122 houses and one lodging house by 147 local authorities. There has also been a noticeable in-

TABLE C.—Action taken by Local Authorities under Section 15 of the Act of 1909. (Figures for 1913-14, based on 1,977 returns received up to June 13, 1914.)

Local Authorities.	Period.	Number of Local Authorities to whose action the figures in subsequent Columns relate.	Number of Houses in respect of which Notices were given.	Number of Houses in respect of which Landlords elected to close instead of complying with Notices.	Number of Houses in respect of which Notices were satisfactorily complied with.	Number of Houses in respect of which the Local Authority executed, or were executing, the works in default of Landlord.	Number of Houses in respect of which the Notices remained undeposited at end of period.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Totals (England and Wales (1,814))	December 3, 1909, to March 31, 1911.....	500	18,927	679	11,649	40	6,081
	Year ended March 31, 1912.....	778	43,781	1,269	31,289	176	15,799
	Year ended March 31, 1913.....	884	52,670	1,706	42,630	107	13,972
	Year ended March 31, 1914.....	570	32,811	777	28,695	185	14,794
	December 3, 1909, to March 31, 1914.....	—	*148,189	4,431	114,263	508	56,646

* The difference between this total and the aggregate of the totals in Columns 5 to 8 represents the number of houses in respect of which the notices served had either been withdrawn or were not proceeded with for various reasons.

TABLE D.—Action taken in regard to the closing and demolition of Houses under the Housing Acts. (Figures for 1913-14, based on 1,120 returns received up to June 13, 1914.)

Local Authorities.	Year ended March 31.	Number of Houses in respect of which representations were made to the Local Authorities.	Number of Houses made fit for Human Habitation by Owners without the issue of a Closing Order.	Number of Houses closed or demolished voluntarily.	Number of Houses in respect of which Closing Orders were made.	Number of Houses in respect of which Closing Orders were determined.	Number of Houses (in respect of which Closing Orders had been made) demolished by Owners without orders for demolition.	Number of Houses in respect of which orders for demolition were made.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Totals (England and Wales)	1909	6,312	3,731	1,510	587	*	*	196
	1910	6,429	3,056	1,389	1,511	274	*	170
	1911	24,420+	7,042	1,419	4,870	732	534	495
	1912	17,420+	13,417	1,935	9,761	2,108	1,072	1,424
	1913	56,352+	18,194	2,317	10,853	2,952	1,601	2,286
1914	33,866†	9,514	1,414	7,831	2,241	917	1,917	

* This information is not available.
† In a very large number of these cases (viz., over 6,100 in 1913-14, over 12,000 in 1912-13, over 12,500 in 1911-12, and over 5,200 in 1910-11), the local authorities decided to proceed by way of notices under Section 15 of the Act instead of making closing orders.

TABLE E.—Allowing railway varying from 1s. to 2s. 9d. a week.

District.	Suburban District to which workmen's trains run from the Central Area.	Average rent of three-roomed tenements in new dwellings in Central Districts.	Rent of three-room tenement in Suburban district plus one workman's return fare.	Difference.	
				In favour of Central District.	In favour of Suburban District.
Westminster	Croydon	9s. 1½d.	9s. 10½d.	0s. 9d.	—
	Ealing	9s. 1½d.	9s. 5½d.	0 4½	—
St. Marylebone	Willesden	10 3¼	9 4	—	1s. 1½d.
	Ealing	10 3¼	10 2½	—	0 2½
South St. Pancras	Hendon	9 9¼	9 6½	—	0 3
	Holborn	9 9¼	10 6¼	0 8½	—
Finsbury	Finchley	9 9¼	10 4¼	0 6½	—
	Bethnal Green	9 9¼	9 3	—	1 5
Stepney	Tottenham	9 8¼	7 9¼	—	1 11
	West Ham	9 8¼	8 5¼	—	1 3½
Shoreditch	East Ham	9 2	9 10¼	0 8¼	—
	Croydon	9 2	9 10¼	0 8¼	—

TABLE F.—Allowing tramway fare of 1s. a week.

District.	Districts within the county boundary to which workmen's tram fares are available from the Central Area.	Average rent of three-roomed tenements in Central District.	Rent of three-room tenement in Suburban District plus one workman's return fare.	Difference.	
				In favour of Central District.	In favour of Suburban District.
North Lambeth	Tooting	9s. 2d.	8s. 9½d.	—	0s. 4½d.
	Streatham	9s. 2d.	8 9	—	0 5
North Lambeth	Wandswoth	9 2	8 11	—	0 3
	Battersea	9 2	9 0½	—	0 1½
North Lambeth	Deptford	9 2	8 9	—	1 1½
	Greenwich	9 2	8 10½	—	0 3½
Southwark	Lewisham	9 2	9 0	—	0 1½
	Hackney	9 2	9 10½	0s. 1½d.	—
Bethnal Green	Stoke Newington	9 8¼	9 10½	0 1¼	—
	Shoreditch	9 8¼	8 5½	—	1 3
South St. Pancras	Poplar	9 11¼	8 5	—	1 6
	Hackney	9 11¼	9 10½	—	0 1½

crease in the activity of semi-charitable bodies, public utility and similar societies, and co-partnership associations in the provision of housing accommodation. Section 67 of the 1890 Act empowers the Public Works

Loan Commissioners to grant loans to such bodies for the purpose of encouraging the erection of workmen's dwellings. The period for repayment is limited to forty years, and the amount to be advanced, which was

TABLE G.—Loans sanctioned to Local Authorities for the purposes of the purchase of Land and the erection of Houses under Part III. of the Housing of the Working Classes Act, 1890, since the passing of the Housing, Town Planning, &c., Act, 1909, and Loans under consideration on September 30, 1914.

Loans sanctioned in year ended December 31.	Urban Authorities.			Rural Authorities.			Total.		
	Number of authorities.	Total amount of loans sanctioned.	Number of houses to be erected.	Number of authorities.	Total amount of loans sanctioned.	Number of houses to be erected.	Number of Authorities.	Total amount of loans sanctioned.	Number of houses to be erected.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1910	12	£ 106,612	527	2	520	—	14	107,132	527
1911	10	90,234	326	11	15,181	86	30	105,415	412
1912	44	405,828	1,930	33	66,786	354	67	472,614	2,281
1913	73	530,097	2,281	43	188,611	852	116	718,708	3,133
1914 (to September 30)	80	649,328	2,449 + 1 lodging-house.	58	118,006	673	147	767,331	3,122 + 1 lodging-house.
Total (Loans sanctioned).....	174	1,782,099	7,513 + 1 lodging-house.	97	419,104	1,965	271	2,201,203	9,478 + 1 lodging-house.
Loans under consideration of the Board on September 30, 1914	58	803,880	3,576	48	179,157	774	106	1,073,037	4,350
Total (Loans sanctioned and under consideration)	207	2,675,979	11,089 + 1 lodging-house.	129	598,261	2,739	336	3,274,240	13,828 + 1 lodging-house.

originally restricted to one-half of the value of the interest in land and dwellings to be mortgaged, has now been increased to two-thirds by Section 4 of the 1909 Act, provided that the rules of the society prohibit the payment of interest or dividends at a rate exceeding 5 per cent. per annum. Since 1890 upwards of one and a half millions sterling have been advanced by the Commissioners in this manner, and of this sum, as will be seen from the following table, nearly one million pounds have been loaned since the 1909 Act came into operation.

TABLE H.—Amounts advanced by the Public Works Loan Commissioners to Companies, Public Utility Societies, or Private Persons under the Housing of the Working Classes Acts since the year 1890.

Year ended March 31.	Amount advanced.	Year ended March 31.	Amount advanced.
(1)	(2)	(1)	(2)
1905	£36,490	1910	£95,111
1906	27,050	1911	283,969
1907	18,536	1912	198,336
1908	51,010	1913	175,085
1909	67,292	1914	197,652

THIS YEAR'S HOUSING ACTS.

Any attempt to deal, however briefly, with the position of public authorities with regard to housing would be incomplete without some reference to the two Housing Acts which were passed this autumn, subsequent to the declaration of war. The first was an attempt to meet one of the difficulties referred to by the late Mr. Edward Woolley in his Presidential Address a year ago, and enables the Local Government Board to make arrangements with any authorised society to provide and maintain dwellings, gardens, etc., for the convenience of persons employed by the Government where sufficient other accommodation is not available; and the second authorises the Board of Agriculture in agricultural districts, and the Local Government Board in other areas, for the space of one year from the passing of the Act, to make arrangements with local authorities or authorised societies for the provision, maintenance, improvement, and management of dwellings and gardens and other works or buildings for the convenience of persons belonging to the working classes; and the Treasury are empowered to issue sums not exceeding, in the aggregate, four millions sterling for the purpose of meeting capital expenditure under the Act. It was the intention of the Government that this sum of money should be utilised for the joint purposes of providing and improving housing accommodation for the working classes, and of preventing or mitigating unemployment in the building trades. Those of us who are in touch with the building industry are aware how immediately and seriously it will be affected by the war, and there will therefore, I think, be little difference of opinion

as to the wisdom of this action on the part of the Government, by which large sums will be made available for works of construction of permanent value which might otherwise have been employed merely in temporary relief.

HOUSING AND TRAFFIC.

The statistical tables already quoted in connection with proceedings under Part III. of the 1890 Act show the intimate connection between the housing and traffic problems, and it is, I am inclined to think, to the solution of the latter that we must look for the removal of many of the difficulties surrounding the former. Much has been done of late by the development of tramways, railways (both steam and electric), and particularly motor-omnibuses, to enable persons to travel with reasonable facility from one part to another of the great towns; but the congestion of the streets has not thereby been relieved. Indeed, in some cases, where slow and quick traffic both make use of the same routes, the difficulty has been increased. Bold schemes for future street-widenings and for cutting additional wide new thoroughfares are often formulated, and would not lack support were it not for the financial questions which they raise. But it is clear that, however much we might wish to see them carried out, the cost would in some cases be prohibitive, while in others it could only be borne by dividing comprehensive schemes into parts, and dealing with a portion only at a time. Meanwhile, I venture to think that more than is now attempted might be done by public regulation and direction. For instance, it is a common thing to see horse-waggons being driven from East London to Paddington through the fast traffic of the West End streets—an absurd arrangement, when such traffic could be sent by the Marylebone-road, and one which might be duplicated by examples from almost every part of London. There is, too, the congestion at cross roads, which street-widening alone could not prevent. I believe it was our honoured Associate, Sir John Wolfe-Barry, who suggested sinking roads at junction points, so that one stream of traffic would pass over the other; and a number of crossings occur to the mind where such a scheme might be carried out at reasonable cost, and would afford much practical relief. Indeed, subject to the engineering difficulties being overcome, it seems possible that the solution of the problem in congested districts such as the City of London, where the value of property is so great that comprehensive street-improvements become impracticable through the enormous cost, may be found in an extension of Sir John Wolfe-Barry's scheme, by the formation of sunken roads under the existing streets to take the slow moving traffic. I feel confident that the cost would be infinitely less than that of widening

important thoroughfares for any considerable distance. The inconvenience which we are suffering through lack of foresight in town planning in the past, and the heavy burden entailed in the attempt to counteract it, should make us peculiarly careful to do what we can to prevent a similar reproach being levelled against us by future generations; and the Town-Planning Act of 1909 has put an instrument into our hands. Doubtless you are aware that a year ago the Council of this Institution, in conjunction with that of the Royal Institute of British Architects, by means of a representative deputation, impressed upon the Prime Minister and the President of the Local Government Board the supreme importance of making use of the provisions of that measure to deal with the question of the arterial roads of the future London before it became too late through the quickly proceeding development of the present outskirts. I am happy to say that due weight was given to the arguments then advanced, the area of Greater London being divided into six divisions, and a committee, on which the Institution is represented, being set up in connection with each, to consider and advise upon the necessities of each section, and to co-ordinate them with the requirements of the whole. I have no doubt that when the inquiries entrusted to these committees have been made the subject of a finished report, the work which they have done will prove of value not only within the district reported upon, but, as an example of what might be done, within every district in the country presenting similar problems.

TOWN PLANNING SCHEMES.

The following is a table prepared by the Local Government Board up to September 30 last, showing the town-planning schemes proposed or under consideration at the present time.

TABLE J.—Summary of Town Planning Schemes proposed, and of other cases in which the preparation of schemes has been under consideration by local authorities (September 30, 1914).

Stage reached.	Number of Schemes.	Number of Local Authorities.	Average of areas dealt with.
Schemes finally approved by the Board	3	2	9,668
Other schemes prepared by Local Authorities and submitted to the Board for approval	3	3	661
Schemes authorised by the Board to be prepared or adopted by Local Authorities	73	53	108,661
Applications for authority to prepare schemes under the consideration of the Board	30	27	47,988
Total	109	75*	166,978

* Separate Local Authorities.

Other cases in which the Board have information that the preliminary notices have been given with a view to applications being made to the Board for authority to prepare schemes

Other cases in which Local Authorities are known to the Board to have had the matter under consideration

Number of separate Local Authorities included under all headings of this table

It is satisfactory to see that the importance of this subject is not being overlooked, and, at the same time, that schemes are not being rushed through without due and proper consideration. The conferences which are now annually arranged between representatives of local authorities for discussing details in connection with town planning, and the principles which should govern that art, must prove of immense value in ventilating their subject, and in preserving our sons and grandsons from some of the disabilities under which we now suffer. On looking back over what I have written, I feel that my remarks are open to the criticism that I offer no definite solution for the problems which I discuss; but my reply would be that great social questions cannot at once be solved by a stroke of the pen, or even by legislative action, however well considered. Improvement can be effected only by progressive development and by the gradual amelioration

of such conditions as become the subject of condemnation. Indeed, the continuous rise in the standard of living which can be followed throughout history, and which, we think, has become more marked during the past century, shows us that each generation sets up ideals which it can never reach, as, happily, the ideals themselves continue to advance. I am, therefore, consoled at my failure to find a final solution of these questions, and shall be more than satisfied if any thoughts I have put before you bear fruit by stimulating a growth in the interest taken in these subjects among the coming generation, in whose hands the future advance will rest. I had thought to end my address here; but since writing the above I have been much grieved to hear of the sad death of my predecessor in this chair. Mr. Edward Woolley was well known to you all, and I know that you will feel how great a loss the Institution has sustained in his death. He was a straightforward English gentleman, much respected and beloved by all who were thrown in contact with him, both in business and in personal matters, and he leaves behind him an example any man might wish to emulate. Thirty years ago Mr. Woolley's uncle was President of the Institution, and I know what a pleasure it was to Mr. Woolley to have succeeded to the chair nearly a generation afterwards. Our heartfelt sympathy is with his sons in their great loss, and our earnest hope is that future generations of the same family may be forthcoming in their day to carry on the noble tradition set by their predecessors.

THE SOCIETY OF ARCHITECTS.

PRESIDENTIAL ADDRESS BY MR. E. C. P. MONSON, F.R.I.B.A., F.S.I.

In his Presidential address last night at the Society of Architects, Mr. E. C. P. Monson said: The building industry, with which the architectural profession is so closely allied, has been one of the first to feel the pinch due to the war. The state of the money market, the increase in prices, the difficulty of obtaining material, and many other questions arising, naturally affect the building owner, and through him the architect and the contractor, and it can only be by the most careful thought and nursing that contracts now running can be brought to a successful issue. Unfortunately, the prices at which jobs have recently been tendered for have been so "cut" that any little unforeseen extra, to say nothing of large ones which naturally make the matter worse, must rapidly eat up the profits and tend to turn what might have been a margin on the right side into a bad loss. Any loss in this direction must naturally fall upon the builder and be a matter of most serious consideration to him, and often cause him some uneasiness. All this coming, as it does, so soon after the disastrous strike or lock-out in London, and the sectional strikes in many provincial centres, only emphasises the trouble, and adds "insult to injury." Personally I have had no trouble with contracts which were in hand when the war started, and builders are doing their best to get on with them—and I do not anticipate any extras—but I think it is only fair, if the job is genuinely proceeded with, that an extension of time should be allowed to the contractor, and that the penalty clauses should not be too strictly adhered to, because of the great difficulty which is being experienced in obtaining some kinds of materials. In the case of one large contract for which the tender was accepted before the war, but which the contractor would not proceed with owing to the causes mentioned above, the matter was settled and the contract signed upon my clients agreeing to pay an additional sum to cover the extra cost of materials attributable to the war used upon the work, over and above the prices prevailing at the date of the tender. Such extra sum in total is not to exceed 5 per cent. of the total cost of the job, and is to be the subject matter of a separate certificate at the completion of the contract, upon ocular proof being demonstrated to me that

the extra prices have been actually disbursed. In small jobs I have not found that prices have been so materially affected as to make the carrying out of the work impossible or unremunerative. In many cases, I am only too sorry to say (for, unfortunately, I sometimes have been guilty of it myself), when making out the preliminary estimates of the cost of the works to submit to one's client, sufficient notice has not been taken of the increasing stringency of building acts and by-laws, and of the enormous advances in the price of labour and the cost of material, which, taken with the rise of insurance premiums for Employers' Liability, Unemployment, Health, and suchlike burdens, all, however, very useful and necessary in their way, have, in the last twenty years or so, in my opinion, raised the price of building work some 40 per cent., and even in the last few years by as much as 15 per cent. to 20 per cent. Consequently the client has been given a false impression of what he would be called upon to pay, and been dissatisfied when the tenders arrived. I think, in a few months' time, when timber ports are fully open again, and either the old or new markets are available for the purchase of materials which have inordinately increased in price, that no difficulty will be experienced in building works, for already the cost of some materials which rapidly went up has dropped considerably. Should, however, such optimism not be realised, then it will surely be time for H.M. Government to step in and fix a maximum price for the respective materials (as has been done with success in the case of food), so as to prevent grasping merchants and importers from making an inordinate profit, and crippling the industry of the country, thereby causing serious unemployment, to the detriment of the community at large. What is our good friend the Chancellor of the Exchequer, the Rt. Hon. D. Lloyd George, doing? He very generously promised a sum of four million pounds to be spent at once in housing schemes. This could now be readily applied, and would be an enormous help, not only to the architects—who, by the bye, would only receive a very small part of it—but also to the workers in the building and allied trades. Moreover, it would supply that much-needed provision of housing which is so abundantly required and which is so anxiously being begged for in all parts of the land. I recently saw a notice that housing schemes were to be sparingly prepared; but I cannot think that the promised sum has yet been earmarked or spent, and to my mind the sooner a start is made with it the better. Unfortunately, the rate of interest charged by the Public Works Loans Commissioners has been raised from 3½ per cent. to 4 per cent., which, of course, will make a lot of difference in the preparation of housing schemes, and I am afraid, in some cases, will cause the houses either to be let at rents greater than the people can afford to pay, so as to show an adequate return on the net outlay, or else the places must be let at an uneconomic rent, and then the ratepayers at large must make up the deficiency, which is not a proper course to pursue. I sincerely hope it will be possible to keep the rate of interest down, so as to enable the housing schemes to be proceeded with. At our last annual dinner, Mr. Herbert Samuel, the worthy President of the Local Government Board, promised he would help architects and the building trade, and I venture, with all respect, to submit that now is the time when it can be done with the greatest effect and most advantage to all concerned, and if by any means he can extract the money from the Treasury it would be a good act done. A serious question is just being borne in upon contractors as to what is their responsibility in time of war, should the buildings they are in charge of be damaged or destroyed by an enemy. Our honorary solicitor takes the view that in the event of a building, or addition to a building, in course of construction, being damaged by the King's enemies, where the contract provides for a fixed sum to be paid upon completion, the loss would fall upon the contractor, and not upon the employer, in the absence of express

provision to the contrary. In the event, however, of the contract providing for periodical payments against works performed, the contractors claim for payment against works performed at the time of the loss would remain valid, and the loss to that extent would fall upon the employer. It appears to me, therefore, that the contractor and the employer must either take out a policy at Lloyds' or in an insurance office covering his risk, or else trust to Providence. Personally, I think this latter would be sufficient cover, because I have faith in our Navy. Of course, there is always a chance of bombs from aircraft, but the contingency, I need not submit, is very remote. Can architectural or other professional societies do anything to encourage the building industry? Could a representative round-table conference be called with the industry and its many branches: Manufacturers, factors, contractors, building owners, architects, surveyors, engineers, Government departments, and representatives of skilled trades connected therewith? This is a matter well worthy of our consideration, and I shall put it down as soon as possible upon one of our agendas for discussion, so as to obtain the views of the Council thereon before doing anything definite.

ARCHITECTS' WAR COMMITTEE.

Unquestionably the war will have a detrimental effect upon architectural prospects. In many instances jobs have been held up which it was hoped would have been proceeded with, and in some cases for which tenders even had been received. This has been caused mainly, I take it, owing to the stringency of the money question, to banks stopping overdrafts, and sometimes refusing to allow a man to withdraw his own money, thereby causing much dislocation of trade, as well as completely upsetting all usual monetary conditions. This condition, however, is improving every day, and shortly we may anticipate that things will become more normal. One result of the war will, I think, be the impressing upon all concerned the necessity of the most rigid economy and reorganisation of methods of building, as well as the standardisation of materials used, though not necessarily so as to make every street of houses appear as if they have been built from a box of bricks or even cast in the same mould. This monotonous effect, when it is resorted to, is always sure to be depressing and to give dissatisfaction, and what an architect has to aim at is greater elasticity and freedom in his design, but not necessarily a searching after exaggerated effect which, unfortunately, very often produces monstrosities. It must be remembered that by pleasing the eye in the matter of building one undoubtedly improves the mind. For the time being, owing to stringency of money matters, building contracts are sure to be held up, and difficulties can only be dispelled by the close working together of all concerned, the re-arrangement of methods in manufactory and workshop, and the strictest economy of architects and quantity surveyors, the latter in particular, in specifying the various articles and the manner in which they are to be employed. It is so easy to make a job come out at an excessive price by filling up the bill of quantities with innumerable labours and small works which could, and should, be priced in with the article itself. Only by such care being taken can the building owner be encouraged to proceed with new work, by being made to feel that every consideration is being shown to him, so as to give him the cheapest possible job compatible with good work. Then, again, the financiers who have been in the habit of taking up large contracts are not at present able to put their money into building works, for the reasons I have before mentioned. But apart from the war, this standing aloof, unfortunately, has been the case for some considerable time, for there is so little margin of profit, sometimes none at all, owing to the greatly increased cost of building, that the risk incurred is not commensurate with the chance of profit, and if building is to go forward it must either be

by the reduction of the cost of the work (which is not possible below a given standard) or else, when it is done, the promoter must receive a greater return for his outlay. This can only be construed into more rent, and it comes to this, that if the worker, in whatever branch he may be, is to earn or receive some profit for his work, then the people who pay must receive sufficient money to pay with, and thus the money question goes on in a never-ending circle, and it stands to reason that if the cost of making a thing is raised it will cost more to hire or purchase. The Society is conducting an inquiry into the discrepancies which exist between the cost of building in large foreign cities as compared with that in London; this, however, owing to the war, is held up at the present time; but so soon as something is ready for submission to the members I hope to get it out, as it will undoubtedly give some idea as to what can be done in the matter of standardisation and reorganisation of our methods. In addition to the stringency of the money proposition and the need of profit on schemes there is the uncertainty as to the policy proposed to be meted out by the Government under the Land Question, and there has been a considerable slump in the investing of moneys in this direction, and it has been difficult to negotiate sales and mortgages. Is it not possible for the Government, through the Land Valuation Department, to lend money on mortgage on well-secured property up to say two-thirds of its value, at a reasonable rate of interest, to be paid back in a stated time? This would get over the difficulties which are now occasioned by the banks feeling a diffidence on the subject, and would, moreover, show that the powers that be were willing to help all classes of the community. We have at least to thank the war for putting an end—for the time being, at any rate—to all questions of architectural politics, and for giving us the unique spectacle of representatives of all sections of the profession working together for the common good. This is owing to the healing balm of charity, the Architects' War Committee has cemented all factions, if so they may be called, the Institute, the Society, the Architectural Association, and the Architects' Benevolent, and here an excellent work is being done. It was a long while before the ponderous machinery suggested could be brought into some sort of shape to make it all workable. The idea of the committee is not to give charitable doles, but to assist architects in distress by giving them work to do, and so occupy their time and at the same time keep them from thinking, and also make them feel they are still earning their living, and not being pauperised. The Society, I am pleased to say, started the Employment Fund by the grant of the sum of one hundred guineas, and the work of administering the money is done by the Professional Employment Committee, which meets once a week at 28, Bedford-square, the Society's headquarters. The Society is represented by several members on the War Committee and on all the sub-committees, and is taking a very active part in the work. With regard to subscriptions to the Architects' War Fund, if there should be any of our members who have not yet sent in, it is not too late, and any sums will be thankfully received and gratefully applied. At the present time there does not appear to be much distress caused by the war amongst architects; but it may be that as the winter comes on the cases will multiply, and distressed architects should not neglect the opportunity of applying to the Employment Committee, who are ready and anxious to help all who can show just cause. It is pleasing to note that all architectural societies, whether affiliated to one another or not, are co-operating with the Architects' War Committee as well as helping locally in their endeavours to help the worries and sufferings of their less favoured brethren.

Now, as to the Society's general work.

REGISTRATION.

I feel I must put this subject in the premier position, as undoubtedly it is the

one object for which the Society was founded and is the *raison d'être* of its whole existence. At the present juncture I do not want to labour the point, but it is absolutely necessary that it should be thoroughly understood and kept well in the forefront and in the minds of everybody. Although the Royal Institute of British Architects have stated that for the present they are not proposing to proceed with their new Charter scheme, there will undoubtedly come a time when it will once more be upon the tapis, and then the fight will be renewed with redoubled vigour. I am pleased to say that steps have been taken by the Society to oppose the Charter scheme in its present form, and, in my opinion, there is very little likelihood of it ever coming to fruition; for it is apparent to all right-thinking men that no voluntary system of Registration can be any good unless it be taken as a very inadequate preliminary to compulsory registration. What registrationists look for is the closing of the doors to all "quacks" and inefficient and untrained men, who only impose upon the public, drawing regular fees, and pretending they can do more than they are able. They are under no restraint, and are often found sailing as near the wind as possible, and generally belittling the proud position of an architect. All the while Registration is delayed, more and more of these persons are being unfortunately created, and must be dealt with some day, be it by Bill or Charter. I appeal to all members of the profession, especially those whose position is assured—for, I am sorry to say, it is amongst the ranks of these, the "top-dogs," those who have no necessity to hunt for their daily bread—that the greatest opponents of Registration are found. Why cannot they be brought to see that what is required is something for the benefit of the whole community as well as for the architect? It is the public who requires to be protected from the unqualified man, and I look forward to a time when education of the public and the disappearance of the anti-Registrationist will unite us all in a common object. During all this dreary time of waiting, however, the Society are pushing their Registration Bill, and valuable work is being done in educating professional and public opinion on the matter, so that at the proper time I hope we can launch our "craft" and steer it unhesitatingly to a safe haven. What is there, after all, to prevent a federation of all architectural societies for purposes of Registration, control, and matters affecting the profession generally? Surely this could be done easily and quickly, and a united profession could be brought about, leaving every professional body (Society, Institute, or Association) independent as it is now to continue its work of education and the furtherance of purely domestic matters on its own particular lines. The representation of each body on a central council could be arranged in a fair and reasonable manner, so that the interest of all parties would be co-ordinated and secured, whether they be members of some professional body or be outside the fold. All these matters are bound to crop up in the near future, and will require very much thought and consideration by the Society, and I call on you "to keep your powder dry" for the time when serious action becomes imperative.

ARCHITECTURAL EDUCATION.

The birth of the Beaux Arts Committee, as every member of the Society knows, was due to the energies of that body. They will also remember how coldly it was received, how every obstacle was placed in its way at first, and how it was once written down in the professional Press. It is extremely gratifying to feel that the principle is now admitted, and "imitation being the sincerest form of flattery," other teaching bodies are beginning to follow suit. At the present time there is every chance for the Atelier to offer hospitality in architecture to students from France and Belgium whilst the Paris Ateliers are closed, and I understand that steps have been taken to bring the matter to the notice of the Ecole des Beaux Arts. It cannot be denied that the first Atelier in London has

proved an undoubted success, and has been the means of imparting much useful information to students, and will be the nucleus of doing an inestimable amount of good to British architects. At the present time, of course, its extension is stopped by the war; but great things are looked for so soon as peace is declared.

COMPETITIONS.

In the matter of competitions generally throughout the country, doubtless many are conducted on strict and honourable lines; but recently there have been several which do not appear to have been quite fair as regards the conditions imposed, and these have been barred by the Council of the Society. I am pleased to know that arrangements for co-operative action in dealing with unsatisfactory competitions has been come to with the Royal Institute of British Architects, which I am sure will be certainly much better for the competitors, and, in the end, better for the promoters, for nobody willingly, especially corporation and public bodies, likes to be held up to the scorn of their fellow-men, or to be made to feel that they have been wanting to "go down" the poor architect and obtain his brains for the benefit of some inferior competitor, who, it may be, is to receive the benefit of their advice. Sometimes, however, there may be no ulterior motive with the promoters, and the fault of their scheme is that they have not known better; in these cases, however, they are always amended, and the competition is conducted in a proper and regular way. In regard to the announcement of the result of a competition, what I would like to suggest is that, instead of unsuccessful competitors receiving the bald notice that their design has been refused, that the jury system, similar to that adopted at the Beaux Arts Atelier should be adopted. In these cases there are, say, three jurymen who all agree upon the best design, placing the others in order of merit, or, at all events, the first three or four of them; then there is a public criticism of the designs submitted by one of the members of the jury, after the award has been made, giving the jury's reason for the selection. A method such as this would surely stop any unfair criticism of partisanship, although it might not be acceptable to some of the people whose drawings might be badly mauled; but it would be scrupulously fair, and, like the great Bayard's motto, "Sans peur et sans reproche." I only hold this out as a suggestion. It is, however, very necessary to insist that architects should be loyal to the Society, or whatever architectural body they belong to, and should accept the award without quibbling when it has been made. Further, they should not enter for any competition which is banned; if they do they must understand it is against the "Code of Ethics" which has been adopted by architects, and they fully know, in the latter case, that they have only themselves to blame if they afterwards receive a disciplinary communication from the Secretary, which may even involve them in expulsion from the Society, a very unhappy ending, probably, to an old, valued, and esteemed connection.

NEW FORM OF BUILDING CONTRACT.

The Society is well forward with the preparation of a new form of building contract, all others now in use being somewhat antiquated and out of date. The Council has given very much time and thought to the preparation of this document, and when it is finally produced I trust that every member of the Society will use it and make it as popular as possible. It is being settled by an eminent counsel, so as to embody all the latest cases which have arisen, and will, I hope, before being issued, receive "the benediction" of the master builders, and, therefore, be accepted without demur. A full-dress debate on this Form of Contract is to take place at the Society's premises on December 10 next, and should prove very interesting.

STUDENTSHIP COMPETITIONS.

Seeing that the war has taken away so many of our students, and doubtless will prevent many others from taking advantage

of the benefits which we hold out, all studentship competitions have been postponed for the present, and the maximum age limit for students been temporarily waived, so that those on active service may not be penalised. Of course, it must be distinctly understood that as soon as matters return to a more or less normal state the ordinary conditions will again become operative.

ARCHITECTS' WAR SERVICE AND MEMBERSHIP SUBSCRIPTIONS.

I suggest to all architectural bodies, if they have not already done so, and here again the Society has probably been the first mover, that all annual subscriptions from those members who are on war service be waived for the duration of the war, and that their names be retained on the register as full members of the respective bodies. This is the least we can do at the present time in recognising their gallant conduct in taking up arms, not only in defence of their country, but in defence of all that stands for honour and freedom. I think that unusual consideration in the matter of subscriptions should also be given to other members in genuine cases of distress caused by the war. In conclusion, may I express a hope that all architects will strongly aim at using only the products of our own country and Colonies, and if what they want is not obtainable there, which seems hardly probable, then that they should give our Allies a chance; but that on no account should an alien enemy secure an order, direct or otherwise, for I submit that it is only by patriotism of this kind, strictly enforced and carried out, can we bring home to the nations who have forced us into this bloody war the fact that we are, and can be, quite independent of their "Kultur" and their productions.

I trust I have not spoken at too great a length, and I earnestly hope that every member of the Society will weather all the trials and difficulties which are now besetting the country, and so seriously interfering with the practice of their profession, and that at the end of the session 1914-15 we may all be able to look back and feel that we have each done his duty in the state of life to which it has pleased God to call him:

"Do thy little well, and for thy comfort know,
Great men can do their greatest work no better than
just so."

SOUTH AFRICAN BRANCH OF THE SOCIETY OF ARCHITECTS.

The eighth annual meeting of the South African Branch of the Society of Architects was held in the board-room of the Association of Transvaal Architects, Winchester House, Loveday-street, Johannesburg, on October 1. The retiring President, Mr. G. W. Nicolay, occupied the chair, and in the course of his address remarked that the year had been marked by an all-round reduction of architectural output, of great difficulty to the less fortunate of the profession. Owing to a difference of opinion as to the draft Registration Bill put forward last year, the Association of Transvaal Architects was represented on the Association's Council by one member less than last year. He trusted that a way would be found to enable their members to come to united action in the future. The competition for the proposed Governor-General's House at Capetown, though most unfortunate to the interests of the profession, had led by a stormy passage to the formation of an Advisory Board, which the Minister of Works had expressed his willingness to consult. The builders of the Union of South Africa were making a strong move towards the uniformity of architectural practice so far as documents were concerned. The Council, while realising the difficulty of making a uniform agreement applicable to all men, contracts, and circumstances, would support the movement with a whole heart, believing that if practicable, it would be a great boon to building work in general. The branch had increased its membership during the year by eleven new members.

The statement of accounts, which was very satisfactory, was received and adopted.

The following were elected as Officers and Council for the ensuing year: President, Mr. D. Ivor Lewis; Vice-President, Mr. W. J. McWilliams; Hon. Secretary, Mr. S. C. Dowsett; Hon. Treasurer, Mr. D. M. Burton; Council, Mr. M. J. Harris, Mr. H. G. Veale, Mr. J. F. Beardwood, Mr. G. W. Nicolay (ex-officio). (Owing to the growth of the branch it has been found desirable to amend Rule 4, so as to permit of increasing the Council by one.) Auditors: Mr. E. H. Waugh and Mr. D. M. Sinclair.

Mr. D. Ivor Lewis, the new President, whose portrait we give herewith, by the courtesy of Mr. C. McArthur Butler, the Secretary of the Society of Architects, is a member of the Council of the Transvaal Institute of Architects, a past member of the



MR. D. IVOR LEWIS.
President of the South African Branch of the Society of Architects, 1914-15.

Council of the Association of Transvaal Architects, and has acted as examiner in two subjects—viz., architectural history and practice, on the examining board of the branch. He is a member of the Royal Sanitary Institute and of the Concrete Institute. Mr. Lewis is also a past-president of the Witwatersrand Cambrian Society. Mr. Ivor Lewis was born in 1876, at Machen, near Newport, Mon., and after receiving his education at public schools and colleges, he was articled for five years to the firm of Messrs. Wm. Graham, Hitchcox, and Co., architects and surveyors, of Newport, Mon. Mr. Lewis remained with this firm for about seven years. He emigrated to South Africa in 1902, and obtained the appointment of chief architect in the town engineer's department of the municipal council of Johannesburg, which position he occupied for a period of nearly six years. During that time he was entrusted with the preparation of the designs and supervision of works under the late town engineer, Mr. D. C. Leitch, M.Inst.C.E., and the present town engineer, Mr. G. S. Burt Andrews, M.Inst.C.E., M.S.A., amounting approximately to £1,000,000. Mr. Lewis resigned this appointment about six years ago, and commenced private practice in Johannesburg, the class of work that he is chiefly engaged upon being buildings of a domestic character. Mr. Lewis for the past three years has been the hon. secretary of the South African Branch of the Society of Architects, and during last year was one of the hon. secretaries in connection with the very successful congress, held under the auspices of the Royal Sanitary Institute at Johannesburg. In October, 1913, the home Council had the pleasure of entertaining Mr. Lewis, who was then at home on leave.

Our Illustrations.

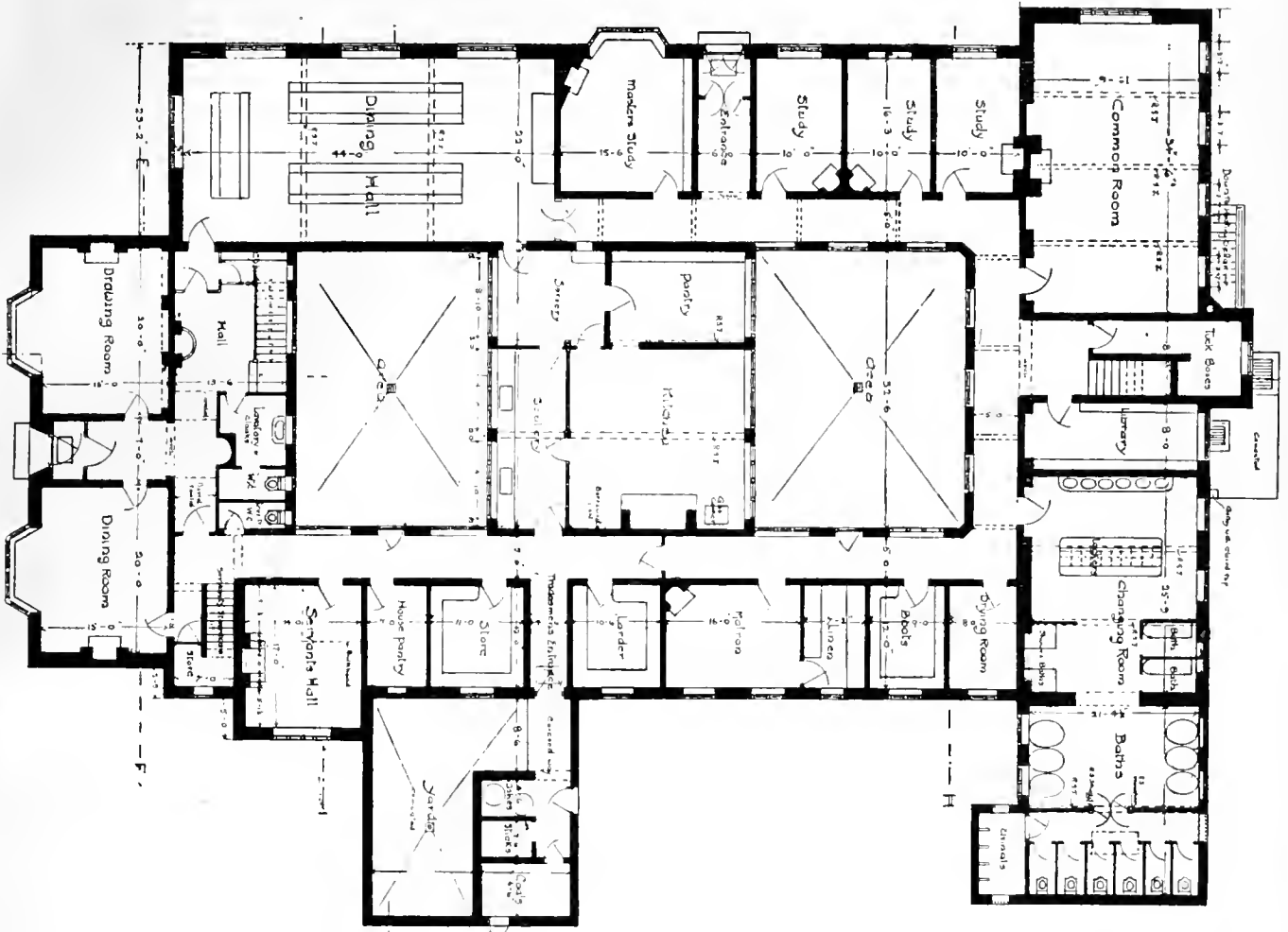
CONFESSIONALS AND STALLWORK, ST. PAUL'S CHURCH, ANTWERP.

We are uncertain to what extent this church may have been damaged by the bombardment of Antwerp by the Germans last month; probably no serious injury to the building or its contents has so far actually taken place. Whether this be so or not, a good illustration of the wonderful confessionals and richly-carved stallwork, which constitute the glory of this Dominican church, will be welcomed, because they are undoubtedly very beautiful specimens of Baroque woodwork, in which monumental figure-sculpture furnishes the motif of their design, marked as it is by dexterous skill and extraordinary ingenuity. The built-up method of their construction, in spite of the inappropriate handling of the material, which no purist could defend, must be appreciated, if only as a notable instance of technical capability in execution. These are qualities which the ordinary observer cannot fail to admire, and every candid critic is bound to recognise their merit as masterpieces of manipulative carving. By their fullness of design they illustrate the influence of Rubens, who impressed the craftsmen with "the muchness of his ambrosial manner." St. Paul's Church is particularly rich in paintings by this master, whose canvases reflect the style of these Rococo fittings. A frieze above the stalls is composed of framed subjects from his brush, as seen in the upper photograph on our plate, and this view also illustrates the equally typical Flemish altar-piece, carried out in marbles, possibly at a somewhat later date. The most distinguished among the confessionals is that of the Curé, which was carved by Artus Guellin. The treatment of the whole set is characteristic of his manner, and may be attributed to him and his school in the style prevailing through Flanders during the middle of the 17th century. Of this period no better examples can be mentioned. They give repletion to the building, inasmuch as its Gothic interior serves mainly as a casket for their display, which seems somewhat de trop. The impression also to the thoughtful mind is that such unqualified elaboration, not to say excessive extravagance of ideas, is scarcely calculated to inspire a contrite spirit on the part of the penitent seeking ghostly counsel and absolution 'midst so much terrestrial display. On the other hand, these confessionals are, naturally enough, the source of much attraction to everybody visiting Antwerp; but perhaps a larger proportion of the tourist type of sight-seekers go to inspect the morgue-like Calvary set in a grim environment composed of slag sham rocks, with plaster figures and graveyard appointments, chosen as indicative of Death, this grievous exhibition being one of the features of the town, and theatrically arranged near the entrance portal of St. Paul's Church in the Rue des Sœurs Noires. We do not happen to have seen either of the confessionals at this church in use; but this may happen when visitors are not being shown round. We are reminded, however, of having witnessed baptisms being performed on the Continent in cathedrals where splendid marble fountains exist ready to hand, in side-chapels or in the naves; but owing to modern usage fountains are dispensed with, a small silver coffee-pot serving instead for the christenings, just as we have seen common pudding-basins employed in England because it was too much trouble to use the grand old parish stone sculptured fountains erected centuries ago by the skill and piety of our ancestors. For instance, this pudding-basin practice prevailed, to our knowledge, years ago at no less a beautiful church than Wymondham, in Norfolk. We are indebted to Mr. T. Hyler White, of West Croydon, for the accompanying photographs.

WORKMEN'S HOSTEL, HOTWELLS, BRISTOL.

We have no particulars of this work, and have been unable to obtain any, owing to the

BOARDING-HOUSE, DURHAM GRAMMAR SCHOOL.—Mr. W. H. Wood, F.R.I.B.A., Architect.



absence of the architect, Mr. Harold Crone, who has, we understand, joined the forces against the Germans. His water-colour perspective, reproduced herewith, was exhibited at the Royal Academy this last season. The ground story is in stone, with red brick above and crowning a white cornice comes a tiled roof. The elevation is broadly managed, with much reserve in ornament, and architectural enrichment very sparsely used.

ST. BRIDGET'S NEW PARISH HALL, WAVERTREE, LIVERPOOL.

This hall, which was formally opened by the Lord Bishop of Liverpool on November 3, has been erected on a site at the junction of Garmoyle-road with Gainsborough-road, and forms a picturesque group of buildings harmonising with the surrounding property, and suitably adapted for the purpose of a Sunday-school or for parochial meetings, etc. The outside walls are built of Ravenhead rustic-faced bricks, with Rainhill stone dressings, and the roof covered with grey Welsh slates, which form a happy contrast to the quiet yet rich colour of the brick-work. The feature of the building is the large hall, seating 375 adults, with open-timbered roof and boarded ceiling. The principal entrance is from Garmoyle-road, where the vestibule and cloakrooms are placed. A secondary entrance, with vestibule and lavatory, is arranged on the Gainsborough-road side, which also provides access to the classrooms at the stage level and the club-room over. Four classrooms are provided on ground floor, two of which, being raised 3ft. above hall-floor level, are convenient for use as a stage and retiring-room, and can be shut off from the hall by means of a folding screen. The space under these latter rooms has been utilised for storage purposes, and communicates with the hall by means of a trap in the platform front. A spacious club-room is placed on the first floor, with cloakroom and lavatory accommodation, which will be useful for small meetings in connection with the various parochial societies and organisations con-

nected with the parish. A small kitchen recess is placed on ground floor, containing the water-heater for making tea, sink, and cupboards for china, all so arranged that it is quite obscured when not in use. The building is heated throughout by means of gas-steam radiators, and the ventilation is by Tobin's tubes in the walls and extractors through the roof. The lighting is incandescent gas with inverted mantles. The architect is Mr. Frank Rimmington, Licentiate R.I.B.A., 26, North John-street, Liverpool, the contractors being Messrs. W. Lothian and Son, Broad Green, near Liverpool.

BOARDING-HOUSE, DURHAM GRAMMAR SCHOOL.

This boarding-house, just erected, will be known as Langley House, after Cardinal Langley, Bishop of Durham. The Archbishop of York was to have opened the building this month, but owing to the war the formal ceremony has been postponed. The building provides accommodation for forty boys, and occupies a pleasant site close to the other buildings belonging to this school. It is built of stone, with oak window frames, glazed with leaded glass; the roof is covered with hand-made tiles. The master's house is at the front next the road, and on the ground floor on each side of the entrance hall are dining- and drawing-rooms; behind is the large dining hall, masters' study, common room, changing-rooms, servants' hall, matron's room, and stores, etc. The kitchen is placed in the centre of the block, so as to serve both house and dining hall. Spacious courts are arranged on each side, for light and ventilation. The upper floor consists of the bedrooms of the house, sick-rooms, bathrooms and lavatories, matron's room, tutors' rooms, besides four dormitories, each of them being planned for ten boys. The work has been carried out by Messrs. G. Graddon and Son, of Durham, from the designs of Mr. W. H. Wood, F.R.I.B.A., successor to the late Mr. C. Hodgson Fowler, F.S.A., of Durham.

NEW AQUATITE WORKS, DERBY STREET, CHEETHAM MANCHESTER.

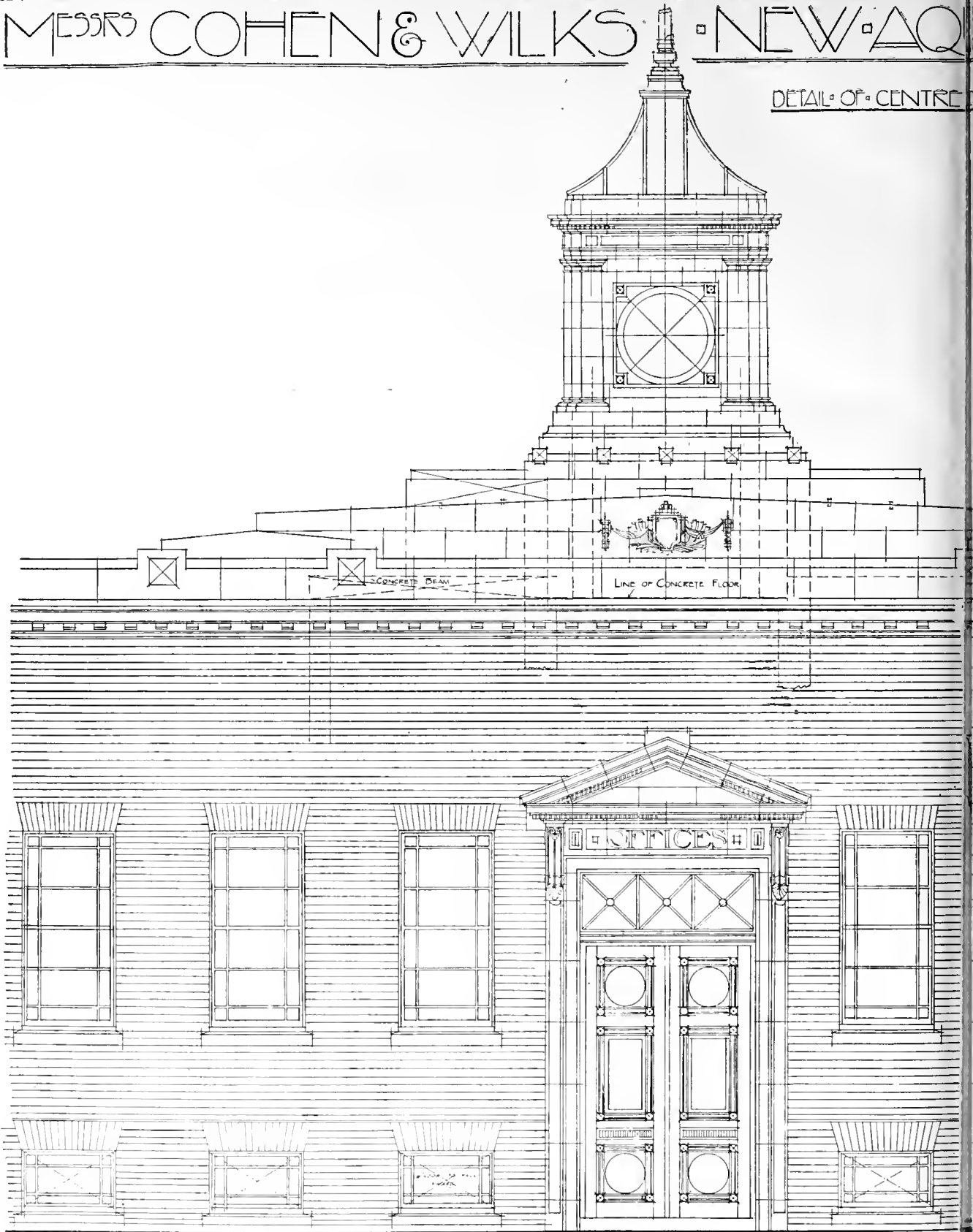
These works, for Messrs. Cohen and Willis, designed to be under one roof, will cover an area of about three acres of ground, and, therefore, the building will be the largest works under one roof in Manchester. The central block, facing Derby-street, consists of offices, board-room, and receiving and despatching docks, with filling rooms on the first floor, as shown by the key plan on the plate. The works will accommodate 1,500 workpeople, and every modern convenience has been provided in the way of hygienic sanitary offices on a mezzanine floor over the large workpeople's entrance, also resting- and sick-rooms for workpeople. Extensive cloak accommodation in the lower ground floor, with ingress and egress arrangements, also large dining-room for workpeople, and separate dining-room for office staff in lower ground floor. The construction will be fire-proof throughout, with patent glazing on the roof, which will give equally good light to every bench and machine. Tenders have been received for the works, but commencement has been temporarily postponed on account of the war. Mr. Joseph Sunlight, of 4, St. Ann's square, Manchester, is the architect.

The rural district council of Docking, Norfolk, have adopted plans by Mr. Kennard, A.R.I.B.A., London, for six cottages to be built in the village of Brancaster. It is estimated that if the half dozen cottages are built in a row, at a cost of £850, they will show no deficiency if let at 3s. a week.

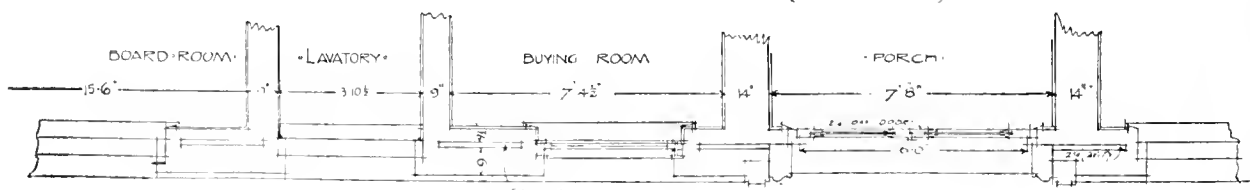
A memorial to the late Mr. Henry Whyte ("Fiom"), in authority on Gaelic literature and music, has been erected over his grave in the Western Necropolis, Glasgow, and was unveiled the other day by Professor W. J. Watson, Edinburgh University. The memorial takes the form of a stone with a Celtic cross carved in relief, and a Gaelic inscription testifies to Mr. Whyte's character and work.

MESSRS COHEN & WILKS · NEW AQUATITE

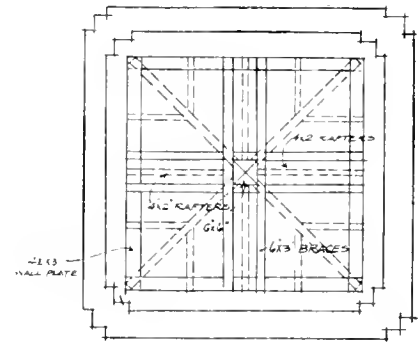
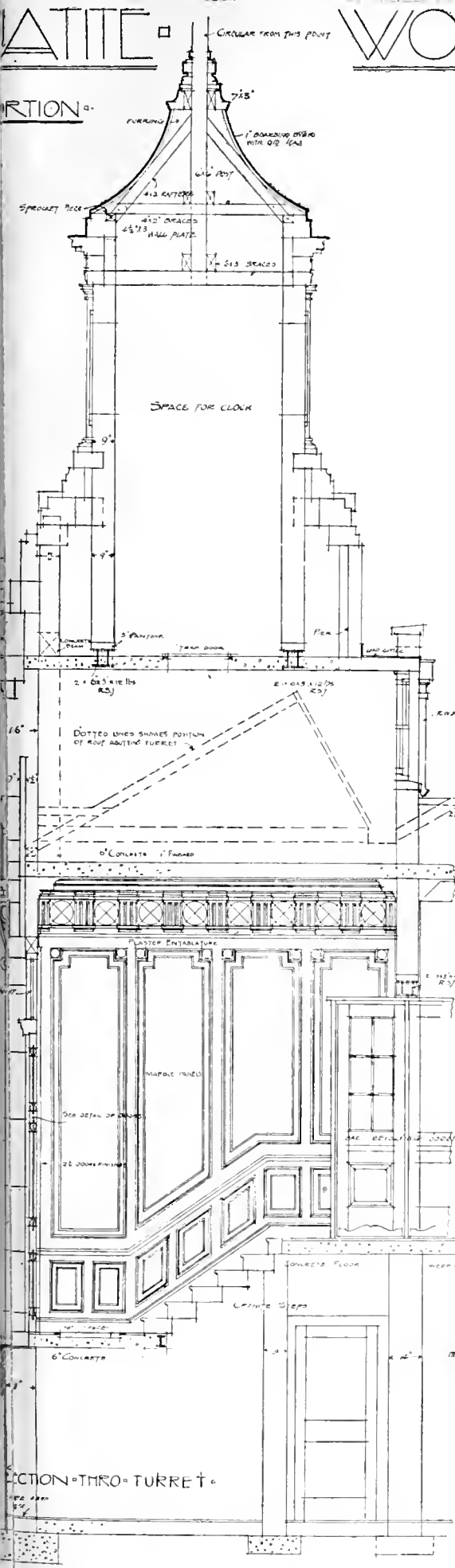
DETAIL OF CENTRE



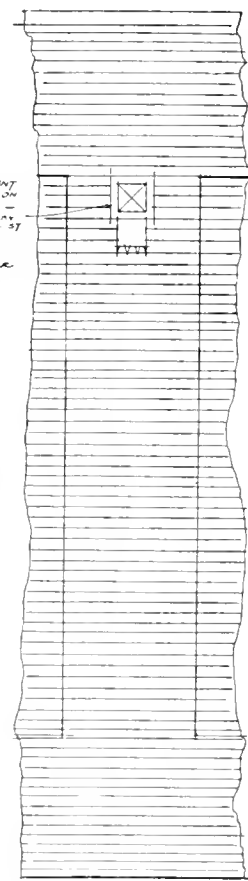
ELEVATION OF CENTRE PORTION
(TO DERBY STREET)



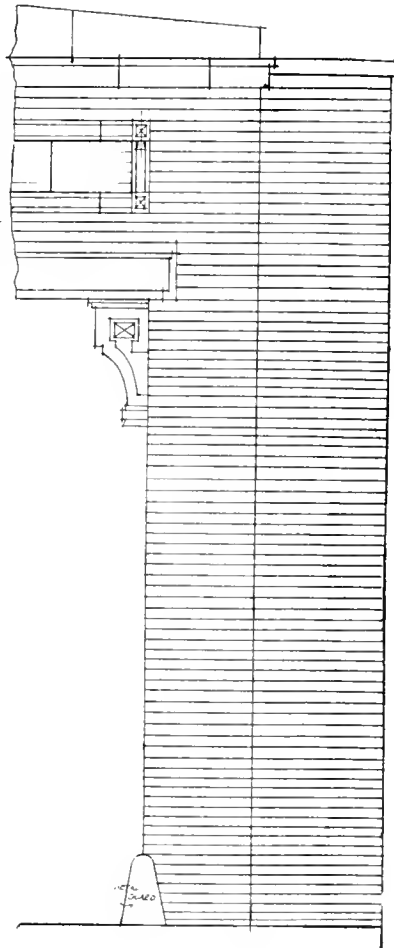
LATTICE WORKS CHEETHAM



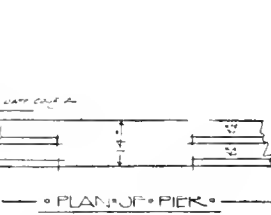
PLAN OF TURRET



DETAIL OF PIER



DETAIL OF LOADING DOCK



PLAN OF PIER

THE LONDON COUNTY COUNCIL.

At the meeting on Tuesday of the London County Council the Highways Committee submitted proposals to apply to Parliament for authority to carry out comprehensive schemes for the linking-up of existing dead-end tramway termini and for the consolidation of the Council's tramway system, the total gross expenditure involved amounting to no less than £897,985. The committee stated that their recommendations, if adopted, would result in a large addition to the revenue of the tramways undertaking, owing to the consolidation of the system which will be effected thereby and the improved efficiency of working which will be secured. In view of the special conditions which may arise as the result of the war, and, consequently, the possibility of some of the works not being completed within an early date of securing the requisite Parliamentary authority, the authorising Bill is to specify seven years as the period for the completion of the construction of the tramways.

These are as follows: (1) Victoria (Vauxhall Bridge-road tramway terminus) to Westminster Bridge, via Victoria-street, Broad Sanctuary, Parliament-square, and Bridge-street; (2) Shepherd's Bush to the Broadway (Hammersmith), via Uxbridge-road, Holland-road, Kensington-road, and Hammersmith-road; (3) Harrow-road to King's Cross, via Edgware-road, Marylebone-road, and Euston-road; (4) Seven Sisters-road to near Crouch Hill Station, via Fonthill-road, Lennox-road, and Stroud Green-road to Hanley-road, with a single loop line in Crouch Hill, Japan-crescent, and Mount Pleasant-road; (5) Charles-street to Charterhouse-street, via Farringdon-road; (6) Gray's Inn-road to Blackfriars Bridge, via Holborn, Holborn Circus, Charterhouse-street, Farringdon-street, Ludgate Circus, and New Bridge-street; (7) Seven Sisters-road to Stamford Hill, via Amhurst Park; (8) Mare-street to Terrace-road and Church-crescent, via Well-street, Cassland-road, and Lauriston-road; (9) High-street, Shoreditch, to Cambridge-road, via Bethnal Green-road; (10) Aldgate terminus to Aldgate Station, via Aldgate High-street; (11) Aldgate to near Mark-lane Station, via Mansell-street, Tower Hill, and loop line, via Trinity-square (a scheme passed last year by the House of Commons, but rejected by the House of Lords); and (12) Waterloo-road to Blackfriars-road, via New Cut and Great Charlotte-street. It is also proposed to reconstruct the existing horse-traction tramways in Southwark Park-road, Graunge-road, Raymouth-road, and Rotherhithe New-road. Seven of the schemes had involved, the Improvements Committee reported, extensive street widenings, estimated to cost about £94,850. The estimated capital cost of the construction and equipment of the tramways proposed, excluding any portion of the cost of street widenings chargeable to the tramways account, and also excluding any proportion of power-station expenditure, amounted to £787,035.

The Finance Committee, reporting on the proposals, considered that on financial grounds it would be undesirable that the Council should, in the present circumstances, contemplate embarking on a scheme of the magnitude proposed, if it were intended that it should be put in operation immediately after the obtaining of the suggested powers, but as seven years were to be allowed for carrying out the works if powers be obtained, they did not see any objection from the financial point of view to the Council submitting the proposals to Parliament.

After some discussion it was decided not to proceed with the seven schemes for linking up as to which the borough councils concerned had expressed formal disapproval.

The Council decided, after some discussion, that Parliamentary powers should be sought next session for the establishment of a new electricity undertaking for the counties of London and Middlesex and parts of Essex, Hertford, Kent, and Surrey, to be called the London Electricity Authority. Sir John Benn congratulated the special committee on the report and said he believed the

scheme would mean an enormous saving to the ratepayers, and confer an inestimable boon upon London. After criticising the proposal to set up a new and hybrid authority, he moved that the word "municipal" should be substituted for "new" authority in the recommendation. Mr. Percy Harris seconded the amendment, which, however, was rejected by 63 votes to 44, and a further amendment by Mr. Gordon, to protect any borough which did not want to come under the scheme, was also defeated.

UNPRECEDENTED TRUSSED SPANS.

Designs and estimates for a 75,000,000dol. high-level bridge across San Francisco Bay have been prepared by Mr. Charles E. Fowler. They include terminal structures at both ends, a 20,000ft. approach, and 800ft. cantilever spans at one end, and a 9,700ft. five-span 49,000,000dol. crossing from Telegraph Hill to Goat Island.

The bridge is designed for a capacity of 60,000,000 people and 56,000,000 tons of freight annually, and is proportioned for two steam railway tracks, two electric-car tracks, and two 20ft. roadways giving an assumed loading at 18,000lb. per linear foot. The cantilever structure, symmetrical above the centre point, has a clearance of 150ft. above high tide, and has three 2,000ft. spans, four 250ft. intermediate towers, and two 1,350ft. shore spans. The main spans have 650ft. cantilever arms and 700ft. suspended trusses, while the end spans have 650ft. cantilever arms and 700ft. trusses connected to them at one end and supported on the abutments at the other end. The depth of the trusses varies from 75ft. to 450ft., and the horizontal distance between them varies from 65ft. in the clear at the centre to 126ft. at the towers. The trusses have 100ft. panels with single diagonals and curved top and bottom chords.

The cantilever bottom chords are octagonal tubes 14ft. in outside diameter, made up of eight sets of three-built I-beams 18in. deep, with outside and inside flange cover-plates forming the interior and exterior surfaces of the tubes. They are stiffened by solid web transverse diaphragms reinforced by heavy vertical horizontal and flange angles. Nickel steel will be used for the suspended spans and for long-tension members in the cantilever arms. The concrete piers, with very deep foundations, will be frustrums of cones providing extended footings to secure sufficient bearing, and having granite tops 35ft. high, to distribute the loads over the concrete.

OBITUARY.

The death occurred on Monday, after a short illness, at 17, Dolente-road, Wandsworth Common, of Mr. Samuel Wayland Kershaw, M.A., F.S.A., who was, from 1868 until 1879, librarian to the Royal Institute of British Architects (when he was succeeded by Mr. Rudolph Dicks, the present courteous and widely-read occupant of the post), and afterwards Curator of Lambeth Palace Library until 1910, when he retired. Mr. Kershaw, who was the youngest son of the Rev. John Kershaw, was educated at King's College and Cambridge University. He was a keen student of archaeological subjects, upon which he was a prolific writer. His publications included "Art Treasures of Lambeth Palace Library," "Surrey Sketches in Olden Time," "Protestantism from France," besides numerous contributions to Kent, Surrey, and other archaeological societies. He was in his seventy-ninth year.

Mr. George P. Mitchell, assistant gas manager, Dundee, has been appointed gas manager to the corporation of Port-Glasgow.

The rural district council of Llandyssul have appointed Mr. J. Jones to the post of road surveyor.

The Bishop of Buckingham on Saturday afternoon laid the foundation-stone of a new church at Beaconsfield, the site having been given by Mr. W. B. Du Pre, M.P. The architect is Mr. G. H. Fellowes Prynce, A.R.I.B.A., of Queen Anne's Gate, Westminster.

COMPETITIONS.

BOURNEMOUTH.—For the branch library to be built in the district of Westbourne, Boscombe, the corporation of Bournemouth have adopted the plan submitted in competition by Mr. C. T. Miles, F.R.I.B.A., "Observer" Office, Bournemouth.

BRIGHTON.—A fresh Aquarium competition is announced, which, it is to be hoped, will not prove as abortive and unsatisfactory as previous proposals have been. The aquarium committee have been authorised by the town council to spend 175 guineas in premiums for designs for the remodelling of the aquarium and to pay a fee of 50 guineas to an assessor, hereafter to be appointed. It will be recollected that at the beginning of the year a scheme for reconstructing the Aquarium and providing a kursaal, by Messrs. Clayton and Black, of Brighton (illustrated in our issue of Jan. 23 last), was recommended by a committee of the town council, but was eventually set aside.

HOLLOWELL, NORTHAMPTON.—The premium of £10 offered by the Northampton Town Council for designs for workmen's dwellings in connection with the Hollowell water scheme has been awarded to Messrs. H. H. Dyer and Son, Northampton and Brixworth. The competition was banned to members by both the Royal Institute and the Society of Architects.

ROSYTH.—It was recommended by the works committee at Dunfermline School Board on Friday that competition for the plans for the proposed new school at Rosyth for 1,000 children be restricted to architects in the town and parish of Dunfermline. The chairman (Dr. Ross) dissented from the recommendation on the ground that there were architects in the larger cities who made a speciality of school work, and who were, therefore, more accustomed with such work than the architects resident in Dunfermline could possibly be. He did not wish to discourage the architects of Dunfermline by any means, and he thought that if they took the pains to qualify themselves, by inquiry or otherwise, they might be quite able to compete with the very best men, either in Edinburgh or Glasgow. If they were not able to compete advantageously, it would be the worse for themselves, and it would be equally the worse for the board. The recommendation of the committee was adopted by a large majority.

TUBERCULOSIS HOSPITAL, SOUTH-END-ON-SEA.—Members of the Society of Architects are requested not to take part in the above competition, without first ascertaining from the secretary that the conditions have been approved by the Society.

The Elgin County Council have decided to proceed with the scheme of improvement on the Duldain Bridge, Grantown, and Dava-road, at an estimated cost of £1,900.

At Sheepwash, Devon, a Baptist schoolroom, built on the site of two cottages at the rear of the chapel, was opened last week. Messrs. M. White and Sons were the contractors.

The building permit for the new Customs House now being erected on Sussex-street, Ottawa, places the estimate of cost at 1,173,000dol. The foundation-work was exceedingly difficult, and cost over 500,000dol.

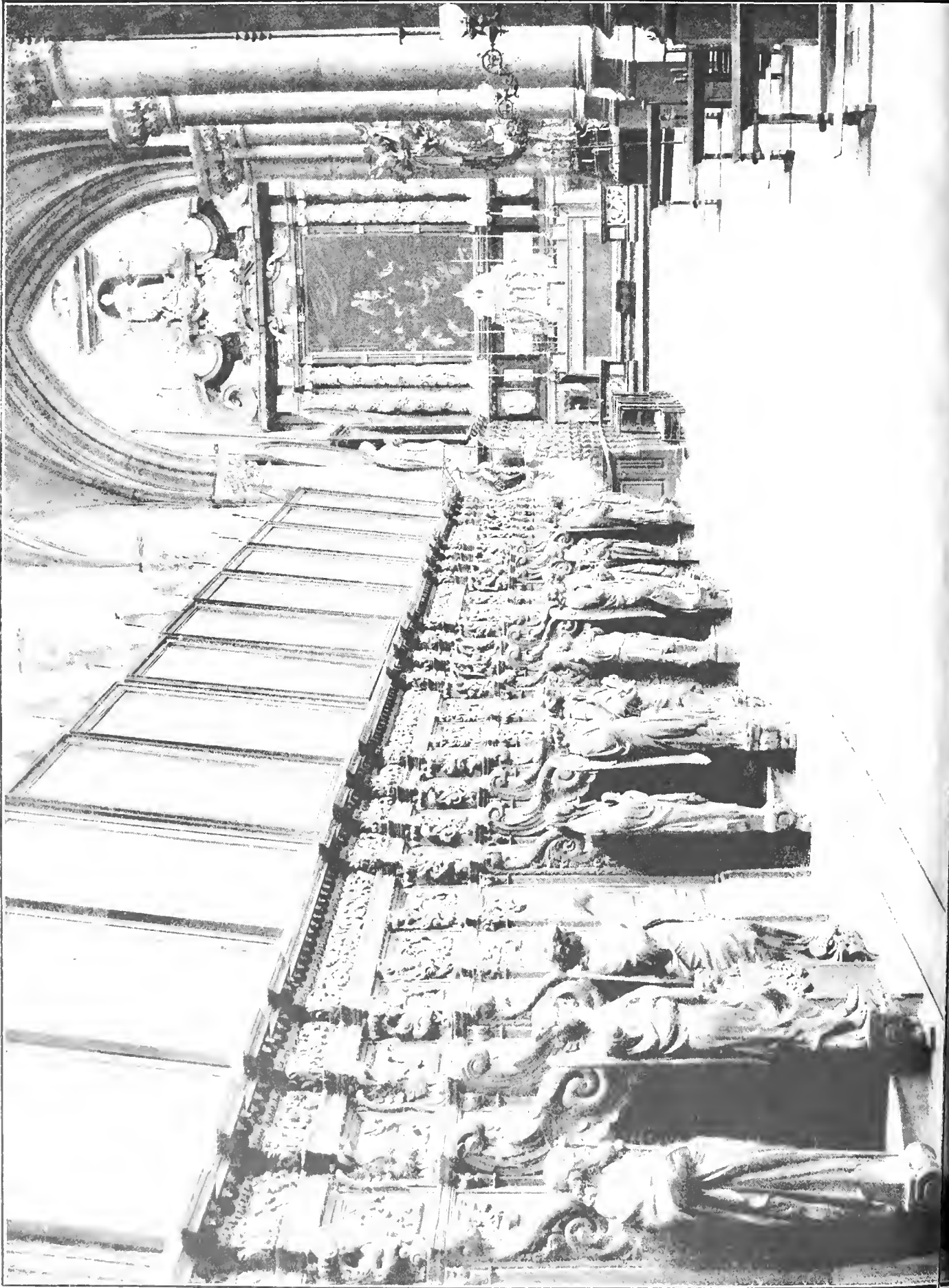
The laying of twelve memorial-stones of the new Dock Mission Hall, School, and Institute, Salford, took place last week. The new buildings replace accommodation which was inadequate for the increasing work in which the mission is engaged in the district. The buildings will occupy the site of the present Ordsall Park Chapel, and the cost will be £8,000.

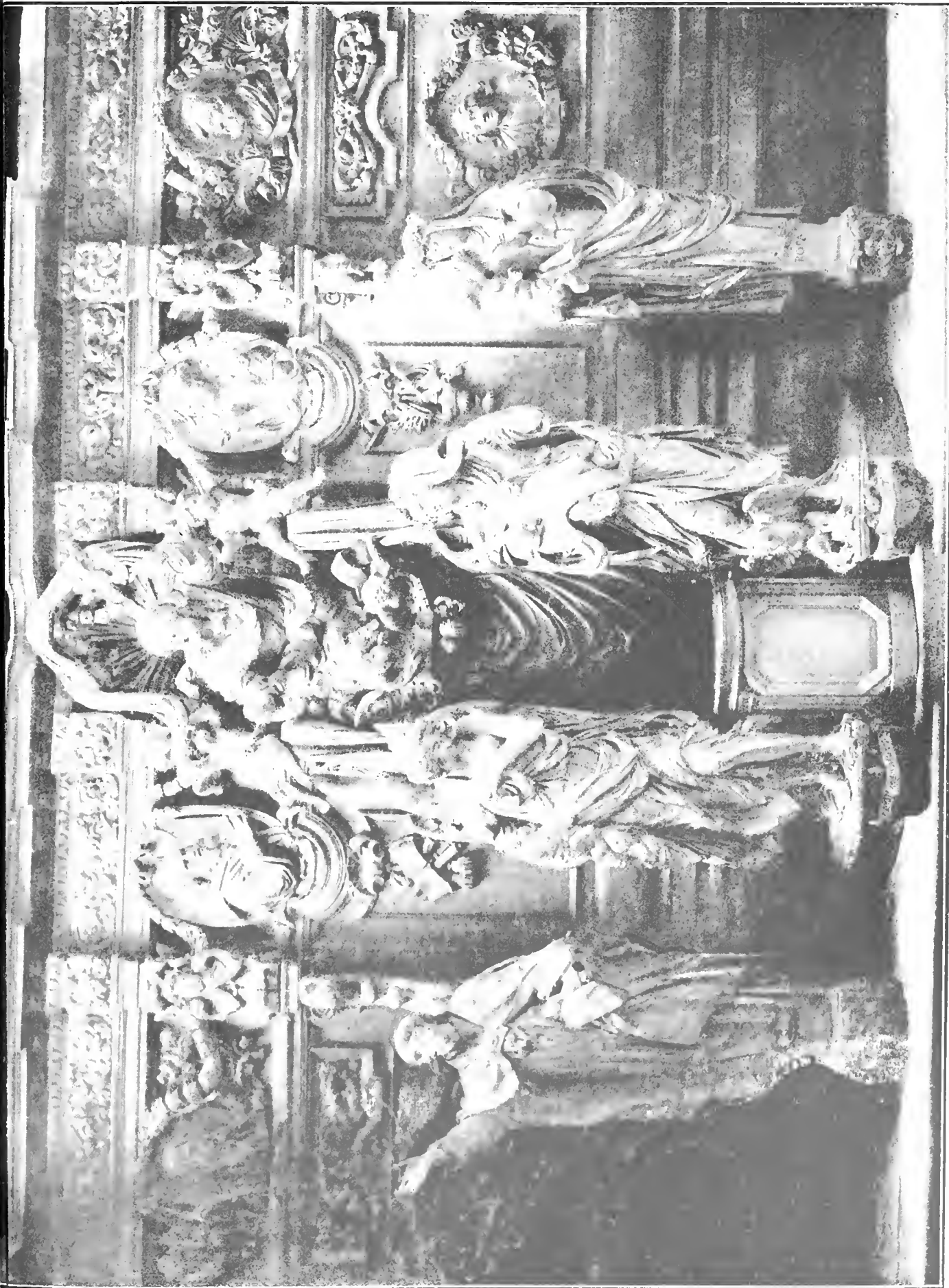
There has been erected in Glenurquhart a public memorial to the late Mr. Bradley Martin, who was for over thirty years tenant of the Bahmacan Estate. The monument, in grey granite, is 22ft. in height, and consists of a base in two deep courses, above which rises a pedestal surmounted by an obelisk 15ft. high, springing from a curved plinth, on which is carved in high relief the crest of the deceased—an eagle with expanded wings resting upon and overshadowing the globe.

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THE BUILDING NEWS, NOVEMBER 13, 1914.





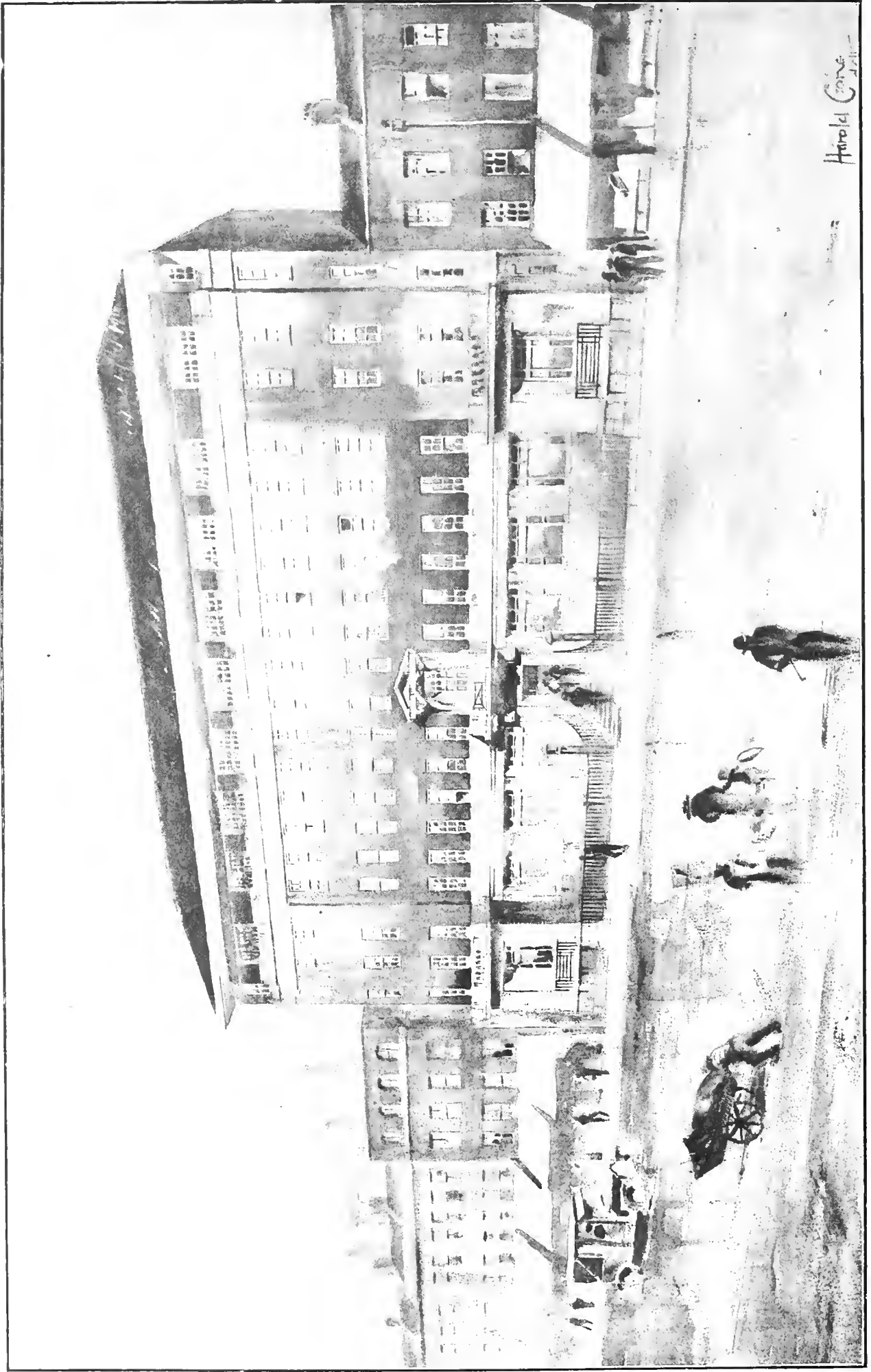
CONFESSIONALS AND STALLWORK, ST. PAUL'S CHURCH, ANTWERP. — By ARTUS QUELLIN and His School, about 1650.



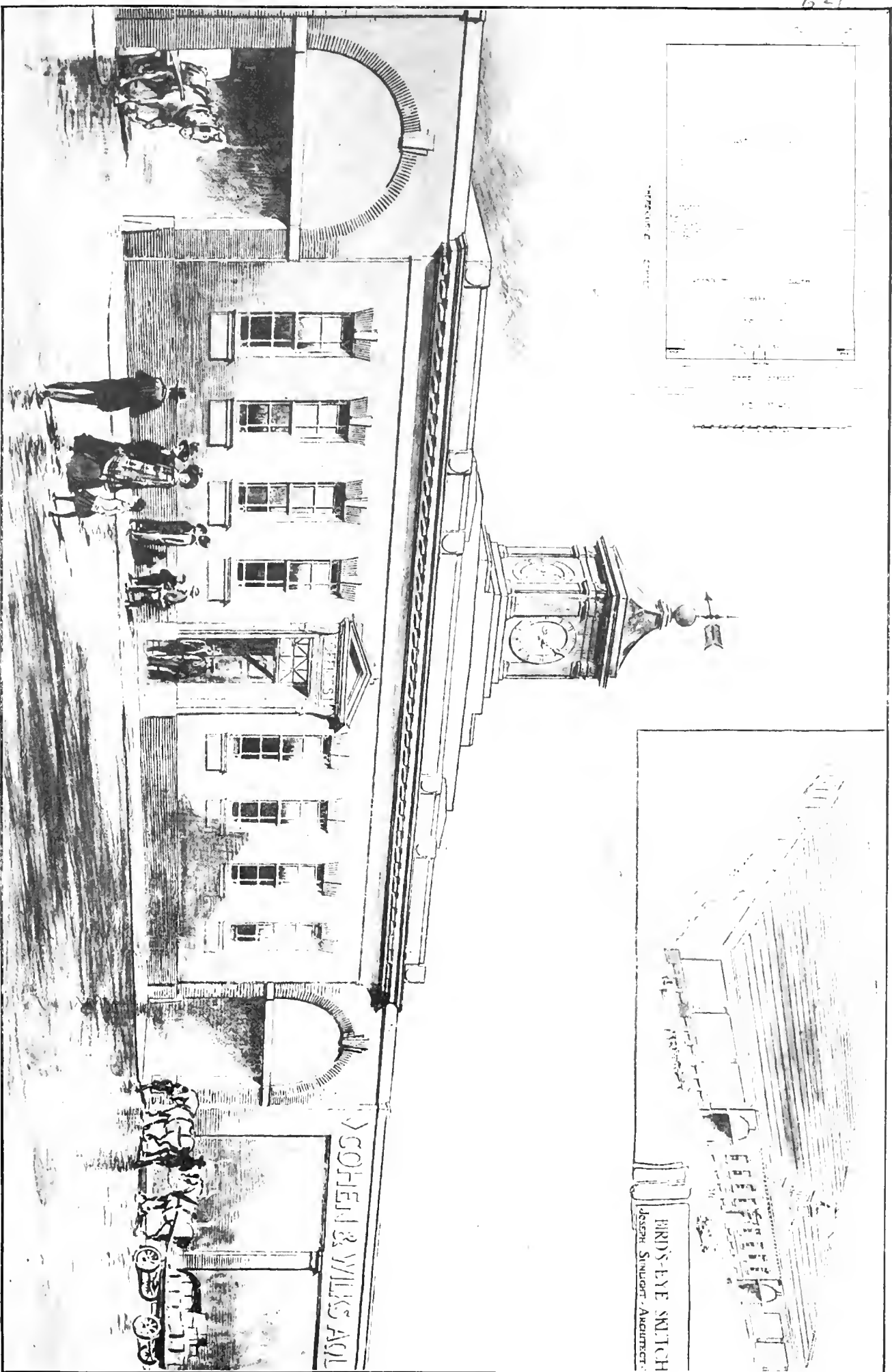
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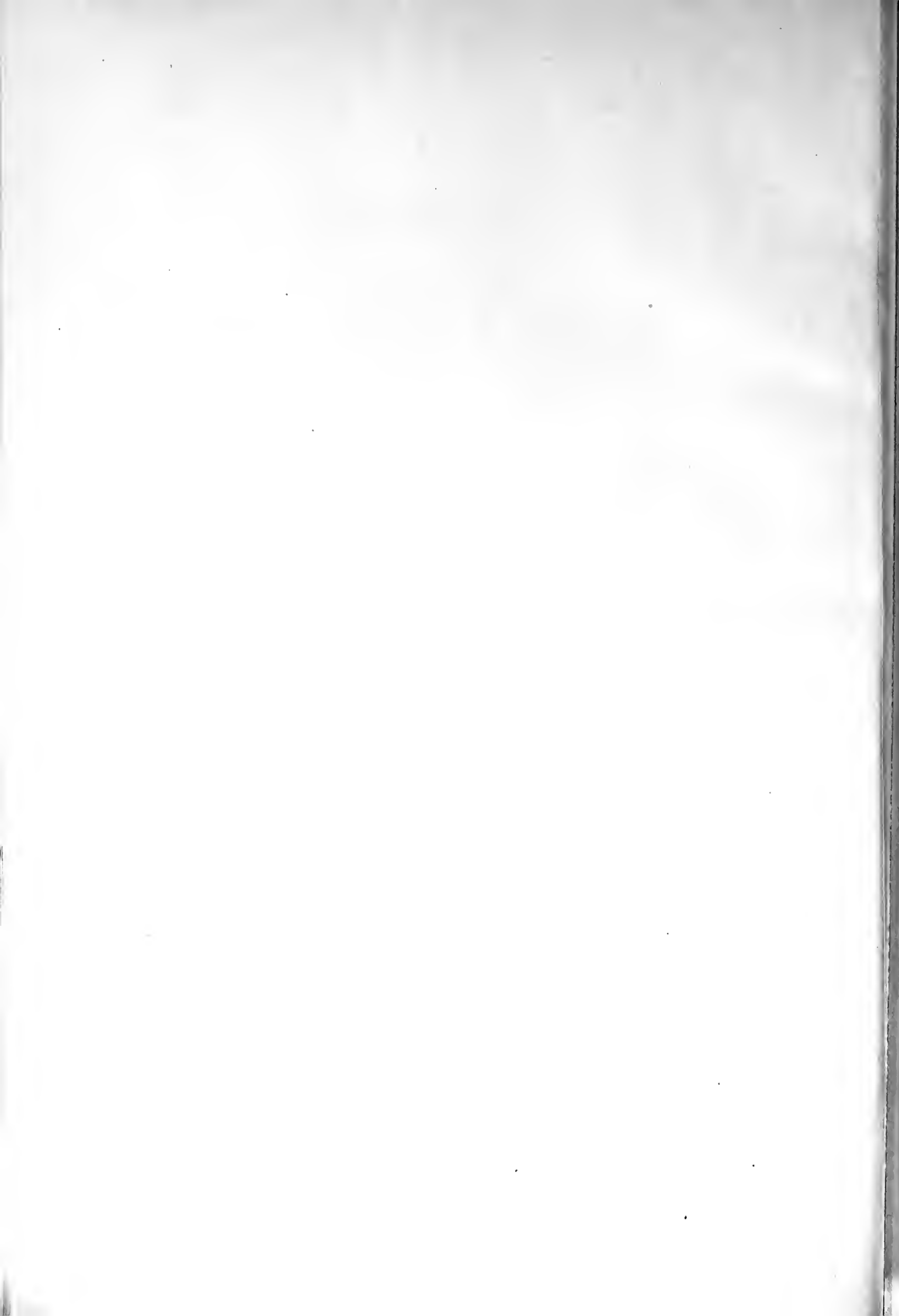
THE BUILDING NEWS, NOVEMBER 13, 1914.

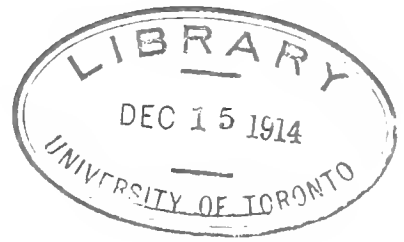


WORKMEN'S HOSTEL, HOTWELLS, BRISTOL.—MR. HAROLD CRONE, ARCHITECT.



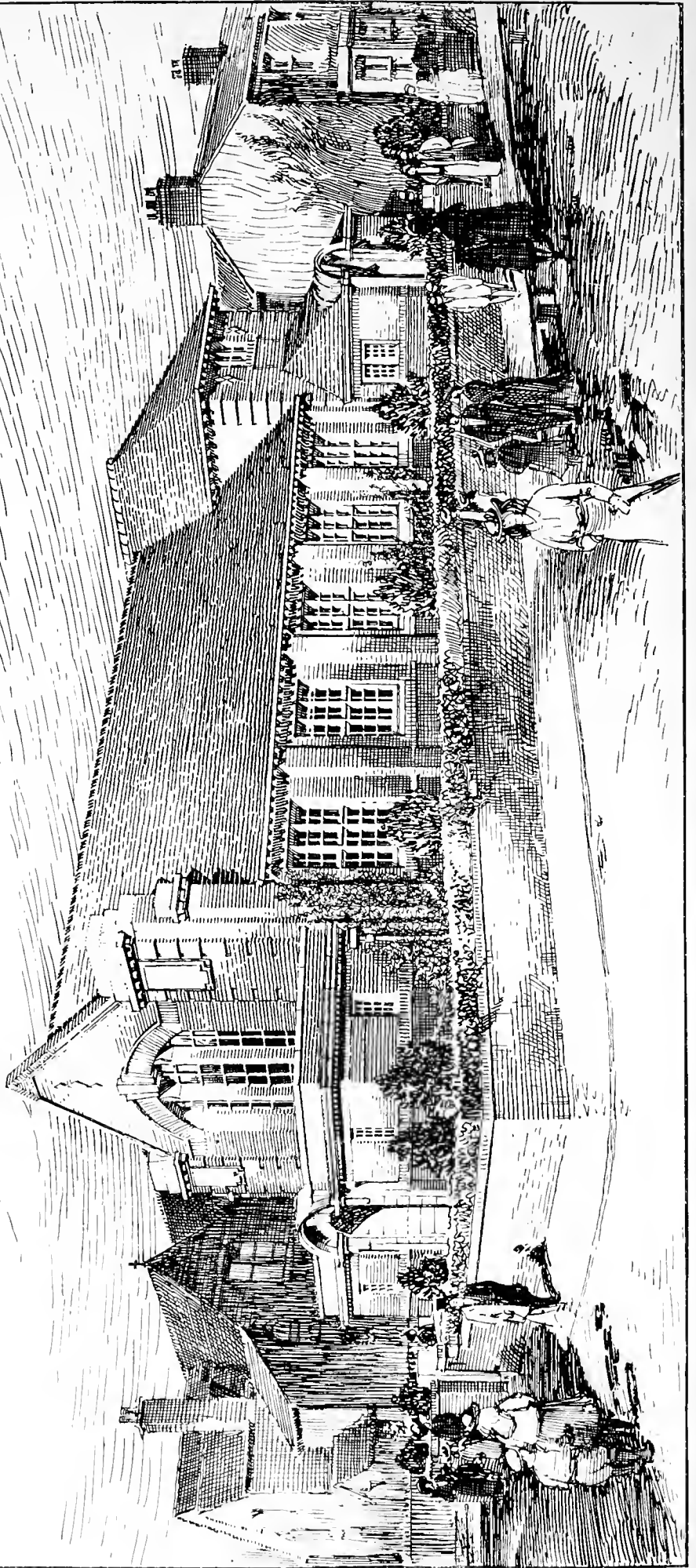
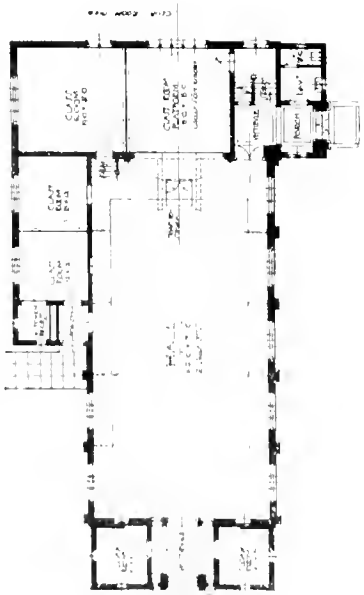
NEW AQUATITE WORKS, DERBY STREET, CHEETHAM, MANCHESTER.—Mr. JOSEPH SUNLIGHT, Architect.

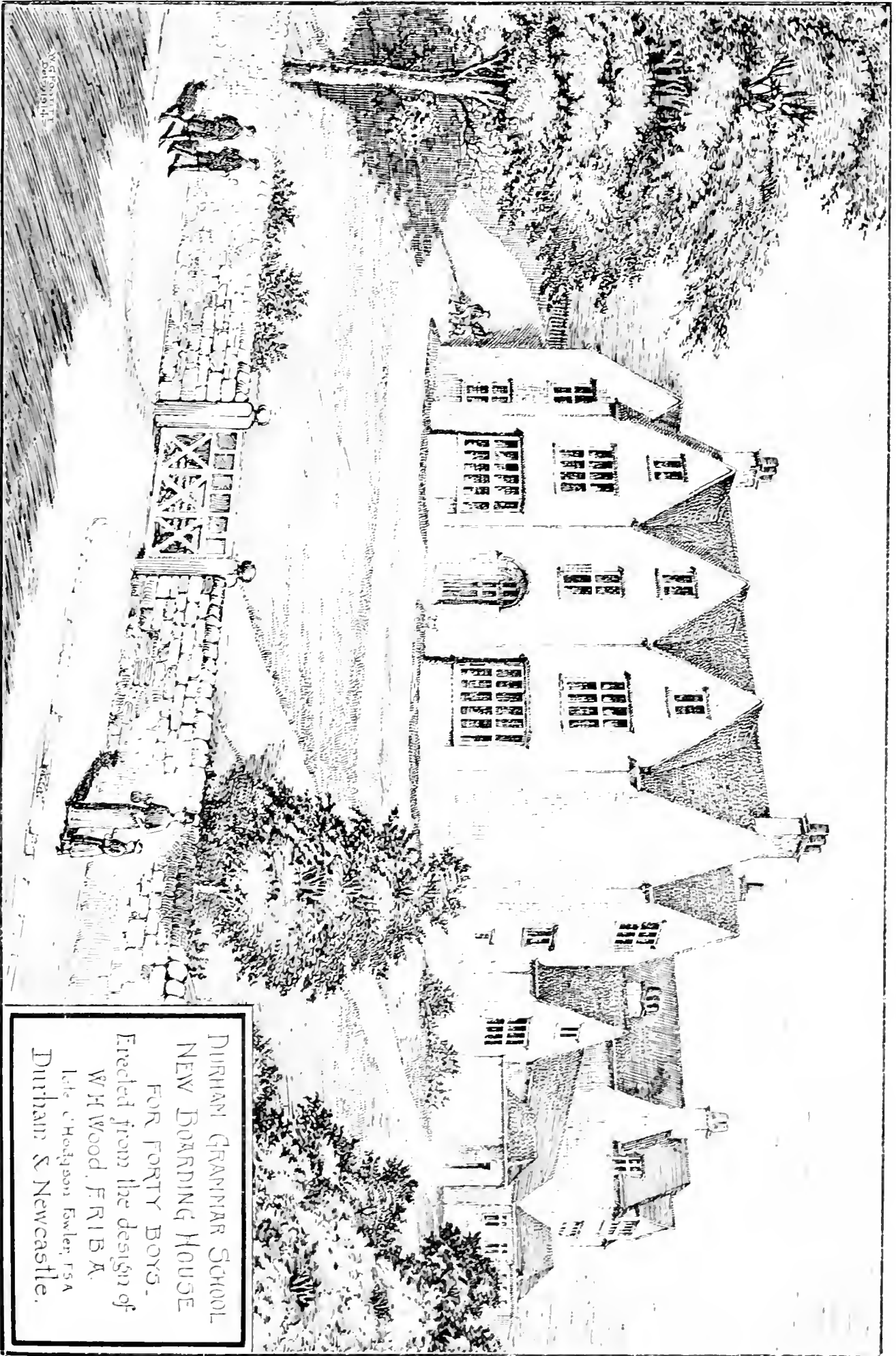




*SF Bridget's Parity Hall .
Wolverree . Liverpool .*

*Frazer Dunnington, Liverpool, P. 1914
26 North John Street, Liverpool.*





DURHAM GRAMMAR SCHOOL
 NEW BOARDING HOUSE
 FOR FORTY BOYS.
 Erected from the design of
 W.H. WOOD, F.R.I.B.A.
 Ld. C. Hodgson, Fowler, F.S.A.
 Durham & Newcastle.

W.H. WOOD



Currente Calamo.

Mr. Howard Chatfield Clarke's opening address at the Surveyors' Institution last Monday, which we give elsewhere, was one of the most lucid and practical contributions to the recent history and the present requirements of the problem of providing sufficient and fitting housing accommodation for the working classes we have listened to for a long while. His summary of the hostile influences which have reduced builders to idleness and left so many thousands of the population homeless during the past ten years, was authenticated up to the hilt by the facts and figures he quoted. Mr. Chatfield Clarke's address is a very timely one. We may be optimistic—little reason as any of us have had for being so during the past decade—but we are firmly convinced that when peace comes there must follow a time of activity for builders which can hardly be overdone. Bad as things have been with us, there has been no such scare to investors in real property as that which has shut the Stock Exchange for three months and suspended dividends on investments of all sorts. Even the working classes are getting tired of the sort of "thrift" which seems principally beneficial to managing directors of penny banks, and will once more recognise that the purchase of a man's house is a safer investment than some they have been wheedled into making. For the moment the supreme national duty is to keep inviolate our hearths and homes; but our very next obligation is to see to it that there shall be decent homes for the thousands without them who are keeping the flag flying all the world over on land and sea.

The undeveloped Land duty was always a rather beggarly business. It never has produced, and never will produce, a good return to the Revenue, even if it can be said to have paid the administrative and legal expenses it has entailed. No owner of land would leave it lying idle if he could use it at a profit for building purposes. But to do this the land must be, as it were, manured with money, and even before the war financiers were frightened away by the fear of further taxation. The idea that wealthy owners kept their land waste out of a spite to poor people who wanted it is one of those Radical doctrinaire theories that will not hold water. But the Inland Revenue still clings to this pet project, and goes on spending public money on law. Their recent appeal to the House of Lords (October 21) was only another wasteful failure. Land let on lease before the Great Budget did not come within it unless there was a power of re-entry which the lessor could use. In this case there was a lease with a clause that the landlord could determine the tenancy if he wished to develop the land for building. Well, he did not so wish, in the statement of the financial position of affairs. But the Revenue argued, in effect, that he ought to have done so, and re-entered, and so they claimed the duty. A strong Court of Appeal had knocked this view to pieces, and now again five Law Lords did the same emphatically. The duty, even if payable, would have been a small matter, and now, as there is no further appeal, the costs of all this useless litigation can be adjusted. Whenever Parliament gets time, a return showing the money spent by the Revenue in speculatively trying to get in

these duties by the Courts would be most illuminating!

The wonderful sanatoria Mr. Lloyd George promised the compulsorily insured are long in arriving. At present the stern mandate of the Insurance Committees seems to be, "Cut down your beds." At last week's meeting of the Walsall Insurance Committee it was reported by the Sanatoria Subcommittee that out of a sum of £1,428 available for sanatoria treatment for the present year, £1,268 had been spent in the first nine months, and that if the expenditure under this heading continued at the same rate, there would be a deficit at the end of the year of approximately £300. The facts had been laid before the Insurance Commissioners, who had been asked for their advice. A reply was received expressing surprise at the state of the committee's finances in view of their having started the year with a credit balance of £225. The Commissioners added that the committee must take immediate steps to reduce the number of beds in use, in order to reduce the prospective deficit. A further communication had been addressed to the Insurance Commissioners stating that the committee had reluctantly decided to adopt the suggestions of the Commissioners, though there would no doubt be great disappointment amongst the approved societies in the district when they realised that the funds available were not adequate to carry out the provisions of the Act. As a matter of fact, 126 cases of tuberculosis had been dealt with by the committee during the first nine months of the present year, and only 53 of these had received institutional treatment. In consequence, many poor people who were entitled to institutional treatment did not get it. The position was that the number of persons suffering from tuberculosis in Walsall was unusually heavy, with the result that the sanatoria fund allotted to Walsall was totally inadequate. It was also pointed out that if the committee terminated their arrangements with the institutions, no beds would be available at the beginning of the new year. The reply of the Commissioners to this was that the committee should reduce the number of beds they retained to six or seven; but surprise was expressed that the committee had already taken the drastic step of discontinuing residential treatment.

The moratorium, though dead, yet speaketh—at least, in the Law Courts, where its ghost seems likely to walk for some time to come. The fact is, the proclamations were expressed in "language causing confusion" not only to laymen, but even to lawyers. Indeed, they would have delighted that sturdy old Briton, William Cobbett, who, in his English Grammar took all his worst examples of bad writing from the King's Speeches! So once more the Court of Appeal had to come to the rescue and untie the knot of an ingenious legal argument. The case was that of *Lofflaw v. Morgan*, and the action was brought to recover money due upon contracts made after August 4, which is the official and legal date of the war. The defendant pleaded the moratorium; but Mr. Justice Scrutton had held that this did not apply to any contract entered into since August 4, and so made an order for judgment. Those advising the defence thought there was something in their contention that even later dealings were affected, doubtless relying upon the rather vague language used in the Proclamation of September 3. But the

three Lords Justices were quite clear in holding that this merely extended the earlier proclamation, and that neither of them applied to contracts made or bills drawn after August 4. So there was judgment for the plaintiff, with costs, and one more difficulty that ought never to have arisen was surmounted.

Teutonic savagery and hatred of all that is best in art and architecture is exemplifying itself afresh this week in the destruction by artillery fire of the picturesque and decayed city of Ypres, on the marshland of South-West Flanders, and little more than half a dozen miles from the French frontier. The Kaiser gave orders on Friday last to "level Ypres to the ground," and by fire, shot, and shell this is being accomplished, and future generations are being deprived by an epileptic swashbuckler of the pleasure of gazing on a city beloved of every artist, architect, and photographer. The magnificent Halles in the great and deserted Market Place was the finest edifice of its class in the Low Countries. Built in 1230 by Count Baldwin, and added to in 1320, everyone is familiar with the long, low, flat, and uniform façade, broken in the centre by a massive belfry-tower. On the first floor is, or was, a vast apartment 435ft. long, containing modern frescoes by Swerts and Gruffins. The eastern wing, with its arched front carried on pillars, was added in 1370 as a cloth hall, and was a singularly happy example of early 14th-century work; the space beneath the arcade has for many years been used on certain days as a vegetable market. Behind Les Halles was the great Cathedral of St. Martin, illustrated by us on the 30th ult. (p. 518), and here the massive tower has been battered down and the fabric itself greatly impaired. The oldest parts of the cathedral are the choir and north transept, which were built in 1221, and were distinctively French in treatment. The choir stalls (illustrated in our issue of Dec. 30, 1910), were carved by Urban Taillebert in 1598, and were interesting as a refined example of Early Renaissance woodwork, thoroughly Belgian in treatment. It is averred that the famous painting by Peter Pourbus representing the Fall of Man, and dated 1525, and works by the pupils of Rubens have been carried away in safety. It is to be feared that the picturesque Meat Market buildings, now the museum, on the opposite side of the Market Place to the Cloth Hall, have also been destroyed. The lower part of the premises were faced with stone, and dated from the 15th century; the two upper floors, including the crow-stepped and pinnacled gables, were faced with dull red brickwork, with stone quoins and mullions, and were quite a century later. The chief elevation was shown in a double-page plate from a measured Pugin drawing by Mr. J. A. Swan, in our number for September 10, 1897. Some of the houses in the town, with brick gables and chimney-like pinnacles, have figured in sketches in our pages on July 3, 1885; Nov. 23, 1888; and August 21, 1891. The Kaiser has added a flower to the chaplet of honour that will adorn his brow in future centuries to Louvain, Dinant, Termonde, Malines, Senlis, and Rheims may now be appended Ypres.

At this time of Belgium's need there are many who cannot arrange to give hospitality, but are willing to help the Belgians to obtain occupation useful for their own repatriation.

The Hampshire House Trust had decided to establish a centre of skilled handicrafts with a view to producing the highest quality of work and creating the best equipped craftsmen among our own people, and have already suitable premises for a wood workshop which will accommodate eight benches, and in further premises of about the same capacity hope to employ immediately local English joiners and cabinetmakers who may be out of work by reason of the war, working along with Belgian joiners and cabinet-makers, four of whom are already employed, with English apprentices in addition. The Belgians will be engaged exclusively on making Belgian furniture to help forward the restoration of their country when the time is ripe. In the meantime, such furniture when made will be stored. It will be of the kind that middle- and working class Belgians want. M. Goossens, a skilled Belgian cabinetmaker, has charge of this workshop, under the direction of Mr. Charles Spooner, F.R.I.B.A., who will have regard to Belgian styles and needs. Orders in advance from Belgians now in England may be obtained; otherwise the furniture will be disposed of in Belgium. In the meantime, the funds given to this Belgian Refugee Committee are being used for the purchase of tools for the Belgian craftsmen in this shop, for the material for making the furniture, and for the payment of their wages. If they stay and work well, they will each be given the set of tools with which they have worked, and the tool chests which they are now busy making to store them in. It is intended to reserve a small bonus per week for each Belgian, which will provide him with a small fund towards setting up his home on his return. He would thus have not only a little pocket money saved from his wages, but also his tools ready for his new start in life. The funds will be used for paying wages to English joiners who may be employed on the making of Belgian furniture, but the apprentices' wages and any English work done to order will be paid out of a separate fund. The capital fund for the workshop is quite independent of Belgian funds. This fund will be paid from Belgian funds in ways spent on labour and material for Belgians for years. Similar arrangements will be made for the embroidery workshop for women and girls, under the direction of Mrs. Maud Pike, and any other projects which may be started. The committee consists of Messrs. Spooner, M.P., and Spooner, F.R.I.B.A., of 11, Bedford-square, W., as the trustees.

Building Intelligence.

GLASGOW.—A new open-air Board school for physically defective children, at Hollybrook-road, Govanhill, Glasgow, was formally opened on Saturday. This is one of three schools on the open-air principle. The first of the series, at Garrioch-road, Maryhill, was opened a few days ago, and another is at present in course of erection at Burnside, Rutherglen. In the Hollybrook-road School all the classrooms are on the ground floor, and have a southerly aspect. The buildings occupy about one-third of the area of the site, which extends to 10,609 square yards, and have been arranged so as to facilitate extension if necessary. There are three separate school pavilions, each consisting of five classrooms, with cloakrooms and private rooms. Accommodation is provided for 300 children, each room being designed to accommodate 20. Medical quarters, dining-hall, and caretaker's house are situated in a separate block, and are connected with the school building by covered corridors. The classrooms open on to a verandah, from which they are separated by glazed partitions. The buildings have been erected in accordance with plans prepared by the master of works to the school board. The estimated cost of the school is £5,500.

MAIDSTONE.—The new offices which have been erected, at a cost of £7,000, by the Prudential Assurance Company in Bank-street, Maidstone, were formally opened by the mayor on Friday. The elevation is designed in the half-timbered style of the late 16th century, and has afforded the architect scope for the introduction of low relief, symbolical and heraldic carvings, and hand-worked plaster decorations. These have been carried out in harmony with the details of the old facade in Weck-street and other buildings in the town of that period. Four deeply recessed niches have been formed at the first floor level, in which are depicted in full relief some of the famous men connected with the history of Maidstone. The figures represent Archbishop Courtenay, who demolished the Norman Church of St. Mary and built on its site the present church of All Saints', and who also founded the College of Secular Canons; Caxton, the founder of the English printing press, who was born at Hadlow; Sir Lawrence Washington, Registrar of the High Court of Chancery, a kinsman of George Washington, and whose monument is in All Saints' Church; and the late Lord Avebury, who represented the borough in Parliament. The premises provide a large general office and three private rooms. The wall panelling and fittings are in light oak, and a genuine old Jacobean chimney-piece, which the company discovered in demolishing a building in Holborn, has been restored and placed in the general office. The upper floors, approached by a separate entrance, are arranged as suites of offices, and are provided with all conveniences for this purpose. The architect is Mr. J. H. Pitt, M.S.A., F.S.I., district office surveyor to the company. The contractors were Messrs. Elmore and Son, of Maidstone. Mr. T. Perkins acted as clerk of works.

REDCLIFF, BRISTOL.—The restoration of the south porch of St. Mary's Church, Redcliff, has now been completed. The work was set on foot in 1913 through the generosity of Mr. Fenwick Richards. The original proposal was to raise the stone vaulting of the porch to the position from which it was generally believed, it had at some time been removed, and thus give the porch a lofty interior in harmony with that of the noble north porch. The result of investigations showed that the porch, as originally designed, was intended to have a Parvise. It is a feature of the 14th century vaulting was to be replaced. Even if it was it had been removed, it is necessary for the formation of the Parvise and at the same time the stone vaulting covering the porch was put in. The contractor, Mr. J. H. Pitt, M.S.A., F.S.I., district office surveyor to the company. The contractors were Messrs. Elmore and Son, of Maidstone. Mr. T. Perkins acted as clerk of works.

had never occupied. Consequently, Mr. Harold Brakspear, F.S.A., A.R.I.B.A., was consulted, and he emphasised the view that the old vaulting should be left in situ. These counsels have prevailed. It was decided to clear away the modern innovations obstructing the ancient work, especially the staircase which was blocking a considerable portion of the aisle window. The restoration has been carried out of the priest's chamber above the inner north porch, which had, during recent years, been used for the storage of lumber.

CHIPS.

Mr. W. E. Woollam, surveyor and inspector to the East Grinstead Urban District Council, has had his salary increased by £50 per annum.

The city council of Coventry have applied to the Local Government Board for sanction to borrow £25,000 for the provision of a new municipal technical institute.

Mr. Edward Vaughan, who was elected Mayor of Crewe on Monday, is a working carpenter. He started work on a farm, and at fifteen years of age went to work down a coal-mine.

A new Welsh Calvinistic Methodist chapel has been formally opened at Portdinorwic. The architect was Mr. L. Wynne Williams, of Birkenhead, and the contractors were Messrs. Evan Jones and Son, of Plasdolwydd.

Mr. Charles Herbert, assistant to Mr. Geo. Riley, engineer and surveyor to the Wellington (Salop) Urban District Council, has been appointed general assistant to Mr. W. Jervis, the county road surveyor for East Suffolk.

A Local Government Board inquiry was held at Radcliffe yesterday (Thursday), before Mr. F. O. Stanford, inspector, with reference to an application from the local authority for sanction to borrow £5,740 for works of sewerage.

The county council of Cambridgeshire have instructed their surveyor to prepare plans and specifications for the erection of a bridge over the river Cam in connection with the proposed through route for military purposes from Huntingdon to Bury St. Edmund's.

A grand patriotic Bohemian concert is being organised by the London Cornish Association, and will take place on Saturday, November 21, at the Holborn Restaurant, in aid of the National Relief Fund. Many well-known artists have promised their services.

The foundation-stone of a mission church of St. Elizabeth was laid on Monday on a site in Kenyon-lane, Lighthourne, North Manchester. The site has cost £400, and the actual fabric will necessitate an outlay of another £800, apart from furnishing, seating, and heating.

An annexe to the Lancashire County Asylum at Whittingham, near Preston, was opened last week. It has cost £150,000. Messrs. Sykes and Evans, of Manchester and Rochdale, were the architects and Messrs. E. Taylor and Co., Ltd., of Littleborough, the general contractors.

At the last meeting of the corporation of Southampton a letter was received from the Local Government Board forwarding sanction to the borrowing of the sum of £27,350 for purposes of water supply, being £20,350 for the construction of a reservoir, £2,000 for connecting mains, and £5,000 for wells and heading.

At the last meeting of the urban district council for Romford the clerk reported that he had received from the Local Government Board sanction to borrow £10,000 on account of the £35,088 which the council had asked for sanction to borrow for improving the main London road. The money would cover the cost of surface-water drainage and sewerage which might be necessary in connection with the scheme.

Under the direction of the city engineer, Mr. C. H. Rust, much municipal work is in progress at Victoria, British Columbia. A north-west sewer is under construction at an estimated cost of \$65,000. The work will be completed in 1915. Roadway and sidewalk work has been comparatively active this summer. A large programme of paving-work has been mapped out for next season, the total expenditure contemplated being between 400,000 dol. and 500,000 dol. The Sooke Lake water-supply scheme is progressing satisfactorily, and it is hoped to have the pressure pipe-line completed in January. The total length will be about twelve miles. The contractors for the concrete flow-line have laid eight miles out of twenty-seven. This work will be completed next August.

PROFESSIONAL AND TRADE SOCIETIES.

ROYAL TECHNICAL COLLEGE ARCHITECTURAL CRAFTSMEN'S SOCIETY, GLASGOW. - The fourth meeting of the Glasgow Royal Technical College Architectural Craftsmen's Society was held in the society's room on Friday, the 6th inst., when a lecture was delivered by Messrs. Malby and Hogg on "Steel Structures." The various processes of erection were traced, and the importance of strong bracing to resist wind pressure was emphasized. The thorough cleaning and painting of all steelwork was advocated, and several methods of fireproofing staircases were compared. An interesting discussion, initiated by Professor Gourlay, followed.

The Middlesex County Council have decided to appropriate land on the Bathroad, near Heaton, as a site for a proposed new asylum for mental defectives.

The Local Government Board have sanctioned a loan of £8750 to the Petersfield Rural District Council for carrying out works of sewage-disposal for the village of Liss.

Mr. P. M. Crosthwaite, an inspector under the Local Government Board held an inquiry at Hemel Hempstead on Tuesday as to an application from the town council for leave to borrow £5000 for works of sewerage.

A new Roman Catholic church, dedicated to St. Joseph was opened last week at Carleton, Orton. The little edifice, with seating accommodation for fifty, has been designed and built by a resident Catholic, Mr. Henry Yates.

On Saturday the Earl of Dartmouth laid the foundation-stone of the new church school for boys in All Saints street, West Bromwich. The new school will accommodate 350 children, and the scheme is estimated to cost between £5000 and £6000.

On Wednesday week Mr. H. S. Stewart, Local Government Board inspector, held an inquiry at East Hantspoll regarding an application by the Bridgewater Rural District Council for sanction to borrow £1000 for the purchase of land and the erection of working class dwellings in the parish of Hantspoll. There was no opposition to the application.

At the meeting of the Walsall Town Council on Monday the health committee reported that action they had taken during the last four years had resulted in 3700 houses being repaired and 337 closed, of which 265 had been demolished. Upwards of 2500 houses had been minutely examined under the provisions of the Housing and Town Planning Act.

At Monday's meeting of the corporation of Ludlow the Finance committee reported that they had been considering for a long time the position of Captain Lane, their surveyor, who had been called up for military duty with the Territorials. The committee would ask the council to pay Captain Lane £100 a year whilst he was on active service. The committee's recommendation was carried.

The most important municipal undertakings in progress in Canada are at Toronto, where, under the direction of Mr. R. L. Harris, the Works Commissioner, operations involving an expenditure of nearly \$4,000,000 are under way or projected. Of this amount \$500,000 is being spent on sewers and the balance on miscellaneous improvements, such as street-cleaning, sidewalks and grading. Apart from this work the city is building a new fire station at a cost of over \$1,000,000. Good progress is also being made on the 4th street project across Toronto Island, the cost of which is estimated at \$4,000,000. Additions to the public and lighting system will cost upwards of \$500,000.

The question of the inheritance tax payable over the Stroud Pass from Barnack to Waddale has been referred by the will of the late Mr. John Mcgrath of Waddale Hall, who has just been proved. Mr. Mcgrath was left over £400,000, derived in his will from the Waddale Hall Estate and several farms, to be held by his trustees upon trust to accumulate the income therefrom for a period of ten years, and to apply such accumulated income towards the construction or maintenance of the Stroud Pass carriage-road over the Stroud Pass from Waddale Hill village school to Barnack Valley. In the event of the road not being constructed within ten years of his decease, the accumulations from the property referred to will become part of the residuary estate.

Correspondence.

URBAN HOUSING AS INVESTMENT

To the Editor of the BUILDING NEWS.

SIR - Mr. Howard Chaffield, George F.R.I.B.A., Surveyor to the Colonial Fire Company, I believe, as President of the Surveyors' Institution, in his inaugural address this week said that owing to the recent restricted supply of new houses, a yearly return of 2 1/2 to 5 per cent. could now be got. Possibly he intended his remarks to apply only to freestone areas, properties and did not cater for reference to suburban residences?

I have had several years' personal experience with my own residence and can not say that I have been either free from worry or sleepless nights, a regular payment of interest by any number of tenants, while my return, though good, is not as with another, a safe investment, as it can be pronounced rates.

The house I am concerned with is a good West-end residential district. The rents vary from £45 to £75 a year, and would net some £100 a year. I bought it at what I considered a fair market value for property with a similar price. The rent is not as high as I had expected, except for a dining room property. My tenants I believe were for years and probably still the best of any I have had, but they are not as good as the amount of work done per hour is worth the rent.

My repairs are not great. One day of labour is enough to get the place in a ten or twenty empty periods, and the cost of appearance is not very great. In reason, the rent and the work done per hour is not so great as the same "city" property. My tenants are very appreciative of the work done, and I have no doubt I am doing well with the investment.

London, Nov. 11, 1914.

LEEDS AND WEST-YORESHIRE ARCHITECTURAL SOCIETY.

SIR - The following is a list of members and associates of the Leeds and West-Yorkshire Architectural Society, who are at present residing in the Metropolitan District: Albert L. H. Roberts, 70, Bath; West Yorkshire, J. D. Kitchin, 10, York; Yorkshire, J. C. Green, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

W. W. Wainwright, H. S. ...

Henry ...

LEGAL INTELLIGENCE.

CORPORATION'S CLAIM UNDER HOUSING ACT - At the Birmingham Borough Police court on Friday, B. Dawson, 25 Regent street, was the respondent in a claim made by the plaintiff and corporation of Birmingham for the payment of £5 for work carried out under the Housing of the Working Classes Act. The town clerk said the claim was for demolishing a house at the back of 2 Grove place in respect of which a notice was made in February, 1913. The work and order was made in July and as the defendant had not done the work the local authority had the work carried out by contract for £5 on November. The Bench ordered Dawson to pay the claim £5 and costs £1 6s.

LIABILITY FOR DEFECTIVE GULLY - In the Court of Appeal on Friday before Lord Justice Buckley, Phillimore and Parker, an appeal was made by Barbara Bore, (plaintiff) against a judgment given in favour of the defendant by Mr. Justice Hodge, on the failure of a defendant to pay a claim for the cost of a sewer gully which was defective and had caused damage to the plaintiff's property. The gully was reported on Dec. 25, 1913, p. 322, V. C. Plaintiff's claim was £100. The defendant's defence was that the gully was not defective when it was made and had caused the damage to the plaintiff's property. The Court of Appeal allowed the appeal and ordered the defendant to pay the claim £100 and costs £10.

ROYAL EDWARD D. B. ARBITRATION - The arbitration award in the case of the Royal Edward D. B. Arbitration, between the plaintiff and the defendant, was £1000. The award was made by the arbitrator on the 10th of November, 1914. The plaintiff had claimed £1000 and the defendant had claimed £500. The arbitrator found in favour of the plaintiff and ordered the defendant to pay the claim £1000 and costs £100.

ARBITRATION APPEAL DISMISSED - In the Court of Appeal on Friday, an appeal was made by the plaintiff against a judgment given in favour of the defendant by the arbitrator. The Court of Appeal dismissed the appeal and ordered the defendant to pay the claim £1000 and costs £100.

months had elapsed. There were also substantial legal points to be heard in the appeal.—The motion was dismissed with costs. Mr. Justice Horridge, in giving judgment, remarked that it was impossible for the Court to interfere with the arbitrator's award.

WAYFORD TENANTS, LTD., IN LIQUIDATION.—In anticipation of the statutory meeting of creditors on Tuesday next, at which he finds it will be difficult for some of the trade creditors to be present on account of distance, Mr. Alfred Wood, F.C.A., of 14, Victoria-street, S.W., the Receiver and Liquidator, informs us of the present position. The voluntary winding-up was commenced as a means of avoiding a petition for compulsory winding-up by the Court, filed by one of the society's creditors, who subsequently withdrew his suit. It is not, therefore, proposed to carry the voluntary liquidation proceedings to their usual conclusion until every reasonable means of saving the estate, as a going concern, from the present critical situation has been exhausted. An effort is, however, to be made to effect a reconstruction, and, with this object in view, negotiations are proceeding with the first mortgagees, the bondholders under the trust deed, who have the next prior claim upon the estate, and the loan stockholders, who rank with the ordinary creditors. As a condition precedent to the reconstruction, it is found advisable to have a valuation made of certain of the properties the society has built upon the estate, and an investigation into the accounts, to provide a sound basis for the reconstruction. This and the negotiations with the secured and cash creditors may take a little time to mature, although no effort will be spared to obtain, if possible, a speedy settlement. The situation—a complicated one, on account of the number of the classes of financial interests involved—has been somewhat simplified by the following:—(a) The first mortgagees do not propose to take any steps, provided that their interest is fully protected, and I have agreed to give the usual undertaking as liquidator; (b) the trustees for the bondholders, though required by the terms of the trust-deed to take possession in the event of liquidation, have decided only formally to take this step by appointing the liquidator the receiver for the bondholders. As soon as the Receiver is in a position to do so, he will make a proposal, supported by the necessary figures, to enable all to form a correct judgment. In the meantime, he will preserve the estate intact for the benefit of all concerned.

WATER SUPPLY AND SANITARY MATTERS.

WORCESTER SEWAGE-WORKS.—The position of the Worcester sewage-works was further considered at a meeting of the city council on Monday, when a recommendation was made by the committee that they should be authorised to visit the works at Birmingham, Guildford, and Withington. Reports had been forwarded by two experts, Mr. Watson and Mr. O'Shaughnessy, and Mr. Watson had been asked to inform the committee where they could see two or three sewage-works where the process recommended in his report, or that recommended by Mr. O'Shaughnessy, was in use. The committee also suggested that the engineer should be instructed to submit comparative statements of the expenditure, both capital and running, required to carry out the recommendations of Mr. Watson and Mr. O'Shaughnessy, as well as for continuing the method hitherto adopted at the work, with the addition of such means as were needed for keeping the filtering material clean. The recommendation was adopted, after some discussion.

Mr. William James Harding, builder and sanitary engineer, has been elected Mayor of Banbury.

The town-hall at Sheffield, built from the designs of the late Mr. L. W. Mountford, is to be extended at a cost of £34,390. The existing hall will be altered, and a new hall for the payment of rates will be built, with entrance from Northolme street.

At Pwllheli, on Friday, Mr. A. W. Brightmore, Local Government Board inspector, held an inquiry into the application of the town council for sanction to borrow £4,000 for the construction of a sea wall, parade and road to connect the south beach and west end.

Kingston Bridge, which has been widened by the county councils of Middlesex and Surrey, has been opened to the public. The original bridge had a width of 25ft. only. It has now been widened to 55ft., and provides a carriage-way 35ft. wide and a footway 10ft. on either side.

Our Office Table.

By a happy thought, the Council of the Royal Institute of British Architects have generously handed over to the Architectural Association about 900 lantern-slides, representing many years' accumulations of illustrations of papers read before the Institute. Previously the A.A. collection numbered upwards of 6,000 slides, especially rich in illustrations of English and French Early Mediæval and Early Renaissance architecture, all catalogued and classified, and available to its members and other people for hire at a small charge. The recent additions bring the number up to 7,000, and the A.A. has agreed that the whole collection shall be available for loan to members of the R.I.B.A., without charge, on application to the Council. For the future the Institute slides will be kept at Conduit-street for a year after use, and then be added to the A.A. collection at the Royal Architectural Museum premises, 18, Tufton-street, S.W.

A civic survey of cities and towns throughout the country for guidance in town planning is to be undertaken in a scheme which originated with the recently-formed Architects' War Committee. The present inactivity in many professions on account of the war is regarded as the opportune moment for carrying out this work, which, it is claimed, will be of permanent benefit to the nation. It is not to be limited to the architectural profession, as it is proposed, through local committees, to employ draughtsmen, librarians, artists, surveyors, landscape gardeners, barristers, medical men, sanitary experts, and others. The scheme, as drawn up by the Architects' Committee, of which Mr. Ernest Newton, A.R.A., is chairman, provides for the following groupings: (1) Archæological (sites and buildings of architectural interest, use and preservation of buildings obsolete for their original purposes); (2) Social and Recreative (parks and recreation grounds, baths, libraries, golf links, etc.); (3) Educational facilities; (4) Health; (5) Trade (centres of employment, probable future extensions; character of industries, wages, etc.); (6) Traffic (existing facilities by railway, water, tramway, and roads, and probable future developments in relation to traffic).

The Professional Classes War Relief Council have appointed a training and emigration committee to provide for: (1) the adult daughters of professional men; (2) younger girls, whose school life is cut short prematurely by lack of funds; (3) younger members of the artistic professions, already overcrowded; and (4) trained workers, whose professions are only temporarily disturbed by the war. For groups 2 and 3, and to a certain extent for group 1, the committee suggest training on the lines of domestic help, nursing, nursery nurses, teaching, dressmaking and millinery, gardening, poultry, and bee-keeping, and fruit farming, and library and secretarial work. The training of young men is also under consideration. The Countess of Cassillis is chairman of the women's branch, and Mr. Percy B. Tubbs, F.R.I.B.A., Past President Society of Architects, of the men's branch. The secretary is Mrs. Gotto.

An influential committee of American architects has been formed to receive subscriptions for the relief of those upon whom the catastrophes of the European War have fallen. The following professional gentlemen have been appointed upon the War Relief Committee: Mr. R. Clifton Sturgis, chairman, President of the American Institute of Architects; Mr. Frank Miles Day, Philadelphia; Mr. William M. Elliott, Baltimore; Mr. Charles A. Favrot, New Orleans; Mr. Cass Gilbert, New York City; Mr. Elmer C. Jensen, Chicago; Mr. William M. Kendall, New York City; Mr. J. Lawrence Mauran, St. Louis; Mr. Edward Stotz, Pittsburgh; Mr. C. H. Whitaker, Treasurer of the Fund, The Octagon, Washington, D.C.; and Mr. E. C. Kemper, clerk to the committee. Subscribers may designate the

country in which they wish their contribution expended.

The draft of a proposed Bill for the registration of architects in the State of Victoria was read before the meeting of the Royal Victorian Institute of Architects, held at Melbourne on August 11, and unanimously approved. The President (Mr. H. W. Tompkins) remarked that the Bill was entirely in the interests of the public, and that no member present would benefit in any way, because they would have to admit all architects or persons practising architecture at the passing of the Act. He also stated that at the present time there was nothing to prevent anyone from practising as an architect, in many cases at the expense of his client, whereas under the Bill a man would in future have to be duly qualified, thereby raising the status of the profession. The measure provides for a registration board, for examinations to be held, for the appointment of registrar and other officers, and the other requisite machinery. The registration fee is fixed as £3 3s. The Bill is identical with one being introduced in the New South Wales Parliament, and probably in Tasmania and South Australia. The Institute has invited the Chamber of Commerce, Chamber of Manufactures, Municipal Association, Property Owners' Association, Health Society, Medical Association, the Master Builders' Association, and other bodies to join in a deputation to the Minister of Public Works, urging the passing of the proposed Bill into law.

At the last meeting of Dundee School Board a letter was read from Mr. J. H. Langlands, the architect, in reply to a resolution to throw all architectural work open to competition. The letter stated that he was instructed to do the architectural work in connection with the Harris Academy extension, and he would be glad to know what the board proposed to do in regard to payment therefor. If desired, he would formulate his claims in connection therewith and for other professional services to the board. It was agreed to ask Mr. Langlands to submit a statement as to the work done by him.

To mark the completion and opening of the new block of offices at St. Peter's Hospital, members of the Bristol Board of Guardians and friends attended on Friday night to inspect the new offices, and to hear an address by their clerk, Mr. J. J. Simpson, on the history of St. Peter's Hospital, where the board meets, and in which the administrative work is carried on. The guardians' offices have been extended by the purchase of adjoining premises (originally the city work-house), at a cost of £2,500. A further sum of £2,400 has been spent upon reconstruction. In an able address Mr. J. J. Simpson related the history of St. Peter's Hospital and the early work of poor law in Bristol.

"New Time-Savers in Hydraulics and Earthwork," by C. E. Honsden (London: Longmans, Green, and Co., 3s.), are taken from the author's "Water Supply and Drainage Systematised and Simplified," and in this handy form will be useful to all practical engineers. The second section of the volume consists of his method of rapid earthwork calculations, embodying improvements suggested by careful reconsideration.

"A Study of the Circular-Arc Bow-Girder," by A. H. Gibson, D.Sc., A.M.I.C.E., M.I.M.E., and E. G. Ritchie, B.Sc. (London: Constable and Co., Ltd.; 10s. 6d.), is a very useful piece of work. The frequent difficulties attending the necessary calculations in regard to the circular-arc bow-girder—such, for instance, as is used to support the balcony of a theatre—are familiar to most architects and engineers. Many doubtless are familiar with Professor Gibson's solution of the general problem in his paper read before the Royal Society of Edinburgh in 1912, on which the first portion of this book is based; but data as to the values of torsional rigidity are not generally accessible, and Mr. Ritchie's experiments on a number of commercial sections, which form the foundation of the second part of the

book, are as welcome as they are valuable, and will enable anyone versed in the principles of design of the ordinary straight plate-web or lattice girder to adapt these to any specific case of a bow-girder under uniform or concentrated loading.

Repairs on the natural cement floors of the 12,000-gallon storage reservoirs at Kansas City during 1913 were made necessary on account of the breaking through from one reservoir to the next under the walls. According to the annual report of Burton Lowther, chief engineer of the Water Department, the condition was obviated by driving 10ft. steel sheet piling as a cut-off wall along the toe of the division wall. A 6in. concrete floor was then placed over the entire floor, and the heads of the piles were sealed over with a heavy slab of concrete made continuous with the floor. All slopes were repaired and cracks grouted. The work was carried on night and day by three shifts of fifty men, each working eight hours.

"Geology of To-Day," by Professor J. W. Gregory, F.R.S., D.Sc. (London: Seeley, Service, and Co., Ltd., 38, Great Russell-street, W.C., 5s.), is a thoroughly well-done popular introduction to the science in simple language. In our experience there are few others existing, plentiful as is the supply of geological literature of all sorts, to keep up with which, as Professor Gregory well puts it, a geologist would have to read eight books a day. Of course, a real geologist does not attempt such a task, but confines himself to his own special lines of research. The student wants general results of contemporary work and indications of the lines which to-day are of especial interest and promise. These he will get in the volume under notice, which even then covers 323 pages, and bears excellent witness throughout to its author's powers of concentration, coupled with a lucidity which the mere compiler lacks absolutely. Perhaps the want of such help may account for the comparative unpopularity of geology among amateurs. More than once, as older readers know, we have striven to awaken greater interest in the science, but not with much success—which has sometimes surprised us, for it has its fascinations, and some acquaintance with it is indispensable to the engineer, the architect, and others. We hope Prof. Gregory may enlist many new votaries.

MEETINGS FOR THE ENSUING WEEK.

- FRIDAY (TO-DAY).—Town Planning Institute. "The Industrial Village," by Percy T. Ranton, A.R.I.B.A., 22, Victoria-street, S.W. 8 p.m.
- MONDAY.—Victoria and Albert Museum. "Gothic Churches in Italian Cities," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
Royal Institute of British Architects. "The Future of the Surrey Side," by Paul Waterhouse, F.R.I.B.A. 8 p.m.
- WEDNESDAY.—Royal Society of Arts. Opening Address by the Chairman, Sir Thomas H. Holdich, K.C.M.G., K.C.I.E., C.B. 8 p.m.
- THURSDAY.—British Museum. "Doric Temples in Greece and Sicily," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
- FRIDAY.—Glasgow Architectural Craftsmen's Society. "Notes on Paint and Painter Work," by Robert Park. 8 p.m.
- SATURDAY (NOV. 21).—Grand Patriotic Bohemian Concert, organised by London Cornish Association. Holborn Restaurant. 7 for 8 p.m.

At the annual meeting of the corporation of Keighley, on Monday, it was agreed to make application for a Provisional Order authorising the corporation to supply the rest of the Worth Valley and the Keighley rural district with electricity. The town clerk reported that sanction had been received for the borrowing of £17,700 for electricity purposes, and that the balance asked for of £500 was under consideration.

The Bristol Sanitary Committee have decided to widen the main thoroughfare, known as Fitton-road, from Horfield Common to the city boundary. A road 50ft. wide will be provided, the present width being in several places 19ft. to 20ft. The negotiations for the purchase of the necessary land were carried through by Col. T. H. Yabbiemo, the consulting city engineer. The Road Board will contribute £500 towards the cost.

Trade News.

WAGES MOVEMENTS.

BUILDING DISPUTES IN 1913.—The twenty-sixth annual report on strikes and lock-outs by the Board of Trade states that the year 1913 was remarkable for the number of disputes which occurred during its course, far exceeding the number recorded by the department in any previous year. The total number of workpeople involved in disputes beginning during the year (688,925) was higher than in any other year, with the exception of 1911 and 1912. The number of disputes in the building trades (198) was higher in 1913 than in any preceding twenty years, the average number of disputes during the period from 1893 to 1901 being 157, as compared with 130 during 1893-1901. The number of workpeople involved in 1913 in the building and contracting trades was the highest recorded, the largest numbers in previous years being in 1896 and 1899, when 33,000 and 30,000 were involved respectively. In none of the years from 1901 to 1912 inclusive did the total number involved reach 10,000. The largest disputes in 1913 were those involving 12,000 painters and 2,400 plasterers in London. In the building trades the majority of the disputes, arising mainly out of demands for increased wages, were settled by compromises, and only 7 per cent. of the total number of workpeople involved in disputes in these trades were completely unsuccessful.

The Southport Society of Artists have decided in consequence of the depression caused by the war, not to hold the usual autumn exhibition this year.

A nave and aisles are about to be added to St. Joseph's Church, Cwmaman, in the Aberdare Valley, from plans by Mr. J. T. Jenkins, M.S.A., of Porth.

The county lunatic asylum at Bracebridge, near Lincoln, is about to be enlarged at an estimated outlay of £40,000. Two wings with airing-courts will be added to the institution.

The Church of St. Barnabas, Mitcham, which has been erected by members of the City of London School Mission, will be consecrated by the Bishop of Southwark to-morrow (Saturday) afternoon at 3.30.

At Rhondda, on Wednesday, Mr. H. R. Hooper, an inspector from the Local Government Board, held an inquiry as to an application from the urban district council for sanction to borrow £6,000 for the electricity undertaking.

The Sheffield City Council having applied to the Local Government Board for sanction to borrow the sum of £2,000 for the cost of widening Sandycote-lane from about 20ft. to 50ft., an inquiry into the application was held at the town-hall in that city on Tuesday. This was conducted by Mr. R. H. Bicknell, M.Inst.C.E. Mr. C. F. Wike, the city engineer, pointed out that the length of the section to be widened was 665 yards, and that the road was an important one, leading from the city to Lodge Moor Fever Hospital.

At the monthly meeting of the Metropolitan Public Gardens Association, held on Friday, a letter was read stating that the Metropolitan Water Board having decided to build offices on a portion of the Round Pond at the New River Head, they were not in a position to utilise some other part of the site for the purpose. It was agreed to ask that the association's proposals should be placed before the Board for its consideration, as not only did the Round Pond occupy the highest portion of the hill top, which ought to be preserved as an open area in a densely-populated locality, but it was in itself a very remarkable structure, built by Sir Hugh Myddleton some three hundred years ago, with a flagged floor more like Roman than Jacobean work.

The opening meeting of the 161st session of the Royal Society of Arts will be held on Wednesday evening, when an address will be delivered by Colonel Sir Thomas H. Holdich, R.E., K.C.M.G., K.C.I.E., C.B., D.Sc., Vice-President and Chairman of the Council. Among the papers to be read next session is one by Mr. Wm. A. Young on "Domestic Metalwork of the Eighteenth Century" fixed for December 9; and others, to be given in the New Year, by Mr. Frank Bames, M.V.O., principal architect in charge of Royal Palaces, "The Restoration of Westminster Hall"; by the Hon. John Collier on "Portrait Painting"; by Mr. D. V. Cameron, A.R.A., R.E., "Etching"; by Mr. Roger Fry, "Post Impressionism in Design"; and by Mr. C. H. Sherrill, "Ancient Stained Glass."

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Rolled Steel Joists, English	Per ton.	Per ton.
Wrought-Iron Girder Plates	47 10 0 to 48 0 0	
Steel Girder Plates	7 0 0 "	7 10 0
Bar Iron, good Staffs	7 2 6 "	8 3 6
Do., Lowmoor, Flat, Round, or Squares	6 5 0 "	8 10 0
Do., Welsh	22 0 0 "	0 0 0
Boiler Plates, Iron—South Staffs	5 15 0 "	5 17 0
Best Suedshell	8 0 0 "	8 15 0
	9 0 0 "	9 10 0

Angles 10s., Tees 20s. per ton extra.
Builders' Hoop Iron, for bonding, &c., £8 15s. to £9.
Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—

No. 18 to 20.	No. 23 to 24
6ft. to 8ft. long, inclusive gauge	Per ton. £13 10 0
Best ditto	13 0 0 "

Wire Nails (Points de Paris)—

3 to 7 8 9 10 11 12 13 14 15 B.W.G.	Per ton.	Per ton.
8/3 8/9 9/3 9/9 10/3 11/ 11/9 12/6 13/6	13 0 0 "	14 0 0

Cast-Iron Columns	Per ton.	Per ton.
Cast-Iron Stanchions	46 17 6 to 48 10 0	
Rolled-Iron Fencing Wire	6 17 6 "	8 0 0
Rolled-Steel Fencing Wire	8 5 0 "	8 10 0
Galvanised	7 5 0 "	7 10 0
Cast-Iron Sash Weights	8 15 0 "	9 5 0
Cut Floor Brads	5 10 0 "	5 15 0
Corrugated Iron, 2 1/2 gauge	9 15 0 "	
Galvanised Wire Strand, 7 ply, 14 B.W.G.	16 0 0 "	
	14 5 0 "	

B.B. Drawn Telegraph Wire, Galvanised—

0 to 8 9 10 11 12 13 B.W.G.	Per ton.	Per ton.
£10 10s. £10 15s. £11 0s. £11 5s. £11 15s.	£10 10s.	£11 15s.

Cast-Iron Socket Pipes—

3in. diameter	£6 3 6 to £6 7 0
4in. to 6in.	6 0 0 "
7in. to 24in. (all sizes)	5 7 6 "

[Coated with composition, 5s. 0d. per ton extra. turned and bored joints 5s. per ton extra.]

Pig Iron—

Cold Blast, Lillieshall	Per ton.	Per ton.
Hot Blast, ditto	10s. 0d. to 11s. 6d.	75s. 0d. "

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2 1/2 per cent.)—

Gas-Tubes	75 p.c.
Water-Tubes	71 1/2 "
Steam-Tubes	67 1/2 "
Galvanised Gas-Tubes	65 "
Galvanised Water-Tubes	61 1/2 "
Galvanised Steam-Tubes	55 "

OTHER METALS.

Spelter, Silesian	Per ton	£21 5 0 to £21 7 9
Lead Water Pipe, Town	23 10 0 "	
" " Country	21 5 0 "	
Lead Barrel Pipe, Town	24 10 0 "	
" " Country	25 5 0 "	
Lead Pipe, Tinned inside, Town	25 10 0 "	
" " Country	26 5 0 "	
Lead Pipe, Tinned inside and outside	28 0 0 "	
" " Country	28 15 0 "	
Composition Gas-Pipe, Town	26 10 0 "	
" " Country	27 5 0 "	
Lead Soil-pipe (up to 4in.) Town	26 10 0 "	
" " Country	27 5 0 "	
" " [Over 4in. £1 per ton extra.]		
Lead, Common Brands	17 17 6 "	18 12 6
Lead Shot, in 28lb. bags	24 15 0 "	
Copper Sheets, sheathing and rods	75 0 0 "	75 10 0
Copper, British Casts & Ingots	64 0 0 "	65 0 0
Tin, English Ingots	163 0 0 "	161 0 0
Do., Bars	146 0 0 "	146 10 0
Pig Lead, in cwt. Pigs (Town)	22 0 0 "	
Sheet Lead, Town	23 0 0 "	
" " Country	23 15 0 "	
Genuine White Lead	29 15 0 "	
Refined Red Lead	29 0 0 "	
Sheet Zinc	Price on inquiry.	
Old Lead, against account	16 10 0 "	
Tin	8 10 0 "	
Cut nails (per cwt. basis, ordinary brand)	0 12 9 "	

* For 5 cwt. lots and upwards.

SLATES.

Blue Portmadoc	in. in. 4 s. d.	per 1,000 of
" " "	20 x 10	12 12 6 1,200 at r. stn.
" " "	16 " 8 "	6 12 6 "
Blue Bangor	20 " 10 "	13 2 6 "
" " "	20 " 12 "	13 17 6 "
First quality	20 " 10 "	13 0 0 "
" " "	20 " 12 "	13 15 0 "
" " "	16 " 8 "	7 5 0 "
Eureka unfading green	20 " 10 "	15 17 6 "
" " "	20 " 12 "	18 7 6 "
" " "	18 " 10 "	13 5 0 "
" " "	16 " 8 "	10 5 0 "
Permanent Green	20 " 10 "	11 12 6 "
" " "	18 " 10 "	9 12 6 "
" " "	16 " 8 "	6 13 6 "

BRICKS. (All prices net.)

Table listing various brick types and prices, including First Hard Stocks, Mild Stocks, Picked Stocks for Facing, etc.

GLAZED BRICKS.

Table listing glazed brick types such as White, Ivory, and Best, with prices per 1,000.

Table listing compass bricks, circular and arch bricks, and stretchers cut for closers.

Table listing Portland Cement, Ground Blue Lias Lime, and Grey Stone Lime.

STONE*

Table listing stone types like Red Mansfield, Darley Dale, and Bath Stone.

Table listing Portland Stone in random blocks and various depot prices.

TILES.

Table listing various tile types including Plain red roofing tiles, Hip and Valley tiles, etc.

OILS.

Table listing various oil types such as Rapeseed, English pale, and Pure Linseed Oil.

GLASS (IN CRATES).

Table listing glass types like English Sheet Glass and Fluted Sheet.

TRADE NOTES.

Under the direction of Mr. H. H. Turner, surveyor, 48, Broadway, Westminster, S.W., Boyle's latest patent "Air-pump" ventilators have been applied to the village hall, Chislehurst.

Messrs. John Smith and Sons, Midland Clock Works, Derby, have recently completed the erection of two large turret clocks, also the bells and Cambridge quarter-chimes, for the Union of South Africa new Government Buildings at Pretoria.

Under the presidency of Mr. William Allback, the chairman of Claridge's Patent Asphalte Co., Ltd., a smoking concert will be held in the large hall of the London Tavern, Fenchurch-street, on November 28, at 7 p.m.

The Bishop of Kingston dedicated on Sunday a chancel-screen and rood in the Church of the Ascension, Lavender Hill, an edifice erected from the designs of the late Mr. James Brooks.

The death is reported of Mr. F. H. Herbert, architect, of Toronto. He had been in practice in that city for twenty-five years, and designed the National-street arena and many industrial and business premises in the city and its suburbs.

LIST OF COMPETITIONS OPEN.

Table listing competitions for building projects, including extension of laundry, tuberculosis hospital, and planning workmen's settlement.

LIST OF TENDERS OPEN.

BUILDINGS.

Table listing tenders for various buildings, including schools, hospitals, and public works.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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Government Offices, Cardiff, for the Welsh Insurance Commission and Labour Exchange in Cathays Park. View, elevations, and block plan. Mr. R. J. Allison, A.R.I.B.A., Architect, H.M. Office of Works.
Bloxhall-road Mission Building, Leyton. View of entrance, general elevation, sections, and plans. Mr. E. C. Frere, Architect.
Selected Design for Cottages: District Council Housing Scheme, Chapel-en-le-Frith, Stockport. Elevations, section, and plans. Mr. Charles Flint, Architect.
Building News Designing Club: A Gate-house to a Quadrangle, surrounded by Commercial Offices. Three Selected Designs.
The Growth of English Parish-Church Planning.

OUR ILLUSTRATIONS.

Springfield Hall, Knowle: Entrance. Ground Plan and entrance front as altered. Mr. Alan Drace, Architect.

THE STONE GRASSHOPPER.

Once again is truth revealed to babes and sucklings! We elders, feeding on the ash of precedent, and with our hearts hardened by quasi-rule and pedantic principle, cannot always say for certain, "There is a lie in our right hand."

The other day they built a small village banking-house, and over the window, in the segmental panel, cut, in solid stone, a relatively imposing grasshopper with gallant antennæ, horny wing-case, and daddy-long-legs-like extremities, all proper. The elfy grew, and we watched its daily growth. So also did a child, who greeted the completed labours of the sculptor with the remark, "He has done it very nicely." We had in mind the "sculpturesque" and the requirements of technique; but the babe's criticism took the wind out of our sails—all our heavy-father ideas went by the board. The carver had put heart and soul into his work, intent only on making a brave stone grasshopper. Let us oftener put heart in our work, and dismiss our cherished "principles" as vanities. What does it profit us to apply law and precept, and judge by canon, if we lack heart?

Surely, too often we rather seek, by all ways and means, to avoid, above all things, doing it nicely—taking pains, quite ordinary pains, merely, and neglecting the infinite variety said to constitute genius. Half our laboured search after recondite principle is but the poor substitute for the full blast of virile energy. The "royal" road is but too frequently sought in the vain hope that we may accomplish something with the minimum output of determination and enthusiasm.

To do things very nicely is indeed a master principle: one which, if sincerely followed—as, indeed, it needs must be, if at all—will prove a veritable Aaron's rod to all the æsthetic precepts and principles of the mere conjurer. We shall do well, indeed, to carve not only our grasshoppers, but our griffins and our gargoyles, very nicely. So, our work, be it drafting, designing, or enriching a building with sculpture, will always be in good fashion and in good taste. Some of us may sneer now at the old-time "copperplate" draughtsman; yet his neat and accurate delineations will live, while our slap-dash, touch-and-go, tee- and set-square lines will pass away. Fashion changes, follies perish; but what we do with all our might will endure. Not for an age, but for all time, is the fruit of labour with pains. The verdict of the child passed on the stone grasshopper is, or should be, the desire of the architect. For archi-

ture, above all the arts, is permanent; and, since buildings endure, if not nice, their nastiness may persist through dynasties of the dreary powers of dullness and the commonplace.

We have of late years applied rule and plummet to the proportioning of ancient buildings, on which, perchance, their designers were only, in chief, doing what the carver of the stone grasshopper did—working with a heart and soul's devotion, in love with their labour. Surely the Parthenon sculptures were "done" very nicely? By all means, principle or no principle, let us take pains. Let us annihilate the botch, and do again very, very nicely. Let us out with rubber and eraser and obliterate the ill-drawn and ill-designed, and redraw and redesign till beauty is achieved.

So shall we earn the approbation of the pure, fresh minds that can appreciate it. The critic seldom animadverts without reason. Heed him, by all means, when our conscience echoes his rebukes. Out of the quietness beneath his strictures, when obviously dictated by knowledge and good will, shall come the confidence that shall be our strength.

OLD EMBROIDERIES OF THE GREEK ISLANDS AND TURKEY.

The collection of old embroideries of the Greek Islands and Turkey, now on view at the Bursleigh Arts Club, has much interest, for the art itself is now practically dead except in some of the remote islands such as Astypalea, Nisyros, and Felos. Turkish rule and Western civilisation are equally responsible, and it is not surprising that little information about the art is obtainable, except from unvarnished dealers. The Greek islands, as Mr. A. J. B. Wace points out in his excellent introduction to the catalogue, may be divided into six areas, the Ionian Islands, the North Greek Islands, the Cyclades, the Southern Sporades, Crete, and Cyprus, and of these the first five are represented in this Exhibition. Each of these areas speaks a dialect of its own, and has an embroidery style of its own, for it has been noticed that in the islands the areas of the different dialects correspond on the whole with the different types of embroidery. Further, these areas also differ in the types and plans of their towns and houses. This point is most important, for, since the embroideries were mainly intended for household uses, their shape and types depend on the planning of the houses for which they were designed. The different types of houses peculiar to the different island areas will be found fully explained

in two articles by Mr. Dawkins and Mr. Wace in the November and December numbers of the "Burlington Magazine."

The embroideries naturally group themselves under two classes—those intended for household purposes, pillow-cases, bedspreads, and the like, and ornament of women's costume. Some, which doubtless became rare and valuable when the art fell into desuetude, have been converted to ecclesiastical purposes. Two such examples are to be seen here: Nos. 100 and 135, above Cases E and G. In the Victoria and Albert Museum there are two Cretan frocks which have been cut into copes, and in Skopelos a Skyros bedspread has been seen in use as an altar-cloth. In Amorgos there was the tattered wreck of a fine red Naxian bed-curtain, which the pious churchwarden was going to sink in the sea, for it was too much worn to be any further use, and too sacred to be sold.

The exhibits from the North Greek islands are bedspreads, pillow-cases, and towels, or kerchiefs. Floral patterns of an Oriental type prevail, the most prominent being a spray with a hooked stem, and a flowering plant or bunch of flowers in a vase. In addition, patterns of ships, large birds, sultans, etc., are employed, as in Nos. 116, 123, 124, 126, and 131 in Case G. In general, the influence is certainly Oriental, and its connection with what the dealers call Yamma work evident. Very occasionally a connection is visible with the Cycladic school in certain pieces of the Naxian style, such as 129 and 128 in Case G, the latter being a remarkable piece, with a diaper of leaves in the Naxian style enclosing mannikins and flowers in the Skyros style.

The objects from the Ionian Islands and Yamma are divisible into four classes, one being more akin to the Cycladic work than the other three, the second possibly transitional pieces between this style and that of the third, which was evidently influenced by much more Turkish environment, while the fourth bears no evidence of its origination in the Ionian Islands at all. Speaking generally, the first two classes have the geometrical character of the Greek work from the Ægean islands, while in the other two the design is entirely free.

The character of Cycladic work is pretty well known, and yet it is difficult to group any particular class as belonging to one definite island. The embroidery of three islands is well illustrated, that of Anaphé, Amorgos, and Naxos.

In exhibits from the Southern Sporades, till recently under Turkish rule, the distinctive characteristics of the different islands are much clearer than elsewhere. The great feature is that in most of the

islands bed-tents were used, and not bed-curtains. Rhodes is represented by parts of two bed-tents (Nos. 18, 19, 29), a bed-valance (No. 36), four pillows, and a frock (No. 86). Karpathos is represented by four pillows, a bed-valance, and two frocks (Nos. 33-35, Case B, and Nos. 20, 40). Coan embroidery is illustrated by three pillows, one bed-valance, and parts of three bed-tents (Nos. 25, 26, 27, 38, 39, 67, 82). Patmos is represented only by the bed-curtains, Nos. 30, 31; and Nisyros by the three frocks, Nos. 44, 66, 83. To the remote island of Astypalaea belongs the costume No. 81 on the stand by the model bed. The embroidery of this island, which is not otherwise illustrated, is of a peculiarly complicated character.

The Cretan work is easily recognised by the common use of the herring-bone stitch and the complicated character of the patterns, usually floral, with marked Oriental characteristics. Italian influence on the patterns is shown by the presence of the siren, Oriental influence is marked by carnations and other flowers which are a prominent feature of the so-called Rhodian plates, while the Mediæval Greek tradition is represented by the continual presence of peacocks and double eagles.

The dates of any of the works shown are very problematical. Many pieces are undoubtedly nineteenth-century work; the majority of the eighteenth; while possibly some of the finer satin-stitch and darnings-stitch work, such as 43, 103, 104, 138, and 190 may belong to the seventeenth century.

The material is nearly always silk on linen, except in the more modern work, where it is cotton and wool. The dyes used are, with few exceptions, vegetable, and native to the islands. The reds were obtained from the oak-gall, madder, arbutus, and the roots of the plane-tree; the blue was indigo, imported from the East; the yellows were fustic, buckthorn berries, St. John's wort, and other less-known plants. The green was obtained from fleabane, and mixtures of indigo with yellows. The purples were obtained from myrtle and blackberry fruit. The browns were furnished by the acorn cup of the oak, and the black by first dyeing with the same and then with vitriol.

The root source of any of the patterns is obscure. Three influences are distinguishable: Oriental, Levantine, and Italian. Three patterns known as the King Pattern, the Queen pattern, and the Glastra—a local name—are specially interesting, and will provoke much fascinating speculation.

Of the women's costumes shown, only four (20, 40, 41, 81), from Astypalaea, Nisyros, and Karpathos may be described as complete. The universal basis of the ordinary island costume of the women is a frock such as those shown in Case D and Nos. 96 and 83. Embroidered decoration is confined to the bottom of the skirts and borders round the neck and over the shoulders, in fact to those parts of the frock which are not concealed by the overskirt. The overskirt, which in most islands was worn above the frock (see Nos. 44, 67A, 81), is a garment with a full skirt, not so long, however, as that of the frock, to enable the embroidered border of the skirt proper to be seen. It has practically no bodice except for straps over the shoulders, and the sleeves are non-existent or rudimentary, as in the case of No. 81. This in summer is the usual costume; but in cold weather a short jacket of what might be called a Zouave type trimmed with fur would be worn in addition. The head-dresses varied very much in the different islands. As a rule, for everyday work, nothing is worn on the feet, though in some islands, such as Rhodes and Telos, brown knee-boots are worn to protect the feet when working in the fields. On

Sundays and holidays stockings, often of white cotton, and shoes or slippers are worn. The costume just described seems to have been in general use throughout the Greek Islands; but there are one or two notable variations.

TURKISH EMBROIDERY.

The Asiatic embroideries are fairly well known to visitors of Room 128 in the Victoria and Albert Museum. The fifteenth-century fabrics found their most magnificent development in the rich velvets and brocades of the Brusa districts, and are distinguishable by two prominent patterns—the Stem and the Ogival. Examples of the former are 64 and 67; of the latter, 48, 58, and others. All are probably approximately of the end of the sixteenth century. In European Turkey, as far as any style of peasant embroidery existed it is to be found in the eighteenth-century embroideries described by Mr. Wace under the generic name of *Yannina*, a type of needlework which obtains throughout the district on the eastern littoral of the Adriatic. The Ottoman velvets and brocades are largely used to form appliqué patterns of an architectural character suitable to the hangings of Mohammedan dwellings. The velvet is sometimes enriched with embroidery in gold and silver threads to be used as prayer-rugs and divan covers. A single example of this work is the seventeenth-century bag shown in Case K, 170. The Turks are noted for their embroidered coats and applied leathers. These usually take the form of saddles, cushions, etc. The style of work is exhibited in a convenient form in the three passport cases of the seventeenth and eighteenth centuries in Case H.

In Cyprus the embroideries are not characteristic to the island; but the island was noted for its silver clasps and buckles, which were often padded and embroidered with gold threads, beads, coral, and pearls, etc. A clasp of this work is shown in Case K, 171.

Altogether, the collection is well worth study, which, as always at the Burlington Fine Arts Club, is facilitated by the care with which the convenience and comfort of the beholder are in every way studied.

THE GROWTH OF ENGLISH PARISH-CHURCH PLANNING.*

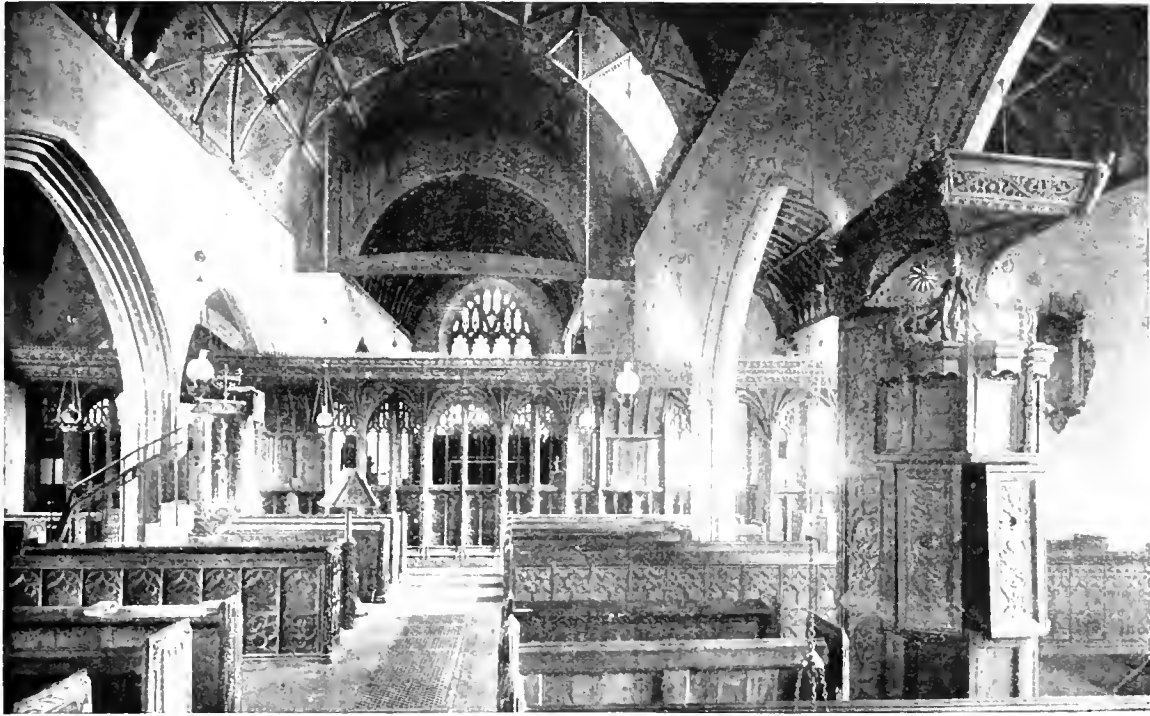
While public attention of late has been engrossed by other concerns, a considerable number of new parish churches have been erected, though very few outstanding opportunities have occurred for specially important works of this class. Consequently, at first sight it may, perhaps, appear that the development of church-planning has been marked by little progress recently. Any such impression, if it really prevails, is very largely due to the fact that the average standard of church-building has been quietly, but all the more steadily, gaining ground, while the increased provision of features of a structural character has been accompanied by greatly-improved appointments for facilitating public worship, including many details which at one time were subjects of controversy, though now acquiesced in. A little consideration given to the history of the years since Rickman's "Attempt to Discriminate" was the only textbook available, and Parker's "Glossary" held the field as the lectionary of the subject, supplemented later on by the writings and copious illustrations of Edmund Sharpe, and followed by the inspiring lectures of Sir Gilbert Scott, will convince all of this. The initiative of the Ecclesiastics naturally had its limitations, and the extravagances of those who developed that movement amidst "the battle of the styles" imparted exaggerated importance to a variety of minor things which no longer

*The English Parish Church. By J. CHARLES COX, LL.D., F.S.A. Large crown octavo. Cloth, gilt. 7s. 6d. net. London: B. T. Batsford, Ltd., 91, High Holborn.

excite attention outside the more immediate neighbourhood where some comparatively large and fully-equipped parochial buildings are erected. On the whole, they illustrate an advance in architectural design, largely consequent upon the masterly lead of men like Butterfield, Pearson, Bodley, Brooks, and Burges, and by such architects as Gilbert Scott, jun., and Bentley, who so capably exhibited in their works the spirit of the Mediæval methods of construction, while discarding any further attempt to resuscitate the mannerisms and peculiarities of the Ecclesiastical styles. Of late, indeed, there has possibly been, in some respects, a reaction; but, for all that, archaeological details of well-defined periods no longer provoke controversy. These things are regarded as the mere grammar of the subject. Even the nicer differences among the historic local schools of craftsmen who in the Middle Ages greatly exercised their influence upon the design of our churches do not engage so much the cultured attention of the more scholarly church-builders of the day as they did a few years ago, simply because their practice has outgrown the "dry-as-dust" elements which used to be inculcated as the basis of modern undertakings of a like kind.

Dr. J. Charles Fox, F.S.A., has just published, under the title "The English Parish Church," "an account of the chief building types and of their materials during nine centuries," putting in plain language the origin, development, and aims of these old buildings, more especially in country districts. The object of his book is, therefore, admirable; but its usefulness, in the light of what we have already said, must very largely depend upon the way in which the student takes up his learned essay. One point must at the outset impress all readers: that these ancient places of worship present no monotonous reiteration. They were not built by any rule-of-thumb methods. Sometimes they are great and splendid, at other times lowly and small. Hamlet churches like Culbone or Chithurst, in Sussex, may be seen as near neighbours to contemporaries like the cruciform church of Old Shoreham, New Shoreham, Steyning, and Boxgrove, in the same county, or as in the first-named instance not far from St. Mary's at Taunton. These records all tell the same tale—that throughout the ages the æsthetic impulse impelled mankind to decorate buildings and impress articles of common use with ornament; while there can be no question as to the enormous influence exercised by religion upon the arts of every successive generation. No one with any appreciation of the subject can deny that the art of the greatest epochs invariably owed its inspiration to religion.

The average parish church of our country districts, as the author points out, usually advanced by a series of fresh developments or reconstruction at intervals of about half a century from the time of the Conqueror's arrival down to the death of Henry VIII. There were also great ages of church-building—notably the Norman epoch, during the reign of Henry III., and throughout certain periods of the 15th century. Each age left its mark, though much of the beautiful equipment of our national sanctuaries was removed by iconoclasts of subsequent times. Consequently, a vast number of these ancient buildings have lost their fittings and contemporary furniture. Ewelme, in Oxfordshire, is a notable exception; and Swynbridge, in North Devon, is one of the richer instances of the exuberance of craftsmanship (of a local character chiefly) still left to adorn the "House of Prayer," notwithstanding the gross pillage of the days of Edward VI., in the early years of Elizabeth, and during the climax of Puritan barbarities. We give a view of this Devonshire interior from Swynbridge, near Barnstaple, as typical of the many periods of art to be seen in a parish church. Dr. Cox by no means limits his illustrations to views. Very many plans are given to show how these buildings were gradually increased and beautified. Vestries, in most cases, when found, are of much later date. The carrying up of early west porches, however, into tower form was (as Dr. J. T. Micklethwaite conclusively esta-



Swynbridge Church, Devonshire.



Chancel (North Side View) Greatchester Church, Cambs.



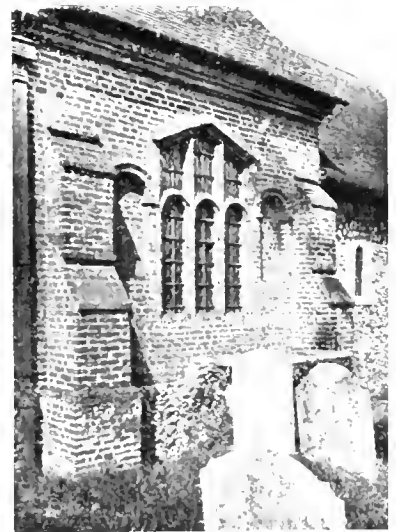
Timber Porch (South), Hayling Island Church, Hants.



The Apse, Newhaven Church, Sussex.



Priest's Quarters Window (West Tower) Interior of Deerhurst Church.



Beckwith, Mapletunham Church, Oxon.

blished some while ago) nearly as much to provide safe and suitable dwelling-places for the priests as to serve for the accommodation of church bells. The parvise, too, over south or north porches was a further development for personal and parochial uses. Priests' rooms, too, are often met with, in Oxfordshire and elsewhere, from whence the altar, by way of a squint, might be kept under constant survey. At Deerhurst the west tower has an elaborate window for this purpose looking into the church from a chamber some way up in the tower. Night offices could then be said in view of the altar without descending into the church. We give a view showing this feature. Other specimens are noted at Brixworth and Bosham, Sussex. There are not many English apsidal churches, though the re-emergence of the apse occurs chiefly in South Eastern England, and the church at Newhaven is an example of much charm, so we illustrate it here. Others will be remembered at Worth, also in Sussex; Fritton, in Suffolk; Nately Scures, Hants; Kilpeck, Hereford; and Steetley, Derbyshire.

One capital chapter in this history of the parish church is well elucidated by a special series of comparative plans, on one sheet, representing the typical changes in a normal parish church from the 12th to the end of the 15th century. These have been prepared personally for the author by Mr. Geoffry Lucas, with key sections which add to their value, while the dates of the work, included in each instance, are indicated by hatching and varied filling-in of the wallings. Besides these, some other named samples of planning are accompanied by sections and exterior views. Mr. A. E. Newcombe's charming sketches we must refer to, as they greatly add to the merit of the volume. Some of the larger churches are reproduced from Wicke's famous folios of "Towers and Spires." Most of the blocks are, however, from photographs, all excellently reproduced. Much information is given as to the various materials used in the construction of these historic buildings, and it is made clear how these materials influenced the details of their design. In demonstration of this, we have borrowed the view here printed of the south chapel of Mapledurham Church, Oxon, which is an excellent instance of brickwork. It was erected by the Blount family, and contains a monument to Sir Richard Blount and his wife (1619). By way of timber-building, we give a very beautiful and genuine specimen, of delightful proportions, from South Hayling Church, where the porch has an unusually great projection. In the southern counties such porches were not uncommon. Huddington and Northfield, Worcestershire, are also good instances, and Ewelme is another, near Oxford.

The fenestration of the Gothic buildings ranks naturally as of the first consequence, and in no period were they more lovely in their design than those of the Geometrical style, usually found where good building stone was most abundant. We have chosen, with Mr. Batsford's permission, the side view of the chancel of Grantchester Church, Cambridgeshire, where the mullions are not carried up through the head, but continued in a development of elaboration, each window being varied from the other. There are over 300 illustrations interspersed among the 300 pages of this excellent handbook, which confines itself to a scholarly and suggestive record of the history of the English parish church, gathered amid so many associations and entwined with memories of the past. Attention is mainly directed to detail in most antecedent books of this class; but Dr. Cox attempts, on the other hand, a broader survey of his subject on a simple and methodical system, and regards parochial churches as distinct from greater structures, viewing them severally as complete entities, no matter how small in scale, and giving always particular attention to their plans. For this reason the volume will be useful to those who study its pages, bearing in mind the further development of church adaptation to modern uses at home and abroad now and in days to come.

"BUILDING NEWS" DESIGNING CLUB.

A GATE-HOUSE.

This attractive subject, chosen for the start of our Designing Club's new session, embodies much more than the term "gate-house" at first sight implies; indeed, the idea, as set out in the brief particulars issued for the competitors' guidance, is not confined to an abstract academic problem as a mere exercise in knowledge of style or only to furnish a pretty piece of picturesque building work. These instructions for reference sake are reprinted at the end of this review, and a glance at these particulars will at once show more precisely what we had in view. The response from our members is most encouraging. During the activities and consequent disturbances of the war we scarcely anticipated what may be termed "a full attendance," but it is eminently satisfactory to find that the merit of the work submitted is quite equal to the club's previous averages, and that is saying a good deal. Consequently we have reason to hope that the Session of 1914-1915 will prove to be one further success, notwithstanding the stress entailed far and near in these troublesome times. Anyhow, the new session may be said to have started well, and such an excellent beginning speaks much for the enterprise of the members by whose co-operation alone the club can be re-invigorated, specially at the very time, be it noted, when chartered institutes and professional bodies have decided to hold over their annual prize competitions, and have postponed all medal awards till the end of the war. This may have been inevitable; but we felt it best to keep the flag flying, and while prepared for reverses, there must be no question as to the obvious duty of endeavouring to unite our forces in a combined effort for holding our own, both in the Arts of Peace as well as in the Arts of War.

The rather uncommon character of this initial problem set for October's contest presents the merit, not only of novelty, but, in the ordinary course of contemporary town developments, such a building as that proposed is likely to be wanted when widened streets and town-planning improvements lead to the opening up of rear properties, often hitherto merely squalid and unremunerative accretions of dilapidated and crowded areas. Sites, consequently, will be furnished for manifestly enhanced possibilities, and in order to open up such holdings a means of access for carts and public pedestrian traffic becomes essential, as in this case, leading to an enclosed quadrangle or garden, surrounded either by commercial chambers in the heart of a city, or, possibly, blocks of superior residential flats. The idea of such a gate-house is, of course, old enough, when found in connection with cathedral precincts, college sanctuaries, or university quadrangles. They are also familiar round about the environs of London Law Courts, among the old "Inns of Court," where lawyers wax fat and flourish. The associations of gate-houses in this way appeals to the sentiment, suggesting quaint, picturesque treatments. Our object, primarily, however, was rather to induce the likelihood of a development of so good a chance in an architectural scheme for utilising a valuable piece of frontage in the principal thoroughfare of a bigish town in such a way as to likewise materially improve the appearance of the street and add interest to it, without injuring more mundane considerations, which include the prime financial proviso of a sound calculation likely to commend itself to those who, after all, would be the critics worth listening to, seeing that they would back their approval with their money, and successfully carry the business through. In advocating undertakings of this sort, it must be reckoned that the rate-earning capabilities of the township would thus be multiplied, while by building a gate house an additional side street would be avoided. Added to these considerations, the continuity of the streets facade would not be interfered with. Bearing this in mind while setting the problem, we were bound to keep it simple and appropriate by adopting inexpensive and reasonably applicable sizes and conditions.

The competition, thus restrained by defined limitations, naturally enough has tended to produce designs which display a marked similarity; consequently, their differences resolve themselves into matters of detail, though, even so, our difficulty in judging was primarily due to the close order of merit displayed by the competitors, comparing their several good points in a broad way. In a sense, therefore, the final decision resolved itself really into a question of personal taste. All things taken into account, "Kitch" deserves our preference, and we place him first; "Penwith" makes a capital second, the third position is won by "September Morn," "Alpha" is reckoned fourth, and his drawing being the first to come to hand, gave us an assurance of the success of the contest, owing to the ability which his design evinced; "Little Willie" scores fifth.

"Kitch's" elevation might have been improved had a more decided projection been given to the bold pilasters marking the first and second floors, and such an increased solidity of appearance would have been justified the more, because the pilasters stand in a sturdy fashion over the massive ashlar-work below this masonry; moreover, it is well set off by the appropriate and unpretentious middle opening. We are not quite so sure about the framed-in spandrels introduced over the lateral archways. The enclosing enriched member has rather an uncertain effect at the springing of its moulded verge, so that anyhow it is awkward. The jointing adopted for these panels also could be much improved. As to the top rails of the side gates, the author seems to suggest a fussy weakness for German craft, the design being similar to trivialities of Austrian type, whence originated "L'Art Nouveau." The turret is not a success, failing as it does to catch the spirit of suitability, which it is not easy to describe, in the absence of a detail, with brevity. No means are shown by "Kitch" as to how he intends the roof-water to get its discharge. More than likely he anticipated an easement might be located quite suitably on the front of the immediately adjacent buildings, though that was not actually permissible, because the facial design of the gate-house was stipulated to be made complete in itself. A loophole for escape in this particular possibly occurs in a proviso intimating that the gate-house is to line up with, and form a portion of, the continuous street frontage, and with the office premises behind.

"Penwith," the competitor placed second, presents many advantages, with a good, handsome, rusticated arcade below, which appears to be unexceptionable; but we greatly object to the haphazard manner in which the setting-out of the masonry is managed, immediately over the haunches of the central opening, where the return stop of the plinth string, over the pierced "podium," coincides with the vertical line of the stonework to the window on the first floor, and in this way it ends exactly where the rusticated groove of the arch-joint occurs. This combination of lines results in a very weak appearance precisely where apparent strength is most needed. The obvious thing to have done was to stop the projecting member at the base of the pilaster, similarly to the stop at the end of the frontage. The double-pilaster arrangement in this elevation is preferable to the rusticated pier in "Kitch's" design; but this advantage is not so important when one remembers that the gate-house, after all, is not to be a detached building, but is intended to form part of a continuous facade to the street in front, and a centrepiece to offices behind. The necessity for ample windows in such premises should not be ignored. The glass space of the three openings in "Penwith's" plan amounts to very little more than half the width measured on "Kitch's" frontispiece, and to the rear "Kitch" also gives four openings instead of "Penwith's" three, thus allowing for a better chance of dividing up the floor-space for office contrivance. On the second floor these differences between the first and second schemes are even more decisive in favour of the choice which we

have made. Four dormers to the top floor manifestly must be preferable to one middle light. Then, again, the panes to the windows of "Kitch's" front are all uniform, instead of being variant, some tall and some squat, as happens in the spacing adopted by "Penwith." This is a minor detail, perhaps, often overlooked by superficial designers; but actually the point is of much consequence where good proportion is aimed at. Without elementary precision of that kind effective design is impossible. The gates in this proposal do not furnish a strong asset in its favour.

"September Morn." accorded the third position, exhibits the faults of both the first and second designs; moreover, in some ways he intensifies them. That is to say, for instance, the terminal piers enclosing his composition are much attenuated by reason of their extra height, and at the same time they are also narrower than in "Kitch's" setting out. Three windows serve in this elevation, instead of four; but the width of the total available glass, however, is ampler than in the second-placed design, and the panes do correspond in their uniform proportions. This is a gain. The top floor is far worse off in the matter of light than the other elevations; besides which, an awkward snow-trap pocket is provided of a most objectionable kind where the one little window is kept down several feet below the ceiling. The door openings asked for in the side-ways on the ground-floor stage give place to grille windows, judging by the section, and the vaulting depicted has a clumsy look, with very squat columns, quite out of accord with tall openings adjoining. "September Morn" draws with a good strong line; but the springing of the central arch should have decided the height of the subsidiary ones, instead of the crown of the middle arch.

"Alpha" stands fourth in order of merit. The feature of his scheme consists in a bold projection as a centrepiece, with Doric detached columns supporting an entablature of regulation character not very happily managed, with the side-openings arched in rusticated ashlar and suspended lights, like Japanese lanterns, coming below big key-stones. The fenestration to the upper floors disregards the spacing of the ground stage, both in front and at the back. The effect is far from admirable in this respect. We recognise that "Alpha's" elevation possesses points sufficient to warrant the belief that he is likely to improve; therefore he will be well advised to persevere. We do not think the conditions justified the big central projection shown, by his plan, and we doubt if the result in execution would have justified such an excrescence intruding badly into the street.

"Little Willie's" depressed arch in the centre of his front cannot be called pleasing, for it has a crippled appearance. The silly way in which a broad white space is left on one side in the delineation of his windows (which are otherwise blacked in solid) quite upsets their actual proportions, which are already poor enough without this trifling in draughtsmanship. The general hang of the lay-out of this façade is strong-looking and effective, handed in stone where the pilasters set on to wall-piers. The grouping of the thoroughway looks as if it might produce a good result. The rear elevation seems suitable also, and both fronts are more self-contained than the designs to which our preference had to be accorded. The turret is too Brobdingnagian, and as a louvred lantern for ventilation it seems meaningless over such a structure.

"Pinto" carries up chimneys, and they occur over the piers which divide the three roadways, which are nearly equally divided, though the middle arch is much larger than the others. The office space is, therefore, settled by this walling, a "board-room" coming to the centre. The idea of chimney-stacks showing is right enough, but "Pinto" has failed to make enough of his chance by not doing something worthy of the occasion. His mural treatment is unpretentious, with flat stone piers devoid of caps or bases. Iron balcony-fronts, handled as they are in this scheme, required more projection to justify

their use. At present they merely serve to hamper the window-openings, being set like blinds right up against the sill of the sash-frames. The masonry to the ground floor is uninteresting, not because of its breadth and simplicity, but on account of its lack of good proportion. Evident commonplaceness obtains just where a little spirit or freshness of idea would have made all the difference. The pediment above adds some character. We cannot admire the turret surmounting the ridge. The gates are very ordinary in design, but at least they avoid German vulgarities previously alluded to.

"Mersey" employs detached columns, and recesses the front of his gate-house in the middle, above the ground floor; consequently he adds an air of grandeur, simultaneously reducing the size of the middle office very considerably. His proposal is the antithesis of "Pinto's" scheme. He rusticates the arches and piers of the three openings, stepping the extrados of their vousoirs pretentiously in front of the plain ashlar walling. The little windows to the second story are inadequate and too high up from the floor. The chimneys come over the external party-walls.

"K." was very late when sending in his drawings, and will do better by keeping to the rules in future. His draughtsmanship is neat, workmanlike, and well turned out. The style architecturally is somewhat over-elaborate, with the stilted treatment above the Ionic columns, which are built into the front wall and crowned by vases on skyline at top of the parapet. We would prefer another kind of arch in lieu of the rusticated four-centred one. The semicircular smaller openings look very nice. A view might have occupied the space now devoted to the title, or a plan of the first floor could profitably have been included. The clock-turret is over-big, but its design looks as if size was accounted of little consequence, for whatever its scale, individuality of effect seems unlikely of attainment.

"Romulus" trims up his windows with queer-looking architraves. The openings on the first floor have segmental heads, with trusses to support the hoods thus improvised. Stone quoins are used at the angles, while brick supplies the intermediate facings. We should like to see "Romulus" take a right step forward towards success by doing better work than this. This design suffices to show that he might easily accomplish something to advance his prospects.

"Black Cat" is really quite sensible, and we take no exception to his elevations, in spite of their somewhat elementary character. The back elevation is very well proportioned and pretty, with a naive singularity, for it is as plain as a pikestaff. The execution of the scheme would look old-fashioned, if odd, with the piers, minus a plinth, carried down to the pavement level. The office plan is not well contrived; but the drawings are neat and straightforward a point worth naming with approval.

"Walbroke's" rear elevation is better than his front façade. If built, it would be marked by an old-world air, through having the turret perched upon a sort of conning-tower, with a hipped attic roof. This is quite a good notion; but we do not like the windows in the street elevation nor the iron scrollwork to top of his big gates in carriage archway.

"Ogee" is represented by unfinished pencil drawings, and so is out of agreement with the rules and regulations. This is a pity for one who evidently knows what he is about, and we like his proposals very well, so far as they go. Next time, keep better time and finish your drawings, please, if you want to prosper and get on with your work as an architect.

The following is a copy of the conditions issued for the competitors.—"A Street Façade, 42ft. wide, out to out, and 46ft. high to the top of the parapet, forming 'a gate-house,' having three archways on the ground-floor level, leading by way of a ground story (14ft. high to soffit or ceiling, and measuring 26ft. deep), to give a cart and double footway access to some town offices ranged round an open garden space

or quadrangle at the rear. The upper floors (there are to be two, beside the attics in roof) in this particular front building will form part of the offices before mentioned. The first-floor level throughout will carry round level with the room over the gateway, and the ground floor of the contiguous offices at back will be 2ft. above the ground-line, to give light to their basements. The rooms in the 'gate-house' will be lighted from front and back, and this building is to form part of, and line up with, the elevation of the adjoining street-frontage premises; but otherwise its facial design is to be complete in itself, with a slight break to emphasise this individual character. The subject of this competition is confined to the portion figured by the above dimensions for a 'gate-house.' Columns or piers may be introduced to carry the groins and divide the footways right and left of the carriageway in the centre, and this latter is to be 12ft. wide in the clear. The arches may vary in span; but room must be left for opening back the wrought-iron gates, needed to close up the thoroughway front arches at night from the street. No approach to the offices is contemplated from either of the two footways under the building; but a door on each side should be introduced as leading to the adjacent premises built beyond on either flank, and for these premises the ground floor will at most be only one 6in. step above the pavement. The gate-house elevation should be composed as a centrepiece seen at the end of the vista of the street opposite to it, going away at right angles. There may be a wooden clock-turret or flèche over the middle of this building, the style of which is to be Georgian Classic, carried out in red brick and stone, the lower part all masonry, and to have a tiled roof rising to show above the parapet. A broad, simple, and dignified treatment is suggested. The drawings to include a front elevation and cross-section to scale of 4ft. to the inch. Two plans and back elevation may be drawn 8ft. to the inch. A sketch-view to be included if space will allow. It should be taken rather from a full front view."

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The second meeting for the present session of the Royal Institute of British Architects was held on Monday evening at 9, Conduit-street, W. The President, Mr. Ernest Newton, A.R.A., occupied the chair. Mr. E. Guy Dawber, Hon. Secretary, said he regretted to have to announce the deaths of several members—viz., Mr. Stockdale Harrison, of Leicester, Fellow, and past-president of the Leicester Society of Architects, who represented that society on the Institute Council in 1891-92; John Henry Arthur Phillips, of Tulse Hill, and Thomas Herbert Whittaker, of Leicester, Associates; and Bailey Scott Murphy, of Edinburgh, and John Prece, of Carlisle, Licentiates. He also had to report the decease of Mr. Samuel Wayland Kershaw, late Curator of Lambeth Palace Library, and previously librarian to the Royal Institute from 1868 until 1879. He moved that letters of condolence be forwarded to the relatives. This was agreed to in silence, as was a further expression of sympathy with Mr. Fitzroy Doll, Fellow, in the loss he has sustained by the death of his gallant son, Lieut. Philip W. R. Doll, of the 8th King's (Liverpool) Regiment, who was killed in action at Ypres recently, having been first reported as missing.

It was announced that an examination of candidates for the office of district surveyor under the London Building Act was held by the Royal Institute on October 22 and 23. Five candidates were examined, and the following two passed and were granted by the Council certificates of competency to act as district surveyors in London: James Douglas Hunter, Licentiate, 79, Great Marlborough street, W.; and Henry George Warren, Associate, 16, Queen Anne's-gate, Westminster.

The President stated that under the provisions of By-law 25 the Council had that day passed a resolution expelling an Associate from membership of the Royal Institute.

THE FUTURE OF THE SURREY SIDE.

Mr. Paul Waterhouse, M.A., Fellow, read a bright and interesting paper on this subject, illustrated by large-scale plans of South London, hung on screens and shown as lantern-slides. He remarked that the axiom was not universally true that important towns were built on both banks of a river; usually the city on one side was of supreme consequence, and the subsidiary town was a rival, or actually hostile, and was not infrequently known by a different name. Even the building of the original London Bridge in 1176, though that structure was afterwards lined with houses, failed to develop Southwark as a corporate part of the City. The Thames, though bridged, did not flow through London; it flowed past London, and between London and Southwark. Other bridges higher up stream were built, and Rogues's map of 1743 showed Lambeth marsh, newly reclaimed and town-planned, with roads on a system, then excellent, but now bad. The South Side Committee of the London Society had recently been considering how the developments of the Surrey side ought to take place. Taking first the problem of the shore itself, from Westminster Bridge to Southwark, they found the shore lined with a mudbank, the reclamation of which with an embankment found great favour. He had been authoritatively informed that the reclamation would not result in a fresh deposit of mud further into the stream, but in a scouring of the river-bed. The question then arose, What would be the future of the rather humble commercial buildings which now fronted the shore? He thought there was much wisdom in the suggestion that a portion at least of the proposed embankment should be so planned as not to interfere with the actual wharf properties which now occupied the shore. If these in time declined, their sites could be adapted to the building of those monumental structures with which some already thronged the banks—in imagination. If the wharves thrived, and even received additional consequence from the improved character of the foreshore, the way was left open for rivaling the comely waterways of Amsterdam or the antique commercial dignity of Ghent and Bruges. The device in any case was eminently non-committal. The actual recommendation of the South Side report, which was offered as a suggestion rather than a definite proposal, was that from a point adjoining the new L.C.C. Hall to Southwark Bridge there should be a continuous embankment 100ft. wide, so placed that it shall coincide on its river side more or less with the low-water edge of the mudbank. At points where the embankment so formed was remote from the present wharf frontages, it might be possible by the introduction of the by-stream or lagoon dock principle, to leave the present riverside properties in the enjoyment of their present frontages, but facing back-waters instead of the open river. The new Charing Cross Bridge project, at first a visionary idea, seemed now to be looked upon by those practically concerned as a reasonable proposition. The project, which the lecturer regarded as excellent, involved the abolition of Charing Cross Station, the formation of a bridge for foot and wheeled traffic in lieu of the present railway, and the establishment of a new station on the Surrey side. The scheme had led to a battle of the levels. Mr. Lucas advocated a high level bridge starting from the Strand at the level of that thoroughfare, crossing the Victoria Embankment, and reaching the new South-Eastern railway station on the level of its own lines of metal. Mr. Barclay Niven and Mr. Raffles Davison produced a low level suggestion which met with the approval of the majority of the committee. He felt that the simplicity, dignity, and directness of Mr. Niven's plan were its own recommendations. The project of Mr. Collett for erecting an arcade of houses and shops on either side of the new bridge exhibited a fertile imagination, and deserved to be kept in view. As to the site for the new South-Eastern railway station, he held that the best position would be halfway between London Bridge and

Waterloo, and not, as Mr. Niven and others proposed, at the foot of new Charing Cross bridge. Mr. Waterhouse turned next to the consideration of main roads on the Surrey side. At present they were so planned as to meet at three focal points, known as St. George's Circus, the Elephant, and Vauxhall Cross. So long as the traffic on the roads was moderate there was everything to be said for an arrangement whereby travellers from the country were collected at points from which they could be conveniently distributed to whatever part of the town was their chosen destination. But in a modern town of modern population such concentration was entirely the reverse of what was desirable. The ideal planning for the arterial roads approaching a town would be that every such road should, instead of joining cause with other incoming routes, divide itself into two tracks at the outskirts of the town, thereby not only giving its passengers the chance of shortening their journey by directing themselves towards the quarter required, but also counteracting that proportionate increase of traffic which grew as the town was approached even in a road that had no important branches brought into it. Having exhibited maps showing this subdivision of traffic, which he regarded as ideal, the lecturer urged the importance of better communication by road through the South side, from Westminster to the City. The ideal route would be a comparatively direct one from Westminster Bridge to Southwark Bridge; but if that was impracticable, there ought to be two good east and west roads—one north, the other south, of the South-Eastern system. At Gravel-lane the Ecclesiastical Commissioners have already cleared the ground and laid out a new roadway (alas! too narrow) on part of an inner route which would eventually serve the Temple Bridge, if ever constructed.

Mr. Edwin T. Hall proposed a vote of thanks to Mr. Waterhouse, who had dealt with a very fruitful theme for consideration. Fortunately, schemes for replanning the Surrey side were not hampered with the burden of the fabulous outlay that all improvements would cost on the northern bank of the Thames in the London area. Possibly a century or a century and a half hence some of the admirable projects would be executed which had been discussed so carefully by the South Side Committee, of which Mr. Waterhouse was the chairman. For himself, he hoped the lagoon scheme for constructing a Surrey-side embankment in front of the riverside wharves and docks would be adopted. Should the warehouses at some future time be no longer required for commercial purposes, their sites could be utilised for imposing public buildings facing ornamental waters. All architects would rejoice in the demolition of the railway bridges at Charing Cross and Blackfriars, and for the new bridge and road from Charing Cross the low-level project seemed preferable from the architectural viewpoint. The sale of the site of Charing Cross Station would pay for the improvement. He agreed with Mr. Waterhouse that the gridiron system of street-planning led to a far more equitable development and less obstruction to traffic than the circuses at important junctions so popular a generation ago.

Colonel Hellard, R.E., secretary to the Road Board, seconded the vote of thanks. The present moment gave opportunities for deliberately weighing and discussing the relative merits and demerits of schemes which could not be put into immediate execution. The difficulties of replanning for the South side of London were financial rather than engineering. Any project to insure utility must avoid throwing any more traffic on London and Tower bridges, for they were already laden to their utmost carrying capacity. It remained to be heard what railway engineers would say to the proposals for abolishing their bridges over the Thames.

Captain C. S. G. Swinton, L.C.C., wished to raise a practical point—what was proposed to be done with the railway bridge at Charing Cross, while the new road bridge was in course of construction? The plans

showed both bridges occupying the same site, and he was informed that under no circumstances could the railway be displaced until after the new station and thoroughfare had been provided. The only practicable solution of the problem would be to build the new railway bridge further west, in a line with Northumberland-avenue. At the same time he would warn them that the financial side of the problem was formidable. As for the new thoroughfare between Westminster and Southwark, the only practicable route would be on the line of the New Cut, Commercial-road, and Stamford-street. They might take it that the oft-projected Temple Bridge would never be constructed, and he did not know what advantage would result from the building by the City Corporation of the St. Paul's Bridge. (Applause.) If the huge sum to be expended on that undertaking were devoted to a bridge at the Temple the money would be laid out to far greater advantage to London generally.

Mr. H. Heathcote Statham observed that Mr. Waterhouse and those who had taken part in the discussion had overlooked the potentialities of a new, substantial, and widened Lambeth Bridge providing an important link in the communication by road between Victoria and the Docks. He might offer an emphatic protest against any scheme for obstructing the view, light, and air from bridges by erecting shops and houses on either side. No one wished for a street extension over a bridge.

Professor S. D. Adshead said another improvement which had been strangely overlooked was the desirability of abolishing Cannon-street Station and its bridge approach. There was no commercial need for a south-side embankment, and he disapproved of the creation of lagoons in the rear of such an embankment.

Mr. Bernard Dicksee suggested that Borough-road might usefully, and comparatively inexpensively, be prolonged eastwards as far as the intersection of the Tower Bridge-road and the South-Eastern railway and onwards through Bermondsey.

The President, in putting the vote of thanks, remarked that Mr. Waterhouse, in his great schemes, had the gift of making all appear feasible. Every financial and engineering difficulty was touched with so light a hand, and with so fine a sense of humour that all seemed practicable.

The vote of thanks was passed with acclamation, and was briefly acknowledged by Mr. Waterhouse.

THE LONDON COUNTY COUNCIL.

At Tuesday's meeting of the London County Council it was decided to sanction the borrowing by the borough council of Holborn of £15,568, repayable within sixty years, for the acquisition of part of the site of No. 53, Parker-street, for a street widening. The price to be paid for the property was, it was remarked, high; but the amount in question had to be paid under an arbitration award in connection with an improvement decided upon before the war.

The General Purposes Committee recommended that the services of Mr. Andrew Young, valuer to the Council (who attained the age of sixty-five years on June 28, 1913), be retained until December 31 next, as his earlier retirement would cause inconvenience to the public service. A sub-committee had been appointed to consider the arrangements to be made subsequent to Mr. Young's retirement, and will submit a recommendation at a future date.

The Improvements Committee recommended the reconstruction of Priest's Bridge, Upper Richmond-road, at an estimated cost of £1,200, and the widening of Brook Green-road at its junction with Hammersmith Broadway, at an estimated cost of £450.

Another recommendation by the Improvements Committee, that no action be taken at present with regard to the execution of a widening at the junction of Old-street and Kingsland-road, but that it be an instruction to the committee to report with estimates when favourable opportunities occurred for carrying out portions of the scheme, gave rise

to an hour's discussion. The cost of the improvement is estimated at £165,000, of which the Shoreditch Borough Council has offered to contribute £5,000. The committee had, before the outbreak of war, recommended the Council to sanction the improvement, and Mr. Henry Ward now moved the reference of the recommendation back, urging the need for the scheme. Mr. Andrew T. Taylor, F.R.I.B.A., the chairman of the committee, expressed sympathy with the amendment, but pointed out that of the £165,000 only about a fourth would be expended on work, the balance going into the pockets of the owners of property affected. Eventually the reference back was defeated by 51 to 44, and the recommendation approved.

Mr. J. D. Gilbert asked how many of the tramway extensions passed by the Council at the last meeting had been suggested by the French expert who had come over to advise the Highways Committee, and for information as to the amount of his fee. Mr. Hume, the chairman of the Highways Committee, who said that the amount of the fee paid to the expert and his assistant was £325, replied that five of the schemes advised by him were among those passed.

Tenders were received for roadwork and platelaying in connection with the construction of the authorised tramway in East Hill, Wandsworth. These were referred to a committee for report.

Mr. Bernard Holland, chairman of the Housing of the Working Classes Committee, stated, in reply to questions by Mr. Edward Smith, that the Local Government Board had made an order requiring the Council to make schemes under Part 2 of the Housing of the Working Classes Act dealing with portions of the Brady-street area in Bethnal Green, comprising altogether about four acres. The Board had been asked for an expression of views on certain general principles as applying to this particular case, and the whole matter would be laid before the Council when a reply had been received.

The enlargement of the Paragon Council school in the New Kent road, S.E., has recently been completed. The builders were Messrs. Holliday and Greenwood, Ltd., and the outlay has been £4,730.

The new St. Dunstan's R.C. cathedral at Charlottetown, Prince Edward Island, the erection of which has entailed the expenditure of some 200,000 dol. is nearing completion. The building is roofed, and the interior work well advanced. The general contractors are John S. Metcalf Company, Montreal.

At Sacramento, California, a civic Hall of Justice building has just been begun at the corner of 6th and H streets, the estimated expenditure being 225,000 dol. The citizens have purchased for 700,000 dol two blocks of property between 9th and 10th and L and N streets for the erection of large state buildings expected to cost about 3,000,000 dol.

Among the discoveries made during the demolition of the "Shambles," at King's Lynn, is the unearthing of several oak desk tops which were evidently used in the grammar school which was carried on in this building, and in an earlier one which stood upon the same site. They were found beneath a stone slab under the chimney-stack. They were doubtless in use at the time when Eugene Aram was an usher in the school, for it was only twenty years before the erection of the building which is now disappearing that Aram was arrested and hanged at York for the murder he had committed at Knarsborough fourteen years earlier.

A new fire-station at Silvertown, built for the corporation of West Ham, was opened last week. The site was acquired for £1,100, and the cost of the structure—designed by the borough engineer, Mr. John G. Morley, A.M.Inst.C.E.—has been £5,914. Accommodation is provided for the housing of a motor fire engine and a motor fire-escape, and a telephone-room, an office, and a recreation-room for the firemen. In the same building are the quarters of the officer in charge of the station, and at the rear is a repairing shop and laundry. Instead of erecting a barrack block for the firemen, ten two-story houses have been provided, these dwellings each containing a parlour, kitchen, two bedrooms, and bathroom, with an additional bedroom and a scullery in the house occupied by the second officer.

OBITUARY.

The death is announced, in his sixty-ninth year, of Mr. Stockdale Harrison, F.R.I.B.A., of St. Martin's East, Leicester, past president of the Leicester and Leicestershire Society of Architects, and the successful competitor for the recently completed Usher Hall at Edinburgh. A pupil of the late James Bird, of Leicester, he had practised in the firm for over forty years, latterly in conjunction with his sons, his works including the churches at South Wigston and North Evington, the Westcotes Free Library, and the De Montfort Hall. He joined the Royal Institute of British Architects as an Associate in 1882, becoming a Fellow eight years later, and served upon the Institute Council in 1891-2.

We regret to announce the death of Mr. Joseph Hill, of the firm of Messrs. Higgs and Hill, Ltd., building contractors, of Crown Works, South Lambeth-road, which took place on Tuesday last at his residence, Selborne, Leigham Court-road, Streatham. Mr. Hill (whose portrait was given in our issue of April 4, 1890) was in his seventy-sixth year, and had been suffering from illness for a considerable time. He was a son of the late William Matthews Hill, to whose business he succeeded with his brother, Thomas Rowland Hill, and who together traded for several years as Hill and Sons at Charlton Works, Islington, N. In 1874, on the retirement of the late Mr. William Higgs, they joined his son, Mr. William Higgs the younger, of Crown Works, South Lambeth-road, S.W., and for three years the style of the firm was still Hill and Higgs; but in 1877 the late Mr. Thomas Rowland Hill retired from business, and the firm have since traded under the style of Higgs and Hill. In 1898 the business was converted into a private company for family reasons. Mr. Joseph Hill leaves a widow and nine children. Two of his sons are directors of the company. The list of important contracts carried out by the firm is so large that we can only indicate that they have carried out barracks at Bedford, Caterham, Chelsea, Windsor, Woolwich, and elsewhere, and many important Government, Post Office, War Office, and Admiralty contracts, numerous lunatic asylums, hospitals, banks, public baths and libraries, churches and chapels (including the rebuilding, after fire, of the Metropolitan Tabernacle—originally erected by Mr. William Higgs, senior), insurance and other offices, business premises, and mansions in all parts of the United Kingdom. The funeral will take place at Bandon Hill Cemetery, Biddington, Croydon, this (Friday) afternoon at 2.30.

Caversham Weir is to be enlarged at a cost of £2,570, the Thames Conservancy Board having adopted a recommendation to this effect on Monday.

The Ealing Town Council have appointed Mr. Irvin Brown, of Buxton, manager of the southern sewage- and destructor-works in place of the late Mr. Basley.

The corporation of Ipswich are applying to the Local Government Board for sanction to borrow money for the following street improvements:—Buck Hamlet widening, north side, £1,343; Buck Hamlet widening, south side, £80; Wood-bridge-road and St. Margaret's-street corner improvement, £2,325; Bramford-road widening, £139; London-road and Victoria-street corner improvement, £155; Fore-street and Church-street corner improvement, £700, and incidentals, £1,573.

On Monday a Local Government Board inquiry was held at the Guildhall, Ludlow, by Mr. H. S. Stewart, inspector, to consider the application of the Ludlow Town Council for sanction to borrow the sum of £1,000 for the purchase of land and for the erection of working-class dwellings. Mr. J. H. Williams, town clerk, stated it was proposed to erect working-class cottages. The land was situated in Holgate Fee, and contained 1a. 2r. The purchase money was £350. It was proposed to erect altogether twenty-one houses at a cost of £3,780, the rents to be 4s. 6d. per week. The income would be £245 14s. Dr. White, medical officer of health, stated he had condemned a number of cottages, and sixteen at present were unfit for habitation.

Building Intelligence.

BENFIELDSDIDE.—The Richard Murray Hospital, situate in Ritson's-road, Benfieldside, was formally opened on Friday. The institution has been accepted by the war authorities as a hospital for the wounded troops. The designs were prepared by Mr. J. J. Eltringham, architect, Blackhill; and the cost has been about £15,000. The contractor was Mr. J. L. Miller, of North Shields, and the heating engineers Messrs. W. Richardson and Son, of Darlington. The hospital embraces four separate blocks, connected by means of an enclosed corridor. The ward pavilion or nursing block is two stories high, and at the south end is a verandah upon which the patients can be wheeled on fine, sunny days. The main nursing wards each contain eight beds, and contiguous thereto are the nurses' kitchens and side wards for extremely serious cases. At the north end of the block are quarters for convalescents. In addition there is a children's ward upstairs. There is also an administration block. There are already twenty beds in the hospital, but when it is under the control of the War Office, forty-eight beds will be provided.

CHIPS.

The Abergele Urban District Council had before them on Monday a list of twenty-four houses scheduled under the Housing and Town-Planning Act, and it was decided to serve formal notice on the owners.

Mr. E. Y. Harrison, A.M.I.C.E., the retiring engineer and surveyor to the urban district council of Wellingborough, who is leaving to take up a similar post at Guildford, has been presented with a polished-oak smoking-cabinet from his old staff.

Scarborough Harbour Commissioners have reported to a committee of Scarborough Town Council upon their proposals for harbour improvement involving an expenditure of £47,650. The Development Commissioners have promised a grant of one-fourth, or £12,000.

The scheme for linking up Port-Glasgow with Greenock electricity system has now been successfully completed, and the inaugural ceremony was performed last Friday week by Provost McMillan. Nine miles of cable have been laid, and the entire cost is estimated at about £50,000.

The annual statement submitted at the Dean of Guild Court in Paisley on Friday showed that for the year ended October 31 thirty-three cases had been brought forward, compared with forty-eight in the previous year. The valuation of these was estimated at £26,960, compared with £154,880 in the year preceding—a decrease of £127,920.

At the town-hall, Llangefni, Co. Anglesey, Mr. A. Brightmore, D.Sc., M.I.C.E., recently held an inquiry on behalf of the Local Government Board touching an application by the Llangefni Urban District Council for sanction to borrow £4,250 for the purchase of the town and market halls, the market place, and rights in market tolls at Llangefni, and for the alteration of buildings.

The Kensington Borough Council has intimated to the Royal Board a desire to carry out a scheme for the improvement of the road-crusts in the borough at a cost of £49,000, conditional on the Board making a grant of half the cost and lending the remainder free of interest. The Board has replied that the proposal can only be considered if the Local Government Board advises that, in view of the state of employment in Kensington, additional road improvement works should be initiated.

The foundation stone of a new Roman Catholic Church of St. Joseph was laid at Penarth last week. The style of the building is Romanesque of the 12th century, with a stone exterior, the walling being of local stone and the dressing of Bath stone. The completed plan will include a wide nave with narrow processional aisles, sanctuary with apsidal terminations, and two small transepts with apsidal chapels. The design includes two western towers. The total length of the completed church will be 117ft., and the width (not including transepts) will be 42ft. At present only the nave and aisles are being built. The architect is Mr. F. A. Walters, F.S.A., Westminster, and the contractor W. T. Morgan, Cardiff.

PROFESSIONAL AND TRADE SOCIETIES.

THE ART OF ENGLISHMEN.—Mr. Roger Oldham addressed the members of the Manchester Society of Architects at their last meeting on "The Art of Englishmen." Mr. Oldham claimed that national art is ever the expression of national character, and that the characteristic of English life is homeliness. He gave special attention in his address to the Cheshire dwelling, and to the contrasting architecture to be seen in Norfolk. Mr. Oldham put in a plea for literary as well as artistic study, and asked for support of the Walpole Society. Every parish should make a record of its own history and jealously guard its literary and artistic memories, and we should not sneer at Gothic, or despise the place in which we lived. We could learn of England by studying Shakespeare, Bunyan, Dr. Johnson, or the paintings of Reynolds, Turner, and Millais—or Lincoln Cathedral. But he pleaded also for those less known beyond their native villages. "The builder of Broadheath Bridge marches shoulder to shoulder with Sir Christopher Wren; Henry Liver-edge side by side with Charles Dickens; the Gladden window at Middleton was erected to the glory of God as much as the 'Five Sisters' at York." The lecture was illustrated with a collection of studies of English Church work by Mr. Cecil Young, this year's Pugin student of the R.I.B.A.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.—The members of this association have now their headquarters at the rooms of the Birmingham Royal Society of Artists, and on Friday night members of the two bodies joined in listening to a lecture on "The Buildings Damaged by the Germans," by W. H. Bidlake, M.A., A.R.I.B.A. Mr. Bidlake said it still seemed a surprising thing that the German people, with whom they had been wont to associate such a high standard of intellectual activity, should in these latter days have become the destroyers of the splendid works of art of other times. In the East of Prussia, however, they had always been a warlike and turbulent people. Since the earliest days the people living on the eastern shores of the Baltic remained heathen long after the rest of Western Europe was Christianised, and they only embraced Christianity then at the points of the swords of the Teutonic knights. They adopted Christianity late, and, it was possible, only as a sort of veneer. To-day many of their writers seemed to think the Christian religion a religion of decadence and weakness, whereas the glorious heroes of the old German mythology were knights of valour. For the Christian religion they had substituted the new religion of valour in battle, of brute strength. Mr. Bidlake pictured France and Belgium before the war and after, presenting the most beautiful architectural features of the country over which the battle has raged before the German invasion, and then the trail of destruction left by the Germans from Liège, through Namur, Dinant, Louvain, Malines, Antwerp, Termonde, Brussels, Ghent, Bruges, Oudenarde, Courtrai, Roubaix, Lille, Arras, Amiens, Senlis, Soissons, Laon, and Rheims to Ypres. Mr. Bidlake described the famous Flemish architecture displayed in the cathedrals, churches, and hotels de ville of Belgium, and passed on to the beautiful Gothic buildings of France, which found their highest form at Rheims.

CONDITIONS OF A SOLDIER'S LIFE.—The first of a course of public Chadwick Lectures on "Camp Hygiene" was delivered by Mr. A. T. Nankivell, M.D., D.P.H., medical officer of health for Poole, at Bedford College, Regent's Park, on Saturday evening. Mr. John Slater, B.A., F.R.I.B.A., Chadwick Trustee, occupied the chair. The author dealt with the conditions of a soldier's life and health in times of peace and war. The lecturer insisted on the evils of excessive aggregation or overcrowding, and dealt with the spread of disease. Special attention was given to the illnesses to which a soldier on active service was most liable, and their prevention was fully considered. The important

questions of pure food, pure air, and pure water were discussed. The lecturer described in detail questions of camp sanitation, and showed many excellent lantern-slides illustrating camp hygiene, especially in regard to the camps at present occupied by our new Army.

THE GOLDEN AGE IN GREECE.—In a lecture at the British Museum on "The Golden Age in Greece," Mr. Banister Fletcher drew attention to the transformation, as by magic, from the primitive period to that period of perfection when the masterpieces of Greek art were crowded into the short space of 150 years. Then it was that the subtle spirit of the Greeks breathed upon the rough wall-work of the Mycenæans and transmuted it into the perfect beauty of Hellenic architecture. There were many contributory forces at work to produce that wonderful beauty of simplicity. A clear climate demanded fineness of line, and the wealth of native marble mines met the demand and supplied the pure line, smooth surface, and close joints which clothe Greek buildings with mysterious beauty, while abundance of golden light played over the whole in a variety of colour schemes, unrivalled even by Greek artists. But religion gave them their finest buildings, and this was essentially a temple-building epoch, when the proud temple of the god was evolved from the humble house of man. The sudden blaze of beauty in building was started by the vital spark of national exultation and a desire to celebrate in concrete form the victories over the Persians by land and sea in B.C. 480.

INSTITUTION OF MUNICIPAL ENGINEERS.—Owing to the war, it has been decided, after very careful consideration, to hold the annual meeting in London again this year, and to confine the meeting itself to business and the presentation and discussion of papers only. The meeting will take place on Saturday next week, the 28th inst. It had been intended to have had a two-days' meeting in Chester, with an attractive programme, and it is to be hoped that next year the meeting will be held in the town where the president resides, as has been the custom hitherto.

R.I.B.A. PROBLEMS IN DESIGN.—The designs submitted under Subject XVII. will be on view in the gallery of the R.I.B.A. on Monday, Tuesday, and Wednesday of the week after next, Nov. 30 and Dec. 1 and 2 inclusive, between the hours of 10 a.m. and 8 p.m.

SHEFFIELD ARCHITECTS AND THE CORPORATION.—The opening meeting of the new session in connection with the Sheffield Society of Architects and Surveyors was held at the University, Western Bank, on Friday evening, when the president, Mr. A. F. Watson, F.R.I.B.A., gave a thoughtful and outspoken address. Commenting on the suggestion brought before the city council on Monday that in the revision of the corporation by-law regarding damp-courses, bitumen sheeting should be excluded, the president expressed a hope that the corporation would consult the architects and builders of the city before deciding upon such a stringent by-law, for, in his opinion, the proposed wording of the revised by-law would be very detrimental to the interests of the public. He did not consider it was either advisable or right to confine damp-courses to sheet-lead, rock asphalt, and blue brick, as was proposed. Town planning had certainly created a large amount of correspondence and talk in the city; but so far, they were told, had not made much headway, but had given a great deal of trouble and annoyance to owners and agents of large and small estates. The municipal authorities were generally very anxious to get hold of property at the least cost, and to widen roads outside the city which, in the opinion of the authorities, would benefit the public. But in the city, in York street and George-street, where widening would have been very beneficial to the citizens at large, two cases had been lost sight of where the opportunity had occurred to widen streets with advantage when the old buildings were removed. The erection of large and important buildings in

the city had been few during the past year, but there was one in High-street which would be a great improvement to the street when completed. In regard to the extensions of the Municipal Buildings and Lodge Moor Hospital, it was somewhat of a hardship that the corporation should have considered it necessary to have the quantities measured by London surveyors. Mr. Watson mentioned that the vice-president (Mr. Charles B. Floekton) is now serving his country while 34 representatives of the profession in Sheffield and two from Rotherham had joined the Forces. On the motion of Councillor W. C. Fenton, a vote of thanks was accorded the president. Much attention was attracted by an exhibition of drawings and sketches executed by the late Mr. George Devey. These drawings came into the possession of Mr. W. S. Purrehon, A.R.I.B.A., who has presented them to the University Library.

THE SEA POWER OF GREECE.—National life in Greece, as reflected in her building activities, was the subject of a lecture by Mr. Banister Fletcher at the British Museum. Not only in our days was the influence of the sea over all, but in classic times in Greece her natural harbours, extensive seaboard, and innumerable island stepping-stones all contributed to make Greece a maritime nation which colonised—much as we did—by commerce. The effects of this international intercourse were seen in Doric columns, reminiscent of Beni-Hasan, and in the colour-treatment of famous friezes which were undoubtedly of Assyrian suggestion. Then there were great preparations to protect commerce and to police trade routes by land and sea. Thus rose wall-girt Tyrus to keep an eye on the sea route, and Mykenæ to scan the trade track across the plain, while Troy dominated the great trade route east and west. All revealed the continuity of the commercial idea in the development of nations. We now knew the influence which Crete had early exercised on art and commerce. The lecturer gave the wonder-story of the discoveries of Sir Arthur Evans in the Palace of King Minos at Knossos. There stood the ancient throne, with olive press, halls, staircases, bath, and drains, a whole system of sanitation, while the absence of fortifications was accounted for by the strength of the island navy. Perseus and Ariadne, Minotaur, and Labyrinth were fairy-tales of our youth, but the spade of the discoverer had turned much of this legendary lore into historic fact, and it had been done through the medium of architecture.

SURVEYORS' INSTITUTION EXAMINATIONS.—After the examinations of March, 1915, a paper on the subject of Heating and Ventilation will be included in the Building and Quantities Section of the Intermediate Division. Papers on the Principles of Valuation and Use of Valuation Tables will be included in the Final and Direct Fellowship Examinations, Sub-Divisions I. and III. The paper on Agricultural Chemistry in the Final Examination, Sub-Division I., will be dropped, and the scope of the paper on that subject in the Intermediate Examination will comprise Parts 1, 2, 3, and 4 of the existing syllabus.

A chapel is about to be added to the Hohan hostel at University College, Cork. Mr. J. F. McMullen, of Cork, is the architect.

Lanark Town Council have approved of a scheme to make an addition to their present fever hospital of a new ward to contain twenty beds.

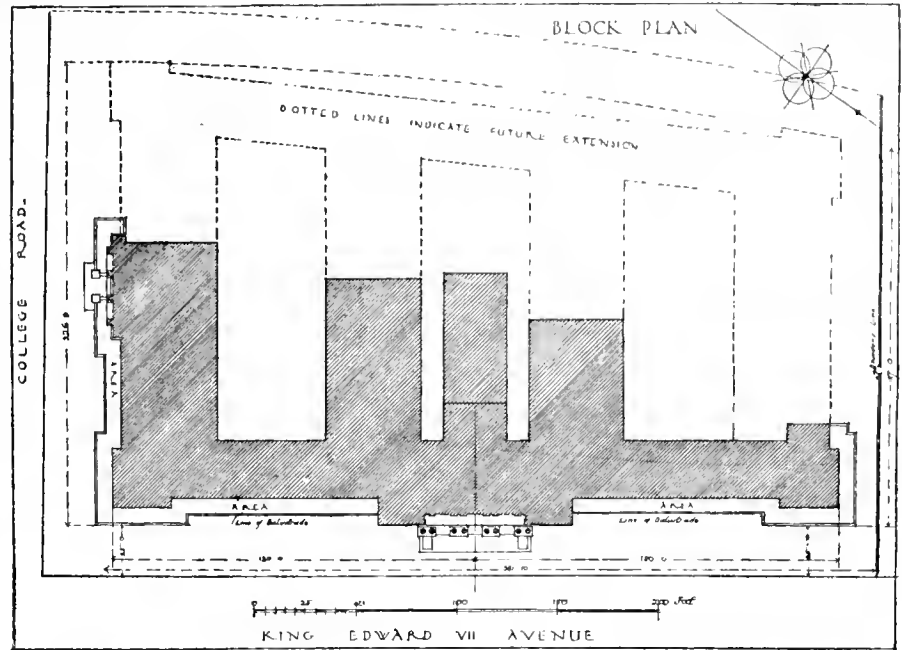
A Wesleyan Methodist church and school, built at a cost of £1,257, have been formally opened at Great Ayton. The architect was Mr. A. Forester, of Middlesbrough, and the contractor Mr. W. Pearson, of Great Ayton.

At the meeting on Tuesday of the governors of the Royal Grammar School, Newcastle-on-Tyne, an offer by Mr. A. Monro Sutherland of £1,000 for the provision of a rifle range as a permanent addition to the school premises was accepted with thanks. It was stated that plans for the range are being prepared by Mr. W. H. Knowles, F.S.A., F.R.I.B.A., of Newcastle.

Our Illustrations.

GOVERNMENT OFFICES FOR THE WELSH INSURANCE COMMISSION AND LABOUR EXCHANGE, CATHAYS PARK, CARDIFF.

The site on which this building is to be erected is situated at the north-west corner of Cathays Park. The departments to be provided for immediately are the Welsh Insurance Commission and the Labour Exchange divisional office. Considerable space for extensions will be available, as indicated on the block plan. Portland stone will be used for the exterior, and the principal façade of the insurance building will be to King Edward VII. avenue. The Labour Exchange divisional office will face College-road. Internally the offices, etc., will be plainly treated in plaster, special architectural features being confined to the entrance-halls and board-rooms; they will otherwise consist of plain Government offices, with no features of architectural enrichment. The construction generally will be fire-resisting. A first contract for the foundations is in course of preparation, and it is hoped that the work will be commenced early next year. We give a view with the two main elevations, showing the broad, handsome, and simple treatment adopted by the architect, Mr. R. J. Allison, A.R.I.B.A., of H.M. Office of Works. Close to the site of these important Government offices in Cathays Park stands a remarkable collection of buildings of a rich and handsome kind, individually distinguished by their scale and architectural merit. The chief block, of course, consists of the City Hall and Law Courts, erected from the designs of Messrs. Lancaster and Rickards. The South Wales University buildings, towards the south-east,



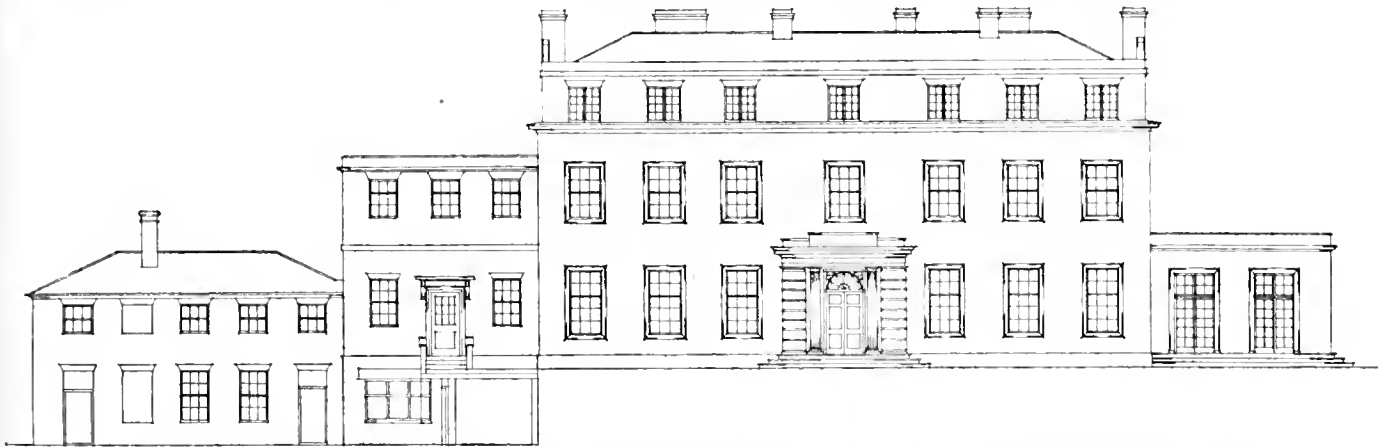
GOVERNMENT OFFICES, CARDIFF.—Mr. R. J. ALLISON, A.R.I.B.A., Architect.

were carried out by Mr. W. D. Caröc, F.S.A. The National Museum for Wales is being erected on an excellent plan by Messrs. Dunbar Smith and Cecil Brewer. The Registry building, though small, is of no diminutive character, by Messrs. Wills and Anderson. Messrs. Harris and Moody's County Hall for Glamorgan adds much to the series as a building of great merit, and the Technical Institute is in course of construction from the capable hands of Messrs.

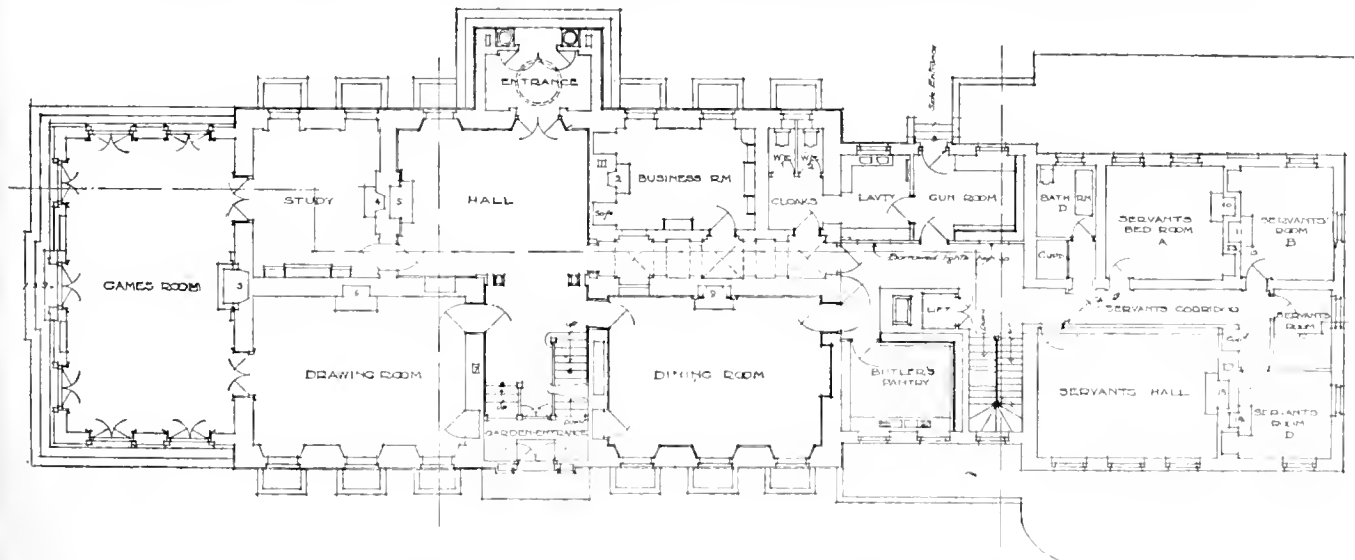
Ivor Jones and Percy Thomas, of Cardiff. The offices now illustrated well befit their purposes, and will hold their own midst their distinctive neighbours.

NEW PORCH, SPRINGFIELD HALL, KNOWLE.

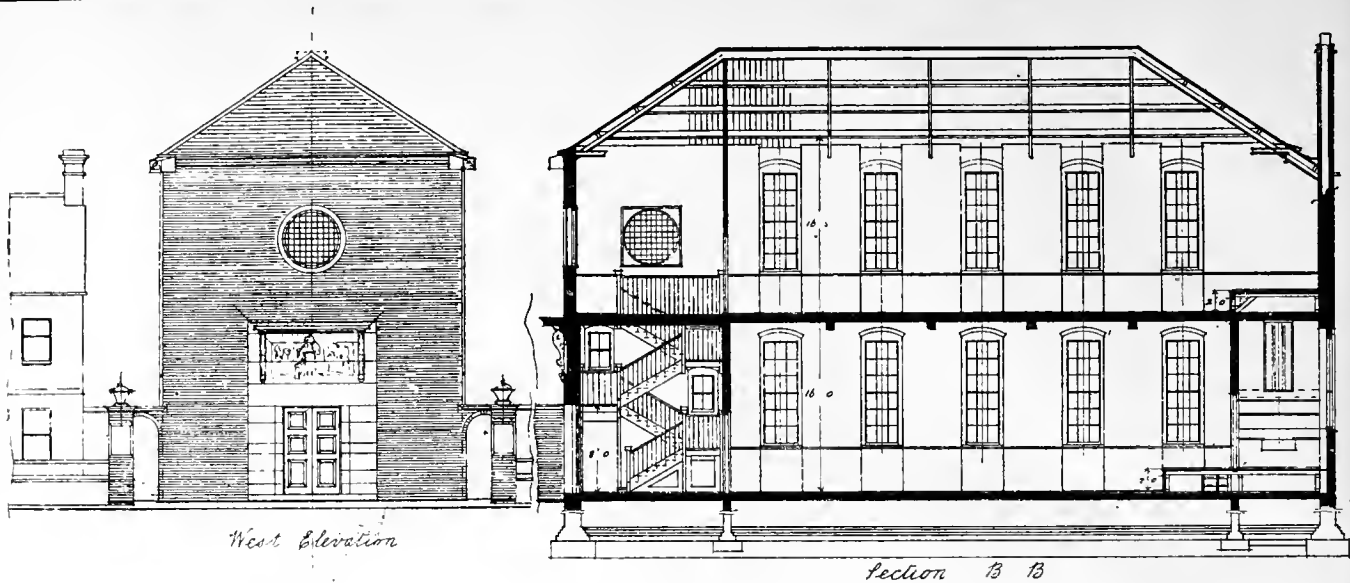
This porch, as shown by the view, plans, and elevation given herewith, formed part of the general scheme of alterations and additions to this house, and the porch takes



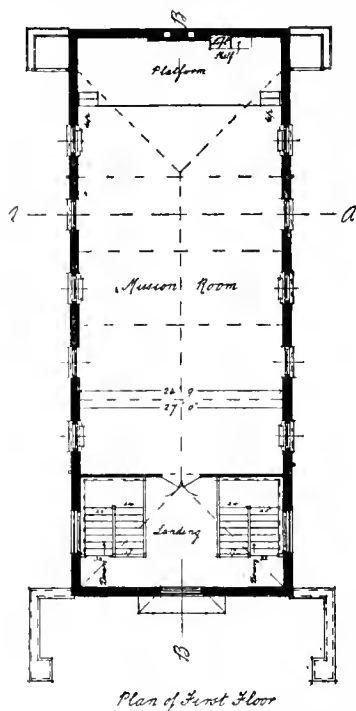
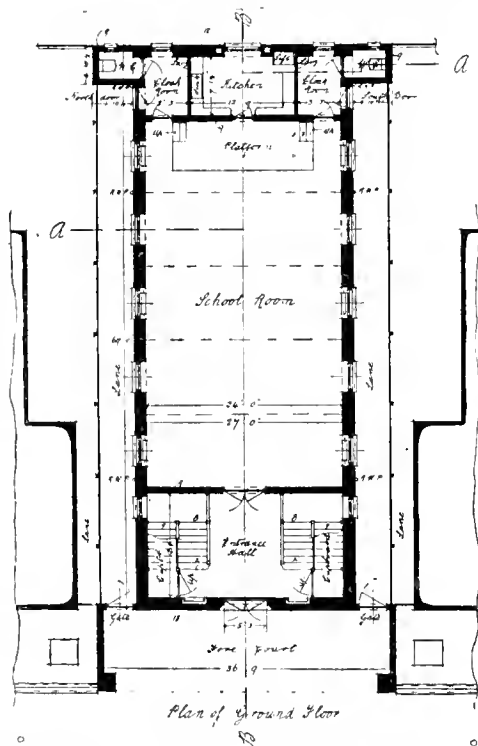
SPRINGFIELD HALL, KNOWLE: ENTRANCE FRONT, AS ALTERED.—Mr. ALAN BRACE, Architect.



GROUND PLAN, SPRINGFIELD HALL, KNOWLE. AS ALTERED. Mr. ALAN BRACE, Architect.



MISSION BUILDING, BLOXHALL ROAD, LEYTON.—Mr. E. C. FRERE, Architect.



MISSION BUILDING, BLOXHALL ROAD, LEYTON.—Mr. E. C. FRERE, Architect.

the place of an open one of stucco which had been added about fifty years ago. The old entry gave access to a small, dark hall; but this part has now been considerably enlarged. Old bricks were used for the walling of the addition. The columns and cornices, etc., are of Hollington stone, the steps of brown York stone, with risers built up of tiles. The floor is paved with green and white marbles. Light is obtained from a east glass dome in the roof. The contractors were Messrs. S. Redhouse and Son, Stofold. Mr. Alan Bruce, of Lincoln's Inn, is the architect. The drawing was shown at the Royal Academy this last summer.

MISSION BUILDING ENTRANCE, BLOXHALL ROAD, LEYTON.

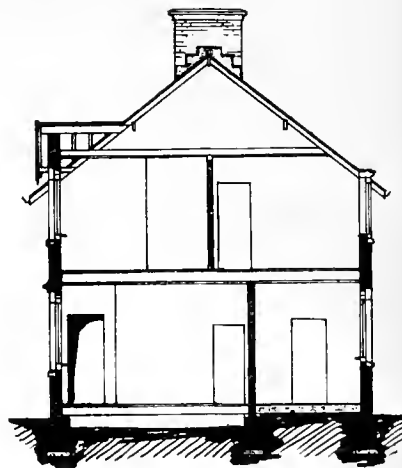
The building forms part of a scheme for Church of England extension in Leyton. The means at disposal being limited, it was necessary that the cost should be reduced to the minimum. The building, therefore, has been treated with the greatest simplicity both internally and externally; but nothing is omitted which is required for practical convenience and comfort. The elevation is faced with London stocks, darkened

and pointed, in order to give full value to the central feature, of which we give a view. This entrance is of Portland stone, carved and enriched with great delicacy. The panel symbolical of the Four Evangelists was designed and carved by Mr. F. Lesore, whose work is distinguished by its beauty in conception and execution. The cost of the building, complete in every way, did not exceed 6d. per foot cube. The work was done by Mr. W. Irwin, of Essex-road, Islington, N., to the designs and under the superintendence of Mr. E. C. Frere, of 1, Lincoln's Inn-fields, W.C. The illustration on our plate was taken from a drawing by the architect, which was exhibited in the Royal Academy this year.

SELECTED DESIGN FOR COTTAGES, HOUSING SCHEME, CHAPEL-EN-LE-FRITH, STOCKPORT.

These cottages, designed in blocks of four, were awarded the first premium in the recent competition, and the architect is Mr. Chas. Flint, M.S.A., of Buxton. The site faces principally south, and is situated on slightly rising ground at the junction of the Buxton and Castleton roads. Each house contains a

living-room (175ft. super.), scullery, bathroom, three bedrooms, and the usual offices. They are to be built in brick, with brick and stucco top story, set on an oversailing course.



SECTION

SELECTED DESIGN, COTTAGES, CHAPEL-EN-LE-FRITH.

Bangor slates to be employed for roof covering. The height of the rooms is 8ft. 6in. The section herewith shows the details of the arrangement illustrated by the plans.

DESIGN FOR A GATE-HOUSE.

(For the assessor's award in this BUILDING NEWS Designing Club competition see p. 644.)

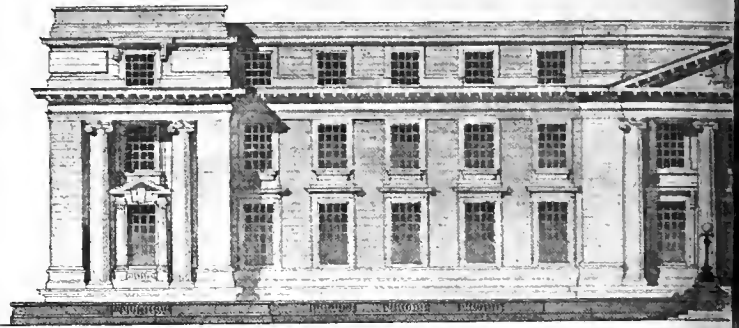
The Architectural League of New York has passed a resolution declaring that no greater crime has been perpetrated against art in civilised times than the shelling of Rheims Cathedral and the dropping of bombs on Notre Dame.

The Durham County Council at their meeting on Friday adopted the proposals of their education committee for the purchase of school sites at Sunnyside (Whickham), Spout Lane, Washington, West Pelton, and Pelton Fell, and for the provision of new schools at Frosterley (estimated cost £2,350), Ludworth (£4,160), and Waterhouses (£7,250).

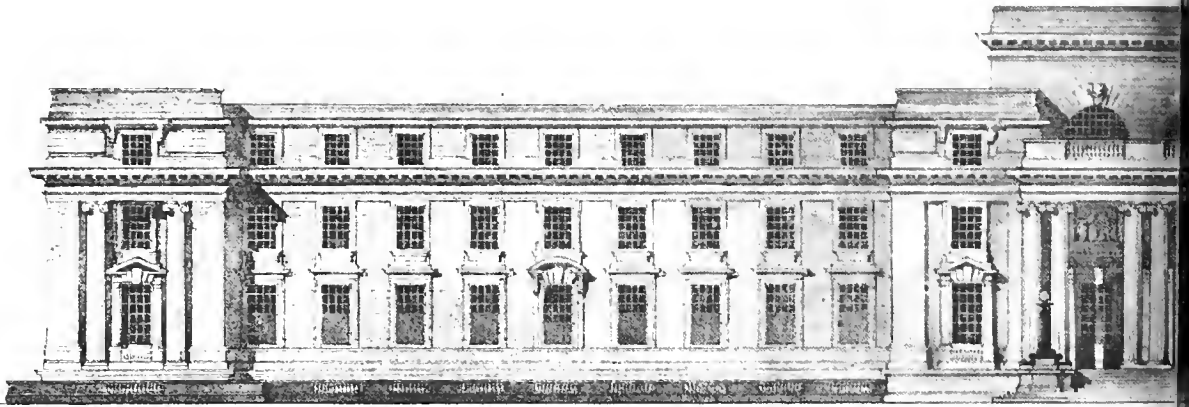
At the first annual convention of Illinois State licensed architects, held in Chicago on October 8 and 9, many plans were outlined, and several committees appointed, to promote the most effective and efficient organisation of the profession in that State. The convention closed with a banquet. The following officers were chosen for the year: Mr. Emory S. Hall, president; Mr. S. N. Crowen, treasurer; Mr. John Reed Engard, secretary; and Mr. H. L. Palmer, financial secretary.

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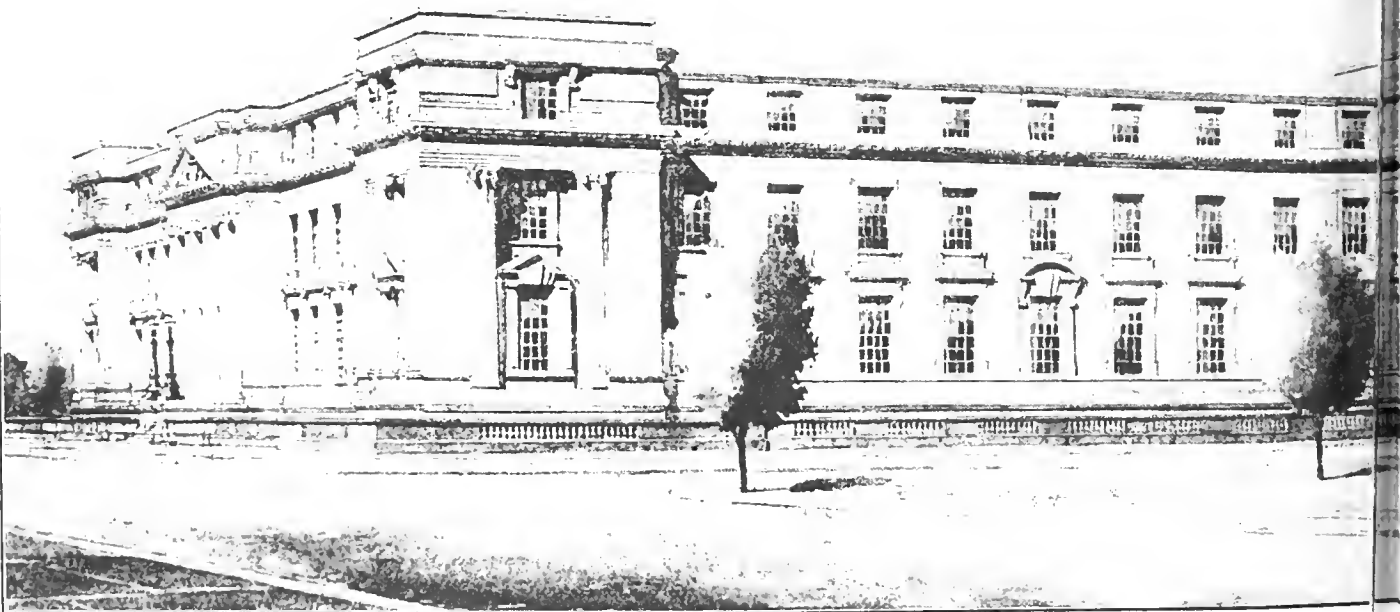




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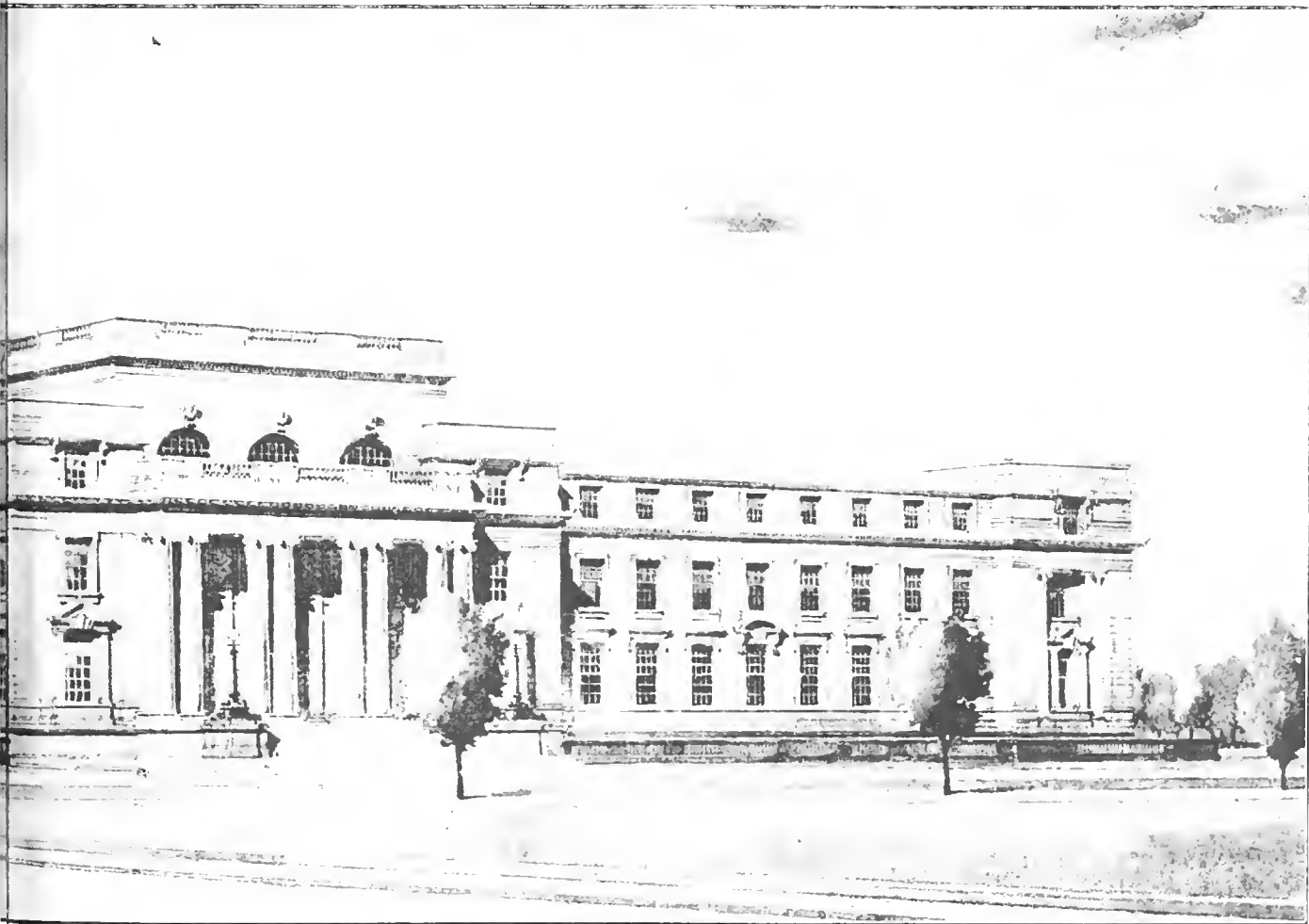
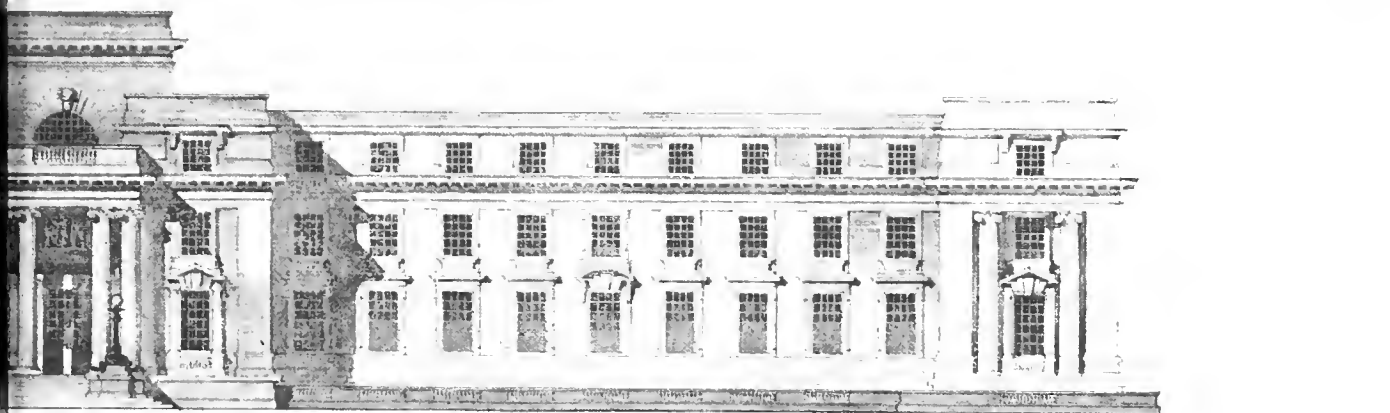


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GOVERNMENT OFFICES FOR THE WELSH INSURANCE COM

Mr. R. J. ALLISON, A.R.I.B.,



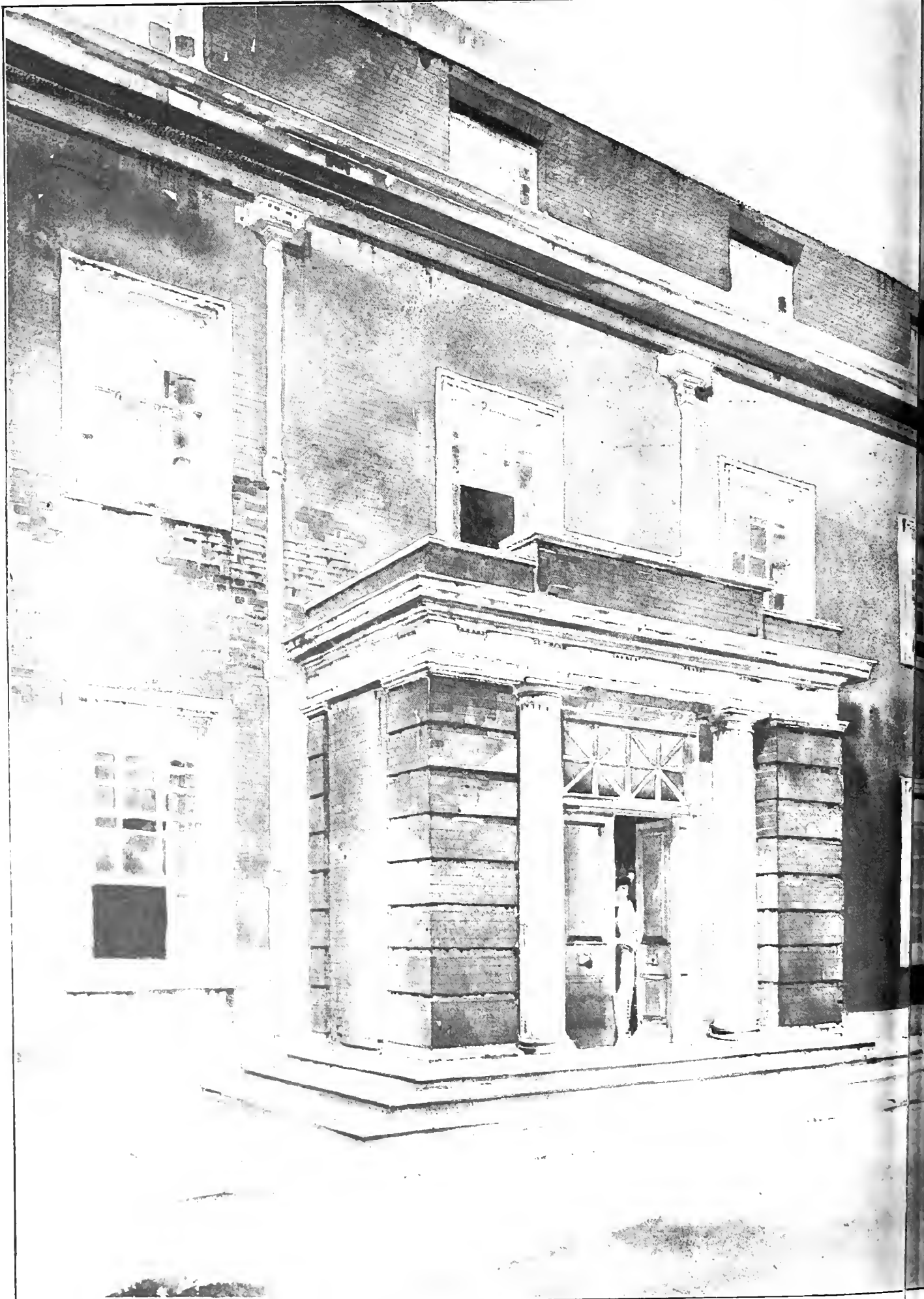
MISSION AND LABOUR EXCHANGE, CATHAYS PARK, CARDIFF.

Architect, H.M. Office of Works.



655-658





SPRINGFIELD HALL, KNOWLE: NEW ENTRANCE AND ALTERATIONS.—MR. ALAN BRAGG, ARCHT.



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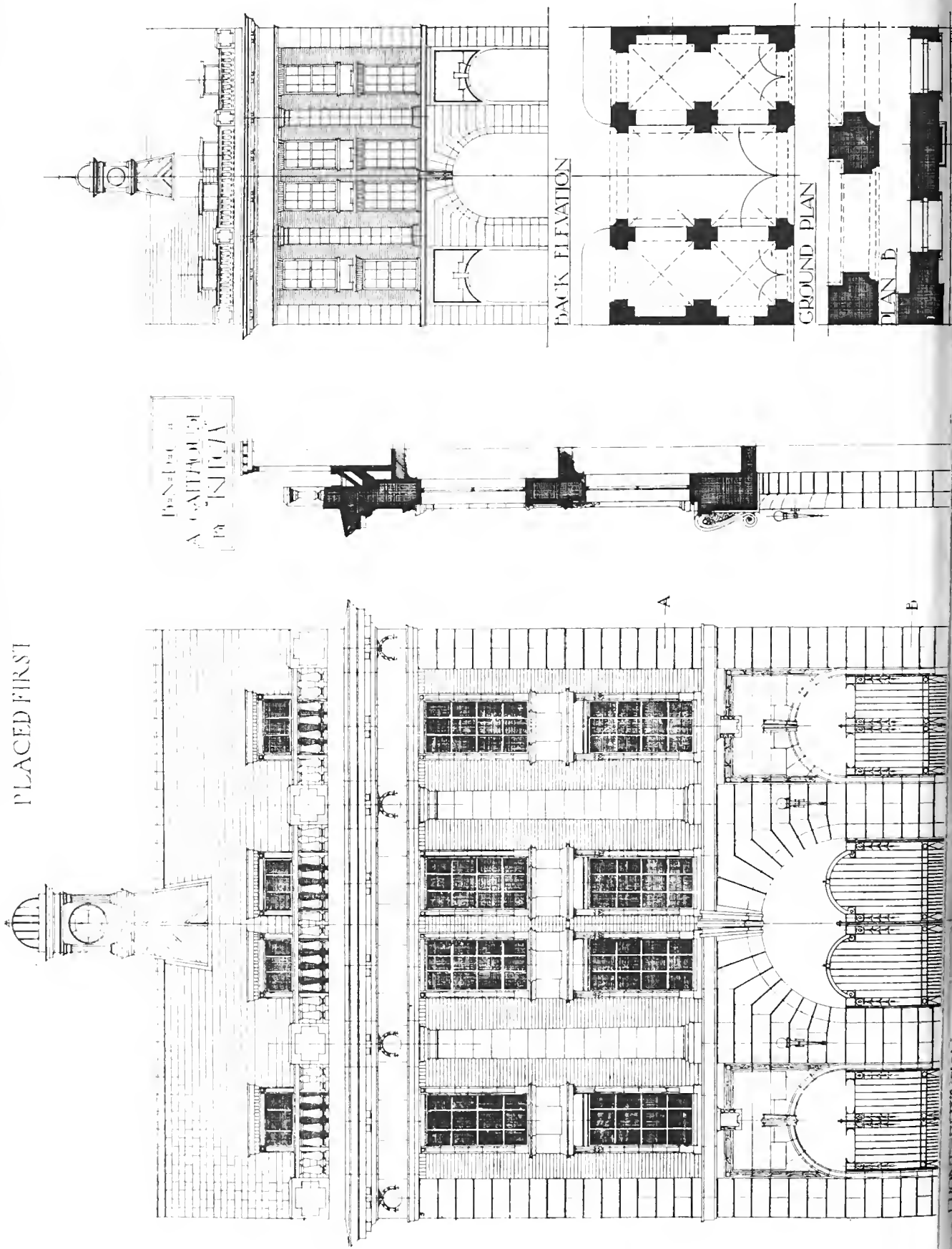
BLONHALL ROAD MISSION BUILDING. LEYTON.—Mr. E. C. FREKE, Architect.



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PLACED FIRST



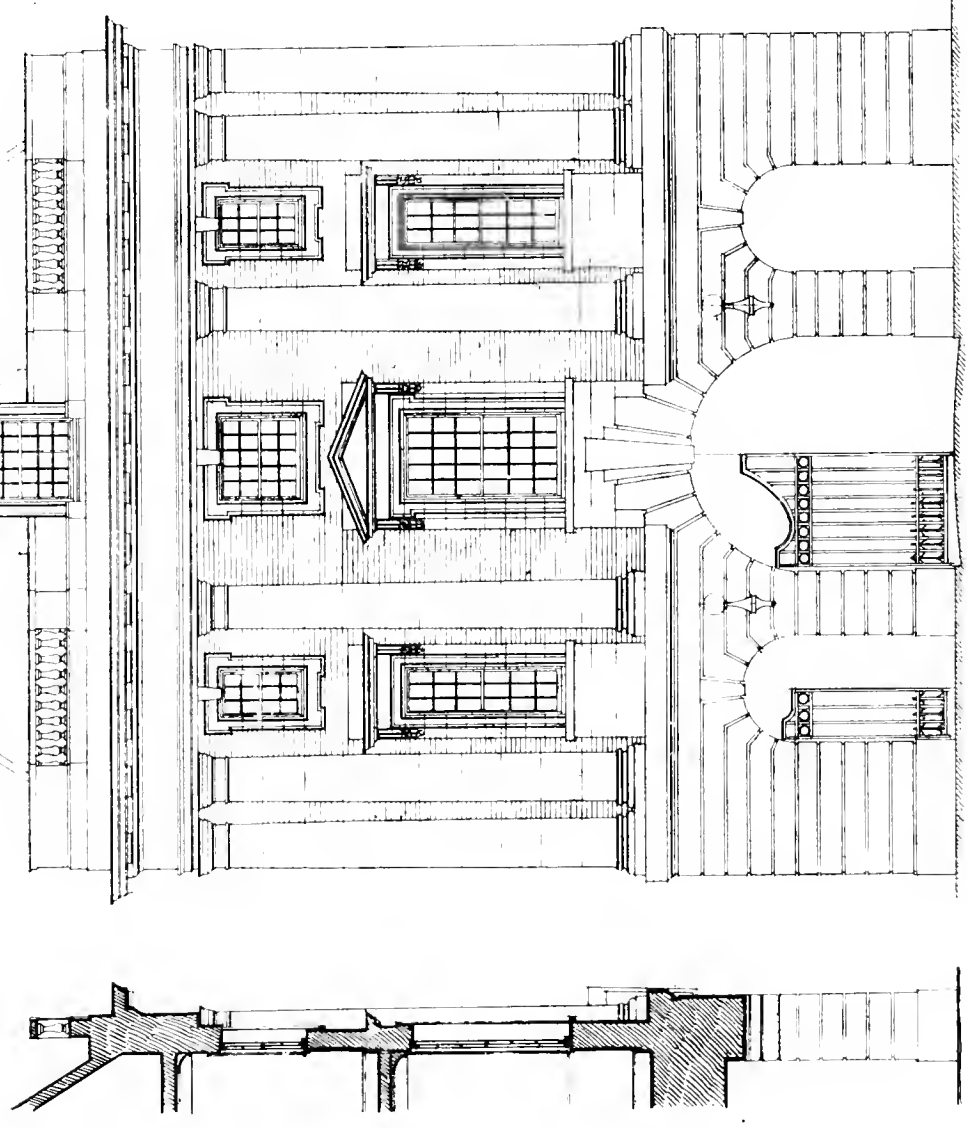
DESIGN for a GATEHOUSE

TOWN OFFICES

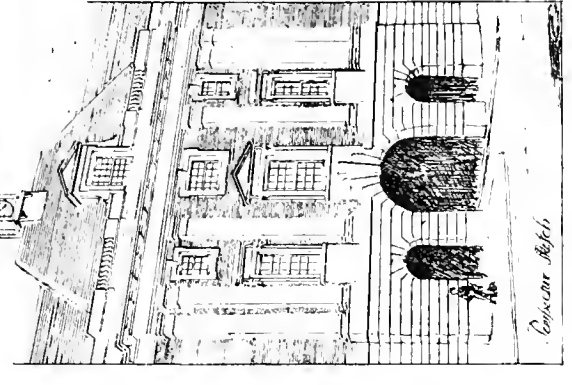
B. N. D. C.

DETAIL of FRONT

LENGTH of PENWITH



PLACED SECOND



FIRST FLOOR PLAN

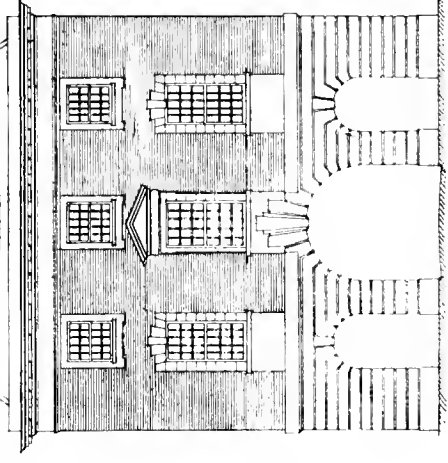


Back of House
Back of No. 10. Plans

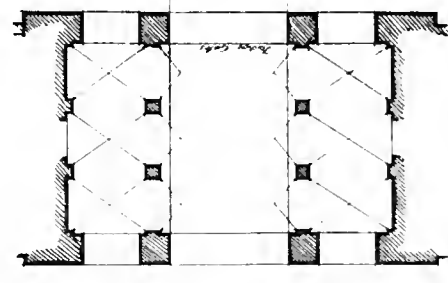
Steps

Back of House

Back of No. 10. Plans



BACK ELEVATION



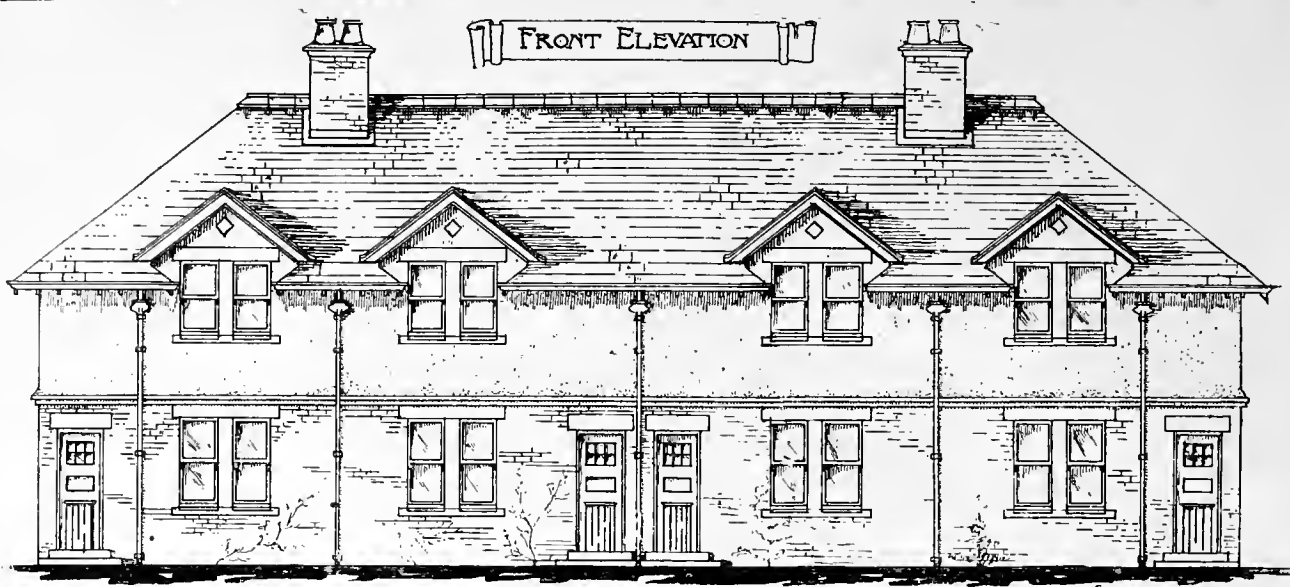
GROUND PLAN

"BUILDING NEWS" DESIGNING CLUB.—A GATEHOUSE TO A QUADRANGLE SURROUNDED BY COMMERCIAL OFFICES.

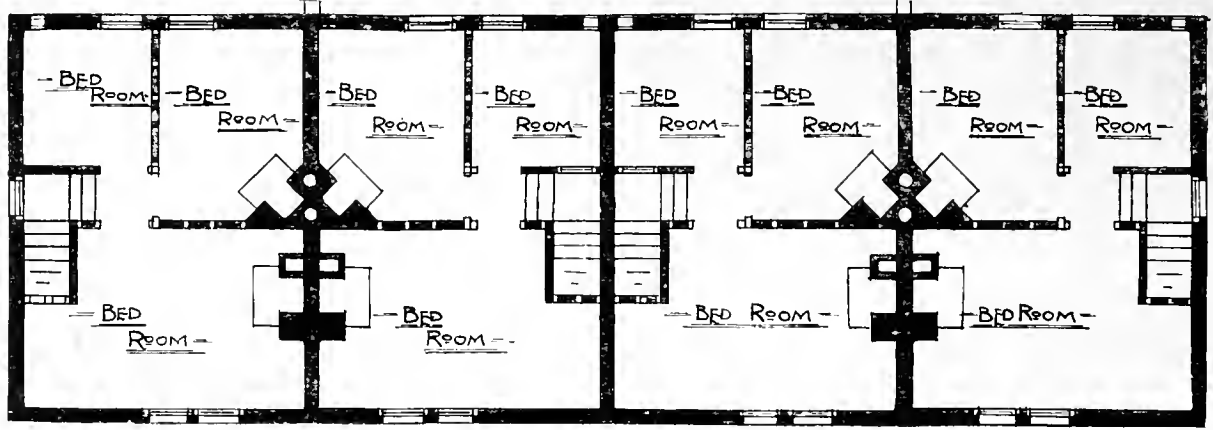


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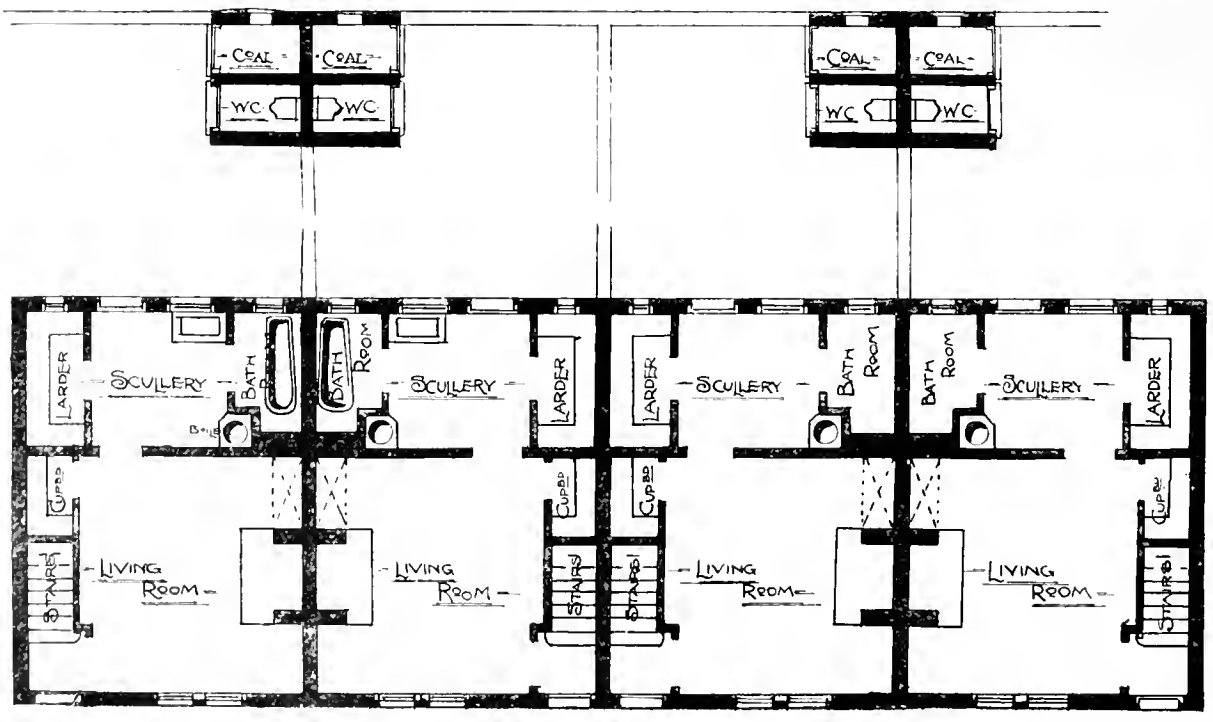




SCALE 10 15 20 30 feet

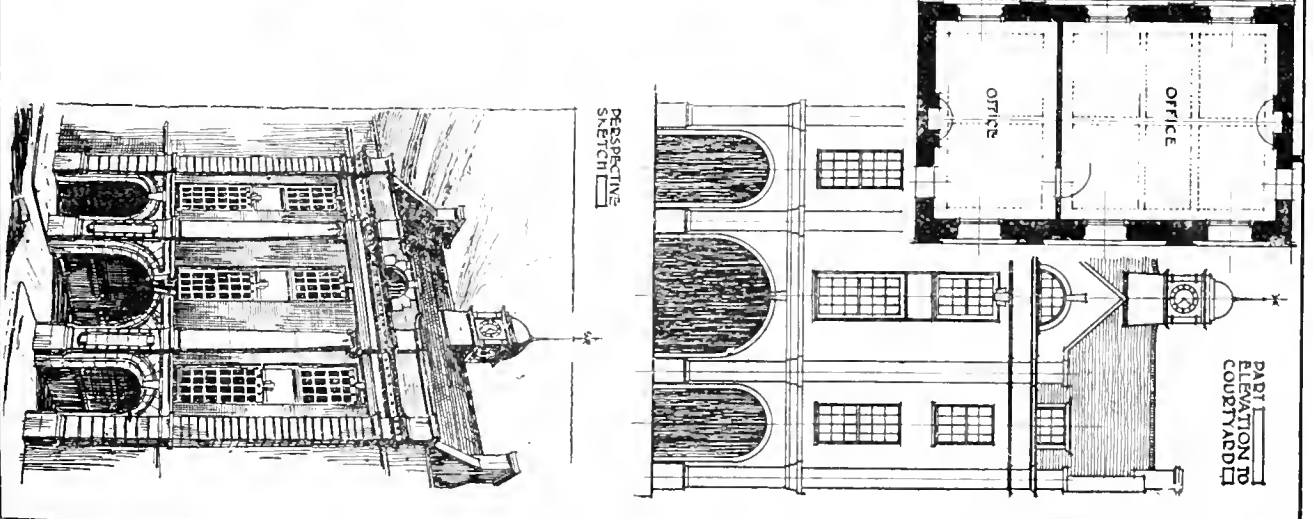
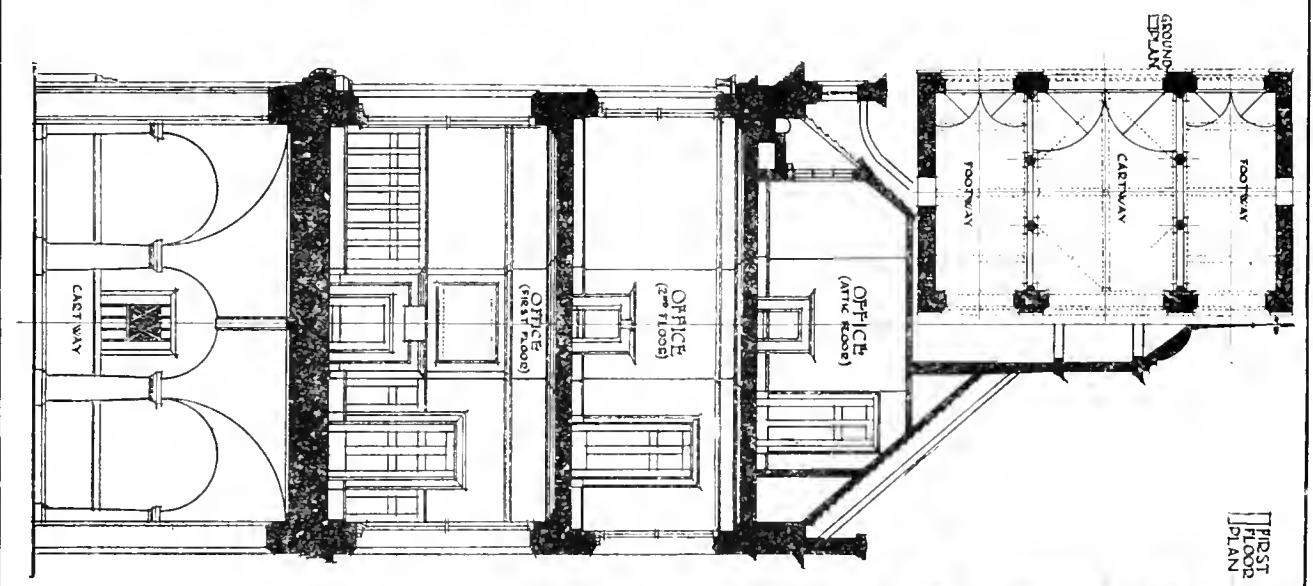
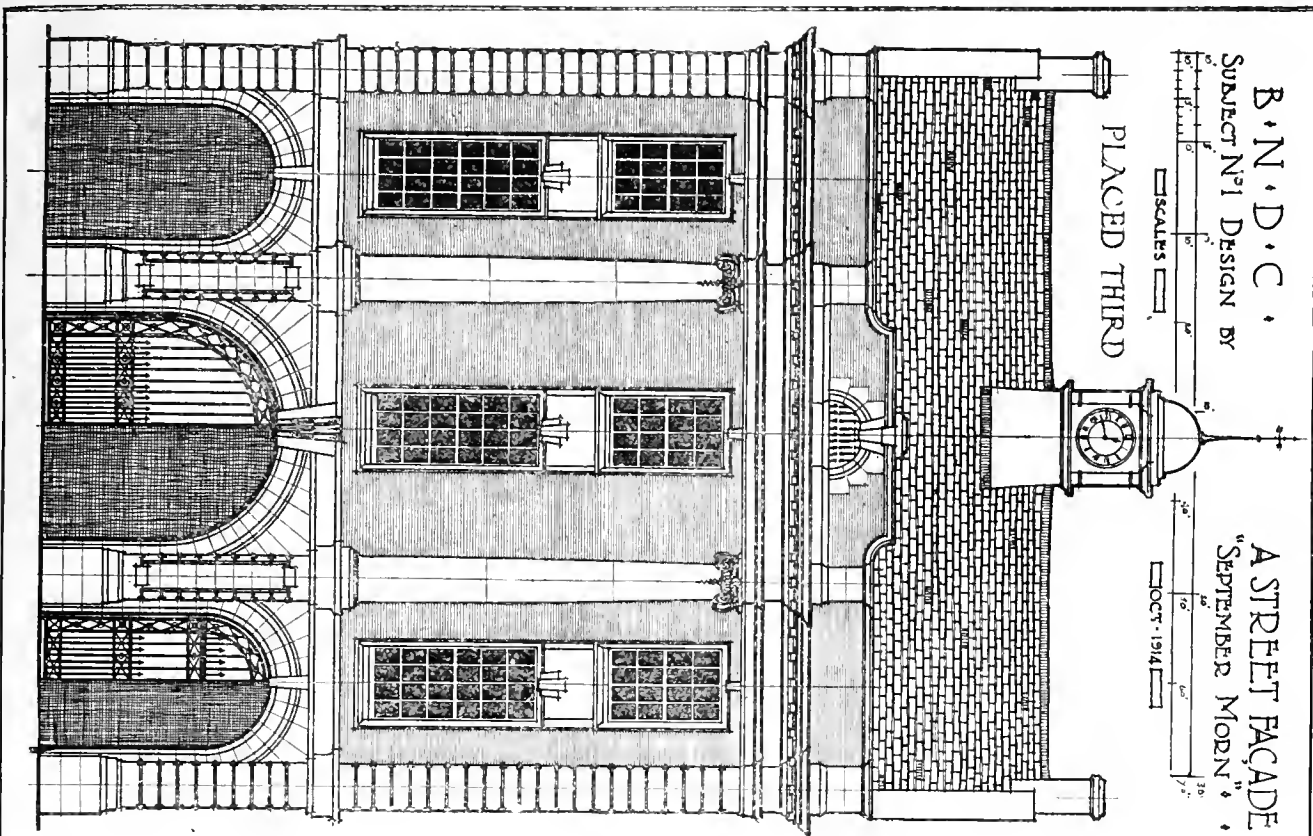


CHAMBER PLAN

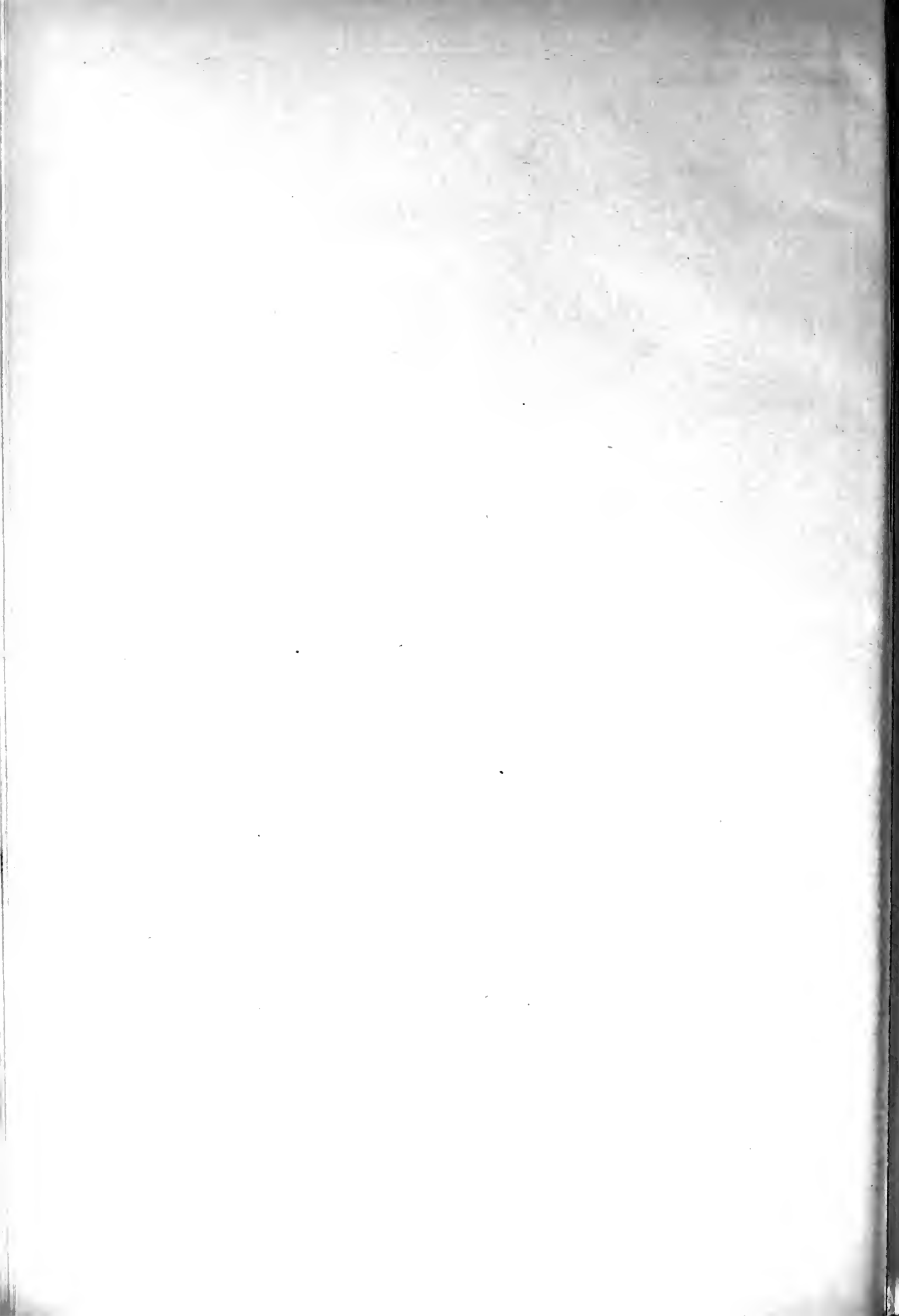


GROUND PLAN

SELECTED DESIGN FOR COTTAGES. DISTRICT COUNCIL HOUSING SCHEME, CHAPEL-EN-LE-FRITH, STOCKPORT.—Mr. CHARLES FLINT, Architect.



"BUILDING NEWS" DESIGNING CLUB: A GATE-HOUSE TO A QUADRANGLE SURROUNDED BY COMMERCIAL OFFICES.



Currente Calamo.

The comments of level-headed people of all politics on Mr. Lloyd George's war finance are not complimentary. Some are wondering—ourselves, we confess, with them—at the absence of the slightest hint that Germany is to be made to pay presently up to the hilt for the cost of this war, as she made France pay for that of 1870. If this Government does not do that, we will do our small best presently—putting all ordinary politics on one side—to turn it out and put in another that will. Others are declaring, with truth, that the Chancellor's selection of burden-bearers is a narrow and unfair one, and that many consumers are escaping at the cost of those who are called on to pay and look pleasant. All are somewhat sarcastic at the tacit confession of failure of Mr. Lloyd George's wonderful land duties, that by now ought to have been producing those prophesied millions and millions, and which, like other refreshing fruit, have failed to ripen, and the abortive levy of which, unfortunately, has done so much to cripple the second great group of our national industries. Ere long, we fear, like the land duties and the spirit duties of 1909, the big levy on the Income-taxpayer, who is called on to fill the breach, will be found to have been lifted to a level that has defeated its object, and will furnish another unfortunate illustration of Mr. Lloyd George's somewhat embarrassing knowledge of "how not to do it!"

Once again Manchester is to make an effort to deal with the Old Infirmary Site. The Old Infirmary Site committee of the Manchester Corporation resolved, by 16 votes to 2, on Tuesday, to ask the city council to re-consider all existing resolutions which prevent or postpone action in regard to the utilisation of the vacant land in Piccadilly, and to authorise the committee to resume consideration of, and to present a report upon, the subject. It will be remembered that the first proposal was the erection of a library and art gallery. This was approved by the council on September 21, 1910, and a competition for designs was arranged. While this competition was proceeding the council appointed a committee to consider the expediency of building a municipal exchange on the site. The committee made no recommendation of that sort. In the meanwhile the award of the assessor for the best design for a library and art gallery had been made, but nothing was done because of the concurrent proposal for an exchange. Our review of the competition appeared in our issue of December 8, 1911, in which number we also illustrated the selected design by Messrs. Crouch, Butler, and Savage, and those submitted by Mr. Frank W. Simon, and by Mr. H. Percy Adams and Mr. Charles H. Hodgson. The other designs, by Messrs. Bradshaw and Gass and Mr. Arthur J. Hope, and by Messrs. A. Graham Henderson and John R. Hacking, appeared in our issue of December 15, 1911. At a later date the question of traffic congestion arose, and the council decided that nothing should be done until the tramways, watch, improvement, and town-planning committees have reported on the subject, but the other committees have not yet done so. One can only hope some serious effort is now to be made to end what is nothing less than a scandal to Manchester.

At the Camera Club, 17, John-street, Adelphi, W.C., a very interesting exhibition

has been opened this week of the photographic work of Mr. James McKissack, L.R.I.B.A., of the well-known firm of Messrs. John McKissack and Son, architects, of West Regent-street, Glasgow. The display comprises over three score admirable examples of Mr. McKissack's art, the fruits of much travel in the United Kingdom and on the Continent. All are bromide prints, executed from enlarged negatives. The subjects are widely varied and cleverly selected as to viewpoint, and, as might be expected, there is manifested a fine feeling for form and outline and for contrasts of light and shade. Among the landscapes and river-scapes, No. 1, "A Bavarian Pastoral" (a shepherd with his dog watching sheep in meadows near a stream, with a row of poplars breaking the mid-distance); Nos. 10 and 19, "Salmon Fishers"; 42, "Willows"; and 5, "A Dutch Scene," are especially attractive. No. 23, "Mechlin," has a topical interest, as it shows the huge unfinished tower and west-end of St. Rombald's Cathedral, Malines, recently so grievously mauled during the German bombardment. No. 8, "A Wet Day in Rouen," shows a few stout peasant women scudding along the pavement or trottoir, under umbrellas; a grand background is provided by the sculptures in the central 15th century and flanking 12th-century portals of the west front of Rouen Cathedral. No. 12, "Le Chateau de Gaillard," so familiar to travellers between Rouen and Paris, is seen under a threatening sky from the marshes at the foot of the steep hill on which the ruins of Cœur de Lion's Castle are perched. The castle at Harburg is the subject of two pictures, No. 13 being the more effective composition of the two. The castles of Stirling and Edinburgh are depicted in Nos. 55 and 59 from very similar viewpoints, the base of the acclivity on which each fortress is set; the former loses a little as a study by the inclusion of some ugly, ramshackle buildings. An effective contrast of light and shade is provided in No. 14, "The Meal Mill," in which the white walls of the old mill and a dark timber footbridge are reflected in the still waters of the pool below the dam. No. 25, "Notre Dame de Paris," taken from across the Seine to south-east, is so misty and impressionist as to be almost undecipherable. The city walls, the gates, and stone and half-timbered houses of Rothenburg, provide, as might be anticipated, several picturesque subjects, Nos. 7, 22, 31, and 50, and from Normandy Mr. McKissack gives us, with others already noted, the south porch of St. Jacques and some half-timbered houses at Lisieux (Nos. 4 and 36), La Lientance and a couple of views in the harbour at Honfleur (Nos. 30, 48, and 56). No. 40, "An Octopus," is a winter day's scene in a thickly planted copse of young silver birches; in the foreground the long arms of a tree stretch out towards the others, producing a curious interlacing pattern, as viewed from a little distance. No. 43, "An Interlude," is a well-posed party of Bavarian peasants and children, seated on straw beneath the stacks of a farmyard. Nos. 57 and 58 show us "Troopships" and "A Dredger," all seen bows on. "Music of the Hills," No. 60, is a dexterous portrayal of a mountain cascade in a setting of dreary and barren moorland scenery. The exhibition will amply repay a visit, and remains open until Friday, December 4.

Attached to the forms of tender issued by the Lambeth Guardians is a slip reading as

follows: "Tenderers are requested to state whether or not their firm is German or Austrian owned." We commend the example to other authorities. Some of these bodies seem still rather inclined to delay action. Why, we cannot conceive, unless interested friends are responsible for the delay. We can only again remind all concerned that those who at present patronise hostile alien firms, or countenance their specious apologists, in the Press or elsewhere, are every bit as bad as any spy, and deserve prompt punishment and the reprobation of every honest man.

We are unreservedly with our contemporary, the "Medical Officer," that far too little thought is given to the provision of adequate sanitary accommodation for workmen who are employed on extensive public works, and that it must be common knowledge that the soil around a newly erected building is constantly fouled by excremental matter, owing to the lack of such accommodation. The department of public health of the city of Winnipeg has taken this question up with characteristic vigour, and requires that where workmen are employed in the construction of buildings or on public works, suitable sanitary conveniences shall be installed. Temporary closets are allowed, but they must be constructed in a workman-like and substantial manner and to the satisfaction of the department; flimsy structures are not permitted. As soon as practicable closets connected with a sewer must be fixed and used. Contractors are prosecuted (in 1913 there were forty prosecutions) if they do not provide proper closets and obtain permits for their erection, or if they do not maintain them in a cleanly state and have them regularly cleansed. We commend this judicious action on the part of the Winnipeg health department to local authorities on this side the Atlantic.

We have little doubt ourselves that coal-gas leakage is responsible for considerable damage to all forms of bituminous pavements. Gas companies, of course, either deny it, or asseverate that the mains have been carefully tested, and that there are no leaks, or that if there are, they are too far from the damage to have done it. In a recent paper read before the American Society of Mutual Improvements, abstracted by "Engineering and Contracting," and reproduced in our contemporary, the Canadian "Contract Record" of the 4th inst., Mr. George C. Warren comments sarcastically on the dislike of gas companies to make proper tests, and suggests that the simple, but so far as the writer knows, never enacted, cure for this evil is an ordinance requiring gas companies, whenever they want to test their mains, to cut openings of sufficient size through the pavement to enable excavation to the gas main, absolutely prohibiting the promiscuous drilling of holes through the pavement by the "leak hunters," and to pay for making proper repairs to the pavement. With the enactment and enforcement of such ordinances the chances of locating the leaks are greatly increased, and the unfairness to the city and the contractor of making holes in the pavement without adequately repairing them are eliminated.

The cement gun is coming more and more into use abroad, and grows in favour, not only as a labour-saving device, but also on account of the quality of its product. There

is now being erected at Whitby, Ont., a hospital for the insane, to house some 1,500 patients. The walls are built of hollow-tile, and this is stuccoed directly on the surface thereof by hose and nozzle. The product used is called "Gunite," and it is claimed by the makers that it "is superior in every way to all other mortars." The "gun" is "fired" by compressed air, and discharges the mortar with a nozzle velocity equivalent to a pressure head of 35lb., so that the cementitious material impinges with considerable force upon the surface to be coated, penetrates intimately the surface irregularities, and so insures an almost perfect adhesion. It is admitted that a good deal rebounds, but it is simply sand and water, and the sand can be dried and re-used. The dry materials of the mortar, after being thoroughly incorporated, are placed in a specially-designed hopper, whence they are blown by compressed air along a flexible hose, at the end of which is a double nozzle. This nozzle is furnished with a separate pipe, conveying water, and so arranged that the cementitious materials are mixed with the requisite proportion of water practically at the point of discharge. Thus, it is claimed, hydration takes place during the application of the mortar, the cement is in its final resting-place when the setting process begins, and there is nothing to interrupt that continuity of hardening recognised by the best authorities as essential to strength of product.

Apropos of the war, an irrepressible official architect, meeting a worried-looking acquaintance in the street, near the municipal buildings, rushed up, saying: "Hallo, old man, such a funny commedrum to ask you. What are the Poles doing just now in Galicia? Why, holding up the telegraph-wires, of course." "Capital!" exclaimed the anxious friend. "Very funny story, awfully good, only it so happens I have three much more funny stories in hand myself at the moment, holding me up. They are so extravagantly comical that I should never cease to laugh, were it not for the sorry fact that I have to pay for the farcical things, thanks to my architect, who designed them." "Evidently impractical jokes," remarked the first speaker, as he turned into his official quarters and remembered having passed the plans and initialling the same as records, under the by-laws.

COMPETITIONS.

SOUTHPORT.—The result of the competition of designs for new technical schools at Southport is as follows: First, No. 46, James Millar, A.R.S.A., 1, Victoria-street, Westminster, S.W., premium value £75; second, No. 4, S. N. Cooke and Twist, 117, Colmore row, Birmingham, premium value £50; third, No. 30, Marshall, Robinson, Son, and Wheeler, 24, Nelson-square, Bolton, and Henderson and Brown, 17, Acresfield, Bolton, joint architects, premium value £25. The plans have been on view at the Science and Art Schools, Southport, this week, and will be open to inspection to-morrow. The number of designs received was forty-six. Mr. Paul Waterhouse, F.R.I.B.A., was the assessor.

A new branch free library provided by the Manchester Corporation at Chorlton cum Hardy has been formally opened. It has been built from plans by the city architect, Mr. Henry Price.

At Sunderland, on Tuesday, a Local Government Board inquiry was held before Mr. P. M. Crosswhite as to an application from the corporation for sanction to borrow the sum of £21,270 for the provision of a cemetery.

Correspondence.

THE LIBRARIANSHIP, R.I.B.A.

To the Editor of the BUILDING NEWS.

SIR,—In the obituary notice of Mr. Kershaw, in last week's issue, you state that I succeeded him as librarian of the R.I.B.A.

This is not quite the case (I was only a small boy at the time). Mr. Alexander Beazeley succeeded Mr. Kershaw. My association with the Institute Library dates from 1892.—I am, etc.,

RUDOLF DIRCKS,

Librarian R.I.B.A.

9, Conduit-street, London, W., Nov. 17.

AN ALL BRITISH ADVERTISING CAMPAIGN.

SIR,—We have just started an aggressive advertising campaign in the interests of British goods manufactured by British labour and controlled by British capital. In the interests of other British companies and the Press we feel it incumbent upon us to inform you that this campaign has met with success, yielding immediate sales far in excess of our estimates, and bringing in a volume of correspondence hitherto quite unprecedented in our considerable advertising experience. The letters we have received from our customers in every part of the country applaud our action and promise whole-hearted support.

At a moment when British manufacturers naturally hesitate to advertise their goods we feel that our results should be made public, for in the light of our experience we consider that this is unquestionably the psychological moment in which much may be done by Press advertising to further the sale of British manufactures, and we shall, therefore, be most happy to give further and more detailed information to bona-fide applicants of good standing.—We are, etc.,

THOMAS DE LA RUE AND CO., LTD.
(Stuart De La Rue, Director.)

Mr. E. F. Wilson, of Kingsbridge, South Devon, has been appointed highways surveyor by the Dooking Rural District Council.

The urban district council for Margam have adopted their surveyor's scheme for building forty-seven houses at Bryn at an estimated cost of £9,703.

The partnership hitherto subsisting between J. W. Fair and G. V. S. Myer, architects and surveyors, at Furnival-street, Holborn, under the style of Fair and Myer, has been dissolved.

The partnership hitherto subsisting between C. M. Christie and T. Davies the Younger, building and general contractors, at St. Bride-street, Liverpool, under the style of Christie and Davies, has been dissolved.

A Local Government Board inquiry will be held at the town-hall, Rochdale, on Wednesday next, into an application of the corporation for sanction to a loan of £33,120 for constructing a new road between Castleton and Lower-place.

A committee of the Dublin Corporation have under consideration a proposal to carry out a housing scheme in the Boyne-street area, Trinity Ward, at an estimated outlay of over £22,000. It is proposed to erect forty-two three-roomed houses.

The corporation of Ipswich have adopted plans for building a new wing three stories high on each side of the dining-hall at the borough mental hospital on the Foxhall road, and have ordered them to be sent to the Board of Control for approval. The estimated cost is £3,300.

At Pontypridd a new higher elementary school in Mill-street has just been opened. It has been erected from plans by Messrs. Lowe and Davis, surveyors to the urban district council, the builders being Messrs. E. R. Evans and Brothers, of Cardiff. The outlay was £12,000.

The Bishop of Southwark on Saturday consecrated the Church of St. Barnabas, Mitcham. The church is built in Goringe Park avenue upon a site surrounded upon three sides by roads, and upon another portion of which a permanent mission-hall has already been erected, while a further portion of the same site is reserved for the parsonage house. The architect is Mr. H. P. Burke Downing, and the design is based on the style of the Early 14th-Century English Gothic.

LEGAL INTELLIGENCE.

CONTRACTORS' SUCCESSFUL CLAIM, AFTER SIX YEARS, ON DEAD ARCHITECT'S VERBAL CERTIFICATE.—In the King's Bench Division, on Friday, the 13th inst., Mr. Justice Avory heard an action brought by Messrs. Chafen and Newman, Ltd., contractors, of 96, Trundley-road, Deptford, against Messrs. Hamlyn and Co., 37 and 38, Mark-lane, London, general merchants and grain-dryers, for a balance due on the construction of a concrete river-wall at Rotherhithe. The defendants denied that any final architect's certificate was ever given, and said that penalties were due in respect of variations from contract. They counterclaimed for £47, on the ground that the completion of the work was nine days overdue.—Mr. Langdon, K.C., for the plaintiffs, admitted that no final certificate was given by the architect in the form of a document that could be produced. He added that the building was begun on January 22, 1908, and the cost of the work was £1,162. Payment on interim certificates brought the amount due to £220; but years went by, and eventually the writ was issued, so that the Statute of Limitations would not apply. In the absence of the architect's final certificate, he submitted, there was a verbal expression by the architect of his satisfaction with the work to Mr. Chafen that fulfilled all legal requirements. The architect died without having written a certificate, and the Court would have to decide whether the issue of a certificate was a condition precedent to recovery, and whether the death of the architect, who was to have been arbitrator, did not enable the Court to assume jurisdiction. The defendants, in connection with their counterclaim, said there were departures from contract, and another matter mentioned was that the length of the work turned out to be 203ft., and not 200ft., as shown on the plan.—After Mr. Chafen had given evidence, Mr. Hills, for the defendants, contended that "certificate" in the practice of the Courts, meant a written document, and that there was no case to answer.—Mr. Justice Avory, however, requested Mr. Hills to call his evidence.—Mr. Ernest Augustus Hamlyn (trading as Hamlyn and Co.) then formally deposed that the architect never certified the works as completed to his satisfaction.—Mr. Justice Avory, in giving judgment, said the whole of the correspondence over five years showed no trace of complaint that the plaintiffs had not properly executed the work. There was force in Mr. Hills's argument that the word "certify" in its context signified a document; but it was a principle in Acts of Parliament and contracts that a new form of word introduced a new significance, and he decided that an oral expression by the architect that the work was satisfactory was enough to fulfil the condition of "certified." He held the plaintiffs were entitled to recover balance of their account, and gave judgment for them on the claim for £221 and costs. He gave defendants judgment on the counterclaim for £10 10s.—two days' penalty—with costs.

ROYAL EDWARD DOCK ARBITRATION: ARBITRATION AWARD ON FIRST POINT.

—In the action brought by Messrs. John Aird and Co., London, contractors, against the Bristol Corporation, claiming £166,687, in connection with the construction of the Royal Edward Dock at Avonmouth, the arbitrator, Mr. Hall Blyth (who is sitting at the Royal Courts of Justice), gave his award on the first point on Monday. Mr. Upjohn, K.C., Mr. L. Macassey, K.C., and Mr. G. N. C. Campbell appeared for the contractors; and Mr. Gore-Browne, K.C., Mr. T. W. H. Inskip, K.C., and Mr. W. E. T. Jones for the corporation.—The Arbitrator said the plaintiffs claimed £166,687, made up of a number of items, and the first items of consideration were in respect of rubble filling-in embankments, in respect of which plaintiffs claimed some £23,000, being payment for 90,173 cubic yards at 5s. 3d. a cubic yard. The foremost point he had to decide was whether the certificate of the docks engineer, Mr. W. W. Squire, as given was final, and so debarred the plaintiffs proceeding with the arbitration. His opinion was that the engineer's final certificate was in the ordinary form of certificate, and did not purport to be an award. His conclusion was that the engineer was simply acting as engineer, and not as arbitrator, and he found as a fact that Mr. Squire did not hear and settle the dispute between the parties as arbitrator under clause 80. The certificates given by him were not final and conclusive, and it was open to him (Mr. Blyth), as arbitrator, to consider and divide the claims made by the contractors. He held—and he was perfectly clear—that the works as carried out were so materially different to the contract drawings that the clause in the contract did not apply. He had no

alternative but to hold that the effect of the alleged agreement for variation or contract for payment for filling up should be made by weight in accordance with the factors of conversion which were agreed between the parties. He was also of opinion that there was no substantial difference in the stone used from that used in July, 1902. The result was that he found in favour of the plaintiffs in respect of their claim for £23,000 odd for rubble filling. He would deal with the question of costs at the end of the hearing.—Mr. Upjohn then dealt with the next three items in the plaintiffs' claim—viz., for some £17,000 relating to work done in the spaces left between the monoliths at the entrance-piers and elsewhere, for pumping, and for timber used in the spaces and left in by direction of the engineer, and, further, for waste of timber. The engineer had only allowed them 3s. per cubic yard, and they claimed 14s., being in excess of the amount allowed by the engineer.—Mr. Gore-Browne said his answer to this part of the case was that nothing was due, but that Mr. Squire had allowed the 3s. as an act of grace.—The Arbitrator thought any contractor tendering for this contract must have known that there must be pumping; it was evident.—Mr. Upjohn argued that if plaintiffs were entitled to be paid for timber left in non-tidal waters, surely they were entitled to be paid for timber left in tidal waters.—Mr. Upjohn, continuing his arguments on Wednesday, submitted, having regard to the terms of the contract, that where it was obviously indicated that timbering and pumping were not expected to be necessary, then the contract price should not be taken to include timbering and pumping. If the arbitrator came to the conclusion that such work was not contemplated in the original contract, then the claimants were entitled to recover.—The Arbitrator intimated that the variation was such as would come within the terms of the contract.—Mr. Upjohn replied that a contractor was not to be bound hand and foot in case of a variation. If the contract was altered, then there must be some arrangement in accordance with the contract in order that the contractor should not be placed in a position of monetary disadvantage.—Mr. Henry Hannay McClure, agent to Messrs. John Aird and Co., gave details of the cost of various works to Messrs. Aird, and said the staging alone came to £30,000. His firm lost money over the excavations in the spaces, but made some little profit over the excavation for the monoliths.—In cross-examination by Mr. Gore-Browne, witness said the prices sent in during 1904 for excavations in connection with the monoliths was 8s. per cubic yard, and 3s. 4d. for timber. At this period, however, the figures were naturally only temporary and rough estimates made by comparison with other prices for schedule work. This was shown by their figures for concrete. On the contract price there would have been a loss of 3s. or 4s. per yard; but they obtained an increase of these afterwards.—Counsel: Is it your opinion that if there is any variation that is disadvantageous to the contractor it shall be taken into account, but that if it is beneficial to him nothing is to be heard of it?—The Arbitrator: That is the view of every contractor, I think.—Mr. McClure, C.E., Messrs. Aird's agent during the construction of the docks, was again cross-examined by Mr. Gore-Browne with regard to the claim for timber left in the excavations.—Mr. Robert C. Martin Davidson, consulting engineer to the Port of London Authority, stated that he had examined the plans for this work. It was not possible to get the piles down by dredging. It might have been contemplated in the contract, but could not be carried out, as it would have let the embankment down. He considered the original scheme ill-considered.—Mr. Frederick Colson, assistant engineer to Messrs. Aird and Co., stated that he called the attention of Mr. Squire, the corporation engineer, to the fact that the space between the monoliths was too small, and suggested it should be five feet.—For the corporation, Mr. Gore-Browne called Mr. Pearce, assistant engineer at the Docks at the time, who stated that it was either the suggestion of Mr. Ellis or Mr. Colson that the spaces between the monoliths should be increased to five feet so that the contractors might use a "grab."—Evidence was given by Mr. Schwann to the effect that some of the piles were afterwards used as breastwork for the piers by the contractors, and witness said a lot of wood was used that was neither "hooped" nor "shod."—Mr. Gore-Browne, for the corporation, submitted that the clauses in the contract distinctly provided that timbering and pumping were to be included in the prices tendered, and there was a special clause to the effect that the prices should include everything necessary for the work unless otherwise specially stated. The hearing was adjourned.

PARLIAMENTARY NOTES.

LOCAL GOVERNMENT LOANS TO LOCAL AUTHORITIES.—Mr. Leach having requested the President of the Local Government Board to state what amount in loans, and to how many public bodies other than Poor-law authorities, the Board has sanctioned since the war began, Mr. Herbert Samuel, in reply, states: The amount is £5,018,265, and the number of local authorities 625.

AFFORESTATION.—Sir Harry Verney, replying in the House of Commons on Monday to Mr. Leach, said that since the outbreak of the war the Board of Agriculture's forestry inspectors had surveyed several areas in England and Wales, and were in communication with the owners of suitable land with a view to the utilisation of unemployed labour in afforestation if occasion should arise.

LAND DRAINAGE BILL.—Sir H. Verney moved on Wednesday the second reading of the Land Drainage Bill, which gives power to the Board of Agriculture to execute land-drainage works. He said it was an emergency Bill to deal with the unforeseen contingency of unemployment arising out of the war. It was entirely non-controversial. The only point was its application to Scotland and Ireland. He understood that land drainage was so different in those two countries to the system in England that it would be better to introduce separate Bills dealing specially with them. Complaints were made by members that the Bill would not apply to Scotland and Ireland; but the measure was read a second time and referred to Committee of the whole House.

Mr. J. G. Banks, chief sanitary inspector of East Ham, who has served the district for twenty years, has been awarded by the Sanitary Inspectors' Association of Great Britain the Chadwick bronze medal.

A new training college is to be erected at Glasgow to cost £200,000. The grounds purchased as a site extend to about sixty acres. The college will have accommodation for 1,200 students, and will be under the direction of the Glasgow Provincial Committee for the Training of Teachers.

The town council of Newport, Mon., have again discussed various schemes for rebuilding Newport Bridge. Mr. De Vesian submitted plans for a temporary bridge while the main structure was being built. It was decided that the borough engineer, Mr. H. Tremelling, should report upon one of the schemes, which contemplates the building of a bridge 25ft. wide to form part of the main structure.

The establishment of a new College of Art is announced. The Faculty include Mr. Wyndham Lewis (Painting), Mr. Arnold Dolmetsch (Music), Mr. Ezra Pound (Comparative Poetry), Mr. Alvin Langdon Coburn (Photography), Mrs. Dolmetsch (The Dance). All communications should be addressed to the secretarial offices, 5, Holland-place Chambers, Kensington.

The corporation of Glasgow and the county council of Dumbarton have decided to interview the Road Board in London in connection with the question of a grant of a quarter of a million sterling for the construction of the proposed boulevard west of Glasgow. The boulevard, extending from Anniesland to near Bowling, is estimated to cost £258,000, and would form part of an important town-planning scheme for the district through which it would pass.

The annual report on scenery preservation presented to the New Zealand Parliament shows that 5,000 acres have been reserved during the year. This brings the total area of scenic reserves in the Dominion to a little over 214,000 acres, comprised in 363 different reserves. The great bulk of this land is hilly, and therefore unsuitable for settlement purposes, while its retention in a state of nature greatly benefits settlement by assisting to conserve water, protect soil, and prevent denudation.

At the annual meeting of the governors of the Glasgow School of Art held on Thursday in last week, Mr. Patrick S. Dunn was re-elected chairman of governors, and Sir John J. Burnett, LL.D., R.S.A., F.R.I.B.A., and Mr. Hugh Reid, D.L., were re-elected vice-chairmen. It was stated that over a hundred past students of the school had joined the Imperial Forces. The draft annual report and balance-sheet for the session 1913-14 were presented and adopted. The students numbered 1,239. It was reported that the lending-museum scheme, instituted by the school for the benefit of the higher-grade schools, throughout Glasgow and district, had proved very successful.

WATER SUPPLY AND SANITARY MATTERS.

THE WATER SUPPLY TO GREATER SOUTH LONDON.—The Metropolitan Water Board at their meeting on Friday instructed their Parliamentary Committee to seek powers next Session for improving and safeguarding the water supply to districts south of the Thames in accordance with a scheme prepared by the late Mr. W. B. Bryan, the engineer-in-chief, in consultation with Mr. Restler, their deputy chief engineer. It was explained that the scheme is based on the opinion of the engineers that an additional supply of 15,000,000 gallons per day is necessary to safeguard the southern district. It is proposed to reserve for direct distribution from Walton-on-Thames into the southern district 15,000,000 gallons a day out of the quantity which that pumping-station now affords to the Hampton station, and to supply Hampton in lieu thereof with 15,000,000 gallons a day from the Littleton reservoirs, vi Kempton Park. An area of 15 acres of filter-beds will have to be constructed at Walton upon land to be acquired for the purpose, and it is also proposed to provide and lay a new 42in. main from the pumping-station at Walton to the reservoirs at Brixton, and thence to the Becheroff reservoir at Honor Oak. This would form an additional source of supply to Honor Oak in the event of an accident to the existing 42in. main, and would also form a means of assisting the service from Honor Oak when it has to be extended to supplement the existing London supply of the Kent district. From Honor Oak a 20in. main would be laid to Queen's-road, Peckham, where it would be connected to the existing 24in. intercommunication main terminating at the Depiford works of the Kent district. The route of the new 42in. main would be 15½ miles in length so far as Brixton, and four miles from Brixton to Honor Oak—a total of 19½ miles; it would intercept the rivers Mole, Ember, and Wandale, the London and South-Western Railway and the London, Brighton, and South Coast Railway, and the deputy chief engineer's estimate of its approximate cost is £309,000. For the greater part of its length the new main will be laid in public highways, short lengths only passing through private lands. To this must be added £9,000 for the 20in. main to Queen's-road, Peckham. The cost of the additional filter-beds at Walton, the land therefor, and the pumping machinery will be approximately £180,000. It will also be necessary to provide a tunnel under the crest of Grove-lane, Dulwich, in order to convey the water from the Becheroff reservoir to the district. This work will cost £21,000, making a total approximate estimate of £519,000.

A fire broke out in the Municipal Buildings at Truro on Thursday night in last week, and resulted in the total destruction of the council chamber, including some valuable portraits in oil.

Edinburgh Castle and Holyrood Palace have now been placed under the charge of the Ancient Monuments and Historic Buildings Department of H.M. Office of Works, represented in Scotland by Mr. J. Wilson Paterson, A.R.I.B.A., H.M. Office of Works, 20, Chalmers-street, Edinburgh.

It has been reported to the city council of Rochester that a sum of £876 was expended in tar-spraying the roads during the past season, altogether 182,562 square yards having been treated, at a cost of 1.04d. per square yard on by-roads, and 1.33d. on main roads. Altogether 30,800 gallons of tar were used, under the direction of the city surveyor.

It is officially announced that Mr. F. G. Randall has relinquished the position of superintendent of the line of the Great Eastern Railway. Mr. Wm. C. May has been appointed chief traffic manager, with control of the passenger and goods departments. Mr. Harry Jones has retired from the position of chief engineer of the company, and will be succeeded by Mr. H. Wilmer.

At the last meeting of the Staffordshire County Council the finance committee recommended that the existing annual salary and allowance (£1,500) paid by the county council to Mr. James Moncur, the county surveyor and brigemaster, do cease, and that the staff of Mr. Moncur be taken over and paid direct by the county council; that the county council do pay the necessary travelling and other expenses of Mr. Moncur in and about the carrying out of his duties; that Mr. Moncur be paid a salary at the rate of £850 per annum, but that the same be again considered as soon as the conditions of the present war allow. The report was, after a long discussion, adopted.

Our Office Table.

The making of maps was the main topic of the address by Sir Thomas Holdich, R.E., in opening the 161st session of the Royal Society of Arts on Wednesday night. Precisely the same symbolism, the alphabet of map-making, as came naturally to the savage, had been used by all map-makers from the days of Ptolemy until now. The lecturer discussed the relations of the cartographer and the surveyor in modern map-making. They might, as in India, be one and the same person, or they might, as in Russia, be separate workers, the latter a method producing more artistic effects in conventional terms. Sir Thomas discussed the possibility of improving the usefulness of guide-maps, particularly as aids to geographical education.

From the figures given in pamphlet No. 92, issued by the Board of Trade, it is evident that at the present time there exist a number of valuable openings for the extension of the sale of British-made plate- and sheet-glass at the expense of German and Austrian products. The value of the trade that might be diverted to British channels is placed at £677,995, of which £614,875 is in the principal Colonial and neutral markets. Germany takes the lead in Western European markets generally, and there is also more or less severe competition from Germany and Austria in China and Japan, as well as some of the South American markets.

All the difficulties and adjustments in connection with the proposal to construct a new road from Llandudno to Colwyn Bay have now been overcome, and Mr. W. T. Ward, the assistant engineer to the Llandudno Urban District Council, expects to start in a fortnight's time. The Denbighshire County Council finally approved of the amended scheme on Friday last, and on Monday several matters outstanding with the owners of the Penrhyn Hall estate were satisfactorily settled. The new road from the Llandudno boundary at the top of Penrhyn Hill will lie between the existing road and the tracks of the electric railway, and at the upper part retaining walls will be constructed on the right to support the new thoroughfare, and on the left to support the railway. The old road, which will be left as it is to give access to the land on the west side, is in places from 13ft. to 15ft. wide, and has a gradient in places of 1 in 7½. The new road will have a uniform gradient of 1 in 11, and will be 27ft. wide. There will be a carriage-way 22ft. 6in. wide, and a footpath 4ft. 6in. wide, there being no footpath at all on the old road. From the foot of the hill the new road will be continued in a straight line across the Penrhyn Hall field to a junction with the Vicar's road, which will be widened to 12ft. up to Llandrillo Church, where it joins up with Brompton-avenue at Colwyn Bay, which is also being widened considerably. From the foot of Penrhyn Hill to the railway bridge in Brompton-avenue, Colwyn Bay, the road will be almost straight, and will be 42ft. wide, including a carriage-way 27ft. wide and a footpath 7ft. 6in. wide on each side.

Mr. M. K. North, Local Government Board engineering inspector, has held an inquiry at the town hall, Lees, into the following applications for sanction to borrowing money by the Lock Urban District Council: £1,020 for the purchase of land and buildings for the extension of the gasworks; £2,455 for the construction of new streets between Cross-street, Stungman-walks, and Broad-street, and £410 for the purchase of land for allotments in lieu of the land required for the new streets.

At Friday night's meeting of the Hampstead Borough Council a motion was adopted asking the London County Council to issue instructions to their several district surveyors to make thorough examinations of all houses and factories and other business premises in the occupation of persons of any nationality whether naturalised or otherwise, at war with Great Britain, for the purpose of ascertaining the circumstances under which any unusual depths of concrete may have been used.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (To-day).—Glasgow Architectural Craftsmen's Society. "Notes on Paint and Painter Work," by Robert Park. 8 p.m.
SATURDAY (To-morrow).—Grand Patriotic Bohemian Concert, organised by London Cornish Association, Holborn Restaurant. 7 for 8 p.m.
MONDAY.—Victoria and Albert Museum. "Venice and the Doge's Palace," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
 Royal Society of Arts. "The History and Practice of the Art of Printing," Cantor Lecture No. 1, by R. A. Peddie. 8 p.m.
 Surveyors' Institution. "Our Wheat Supply," by Edwin Savill. 8 p.m.
WEDNESDAY.—Royal Society of Arts. "The Supply of Chemicals to Britain and her Dependencies," by Sir William A. Tilden, D.Sc. 8 p.m.
 St. Paul's Ecclesiastical Society. "Parish Church Screens," by W. H. Aymer Vallance, F.S.A. 8 p.m.
THURSDAY.—British Museum. "The Parthenon," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
SATURDAY (Nov. 28).—Institution of Municipal Engineers. Annual Meeting at 4, Southampton-row, W.C. 12 noon.

Mr. D. H. Steward, of Aylsham, Norfolk, has been appointed assistant to the county surveyor of Pembrokeshire at a salary of £150 per annum.

At Lincoln a new refuse-destroyer, erected at a cost of £10,850 on a site adjoining the sewage pumping station, was formally opened on Thursday in last week.

Mr. W. H. Hughes has resigned his position as assistant surveyor to the Maesteg Urban District Council on his appointment as deputy surveyor to the Glamorgan County Council.

At Prestwich, Lancs, on Wednesday, Mr. W. M. Cross, an inspector under the Local Government Board, held an inquiry as to an application from the urban district council for leave to borrow £20,515 for works of sewerage.

Exterior work on the addition to the University of Ottawa is nearing the finish. The work, upon completion, will cost £50,000. Mr. C. P. Meredith, Ottawa, is the architect, and the contractors are Messrs. C. E. Deakin, Ltd., of Montreal.

The Thursday evening class at the London County Council School of Building, Brixton, affords training in the practical design of reinforced-concrete and steel-work. The lecturer is Mr. R. Graham Keevil, A.M.I.M.E., M.C.I., of the Works Department, Admiralty, who is also the lecturer on ferro-concrete at the Northern Polytechnic.

At the last meeting of the city council of York a discussion arose as to the recommendation that the city surveyor, Mr. Spurr, be instructed to prepare the plans and specifications for the houses to be built on the Tang Hall estate. Several members suggested that the work should be entrusted to local architects, and although the proposal was objected to on the ground that additional expense might be involved, an amendment to that effect was eventually carried.

At the meeting yesterday (Thursday) of the City Court of Common Council, the improvements committee reported the continued illness of the city engineer, Mr. Frank Sumner, and it was agreed that he be granted a further three months' leave of absence. An arrangement was made for acquiring the leasehold and trade interests in the premises, No. 59, Leadenhall-street, for £4,500, the claim having been over £6,818, and it was decided that the various interests in Nos. 56, 57, and 58 in the same street, required under the widening scheme, be settled by a jury.

The Lancashire and Cheshire branch of the Roads Improvement Association have been in correspondence with the city surveyor of Manchester regarding the proposed new southern road. The association suggested that much greater benefit would accrue to commercial interests and road-users generally if, instead of constructing the road from Levenshulme and Rusholme to Chealle and Gatley, the Manchester Corporation constructed a new road from the Cock Inn to the top of Schools Hill, and made a connection from Northenden Bridge, using the existing lane, to the Stockport and Altrincham road. Beyond the statement that the alternative proposals "had received the careful consideration of the committee," it was reported to the association on Tuesday, no further information has been received from the city surveyor. The Roads Improvement Association propose to take further action.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Rolled Steel Joists, English	Per ton.	Per ton.
Wrought-Iron Girder Plates	£7 0 0	£8 0 0
Steel Girder Plates	7 0 0	7 10 0
Bar Iron, good Staffs	6 2 6	8 2 6
Do., Lowmoor, Flat, Round, or Square	22 0 0	0 0 0
Do., Welsh	5 15 0	5 17 0
Boiler Plates, Iron—		
South Staffs	8 0 0	8 15 0
Best Snedshill	9 0 0	9 10 0
Angles 10s., Tees 20s.	per ton extra.	

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—	No. 18 to 20.	No. 22 to 24
6ft. to 8ft. long, inclusive	Per ton.	Per ton.
gauge	£13 0 0	£13 10 0
Best ditto	13 0 0	14 0 0

Wire Nails (Points de Paris)—		
3 to 7 8	9 10 11 12 13 14 15	B.W.G.
8/3 8/9 9/3 9/9 10/3 11/- 11/9 12/6 13/6	per cwt.	

Cast-Iron Columns	Per ton.	Per ton.
Cast-Iron Stanchions	£6 17 6	£8 0 0
Rolled-Iron Fencing Wire	8 5 0	8 10 0
Rolled-Steel Fencing Wire	7 5 0	7 10 0
Galvanised	8 15 0	9 5 0
Cast-Iron Sash Weights	5 10 0	5 15 0
Cut Floor Brads	9 15 0	—
Corrugated Iron, 24 gauge	16 0 0	—
Galvanised Wire Strand, 7 ply, 14 B.W.G.	14 5 0	—

B.B. Drawn Telegraph Wires, Galvanised—		
0 to 8	9	10 11 12
£10 10s. £10 15s.	£11 0s. £11 5s.	£11 15s. per ton.

Cast-Iron Socket Pipes—		
3in. diameter	£6 2 6	£6 7 0
4in. to 6in.	6 0 0	6 5 0
7in. to 24in. (all sizes)	5 7 6	6 0 0

[Coated with composition, 5s. 0d. per ton extra. turned and bored joints 5s. per ton extra.]

Pig Iron—	Per ton.
Cold Blast, Lillieshall	10s. 0d. to 11s. 6d.
Hot Blast, ditto	70s. 0d. to 75s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—	
Gas-Tubes	75 p.c.
Water-Tubes	71½ "
Steam-Tubes	67½ "
Galvanised Gas-Tubes	65 "
Galvanised Water-Tubes	61½ "
Galvanised Steam-Tubes	55 "

OTHER METALS.

Spelter, Silesian	Per ton	£21 5 0	to £21 7 6
Lead Water Pipe, Town	23 5 0	—	—
" " Country	24 0 0	—	—
Lead Barrel Pipe, Town	24 5 0	—	—
" " Country	25 0 0	—	—
Lead Pipe, Tinned inside, Town	25 5 0	—	—
" " Country	26 0 0	—	—
Lead Pipe, Tinned inside and outside	Town 27 15 0	—	—
" " Country	28 10 0	—	—
Composition Gas-Pipe, Town	26 5 0	—	—
" " Country	27 0 0	—	—
Lead Soil-pipe (upto 4in.) Town	26 5 0	—	—
" " Country	27 0 0	—	—
" " [Gvar 4in. £1 per ton extra.]			
Lead, Common Brands	17 17 6	18 12 6	—
Lead Shot, in 28lb. bags	24 15 0	—	—
Copper Sheets, sheathing & rods	75 0 0	75 10 0	—
Copper, British Cake and Ingot	64 0 0	65 0 0	—
Tin, English Ingots	163 0 0	164 0 0	—
Do., Bars	146 0 0	146 10 0	—
Pig Lead, in 1cwt. Pigs (Town)	22 0 0	—	—
Sheet Lead, Town	22 15 0	—	—
" " Country	23 10 0	—	—
Genuine White Lead	29 15 0	—	—
Refined Red Lead	29 0 0	—	—
Sheet Zinc	Price on inquiry.	—	—
Old Lead, against account	16 10 0	—	—
Tin	8 10 0	—	—
Cut nails (per cwt. basis, ordinary brand)	0 12 9	—	—

* For 5 cwt. lots and upwards.

SLATES.

Blue Portmadoc	in.	in.	£ s. d.	per 1,000 of
	20 x 10	12 12	6 1.200	at r. etc.
Blue Bangor	16	8	6 12 6	" "
" "	20	10	13 2 6	" "
First quality	20	12	13 17 6	" "
" "	20	10	13 0 0	" "
" "	20	12	13 15 0	" "
" "	16	8	7 5 0	" "
Enreka unfading green	20	10	15 17 6	" "
" "	20	12	18 7 6	" "
" "	18	10	13 5 0	" "
" "	16	8	10 5 0	" "
Permanent Green	20	10	11 12 6	" "
" "	18	10	9 12 6	" "
" "	16	8	6 12 6	" "

BRICKS.
(All prices net.)

First Hard Stocks... £1 15 0	per 1,000	alongside, in
Second Hard Stocks	1 11 0	" [river.
Mild Stocks	1 9 0	" "
Picked Stocks for		delivered
Facings	2 5 0	" at rly. stn.
Flettons	1 10 0	" "
Pressed Wire Cuts...	1 18 0	" "
Red Wire Cuts...	1 14 0	" "
Best Fareham Red	3 12 0	" "
Best Red Pressed		" "
Roabon Facing	5 0 0	" "
Best Blue Pressed		" "
Staffordshire	3 15 0	" "
Ditto Bullnose	4 0 0	" "
Best Stourbridge		" "
Firebricks	3 14 0	" "
2 1/2 in. Best Red Ac-		[Net, delivered in full truck loads in London.
crington Plastic	4 10 6	
Facing Bricks		
3 1/2" Accrington Best Red Plastic Facing per 1,000		
Bricks	£2 10 0	
3 1/2" ditto Second Best Plastic ditto	2 6	
Ditto Ordinary Secondary Bricks	1 11 3	
Ditto Plastic Engineering Bricks	1 17 6	
Sewer Arch Brick not more than 3 1/2 in		
thickest part	2 0 0	
3 1/2" Chimney Bricks fit for outside work	2 6 0	
3 1/2" ditto ditto through and through	2 0 0	
3 1/2" Beaded, Ovolo and Bevel Jambs; Octa-		
gons; 2 1/2" and 3/4" radius Bullnoses: Stock		
patterns	3 7 6	
Accrington Air Bricks, 9" x 2 course deep, each	0 0 6	
Ditto ditto 9" x 1 course	0 0 3	
Accrington Camber Arches:-		
3 course deep, 4 1/2" soffit, per foot opening...	0 1 3	
4 ditto 4 1/2" ditto ditto ditto	0 1 8	
5 ditto 4 1/2" ditto ditto ditto	0 2 1	
6 ditto 4 1/2" ditto ditto ditto	0 2 6	
3 ditto 9" ditto ditto ditto	0 2 1	
4 ditto 9" ditto ditto ditto	0 2 11	
5 ditto 9" ditto ditto ditto	0 3 6	
6 ditto 9" ditto ditto ditto	0 4 6	
Net free on rail, or free on boat at works.		

GLAZED BRICKS.

HARD GLAZES (PER 1,000).			
White, Ivory, and	Best.		
Salt Glazed.	Buff, Cream, Other	Second	
Best.	Seconds, & Bronze.	Colours.	Colours.
Stretchers-			
12 1/2 7 6	10 17 6	13 17 6	17 17 6
Headers-			
11 17 6	10 7 6	13 7 6	17 7 6
Quoins, Bullnose, and 1/2 in. Flats-			
15 17 6	14 17 6	17 17 6	21 7 6
Double Stretchers-			
17 17 6	16 7 6	20 17 6	24 7 6
Double Headers-			
14 17 6	13 7 6	17 17 6	21 7 6
One side and two ends, square-			
18 17 6	17 17 6	21 17 6	26 7 6
Two sides and one end, square-			
19 17 6	18 7 6	22 17 6	26 17 6
Spalls and Squints-			
17 7 6	15 7 6	21 17 6	24 7 6
Plinth and Hollow Bricks, Stretchers and Headers-			
5d. each	4d. each	6d. each	5d. each
Double Bullnose, Round Ends, Bullnose Stps-			
5d. each	4d. each	6d. each	5d. each
Rounded Internal Angles-			
4d. each	3d. each	5d. each	4d. each

MOULDED BRICKS.

Stretchers and Headers-			
8d. each	8d. each	8d. each	8d. each
Internal and External Angles-			
1/2 each	1/2 each	1/2 each	1/2 each
Sill Bullnose, Stretchers, and Headers-			
5d. each	4d. each	6d. each	5d. each
Majolica or Soft Glazed Stretchers and Headers			
			Per 1,000
			£22 17 6
			27 17 6
Compass bricks, circular and arch bricks			
of single radius 2 1/2 per 1,000 over above			Not
list for their respective kinds and colours			exceed-
Camber arch bricks, any kind or colour,			ing 9in.
1s. 2d. each			by 4 1/2 in.
			by 2 1/2 in.
Stretchers cut for Closers and Nicked Double Headers, £1 per 1,000 extra.			

* These prices are carriage paid in full truck loads to London Stations.			
Thames Sand	a. d.		
Pit Sand	7 6	per yard, delivered	
Thames Ballast	7 0	" "	
	6 0	" "	

Best Portland Cement	36	0 to 41	0 delivered
Ground Blue Liss Lime	21	6	per ton delivered
Exclusive of charge for sacks.			

STONE.*

Red Mansfield, in blocks	per foot cube	£0 9 4
Darley Dale, ditto	"	0 2 3
Red Corsehill, ditto	"	0 2 2
Closeburn Red Freestone, ditto	"	0 2 0
Accaster, ditto	"	0 1 10
Greenshill, ditto	"	0 1 10
Chilmark, ditto (in trunk at Nine Elms)	"	1 10 3
Hard York, ditto	"	2 0
Do. do. 6in. sawn both sides, landings, random sizes	per foot sup.	0 2 8
Do. do. 3in. slab sawn two sides, random sizes	"	0 1 3
* All F.O.R. London.		

Bath Stone, delivered on road	£ s. d.
waggons, Paddington Depot	per foot cube 0 1 7 1/2
Ditto, ditto, Nine Elms Depot	" 0 1 9 1/2
Beer Stone, delivered on rail	
at Seaton Station	" 0 1 1
Ditto, delivered at Nine Elms	
Station	" 0 1 7 1/2
Portland Stone, in random blocks of 30ft. average-	
Delivered on road waggons	Brown, White
at Paddington Depot,	Whit Bed, Base Bed.
Nine Elms Depot, or	Per foot cube
Pimlico Wharf	£0 2 3 ... £0 2 4 1/2

TILES.

Plain red roofing tiles	43	0	per 1000 ry.en.
Hip and Valley tiles	3	7	per doz.
Broseley tiles	50	0	per 1000
Ornamental tiles	52	6	"
Hip and Valley tiles	4	0	per doz.
Rushon red, brown, or brindled			
ditto (Edwarde)	57	6	per 1000
Ornamental ditto	60	0	"
Hip tiles	4	0	per doz.
Valley tiles	3	0	"
Selected "Perfecta" roofing			
tiles: Plain tiles (Peake's)	46	0	per 1000
Ornamental ditto	48	6	"
Hip tiles	3	10 1/2	per doz.
Valley tiles	3	4 1/2	"
"Rosemary" brand plain tiles	48	0	per 1000
Ornamental tiles	50	0	"
Hip tiles	4	0	per doz.
Valley tiles	3	8	"
Staffordshire (Hanley) Reds or			
brindled tiles	42	6	per 1000
Hand-made sand-faced	45	0	"
Hip tiles	4	0	per doz.
Valley tiles	3	6	"
Hartshill "brand plain tiles,			
sand-faced	50	0	per 1000
Pressed	47	6	"
Ornamental ditto	50	0	"
Hip tiles	4	0	per doz.
Valley tiles	3	6	"

OILS.

Rapeseed, English pale, per tun	£28 15 0 to £29 5 0
Ditto, brown	" 26 15 0 " 27 5 0
Cottonseed, refined	" 29 0 0 " 30 0 0
Olive, Spanish	" 39 10 0 " 40 0 0
Seal, pale	" 21 0 0 " 21 10 0
Cocoonut, Cochiu	" 46 0 0 " 46 10 0
Ditto, Ceylon	" 42 10 0 " 43 0 0
Ditto, Mauritius	" 42 10 0 " 43 0 0
Palm, Lagos	" 32 5 0 " 33 5 0
Ditto, Nut Kernel	" 35 0 0 " 35 10 0
Oleine	" 17 5 0 " 19 5 0
Sperm	" 30 0 0 " 31 0 0
Lubricating, U.S.	per gal. 0 7 0 " 0 8 0
Petroleum, refined	" 0 6 3/4 " 0 6 6
Tar, Stockholm	per barrel 1 6 0 " 1 10 0
Ditto, Archangel	" 0 19 6 " 1 0 0
Linaeed Oil	per gal. 0 2 5 " 0 2 5
Baltic Oil	" 0 2 9 " 0 2 9
Turpentine	" 0 3 0 " 0 3 0
Putty (Genuine Linseed	
Oil	per cwt. 0 0 0 " 0 0 0
Pure Linseed Oil	" 0 0 0 " 0 0 0
"Storty" Brand.	" 0 0 0 " 0 0 0

GLASS (IN CRATES).

English Sheet Glass: 15oz.	21oz.	26oz.	32oz.
Fourths	"	5 1/2	6 1/2
Thirds	4 1/2	5 1/2	6 1/2
Fluted Sheet	4 1/2	5 1/2	"
Hartley's English Rolled	4 1/2	5 1/2	6 1/2
Plate	2 1/2	3d.	3 1/2
White. Tinted.			
Figured Rolled and Repossine	4 1/2	5 1/2	"

VARNISHES, &c.

Fine Pale Oak Varnish	per gallon.	40 8 0
Pale Copal Oak	"	0 10 0
Superfine Pale Elastic Oak	"	0 12 6
Fine Extra Hard Church Oak	"	0 10 0
Superfine Hard-drying Oak, for seats of	chairs	0 14 0
Fine Elastic Carriage	"	0 12 0
Superfine Pale Elastic Carriage	"	0 16 0
Fine Pale Maple	"	0 16 0
Fine Pale Durable Copal	"	0 18 0
Extra Fine French Oil	"	1 1 0
Eggshell Flatting Varnish	"	0 18 9
White Copal Enamel	"	1 4 9
Extra Pale Paper	"	0 12 0
Best Japan Gold Size	"	0 10 0
Best Black Japan	"	0 16 0
Oak and Mahogany Stain	"	0 9 0
Brunswick Black	"	0 8 0
Berlin Black	"	0 16 0
Knottling	"	0 10 0
French and Brush Polish	"	0 10 0

TRADE NOTES.

Boyle's latest patent "Air-pump" ventilators have been applied to the Wigganham Council School, Wigganham, Norfolk.

The bottom of the swimming-bath at Fettes College, Edinburgh, which leaked badly, was re-cemented with Portland cement, and then lined with glazed bricks. We understand this treatment has successfully obviated the leakage.

A special committee has been appointed by Mr. J. P. Byers, the recently-elected president of the American Prison Association, to make a study of, and report at the next convention on, the most approved styles of prison architecture.

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OGILVIE & CO.
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 120, Bunhill Row, London, E.C.

TENDERS.

. Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate of the accepted tender; it adds to the value of the information.

BARNET.—For erecting petty sessional court. Mr. J. S. Killick, A.M.I.C.E., county surveyor:—
 Brightman and Son, Watford ... £5,645 0 0
 Blow and Peters, St. Albans ... 5,349 12 10
 Ekins and Co., Ltd., Hertford ... 5,110 0 0
 Miskin and Son, St. Albans ... 5,077 0 0
 Jarvis, E. C., Harpenden ... 5,020 0 0
 Salisbury and Son, Harpenden* 4,799 4 2
 * Accepted.

BECKENHAM.—For proposed erection of county school, for the Kent Education Committee. Mr. Wilfrid H. Robinson, M.S.A., architect:—
 Friday and Ling, Erith ... £11,550 0 0
 Blay, W. F., Ltd., Dartford ... 11,530 0 0
 Wallis, G. E., and Sons, Ltd., Maidstone ... 11,515 0 0
 Browning, G., Canterbury ... 11,499 0 0
 Jones and Andrews, Beckenham ... 11,400 0 0
 Fenn, A. M., Woolwich ... 11,177 0 0
 Heath, T. W., and Son, Ken-sington ... 10,851 0 0
 Cook, H. J., and Sons, Fenge ... 10,600 0 0
 Symes, A. E., Stratford ... 10,592 0 0
 Graham, T., & Co., Beckenham ... 10,530 0 0
 Elliman, J., Beckenham* ... 9,797 0 0
 Sharpin, W. S., Bow, E. ... —
 * Accepted.

BRIISTOL.—For the restoration of the tower of St. Stephen's parish church. Messrs. Paul and James, Bristol, architects:—
 Cowlin & Son, Bristol (accepted) £2,657 14 0

BURNHAM, SOMERSET.—For carrying out works of sewerage, for the urban district council:—
 Pople, W. J. (accepted) ... £2,732 9 4

CHASE TOWN.—For laying a sewer in Rungeley-road, Chase Town, for the Lichfield Rural District Council:—
 Atkins, A., Hammerwick ... £324 11 3
 (Accepted.)

CLAPHAM PARK, S.W.—For the erection of a house in King's-avenue, Clapham Park, S.W., for Trustees of Cubitts Estate. Mr. M. Marsland, L.R.I.B.A., 16, Water-lane, Great Tower-street, and Streatham, architect and surveyor. Quantities by the architect:—
 Harding, H. ... £1,490 3 5
 Phelps, A. ... 1,487 0 0
 Candler, G., and Sons ... 1,483 0 0
 Hill, G., High-road, Streatham* 1,479 0 0
 * Accepted.

FOREST HILL, S.E.—For building a new county secondary school for girls at Forest Hill, for the London County Council:—
 Thorne, F. and T., Isle of Dogs ... £29,466 0 0
 Wall, C., Ltd., Chelsea ... 28,585 0 0
 Holliday and Greenwood, Ltd., Battersea ... 27,992 0 0
 Bowyer, J. and C., Ltd., Upper Norwood ... 27,530 0 0
 Wallis, G. E., and Sons, Ltd., Haymarket ... 26,841 0 0
 Downe, W., Ltd., Walworth ... 26,812 0 0
 Galbraith Bros., Ltd., Camberwell ... 26,456 12 0
 Smith, J., and Sons (Norwood), Ltd., South Norwood ... 25,489 0 0
 King, W., and Son, Vauxhall Bridge-road ... 25,233 0 0
 Godson, G., and Son, Kilburn-lane (accepted) ... 24,821 0 0
 (Architect's estimate, £25,984.)

HACKNEY, N.E.—For construction of a strong room in the basement of the town hall, for the borough council:—
 Brown, S., and Sons, Lower Edmonton ... £542 12 1
 Simms, W., Stepney ... 530 16 0
 Sands, J., Walthamstow ... 522 0 0
 Silk, W., and Son, Homerton ... 477 0 0
 Keetch, G., Kingsland ... 471 0 0
 Tann, J., Ltd., Newgate st., E.C. 462 4 2
 Shurmer, W., and Sons, Ltd., Upper Clapton ... 462 0 0
 Self, F. B., South Hackney ... 451 14 11
 Thomers, v. W., and Son, Hackney-road ... 449 10 0
 Pike, F., nders End ... 447 0 0
 Press, Robinson, and Co., Whitechapel-road, E. ... 433 0 0
 Mather, J. C., Islington ... 432 0 0
 Lever, T. B., and Son, Upper Holloway* ... 405 17
 * Recommended for acceptance.

HAMMERSMITH.—For building a new school in Thornfield-road, for the London County Council:—
 Leslie and Co., Ltd., Kensington-square, W. ... £22,645 0 0
 King, W., and Son, Vauxhall Bridge-road ... 22,614 0 0
 Wall, C. Ltd., Chelsea ... 21,880 0 0
 Wallis, G. E., and Sons, Ltd., Haymarket ... 21,100 0
 Blake, W. E. Ltd., Fulham ... 20,992 0
 Bowyer, J. and Co., Ltd., Upper Norwood ... 20,797 0 0
 Rowley Bros., Wood Green ... 20,625 0 0
 Lawrence, W., and Son, Finsbury Circus (accepted) ... 20,313 0 0
 (Architect's estimate, £20,541.)

HERTFORD.—For the erection of new education offices. Mr. J. S. Killick, A.M.I.C.E., county surveyor:—
 Thurgood, G. L. Much Hadham £4 719 9 7
 Richardson, W. J., Hatfield ... 4,321 0 0
 Day and Sons, Bishops Stortford ... 4,319 17 5
 Ginn and Son, Hertford ... 4,300 0 0
 Norris and Son, Hertford ... 4,037 17 6
 Miskin and Sons, Ltd., St. Albans ... 3,983 0 0
 Brightman and Son, Watford ... 3,920 0 0
 Ekins and Co., Ltd., Hertford ... 3,885 0 0
 Salisbury and Son, Harpenden ... 3,817 12 6
 Newton, F., Hitchin (accepted) ... 3,804 0 0

HUDDESFIELD.—For the erection of five-story mill and office premises at George-street mills, Millsbridge, for Mr. James Shires and Sons, Ltd. Messrs. J. B. Abbey and Sons, Huddersfield, architects:—
 Masons:—
 Bottomley, T., and Son, Lindley, Huddersfield.
 Joiners:—
 Crowther, J., and Son, Golcar.
 Plumbers and Slaters:—
 Allison, T., Ltd., Millsbridge.
 Plasterers:—
 Day, G. H., and Sons, Millsbridge.
 Painter:—
 Battye, J. H., Millsbridge.
 Cast-iron work:—
 Shaw, M., Millsbridge.
 Steelwork:—
 Fulman, A., and Sons, Halifax.
 Fireproof floor and concreting:—
 Cooke, J., Huddersfield.
 (Total amount of contracts, £1,820)

ISLAND BARN.—For the construction of a steel bridge over the river Mole, gangways to the Island Barn reservoirs, for the Metropolitan Water Board:—
 Lysaght, J. Ltd. ... £326 0 0
 Westwood, J., and Co., Ltd. ... 200 6 9
 Findlay, A., and Co., Ltd. ... 275 0 0
 Dawsey, A. D., and Sons, Ltd. ... 265 0 0
 Young and Co. (informal) ... 258 0 0
 * Accepted.

LEEK.—For the supply of coke-breaking and screening plant at the gasworks, for the urban district council:—
 Waller, G., and Son, Stroud ... £112 0 0
 (Accepted.)

LETCHEWORTH.—For erecting police station. Mr. J. S. Killick, A.M.I.C.E., county surveyor:—
 Bailey & Co., Ashwell, Baldock ... £4,356 0 0
 Beckley and Turpie, Letchworth ... 4,190 4 2
 Grimson and Son, Royston ... 4,156 0 0
 Brightman and Sons, Watford ... 3,941 0 0
 Salisbury and Son, Harpenden ... 3,891 6 2
 First Garden City, Ltd., Letchworth ... 3,781 4 1
 Souster and Son, Letchworth* ... 3,669 0 0
 * Accepted.

LEYTON.—For the construction of a circular tank at the sewage-works, for the urban district council:—
 Coxhead ... £2,940 10 0
 (Accepted in place of Porter, withdrawn.)

LIMHOUSE, E.—For provision of a new power board at the generating station, for the Stepney Borough Council:—
 Morris and Lister, Ltd. ... £195 0 0
 Edison and Swan United Electric Light Co., Ltd. ... 133 0 0
 White, W., and Co. ... 127 0 0
 General Electric Co., Ltd.* ... 106 0 0
 * Recommended for acceptance.

LONDON, E.C.—For works of repuration to the stonework of the Central General Market Annex, for the City of London Corporation:—
 Nealstone Decoration Co. ... £211 5 0
 (Accepted.)

NORTHAMPTON.—For leveling and laying out the ground at the sides and rear of the secondary school for girls, for the corporation:—
 Pullen, J. G., and Sons (accepted) £455 0 0

NORTHAMPTON.—For the lighting installation at the girls' secondary school, for the education committee:—
 Baker, J. A., and Co. (accepted) £122 0 0

NOTTINGHAM.—For the supply of one D.L.P. generating set and foundations, for the county asylum committee:—
 Robey and Co., Ltd., Lincoln ... £112 10 0
 (Accepted.)

OSWALDSTWISTLE.—For the erection of a Carnegie free library in Union road. Quantities by Mr. F. Q. Farmer, 11, Little Park-street, Coventry, architect:—
 Brown, J., Ltd. ... £2,761 0 0
 Mullen and Durkin ... 2,761 0 0
 Smith Bros., Ltd. ... 2,531 0 0
 Whitaker and Sons, Ltd. ... 2,742 0 0
 Fox and Sons, Ltd. ... 2,725 0 0
 Broad and Sons ... 2,718 0 0
 Stewart, R. ... 2,685 0 0
 Shorrocks, R. ... 2,659 0 0
 Swallow and Taylor ... 2,659 0 0
 Griffiths and Son, Ltd. ... 2,640 0 0
 Walsh and Sons ... 2,627 10 0
 Bury and Sons Oswaldtwistle* ... 2,519 0 0
 * Accepted.

SHOOTER'S HILL, WOOLWICH, S.E.—For the construction of a reservoir on the Castlewood Estate, Shooter's Hill, of a capacity of about 1,000,000 gallons, for the Metropolitan Water Board. The late Mr. W. B. Bryan, chief engineer:—
 Morrison and Mason, Ltd. ... £14,507 7 3
 Muirhead, W., and Co., Ltd. ... 14,424 11 6
 Oliver, T., and Son ... 13,172 16 11
 Shellabear, G., and Son ... 12,314 18 8
 Standard Construction Co. ... 11,577 10 2
 Doewra, T., and Son ... 11,431 14 2
 Mowlem, J., and Co., Ltd. ... 11,194 6 4
 Holloway Bros. (London), Ltd. ... 11,047 2 8
 Facey, A., and Son ... 11,043 17 3
 Shardlow, J. J. ... 10,582 12 4
 Frctor, E., and Son ... 10,519 2 11
 Dick, Kerr and Co., Ltd. ... 10,388 12 4
 Moss, W., and Sons, Ltd. ... 10,311 4 6
 Blake, W. E., Ltd. ... 10,259 14 3
 Caffin and Co. ... 9,729 11 6
 Thomas and Edge ... 9,581 0 0
 Robinson, R., and Co. ... 9,357 2 0
 Jackson, D. T. ... 9,200 2 3
 Coles, A. N. (accepted) ... 8,882 5 10

STEVENAGE.—For the erection of a petty sessional court. Mr. J. S. Killick, A.M.I.C.E., county surveyor:—
 Glasscock and Sons' Successors, Bishops Stortford ... £8 253 8 0
 Beckley and Turpie, Letchworth ... 6,878 4 4
 Gimson and Co., Royston ... 6,648 0 0
 Bailey and Co., Baldock ... 6,500 0 0
 Blow and Peters, St. Albans ... 6,397 0 0
 Ekins and Co., Ltd., Hertford ... 6,283 0 0
 Salisbury and Sons, Harpenden ... 6,227 7 11
 Brightman and Son, Watford ... 6,197 0 0
 Miskin and Sons, St. Albans ... 6,184 0 0
 Newton, F., Hitchin (accepted) ... 6,138 0 0

STOWUPLAND.—For construction of a sewer at Stowupland, for the Stow Rural District Council:—
 Holden (accepted) ... £160 0 0

STOWUPLAND.—For erection of five pairs of working-class dwellings, for the East Stow Rural District Council:—
 Theobald and Sons, Needham Market ... £2,350 0 0
 Death, E., Stowmarket ... 2,215 0 0
 Roper, F., Ipswich ... 2,222 0 0
 Barbrook, H. J., Bury St. Edmunds ... 2,079 0 0
 Hudson, G. A., Ipswich ... 2,075 0 0
 Holden, Thetford (accepted) ... 1,975 0 0

STRATFORD-ON-AVON.—For erecting ten vertical gas retorts, for the town council:—
 Holmes, W. C., & Co. (accepted) £5,635 0 0

STREATHAM, S.W.—For erection of a house at Streatham Common North, for Mr. L. A. Lawton:—
 Hill, G., Streatham (accepted) ... £1,067 0 0

STROUD.—For erection of stables and additions to baths, for the urban district council:—
 Baxter and Son (accepted) ... £1,328 0 0

SUNDON.—For erection of eight cottages in Sundon parish, for the Luton Rural District Council. Mr. H. Pickering, 18, Princes-street, Dunsable, architect:—
 Building and Estates Development Co. ... £1,650 0 0
 Hickman, T., and Sons ... 1,624 10 0
 Clarke, P. ... 1,629 0 0
 Col., A. ... 1,490 0 0
 Ray, J. ... 1,410 0 0
 Foster and Co. ... 1,394 0 0
 Kingham, G. ... 1,387 15 0
 Covey, E., and Sons ... 1,346 0 0
 Fensome, A. and E. ... 1,328 9 2
 How, R., and Co. ... 1,261 10 0
 Wood, W., and Sons, Danstable* ... 1,175 0 0
 Carter, A. ... 1,139 0 0
 * Accepted.

WALTHAMSTOW, N.E.—For the erection of boundary walling and fencing around the Bilet-road site, for the Education Committee. Mr. H. Prosser, M.S.A., architect to the committee. Revised list:—
 A. Maddison, W. J., Canning Town ... £1,379 ... £39
 Webb and Co., Walthamstow ... 1,375 ... 40
 Coxhead, F. J., Leytonstone ... 1,334 ... 40
 Barton, A. G., Walthamstow ... 1,317 ... 35
 Hammond, J. S., Sons, & Co., Romford ... 1,296 ... 49
 Lever, T. B., & Son, Upper Holloway ... 1,295 ... 59
 Lawrence & Sons, City-road, N. ... 1,275 ... 30
 Sands, J., Walthamstow* ... 1,216 ... 29
 Dean, J., and J., Walthamstow ... 998 ... 29
 * Accepted. † Withdrawn. A.—Extra for brickwork in cement.

WANDSWORTH.—For erecting a one-story building at the Technical Institute, for the London County Council:—
 Holloway, H. L., Denford ... £3,239 0 0
 Higgs and Hill, Ltd., South Lambeth ... 7,992 0 0
 Galbraith Bros., Ltd., Camberwell ... 7,023 1 5
 Holliday and Greenwood, Ltd., Battersea ... 6,915 0 0
 Bowyer, J. and Co., Ltd., Upper Norwood ... 6,875 0 0
 Blake, W. E., Ltd., Fulham ... 6,831 0 0
 Akers, W., and Co., Ltd., South Norwood ... 6,816 0 0
 Garrett, J., & Son, Balham-hill ... 6,735 0 0
 Lole and Co., Chelsea ... 6,623 0 0
 Triggs and Co., Clapham* ... 6,439 0 0
 (Architect's estimate, £5,180)
 * Accepted.

WEST HARTLEPOOL.—For the supply and erection of three pairs of dock gates, for the North-Eastern Railway Co. Mr. Charles Watson, docks engineer:—
 Armstrong, Whitworth, and Co. (accepted).

WILLESDEN, N.W.—For reinstating roadways and footways, for the Metropolitan Water Board:—
 Brummell, F. G. (accepted).

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

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When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

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SAME.—Yes.
 B. F. H.—Please send.
 FESTIGON.—We know of no prize offered.

LEGAL.—We think you are clearly liable under clause 5.

IRONWORK.—We do not know. It was not stated in Court. Possibly the plaintiffs would inform you. We cannot.

A. A. C.—You could use the new wickless paraffin incandescent lamps. You can get them from D. J. Smith and Co., Ltd., 58, Compton-street, Goswell-road, E.C.1, or George Adams, 255 and 258, High Holborn, W.C.

A. R. S.—Really we cannot say which are "the most recent." Many of the original patents for reinforced concrete have expired; but if you look up the "Illustrated Official Journal" of the Patent Office, which any bookseller can get you for sixpence, you will find patents are still being taken out almost every week. Some of these may be useful; but others, we fancy, are neither useful nor novel.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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Two New Houses: Hill Crest-road, Ealing, W., and Preston Candover, near Winchester. Views and plans. Messrs. Robert Atkinson and George L. Alexander, A.A.R.I.B.A., Architects.
Blackfriars Hospital for Diseases of the Skin. View and plans. Mr. Wm. A. Pite, F.R.I.B.A., Architect.
Parochial Hall, Kensington, Liverpool. View and plan. Mr. Frank Rimmington, Licentiate R.I.B.A., Architect.
The Tower Cinema, Rye-lane, Peckham. Plans and view. Mr. H. Courtenay Constantine, A.R.I.B.A., Architect.
Villa at St. Raphael, France. View and plans. Mr. George Gordon Sampson, Architect.

OUR ILLUSTRATIONS.

Interior of Antwerp Cathedral, and Façade of the Church of St. Charles Borromeo, Antwerp.

SPECULATIVE BUILDING.

What a change the last few years have brought to the status of the speculating builder! He seldom has the taunting title of "field-ranger" flung at him now; for, thanks to his employment of competent architects, really handsome and up-to-date elevations are to be seen almost everywhere, and good planning internally.

Some of the best of the houses are faced with red bricks all round, instead of merely a mask of red and the sides and back done in stocks or grissels. There are tiled roofs, stained-glass panelled entrance-doors, and the doors are of artistic designs, with bold letter-plates and handles.

The porch and path to it are laid with tiles, and the front fences are of handsome designs. The fences in the rear are unfortunately worse, rather than better, and the gardens grow smaller and smaller, both back and front.

Internally, we find small halls—say 6ft. or 7ft. wide, instead of passages of 4ft. or less, and with the dado painted and capped. The ceilings are often moulded in geometric designs; the old-fashioned enrichments to cornices and centre flowers are seldom seen, and the money spent on them goes towards that of the moulded ceilings. The doors are mostly Swedish-made; but they are better than those that used to be "made on the premises" of indifferent materials, and with indifferent labour, and which were scarcely ever dry before they were painted. The locks and furniture are artistic, with oval handsome brass or bronze handles and repoussé finger-plates. The staircases are wider, newels are used, and hold handrails and balusters. The old twisted rail, with rat-tail or scroll finish, is seldom seen; the straight rail can be bought by the 100ft. ready to fix, and an ordinary good joiner can do the work, so a staircase-hand is not called in.

The sculleries have tiled floors and often white glazed dado and capping, and deep white butler's sink instead of the old-fashioned cane, or brown, shallow sink.

The baths are now glazed enamel, instead of being painted and baked, more or less badly. They are not enclosed, but finished with rolled edges; the missing enclosure pays for the extra cost of the bath fittings. Then the hot-water cylinder is placed in a cupboard near for heating linen, and with open batten shelves. The w.c. seats are hung to stiles and on brackets, and the apparatus consisting merely of a pan and a trap in one, is an immense improvement on the old pan and trap, and enclosed seat and riser and flap

and frame over. The water waste-preventer, with pipe connected to the pan, and with its hanging handle, is far better than the old service-box and spindle-valve, or the handle and lever under the seat, even with a valve apparatus, while the cost is little, if any, more.

The chief drawback of the "semi-detached" house still exists—namely, the objectionable transmission of sound, hearing from one house to another. A great deal of this is owing to the Building Act not being complied with. Again, only a half-brick wall is put behind the stove, and sometimes the joints of that are not so full as they might be. Surely the half-brick wall could be improved by rough rendering the backs in cement, even if only "three and one" is used? Of course, this should be done in both openings for stoves.

Urban authorities have of late years issued their ideas as to what size the timbers should be; in most cases they are copies of the London ones. Six inches of cement concrete is supposed to be put under the floors, and the floors kept, say, 1ft. above concrete, with iron ventilators inserted in the outer walls. Many a building in olden times had neither of the items, or even damp-courses, while some had joists on the first floor 15in. apart instead of 12in., and they gave as you walked across them, before the floors were laid.

Place bricks, the outside ones of the clamp, that hardly smelt the fire, but responded all the more readily to the attentions of the rain, have been relegated to their proper use in the field—to protect those within the clamp.

Altogether, there is an undeniable improvement in the houses now built to let at £30 to £40 a year, and many very comfortable detached and semidetached houses can now be rented at the above figures. The terrace house is seldom erected now; it is, of course, worse than semidetached, as there are the party-walls on both sides, unless you have the luck to get an end one. Most of the speculating builders have advanced with the times, and are of a more respectable class than the old field-ranger, and some have blossomed out into "Garden City" architects under the fostering auspices of 'ente ground-landlords and their agents. We must all live in these times; and, on the whole, those who must live somewhere in the speculating-built house get more for their money than the victims of the Mid Victorian villa-builder, the ruins of whose achievements already adorn many a suburb, or empty the purses of their owners to pay for continual but futile repairs.

LEEDS AND WEST YORKSHIRE ARCHITECTURAL SOCIETY.

The opening general meeting of the above was held at the Leeds Institute on Thursday, November 19. The president, Mr. G. F. Bowman, occupied the chair. A large exhibition of students' work, including work submitted for the society's prizes, was on view. The smoking concert which is usually held on this occasion was postponed. The president gave his inaugural address, and presented the prizes to the successful students present, the majority being absent owing to their military duties.

Mr. W. H. Thorp, F.R.I.B.A., proposed a vote of thanks to the president, and in his speech touched upon the position of Belgium. He hoped that in the great rebuilding which would eventually take place the old Flemish character of their architecture would not be entirely lost. Mr. H. S. Chorley, F.R.I.B.A., seconded the vote of thanks, and Mr. T. Butler Wilson supported it. Mr. Wilson ventured to differ from Mr. Thorp's opinion as to the rebuilding of Belgium, and expressed his whole-hearted support for Classic architecture, as practised in the best modern schools of to-day. An examination and criticism of the drawings concluded the meeting.

THE PRESIDENT'S ADDRESS.

It has been usual for some years now to hold on this occasion our annual smoking concert, after the president has given his address and the various prizes have been presented; but your council felt that this year, seeing that Britain and her Allies are engaged in this disastrous European War, it would be more becoming to postpone our merrymaking until afterwards, and I am sure every member of our society is hoping that we shall emerge victorious, and that good may be the ultimate outcome, not only to our nation and those who are fighting with us, but to the rest of the nations of the world, and not omitting even those who are at present our enemies. During the past year the work of your society has proceeded satisfactorily. In connection with the Department of Architecture at the Leeds School of Art, during the last session the attendance of students has been maintained, and much good work has been done in architectural design and in the other subjects of the school curriculum. The Department of Architecture is not yet one of the "recognised" schools of architecture under the Board of Architectural Education; but as the suggestions of the Board have now been adopted it is hoped that before long the Board will include the Leeds Department of Architecture in their list of "recognised" schools. In reference to the R.I.B.A. examinations, the past session has been rather a quiet one; but as all candidates presented for examination have passed, the results may be considered satisfactory. In the National Competition for

works submitted from schools of art various successes have been gained by student associates of the society. Messrs. Leonard Foster and Harold Beard being awarded prizes for sets of architectural designs, and Mr. Eric Ramsden receiving commendation for a very interesting architectural design. The number of students on the roll for the present session is a reduced one, owing to so many of the last session's students having joined the forces for military service; but with the assistance of those who are unable, for various reasons, to volunteer for service, it is anticipated that much good work will be done in the school, and that the current session will hold its own with its predecessors, in spite of all difficulties.

During the year the title of your society has been changed from the Leeds and Yorkshire Architectural Society to the Leeds and West Yorkshire Architectural Society. This came about owing to the R.I.B.A. considering the question of the areas allotted to the various provincial societies. They considered that in some cases portions of the areas thus allotted were outside the range of influence of the society in whose area they then were. Therefore, York, Sheffield, and your society were asked to endeavour to arrange distinct boundaries to the areas over which it was thought, in the best interests of the society concerned, they could work. An endeavour was made to form a new society for Hull and district, but without success, and finally it was decided that York should take the East and North Ridings of Yorkshire, Sheffield a portion of the South-West of Yorkshire, with portions of Derbyshire and Lincolnshire, and that Leeds should retain the West Riding of Yorkshire generally. Several meetings were held, and the arrangement came to was entirely satisfactory to the societies concerned. I may say that your society still covers the greater portion of the densely populated part of the West Riding.

The work of a society of this kind would fare badly indeed if it were not placed in the hands of a good and capable secretary. That Mr. Wm. Whitehead is par excellence in this capacity goes without saying. To his work, energy, and real interest in the society we owe a great deal. There are twenty-two architects and architects' assistants connected with this society who are known to be serving, or who have volunteered for service, in his Majesty's Forces. Included in these is Col. Albert E. Kirk, our late president, and also Lieut. Sydney D. Kitson, who was our president of three years ago. It is quite possible that others from the surrounding districts of whom we have no knowledge may have also offered their services. Although architecture is one of the arts of peace, it is quite evident that many members of the profession are also prepared to study the art of war when necessity demands and our Empire calls. I am sure that the heartfelt good wishes of every member of this society is extended to those gentlemen who have so nobly offered their services.

Turning to the work of the city, we may say that there has not been any excess of work (in the opinion of us architects there never is); however, there are several matters which, I think, deserve attention. Your society must feel gratified that one of its members, Mr. W. Carby Hall, has become a member of the city council, and as chairman of the development committee, is dealing with that vast area which a few years ago was covered with slum property, and which is now being developed, and promises to become one of the best industrial parts of this city. On other sections of the city's work we know that his special knowledge will be of great service. The work of clearing away property and the laying out of the new street, being a continuation of Calverley street, and extending to Fenton street, is going along with commendable despatch, and, no doubt, with the extensions of the infirmary buildings, this will prove to be a great improvement. The completion of the present scheme will, no doubt, lead to further extensions at, let us hope, no distant date. Considerable development has

also taken place in the Swinegate area, where the tramway depot has just been completed from designs by Messrs. Cannon and Chorley. Our council was asked by the Improvements committee of the city council to give an opinion on the frontage line and the laying-out of the Cookridge-street improvement. I wish to put on record that this society appreciates the action of the improvements committee in so doing, and will always be willing to render any assistance which may tend to the best interests of the city.

The City of Leeds Training College for Teachers at Beckett's Park, Headingley, is being used as a hospital for our wounded soldiers. It has been found very adaptable for this purpose—in fact, it is said to make one of the finest in the country. Having had a hand in the carrying out of this scheme, I feel proud that our city has been able to render such admirable assistance in this direction.

The Leeds City Council have for some time past followed the commendable practice of placing various building works in the hands of local architects. I feel you will agree with me when I say that this practice will prove to be in the interests of the city, and we are thankful that the city council, in its wisdom, has adopted this course. They may feel assured that any architect entrusted with work will give more of his best when that work is for his native city or the city of his adoption.

The most absorbing question at the present moment is the war. One hears it discussed everywhere, and from every point of view. Every person is affected one way or another. We, as architects, feel its effect probably as much as any other section of the community. Building has been greatly affected, having been, we might almost say, brought to a standstill.

General trade the last year or two was decidedly better, and architects were looking forward to better times. Many men in practice had commissions from clients and were making preparations to get the work forward and contracts let, only to have their hopes dashed to the ground, and one wonders how long this turmoil is going to last, and what will follow. It is not for me to prophesy, but let us trust that our Empire will come through "on top," and we must also console ourselves with the thought that, bad as things are with us, we are not so badly hit as the other countries concerned, and we should consider ourselves favoured in many respects. The German nation was considered to have made great advancement in the arts and learning, and to be one of the most, if not the most, cultured nations of the civilised world, and yet the wanton deeds of destruction wrought throughout Belgium and the North of France, and the ruthless demolition of beautiful—nay, magnificent—ancient buildings, examples of architecture, painting, sculpture, and other art treasures that can never be replaced, and which were, therefore, priceless; these deeds have not struck terror to the souls of their enemies. If this were their object, they have "missed fire." The effect has been quite different. They have filled the souls of art lovers all over the world with a sense of horrible disgust; but perhaps the degradation of their own acts will recoil upon them, and be felt by the German people in years to come, and that at the mere mention of Louvain and Rheims their professors of the future will tremble and feel ashamed.

The following is a cutting from a paper I happened to pick up some little time ago, the "Cologne Gazette," which consolingly reflects that out of the huge indemnity to be extracted from the English, German culture can rebuild better libraries and churches than those that have been razed to the dust. A comment on this is as follows: Observe the delicate German imagination, like that of the consoler, who observed to a widow weeping for a dead husband, "You can easily get another," and, further, this comment proceeded to say that if ever Germany did proceed to the rebuilding, unhappy Belgium is indeed doomed to suffer more atrocities. As to the qualifications of the modern German

to rebuild churches and cathedrals, here is Ruskin's view: "If the French or the English burnt a church one day, they could build a prettier one the next; but the modern Prussian couldn't even build an imitation one."

The great disruption of trade in all the countries concerned, especially so in Germany and Austria, where manufacturing has practically had to cease, and where their transports over seas have been absolutely stopped; also so far as Russia is concerned, the great wastage that of necessity goes on during the war; and in France also the same thing applies, only added to this is the destruction of a considerable part of the manufacturing area in the North of France and in Belgium, where the greater portion of the country has been absolutely laid waste. After terms of peace are arrived at there will be enormous trade created, and one is led, therefore, to think that Britain, in her favoured position, will for some considerable time, at least, participate very greatly.

In respect to the effect upon architecture, one might almost fancy we can see the Belgians and the French, who are a people of a naturally artistic temperament, made more steady and practical by the troublesome times they have passed through, raising themselves, and we may hope to see a relaying-out and a rebuilding and planning take place in the devastated areas of to-day from which in the near future will rise a more practical, healthy, and more magnificent country than it has ever been in the past.

The fact that a great many Belgian refugees are in England, and the close unity between the two nations, may possibly have a great effect upon the future architecture of Belgium, and it would seem quite probable that (if the happy settlement comes about as we and our Allies desire) considerable work in the rebuilding of the towns and cities of that country may find its way into the hands of English architects. It may also be that the attention of architects in Britain and other countries, which by this wanton waste and the demolition of historic buildings, having thus had their special attention called to them, that Belgian architecture and detail may have considerable effect upon architectural design at home.

Gentlemen, there is little doubt that we are passing through one of the most trying times in the history of our country. It may be that it will have a steadying and sobering effect upon us as a people. I trust this may be so, and that the difficult and complicated matters that must of necessity arise in the settling-down process after this great ordeal will be carefully and successfully dealt with, and that out of evil good may come.

OUR WHEAT SUPPLY.*

By EDWIN SAVILL (Member of Council).

The subject of this paper, "Our Wheat Supply," at all times an interesting one, is only partly dependent for its interest upon the question of whether our food supplies will be adequate in time of war. But at a time like this, when our country finds itself engaged in a life-and-death struggle with an unscrupulous enemy, whose brains, energy, and resources are being relentlessly used with the confessedly main object of destroying us as a nation, and robbing us of everything we have lived and fought for for a thousand years, it is natural that the problem of increasing our wheat supply as a safeguard against starvation should outweigh the consideration of the more peaceful and domestic problem of how to extend the area of wheat land in this country. I propose in this paper to discuss more particularly the latter problem, which, to a certain extent, includes the former. I have tried to use as few figures as possible.

In 1871 the area in England and Wales under the plough was 14,946,000 acres.

In 1913 the area was 11,058,233 acres, showing a decrease of 3,887,767 acres.

In 1870 the quantity of wheat grown in England and Wales was 13,207,820 quarters.

* Read at the Ordinary General Meeting of the Surveyors' Institution, Monday, Nov. 23, 1914.

In 1913 the quantity was 6,642,178 quarters, showing a decrease of 6,565,642 quarters.

In 1870 the price of British wheat was 46s. 11d. per quarter.

In 1913 the price of wheat in England and Wales was 31s. 8d. per quarter, showing a decrease of 15s. 3d. per quarter.

In 1870 the price of bread was 8.48d. per 4lb. loaf.

In 1913 the price was 5.77d. per 4lb. loaf, showing a decrease of 2.71d.

During the same period the increase in land under permanent pasture (including improved waste land now scheduled as pasture) has been 4,963,289 acres.

In 1871 the number of agricultural labourers, apart from nurserymen, woodmen, etc., employed in England and Wales was 1,073,081.

In 1911 the corresponding number was 762,947, showing a decrease of 310,137.

In 1871 the total head of stock—i.e., cattle of all sorts, sheep, horses, and pigs—numbered 27,888,450.

In 1913 they numbered 26,351,478, showing a decrease of 1,536,972.

In 1875 agricultural land sold at an average price per acre of £47.

In 1913 the average price was £25 per acre, showing a decrease of £22 an acre.

The foregoing are facts, and it is possible to deduce from them certain arguments in favour of reverting to the cultivation conditions of 1870, which, I believe, could be done without a return to the high prices of the same date. The average price of wheat grown in England and Wales last year (1913) was 31s. 8d. per quarter, and I propose to consider whether it pays to grow wheat at that price. It is, unfortunately, impossible to state accurately the actual cost of wheat-growing. There are many considerations which are not capable of exact calculation, as they cannot be confined to the question whether the price obtained for a crop of wheat exceeds the actual cost of its production, because wheat must be grown in rotation with other crops, and if we are calculating on the profits to be derived from breaking up land and growing wheat, we must put into our wheat calculations the profit or loss which might occur upon the rotation as a whole. To take Mr. Strutt's figures. He shows that over a period of six years, 1906-1911, taking into consideration all expenses and outgoings except interest on capital, an average profit of £3 17s. per acre is produced from wheat; but if we take his other figures we find the average profit per acre from the rotation crops, including wheat, without taking into account interest on capital, amounts to only £2 12s. 5d. per acre. If we knock off 8s. for interest on capital we are left with a profit of £2 4s. 5d. an acre. The figures which follow show in detail the cost per acre of growing the various crops which make up a rotation. I am aware that these figures are very general, and that the rotation and the cultivation might be varied to any extent; but I believe they give a fairly true result of the complete operation. I have worked them out to apply more particularly to heavy lands, as it was such that for the most part was put down to grass in the bad times.

ESTIMATED COST AND YIELD PER ACRE ON A HEAVY LAND FARM.

	Cost per acre.	Yield per acre.
	£ s. d.	£ s. d.
(1) Beans after barley—		
Dunging—12 loads per acre at 1s.	2 8 0	
Spreading	0 2 6	
Ploughing, 2 horses	0 10 0	
Rolling	0 0 10	
Harrowing	0 6 10	
Drilling	0 2 0	
Water furrowing	0 1 0	
Seed—2 bsh. at 32s.	0 8 0	
Twice harrowing	0 1 8	
Hoing	0 10 0	
Cutting by binder, setting up, stacking, thatching, &c.	1 0 0	
Threshing 4/4rs. at 2s. 6d.	0 11 3	
Carting, say 5 miles, at 2d. per qr. per mile	0 3 9	
Rent, rates, and sundries	1 10 0	
Interest on capital	0 8 0	
	7 17 10	
Yield 4½ qrs. at 30s.		6 15 0
Straw, say		1 5 0
		8 0 0

	Cost per acre.	Yield per acre.
	£ s. d.	£ s. d.
(2) Wheat after beans—		
Broad sharing	0 3 6	
Ploughing, 2 horses	0 10 0	
Rolling	0 0 10	
Harrowing	0 1 8	
Drilling	0 2 0	
Seed—2 bsh. at 40s.	0 10 0	
Harrowing	0 0 10	
Water furrowing	0 1 0	
Rolling	0 0 10	
Hoing	0 4 0	
Cutting by binder, setting up, stacking, thatching, &c.	1 0 0	
Threshing, 4/4rs. at 2s. 6d.	0 11 3	
Carting corn, say 5 miles at 2d. per qr. per mile	0 3 9	
Rent, rates, and sundries	1 10 0	
Interest on capital	0 8 0	
	5 7 8	
Yield, say 4½ qrs. at 31s. 8d.		7 2 6
Straw, say		2 0 0
		9 2 6

	Cost per acre.	Yield per acre.
	£ s. d.	£ s. d.
(3) Spring oats after wheat—		
Struck	0 7 6	
Drawing furrows	0 1 0	
Harrowing	0 0 10	
Ploughing	0 10 0	
Twice harrowing	0 1 8	
Artificial manure	0 12 0	
Drilling	0 2 0	
Seed—4 bsh. at 21s.	0 12 0	
Harrowing	0 0 10	
Rolling	0 0 10	
Cutting, harvesting, threshing, &c.	1 15 0	
Rent, rates, and sundries	1 10 0	
Interest on capital	0 8 0	
	6 1 8	
Yield, 7 qrs. at 20s.		7 0 0
Straw		2 0 0
		9 0 0

	Cost per acre.	Yield per acre.
	£ s. d.	£ s. d.
(4) If fallow after oats—		
Ploughing, 2 horses	0 10 0	
Ploughing, 3 horses	0 14 0	
Twice scarifying	0 4 0	
Dunging—12 loads at 4s.	2 8 0	
Spreading	0 2 6	
Three times ploughing	1 10 0	
Rent, rates, and sundries	1 10 0	
Interest	0 8 0	
	7 6 6	

	Cost per acre.	Yield per acre.
	£ s. d.	£ s. d.
If roots after oats—		
Twice ploughing, 2 horses	1 0 0	
Balking, 2 horses	0 7 6	
Dunging—12 loads at 1s.	2 8 0	
Spreading	0 2 6	
Balks, split, 2 horses	0 7 6	
Artificial manure	1 5 0	
Rolling	0 0 10	
Drilling	0 1 6	
Seed—8lb. at 9d.	0 6 0	
Rolling	0 0 10	
Chopping out, singling, and hoing	1 5 0	
Pulling and clamping	1 0 0	
Rent, rates, and sundries	1 10 0	
Interest on capital	0 8 0	
	10 2 8	
Value of crop in the clamp, 20 tons at 10s.		10 0 0

	Cost per acre.	Yield per acre.
	£ s. d.	£ s. d.
(5) Barley after fallow—		
Twice scarifying	0 5 0	
Harrowing	0 0 10	
Drilling	0 2 0	
Seed—2½ bsh. at 32s.	0 10 0	
Harrowed	0 0 10	
Rolled	0 0 10	
Hoed in spring	0 4 0	
Cutting, harvesting, threshing, &c.	1 15 0	
Rent, rates, and sundries	1 10 0	
Interest on capital	0 8 0	
	4 16 6	
Yield, say 1½ qrs. at 10s.		6 15 0
Straw		1 10 0
		8 5 0

	Cost per acre.	Yield per acre.
	£ s. d.	£ s. d.
(6) Clover after barley (cut twice)—		
Average cost of seed and sowing, say	0 15 0	
Say cost of cutting and making twice	1 10 0	
Rent, rates, and sundries	1 10 0	
Interest on capital	0 8 0	
	4 3 0	
Fodder Value.—Yield 2½ tons per acre at 55s.		6 17 6

	Cost per acre.	Yield per acre.
	£ s. d.	£ s. d.
(7) Wheat after clover—		
Ploughing	0 12 0	
Rolling	0 0 10	
Twice harrowing	0 1 8	
Artificial manure	0 12 0	
Drilling—2 bsh. at 40s.	0 10 0	
Drilling	0 2 0	
Harrowing	0 0 10	
Rolling	0 0 10	
Water furrowing	0 1 0	
Cutting, &c. (as before)	1 15 0	
Rent, rates, &c.	1 10 0	
Interest on capital	0 8 0	
	5 14 2	
Yield same as No. 2		9 2 6

Taking the cost per acre of each crop, and applying the cost to the acreage of each crop which would be likely to be grown upon

a hundred acres of arable land, the calculation works out as follows:—

32 acres wheat	at £3 12 0 =	£115 4 0
20 acres oats	at 2 18 4 =	58 6 8
8 acres barley	at 3 8 6 =	27 8 0
10 acres clover	at 2 14 6 =	27 5 0
10 acres beans	at 0 2 2 =	1 1 8
		4220 5 4
Less crops grown at a loss—		
12 acres fallow	at 47 6 6 =	£57 18 0
8 acres roots	at 0 2 8 =	1 1 4
		£58 19 4
20		£140 6 0

The net profit on 100 acres would average (with wheat at 31s. 8d. per quarter) 28s. per acre per annum. If wheat were 38s. per quarter the profit would be increased to 37s. 6d. per acre per annum. I do not think the amount of rent interferes with the calculations, because, as a general rule, a high rent means greater possibilities of production, or advantages of transit and markets. In considering the foregoing figures it should be borne in mind that the profit per acre shown is the result when every crop is a good crop, and it must be discounted to allow for failures and reduced crops, due to unfavourable seasons. After making careful inquiries from various sources I have come to the conclusion that if farmers could be certain of receiving 38s. per quarter for their wheat they would feel justified in ploughing up a considerable area of the land which is at present producing less than the return of which it is capable. In a general consideration of this matter it should be remembered that while land is laid down to grass it can grow nothing of value but grass, whereas land under the plough can grow, in addition to wheat, any crop for which by nature it is suitable. From the foregoing remarks it will be seen that, in my opinion, it is necessary for farmers to be assured of a more or less certain price for wheat before they can be persuaded, for the purpose of growing corn crops, to change land which now costs them so little in labour into land costly to cultivate. Much anxiety was naturally felt on the outbreak of war as to the stability of our food supply. The price of wheat rose in a few days from 34s. per quarter to 45s. per quarter. It speedily dropped again to 36s. from which price it has gradually risen to 49s. at the end of October. It is a matter for great congratulation that the price of wheat is now only 6s. per quarter higher than it was in July, before the war was thought of, but it is also to a certain extent a matter of great good fortune.

I believe I am right in saying that there has never been a naval battle with Dreadnoughts engaged; submarines have been very little used prior to this war; aeroplanes, dirigibles, and seaplanes have hitherto been unknown. Is it cowardice, then, that warns us to be prepared for accidents? We all hope for the best, and believe the best will happen as far as this country is concerned; but is it inconceivable that enemy cruisers might find their way into the Atlantic and Indian Oceans, and hold up our supplies? Knowing nothing of these things, it appears to me not impossible, and if it is not proved to be impossible, any workable plan which would insure a supply to last us a few more weeks should receive the consideration of all responsible people. The possession of this additional two or three weeks' food might make just the difference between life and death, between the continuance of our empire or its destruction, between an unconditional surrender, owing to starvation, or the time to recover ourselves. It is for these reasons that I feel so strongly that all political considerations should be brushed aside. They are of no consequence, and entirely beside the mark when questions of vital national importance are being discussed. Having put my suggestion for safeguarding our bread supply and increasing the wheat area in this country before several experts, who have found no flaw in it, I now submit it, with all deference, to you. Fix the price at which wheat can be grown at a fair profit, taking into account the other considerations I have already mentioned. I consider that possibly 38s. per quarter would meet the case; but here, as in other matters,

I am open to correction. Every farmer who sells wheat should be paid the difference between the average price for the year and the settled price of 38s. per quarter. The average price should be for the year ending August 1 in each year. I think you will see the advantage of this plan over that of paying the difference between the price at which wheat is sold and the fixed price of 38s. per quarter. Among the advantages of the proposal are the following:—

(1) Every farmer will know that he can grow wheat and make preparations for growing wheat without fear of loss, because he will be sure of receiving a price approximating 38s. per quarter owing to the Government guarantee.

(2) As under this scheme wheat would be grown with the risk of loss eliminated (other than that due to bad seasons which agriculturists have always to face), growers would know that the more wheat they grew the more certain profit they would make.

(3) Farmers would try to obtain the highest price, because if they sold at a price above the average they would not only get from the Government the difference between the average price and 38s. per quarter, but would also receive the amount by which they had sold above the average price.

(4) Farmers would obviously grow as much per acre as possible, which they would not necessarily do if paid so much per acre.

(5) They would endeavour to grow the best quality in order to command a price above the average.

(6) The best and richest lands would grow the largest quantity; but the poorer lands, according to Professor Veeleker, would grow the best quality, so that things would tend to equalise themselves.

(7) It seems likely that such a scheme would encourage farmers to hold wheat, because as a rule prices tend to rise in the spring and summer, and they would therefore get the advantage of a probable higher price from the buyer, as they can do now, with the Government grant in addition—that is to say, assuming a guaranteed price of 38s. and an average price of 36s., the farmer who sold at 37s. would, in addition to getting a price above the average, receive 2s. a quarter from the Government.

(8) There is very little chance of fraud.

I do not think that the objections to other schemes, already mentioned, hold good against this proposal, although there may be others which have not occurred to me. It would be necessary to make it a penal offence to purchase wheat unfit for milling without so specifying. The cost of such a scheme to the Government would depend upon the amount of the guarantee; but it is doubtful whether it need be considerable. A steady market is almost of greater importance than a high one, and it would merely be necessary to guarantee a reasonably remunerative price for a sufficiently long period. It may be argued that if it would not cost the Government anything, of what advantage would it be to farmers? The answer is that it would inspire them with confidence by freeing them from the risk of loss. That is all they ask for. Some arrangement would have to be arrived at by which the note of sale would be received by the Government as evidence of the transactions between buyer and seller. If such a scheme could be put forward at once it might not be too late to have a considerable effect upon next year's crop, as the practice of sowing spring wheat has considerably increased of late years.

It is doubtful whether it would be an advantage this season to supersede other grain or root crops by wheat, as it seems to me that the supply of food for cattle will be almost as important as the supply of bread; but it might be possible in some parts of the country for wheat to take the place of grasses which otherwise would be allowed to stand another year or two, and the value of which is unimportant. If things go well with us the feeding of our cattle is an important item, and even should things go badly, and we have to consume our cattle, the oats, barley, and roots grown for their consumption could, in time of necessity, be utilised for human food. In future seasons, if the Government will guarantee a price for wheat which will show a fair profit, I advise the breaking up of all inferior grassland and putting it under the plough.

Before I conclude I cannot refrain from reminding members of this Institution of the steps Britain Overseas is taking to help the Mother Country in this direction. In the *Morning Post* of October 22 we read that Mr. Holman, the Premier of New South Wales, announced that the Government proposed to take active steps with a view to the large extension of the area of wheat

cultivation. The scheme included such details as—

(1) Government advances by means of co-operation banks to the farmers, with a view to the extension of the cultivation of existing holdings.

(2) A guarantee of the minimum price for wheat grown in the additional areas. "These proposals," the article continues, "should insure the immediate utilisation of unemployed labour in reproductive work, and also a substantial additional supply of wheat in next year's crop, when it is likely to be very advantageous to the allied countries by replacing the deficiency of the ensuing crop, owing to the drought." Australia, therefore, although it has now formed its third contingent to send over to the front, has apparently enough labourers to work an additional area of land. In the *Morning Post* of October 27 we find the following: "Mr. Ashford, the New South Wales Minister for Agriculture, has published details of the New South Wales Government's wheat cultivation scheme, in which he states that outside the military operations an equally important call comes to the outlying Dominions to strain every effort to prevent famine prices from obtaining in Great Britain owing to the forecasted shortage of food stuffs, as a result of the war. The Government proposes to clear a minimum area of 100,000 acres, thereby providing employment for 10,000 men. A guarantee will be made to the banks up to 20 per cent. on advances for the special purpose of the extension of the wheat cultivation. The minimum price guaranteed is 4s. a bushel. The Government supplies seed to those unable to obtain it otherwise. . . ." Canada is also giving careful consideration to a scheme which has been put forward largely to extend her wheat area. Can we do less?

At Belfast, a new school in Malvern-street has been formally opened. The architects were Messrs. Hobart and Heron, of Belfast, and the builders were Messrs. C. and W. McQuoid.

The town council of Southampton are about to carry out, under the direction of the borough engineer, Mr. J. A. Crowther, works for the strengthening of a number of roads at an estimated cost of £12,885 5s. Towards the outlay the Road Board will make a grant of one third (£4,295).

At the last meeting of Dunfries Town Council it was reported that the council were now ready to proceed with the King-street improvement scheme, which will have the effect of clearing away a considerable amount of slum property near the centre of the town. It was stated that the cost of purchasing the old property amounted to £7,000.

The Northamptonshire committee appointed to carry out the memorial to the late Lady Knightley of Fawsley has voted £500 to build the chancel of the Church of St. Peter in Regina, Western Canada, to commemorate Lady Knightley's work among Englishwomen emigrating to Canada. A balance of £108 is to be used in placing a tablet in Fawsley Church.

The Stoke-on-Trent Board of Guardians have decided to expedite the completion of the new children's hospital and pavilion, and to offer it to the War Office as a hospital for wounded soldiers. The cost of the building is £6,000, and there is accommodation for ninety beds. The work is almost completed, and the hospital will be ready for use by the military authorities in six weeks.

The committee for the restoration of St. Stephen's Church, Bristol, have received a report from their architects, Messrs. Paul and Jones, of Baldwin-street, Bristol, as to the condition of the exterior of the fabric. Close examination made from the scaffolding recently erected showed how seriously the atmosphere had affected the architectural features of the lower stages of the tower. In many cases the moulded stonework of Late Gothic windows was so weathered away that large pieces were ready to fall at the slightest touch. The committee decided to at once proceed with the repairs to the noble tower, the restoration of the south porch and the west front being left over until the work is completed. Messrs. Cowlin and Son's tender for this portion of the work was accepted at £2,657 10s., and works have been commenced this week. The subscriptions in hand amount to £1,750.

OBITUARY.

The death is announced, in his thirty-fourth year, at Bearwood, Gerrard's Cross, after a short illness, of Mr. Robert French Johnston, of 1, Brook-street, Hanover-square, W., a young architect of considerable promise. We illustrated in our issue of Oct. 14, 1910, the offices of the Country Gentlemen's Association, built from Mr. Johnston's designs at Letchworth. In the architectural room at the Academy this year he had two drawings hung, of Burwood Ash House, Bucks, and a house at Burghclere. The funeral service took place at St. James's Church, Gerrard's Cross, on Saturday afternoon.

Mr. J. T. Herbert Baily, the editor and chief proprietor of the "Connoisseur," died on Thursday in last week, from pleurisy and pneumonia. Mr. Baily, who was born in Broughty Ferry, Forfarshire, on October 8, 1865, was the author of several books, notably "The Life and Works of Emma Lady Hamilton," 1905; "Life and Works of George Morland," 1906; and the "Life and Work of Francesco Bartolozzi." He published several monographs on famous artists, among them "Sir Henry Raeburn," "Sir Francis Wheatley, R.A.," "Matthew William Peters, R.A.," "Francis Boucher," and "James Ward, R.A." Mr. Baily was the chairman of the Decorative Arts Loan Committee of the Franco-British Exhibition of 1908 and of the British Pottery and Glass Exhibition at Stoke-on-Trent.

Plans for the proposed 6,000,000 Vol. City Hospital for the Sick and Accident Cases, to be erected on the site of the present General Hospital at Philadelphia, are being prepared.

The late Mr. Charles Ansell, Leana, Alexandra Drive, West Cliff, Herne Bay, formerly in business as a builder at Lambeth, S.E., left net personalty £4,110, and a gross amount of £15,912.

An anonymous donor has given £3,000 towards the cost of building a new church in the Old Town district of Eastbourne. Plans are now being prepared by Mr. G. E. Streetfield, M.S.A., of Lincoln's Inn, W.C.

The proposed new road out of Portsmouth, estimated to cost £200,000, has been abandoned for the present, the chairman of the Road Board having intimated that it could not be put in the same category as important trunk roads carrying through traffic between large centres of population.

The Board of Administration for the State of Illinois have just accepted tenders for the erection of three buildings on the site of the State Colony for Epileptics, near Dixon, Ill., according to plans prepared by Mr. James B. Dibelka, 29, South La Salle-street, Springfield, Ill., the State architect.

Mr. Ralph Modjeski, of Chicago, has been retained as consulting engineer for the Second Narrows Bridge at Vancouver, B.C., filling the place made vacant by the retirement of Sir John Wolff-Barry. Messrs. Cleveland and Cameron, of Vancouver, are handling the matter locally as resident engineers.

For over twenty years the question of a water supply scheme for the Street Villages has been under the consideration of the Malton Rural District Council. Water has been discovered at Amotherby as the result of boring operations, and at Saturday's meeting of the council the scheme was carried a stage further when the council resolved to ask the Local Government Board's sanction to the borrowing of £14,965 in order to execute the scheme.

Mr. Edgar Lewis Horwood, A.R.C.A., who has been appointed to the position of chief architect to the Department of Public Works at Ottawa, in succession to Mr. David Ewart, was born in Monmouthshire, England, in 1868, and was educated at the St. John's College, Frome, and at the Prescott High School. He went to Canada in 1882, and studied architectural work in New York and Buffalo. He entered into private practice at Ottawa in 1893, and continued until his appointment to the Federal position. Among the edifices at Ottawa which he has designed are the Carnegie Public Library, St. Luke's Hospital, Ottawa Collegiate Institute, and Sun Life Building. From 1907 to 1909 he was President of the Ottawa Chapter of the Ontario Association of Architects. He is an Associate of the Royal Canadian Academy of Arts, and a Fellow of the Royal Architectural Institute of Canada.

Currente Calamo.

The vast importance of the subject discussed by Mr. Edwin Savill at the Surveyors' Institution on Monday night well deserves a fuller report of his paper than we can spare space for, and we advise all who are interested to study it fully in the Institute's "Transactions." We speak with all diffidence, but as far as we are able to judge, his scheme would guarantee us against famine, and would enable the farmer to respond to the appeals now being made to him to increase his wheat acreage without loss to himself, and with benefit to Labour. The scheme, we believe, would cost the country very little, and would establish a steady market. It is certainly free from the drawbacks which militate against the subsidy proposals others have put forward, with its array of officials all over the country, which would have to be appointed, and infinitely more workable than the Government granary projects others have suggested. We trust it may receive the fullest consideration, and again commend it to all.

The four-hundred pounders are off to day for another eight weeks' holiday, and on full pay, and not one of them has thought it worth while to ask why Mr. Lloyd George has forgotten his promise, and Mr. Asquith his belief that it would be fulfilled, with regard to the removal of the double burden imposed on builders by the Lumsden decision. With the present huge increase in taxation it would have cost the revenue little to serve all alike, and it would have done something to stimulate the great group of our industries, which are possibly at least of as much national importance as dye-stuffs. But the property owner, and those whose work it is legitimately to increase the value of property which is the biggest and soundest asset of the realm, are evidently still Mr. Lloyd George's special victims. Sooner or later the mass of the people will discover what it means to them; meanwhile, Mr. Lloyd George believes with General Bernhardt and the rest of his German friends that might is right, and that any promises of justice are mere scraps of paper.

It is difficult to understand the Government's decision to delay the erection of the monument promised to Lord Roberts; unless, indeed, it is one of the many things to be left over for the next Government. None the less will people remember at the next General Election that half our cost in blood and treasure—perhaps all of it—might have been saved if our great soldier's repeated warnings had been heeded, as they should have been, by those who knew perfectly well at least a couple of years ago that war was certain, and kept the knowledge from the people. By the way, the Archbishop of York and other apologists of the Kaiser, and counsellors of love to our enemies, are quite ready, doubtless, to welcome them all back to our shores again as soon as the war is over, to take the bread out of our mouths, and spy out our weakness. We are paying the passage back of some of them already! Some few, perhaps, have noticed that the German prisoners shot last week at Douglas had all, or nearly all, been working here in England before the war; otherwise, doubtless, by this time they would have had offers of employment by the dozen

from German sympathisers here, whose Christian charity for cheap labour covers a multitude of sins.

The new rates of Income-tax upon unearned income are going to cause a lot of trouble in the close calculations that will be needed as to ground-rents due at Christmas and beyond, as well as in regard to mortgage interest dividends and the like. The present position is that the existing tax of 1s. 3d. will be chargeable for the eight months from April 6 to December 6, when it rises to 1s. 8d. for the other four months to April 5, 1915. So that on this last third of the year the tax will be at the new double rate of 2s. 6d., which will be the amount during the next financial year. In the same way, the 9d. in the £1 on earned incomes will rise to 1s. from December 1, and so make the last four months of the year to April 5 next pay on the double rate of 1s. 6d. There will thus be two calculations required for the different rates from and to the dates mentioned. Busy times are in front of those who make out the figures on ground-rent claims, and still busier in regard to mortgage interest, and as to the proper deductions from company dividends, which fall due at all sorts of dates. With regard to the tax on earned income—that is, under Schedule D—there is a concession to meet losses by the war. Instead of, as usual, assessing the tax upon the average of the profits for the three years preceding the current year, this is to be taken upon the average of the two preceding years and the present year, reckoned together. Thus, if the last three years' income was £1,000, and the current year fell to £500, this new average would come out at £833, instead of £1,000, as under the existing law.

The building trades, in their various dealings, have to do business with companies which, though often British in name, and always in law, are known to be really composed of German financiers and shareholders. In such dealings some have doubted whether they could rightly pay money to what was substantially an enemy concern. The point was not clear upon the Proclamations. We have now had a decision of the High Court, which, so far, settles the matter. There the Amordant Manufacturing Co., which makes tubes for carrying electric wires, sued Defries and Co. for 30s. The debt was admitted; but the defendants urged that as the company had 1,435 of its shares held in Germany, and 385 for naturalised Germans living here, they could not maintain this action. The Judge of the City of London Court took the bold, patriotic view that, to allow the plaintiffs to get their money would be against public policy, and so found for the defendants. But in appeal to the High Court the principle had to be laid down as being that a company once registered here, according to English law, did not become an alien enemy because its shares were mainly held by Germans, and so the plaintiff got judgement. Indeed, the legal theory is that a company is a corporation, and so a separate entity, independent of the persons who happen to hold its shares. Still, the new Trading with the Enemy Act will soon prevent all dividends and profits of such companies going to Germany, for it provides that the Public Trustee in England, and other officials in Scotland and Ireland, shall step in and take care of all this money until the war is over, and the Peace accounts have been adjusted.

The building scheme in connection with the erection of the new city hall for Dundee seems likely to expand considerably. At a special meeting of Dundee Town Council, held on Monday, the plans of the new city hall were submitted. Mr. A. Spence, the convener, said that, in addition to the city hall, the cost of which was provided by Sir James Caird, an expenditure for property purchase, for erection of wings, and the provision of a new public market, of £250,000 would be involved. The total annual income from letting, etc., would be £10,990, and the expenditure £13,210. The question of the removal of the old town house was raised, and the convener said it would have to be swept away; otherwise they would not get the rental they were calculating on. Various members complained that this was not shown when the scheme was originally submitted, and a denial was given to a suggestion that there had been negotiations to introduce licenses into the new corporation property. It was decided that a full report, with detailed plans, should be submitted to the council, with a view to showing how the scheme would be financed, and in order to have a settlement within two months.

The "American Architect," commenting on the trend of professional opinion in the United States towards the establishment of Statutory Registration for architects, remarks: "The purpose of an architect's license law is not, as has been frequently suggested, to surround and hedge in the entrance to the profession with unnecessary and unnatural difficulties, but simply to impose conditions that will insure proper training and experience of candidates, and thus prevent the practice of architecture from falling into disrepute, and at the same time insure the welfare of the public. The number of men in this State who are posing as architects without proper qualifications is unquestionably increasing yearly, and the same is probably true of other States in which there are no license laws. The condition is one demanding concerted and vigorous action on the part of architects, for, unfortunately, the public is not alive to the danger that threatens it at the hands of incompetent practitioners. The work of enlightenment must be done by the profession, although the benefits will be shared by all. An early plan of campaign, in which all architects can consistently join, and a prompt opening of hostilities against the influences that have prevented the success of previous efforts, should be the objective of members of the profession in all States where no license laws are in force."

We are informed that instructions have again been received to recruit another complete field company of Royal Engineers for the 1st London Division. A hundred and fifty men of picked trades, such as bricklayers, carpenters, fitters and turners, masons, blacksmiths, wheelwrights, plumbers, and really handy labourers in the building, engineering, and similar trades, and a few collar makers, saddlers, coopers, draughtsmen, electricians, engine drivers, painters, shoemakers, surveyors, and tailors, are therefore wanted at once; also fifty drivers, who should, of course, be used to horses. The pay is considerably better than the infantry pay, and the work of an interesting nature. Field company equipment includes a great variety of tools, also

pontoons and bridge stores. Applications should be made in person at the Depot, 10, Victoria Park-square, Bethnal Green, N.E., and also at the Depot of the 19th Battery, Royal Field Artillery, Wood-lane, Shepherd's Bush.

At the meeting yesterday (Thursday) afternoon of the Westminster City Council, the works committee reported afresh as to the contract entered into in June last with the London Asphalt Co., Ltd., for paving Vane-street and Bruton-place. As was reported in our issue of the 16th ult., p. 509, the committee, in a recommendation presented on October 15, proposed that as the execution of the contract was postponed at the committee's request from July 4 to September 7, the company be paid at the increased rate of one shilling per yard in respect of the paving of Vane-street, in view of the augmented cost of material and freight, and that the company be released from the contract for the paving of Bruton-place. This recommendation was referred back, on the motion of Mr. Hemming, who alleged the directors and shareholders of the company, although registered as a London firm, were Germans, living in Germany. The works committee now reported, through their chairman, Mr. E. Howley Sim, A.R.I.B.A., that they had further considered as to the failure of the London Asphalt Co., Ltd., to carry out their contract for the laying of asphalt pavement in Vane-street and part of Bruton-place. In the course of correspondence with the company the committee informed them that they were unable to advise the council to entertain their proposal that the work should be postponed until the spring, and that in the circumstances they thought the best course was to regard the contract, so far as it remains unexecuted, as having lapsed. The committee had received a letter from the company, dated November 12, agreeing to this suggestion. The report was adopted unanimously, without comment.

The urban district council of Penrith have agreed that Mr. E. Shaul, manager of the gas-works, be clerk of works for the extensions, his salary being increased by £50 per annum.

A Local Government Board inquiry will be held at the Council House, Birmingham, on Monday next, into an application of the corporation for sanction to a loan of £19,262 for the erection of public baths in George Arthur-road, Saltley.

An inquiry was held at Bolton on Tuesday, before Mr. F. H. Tulloch, an inspector under the Local Government Board, with regard to an application from the corporation for sanction to borrow £28,505 for the construction and widening of roads in the borough.

Mr. Charles H. Ball, M.R.S.L., who has acted as hon. secretary to the Association of Managers of Sewage-disposal Works since its inception in 1901, has resigned, owing to pressure of other duties. Mr. J. B. Croll, Main-Drainage Works, 1, West Hall-road, Kew Gardens, has been appointed to succeed him.

The death is announced of Mr. J. T. Ingman, architect and surveyor, of Northampton. Before the extension of the borough boundaries Mr. Ingman was surveyor to the Kingsthorpe and Ear Cotton and St. James's Urban District Councils, and had much to do with the development of those districts.

Mr. Robert L. S. Roscorla, of Bodmin, died on Saturday evening at his residence, 49, Fore-street. Deceased, who was seventy-four years of age, was a native of Bodmin. Until a short time ago he was head of the firm of Roscorla and Son, house-furnishers and decorators, and he was the oldest tradesman in the borough, having started in business on his own account in the year 1859. In 1892 he became a member of the council, heading the poll. Mr. Roscorla sought re-election on three occasions, and at each was returned at the head of the poll. In 1898 he was mayor of the borough.

Engineering Notes.

NEW SOUTHWARK BRIDGE.—The corner-stone of the north-east abutment of the new Southwark Bridge was laid on Friday by the chairman of the Bridge House Estates Committee, Mr. Hayward Pitman. Mr. Biggart, representing the contractors, Sir William Arrol and Co., Ltd., of Glasgow, stated that the work of demolishing the old bridge was complete. Mr. Deputy Pitman having laid the stone, said that the approaches of the new bridge were practically complete, and the stone put the finishing touch to the first part of the granite work on the northern side. The Navy had kept the seas open and enabled the great blocks of granite required for the bridge to be delivered up to time. There was reason to hope that the bridge would be finished at the date specified in the contract, although they were a little behind, in consequence of Government demands on the firm. We illustrated the design for the bridge, now being erected by Sir Ernest George, A.R.A., the architect, and Messrs. Basil Mott and Hay, the engineers, in our issue of April 11, 1913.

COMPETITIONS.

GLASGOW MEMORIAL TO CARLYLE.—The executive committee in connection with the Glasgow memorial to Thomas Carlyle received fifteen designs submitted by twelve competitors. The committee have been unanimous in selecting a water-colour design marked "J.," and it has been agreed to accept it. The name of the successful competitor has not yet been made public. The site suggested is 100 yards south-east of the Prince of Wales's Bridge, on the main road through Kelvingrove Park. The design chosen is of a block of rough-hewn granite, standing from 15ft. to 20ft. high, having a bust of Carlyle carved upon it.

HENDON.—We have been rung up this week with the intimation that the designs submitted in the competition for a swimming-bath at Hendon will be on view from next Monday for a fortnight. Our notice of this competition and announcement of the result was given on p. 461 of our issue of Oct. 9 last.

TUBERCULOSIS HOSPITAL, SOUTH-END-ON-SEA.—Members and Licentiates of the Royal Institute of British Architects 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.—By order of the Council, Ian MacAlister, Secretary, Nov. 25, 1914.

TUBERCULOSIS HOSPITAL, SOUTH-END-ON-SEA.—Members of the Society of Architects are hereby notified that they must not take any part in this competition, the conditions of which are not approved by the Council of the Society.

In the House of Commons, on Friday, the Land Drainage Bill passed through Committee and was read a third time. The measure gives power to the Board of Agriculture to exercise works of land-drainage. Its scope is restricted to England and Wales.

A new general plan of the City of London has been issued by the Corporation. The plan, which has been prepared by Mr. Frank Sumner, M.Inst.C.E., engineer to the Corporation, is on a scale of 24in. to the mile. Public and quasi-public buildings and churches are indicated by distinctive shadings, and lines of surface and sub-surface railways are also shown. The plan supersedes one issued about ten years ago.

The Victoria Memorial in front of Buckingham Palace, in St. James's Park, the joint work of Sir Aston Webb, R.A., and Sir Thomas Brock, R.A., is being completed by the addition of the groups of bronze figures on the pedestals at the angles of the base. The first group was set in position early last week, and the second has now been permanently placed. It is very similar to the group already erected, except that the figure resting one hand on the mane of a huge lion is that of a man instead of a woman.

Building Intelligence.

BRISTOL.—The annual report of the Council of the University of Bristol, which was presented at the meeting on Friday last, describes the arrangement made by Mr. George A. Wills and Mr. Henry H. Wills, in conjunction with the corporation of Bristol, for the joint purchase of the drill-hall in Queen's-road and for the subsequent division of the site between the University and the corporation. A new drill-hall for the Fourth Gloucesters in Old Market-street, designed by Messrs. Paul and James, of Bristol, is expected to be completed in April next. It will then be possible to commence operations upon the new University buildings, the working drawings of which are being pressed forward. In addition to a great hall, libraries, council-room, reception-room, committee-rooms, and offices, the designs provide ten or twelve rooms of various dimensions for teaching purposes, and thirteen or fourteen smaller apartments. The site on Richmond Hill, purchased by the University for the erection of a hostel for women training students, came into the possession of the University on September 29. Designs for a hostel to accommodate seventy students, as well as a warden, a matron, and two resident tutors, have been prepared by Messrs. W. V. and A. R. Gough, architects, of Bristol. The Council have, furthermore, been in treaty for the purchase of the Imperial Hotel in White Ladies-road, a building which, with one alteration, can be made available for the accommodation of sixty-nine men training students, a resident head, and three resident tutors. A design for the alterations required has been prepared by Messrs. Holbrow and Oaten, and has been approved by the Board of Education.

HODDESDON.—The opening ceremony of Hoddesdon Baptist Church, which forms the first section of a larger scheme, took place on the 18th inst. The building is faced with local red sand-faced bricks, and the dressings are of Bath stone. The contract has been carried out by Messrs. Elkins and Co., of Great Northern Works, Hertford, from the designs of Messrs. George Baines and Son, architects, 5, Clement's Inn, Strand, W.C.

NEW BOND-STREET, W.—An improvement to New Bond-street will be the erection of a block of business premises, consisting of shops with showrooms over, on the site of No. 70, which has long been vacant. The front elevation will be carried out in Portland stone, with Sicilian marble surrounding the shop-front, which is in bronze. A principal feature will be the segmental bronze bay of an ornate character running through three stories, and surmounted by a heavy modillion cornice in Portland stone. The ground-floor front will be carried out in Sicilian marble, while two life-size bas-relief figures, "Art" and "Commerce," will surmount the principal marble pilasters on the ground floor. The architects are Messrs. Palgrave and Co., and the general contractors Messrs. A. J. Staines and Co., Ltd., Great Titchfield-street, W.

An intermediate school is to be built in the Anman Valley for the Carmarthenshire County Council, from plans by Mr. W. Vincent Morgan, A.R.I.B.A., of Carmarthen, the county architect.

The Law and Parliamentary Committee of the Westminster City Council reported at the meeting held yesterday (Thursday) that the London County Council has decided not to promote legislation in the next session of Parliament with reference to the suggested tramways from Victoria to Westminster Bridge via Victoria-street.

At St. Saviour's Church, Weston-super-Mare, on Thursday in last week, the rector dedicated a number of additions which have been made to the building by way of memorials to the former vicar (the late Rev. H. S. Chamberlain), his daughter, and his mother. These gifts include a black-and-white marble pavement to the chancel, as well as extended choir-stalls, carved-oak Communion-rails, handrails at the chancel steps, and a brass tablet recording the late vicar's twenty years' service to the church.

Our Illustrations.

TWO NEW HOUSES.

PRESTON CANDOVER.

This house is being built for Captain J. F. R. Hope at Preston Candover, near Winchester. It is of old bricks taken from buildings demolished on the site and old tiled roof from the same source. The builders are Messrs. Musselwhite and Son, of Basingstoke.

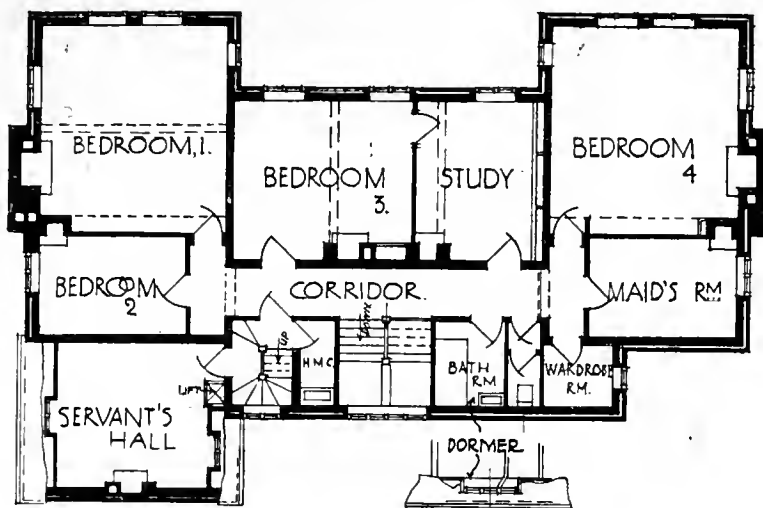
HOUSE AT EALING.

This house is being erected for Mr. C. Plaistowe, at Hill Crest-road, Ealing, on one of the finest sites in West London. It is built of red and grey bricks in panels, and roofed with pantiles. The builder is Mr. E. Plaistowe, of Southall. Messrs. Robert Atkinson and George L. Alexander, A.A.R.I.B.A., of Piccadilly, are the architects. Both drawings were shown at the Royal Academy this year.

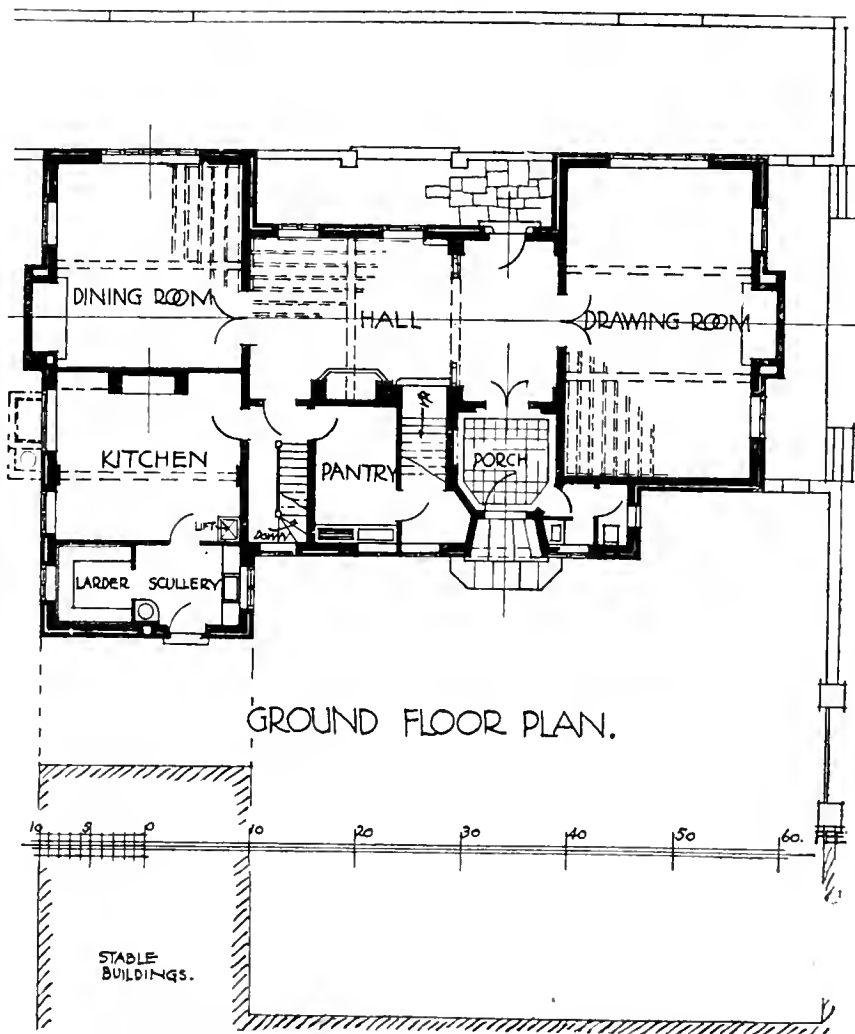
THE CATHEDRAL AND A CHURCH AT ANTWERP.

THE CATHEDRAL OF NOTRE DAME.

This splendid building seems to have fortunately escaped, and to have suffered little damage from the bombardment of the Germans during the evacuation of the city last month; but when General Chassis shelled the town with his artillery in 1830 the cathedral was mauled very badly. The incendiary bombs now used in up-to-date warfare would speedily reduce such a structure as this lightly-built church to a rubbish-heap, and particularly the traceried belfry, because of its exceptionally slight construction. It would succumb like a pack of cards, being held together with iron rods. Some of the more delicate stonework is actually threaded on to the bars, and the joints are pointed up in plaster. Antwerp Cathedral ranks high among similar notable buildings in Europe, and is the largest and finest church in Belgium. The nave was considerably injured by fire in 1533, and in 1566 the sanctuary was sacked by the Calvinists when they denuded the choir of its ancient altars and fittings, taking away all the old ecclesiastical furniture. After that dastardly ruination by sectaries a temporary and debased lot of makeshifts were put into the building to supply the needs of church services in the place of what the robbers had removed. The modern fittings of to-day and the screens erected some years ago are more worthy of their dedication and position, though, naturally, the interest of the interior suffers greatly from the loss of the original adornments and furnishings. The hanging rood, suspended in front of the choir archway, adds greatly to the scale and importance of this noble and well-proportioned place of worship. The rood is a refined and handsome example of contemporary Flemish woodwork. The old pulpit in the nave presents an odd combination of naturalistic mannerism, and in this regard it is like many similar erections in Belgian churches; but in the present case, Olympian figures, with fanciful birds and beasts of nondescript character, are introduced 'midst shrubs and trees to a big scale, in lavish profusion. It is very florid and adroit in execution, much admired by popular taste, and no doubt the work is most remarkable. When Verbrugger, the carver, finished this pulpit in 1713 it was intended to be placed in the abbey church of St. Bernard, and eventually, in 1804, it was set up in Antwerp Cathedral, about ninety years after its completion. The cathedral itself was begun in the middle of the 14th century, and it occupied nearly a century to finish. The plan of the cathedral, with its treble aisles, all of equal height, is a notable performance, and we must name the flat-roofed apsidal chapels round the east end of the choir, the whole making a noble conception. The curiously-shaped lantern over the crossing has a singularly-proportioned termination, not easily forgotten, by reason of its bulbous incongruity. The north tower and spire at the west-end was designed by Jean



FIRST FLOOR PLAN



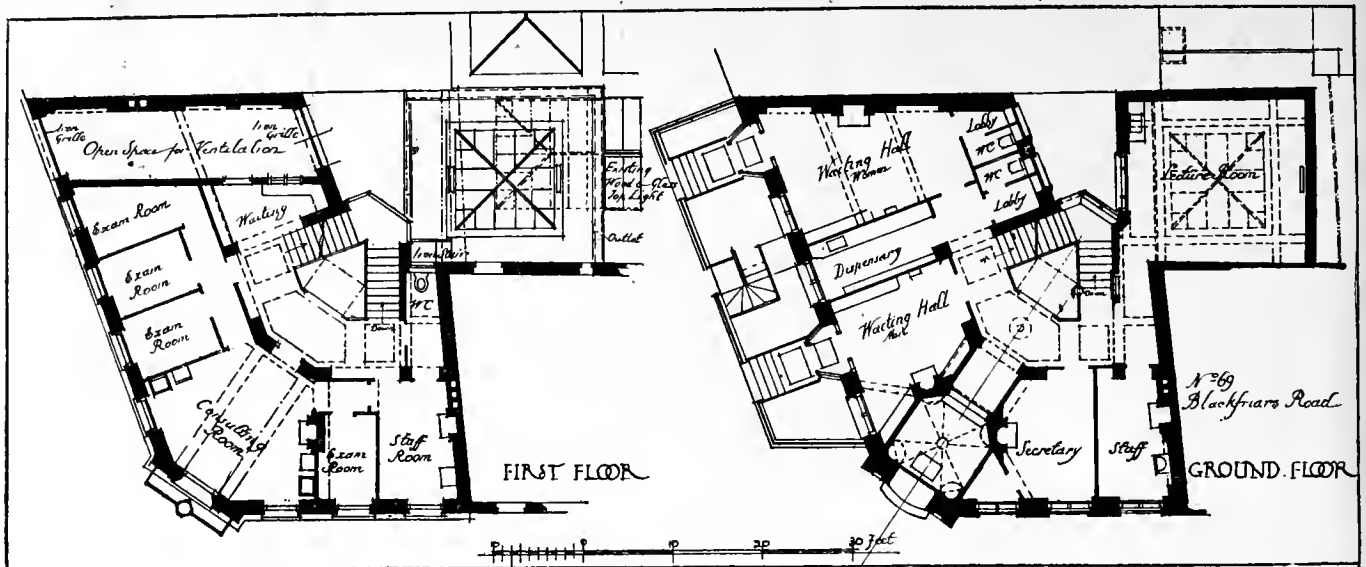
GROUND FLOOR PLAN.

HOUSE AT PRESTON CANDOVER, NEAR WINCHESTER.

Messrs. ATKINSON and ALEXANDER, Architects.

Amel, the 14th-century architect, or master-mason. Twin towers were intended; but that on the south-west corner of the front fortunately still remains incomplete, stopping short where it was left in 1474. Some authorities quote 1530 as the date of the completion of the north-west steeple, which is about 400ft. high—one of the loftiest in the world. The design was much modified after the death of Peter Amel in 1434. He took his father's place when Jean

Amel died in 1398, so that Peter held the post of master-mason for thirty six years. Waghemarkere succeeded him and finished the fleche as we now see it. The cathedral is 500ft. long and measures 250ft. wide. The Chapter of the Golden Fleece was held in the choir in 1555 by King Philip II. of Spain, and at the ceremony many kings and royal princes assisted as Knights of the Order. Rubens's pictures, of course, are the great popular attraction in Antwerp Cathedral,



BLACKFRIARS HOSPITAL FOR DISEASES OF THE SKIN.—Mr. WILLIAM A. PITE, F.R.I.B.A., Architect.

and the bells in the tower are exceptionally sweet in their tone, owing, it is said, largely to the quantity of silver used in their metal.

CHURCH OF ST. CHARLES BORROMEO.

This Baroque church façade is said to have been designed by Rubens, and he decorated the interior with his paintings. The fabric of the body of the building was destroyed by a storm in 1718. During the Battle of Waterloo it was used as a hospital for wounded English soldiers. The front remains as shown by the photograph, or it did so remain up to the late cannonading. Mr. T. Hyler White, of Croydon, lent us the photographs here reproduced.

BLACKFRIARS HOSPITAL FOR DISEASES OF THE SKIN.

This building, situated on an obtuse-angled site, at the corner of Blackfriars-road and Great Charlotte-street, faces what was, until late years, Dr. Rowland Hill's famous chapel. The hospital provides for the special treatment of the skin, having out-patients' waiting-halls on the ground floor, consulting rooms on the first, with small wards on the second, and pathological and X-ray departments on the third. Externally the ground-floor story is faced with Messrs. Doulton's white Carrara ware, and above, with hand-made purple-brown facing-brick, the roofing being in Italian tiles. For the present the front to Blackfriars-road is incomplete, a future extension being anticipated on the expiration of the lease of the adjoining property. We give a general view and the two principal plans, which show how ingeniously the several details of the building have been adapted to an awkwardly-shaped site. We have seldom seen a more capable set of plans, and regret that the exigencies of space preclude giving more than two, as all the floors are equally well worked out. Mr. William A. Pite, F.R.I.B.A., of 16, Jermyn-street, St. James's, is the architect.

CHRIST CHURCH NEW PAROCHIAL HALL, KENSINGTON, LIVERPOOL.

This building, of which the foundation-stone has lately been laid by the bishop of the diocese, forms only a portion of a scheme for the various organisations of the parish of Christ Church, Liverpool. The complete scheme provides for a large hall to seat 600 adults, with raised platform, cloakrooms, etc.; a smaller hall at rear, to seat 150 adults, with independent entrances, and several classrooms, kitchen, cloakrooms, lavatories, heating chamber, etc. The hall, 70ft. by 29ft., is suitable for meetings, Sunday school, lectures, and social gatherings, with lavatories and cloakrooms for ladies and gentlemen respectively. The building is to be faced externally with 2½ in. rustic bricks from St. Helens, the dressings being of Storeton stone, and the roof covered with Welsh slates. The hall herewith illus-

trated will be treated internally with a segmental plaster ceiling, divided into panels, with enriched plaster beams and cornice, and will have a wooden dado to a height of 5ft., all internal woodwork being stained and varnished. The design was successful in a limited competition confined to Liverpool architects, and adjudicated upon by a professional assessor. The heating will be managed by gas-steam radiators, and the ventilation by means of inlets through the walls and extractors in the roof. The lighting will be by electricity. The present portion of the scheme will cost £2,270, exclusive of furniture. The architect is Mr. Frank Rimmington, Licentiate R.I.B.A., 26, North John-street, Liverpool. The contractors are Messrs. Haugh and Pilling, Watmough-street, Liverpool.

"THE TOWER CINEMA," RYE LANE, PECKHAM.

This building was opened on Thursday, the 19th. The premises cover an acre, with a public access at either end, but the actual frontages on both thoroughfares are very narrow. We give a view of the main entrance to the building, which is in Rye-lane, and approached from an open forecourt. From the vestibule a flight of steps 20ft. wide ascends to the crush hall (100ft. long and 35ft. wide). The elevation to Rye-lane is treated in such a manner as to suggest the scale of the hall itself. This tower is 104ft. above the pavement, and will be very conspicuous in the neighbourhood. There is a secondary entrance to the building in Choumont-grove, the street to the rear. The balcony is approached from the crush hall by a broad staircase in the form of a gallery. This breaks up the necessarily long flight of stairs. There is also an electric lift to the balcony. The main area level to the hall is divided into two sections, in order to prevent too great a percentage of people leaving the hall by one entrance. This arrangement will familiarise the audience with the numerous exits provided. The seating accommodation is as follows: Balcony, 500; area level, 1,400; and it is estimated that, with standing room, the total accommodation may reach 2,500. At the sides of the hall there are promenades at both levels. The throw from the bioscope lanterns to the screen is about 120ft. The operator's quarters (constructed over the balcony) consist of projector room, switch-gear room, and winding-room. These quarters are approached from a separate staircase going through the whole height of the building, and connect all the principal floor-levels. Staff accommodation is provided under the hall, in conjunction with this staircase, as are also the manager's room and offices. There is a large concert organ, in two sections, placed on either side of the hall, the console of which is placed within the orchestra, and is worked on the electro-

pneumatic system. Power for the bellows is provided by a small electric motor. The ceiling is coffered and panelled. The whole of the lighting will be effected by "strip" lighting, on the concealed-cornice-lighting principle. Two motor generator sets have been installed, and separate intake rooms and switchboard rooms have been arranged. The building is heated by low-pressure hot-water system, and the ventilation is effected by hopper inlets on the outer walls, and extract fans under the balcony and in the main roof. The architect is Mr. H. Courtenay Constantine, A.R.I.B.A., of 82, Mortimer-street, W. The builders are the Central London Building Company, of 116, Judd-street, Euston-road, N.W. The roof and the balcony of the hall are carried upon the side stanchions which form the basis of the architectural treatment. This consists of a façade made up of a single order of Ionic three-quarter columns pierced with arches. This form of construction considerably shortened the time in the erection of the building, as the brickwork to the external walls was completed by the time the steelwork was delivered to the site. This "Tower Cinema" is the largest of its kind in London, built specially for the purpose of cinematograph entertainments, and exceeds slightly the four other large halls at Islington, Highbury, Hammersmith, and Cardiff, erected from the designs of the same architect as this one at Peckham.

VILLA AT ST. RAPHAEL, FRANCE.

This French country house has recently been finished for the Misses Scott Elliot. The materials employed are rubble stone-work, plastered and whitewashed. The woodwork is of oak, and the roof is covered with Marseilles self-locking tiles. The contractors were Messrs. Verdini and Enrico, and the contract price was just over £5,000. We give the plans of the two principal floors, which are somewhat unusual in their arrangements. There are ten bedrooms, besides three for the servants. Mr. G. Gordon Samson, of Nice, is the architect.

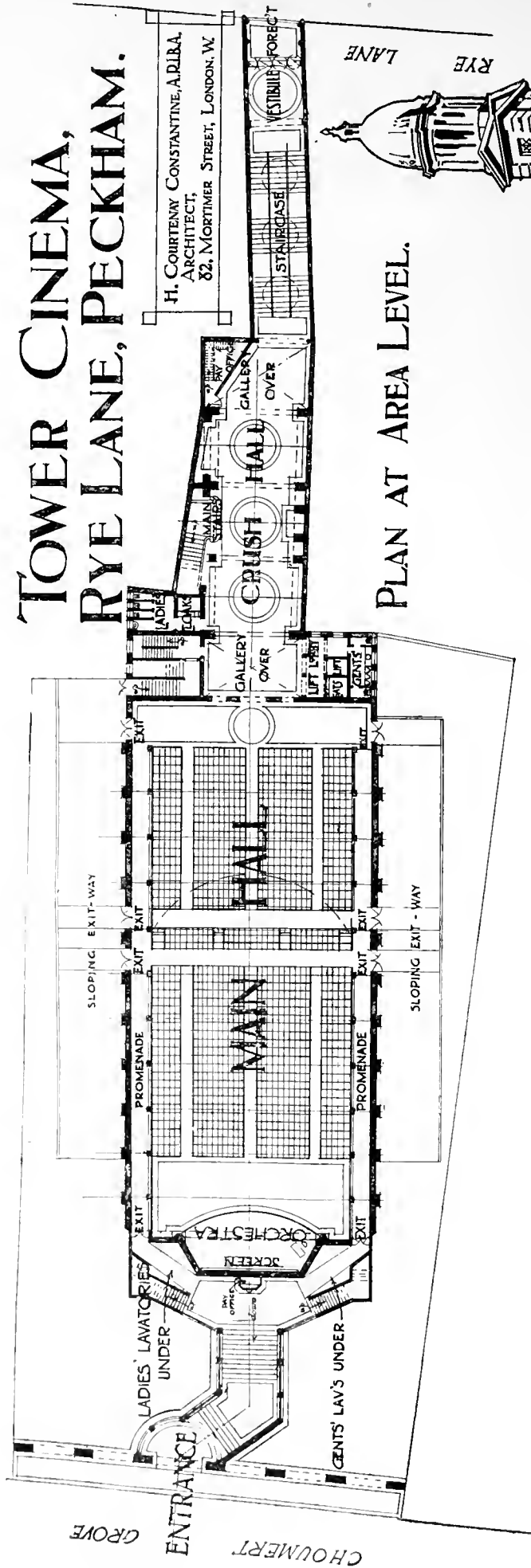
The Local Government Board have sanctioned a loan of £3,600 to the Shanklin Urban District Council for the purchase of the Landslip.

The L. and N.W. Railway Company have reported to the St. Asaph Rural District Council that the Light Railway Commissioners have approved of the proposed order for the extension of the Prestatyn and Dyserth light railway to Newmarket, and that the order has been submitted to the Board of Trade for confirmation.

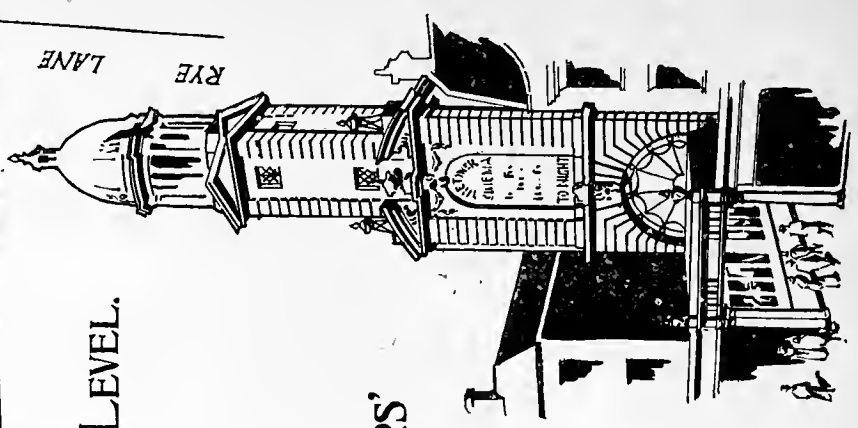
Mr. Hugh McIntyre, Banchory, has been appointed sanitary inspector for the Highland district of Perthshire, under the county sanitary inspector, in succession to Mr. John Forbes, who is retiring. For the past five and a half years he has been burgh surveyor and sanitary inspector in Banchory, and district inspector for the Upper Deeside district of Aberdeenshire.

TOWER CINEMA, RYE LANE, PECKHAM.

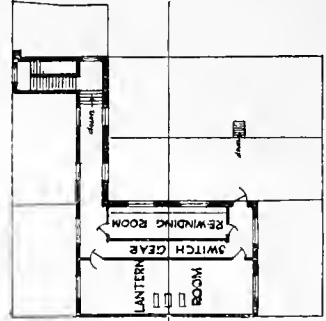
H. COURTIENY CONSTANTINE, A.R.I.B.A.
ARCHITECT,
82, MORTIMER STREET, LONDON, W.



PLAN AT AREA LEVEL.

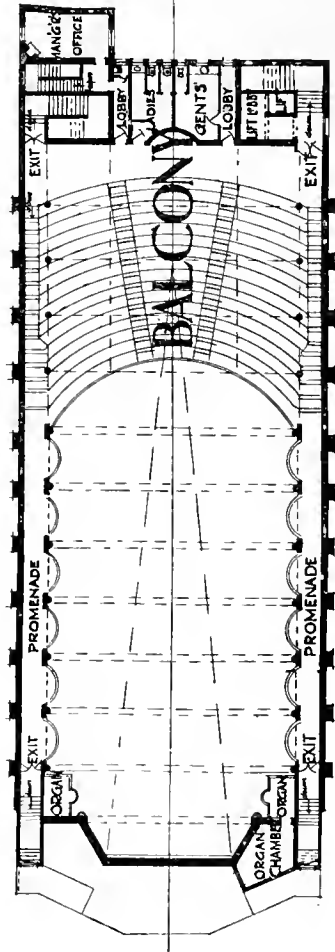


PLAN OF OPERATORS'



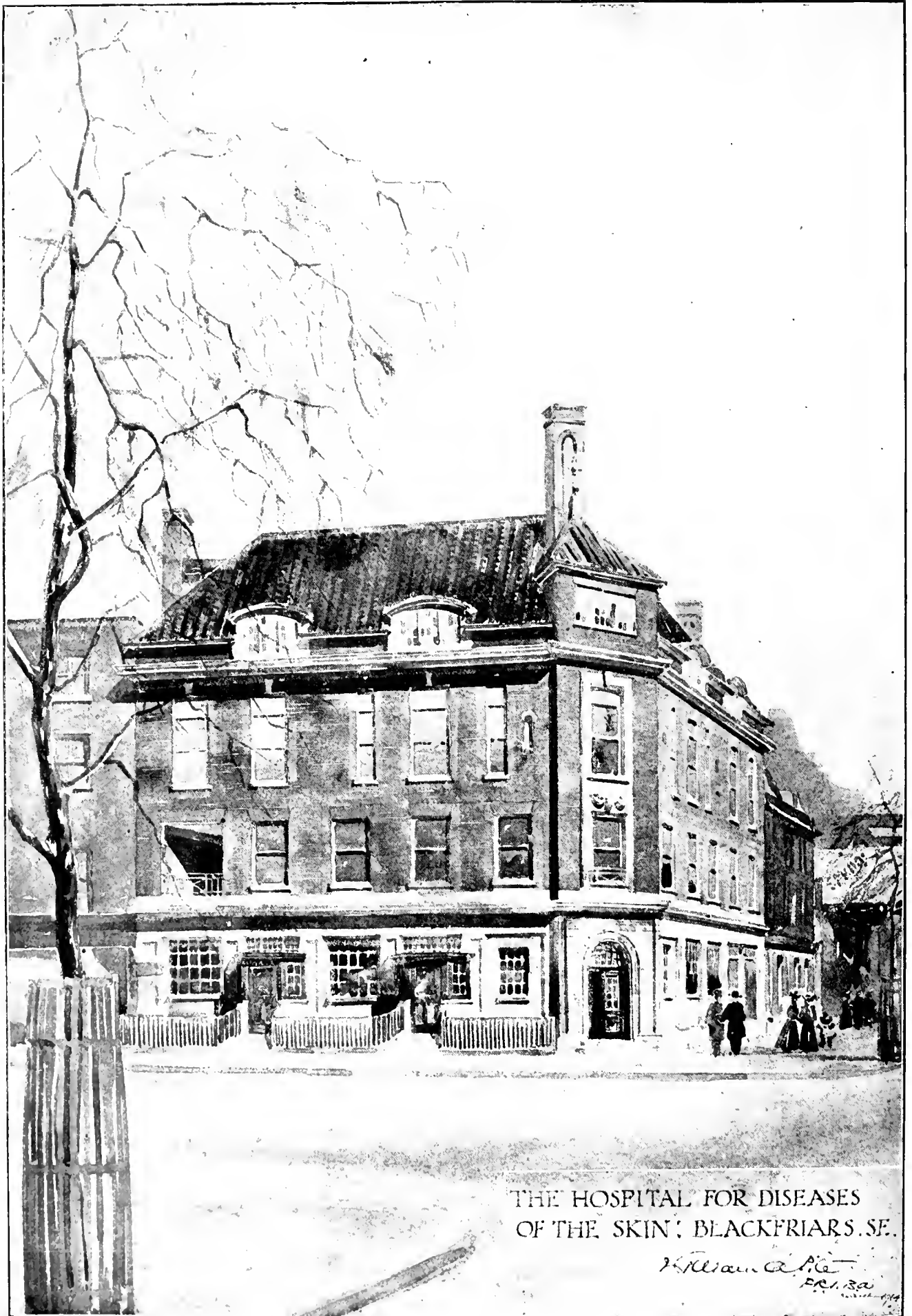
QUARTERS.

SCALE OF 1/4" = 1' 0"



PLAN AT BALCONY LEVEL.



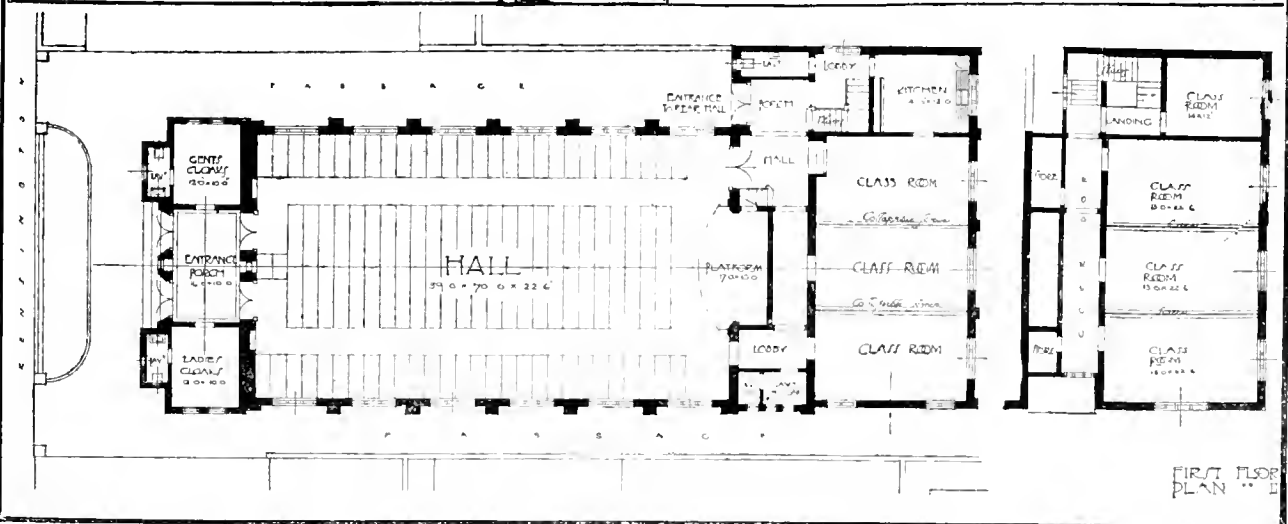
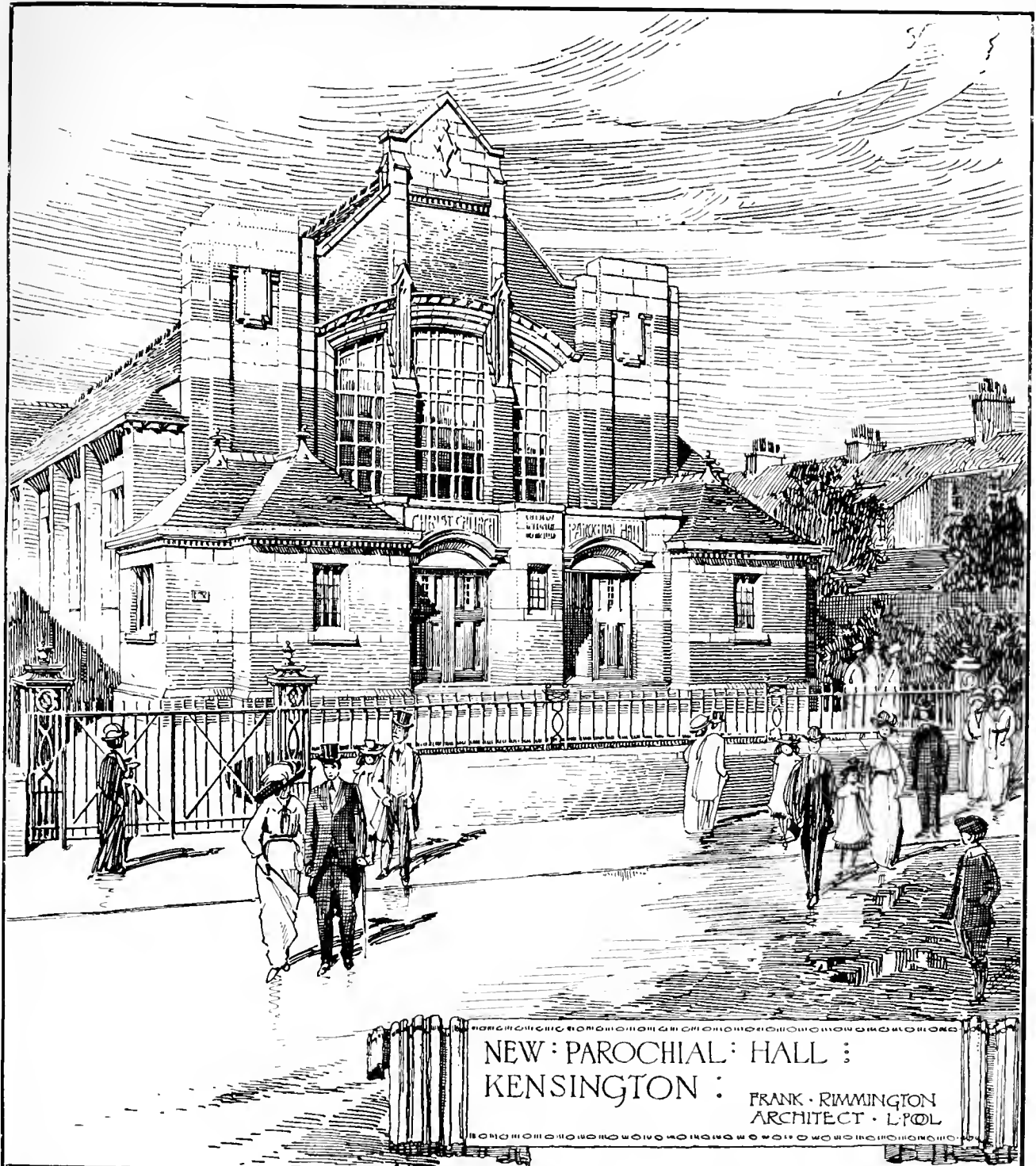


THE HOSPITAL FOR DISEASES
OF THE SKIN, BLACKFRIARS, S.E.

W. A. Pite
F.R.I.B.A.

BLACKFRIARS HOSPITAL FOR DISEASES OF THE SKIN.

Mr. WILLIAM A. PITE, F.R.I.B.A., Architect.

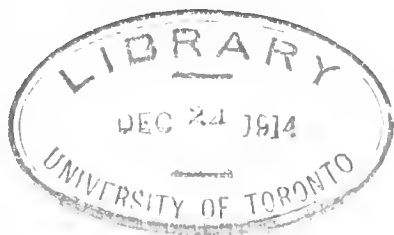


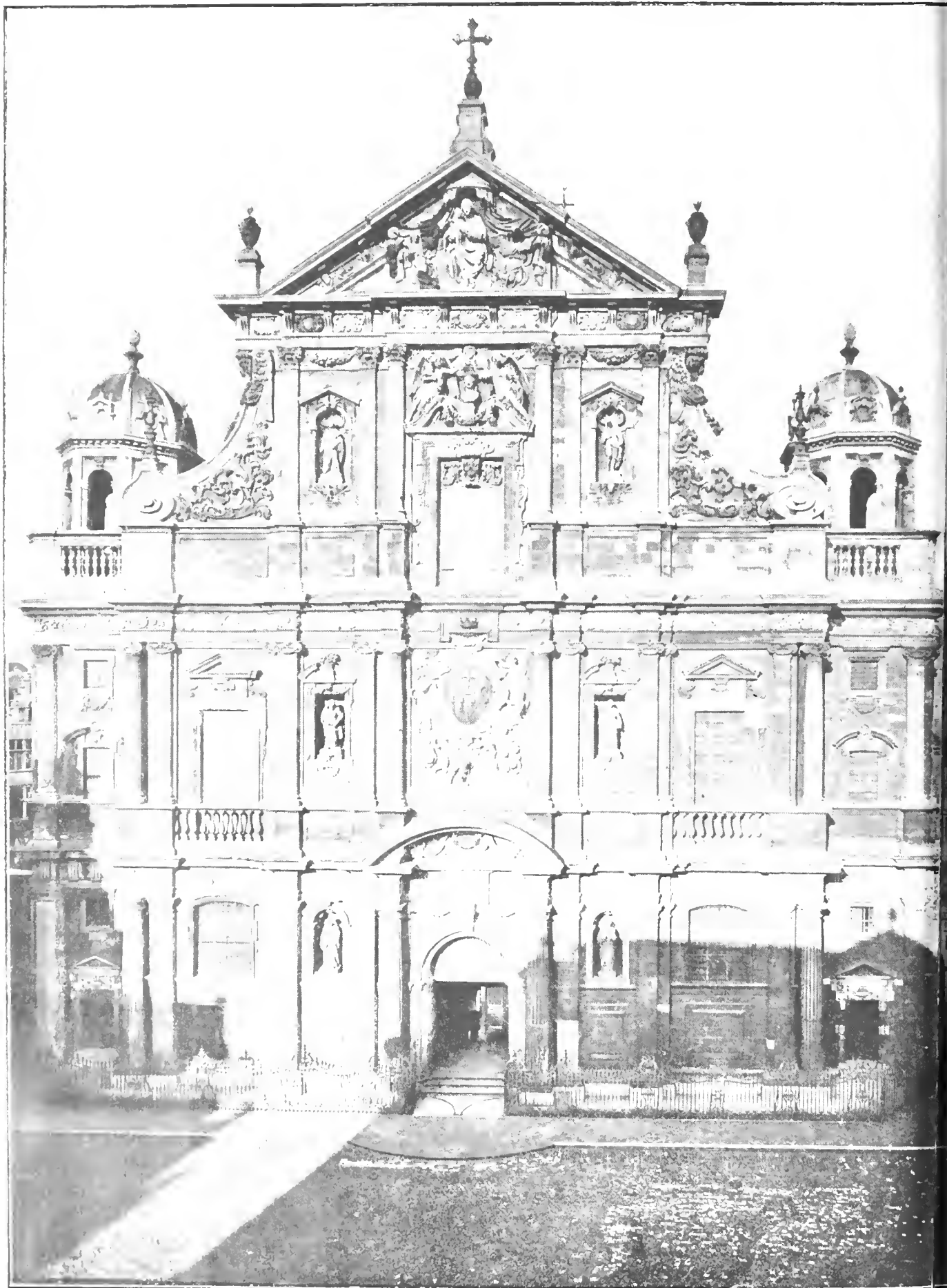
PAROCHIAL HALL, CHRISTCHURCH, KENSINGTON, LIVERPOOL.

Mr. FRANK RIMMINGTON, Architect.



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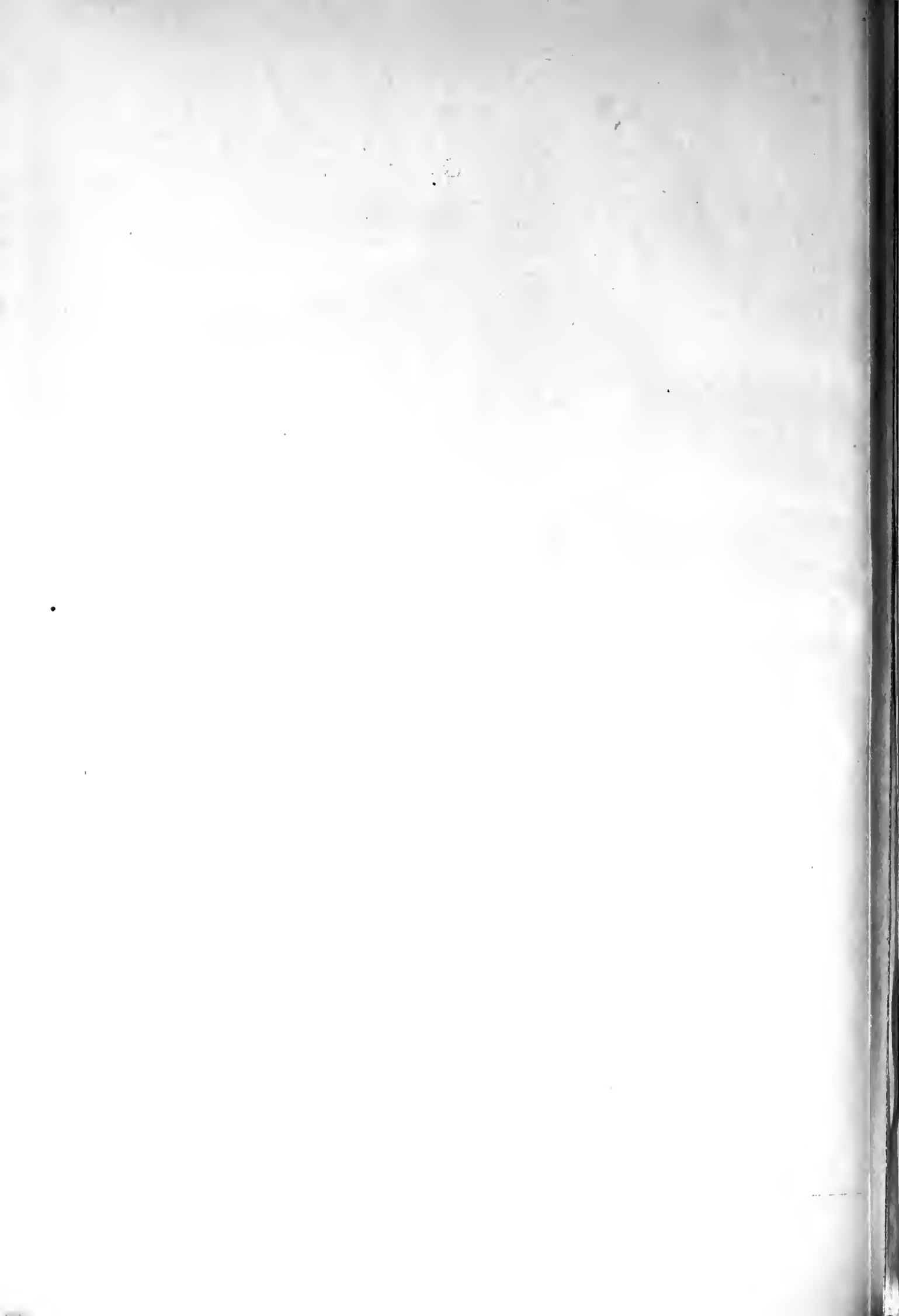


CHURCH OF ST CHARLES BORROMEO, ANTWERP.

NOVEMBER 27 1914.



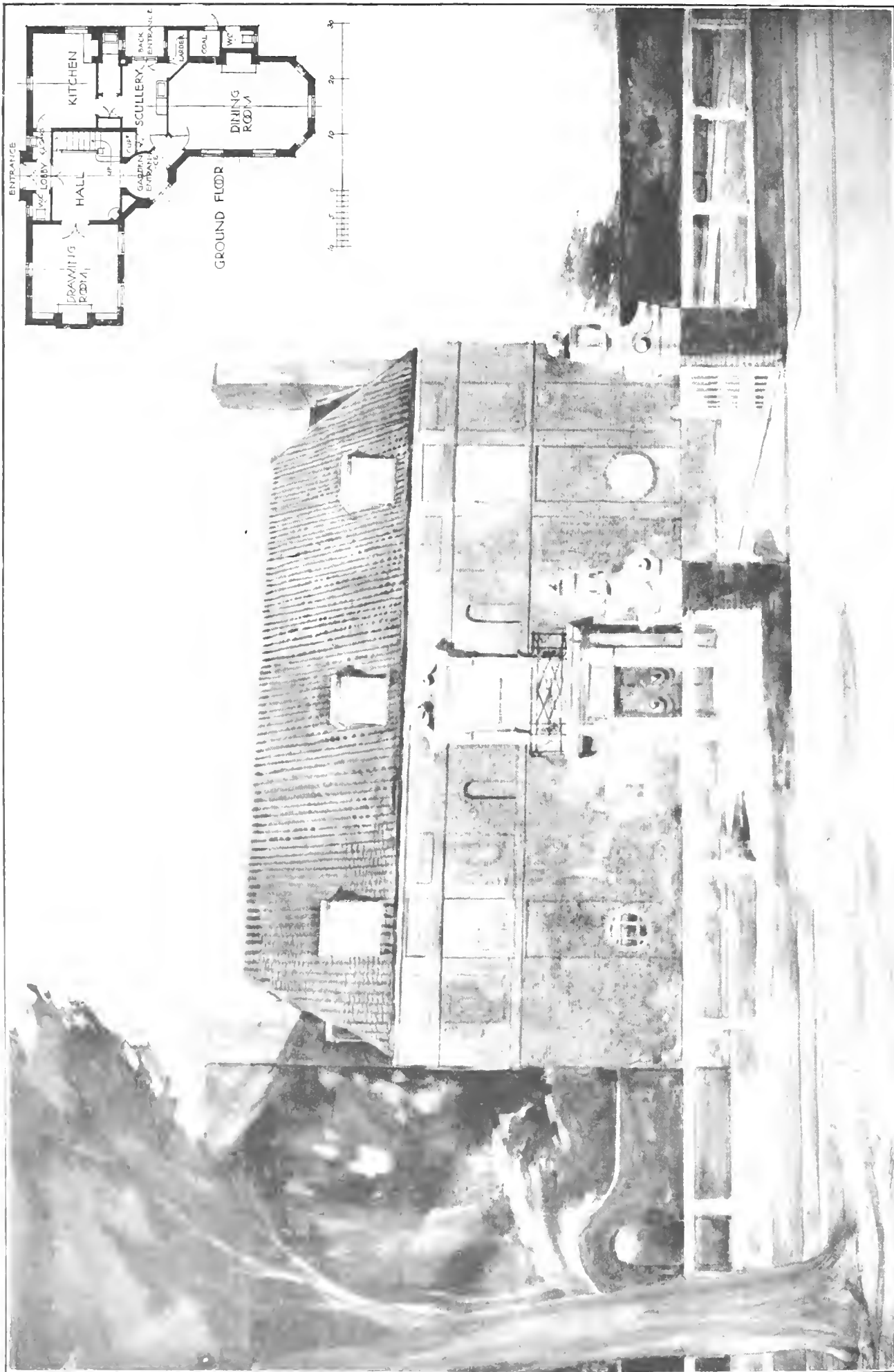
ANTWERP CATHEDRAL. INTERIOR, LOOKING EAST.

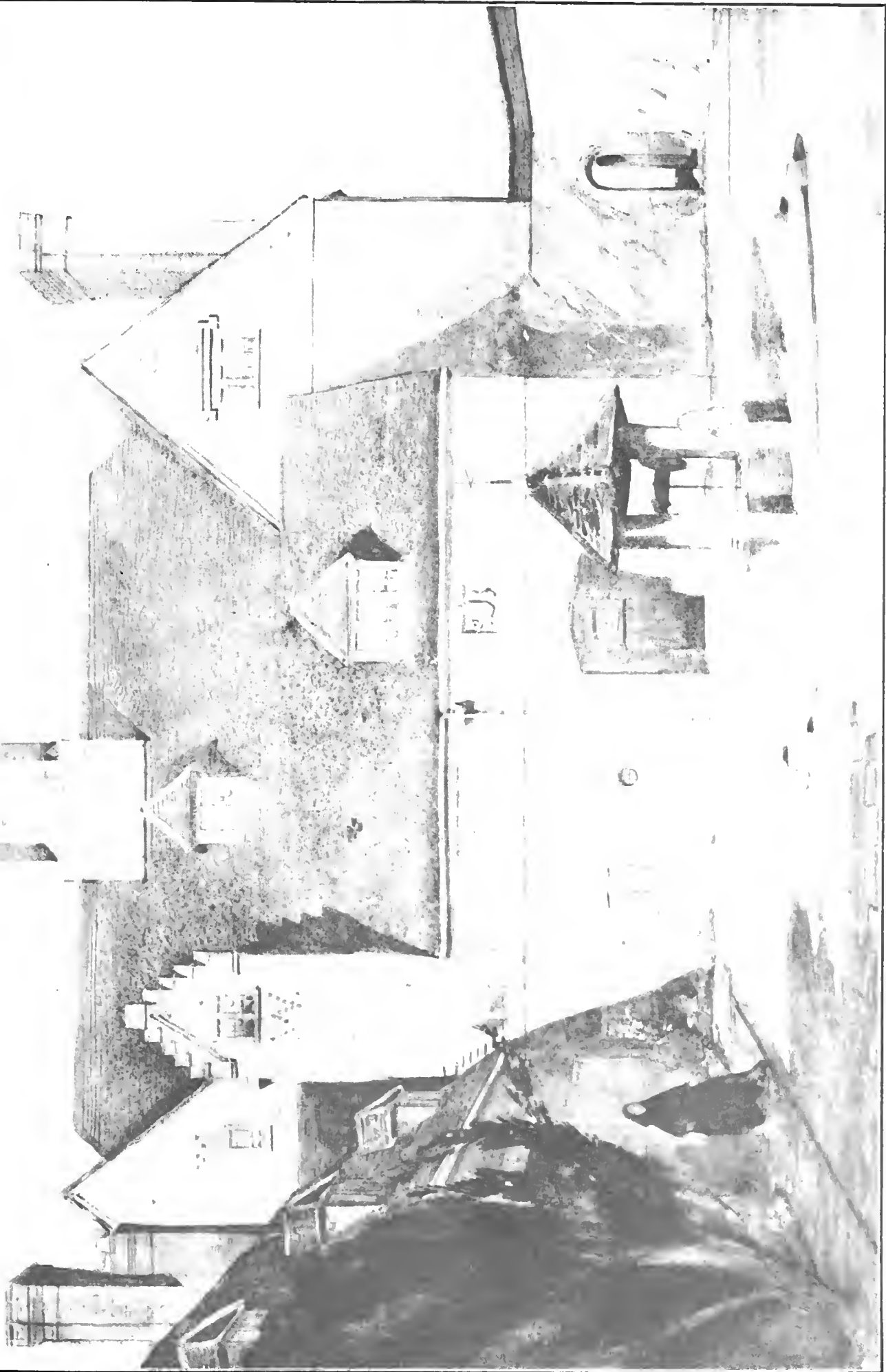


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THE BUILDING NEWS, NOVEMBER 27, 1914.



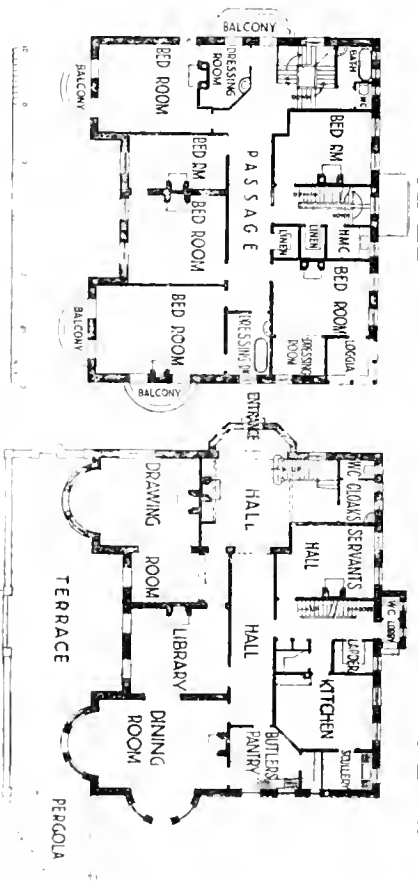
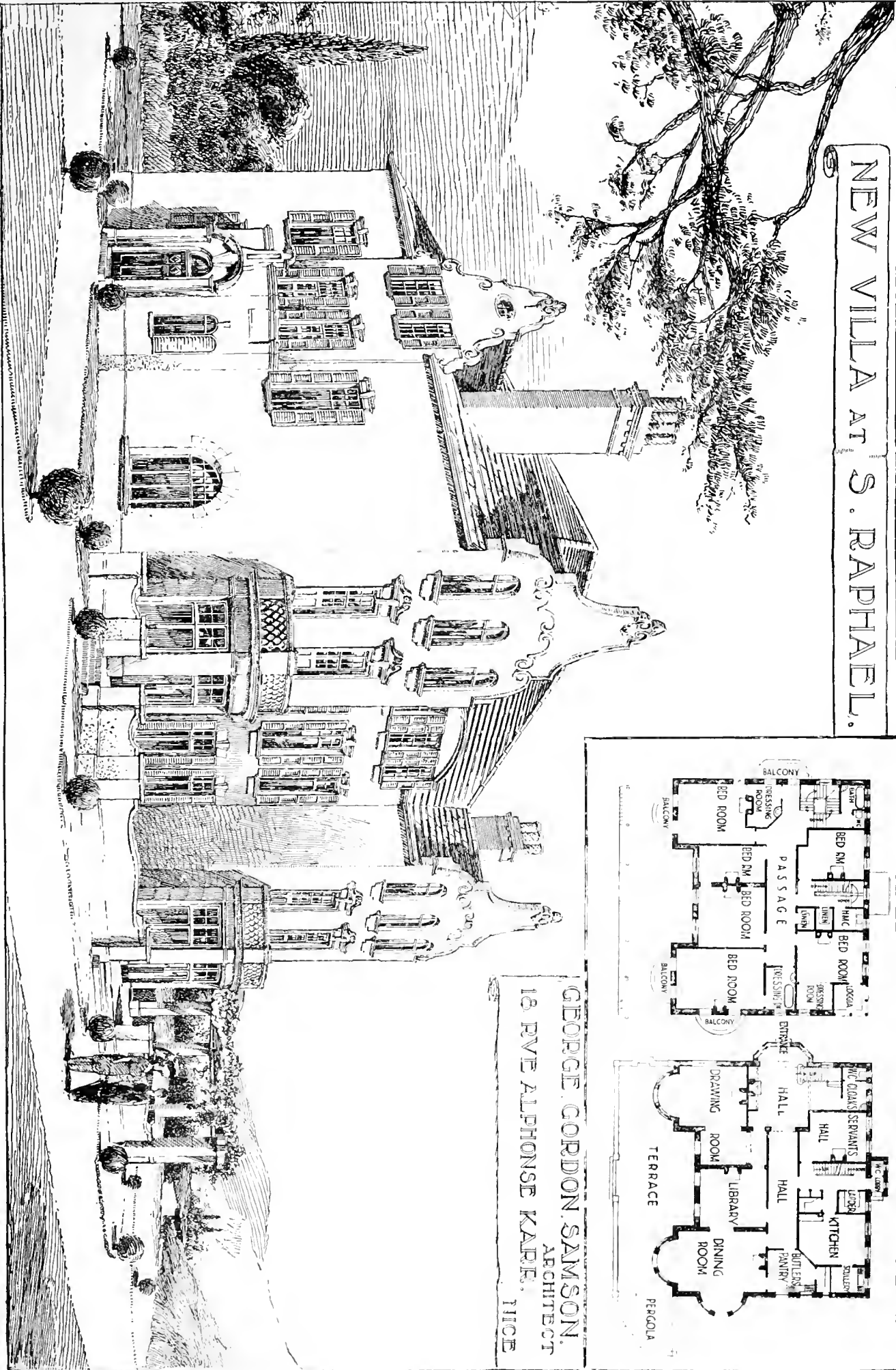


TWO NEW HOUSES: HILL CREST ROAD, EALING, W.; AND AT PRESTON CANDOVER, NEAR WINCHESTER.

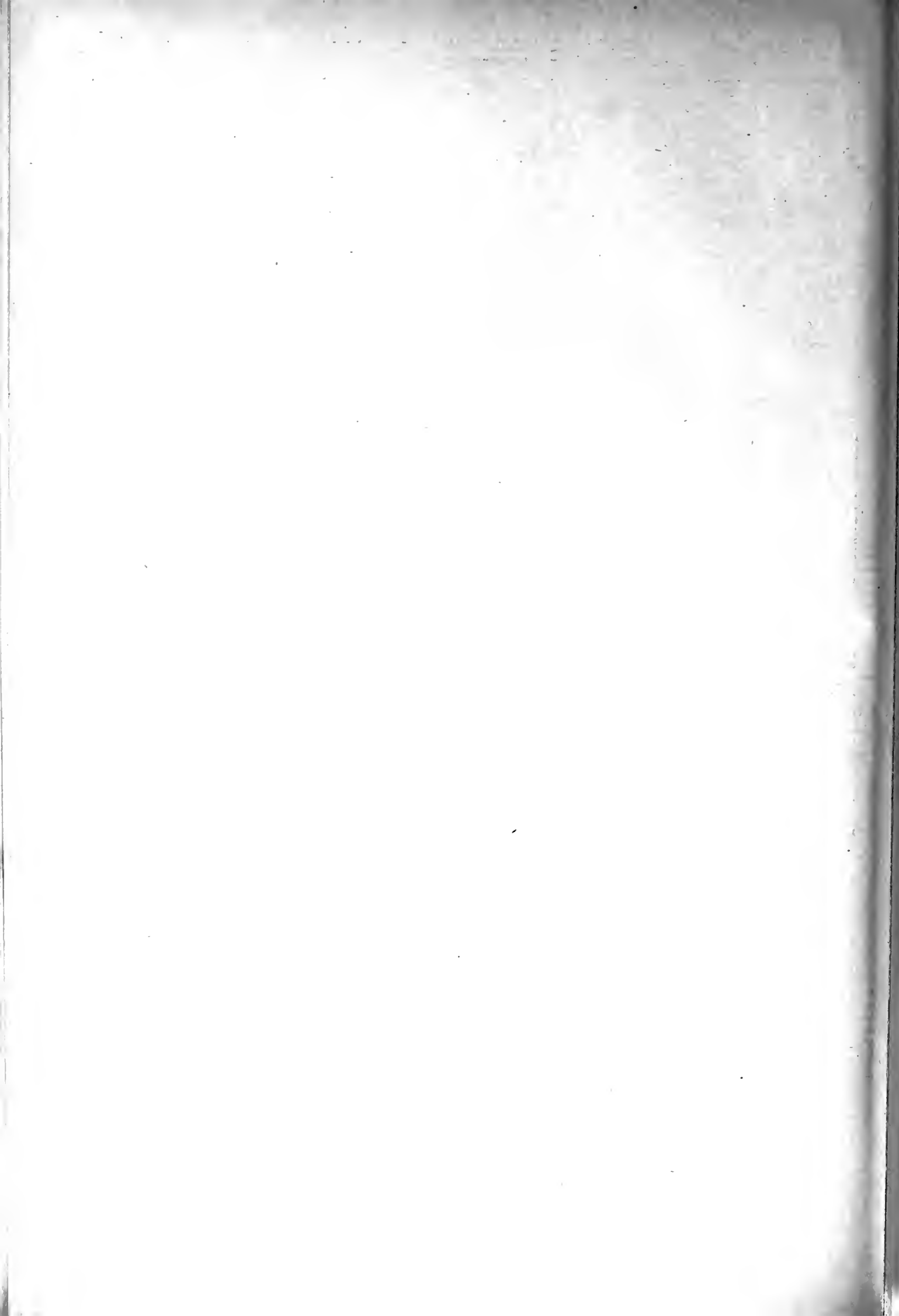
MESSES. ROBERT ATINSON and GEORGE L. ALEXANDER, A.A.R.I.B.A., Architects



NEW VILLA AT S. RAPHAEL.



GEORGE GORDON SAMSON,
ARCHITECT
18 RUE ALPHONSE KARR,
NICE



PROFESSIONAL AND TRADE SOCIETIES.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.—At the opening meeting of the Architectural Association of Ireland, the president, Mr. Harry Allberry, A.R.I.B.A., occupied the chair, and was presented by Professor W. Scott, A.R.I.B.A., with an enamelled badge of office, designed by Mr. R. Caulfield Orpen, R.H.A., and enamelled by Mr. Oswald Reeves. The badge is to be the property of the association, and was given to signalise the first occasion on which a president had been elected for a second term. The following were elected members of the association: Messrs. F. J. Byrne, T. J. Macnamara, Thomas Walsh. The president delivered a thoughtful address, which we shall give in our next issue, as it reaches us late, just as we are going to press.

EGYPT EXPLORATION FUND.—The annual meeting of the Egypt Exploration Fund was held on Friday at Burlington House, Professor A. Sayce presiding. The report stated that there had been an excess of expenditure over income amounting to £41. This was partly due to the effort made to finish the "Osireion," and partly to the financing of the expedition this year on behalf of the Græco-Roman branch. The report was adopted, and Mr. T. Eric Peet gave an address on "The Art of Pre-Dynastic Egypt."

GLASGOW.—The fifth meeting of the Glasgow Royal Technical College Architectural Craftsmen's Society was held in the society's room on Friday last, when Mr. Robert Park gave a lecture on "Paint and Painter's Work." The origin and process of manufacture of the several materials used in paint-work were traced, and the adulterants used in order to cheapen the quality were described. Chemical tests were shown for the detection of such adulterants, and the effect of town atmosphere on different paints was shown. The lecturer then gave details of experiments carried out in the college for the purpose of finding a good fume-resisting paint.

NORTHERN ARCHITECTURAL ASSOCIATION.—The opening meeting of the session was held on Wednesday evening at the room, 6, Higham-place, Newcastle-upon-Tyne, when the president, Mr. R. Burns Dick, F.R.I.B.A., delivered his inaugural address, his subject being "War and Architecture." There were on exhibition the Glover studentship drawings, made by Mr. H. St. J. Harrison on his recent tour.

SUBSCRIPTIONS OF R.I.B.A. MEMBERS ON SERVICE.—The Council of the Royal Institute of British Architects, acting on the recommendation of the finance and house committee, have resolved that subscriptions due in January, 1915, be remitted in the case of all members and licentiates who are at that time actively engaged in the defence of the country, and that the publications of the Institute be sent to their home addresses during the period of their service.

DORIC TEMPLES.—Mr. Banister Fletcher has delivered a lecture at the British Museum on the "Origin and Evolution of the Doric Order." He referred to the colonising activities of the Greeks in the 6th and 5th centuries B.C. Dorian to the West and Ionic to the East, they evolved native and colonial types of architecture. The Doric temples, as we see them to-day in the majesty of ruin, are grave, severe, and sturdy, even as were the Dorians themselves. Trading, colonising, building, inventing, these restless, wandering Greeks exhibited each successive phase of activity arising naturally from the other, and they may be said to have invented the "Orders of Architecture" which they used for the building of their temples in the homeland and in the colonies. The seven temples and straight streets of Selinus show the twofold aspect of colonial life, civil and religious, as carried out in temple building and town planning. The triple temple group at Paestum make up the same picture of religion with maritime and agricultural pursuits, for here is the

great temple with those of Neptune and Ceres. Whence came the Doric Order used in these great temples? This question has been productive of speculative answers lacking in finality. All we know is that the old Dorians found certain forms which suited their ideas and needs, and that they used them in combination and in one common material, the result being a perfection of form which is still recognised as a thing of beauty and a joy for ever.

THE RESTORATION OF IONA.—Under the auspices of the Scottish Ecclesiological Society a lecture has been delivered in St. Cuthbert's Hall, Edinburgh, by Mr. P. McGregor Chalmers, of Glasgow, on his recent researches on the Abbey Church of Iona, which he is now restoring for the trustees. The president of the society, the Rev. H. J. Wotherspoon, D.D., occupied the chair. During the past seven years Mr. McGregor Chalmers has been engaged upon the restoration work at Iona, and advantage was taken of the circumstance to examine the whole fabric with the greatest care, and to excavate where that was practicable, so that as far as possible the buildings should be made to yield up their own story. There was the more need, said the lecturer, for the most careful research, in view of the theory promulgated by Skene, the historian, that the present abbey did not occupy the site of the early monastery founded by St. Columba. It was believed that the many years of research now left no room for doubt that the present site is indeed hallowed by its early association with that great Christian missionary. The ancient main street of Iona, which lay north and south, passed right over the site of the present central tower, extending onwards to the north, where a part of it had been found 2ft. beneath the turf. The ancient Cross of Iona stood in early days where the tower now stands, with, probably, St. Columba's Church to the east of it. The foundations of a building had been found partly under the tower and partly under the nave. This building was of a larger size, running north and south, and constructed not with gables but with rounded ends. This building might have been a refectory of the monastery at a very early time, and it might be possible to identify the site with the cell occupied by St. Columba amongst the ruins of the building, still called Abbot's House. A considerable part of an early church still remained above ground at the east end of the nave, forming part of the present church. This church had two side rooms, of which parts remain. Five stone coffins were found in front of the altar of this early church. The building had been enlarged both at the west and east by Reginald, Lord of the Isles, and his work seemed to have involved the destruction of the earliest church, and it interfered with the main street. In some way the Celtic Church was alienated, and men came across from the North of Ireland and destroyed the building, but the work was restored and greatly enlarged, the east being designed as an upper and lower church or crypt. Towards the end of the 14th century the magnificent stone-vaulted eastern transept was added on the south side of the choir, and equal in length to the choir. The lower part of the walls of this great building remained unsuspected beneath the turf until a few years ago, when they were found when a drain was being constructed. It was not until late in the 15th century that the Abbey Church took its present form. Mr. Chalmers was thanked on behalf of the society by Sir James Balfour Paul.

At Finchley a Local Government Board inquiry was held on Monday before Mr. R. H. Bicknell, as to an application from the urban district council for sanction to borrow £16,847 for the provision of a refuse-destroyer and open spaces.

The death occurred on the 18th inst. at Fichill, Monkstown, County Cork, of Mr. Robert Theakstone Keene, at the age of sixty-two, late of the Indian State Railways. He was appointed from the South Punjab and Delhi Railway Company as special assistant engineer in 1886, and became special engineer in 1899, retiring in 1908.

Correspondence.

FAMOUS TOMBS, EWELME AND PUDDLETOWN CHURCHES.

To the Editor of the BUILDING NEWS.

SIR,—In your review of the Rev. Charles Cox's well-illustrated book on "The English Parish Church," in last week's issue of the BUILDING NEWS, you more than once referred to Ewelme Church, near Oxford, and I welcome the good general view of its interior which appears in his pretty volume, so favourably noticed; but neither the author nor your reviewer mentions the sister-church to Ewelme—viz., Wingfield, in Suffolk—and no allusion whatever appears as to the beautiful and perfect monument at Ewelme to Alice Duchess of Suffolk. It stands quite intact between the sacarium and the Chapel of St. John. This tomb, which is not shown by Dr. Cox, is almost, if not quite, unique in respect to its retention of all its Mediæval statues still un mutilated, and they are of exquisite character, adorning both sides of its upper part, above the pierced arcade, where the alabaster skeleton is enshrined. These figures are remarkably fine, with Greek-like faces. They are uniform in merit, varied in costume, and rank as works of the highest class. This memorial was erected to the foundress of the adjoining "God's house," or hospital, attached to the western tower of Ewelme Church. She was the granddaughter of Geoffrey Chancer and widow of William de la Pole, Duke of Suffolk, who, it will be remembered, was executed at sea. This statue of his lady is one of the three known examples of females decorated with the insignia of the Order of the Garter. On the chapel side are also mural canopies and winged angels in the frieze, repeated as on the chancel front. These are of the utmost interest, bearing the arms of the Suffolks. This particular subject may have been thought by Dr. Cox to be rather beyond the immediate purpose of his book, and he does not say anything, either, about Puddletown Church, Dorset, which is distinguished by the beautiful tombs of the Martyrs of Athelhampton, to which I refer in this connection, as they also have exquisite figure sculpture, as rare as they are beautiful. I write really in the hope that some enterprising fellow-reader of your journal will be able to send you one or two good large photographs or sketches of both the Ewelme tomb, which I have never seen illustrated, and also those of Puddletown. They are well worthy of your space, and should be reproduced to a good big scale, to show the details of the mural and tomb statues which I have described. A plan and general views of Puddletown Church appeared in the BUILDING NEWS of March 18, 1910, but not the particular tombs above referred to.—I am, etc.,

A CHURCH ARCHITECT.

"Stir up Sunday," 1914.

The death is announced of Mr. James Everett Turner, borough surveyor, sanitary inspector, and harbour-mistress of Sandwich.

Withington Congregational Church, Manchester, which was built in 1882 at a cost of nearly £14,000, was totally destroyed by fire early on Sunday morning. The fire is supposed to have originated in the heating apparatus.

A dispute between the corporation of Queenborough and the Sheppey Rural District Council arising out of the recent extension of the borough came before Mr. Justice Atkin in the High Court on Thursday last week, when his Lordship confirmed the award of the arbitrator in favour of the rural district council, and ordered the corporation to pay costs.

Mr. John Brooke, F.R.I.B.A., of The Hive, Elcho-road, Bowlon, who died August 1, aged sixty years, left estate of the gross value of £28,440, of which the net personalty has been sworn at £27,765. His will was made on a sheet of notepaper, and dated the day of his death. He left all his property as to three-fifths equally between his sons, Francis Ralph Russell Brooke, and John Talbott Wynyard Brooke, and two-fifths upon trust in equal shares for his daughters, Helen Cecil Duncan and Marjorie Lascelles Wolff, and their respective issue.

Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worthy insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

All else being equal, brief replies will stand the best chance. We emphasise this, as some correspondents ignore the fact that querists want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

QUESTIONS.

[3149].—**PORTLAND CEMENT AND PLASTER.**—Could any reader, with actual practical experience, kindly inform me if a Portland cement backing, finished with fine Keene's cement in large surfaces as plastering on walls, is to be relied upon? What proportions ensure the best result? How soon can it be painted upon with safety? If this plaster is not advised, what is the best plaster to use in order to get a hard surface for painting upon? I would prefer the advice of a really practical plasterer to that of a theorist.—Plasterer.

[3150].—**WORKING DRAWINGS.**—Enquirer would like to know if there is any recognised London or other method of preparing working drawings to indicate different materials by means of shaded or other distinctive lines, so that the trouble of laboriously tinting photo copies in repetition may be avoided, and the photo copies sent uncoloured direct to the contractors, and be instantly understood. Enquirer thinks that if there is not such a recognised system, the evolution of such a one would be a great boon to the profession.—Enquirer.

The committee of management of the Edinburgh Architectural Association have voted £10 from their funds to the Architects' Special War Relief Fund.

The School Board at Dundee have adopted the design of Messrs. Maclaren, Sons, and Soutar, architects, of that city, for the new school in Bellfield-street. The surveyor estimates the cost at £19,792.

General Cumberland naved on Wednesday a memorial at St. Michael's Church, Maidstone, to the late Rev. G. B. Coucher, for twenty years vicar of that church. The memorial has been executed, in copper and bronze, by Mr. H. Stansfield, of Cromer.

The Council of the Royal Institute of British Architects, acting on the recommendation of the finance and house committee, have resolved that subscriptions due in January, 1915, be remitted in the case of all members and Licentiates who are at that time actively engaged in the defence of the country, and that the publications of the Institute be sent to their home addresses during the period of their service.

Mr. J. Lavery, A.R.A., has presented to the Victoria and Albert Museum the portrait which he painted last year of Auguste Rodin. The gift is designed to reciprocate the sentiments which inspired Rodin to make his magnificent gift of sculpture to the Victoria and Albert Museum. The portrait is almost full-length, with the head in profile. It is exhibited on a screen beside the Rodin sculpture in the West Hall of the Museum.

Mr. Ernest Cole, who has been commissioned by Mr. Ralph Knott to execute some of the statuary for the London County Council Hall, was a pupil at one of the Council's schools at Charlton, and ultimately won his way to the Woodwich Polytechnic. While there he entered for a Travelling Art Scholarship to enable him to go to the Continent for a year. The examiners were so impressed with his work that they called special attention to it in their report.

The trustees of the National Gallery have accepted the Contemporary Art Society's offer to present to the National Gallery of British Art the "Portrait of my Father" by Mr. G. A. Storey, R.A. The picture was painted in the seventies, though not exhibited at the Royal Academy till 1911. The companion "Portrait of my Mother," done at Ramsgate in 1874 and shown at the Royal Academy in 1910, was purchased by the National Art Collections Fund and presented to the nation.

PARLIAMENTARY NOTES.

EFFECT OF THE WAR BUDGET ON HOUSE-BUILDING.—During the discussion on Friday upon the War Budget, Mr. Dundas White called attention to the effect of a double Income-tax under Schedule A in penalising the building of houses, particularly those for the poorer classes. It would make building unremunerative, check the supply of accommodation, and increase the rents. He knew that the subject could not be dealt with at the present moment; but it ought to be borne in mind, especially as it might be a very serious matter for our brave soldiers when they came home again. He was not suggesting that the total taxation on landed property should be diminished. A tax on capital would perhaps be preferable to an Income-tax, but it was not practicable just now. It could only be adopted gradually, and it should certainly be applied to Schedule A before anything else. People seemed to think that a double Income-tax would fall entirely on those who paid it; but the truth was that the chief sufferers would be the men and women thrown out of employment or compelled by competition in a congested labour market to accept lower wages.—Mr. Clynes (Labour Member) urged that in some respects the present Budget was unjust to the poorer section of the community.—After further discussion the resolution was agreed to.

MONUMENT TO EARL ROBERTS.—The House went into Committee on Monday on the resolution for an address praying his Majesty to give instructions for the erection of a monument at the public charge to the memory of Field-Marshal Earl Roberts.—Mr. Hogge asked whether the design for the monument would be open to competition, or whether some committee was to be given power to recommend a particular sculptor whom the Government had in mind to do the work.—Mr. Asquith replied that he could not yet state what course would be taken.—Mr. Hogge urged that the Government should give the House an opportunity to determine the nature of the monument before the work was actually undertaken.—Mr. Asquith: I do not think this is a very convenient moment for a discussion on this subject. Care will be taken to insure the greatest possible unanimity.—The resolution was agreed to.

"CONCRETE FOUNDATIONS."—Mr. King asked the Under-Secretary for War, on Monday, whether, with the object of allaying public apprehension, he would state whether a number of concrete foundations or constructions, ostensibly foundations for factory buildings, tennis-courts, or other structures, had been inspected in proximity to towns or ports in this country; whether there was any reason to suppose that these works had been constructed or maintained by evilly-disposed persons to assist invaders, or for other military purposes; and whether any danger of this character had been adequately met?—Mr. Tennant: A considerable number of reports impugning the ostensible purpose of concrete foundations, tennis-courts, etc., have been received by the military authorities, and in all cases where the facts as reported warranted inspection being made, this has been carried out. I do not think it can be said, as a general statement, that these concrete beds, where they exist, have been constructed with the military purpose in view; but wherever there has been any reason to suspect this, adequate precautions have been taken.

GRANTS FOR HOUSING SCHEMES.—Mr. T. Richardson (Lab., Whitehaven) asked the Chancellor of the Exchequer on Wednesday whether the terms on which loans would be granted to local authorities or approved societies under the Housing (No. 2) Act, 1914, had yet been determined; if so, when would the Treasury be prepared to advance money to local authorities?—Mr. Lloyd George replied: The Treasury will make advances for schemes approved by them on the recommendation of the Local Government Board or the Board of Agriculture and Fisheries on the following terms:—Local authorities: 10 per cent. of the approved capital cost by way of free grant, the remaining 90 per cent. by way of loan, with interest at 4½ per cent. per annum, to be repaid by equal annual instalments of interest and principal combined within the period usually authorised for the works of the nature of those for which the loan is required. Authorised societies. Advances will be up to a maximum of nine-tenths of the total approved capital expenditure, such advance will consist of (1) a free grant of 10 per cent. and (2) a loan of 80 per cent. of such expenditure, the loan to be repayable by annuity (interest and sinking fund combined). If the loan is advanced for sixty years, the annuity would be at the rate of 5 per cent. per annum. Where a scheme has been approved

there need be no delay in making the advance; but the Treasury will only be prepared to approve schemes under the Housing (No. 2) Act in cases where unemployment in the building trade consequent on the war is exceptional and insistent, and is not being provided for in other ways. These special terms have been arranged in view of the exceptional monetary conditions and the high cost of building materials now prevailing. It must be clearly understood that the terms are subject to alterations from time to time without notice, and that whenever new terms are fixed these will apply to applications under consideration at the time the alteration is made, as well as to future applications.

LEGAL INTELLIGENCE.

THE ROYAL EDWARD DOCK ARBITRATION.—The fourteenth day's proceedings in connection with the arbitration arising out of the contractors' claim regarding the construction of the Avonmouth Dock took place before Mr. Hall Blyth, the Arbitrator, in the King's Bench Court, on Monday. The plaintiffs in the action were Messrs. John Aird and Sons, and they claimed against the Bristol Corporation £166,687 alleged to be due to them under a contract for the construction of the Royal Edward Dock at Avonmouth. The previous hearings of the case have been reported in our issues of the 13th and 20th inst. (pp. 637 and 668). Upon the resumption of the case on Monday, Mr. Upjohn, K.C., counsel for the contractors, resumed arguments on the questions arising out of the construction of monoliths for the support of pier-walls, the main consideration being whether Messrs. Aird were entitled to payment over and above the contract price for extra work and outlay on pumping, timbering, and concrete-work. The amount on this head was estimated at about £20,000. Counsel called the attention of the arbitrator to the statement of claim setting forth the items of work, labour, and material by the plaintiffs in pursuance of the agreement made on January 25, 1905, between Mr. McClune and Mr. Squire. Certain spaces were to be excavated by the plaintiffs between the monoliths, not provided for in the contract price, at 3s. per cubic yard, with an underlaking that a proper allowance would be considered at a proper time, later on, when more experience had been obtained of the work. The work was done on the strength of the undertaking. At the interview in 1905 it was agreed that the 3s. per cubic yard was to be provisional for extra pumping. The only point which the arbitrator had to consider, said Mr. Upjohn, was whether the pumping was included in the schedule, and whether, when the order came to enlarge the spaces between the monoliths to 5ft., did that bring pumping in? He thought that the arbitrator had intimated that there was no pumping in the original 4in. space. The plaintiffs' case was that the contract work did not involve pumping, but by an order given by the engineer it was converted into work which did involve pumping. No one disputed that the engineer could give an order to convert the contract into new work involving pumping, and that involved a liability on the part of the corporation to pay a price later on to be fixed. He contended that the corporation ought to have raised the question in 1905. The contractor could then have stopped pumping and gone into arbitration and had the matter thrashed out. Counsel submitted that Mr. W. W. Squire, the dock engineer, would not have been likely to make the alterations entirely for the benefit of the contractors and entirely to the prejudice of the corporation.—The arbitrator, Mr. Hall Blyth, remarked that no doubt Mr. Squire thought he was getting a sufficiently good job by raising the level of the wall.—Mr. Upjohn, K.C., having withdrawn the points in this group of claims except that which related to pumping and excavation in connection with the monoliths, the arbitrator gave his decision on the points. He said he could not find that the plaintiffs had made out the claim for extra allowance on the contract price for pumping, and on this point he decided for the defendants. With regard to the claim for 14s. extra on the excavation and pumping work in connection with the dam monoliths, he should allow 3s. extra on a quantity to be adjusted between the parties.—Mr. Upjohn suggested that, in view of that decision, they should try to come to some reasonable arrangement. The Arbitrator said if he could possibly do anything to shorten the case he would.—Mr. Inskip, on behalf of the Docks Committee, said he could not deal with large sums without consulting the gentlemen who had already decided upon the matter before.—After further discussion, the hearing was adjourned for a time for the purpose of counsel and arbitrator discussing matters in private. At the conclusion of the adjournment

counsel consulted together in Court for some considerable time. Mr. Gore-Browne, K.C., then informed the arbitrator that he was glad to say a figure had been mentioned between the parties which he, on behalf of the Docks Committee, wished to submit to the committee for final instructions. The figure mentioned was on the lines indicated during the adjournment. Counsel suggested that the hearing be adjourned to allow of the matter being considered by the Docks Committee, which met on Tuesday at half-past two. If there was an unfortunate breakdown, they could meet again in that Court on Thursday.—Mr. Hall Blyth: Very well. If the figure you have in your mind is the figure mentioned to me during the interval, as far as my knowledge goes I think it is a fair one, and I trust the Docks Committee will see their way to agree to it.—The hearing was therefore adjourned on the understanding that the parties meet again on Thursday to hear the result of the Docks Committee's consideration. On the resumption of the hearing yesterday (Thursday) morning, the learned Arbitrator said he was pleased to learn that the parties concerned had arrived at a settlement which, from all he could see, ought to be a satisfactory one to both sides. He should therefore give judgement, by consent, for the plaintiffs, to whom was due the further sum of £65,000, in addition to an amount of £34 9s. 4d. paid into Court by the defendant corporation. He further ordered that each party should pay their own costs in the action, and that one-half of his fees as arbitrator, and of the fees of Mr. Sydney Morse, the legal assessor, be paid by either party, and that should either party have paid the full amount of such fees, then the other side must refund their share.

WHAT CONSTITUTES A "NEW BUILDING?"—A case of some interest was decided by Mr. Drummond at the Greenwich Police-court on the 16th inst. arising out of the burning of St. Catherine's Church, at the junction of Pepys and Kitto roads, Hatcham, by suffragettes in May last. The roof of the nave and of the chancel were destroyed, and it was decided, in rebuilding, to slightly lengthen the edifice, and the eastern wall was taken down. Messrs. Stock, Page, and Stock, of Denman-street, London Bridge, S.E., were the architects, and Messrs. Higgs and Hill, Ltd., of Crown Works, South Lambeth, were the builders. The district surveyor for Deptford, Mr. Baxter Greig, A.R.I.B.A., summoned Messrs. Higgs and Hill, as the contractors, for a breach of the Building Act, contending that the rebuilt edifice was a new building, and therefore it was necessary that the doors should open outwards. The definition of a new building relied upon was as follows: "Any building which has been taken down for more than one-half of its cubical extent," cubical extent being defined as "the space contained within the external surfaces of its walls and roof and the upper surface of the floor of its lowest story." The district surveyor contended that, the roof of the building having been removed, it was impossible to calculate any cubical extent of the nave and chancel, and therefore that practically the whole of the cubical extent had been taken down.—Mr. Godlbe, of Messrs. Mackrell, Maton, Godlee, and Quincey, solicitors, who appeared for the defence, contended that a building which had been burned out could not be said to have been "taken down." As a matter of fact, only the east wall had been taken down.—The magistrate, in a considered judgment, decided that, in accordance both with common-sense and the legal construction of the definition, the part "taken down" was only the contents of the roof, and that the repaired building was not a new building, and dismissed the summons.

URBAN COUNCIL AND BUILDER'S PLANS.—In the King's Bench Divisional Court, on Thursday, Justices Ridley, Ivory, and Lush heard arguments on a rule nisi granted, ex parte, to Messrs. Hicare and Co., Ltd., of Fool's Cray, calling upon the local urban district council to show cause why they should not pass certain plans of a building proposed to be erected in their district. The plans related to alterations of a building of the shape of an L. The whole of the upright part of the L had been taken down, put back, and enlarged, and certain alterations were proposed with reference to the remainder of the building. The question arose whether the whole of the building was a "new building" for the purpose of the by-laws, or only such part as was taken down and rebuilt. The builder only submitted plans of the portion to be rebuilt, but had since supplied plans of the remainder. The council disapproved the plans on the ground that they were not in accord with the by-laws. In these circumstances, Messrs. Hoare and Co., Ltd., the owners of the building, obtained a rule nisi

calling upon the council to show cause why they should not approve the plans, and in this way the matter came before the Court. After hearing arguments at some length, their Lordships refused to compel the council to approve the plans, holding that where a person pulled down a part of a building and wanted to re-erect it, the whole of the building, including the part pulled down, must be deemed to be a new building, and must all comply with plans approved by the local authority and complying with the by-laws.

DAMAGE BY VIBRATION.—*Jacobs and Others v. British Oxygen Company, Ltd.*—In the Chancery Division, on Tuesday, Mr. Justice Astley heard an application for an injunction brought by a Mr. Jacobs, the owner of sixteen houses in Fingall-street, Greenwich, and the occupiers of two of the warehouses, to restrain the defendants from carrying on their manufacture in such a way as to occasion a nuisance. Plaintiffs' witnesses stated that the vibration caused by the defendants' engine was so great that the walls of the houses cracked, the gutters fell down, and it was almost impossible to get any sleep. The defendants' engineer said that the vibration caused by the engine was almost imperceptible, while it was further alleged that the cracks in the houses were caused by the sinking of the foundations, which were built on marshy ground. An Admiralty witness stated that any stoppage of the manufacture would just now be a serious matter. Eventually the defendants undertook to purchase from the plaintiff Jacobs certain houses nearest the works, each party to pay his own costs.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (TO-DAY).—Junior Institution of Engineers. "A Model Drawing Office System," by C. E. Ford. 8 p.m.]

SATURDAY (TO-MORROW).—Institution of Municipal Engineers. Annual Meeting at 4, Southampton-row, W.C. 10 noon.

MONDAY.—Victoria and Albert Museum. "French Medieval Architecture," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.

Society of Engineers. "Mechanical Appliances for the Painless Killing of Animals," by S. M. Dodington. 7.30 p.m.

Royal Institute of British Architects. Business Meeting. 8 p.m.

Royal Society of Arts. "The History and Practice of the Art of Printing," Cantor Lecture No. 2, by R. A. Peattie. 8 p.m.

TUESDAY.—Institution of Civil Engineers. "Tests of Reinforced-Concrete Structures on the Great Central Railway," by James Benjamin Ball, M.Inst.C.E. "Corrosion of Steel Wharves at Kowloon," by Somers Howe Ellis, M.Inst.C.E.; and "Concreting in Freezing Weather and the Effect of Frost upon Concrete," by John Hammersley-Heenan, A.M.I.C.E. 8 p.m.

WEDNESDAY.—Royal Archaeological Institute. "Miserere in Bruges Cathedral," by Annie Abram, D.Sc., F.R.Hist.S. Burlington House, W. 4.30 p.m.

Royal Society of Arts. "Britain and Germany in Relation to the Chemical Trades," by Dr. W. R. Ormandy. 8 p.m.

THURSDAY.—British Museum. "The Temple of Diana and Ionic Temples," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.

FRIDAY (DEC. 1).—Town Planning Institute. "The Rushlip-Norwood Scheme," by E. R. Abbott and F. M. Elgood, F.R.I.B.A. 92, Victoria street, S.W. 8 p.m.

Glasgow Architectural Craftsmen's Society. "Reinforced Concrete," by T. G. Gilmour, A.R.I.B.A. 8 p.m.

A fire occurred on Monday night at the works of Messrs. Enoch Tonks and Co., lock manufacturers and brassfounders, Willenhall, near Wolverhampton, a range of workshops and new machinery and finished goods being destroyed. The damage is estimated at £5,000 or £6,000.

A marriage has been arranged between Mr. J. S. Killeck, A.M.Inst.C.E., the county surveyor of Hertfordshire, and Miss Lizzie Sheldon (Cissie) Maybury, elder daughter of Mr. H. P. Maybury, M.Inst.C.E., chief engineer and manager of his Majesty's Road Board, formerly county surveyor for Kent, of Barnesfield, Greenhithe.

At the meeting on Monday, at Maidstone, of the Kent Education Committee, the buildings sub-committee reported that the contract for the sum of £10,164 4s. 6d. for the erection of the County School for Girls at Beckenham had been signed by Mr. J. Elliman. This amount exceeded the tender by £267 4s. 6d., the increase having been allowed in consequence of the enhanced price of materials owing to the war.

Our Office Table.

The old Elizabethan houses in Cloth Fair, which dated from 1597, were finally demolished and cleared away last week. The removal of No. 9, the easternmost of these houses, which abutted against the Church of St. Bartholomew the Great, West Smithfield, has disclosed the exterior of a bay of the nave which has not been seen for over three centuries, and reveals the junction of the 13th-century nave with the 12th century conventual choir. In the wall just uncovered can be seen a decayed Early English clerestory window of two lights, dating from about A.D. 1250. The Late 12th-century window has been cut out for its insertion. The triforium 12th-century arch is exposed, just as it appears on the inside of the church, as well as that of the ground arcade; and there can be seen very clearly the high arch of the vault of the 13th-century aisle, which was pushed eastward. The vaulting of this later aisle being of a much greater height than that of the Norman period, it penetrated the floor of the triforium, and to hide this penetration the triforium arches of the bay west of the crossing were filled in, as seen now from the interior of the church. The wall, which is cracked and almost shattered, can be well seen from the road in Cloth Fair, standing between Sir Aston Webb's new north transept, with its picturesque turret on the left, and the flint west front and the 17th-century brick tower on the right.

At the club house on the Hampstead Garden Suburb last Friday an address was given by Mr. Raymond Unwin, F.R.I.B.A., who distributed the prizes given in connection with technical education work on the estate. Mr. Unwin pointed out that the holding of classes on the actual building sites (as was done at the Ealing and Hampstead Garden Suburbs) was a unique development of technical training, bringing the brain and the hand into intelligent co-operation. He made an interesting comparison between the insistence of the German system of education on brain work. Their fundamental mistake was that they had put too much stress on thinking and not enough on fooling. British failure, perhaps, had been that we had not thought enough. We ought to have thought more and the Germans ought to have felt more.

At the last meeting of the Trustees of the National Gallery the collection of modern pictures purchased with the proceeds of the second National Loan Exhibition at the Grosvenor Gallery was formally accepted. The works, which have been delivered at the Tate Gallery this week, comprise: "Donkeys and Kites," by Mr. W. W. Russell; "Portrait of Mrs. Patrick Campbell," by Mr. Charles Shannon, A.R.A.; "Kew Bridge," by Mr. H. Muhrman; "The Angler," by Mr. William Orpen, A.R.A.; "Portrait," by Mr. Ambrose MacEvoy; "La Mort du Cygne (Anna Pavlova)," by Mr. John Lavery, A.R.A.; "Ma Si Gyaw, Dancer," by Mr. Gerald Kelly; "The Man in Black," by Mr. Glyn Philpot; "Jane, Evelyn, James, and Helen," by Mr. Philip Connard; "Avignon," by Mr. Oliver Hall; "Masques et Bergamasques—Fan," by Mrs. Mary Davis; and "Paolo and Francesca, Statuette Bronze Group," by Mr. Charles Ricketts.

In lecturing at the Royal Academy on "Modern Pigments," Professor A. P. Laurie showed by a series of interesting experiments why some of the lakes, like crimson lake, are fugitive, and others—for example, the madder—are permanent. Linseed, poppy, and walnut oils, which have been in use since the beginning of oil painting, were reviewed for their special properties. Dr. Laurie remarked that, strictly speaking, these were not "drying oils," for they do not dry, but solidify. Reasons were given for the avoidance of lead compounds, and the preference for cobalt and manganese. The distinctive difference in their effects between spirit varnishes and oil varnishes was next explained, and the instruction not to varnish

with oil or copal was justified. Only spirit varnish, for one thing, can be removed without robbing the paint beneath of its subtle and essential beauties. Petroleum was, on the whole, a better medium than turpentine.

At the meeting on Tuesday of the London County Council it was agreed to sanction the borrowing of £7,721 by the borough council of Southwark for paving parts of the under-mentioned thoroughfares with asphalt in place of macadam—Trafalgar-street, £2,190; Thurlow-street, £2,970; Westmoreland-road, £1,235; South-street, £1,326. It is proposed to substitute for the macadam paving 1 1/2 in. compressed asphalt on 6 in. concrete foundations. A scheme of asphalt paving work has been approved by the borough council, estimated to cost £19,391, and the Road Board has promised a grant of £11,580, leaving £7,721 to be provided otherwise, and for the borrowing of which sanction was now granted. The Appeal Committee reported that they had heard an appeal under Section 211 of the Metropolis Management Act, 1855, by Mr. W. Wallis Baldwin, on behalf of the Alliance Economic Investment Co., against an order made by the Hampstead Borough Council in respect of the drainage of No. 26, Priory-road, Kilburn, N.W. After hearing both parties, the committee dismissed the appeal.

In connection with the walls of a brick building it was desired to clean and brighten the terracotta dressings, the bricks being of a deep tan colour, while the terracotta was of a light cream that had turned dark and was unsightly from many years' exposure. The "Painters' Magazine" says: "The simplest way to accomplish this is to mix 2lb. of powdered pumice and 1 pint of liquid ammonia with 1gal. of soft soap, applying the mixture to the surface to be cleaned with a fibre wall-brush, allowing it to remain about thirty minutes. Then rub briskly with a good scrubbing-brush. When on trial it shows that the compound has done its work, clean it off with lukewarm water by using a large sponge, and rinse, if possible, with a hose, otherwise with the sponge and a liberal supply of clear water. If after drying the terracotta appears dull it may be revived by rubbing it over with a cloth saturated with kerosene oil."

The National Radiator Company, Ltd., 439 and 441, Oxford-street, London, W., is issuing copies of two new sheets which it is distributing to the architects and heating trade, giving particulars respectively of the Ideal No. 3 G Series boilers, and of the various types of headers designed for use in connection with these and the No. 2 G Series and 3 F Series boilers. The company will be pleased to send copies of the sheets to anyone interested who may not have received the same. The No. 3 G Series boilers are regularly supplied in eight sizes each for steam and water, ranging in capacity from 2,025 to 3,985 square feet of steam radiation, and from 3,600 to 7,100 square feet of water radiation. These boilers, as well as the No. 2 G Series, particulars of which have already been sent out, can be arranged when desired for operation with underground flues, an advantage which is of great importance where floor space is restricted. The company is preparing drawings, showing full details of the arrangement, and will gladly supply a copy of the diagrams on request. They will be found most useful and suggestive.

The following mixture has, according to the "Canadian Engineer," long been used by the United States army engineers in water-proofing cement: One part cement, 2 parts sand, 1lb. of dry powder alum to each cubic foot of sand. Mix dry, and add water in which 1lb. of soap has been dissolved to each gallon. This is said to be nearly as strong as ordinary cement, and is quite impervious to water, besides preventing efflorescence. For a wash a mixture of 1lb. of lye and 2lb. of alum in two gallons of water is often used.

The constructional work on the railway from Priska to Upton, on the north west border of the Cape Province, has now been completed. The line, 142 miles in length, follows approximately the course of the Orange River.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Table with columns: Item, Per ton, Per ton. Items include Rolled Steel Joists, English; Wrought-Iron Girder Plates; Steel Girder Plates; Bar Iron, good Staff; Do., Lowmoor, Flat, Round, or Square; Do., Welsh; Boiler Plates, Iron; South Staff; Best Suedebill.

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanized, £14 to £15 10s. per ton.

Table for Galvanized Corrugated Sheet Iron with columns for 6ft. to 8ft. long, inclusive, and 8 1/2 to 12 1/2 B.W.G. per ton.

Wire Nails (Pointe de Paris)—3 to 7 8 9 10 11 12 13 14 15 B.W.G. 8/3 8/9 9/3 9/9 10/3 11/ 11/9 12/6 13/6 per cwt.

Table for Cast-Iron Columns, Cast-Iron Stanchions, Rolled-Iron Fencing Wire, Rolled-Steel Fencing Wire, Cast-Iron Sash Weights, Cut Floor Brads, Corrugated Iron, 24 gauge, Galvanized Wire Strand, 7 ply, 14 B.W.G., B.B. Drawn Telegraph Wire, Galvanized—0 to 8 9 10 11 12 B.W.G. £10 10s. £10 15s. £11 0s. £11 5s. £11 15s. per ton.

Table for Cast-Iron Socket Pipes—3in. diameter, 4in. to 6in., 7in. to 24in. (all sizes) £6 2 6 to £6 7 0 per ton.

[Coated with composition, 5s. 0d. per ton extra. turned and bored joints 5s. per ton extra.] Pig Iron—Cold Blast, Lillieshall 10s. 0d. to 11s. 6d. Hot Blast, ditto 70s. 0d. to 75s. 0d.

Table for Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2 1/2 per cent.)—Gas-Tubes, Water-Tubes, Steam-Tubes, Galvanized Gas-Tubes, Galvanized Water-Tubes, Galvanized Steam-Tubes.

OTHER METALS.

Table for Spelter, Silesian; Lead Water Pipe, Town; Lead Barrel Pipe, Town; Lead Pipe, Tinned inside, Town; Lead Pipe, Tinned inside and outside; Composition Gas-Pipe, Town; Lead Soil-pipe (up to 4 1/2 in. Town); Lead, Common Brands; Lead Shot, in 28lb. bags; Copper Sheets, sheathing & rods; Copper, British Cake and Ingot; Tin, English Ingots; Do., Bars; Pig Lead, in cwt. Pigs (Town); Sheet Lead, Town; Genuine White Lead; Refined Red Lead; Sheet Zinc; Old Lead, against account; Tin; Cut nails (per cwt. basis, ordinary brand).

SLATES.

Table for Blue Portmadoc, Blue Bangor, First quality, Bureka unfading green, Permanent Green, with columns for in. x in. x s. d. per 1,000 of.

BRICKS.

(All prices net.)

Table for Bricks including First Hard Stocks, Second Hard Stocks, Midd Stocks, Picked Stocks for Facings, Firebricks, Best Fareham Red, Best Red Pressed, Raoban Facing, Best Blue Pressed, Staffordshire, Ditto Bullnose, Best 4 Stourbridge, Firebricks, 2 1/2 in. Best Red Accrington Plastic Facing Bricks, 3 1/8" Accrington Best Red Plastic Facing per 1,000 Bricks, Ditto Second Best Plastic ditto, Ditto Ordinary Secondary Bricks, Ditto Plastic Engineering Bricks, Sewer Arch Brick not more than 3/8 in thickest part, 3 1/8" Chimney Bricks fit for outside work, 3 1/8" ditto ditto through and through, 2 1/2" Beaded, Oval and Bevel Jambs; Octagons; 2 1/2" and 3" radius Bullnose; Stock patterns, Accrington Air Bricks, 9" x 2 course deep, each, Ditto ditto 9" x 1 course, Accrington Camber Arches—3 course deep, 4 1/2" soffit, per foot opening, 4 ditto 4 1/2" ditto ditto ditto, 5 ditto 4 1/2" ditto ditto ditto, 6 ditto 4 1/2" ditto ditto ditto, 4 ditto 9" ditto ditto ditto, 5 ditto 9" ditto ditto ditto, 6 ditto 9" ditto ditto ditto. Net free on rail, or free on boat at works.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table for White, Ivory, and Buff, Cream, and Best. Salt Glazed, Buff, Cream, & Bronze. Colours. Second Colours. Stretchers—12 7 6 £10 17 6 £13 17 6 £17 17 6 £19 7 6 Headers—11 17 6 10 7 6 13 7 6 17 7 6 11 17 6 Quoins, Bullnose, and 4 1/2 in. Flats—15 17 6 14 17 6 17 17 6 21 7 6 15 17 6 Double Stretchers—17 17 6 16 7 6 20 17 6 24 7 6 17 17 6 Double Headers—14 17 6 13 7 6 17 17 6 21 7 6 14 17 6 One side and two ends, square—18 17 6 17 17 6 21 17 6 26 7 6 18 17 6 Two sides and one end, square—19 17 6 18 7 6 23 17 6 26 17 6 19 17 6 Splays and Squares—17 7 6 15 7 6 21 17 6 24 7 6 17 7 6 Plinth and Hollow Bricks, Stretchers and Headers—5d. each 4d. each 6d. each 6d. each 5d. each Double Bullnose, Round Ends, Bullnose Stops—5d. each 4d. each 6d. each 6d. each 5d. each Rounded Internal Angles—4d. each 3d. each 5d. each 5d. each 4d. each

MOULDED BRICKS.

Table for Stretchers and Headers—8d. each 8d. each 8d. each 8d. each 8d. each Internal and External Angles—1/2 each 1/2 each 1/2 each 1/2 each 1/2 each Sill Bullnose, Stretchers, and Headers—5d. each 4d. each 6d. each 6d. each 5d. each Majolica or Soft Glazed Stretchers and Headers, per 1,000—£23 17 6 Quoins and Bullnose—27 17 6 Compass bricks, circular and arch bricks of single radius £6 per 1,000 over above list for their respective kinds and colours by 4 1/2 in. 1s. 2d. each. Not exceeding 9 in. by 2 1/2 in.

Stretchers cut for Closers and Nicked Double Headers, £1 per 1,000 extra.

Table for Thames Sand 7 6 per yard, delivered; Pit Sand 7 0; Thames Ballast 6 0.

Best Portland Cement 36 0 to 41 0 delivered; Ground Blue Liss Lime 21 0 per ton delivered.

Exclusive of charge for sacks.

Table for Grey Stone Lime 13 6 to 14 0 delivered; Stourbridge Fireclay in sacks 27s. 0d. per ton at railway station.

STONE.*

Table for Red Mansfield, in blocks, per foot cube £0 2 4; Darley Dale, ditto 0 2 3; Red Corsehill, ditto 0 2 3; Closeburn Red Freestone, ditto 0 2 0; Ancaster, ditto 0 1 10; Greenhill, ditto 0 1 10; Chilmark, ditto (in trunk at Nine Elms) 1 10 1/2; Hard York, ditto 2 0; Do. do. 6in. sawn both sides, landings, random sizes, per foot sup. 0 2 8; Do. do. 3in. slab sawn two sides, random sizes 0 1 3.

* All F.O.R. London.

Bath Stone, delivered on road waggon, Paddington Depot	per foot cube	£ 6 s. d.	0 1 7 1/2
Ditto, ditto, Nine Elms Depot	"	"	0 1 9 1/2
Beer Stone, delivered on rail at Seaton Station	"	"	0 1 1
Ditto, delivered at Nine Elms Station	"	"	0 1 7 1/2
Portland Stone, in random blocks of 20ft. average:—			
Delivered on road waggon	Brown	White	
at Paddington Depot,	White Bed. Base Bed.		
Nine Elms Depot, or	Per foot cube.		
Pimlico Wharf	£0 2 3	£0 2 4 1/2	

TILES.

Plain red roofing tiles	42 0	per 1000	ry.en.
Hip and Valley tiles	3 7	per doz.	"
Broseley tiles	50 0	per 1000	"
Ornamental tiles	52 6	"	"
Hip and Valley tiles	4 0	per doz.	"
Rnabon red, brown, or brindled ditto (Edwards)	57 6	per 1000	"
Ornamental ditto	60 0	"	"
Hip tiles	4 0	per doz.	"
Valley tiles	3 0	"	"
Selected "Perfecta" roofing tiles: Plain tiles (Peake's)	46 0	per 1000	"
Ornamental ditto	48 6	"	"
Hip tiles	3 10 1/2	per doz.	"
Valley tiles	3 4 1/2	"	"
"Rosemary" brand plain tiles	48 0	per 1000	"
Ornamental tiles	50 0	"	"
Hip tiles	4 0	per doz.	"
Valley tiles	3 8	"	"
Staffordshire (Hanley) Reds or brindled tiles	42 6	per 1000	"
Hand-made sand-faced	45 0	"	"
Hip tiles	4 0	per doz.	"
Valley tiles	3 6	"	"
Hartshill "brand plain tiles, sand-faced"	40 0	per 1000	"
Pressed	47 6	"	"
Ornamental ditto	50 0	"	"
Hip tiles	4 0	per doz.	"
Valley tiles	3 6	"	"

OILS.

Rapeseed, English pale, per tun	£28 15 0	to	£29 5 0
Ditto, brown	26 15 0	"	27 5 0
Cottonseed, refined	29 0 0	"	30 0 0
Olive, Spanish	39 10 0	"	40 0 0
Seal, pale	21 0 0	"	21 10 0
Cocunut, Cochin	45 0 0	"	46 10 0
Ditto, Ceylon	42 10 0	"	43 0 0
Ditto, Mauritius	42 10 0	"	43 0 0
Palm, Lagos	32 5 0	"	33 5 0
Ditto, Nut Kernel	35 0 0	"	35 10 0
Oleine	17 5 0	"	19 5 0
Sperm	30 0 0	"	31 0 0
Lubricating, U.S.	0 7 0	"	0 8 0
Petroleum, refined	0 0 6 1/2	"	0 0 6
Tar, Stockholm	1 6 0	"	1 10 0
Ditto, Archangel	0 19 6	"	1 0 0
Linseed Oil	0 2 5	"	—
Baltic Oil	0 2 9	"	—
Turpentine	0 3 1	"	—
Putty (Genuine Linseed Oil)	0 9 0	"	—
Pare Linseed Oil	0 9 0	"	—
"Storty" Brand	0 9 0	"	—

GLASS (IN CRATES).

English Sheet Glass: 15oz.	21oz.	26oz.	32oz.
Fourths	4 1/4	5 1/4	6 1/4
Thirds	4 1/4	5 1/4	6 1/4
Fluted Sheet	4 1/4	5 1/4	—
Hartley's English Rolled Plate	4 1/4	5 1/4	6 1/4
White	4 1/4	5 1/4	6 1/4
Tinted	4 1/4	5 1/4	6 1/4

VARNISHES, &c.

Fine Pale Oak Varnish	£0 8 0
Pale Copal Oak	0 10 0
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of churches	0 14 0
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Finest Pale Durable Copal	0 15 0
Extra Fine French Oil	1 1 0
Eggshell Flating Varnish	0 18 9
White Copal Enamel	1 4 9
Extra Pale Paper	0 13 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brownish Black	0 8 0
Berlin Black	0 16 0
Knottling	0 10 0
French and Brush Polish	0 10 0

TRADE NOTES.

Under the direction of Mr. James Lee, C.E., borough surveyor, Paisley, Boyle's latest patent "Air-pump" ventilators have been applied to the new swimming pool, Paisley.

The order for the asphaltating at the extensions to the National Gallery, under H.M. Office of Works, has been placed with Charley's Patent Asphalt Company, Ltd., of 3, Central Buildings, Westminster. This firm also have in hand the asphaltating of the offices for the New Zealand Government, 413-416, Strand, and Royal Mews, Buckingham Palace.

Mr. W. Matthew Jones, city surveyor and engineer for the city and county borough of Chester, has been elected as President of the Institution of Municipal Engineers for the coming session.

Telephone: DALSTON 1388.

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TENDERS.

** Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ALDERSHOT.—For the construction of temporary buildings of corrugated iron at the isolation hospital, for the urban district council:—
 McMauns (accepted) ... £233 0 0

BANBURY.—For the construction of main sewers, pump well, storm-water tanks, the erection of engine house and refuse destructor, for the corporation. Messrs. Wilcox and Raikes, engineers:—
 Sewers, &c.
 Page, E. H., Cardiff ... £24,950 6 9
 Childs and Withers, Worcester ... 19,851 0 0
 Firth and Co., Derby ... 18,940 0 0
 Boswell, M. A., and Co., Ltd., Wolverhampton ... 17,857 16 0
 Elvins, T., & Sons, Birmingham ... 17,770 0 0
 French, W. and C., Buckhurst Hill ... 17,623 7 2
 Shardlow, J. J., Leicester ... 16,753 0 0
 Rowell and Sons, Chipping Norton ... 16,724 0 9
 Vale, T., and Sons, Ltd., Stourport ... 16,461 11 2
 Refuse destructor.
 Dawson and Mansfield, Manchester (accepted) ... 1,400 0 0
 Pumping plant.
 Tangye, Ltd. (accepted) ... 2,124 0 0

BASINGSTOKE.—For the execution of sanitary works at the workhouse and infirmary, for the guardians. Messrs. Wallis and Smith, Church-square, Basingstoke, architects:—
 Goodall and Son ... £153 0 6
 Beaford and Son ... 138 12 6
 Kingston and Co. ... 103 10 6
 Blunden and Oliver ... 88 11 0
 Tigwell, W. H. ... 88 0 0
 Milson and Son ... 73 5 0
 (All of Basingstoke.)

BURLEIGH.—For effecting alterations to Basford Hall, to adapt the premises for use as a children's home, for the Wolstanton and Burstlem Board of Guardians:—
 Sambrook, J. T., Burstlem (accepted) £31 0 0
 (In lieu of tender from J. Holding, withdrawn since acceptance.)

CASHEL.—For constructing waterworks, for the urban district council. Mr. F. Birgin, 36, Westmoreland-street, Dublin, borough engineer:—
 McNally, H. C., Dublin ... £2,467 10 0
 Make, P., Dublin (accepted) ... 2,063 0 0

DEMBARTON.—For granolithic work in connection with the new playsheds at West Bridgend school, for the school board:—
 McCallion, P., Dumbarton ... £714 0 0
 (Recommended for acceptance.)

EAST PRESTON.—For erection of four groynes and a concrete retaining-wall for protection of the sea road from Littlehampton, for the rural district council:—
 Peskett and Son, Angmering ... £825 0 0
 (Accepted.)

EXETER.—For alterations and additions to Nos. 45 and 47, Southerhay West, and No. 9, Lower Summerlands, Exeter, for the guardians. Mr. R. M. Challice, 7, Bedford Circus, Exeter, architect:—
 Nos. 46 and 47, Southerhay West.
 Francis, F. D. ... £2,122 1 3
 Soper and Ayers ... 2,072 6 9
 Setter, G., and Son ... 2,043 10 0
 Ham and Passmore ... 1,820 0 0
 Westcott, Austin, and White ... 1,710 9 0
 Coll, G., Alplington* ... 1,627 18 8
 Dart and Francis, Crediton (part only) ... 297 0 0
 No. 9, Lower Summerlands.
 Francis, F. D. ... 890 3 3
 Setter, G. ... 850 0 0
 Westcott, E. H. ... 840 0 0
 Ham and Passmore ... 800 0 0
 Stephens, J. ... 731 10 0
 Soper and Ayers ... 723 0 0
 Lake, J. H. ... 707 12 0
 Westcott, Austin, and White* ... 677 0 0
 * Accepted. Rest of Exeter.

GLOUCESTER.—For alterations and additions to the Stratton-road Bakery, for the Gloucester Co-operative and Industrial Society. Mr. E. A. Pryer, L.R.I.B.A., 18, Clarence-street, Gloucester, architect:—
 Jones, W. ... £993 0 0
 Williams, T. J. ... 876 0 0
 Halls, W. J. B. ... 849 0 0
 Kingscott and Winfield ... 785 0 0
 Simmonds, Conduit-street ... 750 0 0
 (All of Gloucester.)

FULWOOD.—For the erection of a cottage at their hospital in Sandy-lane Fulwood, for the Preston, Fulwood, and Longridge Joint Hospital District. Mr. W. D. T. Munford, L.R.I.B.A., 12, Guildhall-street, Preston, architect:—
 Kay, T., and Son ... £169 10 8
 Cottam, T. ... 453 0 0
 Rimmer and Walker ... 439 0 0
 Cartmell, J., and Sons, Ltd. ... 425 5 6
 Colley T. R. (accepted) ... 392 19 4
 (All of Preston.)

GREENWICH, S.E.—For the erection of tuberculosis dispensary at Maze Hill, for the Greenwich Borough Council:—
 Gorham, F. J., Greenwich ... £2,293 0 0
 Smith, W., and Sons, Ltd., Croydon ... 2,100 0 0
 Hollingsworth, H. H., Peckham ... 1,977 0 0
 Shorter, J. T., Greenwich ... 1,945 0 0
 Darch, J., Whitefriars-st., E.C. ... 1,870 0 0
 Mills, E., Blackheath ... 1,797 0 0
 Wals, J., Catford ... 1,795 0 0
 Mills, W., and Sons, Ltd., Blackheath ... 1,759 0 0
 Collings, C., Dartford* ... 1,500 0 0
 * Recommended for acceptance.

HALIFAX.—For supply and fixing of a meter testing equipment, one switchboard, and two moving coil instruments, at the electricity works, for the tramways, &c., committee:—
 Crompton and Co., Ltd., Chelmsford ... £215 9 0
 (Recommended for acceptance.)

HASTINGS.—For the alteration and enlargement of the public health committee:—
 Richford, A. E., Hastings ... £305 19 8
 (Accepted.)

HAWARDEN.—For erection of a public convenience, for the rural district council:—
 Astbury, W., Penryford ... £260 0 0
 Roberts, D. H., Hops ... 240 0 0
 Edwards, A., Cymmon ... 234 0 0

HAYWARDS HEATH.—For construction of a Congregational church in South-road, Haywards Heath:—
 White, T. (accepted) ... £2,219 4 9

HUNGERFORD.—For erection of eight cottages, for the rural district council:—
 Curtis, R., Reading (accepted) ... £1,450 0 0

KILBURN, N.W.—For the supply and erection of wrought-iron boundary fencing at the extension of Kilburn Grange Park, for the London County Council:—
 Hill & Smith, Ltd., Brierley Hill ... £55 17 0
 Bayliss, Jones, and Bayliss, Ltd., Cannon-street, E.C. (accepted) ... 50 14 0

KINGSTOWN.—For the erection of artisans' dwellings, for the urban district council. Mr. C. D. Duolop, 2, St. Andrew-street, Dublin, architect. Quantities by Mr. Thomas F. Slevin, St. Stephen's-green, Dublin:—
 Beckett, J., and Sons, Dublin ... £7,998 0 0
 Fraser, A., and Co., Dublin ... 7,400 0 0
 O'Brien, M., Kingstown ... 7,143 11 7
 Duncan and Son, Dublin ... 7,060 0 0
 Weaver, F., Kingstown ... 7,001 0 0
 Pemberton, H., and Sons, Ballybrack, Co. Dublin (accepted) ... 6,298 0 0

LANCING.—For the construction of a groyne, 180ft. in length, and the formation of a shingle bank on the foreshore at West Lancing, east of shop's Dam, for the Lancing Sea Defences Committee:—
 Oseaton, A. G., Horsham ... £1,289 18 3
 British Steel Piling Co., Billiter-street, E.C. ... 781 1 2
 Swales, W., Southwick ... 375 6 5

LEITHAM.—For the erection of a central tuberculosis dispensary, for the tuberculosis committee:—
 Kelly, Longford ... £780 0 0
 McNutt, W. J., Carrick-on-Shannon ... 725 0 0
 B. McDermott (accepted) ... 695 10 0

LEYTON.—For the internal painting and cleansing of two schools, for the Education Committee of the Leyton Urban District Council. Mr. William Jacques, A.R.I.B.A., 2, Fen-court, London, E.C., architect to the committee:—
 Davies-lane school.
 Hare, C., and Co. ... £727 0 0
 Coxhead, F. J. ... 695 0 0
 Vigor, J., and Co. ... 591 0 0
 Smith, G. H. ... 519 0 0
 Blow, S., Ltd. ... 500 0 0
 Inns, A. H. ... 497 0 0
 Fenn, J. S. ... 475 0 0
 Horswill, H. C. ... 455 0 0
 Clemens, W. J. ... 420 10 0
 Kemp, C. J. ... 397 10 0
 Woollaston, R., and Co. (accepted) ... 358 0 0
 Harrow-green schools.
 Jarman and Martin ... 530 0 0
 Hare, C., and Co. ... 475 0 0
 Vigor, J., and Co. ... 444 0 0
 Blow, S., Ltd. ... 351 0 0
 Inns, A. H. ... 335 0 0
 Fenn, J. S. ... 325 0 0
 Clemens, W. J. ... 310 0 0
 Woollaston, R., and Co. ... 306 0 0
 Kemp, C. J. ... 305 0 0
 Horswill, H. C. (accepted) ... 287 0 0

LEYTON.—For the improvements to heating, Mayville-road schools, for the education committee of the Leyton Urban District Council. Mr. William Jacques, A.R.I.B.A., 2, Fen-court, E.C., architect to the committee:—
 Bridgland, A. and C., Ltd. ... £277 0 0
 Whitty's, Ltd. ... 225 0 0
 Coxhead, F. J. ... 197 15 0
 Davies, Frank (accepted) ... 185 0 0
 (Continued on page XVII.)

LIST OF COMPETITIONS OPEN.

Dec. 4—Tuberculosis Hospital, Southend-on-Sea.....	£100, £50, £25.....	E. J. Elford, M.I.C.E., Boro' Eng., Town Clerk's Office, Southend-on-Sea.
" 7—New Secondary School for Girls, Luton	10ths. Each Unsuccessful Selected Competitor	W. W. Marks, Clerk, Shire Hall, Bedford.
" 31—Planning Workmen's Settlement, Campine Coalfield ...	£400, £240	M. le Président de la Commission pour l'Amenagement des Agglomerations Industrielles, Rue de Louvain, Brussels.
" 31—Workmen's Houses, Dumfries .....	.....	The Town Clerk, Dumfries.
Feb. 8—Designs for Workmen's Dwellings (500 persons), Rathbone-street Area, Liverpool. (H. Hartley, F.R.I.B.A., Assessor)	£100, £50, and £25	E. R. Pickmere, Town Clerk, Municipal Offices, Liverpool.
No date—Sewage Disposal Works, Elland	Urban District Council	J. Clarkson, Clerk, Council Offices, Elland.

LIST OF TENDERS OPEN.

BUILDINGS.

Nov. 28—Isolation Hospital, Ward Block at, Harrow	Urban District Council	J. Strachan, Clerk, Council Offices, Harrow.
" 28—House and Shop, Kells, Whitehaven .....	.....	J. S. Stout, Archt, 36, Lowther-street, Whitehaven.
" 28—Six Cottages, Alderton	Winchcombe R.D.C.	T. Malvern, L.R.I.B.A., 21, Winchcombe-st., Cheltenham.
" 28—School, Additions to, Woodroyd	Bradford Education Committee	The City Architect, Town Hall, Bradford.
" 28—School (350 places), Newburn Hall-on-Tyne	Northumberland Education Com.	C. Williams, Sec., The Moothall, Newcastle-on-Tyne.
" 28—Cottages (12), Winchcomb	Rural District Council	T. Malvern, L.R.I.B.A., 21, Winchcombe st., Cheltenham.
" 30—Post Office, Enlargement of, Surbiton	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
" 30—Schools, Alterations to, Blaengarw	Glamorgan County Council	The Clerk, County Hall, Cardiff.
" 30—Six Houses, Eddisbury	Northwich Rural District Council	E. T. Ward, Brockhurst street, Northwich.
" 30—Three Houses Chopwell	Annfield Plain Indus. Co-op. Soc.	G. T. Wilson, L.R.I.B.A., 22, Durham-road, B'ackhill.
" 30—New School, Hendreforgan, near Giffach Goch	Glamorgan County Council	The Clerk, County Hall, Cardiff.
" 30—House, Manchester-road, Lintwhaite .....	.....	Lunn and Kaye, Archts., Millsbridge.
" 30—Ward and Bathroom, Isolation Hospital, Aylesbury.....	Urban District Council	W. H. Taylor, Eng., Town Hall, Aylesbury.
D. C. 1—Mortuary & Extension at Workhouse, Woodfield-rd. W.	Paddington Guardians	E. H. Sim, Archt., Mowbray House, Norfolk-st., Strand, W.C.
" 1—Pavilion, County Sanatorium, Wolsingham	Durham County Council	T. Sharp, A.R.I.B.A., Shire Hall, Durham.
" 1—Recreation Ground, Timber-framed Shed at, Aldershot	Urban District Council	F. C. Uren, Sur., Council Offices, Aldershot.
" 1—Store Sheds, Gosforth	Urban District Council	G. Nelson, A.M.I.C.E., Council Chambers, High-st., Gosforth.
" 2—Fire Station, Cwmbran	Llantarnam U.D.C.	A. G. Jones, Sur., Council Offices, Cwmbran.
" 2—Skylights over Women's Baths, Leaf-st., Manchester ...	Corporation	The City Architect, Town Hall, Manchester.
" 2—School, Crowcroft Park, Longsight, Manchester	Education Committee	The Architect, Education Offices, Deansgate, Manchester.
" 2—School, Crowcroft Park, Longsight, Manchester	Education Committee	The Clerk, Education Offices, Deansgate, Manchester.
" 2—Stables and Cart Shed, Cramlington	Urban District Council	W. J. Couleau, Sur., Council Office, Cramlington.
" 2—Blaentillery Infants' School, Extension of, Abertillery	Education Committee	W. H. Hiley, Archt., Chapel-street, Abertillery.
" 2—Medical Superintendent's House, Acton-lane, Willesden	Guardians	J. Cash, F.R.I.B.A., Archt., 22, Surrey-street, Strand, W.C.
" 3—Isolation Hospital, Boiler House at, Ipswich	Corporation	J. R. Mead, Boro' Eng., Town Hall, Ipswich.
" 3—Buildings, Repairs to (Three Years), Chester District ...	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
" 3—Hostel, Dyke road, Brighton	Education Committee	T. Simpson and Son, 16, Ship-street, Brighton.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House,

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OUR ILLUSTRATIONS.

House at Lympne, Kent, for Sir Philip Sassoon. View and plans. Messrs. Herbert Baker and Ernest Willmott, F.R.I.B.A., Architects.

The "Cathedral," St. Bertrand de Comminges, France. Interior view, showing Choir Stalls and Organ.

Carved Ivories, 12th and 14th Centuries. Drawn by Mr. Ernest A. S. Benney, A.R.C.A.

Corpus Christi College Quad and Gateway, Oxford. Sketched by Mr. Ernest A. S. Benney, A.R.C.A.

Haggerston Castle, Northumberland. Detail of Great Hall. Geometrical Section and Photograph of Fireplace. The late R. Norman Shaw, R.A., and Mr. James B. Dunn, F.R.I.B.A., Architects.

UNHEALTHY SCHOOLS.

There is an old Spanish proverb which says:—"The two greatest evils in life are a through-draught and a scolding wife." And another:—"Beware of a through-draught and a kicking donkey." Uncle Toby recognised the truth of these maxims when, addressing Corporal Trim, he said: "Now let us have a little fresh air; but not a draught. I hate a draught."

Commander Peary, on his return from the North Pole, stated, in one of his lectures, that during the whole period of the expedition he had never once contracted a "cold"; but since his return to civilisation he had hardly been free from one, which he attributed to draughty rooms and halls. It is safe to say that this is the cause of a large percentage of "colds." The ventilation of many of our schools leaves much to be desired in this respect, and is anything but creditable to our boasted progress in practical hygiene. An example of this may be found in the method employed in some schools, consisting solely of open windows, or openings in the upper parts of the windows, through which the wind blows unobstructedly into the classrooms, and descends upon the unprotected heads and bodies of the children. Is it to be wondered at that, subjected to such conditions in winter weather, "colds," catarrh, pneumonia, and other kindred complaints are then so prevalent amongst schoolchildren?

Where openings exist in the upper portions of the windows on opposite sides of a classroom, the evil is accentuated owing to the through-draught created by the cross-currents, and which constitute a distinct menace to health, as the descending current of cold air cools and presses down the warmer ascending air charged with the poisonous products of respiration and exhalations from the body to be rebreathed. What, therefore, to the uninitiated would seem to be a healthful supply of fresh, pure air, is in reality—when provided in such a manner—rather a danger to health than a benefit. Truly, in this application, "A little knowledge is a dangerous thing."

There is a beautiful building in Jeypur named the "Palace of the Winds," being so constructed as to permit of the wind from any quarter blowing freely through it; an admirable arrangement for India, but applied to schools in this country, with our winter climate, in the form of open windows, as senseless as it is dangerous. The Board of Education should certainly see to it that less-trying means, in cold weather, are employed.

Ventilation that consists of draughts, all

draughts, and nothing but draughts is as pernicious as it is uncomfortable, and the Society for the Prevention of Cruelty to Children would, we think, be justified in intervening in all cases where schoolrooms are ventilated in the wintertime solely by open windows, or by openings in the upper parts of the windows, causing cross-currents and down-draughts of cold air. We are also of opinion that parents would be justified in refusing to allow their children to attend schools so ventilated; for, if ever there was a case where the remedy was worse than the evil, assuredly this is one.

We opine that not many architects, if any, approve of such a mode of ventilating schools, as from their experience they must be well acquainted with its drawbacks. If a purely technical matter, such as ventilation is, was left more entirely in the hands of the architect, who, from his training and practical knowledge, should be best qualified to successfully deal with the requirements, there would be fewer failures to record.

Another serious objection to the indiscriminate use in cold weather of large openings in the upper parts of the windows of schoolrooms is that the descending cross-currents of cold air, when the heating arrangements are in use, fall upon the children sitting in the lower strata of warmed air. The danger and discomfort of this may be exemplified by a description of what used to be one of the most agonising tortures inflicted by the Inquisition. The lower half of the body of the unfortunate victim was submerged, in a standing position, in a receptacle formed in the ground filled with hot water, the top being covered over closely round the body, and a spray, or douche, of cold water then descending from above on to the exposed upper half of the body. The difference thus created in the temperature of the lower and of the upper parts of the body acting upon the circulation and the nervous system induced an irritation so intolerable and unendurable that madness usually ensued, followed by death from pneumonia. Now, startling as it may appear, this irritation is precisely what is experienced in a modified form in the case of children occupying classrooms when the heating arrangements are in use, and where cross-currents of cold air entering through openings in the upper parts of the windows are precipitated upon the scholars sitting in the warmed air below. Can it therefore be wondered at that in schools so ventilated the children get irritable and restless, and that the teachers are in no better case? Even "open-air" classes would be preferable, if they were possible

in the winter, as the temperature of the air surrounding the children would then be practically the same throughout—the less important thing if their health and comfort are to be conserved. In warm or temperate weather, when the heating arrangements are not in use, window ventilation, so far as draughts and differences in temperature are concerned, is not then so objectionable, the temperature of the outer and of the inner air being more equal.

"Fresh-air" - at - any - price enthusiasts have certainly a good deal to answer for, the toll exacted, in the form of illness and discomfort arising from draughts, being a heavy one. In their contention that cold air "hardens" one, and is therefore beneficial, they make the fundamental mistake of confounding the bracing cold air of outdoors with cold draughts indoors—two very different things, having results as opposite as the Poles.

The old saying: "When the wind is in the East, it's neither good for man nor beast," doubly applies in this case, when the biting winter blast, not "tempered to the shorn lamb," blows through heated classrooms in icy cross-currents from which there is no escape, and which might make even the "hardened" enthusiast, if subjected to them, admit that it was possible to have "too much of a good thing"—even fresh air—and that so chilly a draught was literally "an ill wind that blows nobody good." In schools where cross-currents form the sole means of ventilation, the window openings may never be closed—even in the coldest and most inclement weather—as to do so would mean asphyxiation, and if kept open on one side only of the classroom, the cold air would still enter and descend on to the children with the inevitable results. Simple holes in the walls—which window openings are—as a means of ventilation may possibly in primitive times have been very acceptable to the Troglodytes, but hardly creditable to the resources of our present-day civilisation, nor—may we say?—to those responsible for the employment of such "methods of barbarism," which applied to classrooms, only "adds to the ill it is sought to cure." If a false spirit of economy is the reason for this, though one can hardly imagine such short-sighted parsimony in such a vital matter, the sooner a change is made the better will it be for the welfare of the children. It may be accepted as a well-ascertained fact that down-draught ventilation, whether by cross-currents from window openings, or from any other source, is fundamentally wrong, and cannot fail, for the reasons

stated, to prove an injury to health, instead of an aid to it.

Dr. Parkes, in his "Manual of Hygiene," says:—"Air is the prime supporter of life; health, even life itself, is dependent upon its purity. Statistical inquiries prove beyond a doubt that of the causes of death which are usually in action, impurity of the air is the most important." It seems to us that "Nature" points unerringly to the only practical and satisfactory solution of this question, and that is, to change the air in classrooms in accordance with the natural laws which control the movement of air, and, as the warm, vitiated air ascends, to withdraw it at the higher levels of the room, the fresh-air supply being provided at the lower levels, distributed in such a manner as to avoid draughts. Surely, at this day, when sanitary science is supposed to be at its zenith, some practical means exist whereby this may be achieved in a simple and effective manner! Or must it be confessed that in this matter we are no further advanced than in the Dark Ages? It would be a sorry reflection indeed on our engineers and sanitarians.

We give a few extracts from some published notes on school ventilation, which may be of interest in this connection:—

"The efficient ventilation of schoolrooms is of the very first importance. Healthy bodies make healthy minds, and children who pursue their studies in a pure atmosphere, not overheated, and free from draughts, make much better progress than children who are confined in badly-ventilated, overheated, and draughty rooms.

"The greatest care should be taken to prevent down-draughts in cold weather, such as proceed from open windows or adjustable ventilators forming the upper parts of the windows, and which permit large bodies of cold air to blow directly into the classrooms and descend upon the heads of the children, cooling and returning the ascending expired air to be re-breathed. This is one of the most pernicious forms of ventilation that could be employed in cold weather, and is not only a source of discomfort to the children and to the teachers, but a prolific cause of illness and disease.

"Hot air should never be used for the combined purposes of heating and ventilation, as air raised to a temperature such as is required to effectively heat a building is thereby greatly deteriorated, the oxygen being to a certain extent destroyed, and the bracing and tonic qualities of the air reduced.

"The leading authorities are unanimous in condemning heating by hot air as undesirable and injurious to health: 'Heating should be done by means of radiant heat, and not by means of air previously warmed. If air was previously warmed it would lose a portion of its oxygen, and if we got air short of oxygen we had to breathe a greater number of times to supply the required amount, and that meant more effort.'

"In warm weather, open windows may safely be resorted to, to supplement the ventilation, as there is not then the same danger from draughts as in the winter, when special ventilating arrangements are most required, and are, indeed, absolutely necessary to insure a continuous change of air without dangerous draughts. Great care should, however, be taken in the selection of ventilators, as it is essential to the success of a natural system of ventilation that both the outlet and inlet ventilators be of correct construction and skilfully applied."

Parkes says: "Ventilation is a science, and it requires the study of a lifetime to master properly all its intricacies. The greatest engineering skill is necessary in the arrangement of tubes, and the supply of fresh air."

"When the temperature of the air in a class-room is from 60 deg. F. to 65 deg. F., the air is expelled from the lungs at a temperature of from 85 deg. F. to 90 deg. F., and, along with the heat exhalation, from the body, a condensation of the upper part of the room from whence it should be drawn off, and not permitted to return to be re-inhaled."

The statistics given point to the town where the schools are ventilated on the down-draught principle, to have the "highest" of the disease suffered in Scotland. So far as the children in the school are concerned, this is easily accounted for, as the warm inhaled air expelled from the lungs of those suffering from the disease is returned by the descending current, and is not only re-inhaled,

but is also breathed by the other scholars. This is how infection is spread.

"It is well known to sanitarians that such a mode of changing the air is inimical to health, being not only a direct cause, but also a fruitful means of disseminating disease."

"The extraction should, therefore, always be from above, which can easily be effected by the intelligent utilisation of the powerful and inexhaustible natural forces which are continuously at work, owing to the never-ceasing movement which exists in the atmosphere, and without the aid of costly mechanical appliances, which have not been found in actual practice to be so efficient or reliable as natural ventilation scientifically applied.

"After several tests in schools ventilated on each system, it was clearly demonstrated that in none of the schools examined and ventilated mechanically by extraction—even in a new school opened for a week or two—was the air found to be more pure than in those examined and ventilated naturally without any mechanism.

"Draughts existed in the upper levels of every room ventilated mechanically by extraction, while the halls of such buildings were generally full of draughts."

"The experience gained by visiting several schools where the 'Plenum' system is installed tends, even then, to the conviction that complete freshness is only assured when mechanical methods of changing the air can be supplemented by 'natural'; otherwise a stale, stuffy smell is usually unpleasantly perceptible to sensitive nostrils."

To subject young and delicate children for hours together, in the depth of winter, to a continuous down-draught from cross-currents of icy-cold air from window openings, with all the misery and suffering entailed, is a regrettable misconception on the part of those responsible, of the first duty of their trust—the welfare of the children; they "sow the wind," but the helpless little ones "reap the whirlwind." Never was a supply of healthy, vigorous children more necessary to our nation than now, and any conditions that militate against this much-to-be-desired consummation is an irreparable loss. The sooner a Minister of Public Health—so long talked about—is appointed the better it will be for the health of the community. Meanwhile, a Royal Commission would help to strengthen the hands of the Board of Education in adequately dealing with this vital question, which, as it stands, is nothing short of a "crying evil."

THE LONDON COUNTY COUNCIL.

The London County Council, at their meeting on Tuesday, agreed to sanction the borrowing by the Deptford Borough Council of £9,084, towards the cost of street improvements in the Stanstead-road-to-Malpas-road thoroughfare (including Broekley-road bridge) and in Queen's-road. Similar applications from the Islington Borough Council for sanction to borrow £4,975 for expenditure upon electricity mains, transformers, house services and meters; to Southwark Borough Council for £2,518 for provision of a mortuary, and to Stoke Newington Borough Council for town-hall extension were granted.

Leave was granted to Mr. W. B. Dalton, principal of the Camberwell School of Arts and Crafts, to accept the invitation of the President of the Board of Education to serve for a further period of three years on the committee of advice for art education.

The Improvements Committee recommended that contributions be made of two-thirds of the net cost of the widenings of Merton road (i.) at St. Barnabas terrace, (ii.) adjoining the Acme Laundry, and (iii.) near Coronation gardens, proposed to be executed by the Wandsworth Borough Council, at an estimated cost of £1,063. The effect of the proposals will be to increase the width of the important connecting road between Wandsworth and Wimbledon for a total distance of 600ft., to a width varying from 11ft. to 54ft.

The Asylums Committee reported that, in consequence of the war, large timber of yellow deal, the use of which for roofing and

other purposes is specified in the contract with Messrs. Leslie and Co. for the erection of the eleventh asylum, is unobtainable. The committee have, therefore, authorised the substitution of pitch-pine, and have agreed to pay Messrs. Leslie and Co. the sum of £1,250 additional to the regular contract prices, to cover the extra cost of this substitution and any other advance in cost of materials which has resulted, or may result, from the outbreak of the present war. This extra is a charge against the capital estimate of £517,970 for the erection and equipment of the asylum.

Mr. J. D. Gilbert inquired of Mr. Harold Parsons, the chairman of the Stores Committee, if there was any truth in a statement made by Mr. Joynton-Hicks in the House of Commons, to the effect that the Council had cancelled a contract with the British Petroleum Company, on the ground that the shares were largely in German hands. Mr. Parsons replied in the negative, but added that it was not proposed to invite the company to tender for the contract for 1915. The British Petroleum Company was registered in Great Britain, but about 90 per cent. of the shares were held by a company registered in Bremen, and the British Petroleum Company was unable to give any assurance to the committee that there was anything like a majority of British shareholders. It was not proposed to interfere with the present contract, which would expire at the end of this year. Its amount was £196, and the new contract with the Anglo-American Oil Company for a similar quantity of oil was £153, or £43 less.

INSTITUTION OF MUNICIPAL ENGINEERS.

SIXTH ANNUAL MEETING.

At the sixth annual meeting of the Institution of Municipal Engineers, held last Saturday, the Council reported that at June 30, 1913, the roll of the Institution was 915, consisting of 728 members, 120 associate members, and 67 students. At June 30, 1914, the roll was 895, consisting of 704 members, 124 associate members, and 67 students. During the year 22 members, 13 associate members, and 7 students were elected, and 5 associate members were transferred to membership. The losses resulting from death, resignation, erasure by change of appointment and other causes amount to 51 members, 4 associate members, and 7 students. The financial report shows again an excess of income over expenditure on the year's working, amounting in this instance to £36 5s. 6d., and making an accumulated balance of £392 4s. 6d., notwithstanding that during the year £100 has been laid aside as a provision against "irrecoverables."

ARCHITECTS' REGISTRATION BILL.

The Architects' Registration Bill was before the Council, and the general purposes committee on several occasions, and its provisions were very fully considered. As a result, the Council decided that the Institution oppose the Bill unless municipal engineers be either registered under the Act or exempted from its operation, and the Society of Architects were informed of such decision. It was then proposed by the Society that a conference of representatives of the two bodies be held, and this course has been agreed to. The conference has not yet been held.

The usual business having been transacted, the following papers were read:—

THE FUTURE CONTROL AND MAINTENANCE OF RURAL ROADS.

By J. S. Wooddisse, M.Inst.Mun.E.,
Surveyor to the Shardlow Rural District Council.

That some change in the management of our rural roads is necessary is indisputable, both in the interests of uniformity and of equalisation of cost. The contention of the author is that it is essential in the interests of efficiency and economy that local authorities should retain some measure of control over the roads in their area, subject, of course, to a certain measure of national supervision, where

assisted by national funds, and in some cases even where not so assisted. To place the whole of the roads in England and Wales, as has been suggested, into the hands of some sixty county councils, whose multifarious duties are already getting beyond their capability of control, and the local knowledge and interest of whose members is in many cases confined to their immediate division, would inevitably result in practically the whole of the control being placed in the hands of the county surveyor, who would become a sort of county potentate, with powers beyond those which ought ever to be vested in one who has had the training in humility of a district surveyor. In fact, but for such training, he might run the risk of becoming a victim of that terrible malady "caput extensor." The result would be to destroy the initiative and ambition of the rank and file of those surveyors who have been imbued with the highest ideals, and whose experience and local knowledge well fit them to continue the work which in the past they have performed under disadvantages to themselves and the authorities they have served. That some local authorities take a parsimonious attitude in their highway expenditure is admitted, and the reason is not far to seek. As the collecting authority both for themselves and the county councils, they come most in touch with the man who pays the piper, and who blames them not only for their own tune, but that also of the higher authority, over whose lavish expenditure they have no control, and whose ever-growing demands compel them to curtail their own requirements, however necessary. The setting up of the Road Board has undoubtedly been a step in the right direction, and the handing over to that body of executive powers over the whole of the road authorities in the country, with full control over the grants proposed to be made to them (which in many cases require to be greatly increased), would inevitably result in the adoption of a more uniform system in the management and control of our roads, while retaining that amount of local supervision which is essential in the interests of true economy and efficiency and compatible with the spirit of local government, and is an important factor in centralising and creating a national system. The disadvantages of a multiplicity of systems would thus be obviated so far as desirable, while those of multiplicity of control (so detestable to our county surveyors) would be further minimised by the setting up of boards similar to the old highway boards, having control over the whole of the main and other roads in their area, under direction of the Road Board, and composed of members elected from the county and rural councils jointly. Smaller areas could thus be grouped together, inconvenient district boundaries obliterated, and, if desirable, populous and rural areas kept distinct. Small urban areas within such districts could retain control of their roads to such an extent as might be found necessary. No great change would be necessitated in the existing arrangements of the various county and district staffs. The Road Board would absorb many of the highly trained heads of county council departments, and thus find an outlet for the inexhaustible energies of those gentlemen whose one ambition apparently is to control the highways, byways, and other ways of England. Probably one of the most desirable results from a professional point of view would be to prevent unqualified persons being appointed, as the Road Board would exercise similar powers to those now exercised by the Local Government Board in the appointment of sanitary inspectors and medical officers, and to fix reasonable salaries in place of those miserable doles now paid by some small councils. A further result would be a specialisation in road construction, as distinct from other branches of the engineering profession. The author wishes it to be distinctly understood that he is in no way endeavouring to dogmatise, but simply to suggest an alternative scheme to the one put forward by the controlling body of the older association, and apparently acquiesced in by the members of that society.

A PLEA FOR THE BETTER REMUNERATION OF MUNICIPAL SURVEYORS AND INSPECTORS OF NUISANCES IN SMALL URBAN DISTRICTS AND RURAL DISTRICTS.

By G. Belson Chilvers, M.I.M.E.,
M.R.San.I., Surveyor to the Oundle Urban District Council.

In reading through the list of vacancies for the positions of surveyors and inspectors of nuisances to the small urban districts, and to the majority of the rural districts, one cannot but feel that the remuneration often offered to these officers is exceedingly small, and, I think we can justly say, scandalous, especially when an officer has to devote his whole time to his duties. Municipal officers are well acquainted with the position of affairs. The salaries vary from £60 to £90 per annum, and in some cases the amount offered is even lower than this. The duties to be performed, as laid down in the advertisements or in the list of duties provided for the candidate's guidance, leave no doubt that a "fully"-qualified man is required. In the smaller places the officer has invariably to carry out the duties attached to the dual appointment of surveyor and inspector of nuisances, and it is laid down that he must hold the Inspector of Nuisances' Certificate of the Royal Sanitary Institute, or some similar qualification; this being imperative, according to the Local Government Board requirements relating to the appointment of inspectors, if a council desires repayment of half of this officer's salary. I ask: Do the councils realise what it usually costs a man to obtain even this qualification? As a preliminary training the officer may have spent several years in a surveyor's or inspector's office; in many cases he has obtained the aid of a professional coach to assist him to acquire the necessary knowledge, and has devoted a large amount of his otherwise leisure hours to study. He has had to scrape together the necessary fee for the examination, and, in addition, he has often had hotel and travelling expenses to pay, and he has had to provide himself with a large number of professional books, which cost anything from a few shillings each upwards, and together entail a large outlay. Even supposing the student for the qualification dispenses with any help, he has to make up for it in time and in money for more books, and the money has to be gleaned from a small wage. When the individual has obtained his certificate, the hope held out to him is a paltry remuneration working out at from 23s. to 34s. weekly—a less sum than is paid to many unskilled labourers. Is it fair and just to pay municipal officers a less sum than is paid to a mechanic, considering the knowledge required from, and the responsibility laid upon, him? He is supposed to be, and should be, qualified to supervise the work of the men, and to have a sound knowledge of all work connected with building and sanitary engineering, in order to interpret aright anything required to be done. As an inspector, it is necessary for him to be at least a fair draughtsman, while his general knowledge must certainly be of a high standard. As a surveyor his duties may be multitudinous. In addition to being highway, building, and sanitary surveyor, he may be sewage works manager, waterworks engineer, gasworks manager, superintendent of bathing place, recreation grounds, cemetery and allotments, and, it may be, chief officer of the fire brigade. He has full responsibility thrown upon him for all the work to be performed. He is called upon to prepare plans, specifications, and estimates for all work carried out, which may be very considerable. Should the council undertake the erection of working-class dwellings, he has to prepare the plans without any extra remuneration, and he may also have to prepare plans for other municipal buildings. The amount expended yearly may vary upwards from £2,000 (which figure is low enough for comparison) upon actual work carried out, including labour and materials in all departments. Taking an architect and surveyor's fee for preparing necessary plans, specifications, and supervision of works at 5 per cent., this would amount to £100, exclusive of all incidental

extra expenses. Many of these same councils will pay an outside gentleman this 5 per cent., and, in addition, incidental and travelling expenses, without a murmur, and yet they expect their permanent officer to work for less than 3 per cent. on work carried out. The officer is at the same time called upon to attend council and committee meetings at hours when other people are taking a little recreation. Thus time, in some places, is no small amount, and the officer can scarcely call his body or his soul his own. He has often to put up with the whims and fancies of individual councillors, making his life none too pleasant. At the hours when the ordinary mechanic is taking his leisure, he is thinking and pondering over his work for the next day. It is not for him to say "Take no thought for the morrow." The mechanic downs his tools and the clerk his pen at the usual hour of leaving off, and thinks no more of his work until starting-time comes next day. It is very certain that the surveyor has to spend a good deal more time and money on his education, in order that he may become properly qualified, than the inspector of nuisances. He requires a much wider knowledge (which is, in my opinion, much harder to acquire), and the money spent on his education and the expense incurred to secure the necessary diplomas and certificates showing his efficiency, amount to a considerable sum. We are told cleanliness is next to godliness, and our duties are bound up with cleanliness, and can we not say godliness goes with cleanliness? I contend, therefore, that a minimum salary of £120 per annum should be paid to surveyors and inspectors throughout the country if whole-time service is required. In what way can this more efficient remuneration be secured? It cannot, I fear, be obtained by trade-union methods, for obvious reasons, and the only way is to bring pressure to bear upon the Government, or the Local Government Board, to force local authorities to pay a minimum salary worked out at a sliding scale, taking population, area, rateable value, and the duties to be performed into account, and adopting £120 as the minimum. At the same time, it must be made compulsory for the authorities to appoint a fully qualified man to carry out not only the duties of an inspector of nuisances, but also of surveyor, and all this term means. Why should not a minimum salary be incorporated in any Bill which is promoted for securing superannuation and security of tenure? Many small towns get over the question of the small salary, and evade their responsibilities by allowing their officer to undertake private work. I question whether this is a wise course to adopt in any case, since it is evident such an officer cannot always do justice to the council he serves when private interests conflict, as at times they will do. He often becomes supervisor and adviser to his council as to his own private work, and it goes without saying that no man should be in this position. The architect and surveyor in private practice is, I feel, justified in complaining of this procedure, although actually his complaints may not always be justified, as I feel certain that all public officers who carry out private work in their districts are very conscientious, and, to prevent any cause for complaint, would themselves go beyond their council's requirements. It appears to me that much could be done by the combination of districts. The surveyor to the small urban could also act as surveyor to the adjoining rural district, or to part of it, and the inspector of nuisances could follow suit with more satisfactory results. At the same time, in making this suggestion I feel that no district is so small or so poor that it could not pay the minimum salary before mentioned and secure a full-time officer to itself.

HOUSING OF THE WORKING CLASSES. A FEW SUGGESTIONS.

By Edward Whitwell, F.F.S.E., M.S.A.
(Vice-president.)

It is not the intention of the author to take up time with the past causes and present effects, but rather to outline some future

policy in regard to the dwellings of the workers, and he must necessarily, therefore, leave those dwellings which are undoubtedly unfit to the mercy of the local authorities, who, if they would be more willingly guided by their health officials, would soon obliterate one of the greatest reproaches to England's greatness. Now, in order to guard against the possibility of the perpetuation of slumdom by the continual introduction of small improvements, in order to secure a temporary extension of life, the author considers that a definite code of minimum requirements should be prepared by every authority, and to this code all properties which are being improved or reconstructed under the Housing Acts should conform. A suitable code should refer to the following matters for the reasons given:—

Foundations.—Where additions are being made to the heights of buildings the foundation should be sufficiently deep and firm to bear the additional weight. The author has seen instances where additional work has had to be removed, in view of a threatened collapse.

Drainage.—This, for obvious reasons, should comply with the model requirements in all respects.

Dampcourse.—Many of the old houses bear no traces of a dampcourse, and although some authorities insist that it should be inserted in the old walls, others do not. The author considers that it is seldom effectually provided unless the walls are actually pulled down. The alternative which the author suggests, and which has always been found effective, is to render in cement and sand, instead of the usual lime plaster, all the ground-floor walls and partitions.

Floors Below Ground Level.—In the author's district, owing to its very hilly nature, a large number of the houses have their floors below the ground on two or three sides. In all such places cavities placed either internally or externally should be insisted upon.

Conveniences.—Every dwelling should be provided with a separate convenience, though here care must be taken to see that (in the case of older parts, where probably one or two conveniences serve for a number of houses) the conditions for the houses not under consideration are not made worse by the owner disallowing the use of one of the conveniences to others, so as to provide one separate for the house under consideration.

Air Space.—This is probably one of the most contentious items in connection with the reconstruction of old property, but the author considers that the minimum 150sq. ft. at the rear should be required in all cases, for even with this minimum it is possible to have as many as fifty houses to the acre. If this cannot be obtained no scheme of reconstruction should be considered.

Height of Rooms. This is generally found to be another matter on which building owners are reluctant to move; but, without exception, no rooms should be agreed to which are less than 8ft. in height. In every case where an additional room is added the height required by the building by-laws should be insisted upon. In the author's district by-laws are in force which specially require this.

Damp Walls. Where the walls show signs of non-resistance to the penetration of rain, the two sides exposed to the severest weather should be cemented.

Windows. In all cases every window ought to be made to open, and should be enlarged where necessary, in order to secure the Model By-laws minimum. The author finds that in many circumstances even this is too little.

We now come to the question of providing new houses, which must be built either by private enterprise or the local authority. In the author's town some considerable steps have been taken by the authority to encourage private enterprise by adopting the Small Dwellings Acquisition Act under which any local authority can borrow money for the purpose of lending to any person who desires to purchase a house for the purpose of dwelling in it himself. To make the Act well known as well as popular proved to be a difficult matter, and it was only by eventually

circularising the local builders, and later the inhabitants, that a move was made, and in the result the author has valued, during the last two years, about forty new dwellings, having an approximate value of £10,000. But while this Act provides the means of greatly assisting the thrifty worker to become the owner of his own house, it does not in any way affect the demand for increased housing accommodation, and most authorities are faced with the prospect of large housing schemes, and of having to continue promoting schemes in the future, for, without doubt, municipal housing has come to stay. Since the number of authorities embarking on housing schemes is very much on the increase, it would be well, seeing that all work has to be executed under the same Acts, if some definite ideas were agreed upon and adopted, with a view to placing all new schemes as far beyond the possibility of slumdom as means and circumstances would allow, and if a real attempt were made to achieve the ideal instead of the usual tendency to anticipate the realisation of the oft-repeated story of wonderful five- or six-roomed workmen's houses, with all appurtenances, etc., at £100 or less (said to be possible by some would-be housing expert), better housing would result. It is really astonishing how regularly the £100 house story appears, and the credence which is given to it by intellectual men, a fable which the author anticipates will soon be relegated to Andersen's or Grimm's fairy-book. Such houses may have been possible two or three decades ago; to-day they are as remote as the Millennium. Now, the author considers an excellent lead to authorities has been given by the promoters of several of the garden-village schemes, and he is of the opinion that good, serviceable, and attractive workmen's houses can be erected under the present Housing Acts, embodying the best features of modern garden-city dwellings, having environments both pleasing and practicable in character, and capable of being let at a rental quite within reach of those people for whom they are intended. If all local authorities would but realise this, instead of laboriously copying the speculative builder, their schemes would be more likely to meet with public approbation than is the case at the present time. Consider what should be embraced by a suitable scheme under the Housing Acts. In the first place, every effort should be made to prevent the new being contiguous to the old. The higher-lying ground should be selected in preference to the lower, and if in a valley having steep sides, such as are peculiar to Wales, let the site be on the northern side. The number of houses to an acre should not exceed twelve, and in a block four. When the latter is effected it is unnecessary to construct back streets, which, of course, account for a considerable expense. Complete privacy should be secured for every house (1) by arranging that the external doors are as far apart as possible, and (2) by erecting a short wall between every house at the rear, so that operations may be carried on at the rear of the dwellings without being casually observable from the house adjoining.

Rooms.—Vary the number of rooms per house, and provide a parlour, if possible, which can be used as an auxiliary bedroom. In a recent inspection of the houses he had erected without parlours, the author found that no less than 70 per cent. of the tenants were living in the scullery, they having converted their large living-rooms into parlours.

Windows.—None should be less than one-sixth the floor area, and all should be made to open; the ordinary sash windows are much more serviceable and satisfactory than the casement.

Drains. The branch drains to the main branch should be as short as possible, and intercepting traps should be avoided, and ventilation pipes always carried up above the main roof.

Ashbins. Provide every house with a covered portable ashbin, and renew when necessary. It is the most effective way of securing healthful conditions in this department.

Bath etc. Provide every house, however

small, with a bath, which seems to be generally favoured on the ground floor. Of course, a bath means hot water, and this can be most economically provided by means of a simple combination arrangement. For the houses in South Wales, where hot water is required for the miner's daily bath, the author found the "Model Cottager" to be an excellent contrivance.

Cupboards.—Provide at least one cupboard upstairs and two downstairs, in each case reaching from the floor to the ceiling.

Back Additions.—These should not be permissible unless kept less in width than one-third of the frontage, and in depth less than one-third of the depth, of the main building.

Generally.—Other matters of construction are largely a question of taste or by-laws.

Regarding the appearance, disposition, and environment of the houses, it is here that the least attention is given, and here that the most is needed. Vary, as far as reasonable, both the distance from the street and external treatment of the blocks, in order to avoid that monotony so common to the work of speculative builders. Don't forget that the backs of the houses always form an elevation from some point, and generally deserve as much consideration as the front. Avoid the stereotyped brick forecourt walls and rails, and plant instead suitable privets, and, in order to give some encouragement to the incoming tenants, plant a few shrubs in the privet-encircled forecourt. In all the spaces between the blocks plant a larger tree of the evergreen type, so as to break to the eye the continuity of the blocks. Where larger spaces occur rail these in and plant with suitable shrubs, and, along with spaces between blocks, reserve for attention by the authority. Don't forget the children, and if you cannot provide a large open space in the middle of your colony of houses which can be viewed from every house, provide one somewhere else; but provide it. Lastly, provide sufficient ground for vegetable growing by the tenants, either in connection with the houses or in the form of allotments contiguous to their dwellings. The author has recently carried out a scheme of 136 dwellings of a small type, which embodies all the foregoing features, and as the balance-sheet he provided to the Local Government Board gives some indication of what was done, and may be of interest, it is appended. In concluding, the author expresses the hope that his views may be freely discussed, and that from the discussion may emanate other definite views which will attract the attention of those on whom the responsibility chiefly rests, so that the stigma of unhealthy dwellings and gloomy environments so inherent to the English town may soon become simply a memory.

BALANCE SHEET.

Receipts.		£	s.	d.
From rents—				
123 houses at 5s. 6d.	1,758	18	0	
13 houses at 4s. 9d.	160	11	0	
	1,919	9	0	
Less 5 per cent. for empties	95	19	6	
	1,823	0	6	
Expenditure.		£	s.	d.
Repayment of loan, principal, and interest without deduction of income-tax at 34 per cent.—				
(A) In respect of land, £2,911 for 80 years	108	16	6	
(B) In respect of buildings, £21,664 for 60 years	668	0	9	
(C) In respect of sewers and water for 30 years	—	—	—	
(D) In respect of street works, £1,425 for 20 years	100	5	3	
Rates, 123 at 4s., less 50 per cent. G.D.R.; rates, 13 at 4s., less 30 per cent. G.D.R.	67	3	9	
Rates, 123 at 4s., less 30 per cent. P.R.; rates, 13 at 4s., less 30 per cent. P.R.	181	17	1	
Insurance, average for 7 years	14	5	0	
Bath and water rates, 123 at 24s., 13 at 22s. 4d.	162	2	4	
Allowance for repairs, 41 per house	136	0	0	
Supervision and collection at 4 per cent. (actual cost)	76	15	7	
Balance	107	14	3	
	1,823	0	6	

The Sittingbourne Urban District Council have acquired, for road-improvement purposes, the old almshouses in that town, and, so that the property may be demolished at once, it has been decided that the one remaining tenant shall be boarded out. The houses stand at one of the most dangerous corners in Sittingbourne.

THE YOUNG ARCHITECT—WHAT WILL HE BECOME?*

Some of you may remember a placard which a few years ago was used—with an effect not recorded—by certain militant advocates of Temperance. It was entitled, "The Youth—What Will He Become?" I think, from recollection, that the youth was first displayed to the passer-by as a child with a somewhat disengaging type of countenance, whence in two horizontal lines we were able pietorially to trace his progress through various stages of his life, achieving on the one hand an expression of extraordinary viciousness, on the other—doubtless by restricting his powers of absorption to soda-water—attaining the proud possession of an archaic top-hat. It occurred to me, with this placard visualised, and, of course, eliminating any Temperance atmosphere, that just for a few moments this evening we might consider a topic more interesting to ourselves—"The Young Architect: What will He Become?" or still more important—What will become of him? We may exclude from our thoughts him whose name is destined to be wreathed with honours and degrees, or him whose career may be popularised by certain eccentricities of genius. Men of supreme talent in the art of architecture, or the science of advertisement, are, perhaps, comparatively few in number. We will rather deal with one, let us call him, in no way offensively, "a mediocrity," to whom art will never appeal with a very large A; but for whom drain-testing will possess a very big D, one may hope £ s. d. In the absence of independent income, and without friends of rank or influence, such a youth faces the world unarmoured, and truly seeks a position of risk—and be it frankly said of much honour—when he joins the battalions of architects, made and in the making, in these islands. Our friend may have shown some juvenile skill with the pencil, have earned some word of praise from a weary art-master in the local technical school, or, like one of the recent Presidents of the R.I.B.A., have had a taste for building rabbit-hutches and drawing tracery windows with a pair of compasses. He may have read that architects are not as other men, and been tempted by a flattering family to take up a profession which is a tripartite of art, science, and business, at once a delight and a delusion, an alluring mistress demanding lifelong attention for an infrequent and generally frosty smile. Assuming any or all of these conditions, we may proceed to the day when our friend—or, rather, our friend's parents—have parted with a substantial cheque, and he, with shining instruments, well sharpened pencil, and virgin indiarubber, becomes a cadet in our ranks. There, for a space of three or four years will we leave him, passing over his days of labour and of play, for student days are vastly alike—they vanish quickly, and we heed not their going. Fortunate is he who, during these few years, has some prevision of the difficulties of the future, and a principal who fulfils his solemn engagement to train a lad to fight his way upward, for then he will, in some measure, realise that while architecture has its fascinations, it has its drudgery.

THE TWO ROADS.

He will understand what the next decade must mean to him, and will be able to select the rightful road of the two that face most pupils when they stand alone and perplexed, their apprenticeship served, their future unassured. One of the roads appears easy, the other is a very broken road, in which he may not linger at the wayside in sport or ease, but in which he must press constantly on, with eyes and ears ever open, with hand and mind constantly engaged, not indeed, to gain wealth and notoriety, but merely to live later in some degree of comfort. In this road there are at all times too frequent intervals, tempting avenues, leading to the other and easier path, a way of un-

doubted fascination, for along it there is great opportunity for leisure and comparative peace of mind. But, unfortunately, this road is short, and the wayfarer who has selected it finds himself in that hopeless cul-de-sac of our profession, the architectural draughtsman, whose rival is a mechanical printing machine; whose salary would not be offered to a competent artisan. We will not deal with this aspect of our profession just now, although it is one which might commend itself to the urgent attention of those who form the cabinet of architectural politics. We prefer to imagine that our mediocre friend, faced with the first serious crisis of his life, essays the ruder path, traversing alternately the mountain peaks of elation, the long dark valleys of hopelessness, to the culmination of successful architectural practice. During the years between twenty and thirty our friend must necessarily keep hard at it. In the office and out of it, in city and in village, in the work that is daily passing through his hands, and from such sought-out sources as books and classes, alone or in the companionship of other students, he must unceasingly prepare himself for that end to which he aspires, making friendship, by his honest dealing, reliability, and sociability, friends who, when they, in turn, attain positions in other ranks of life, will stand him in such stead. The evils of a presidential address to a student association is that it savours something of the pulpit, where one speaks and others may not hit back. But perhaps you will bear with me if I dwell over-long on a period through which many of our members are passing, or are about to pass, and from which others, to their gladness or sorrow, have but yesterday escaped. And this I say in all earnestness, to Irish students and assistants particularly, that any slackening of energy between twenty and thirty can seldom be recovered. Let us think for a moment of what is happening elsewhere, of the great architectural schools in the kingdom, turning out year by year their scores of young architects (some will, I know, call them pseudo-architects), who pass from country to country, learning more of their craft, sparing themselves nothing in their effort to qualify themselves for the future. These men are, and will remain, the competitors of the present generation of Irish students, and our friend will find them jostling him at every turn—men with a well-designed system of training, readily available, and accepted by them with eagerness and to the full.

AMBITIONS, LIMITATIONS, AND OPPORTUNITIES.

Of course, there are determining factors in success other than mere application; for instance, one's ambitions, limitations, and opportunities. Without ambition the otherwise most perfect architect will fail, and with it the man of lesser ability succeeds in some measure. For ambition, rightly directed, means tenacity of purpose, a divine discontent, which, within wide limits, makes for progress. Ambition for success, for slow and certain success, insures that each minor duty is well executed, bringing with it the afterglow of good performance and aiding that most difficult of tasks, "to keep the heights which the soul is competent to gain." Limitations may be likened to the barnacles which impede the sailing vessel; but, unlike the barnacle, they cannot be readily removed. Fortunately, one's limitations are not so much in evidence in early life, and we are often able to overcome difficulties in our youthful ignorance which would appal us or leave us gasping in later years. It is not until middle age that we fully fearfully realise the line beyond which we may not pass, unless, perhaps, by most strenuous and exhausting endeavour. But students with high hopes have no limitations; their eyes and minds embrace the uttermost confines of architecture. Therefore should they enjoy the false horizon of youth's inverted field-glass before they take to the smoked spectacles of later life. Lastly, and so important—opportunities. Without ambition we will not seize them when they arise; without ability we cannot master them; yet, lacking opportunity, ambition is deadened and

ability expends itself in vain. Therefore, opportunities must be watched for in this country; they are but few, and those who seek them are many. The last Census figures show that we have 405 members of the architectural profession and 1,229 of civil engineers in Ireland, striving to make a living. Many of the latter are, of course, doing architect's work when occasion arises. If you have read Swift's "Imitation of Horace" you will remember the ideal therein of a comfortable existence: "I've often wished that I had clear for life six hundred pounds a year, a handsome house to lodge a friend, a river at my garden's end, a terrace walk, and half a rood of land set out to plant a wood." Now, I am going to take a much lower standard than that. You will admit that £150 a year is not a very tempting income as a guerdon for many years' school and professional training; yet to achieve this for these colleagues of ours would mean, at 5 per cent. commission, an expenditure of just five millions annually on structural operations—operations, be it remembered, in which professional assistance is employed. And here we may take up the final phase of our mediocre friend's career, when, after ten or twelve years as an assistant, he leaves the comparative snugness of the harbour, walled with a weekly salary, and faces

THE SEA OF PROFESSIONAL PRACTICE.

Such a changing sea as it is—calm and shining to-day, surging to-morrow with combative contractors, outraged and outrageous clients, with querulous clerks of works, with assertive agents, with callers who want everything, and more who want nothing; and, worst of all, a sea traversed by shoals of idleness, when work is scarce, when there is little draughtsmanship and no drafts—shoals of such an extent that one wonders whether he will ever skirt them and reach a region of constant practice, or longs for the supposedly restful haven of a Government or municipal post. What does our friend find when he embarks on this sea? He is at once in the midst of grievous competition with his fellows, for, as I have said, the opportunities in Ireland are few. The era of church building and its concomitants for the moment is practically over. There are left dispensaries, residences, schools, labourers' cottages, and a small sprinkling of domestic and mercantile buildings. All are apparently short of money, or saying they are—nearly all requiring ninepence for fourpence, and aggrieved if they only get sixpence. Amongst his competitors he will find unskilled men far too numerous for his health, who, owing a bowing acquaintance with a 2ft. rule, and with an awkward, and sometimes an extremely tremulous, grip of a pencil, dot the countryside with meaningless abortions. Thankful may we be to Providence that their efforts possess few elements of permanence in construction or material. He will find such men tolerated, and a profession proud of its past, and fearful of its future, clamouring for their ultimate extinction. Meanwhile, representative societies flounder around in a vicious circle, comprehending all and apparently doing little. He will learn, tyro as he is, that he must charge a minimum fee for his work—a fee which is also generally the maximum of those who, from age, experience, and ability, may be numbered amongst the front ranks of his competitors. These last and most trying conditions are unknown in other professions, as I have already on one occasion pointed out. Were the aspiring medico and the Merrion square specialist to charge the same fees, the greenhorn in the law library and the sapient King's Counsel to require the same refreshers for their briefs, it is certain that the junior ranks of the legal and medical professions would more acutely suffer from the silent staircase, the seldom-opened door, the empty letter-box, and the appalling vacuity of a clientless office—circumstances, as we are aware, not infrequent with some young architects. It is, in my opinion, high time that those who are able should, by the exercise of some unselfishness, rise superior to the minimum fee, and, if I may say so, "Give the young 'uns a chance." Otherwise, it is of no use for us to ape the architectural Stiggins,

* The Presidential address (Session 1914-1915) of the Architectural Association of Ireland, by Mr. HARRY ALBERRY, A.R.I.B.A.

and expect the man, who has to gain his bread-and-butter, invariably to avoid temptations which offer themselves in specious guise. It will be said, of course, that an architect should think more of his art than of his alimentary canal. I must confess myself sufficient of a Philistine to subscribe to such a theory only with many reservations. It is generally—I say generally, not wishing to be too dogmatic—propounded either by those who have never a moment's anxiety as to the sequence of their meals and the condition of their bank balance, or else by some enthusiast who can live on the smell of an oil-rag, and whose work will possibly be as evanescent. But to-night we are thinking of the mediocrity, the man who will do nothing startling, but who will put his best into what he does, an achievement which means strenuous labour on his part, and help from his better-situated colleagues, not obstruction; encouragement, not exasperation.

ABILITY AND PATIENCE.

You may rightfully ask for some high lights in a picture created with a heavy brush, and from what you may consider to be too sombre tints. It is neither unkind nor unwise, however, to remind the students of our society that the profession upon which they have embarked makes such heavy demands on their ability and patience. It is, however, not improbable, and the prospect is encouraging, that those who are now passing through their apprenticeship, or through the subsequent fateful decade, will eventually enter on a goodly heritage. I refer to the growing interest that is being taken in various social problems, the attention that is being given to the housing of the poorer classes, the recognition of a need for better education, and for improved conditions under which children can be taught, and the knowledge that disease, once regarded as a necessary evil, can be successfully combated by hygienic surroundings. Of much importance also is the awakening interest in town planning and the "city beautiful," which, although still in the yawning stage, will develop a lusty liveliness causing surprise to those who think that cities are for them, and forget that they are for the cities. These movements, as they become more vigorous and more democratic, more practical and less garlanded with platform rhetoric, should give scope for many of our craft—modest compared with other work which they see around them, and of which they read in their somewhat infrequent visits to our library, but inspiring in the results they may bring to those of our fellows whose present acquaintance with architecture is a room in a tenement or a squalid cabin on a bog. Thus to our students may come the opportunity, not perhaps to build "the churches with spire steeples, pointing as with silent finger to the sky and star," the gorgeous palaces, the solemn temples of law and government; but to house their countrymen in dwellings well planned and stoutly built, health-giving to those who abide in them, and a delight to those who pass them by. It must, however, be remembered that where the battle is there will the eagles be gathered together. Expected political and social changes, bringing in their train an anticipated era of building, will most certainly attract others from afar, and the benefit of being the man on the spot will disappear if he be inferior in skill to his competitors. I do not, of course, for a moment consider that any of you would subscribe to what I may call the "ring fence method" of holding his own. It is a pernicious system in my view, and consists of erecting an imaginary low fence, over which no one outside the charmed circle may trespass, and inside which the occupant lies down and hypnotises himself into the belief that he is the great IT. Of course, if everyone played the game it might have the merit of success; but it is found that the moment the question of money comes into play, businesslike people peer over the fence, to find whether there is higher value outside it, and if, rightly or wrongly, they think there is, the ring fence is but a poor fortification. You will agree with me that it is safer to equal one's competitors, and, if possible, to

surpass them; then one may be fearless of the future, a condition of mind which it is worth many years' struggle to attain. In this address I have leant towards the material side of our profession, the scholarship, which is more of the merchant than the artist, the garnering of knowledge, which you may say is more germane to the till than to the T-square. I will bow to such criticism and am not dismayed by it. In these days we live amongst such poignant realities. To many of the men, the communities, the boards, and the councils that build, art, as such, is non-existent. To them the claim of the inglenook is of less importance than a chimney that will draw, the fascination of a quaint gable is as nothing to the soundness of the roof; you call their attention to an excellent conception; they ask you if the drains are all right. A dwelling well built, warmed, ventilated, and lighted is of prime importance to man for the sake of his health and comfort. If it be carefully planned and designed in beauty it adds to the amenities of life. In this conjunction of art and science will be found the proper function of the architect; but, be the elevations never so original and pleasing, the architect will have utterly failed if the foundations give, the windows are not waterproof, the floor-boards gape, the plumbing be doubtful, and the client finishes up in a lawsuit with the contractor, and while we may endeavour to cultivate public taste it must not be at the expense of public comfort. Therefore, if we neglect essentials of business I fear that a refuge amongst the clouds of art will neither be grateful nor comforting.

A MESSAGE BORN OF EXPERIENCE.

To others more fitted I will leave advice as to how the details of our art may be acquired, to awake in your breast an enthusiasm for line and colour, to inspire you with a proper pride and love for the more spiritual side of our profession, if any of you need such treatment. I realise all these things, but have preferred to give a message, born of experience, to those in this association for whom we are endeavouring to find a place—not in the sun, perhaps—but just one step in advance of what they might achieve were we back in the gloom of the early nineties, when the association was nonexistent and the new School of Architecture at the National University undreamt of. They were days when the younger architects were isolated units, with no apparent community of interest, with no meeting-ground upon which to discuss their difficulties and their aims, no society which, with its present spirit of comradeship, is, as I happen to know, the envy of other and much larger associations elsewhere. My remarks are meant as a reminder, perhaps unnecessary, of the difficulties of our profession, the constant, never-ending task that is set before those who wish to prosper in it, of the strongly-supported, unentured competition that must be faced at home, the highly-trained competition that must be met abroad; the urgent call for collective action, to impress the needs of the younger man on the representative societies, and, beyond all, the necessity for a loyalty and friendship one with another if our profession and ourselves are to be respected and we are to hold our own. It is a lengthy, and might well prove a dispiriting, recital were it not that, commercial as so many of our duties and thoughts are to-day, there is also much that in a peculiar way lifts our calling above all others. Our work, while intensely practical, is, and in Ireland may be still more closely, associated with a great national renaissance, the uplifting of the physical existence of fellow-countrymen to an hitherto unknown standard of home comfort, the tuning of their minds to a more perfect discrimination between the false and the true in architecture and a most glorious wardenship of national health. Beyond all these there is that strange, intangible link binding us to generation upon generation of bygone architects whose dust is of the earth, yet whose work gains added life with the passing years, whose creations are cherished far beyond the most precious jewels, for within their walls history is itself enshrined.

EVEN FROM THE WAR,

which occupies our thoughts to the exclusion of all else, which has made this address a difficult task to write, and I am sure an added difficulty for you to endure, architects may glean a comforting and exalting lesson. The battling armies, the hideous tale of casualty, the changes for good or for evil that may follow victory or defeat, fall short in their effect on the public mind of the news of disaster to those old-world buildings of Belgium and France. The appeal made to their fellows some 700 years ago, by those who planned and watched stone upon stone develop into the great Cathedral at Rheims, remain still potent to-day throughout the civilised world, which stands equally aghast, be it remembered, at the destruction of far less ambitious dwellings, by unknown and long-forgotten architects, that formed the chief charm of Louvain. No greater tribute could be paid to our profession. These are some of the high and inspiring notes in the dreary monotone of our work, and poor thing indeed would he be in whom they evoked no responsive thrill. Thus, although this address may sound despondent in a sincere effort to warn the student of to-day of the difficulties that beset those who look on architecture as a rather good joke, or, at all events, as a craft to be considered at certain painful moments between 10 to 5 each day, I would rather our eyes were turned, as they should be, towards the oriflamme that has been borne gloriously aloft by the architects of countless ages, and would remind those in the rank and file of our profession to-day who may suffer some of the ills of my imaginary friend of this address, that, should they find their steps ever falter, here in the association they will find friends striving for the same goal who can spare for them of their sympathy and their aid.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the business general meeting held on Monday, November 30, 1914, the following were elected to membership:—

AS FELLOWS (11).

J. Stacey Davis (A. 1885), 17, Hartley-avenue, Plymouth. John Malcolm Dossor (A. 1886), Waterloo Chambers, Hull; 135, Westbourne-avenue, Hall, Gilbert Wilson Fraser (A. 1897), 29, Castle-street, Liverpool; E. Balliol-road, Bootle, Liverpool. Charles Matthew Ellison Hadfield (A. 1896), Cairns Chambers, 19, St. James-street, Sheffield; Fairnape, Ecclesall Hall-road, Sheffield. Charles Kempson, Assoc. M.Inst. C.E. (A. 1894), 24, Millstone-lane, Leicester; 102, Regent-road, Leicester. Harold Upham Lander (A. 1894), 1, Arundel-street, Strand, W.C.; 33, Baldoock-road, Letchworth, Herts. Hurley Robinson (A. 1897), Cadogan Chambers, 6, Cherry-street, Birmingham; "Hazlemere," Russell-road, Hall Green, Birmingham. Cecil Alexander Sharp (A. 1895), 2, Verulam Buildings, Gray's Inn, W.C.; Church Farm House, Chesham, Surrey. Austin Woodson (A. 1896), Public Works Department, Colombo, Ceylon. Ernest Chawner Bewlay, 83, Colmore-row, Birmingham; 68, Wellington-road, Edgbaston, Birmingham. Charles William Bowles, 9, Staple-inn, Holborn Bars, W.C.; The Vine, Sevenoaks, Kent. Stanford Morton Brooks, 6, Lancaster-place, Strand, W.C.; 8, Arundel-street, W.C. Martin Thomas Ernest Jackson, 2, Wool-street, Westminster, S.W.; 51, Willifield-way, Hemdon, N.W. James Cumming Wynnes, 21, Castle-street, Edinburgh; 9, Woolburn-terrace, Edinburgh.

AS ASSOCIATES (41).

Richard Auderton (S. 1910), Breeze-hill, Cadley, Preston, Lancs. Richard Alfred Barber (S. 1908), c/o Mr. H. O. Crosswell, 17, Buckingham-street, Adelphi, W.C.; 110, Kenilworth-avenue, Wimbledon, S.W. Herbert Phillips Bryant (S. 1910), Bar-gate Chambers, Southampton; 27, Hill-lane, Southampton. Andrew Stuart Burnett (S. 1911), 2, High-street, Southampton; Shawford Down, Hampshire. George Wilfred Callender (S. 1913), c/o Bank of New Zealand, 1, Queen Victoria-street, E.C. Charles Henry Calvert (S. 1908), 18, Low-pavement, Nottingham; "Grismere," Dagnam-grove, Nottingham. Walter Llewellyn Clark (S. 1910), 15, Grosvenor-road, Westminster, S.W. Harold Thoresby Cooksey (S. 1912), Gloucester House, 49, Charing Cross-road, W.C.; 266, Upper-street, Islington, N. Colin Addison Dickson (Special), c/o Mr. G. F. Dickson, Kaikōke, Bay Islands, Auckland, New Zealand. Edward Harold Montague Ebbs (S. 1911), H.M. Office of Works, 16, Queen Anne's-gate, Westminster, S.W.; 11, Green Hill-road, Harlesden, N.W. Joseph Charles Fowell (S. 1910), 55, Bridge-road, Hammersmith, W. William Hubert Goldwin (S. 1911), Wribbenthal, Bewdley, Worcs. Douglas Morley Griffin (S. 1911), c/o Mr. Henry Hartley, 8, Harrington-street, Liverpool; 7, Esplanade, Waterloo. William Holgate Harrison (S. 1910), Avenue House, Whalley, Lancs. Frank Hearne (Special), Prudential Buildings, Oldham. James Hendrow (Special), Town Hall, Edmonton, N. Addison House, Fore-street, Edmonton, N. Ernest James Tlickman (S. 1911), c/o Mr. F. B. Andrews, 95, Colmore-row, Birmingham. Jut, Kingswood-road, Mosley, Birmingham. Percy

Howard (S. 1909), 88, Mosley-street, Manchester; 13, Milton-place, Ashton-under-Lyne. Basil Hughes, P.A.S.I. (S. 1910), 43, Chancery-lane, W.C.; "The Conifers," Woldingham, Surrey. William John Isaac (S. 1907), Guildhall, York; 10, Harcourt-street, York. Eric Rawlstone Jarrett (S. 1908), 6, John-street, Bedford-row, W.C.; 7, Wilson-road, Westcliff-on-Sea. Bernard Jessop (S. 1911), c/o Messrs. Bromley and Watkiss, Prudential Buildings, Nottingham; Bank Cottage, Kimberley, Notts. Albert Frederick Kaltenbach (S. 1912), 12, Queen Anne's-gate, Westminster, S.W.; "Hillside Lawn," 70, Hornsey-lane, N. Frederick Lawrence Kruckenberg (S. 1910), Cabinet Chambers, Basinghall-street, Leeds; Dunsforth Vicarage, York. Godfrey Horton Ledger (S. 1911), 16, Old Queen-street, Westminster, S.W.; Grove Lodge, Grove-road, Epsom, Surrey. William Leonard Boghurst Leech (S. 1909), c/o Messrs. Wratten and Godfrey, 11, Carteret-street, Queen Anne's-gate, Westminster, S.W.; 28, Egerton-gardens, West Ealing, W. Ebenezer James Macrae, Licentiate (Special), City Architect's Office, City Chambers, Edinburgh; 17, Braidburn-crecent, Edinburgh. Stanley Russell Miller (S. 1909), 112, Avenue-road, Acton, W. Abdulla Bhanji Peermahomed (S. 1912), 45, Brondesbury Villas, Kilburn, N.W. Thomas Luff Perkins, Assoc.M.Inst.C.E. (Special), Public Works Department, Hong Kong; c/o Messrs. W. J. Perkins, 26, Victoria-street, Westminster, S.W. Richard Manning Haig Philip (S. 1913), c/o London Bank of Australia, Ltd., 71, Old Broad-street, E.C. Geoffrey William Ridley (S. 1909), London-road, East Grinstead, Sussex; St. Wilfrid's, East Grinstead. Cedric Gurney Ripley (S. 1912), c/o Mr. Philip Ripley, Bowthorpe, Ipswich; 19, Victoria-square, S.W. Horace Edwin Rolley (Special), 16, Hobury-street, Chelsea, S.W. Arnold Silcock (S. 1911), 26, Green Park, Bath. Charles Ernest Stafford (Special), Municipal Offices, Babington-lane, Derby; 50, Wilmot-street, Derby. Gerald Stanley (Special), Market House Chambers, Trowbridge; Boyton, Trowbridge. Herbert Samuel Taylor (S. 1910), c/o Messrs. Hohden and Porri, 37a, Finsbury-square, E.C.; 112, Avenue-road, Acton, W. Gilbert George Lee Tye (S. 1910), c/o Mr. C. Fitzroy Doll, 5, Southampton-street, Bloomsbury, W.C.; 6, Heathcote-street, Mecklenburg-square, W.C. Harold Gerard Waddington (S. 1910), 12, Warbeck Hill-road, North-Shore, Blackpool. Arthur Jackson Wood (S. 1913), c/o Messrs. Everard, Son, and Pick, 6, Millstone-lane, Leicester; 54, St. Nicholas-street, Leicester.

AN HON. ASSOCIATE (1).

Sir Laurence Gomme, J.P., F.S.A., 20, Marlborough-place, N.W.; The Mound, Long Crendon, Bucks.

THE ARCHITECTS' AND SURVEYORS' APPROVED SOCIETY.

The third annual meeting of the Architects' and Surveyors' Approved Society, was held in the Architectural Association hall, 18, Tufton-street, Westminster, on Tuesday evening, the chair being occupied by Mr. Ernest Newton, A.R.A., P.R.I.B.A., president of the society. Among those present were Mr. Howard Chatfeild Clarke, President of the Surveyors' Institution; Mr. T. E. Bare, President of the Quantity Surveyors' Association; Mr. H. Austen Hall, acting-President of the Architectural Association; Messrs. G. Corderoy, H. M. Fletcher, F. R. Pric-t, G. Reeves, H. D. Searles-Wood, Philip Webb, H. D. Whitham, and Mr. F. R. Yerbury, Secretary. There was a good attendance of subscribing members, including several ladies. In his opening remarks, the President referred with regret to the recent decease of Mr. W. Edward Woolley, the late president of the society and a past-president of the Surveyors' Institution, and to the fact that a vice-president, Mr. Maurice E. Webb, M.A., president of the Architectural Association, had gone to the front in the Royal Engineers Corps.

Mr. H. Chatfeild Clarke, vice-president, proposed the re-election of Mr. G. Corderoy, Mr. W. Edgar Horne, M.P., F.S.A.; Mr. Ernest Newton, A.R.A.; and Sir Daniel Watney, F.S.I., as trustees. This was seconded by Mr. Priest, and carried unanimously.

Mr. F. R. Yerbury, the secretary, made a statement as to the progress and work of the society. Since last December they had enrolled 149 members, making a total of 2,157 enrolled in the society since its foundation. Of these they had lost 298, the majority of whom had intimated that they had passed beyond the scope of the Act. A few had transferred to other professional societies, having changed their professions, and some had been struck off owing to the fact that they had ceased to contribute, and their whereabouts was unknown. The net membership at the present time was 1,859. The sickness experience during the year had been very light. The society had paid 146 claims for sickness benefit in the men's section, and two claims in the ladies' section. With the exception of one or two cases, the illnesses had not been serious.

They had two members now receiving disablement benefit; two members had been receiving sanatorium benefit during the year, in both cases with excellent results. One member came out of the sanatorium completely cured, and they had been able to find him a berth, and the other is now practically cured also. Forty-one babies had been born to members of the society during the year. In some cases they had made a point of visiting members when they have been ill, and assisting them in various small ways, and in one or two cases the value of the Benevolent Fund had been felt very strongly by the committee. The committee valued very much the support given to this Benevolent Fund by honorary members of the society; its income ought to be increased, as in these times they would doubtless have increased calls upon it. Generally speaking, the whole machinery of the administration was beginning to run more smoothly, although the continuous stream of regulations received from the Commissioners raised many complications. Those members who had been able to understand the system of penalty arrears and reserve contributions outlined in their new insurance-books would realise that the failure to send in cards was likely to meet with serious consequences as far as the insured person was concerned, inasmuch as he was likely to be penalised to the extent of not receiving benefit for a whole year. This should do much to induce members to send in cards at the proper time. At present there was considerable slackness in this respect. A scheme for voluntary insurance for architects and surveyors, quite apart from that required by the Insurance Act, had been formulated, and a considerable amount of time and expert advice was given in connection with the scheme, and, as a result, a very attractive table of insurance was produced. Unfortunately, the support was not forthcoming from the profession generally to proceed with the scheme. Probably this was due to the fact that the members connected the scheme with compulsory National Insurance, and would have none of it. Later on, however, they might possibly make another attempt to float the scheme, and he was certain that if its provisions were properly understood, the support forthcoming would be considerable, and an excellent opportunity would be offered to everyone to insure against illness, old age, and death. No fewer than 187 members of the society were serving with the forces.

Mr. Philip E. Webb, treasurer, said the financial position of the society was very good. The sick and mortality list had been below their anticipations, they had saved nearly £800, and from the accumulated funds they hoped in the future to provide extra benefits.

The president moved the re-election of the committee of management, with the exception that Mr. H. M. Fletcher is taking the place of Mr. G. Leonard Elkington, retired. The committee consists of Messrs. E. H. Blake, C. McArthur Butler, Walter Cave, A. G. Cross, Ralph Ellis, W. J. Fisher, H. M. Fletcher, A. Goddard, George Hubbard, H. A. James, B. Marr Johnson, E. G. Lovell, Ian MacAlister, E. C. P. Mouson, W. G. Newton, H. Passmore, F. R. Priest, G. Reeves, H. D. Searles-Wood, Clifford T. Steward, H. W. Virgo, Maurice E. Webb, and H. D. Whitham. In moving the re-election, the president expressed the interest he felt in the welfare of the society, which, they would realise from the reports of the secretary and treasurer, was in an exceedingly flourishing condition. It must be a great satisfaction to those who had worked so hard in connection with the formation of the society to know that their labours had met with a just reward. It was obviously a wise thing to form a society of this kind particularly confined to the members of the architectural and surveying professions. Assistants were compelled to be insured, and it was much better in every way for them to insure through a society belonging to their own profession, rather than through any other. They might congratulate themselves that the workers of their professions were so

healthy. The sickness of the past year had been very light, and the general good health would probably enable the society to give better benefits later on to the weaker brethren. The Benevolent Fund he regarded as an excellent thing; it was removed from the control of the State, and was administered entirely at the discretion of the committee. The benevolent funds of the professions were mostly for the benefit of those who had been in practice and had fallen on bad times. There was, therefore, a real need for a fund such as theirs, which aimed at helping the younger members of the profession, especially in times of illness. The society was doing an excellent work, and the fact that it was so well supported by the younger men showed that it was appreciated. Its success was due in no small measure to the efforts of the committee of management. The running of such a society was no light task. The whole system of National Insurance bristled with complications, which were smoothed away by the committee. He might make special mention of what they owed to the chairman of the committee, Mr. George Corderoy, who was one of the prime movers in the formation of the society, and had expended an enormous amount of time and energy on its development. He trusted that for many years to come Mr. Corderoy would continue his work.

The motion was seconded by Mr. E. H. Blake, and was unanimously adopted.

Mr. Corderoy returned thanks on behalf of the committee.

Mr. G. Reeves moved a resolution comprising an amendment of the rules, necessitated by the National Insurance Amendment Act. This was seconded by Mr. H. D. Whitham, and agreed to.

A vote of thanks to the president was moved by Mr. H. Austen Hall, and seconded by Mr. T. E. Bare. In replying, Mr. Newton said he should always be glad to come to their meetings and assist the society in any way in his power. Much of the success of the society was really due, he added, to their hardworking and very capable secretary, Mr. Yerbury.

THE OPEN-AIR HOSPITAL.

To the "British Medical Journal" Dr. Saundby, Professor of Medicine at the University of Birmingham, contributes a long article on "An Open-air Military Hospital." The merit of the establishment on the open-air plan of the 1st Eastern Military Hospital (T.) at Cambridge belongs to Colonel Joseph Griffiths, R.A.M.C. (T.) Nine weeks ago the present hospital was begun, and for the last five weeks it has been in full operation, providing 1,220 beds, besides lodging for orderlies, kitchens, and other offices. This has been effected at a cost of £20,000, or, in round figures, of £17 a bed! The site has been lent, and costs nothing. It is King's and Clare's Colleges cricket-ground.

The hospital building consists of ten blocks, each containing 120 beds; a straight corridor runs right through, dividing the wards, so that there are ten wards of sixty beds on the right and ten wards of sixty beds on the left of this central corridor, which runs north and south.

The buildings are one story high, with low-pitched roofs covered with corrugated iron. The walls are made of asbestos, set in framework. The wards contain two rows of beds, one against the back wall, the other by the open side, these latter beds being about 2ft. from the low breastwork. The open front is guarded by blinds of Willesden canvas like the sunblinds of shop fronts, which can be let down at an angle, to shelter the beds from snow or rain, or in very stormy weather they can be let down so as to be flat against the openings. The back wall of the ward does not reach quite up to the roof, but leaves an opening about 9in. in width running the whole length of the ward, so as to allow through ventilation. Each ward of sixty beds has two side wards, each containing one bed, for cases it may be desirable to remove from the general ward.

The wards run east and west, so that the

open side in each case has a south aspect. The floors are of wood. In a separate building are the operating theatre, with two tables, two anaesthetic rooms, and one X-ray room. A dispensary and a medical officer's common room are at one end of a long building, in which are also a receiving room and registrar's office. The sleeping accommodation for 120 orderlies and sergeants of the R.A.M.C. (T.) is in buildings on the same plan, the beds being arranged in bunks. There is a messroom for the sergeants, which is also used by them as a common room; but the orderlies have a mess-room and a common room, in which they can read or write and smoke. A recreation room for patients, 100ft. long, is now being built. The kitchen provides meals for 1,500 persons.

THE METROPOLITAN WATER BOARD'S NEW OFFICES.

At a special meeting of the Metropolitan Water Board, held on Friday, Mr. E. B. Barnard presiding, the general purposes committee presented the twenty-four tenders for the erection of new central offices on the New River Head site in Rosebery Avenue, Clerkenwell, from the designs of Mr. H. Austen Hall, F.R.I.B.A., selected in competition in June last, and illustrated by plans and elevations in our issue of June 5, 1914. The tenders will be found in full on another page of this number. The committee recommended the Board to accept the tender of Messrs. T. W. Heath and Son, amounting as corrected to £110,012, the lowest received, for the execution of the work. They further stated that Mr. H. A. Hall's estimate, included in the report embodying the original designs, amounted to £89,259, and to this sum the Board added, in June, £1,500, the cost of wood-block flooring. They had since added £1,250 for the construction of strong-rooms in basement and additional lavatory accommodation, and £2,500 for extra depth of concrete foundations, due to the nature of the site. All these estimates, which gave a total of £94,809, were made prior to the outbreak of hostilities, and the committee were advised that so far as building construction was concerned, the war had caused an approximate increase in cost of 15 per cent. on the above-named sum, involving a further addition of £14,220, and producing an aggregate of £109,029. Since the war began it had also been necessary to add £1,500 for oak fire-protection doors required by the London County Council, and £175 for a temporary fence and water-spray demanded by the Board's engineer as a protection to the filter-beds during demolition and building operations, whilst a further £800 was required for special drainage and asphalt work in connection with a leakage from the filter-beds, and £1,000 was absorbed by a number of small items. These also were included in the tender recommended for acceptance. It could be seen that the architect's estimate for his original design plus these additions produced a total of £112,504, which compared favourably with the lowest tender of £110,012. The committee had considered as to whether some economy in the design and construction of the building could be achieved, in view of the additional cost of erection entailed by the war. It might be possible to effect some comparatively small saving in this direction; but in their opinion the principle of economy had already been carried so far that to press it further would prejudice the value and utility of the new offices when completed.

Sir Melville Beachcroft moved that, in view of the disturbance of business occasioned by the war, and the urgent need of restricting all but urgent expenditure, the erection of the new offices be not at present proceeded with.

Mr. Dew did not think that the cost of building and materials would be any cheaper for many years after this war. A large number of men were at present employed in the construction of camps for the Government, but as soon as they had turned the corner of the crisis a flood of workmen would be coming back to London and other large towns.

The amendment was rejected by a large majority, and the tender of Messrs. Heath and Son was accepted.

Mr. J. W. Restler, deputy chief engineer, and for twenty-one years engineer to the Southwark and Vauxhall District, was appointed to the post of chief engineer, vacant by the death of Mr. W. B. Bryan, at a salary of £5,747 a year, such salary to include a compensation allowance of £3,247 a year, to which Mr. Restler is entitled under the provisions of the Metropolis Water Act of 1902, and no additional superannuation allowance will be payable when Mr. Restler shall retire. The works and stores committee reported that there would be no necessity to appoint a fresh deputy chief engineer.

Mr. William Taylor, of North Adelaide, South Australia, timber merchant, died February 9, 1913, leaving £172,240 in this country.

The Treasury have sanctioned a loan of £10,016 applied for by the Dundalk Urban Council for the purpose of building artisans' dwellings.

The Local Government Board have recommended the Treasury to grant the Arklow Urban District Council a loan of £13,500 for the erection of working-class dwellings.

The city council of Leeds have decided to make application to the Local Government Board for sanction to borrow £13,617 for re-organising the Meadow-lane gasworks and for alterations and additions at New Wortley works.

The county council of Kent, on the recommendation of the bridges and roads committee, have sanctioned an expenditure of £1,600 for wood-paving in King-street, Maidstone. In all, 2,600 square yards are to be laid on a concrete foundation.

At the annual meeting of Cincinnati Chapter, American Institute of Architects, the following officers were elected: President, George M. Anderson; vice-president, Walter Rapp; secretary, Joseph G. Steinkamp; treasurer, Newton Lebow; and Moritz Sax as fifth member of the executive committee.

The outbreak of war in Europe has played havoc with the American schools of architecture this year by calling back to France practically all of the leading professors of design in these schools. Cornell University has thus, temporarily at least, lost Professor Georges Mauxion, one of the ablest of these teachers.

Notice has been given that the Edinburgh Corporation intend to promote a Provisional Order in the next Parliamentary session to provide for the confirmation of the agreement with the Royal Victoria Hospital, new tramways in Colinton and Corstorphine parishes, and improvements in various parts of the Cowgate.

New premises for the Ulster Banking Company have just been opened at Kilkenny. The façade is of limestone and Ruabon bricks, and is surmounted by a cornice and parapet with balusters and central pediment. Messrs. Blackwood and Jury, of Belfast, were the architects, and the builders Messrs. A. McDowell and Co., of the same city.

At a meeting of the Norfolk Court of Sewers the committee appointed to consider the question of the improvement of the drainage of the Marshland reported on the steps they had taken in the matter. They recommended that, in any case, £1,000 be spent in widening and deepening the lower part of the Smeeth Lode. The report was adopted.

At the last meeting of Helston Rural District Council, Mr. R. J. Wearne, the sanitary inspector, reported houses that ought to be closed at Coverack (four), Cury (one), Porkellis (two), and Porthleven (two). This was agreed to. He also stated that the estimated cost of the proposed workmen's dwellings—namely, £180 each—would be much more now, owing to the increased price of materials. It was decided to proceed with the work.

After some discussion, the Laududno Urban District Council, at their last meeting, approved of the arrangements made by the golf committee for the laying out of nine holes of the eighteen-hole course on the land recently acquired at Maesdu. The ground cost the council £15,600, and nearly £3,000 is to be spent in laying out the course, the plans for which have been prepared by Mr. R. S. Colt, of Sunningdale. Mr. Harris, of Ginford, was engaged to supervise the laying out of the first nine holes at a cost of £1,225.

OBITUARY.

Mr. H. W. B. Davis, the oldest Royal Academician, died on Tuesday at Glaslyn, Rhyader, in his eighty-first year. He first exhibited at the Academy in 1849, and his carefully-studied landscapes and cattle pieces from the Pas de Calais and from Wales have been familiar and welcome canvases at Burlington House for more than half a century. Born on August 26, 1833, William Henry Banks Davis was the eldest son of the late Mr. Henry John Davis, of the Middle Temple. After a stay at Oxford, he was awarded two silver medals when a student in sculpture at the Royal Academy Schools. Among those from whom he received encouragement early in life was Sir Edwin Landseer. In 1873 he was elected an Associate of the Royal Academy, and he became a full Academician in 1877. The Tate Gallery possesses three of the artist's pictures—"Returning to the Fold," "Mother and Son" (a mare and a foal on the verge of a cliff, beyond which is the sea), and "Approaching Night"—and a large canvas of cattle crossing the Wye was presented to the Bristol Art Gallery. Mr. Davis exhibited regularly in Paris as an Associate of the Société Nationale des Beaux Arts. He often represented the Royal Academy as a British member of international art juries, visiting Paris, Berlin, and Chicago in this capacity.

The death occurred on Sunday at St. Mary's Lodge, Exmouth, at the age of sixty-one, of Mr. John Nisbet, Forestry Adviser to the Board of Agriculture for Scotland since 1912. Educated at Edinburgh and Munich, he entered the Indian Forest Service in 1875, and in 1895 was appointed Conservator of Forests in Burma, holding the post until 1900. From 1908 to 1912 he was Professor of Forestry, West of Scotland Agricultural College. He was the author of several important works on forestry, and held the Kaisar-i-Hind gold medal for public service in India.

The late Mr. James Moffat, J.P., aged eighty-one, of "Cressingham," Anderton-road, Sparkbrook, Birmingham, builder and contractor, left personality amounting to £26,932.

The Toronto Board of Control has decided to devote \$40,065dol. out of the 6,670,000dol. voted in 1913 for waterworks extension towards the construction of a proposed waterworks system in North Toronto.

Mr. O. G. Stanley, surveyor to the Windlesham Urban District Council, has received a commission in the Army. The council have decided to advertise for a surveyor to fill the position during his absence.

At a special meeting of the Pwllheli Town Council the town clerk reported that the Local Government Board had sanctioned the council's application to borrow £4,000 for the Parade extension scheme, and that arrangements with the landowners interested had been completed.

At a meeting of the Orsett Rural District Council the highways surveyor reported that he had been instructed to proceed with the new military road between Brentwood and Tilbury, at a cost of £4,034, the Road Board providing £2,943, and the council £1,091.

Mr. John T. Blizard, A.M.I.C.E., of Southampton and Westminster, has been appointed consulting engineer for the main sewerage and sewage-disposal of Rochford, and is also preparing a similar scheme for Great Wakering under the same authority, the Rochford Rural District Council.

The directors of the Great North of Scotland Railway Company have given formal notice of their intention to apply to Parliament for a Provisional Order for power, among other purposes, to double the Buchan line from Dyce to Ellon, a distance of thirteen miles, and to alter and improve the Palace Buildings, in which the company's hotel is situated.

The death is announced of Mr. Robert Lamb, who for the past twenty-four years has been general superintendent of the parks of the Manchester Corporation. Shortly after Heaton Park passed into the possession of the city Mr. Lamb made his home at The Cottage, in the park, and there he died on Saturday night. By his death the corporation of Manchester lose a skilful landscape gardener of sound practical judgment and great resource.

Currente Calamo.

Some of the comments of our daily contemporaries and their correspondents about the "removal" of the Crimean Monument from the south end of Waterloo-place are evidently not dictated by knowledge. It is neither to be sacrificed to the susceptibilities of our Russian allies, nor has the War Office, after so many years, succumbed to Thackeray's cynical and somewhat undeserved criticism. Early in the New Year the public will see the monument, which was designed by Mr. John Bell, re-erected on a site about 30ft. north of that it has hitherto occupied, while in front thereof, a little to the westward side, will be placed the memorial to Miss Florence Nightingale, which was some time since publicly subscribed for, and on the other the statue of Mr. Sydney Herbert, at present in the War Office quadrangle. For once, at any rate, the associations of the three memorials will be in every way appropriate. The work is being done by Messrs. Holloway Bros. (London), Ltd. Mr. T. R. Fitch is the foreman of works. The sculptor of the Florence Nightingale memorial is Mr. Arthur G. Walker, of 5, Cedar Studios, Gledbe-place, Chelsea, S.W.

The engineers are discussing the organisation of a special bank to finance contracts. It is suggested that no very large capital is necessary—some put the amount as low as £250,000. The function of the bank, of course, would be to make short-term advances on the security of the applicant's own contracts, newly obtained or already begun, backed by collateral security to approximately equal value in contracts already completed, but not paid for. That, it is claimed, would keep a contractor's borrowing power within the extent of his bona-fide working capital. The advances would not be made in cash, but would take the form of purchases of plant or materials selected by the contractor. It is argued that the bank, as a very large and constant buyer, could get the plant or material for the contractor cheaper than he could get it himself. The matter is worth full consideration, and we see no reason why builders should not also take a hand. Some of us who know the straits more than one firm of unexceptionable standing found itself in for the moment during that nasty first week in August last may ere now have begun to think seriously that co-operation in finance might well prove a better bulwark in similar times of trouble than the ordinary banker, who sometimes seems to prefer far greater risks, because of the greater profits.

"Have a jury" is every lawyer's short advice to a client with a bad or doubtful case, for, with a jury, there is always a sporting chance, at all events. In certain classes of claims a jury is also recommended by those who know, because of certain popular prejudices that are supposed to survive even in the jury-box. One of these is the antipathy to moneylenders and the disinclination to pay them a high rate of interest, even when they have taken a risk by lending on a personal note of hand, compared to which marine insurance in war time seems secure. But it is not always that a jury can be obtained, and then the parties have to chance it with the Judge. The Money-lenders Act, for instance, provides that if a transaction is harsh and unconscionable, or

the interest charged is "excessive," the Court may reopen it, and do justice all round. But who is "the Court"? In a recent case (*Times*, Dec. 1), where such a question arose, the County-court Judge left it all to the jury, who promptly found for the defendant as to the excessive interest claimed by the plaintiff money-lender. The High Court upset this, holding that "the Court" meant the Judge, who must decide, though the jury may find the facts, if they can! Now the Court of Appeal has confirmed this view, and money-lenders generally feel a little safer in reference to the risk they run in charging high rates when making loans to people who never had any money and can give no real security.

We regret to record the dismissal of the appeal of Mr. Porter against the decision of the Divisional Court, which reversed last January the Official Referee's award of £560 12s. 6d. to him for damages sustained by a delay beyond his own control in connection with the erection of a school at Keston-road, Tottenham. We reported that hearing on p. 140 of our issue of Jan. 23 last, and we give elsewhere to-day the judgement of the Court of Appeal. We can only say, as we said last January, that it is hard on the builder! By his contract with the building owner Mr. Porter was entitled to enter on the site at once, and to complete in ten months, under penalties. A dispute between the building owner and an adjoining owner hindered access. The building owner took action after the date of the contract and obtained an injunction. All this caused delay and loss to the builder, which the Official Referee recognised. Now the Divisional Court and the Court of Appeal have affirmed that a building owner can only guarantee possession and use of the site as far as his own acts and ability are concerned, and that interference of a trespasser is the builder's risk, and that he, apparently, has no remedy against anybody!

The discussion of the housing problem by the council of the Charity Organisation Society at Denison House, Vauxhall Bridge-road, presided over by Lord Methuen on Monday evening, was, on the whole, a useful one, though some of the remarks, we think, were unduly pessimistic. Mr. Bernard Holland, speaking on the effect of the war on the general housing question, said that we should all for a time have to accept a lower level of civilisation, and dispense with luxury, not only in private life, but also in the way of public improvements. The housing question would be postponed for some years. In regard to the housing of the very poorest, he said there were whole areas in London that ought to be cleared, and new cottages and tenements built thereon. There were 20,000 or 30,000 houses that ought to be pulled down at once and rebuilt. That is so, and as we have urged already, it would be foolish to postpone the work because of the war. Decent housing is no "luxury." It is one of the most profitable as well as one of the most needful things, and to postpone it for some years would indeed be a backward step to barbarism, more disgraceful than defeat in the most righteous and necessary war we have ever waged.

Much more to the purpose were Mr. Holland's remarks on the combat between German and English endeavours as regards housing. He told his hearers truly that in municipal liberty, power, and vigour,

German cities had a great advantage over those in England. They had so much home rule and autonomy; they were able to raise money in various ways they liked, and could do, and did, a great deal more than we did here, without Exchequer control, untrammelled by central officials. If the Government would refrain here from making grants on such strict conditions and cheapen the process of acquiring slum property, we might soon compete favourably with German enterprise in this matter. Our plain duty is to force the hand of the Government and to kick the local authorities into action, making them first encourage private enterprise, instead of disheartening and hindering it, and supplementing that by municipal action wherever local needs are urgent.

An appeal is being made by the council of the London Society for funds for the preparation by a committee of experts of a much-needed development plan, upon which future improvements for Greater London may be based. Incidentally it is hoped the preparation of this plan may give employment to a certain number of professional men who have had their ordinary work entirely stopped or cruelly interfered with by the war, and who would work under the direction of a strong committee of experts appointed by the Society for the purpose, and who are prepared to give their time and experience to the work. It is proposed to work in close co-operation with the Architects' Benevolent Society, the Artists' General Benevolent Institution, the Special War Committee of the Royal Institute of British Architects, and the Special War Committee of the Surveyors' Institution. The open spaces committee of the London Society have already prepared a plan showing most of the existing open spaces. This needs completing, and has been waiting for just such an opportunity as the present to secure the help of professional men who could not ordinarily spare time for the work. It needs especially the possibilities for future open spaces indicated upon it. This map is in sixteen sections, each of which can be taken, worked up, and perfected by someone thoroughly knowing the district. Donations can be forwarded to the Secretary of the Society, Mr. Percy Lovell, B.A., 27, Abingdon-street, S.W.

The erosion of marble used for the exterior decoration of buildings in Melbourne has been attributed to attrition by dust particles impinging against the exposed surfaces. Although this may, to some small extent, be the cause, the wasting, according to a contribution by Mr. John Gibson to the "Proceedings" of the Royal Victorian Institute of Architects, is probably attributable to more potent chemical reactions. It is well known that water containing carbonic acid gas has a solvent action upon carbonate of lime, the component of marble. Rain, in its descent through the air, collects large quantities of this gas, more particularly in cities, and it is, therefore, to be reasonably assumed that this is the principal destructive agent. Again, the air in all cities contains a quantity of sulphurous and sulphuric acid, which, likewise, attacks the carbonate of lime (marble), forming sulphate of lime. The probabilities are that, in the first instance, the softer portions of the marble are dissolved by rainwater and sulphuric acid, leaving fragile serrated or pulverulent surfaces, which are afterwards removed by the attrition of dust particles carried by strong winds.

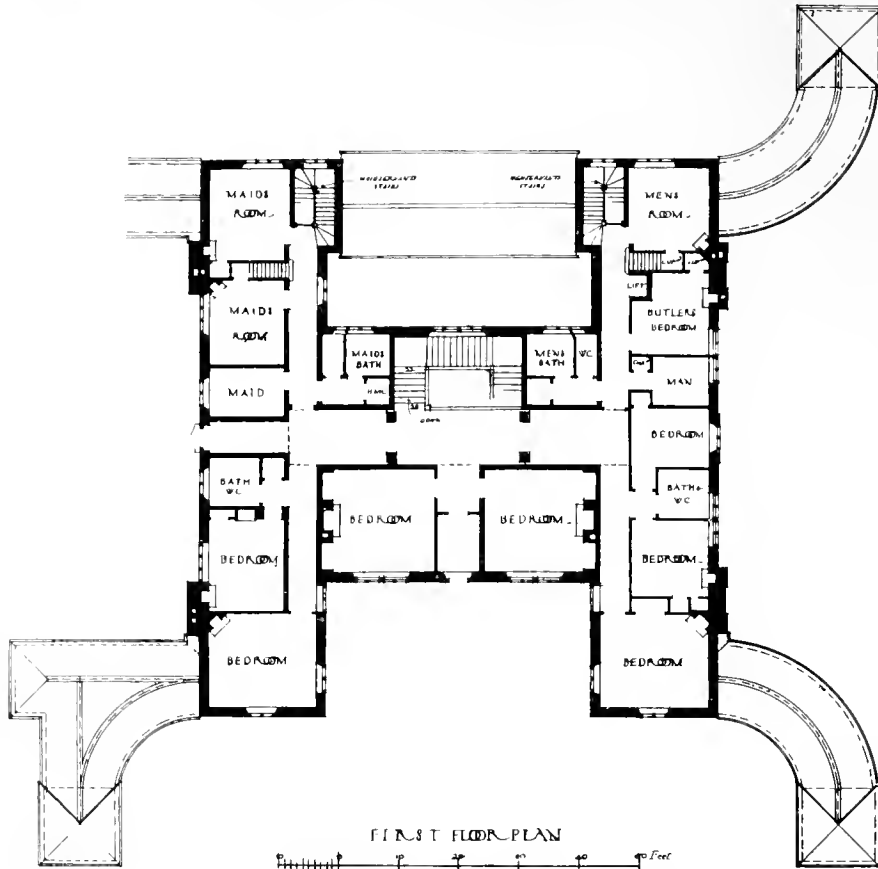
Our Illustrations.

HOUSE AT LYMPNE, KENT.

We give a double-page plate, reproduced from the water-colour drawing shown this year at the Royal Academy, in illustration of a big country house for Sir Philip Sassoon, Bart., M.P. The site occupies a well-wooded

who formerly was Bishop of Comminges. His buildings date between 1304 and 1352. The timber gallery, which, after a castellated fashion, oversails the top of the tower, is covered with a conical tiled roof, giving almost a domestic appearance to the grouping, which, however, seems in keeping with its immediate surroundings, and, anyhow, the effect is eminently distinctive. The tympanum of the portal is sculptured to re-

building, with passageways or ambulatories extending round as aisles, which are reached by gates, as seen in the picture. Bishop Jean de Mauleon presented these Renaissance stalls to this church in 1536. A series of heads, illustrating some heathen story, occurs round the outside, and such subjects seem strangely out of place in a Catholic sanctuary. Within the stalls, too, and in their canopies endless fanciful and romantic enrichments are displayed, and figures of exceptionally fine quality, with arabesques, also typical of pagan incidents, funnily mixed up in a most incongruous way with the genealogy of Christ and His Apostles. The history of the Holy Virgin and Child is reserved for the decoration of the high altar. Pope Clement V. gave two copes to this church, and they are preserved in the sacristy, where also can be seen the pastoral staff, mitre, and ring of St. Bertrand. These treasures have had a chequered career, having been stolen on more than one occasion, and again recovered. An old but valued ex voto is exhibited on the western wall of the church—viz., a crocodile's skin said to have been killed in Egypt and brought to Comminges by a French Crusader. There are several similar skins hung up in other sacred buildings, as at Abbeville and in Seville Cathedral, also accounted of like origin. The cloisters are situate on the south of the nave, and are perfect, except the vaulting of the arcades. The entire cloister is of 12th-century date, with semicircular arches supported by double shafts. On four of the columns are attached statues representing the Four Evangelists bearing their symbolical beasts. Many ancient tombs of historic worthies, and some sarcophagi, are located in the northern cloisters, these being memorials of warriors and ecclesiastics from the 12th to the 14th centuries. The bishopric of St. Bertrand de Comminges was suppressed in 1793. We may, in conclusion, briefly direct attention to the varying thicknesses of the brick courses seen inside the choir, where the brick wallings have very wide mortar joints. The casual bonding employed gives the work much character and quaintness. The screens, stalls, pulpit, organ, and gates are, as we have said, exceptionally interesting, and furnish the chief glory of this out-of-the-way place of worship. Rude paintings, illustrative of the miracles of St. Bertrand, are to be traced on the walls, and some minor relics are shown in the sacristy as having belonged to the founder. On the west of the town is the Port Majore, surmounted by the arms of Foix. In its interior stands the tomb, of Roman date, set up for Andossus, son of Primulus, erected by his wife, Sahina, daughter of Fronto. Representations upon this monument include two four-wheeled chariots and the head of a man. The photograph which forms the subject of our plate came from Professor Bédart, of Lille University, and we are indebted to Mr. T. Hyler White for its loan.



HOUSE AT LYMPNE FOR SIR PHILIP SASSOON.

Messrs. H. BAKER and E. WILLMOTT, Architects.

position at Lympne, near Hythe, overlooking Romney Marsh. Two plans, one on the perspective sheet, are given herewith, furnishing particulars of the accommodation and principal apartments, terraces, and forecourt. The architects are Messrs. Herbert Baker, F.R.I.B.A., and Ernest Willmott, F.R.I.B.A., of 1, Raymond-buildings, Gray's Inn, W.C.

THE "CATHEDRAL," ST. BERTRAND DE COMMINGES, FRANCE.

Topographically speaking, this wonderfully picturesque building is situate very near the verge of the Pyrenees. It occupies an eminence of its own, overlooking a rich, fruit-laden plain, and is approached by a long, winding road at the opening of the Val de Barousse, with the mountain range smothered in the distant haze. Surrounded by walls marking its history, this old citadel commands its summit site, and those who visit the shrine pass, on the cathedral road approach, the grounds where the Episcopal Palace is still standing, its buildings bearing the character of their designer's style about the middle of the 16th century. The entrance to the township is by way of the Porte de Cabiroles. The church, once ranked as a cathedral—indeed, St. Bertrand de Comminges was well worthy of that distinction, grandly rising as it does with great dignity above its environment, and boldly standing conspicuous as a landmark, viewed from long long distances, in the vineyards and fields. Generally speaking, the west front of the church, including the piers of the tower and a good part of the walling, belong to the days of St. Bertrand, the date assigned to his work being 1082, and it is typical of the Romanesque period. The nave and apse are associated with the Pontificate of Clement V.,

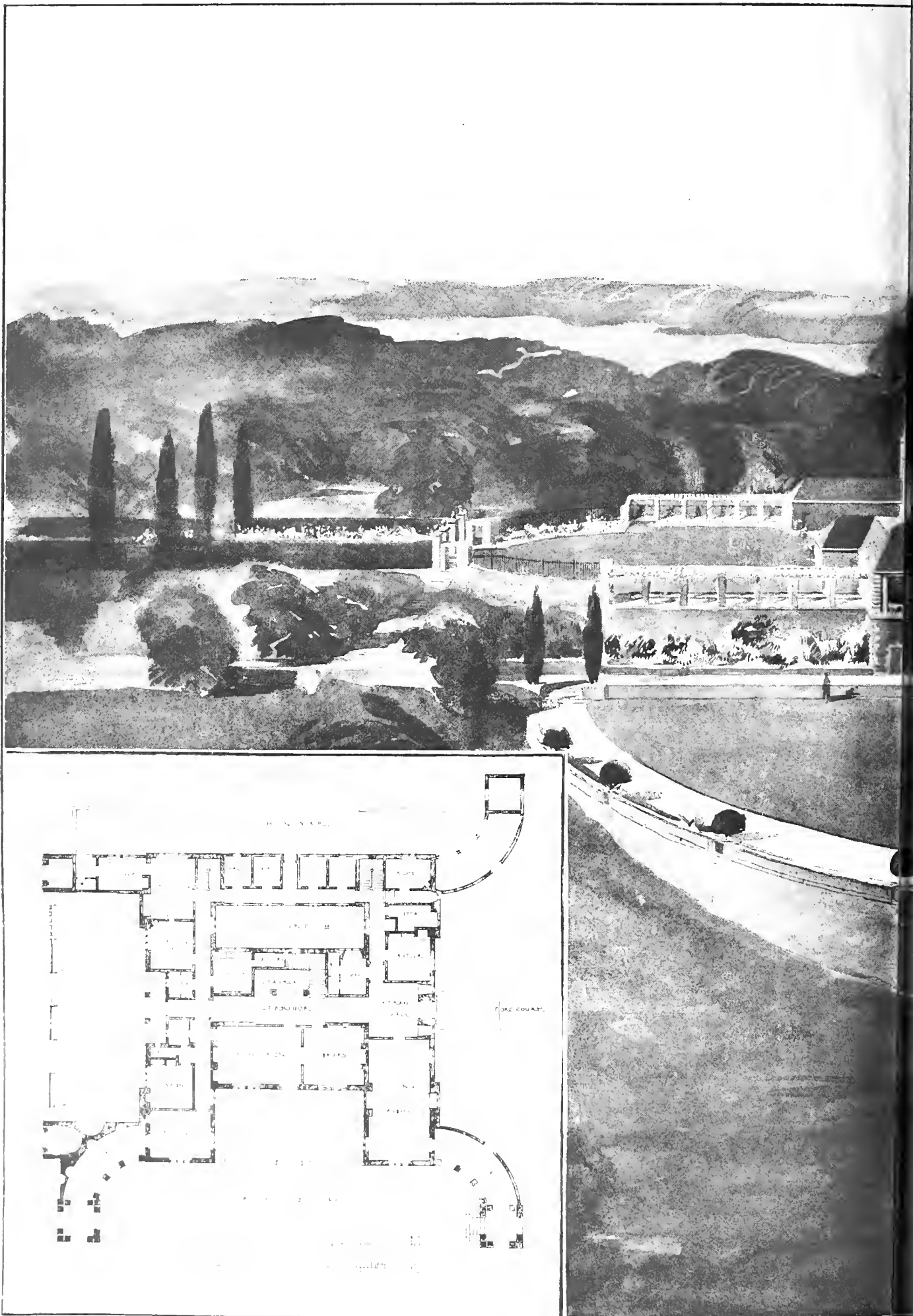
present the Adoration of the Magi, the carving being handled with typical severity, which harmonises, of course, with the structural antiquity of the building, whose walls are likewise much enhanced by the intermingling of fragments of Roman walling built into the masonry. Roman walls and other ruins are found marking the remains of an amphitheatre at the foot of the hill. Mythology lingers still in the traditions of Comminges, as in all these parts of France, just as they still do in Brittany, intermingled with the folk-lore and superstitions of the common people. The name of the neighbouring village of Tiberan is a relic of Tiberianum, that of Janna possibly being derived from Janna. The extent of this Roman settlement has been identified by the discovered remains of the buildings, sculptures, and altars seen hereabouts 'midst the well-cultivated fruit-gardens and lowlands of this district. The interior of this singular church is in many ways remarkable and quite beautiful. The photograph herewith reproduced shows its unusual equipment. The building comprises a single nave, without aisles, and the choir is supplemented by eleven radiating chapels; a curious 16th-century organ, adjacent to a most uncommon pulpit, which combines an enclosed winding staircase. These things add much to the charm of the church, with their strange pagan subjects carved so freely about, including the Labours of Hercules. There is likewise the jubé, a roof-loft, a Tree of Jesse, besides the white marble monument to Bishop Hugh de Castellione, dated 1351. The culminating feature of the choir is, however, the series of seventy choir-stalls, all elaborately enriched with figurework and sculptures. They stand detached in the body of the

CARVED IVORIES OF THE TWELFTH AND FOURTEENTH CENTURIES IN THE VICTORIA AND ALBERT MUSEUM, SOUTH KENSINGTON.

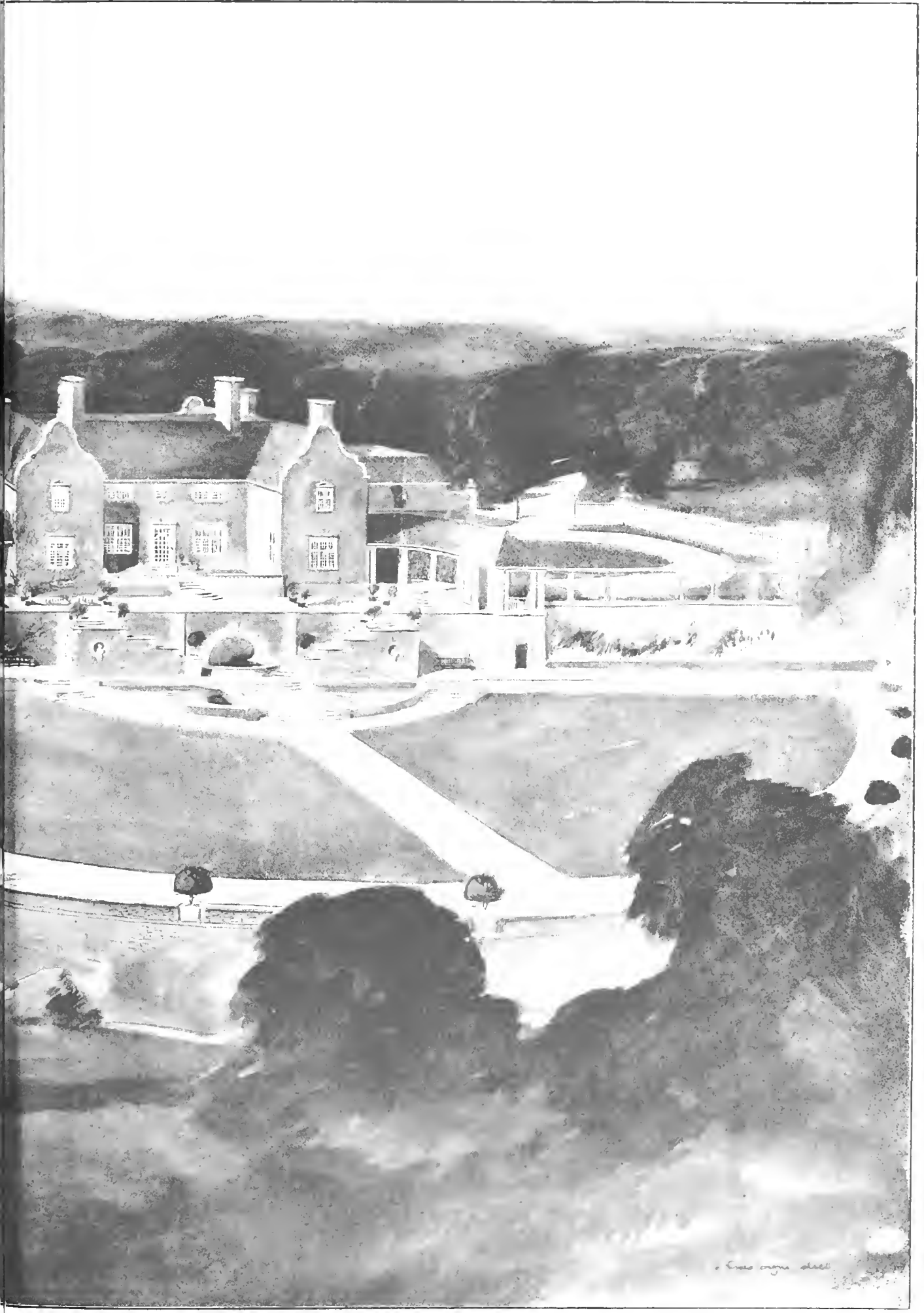
Mr. Ernest A. S. Benney, A.R.C.A., of Parsons Green, S.W., has delineated these feelingly "put-in" pencil detail studies with the utmost accuracy, and has caught the spirit of these old carvings with singular acumen. The Walrus Ivory Tau Head of the 12th century came from North Europe. The design consists of interlacing scrollwork and emblematical figures. On the other side griffons are introduced. The two ends and applied portions in the centre are missing. The Openwork Plaque is probably English of the late 14th century. In the centre is the figure of Christ between SS. Peter and Paul. The small square panels above contain the following subjects, from the left: The Annunciation, the Adoration of the Magi, and the Presentation. Small figures of saints are set in miniature niches in the architectural framework. The third drawing shows a Portion of a Diptych. It is 14th century in date, from France. The diptych contained six scenes from the Passion of Our Lord, one of which is shown in this study.

713-716



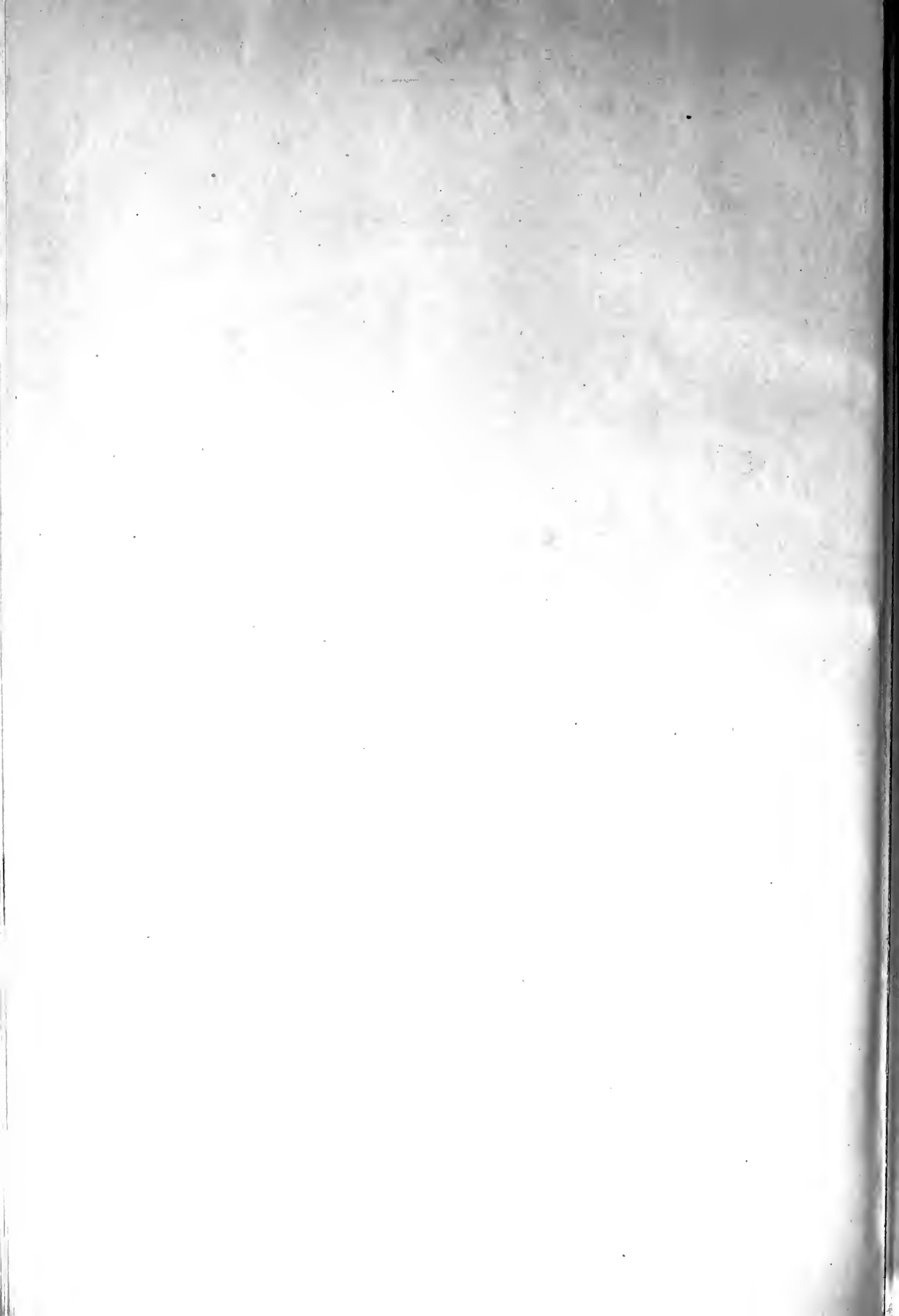


HOUSE AT LYMPNE, KENT, FOR SIR PHILIP SASSOON.—Messrs.

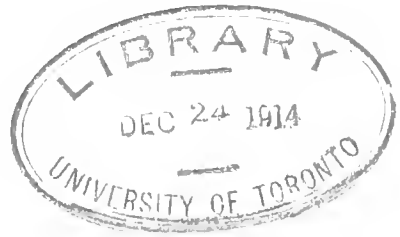


Ernest Willmott

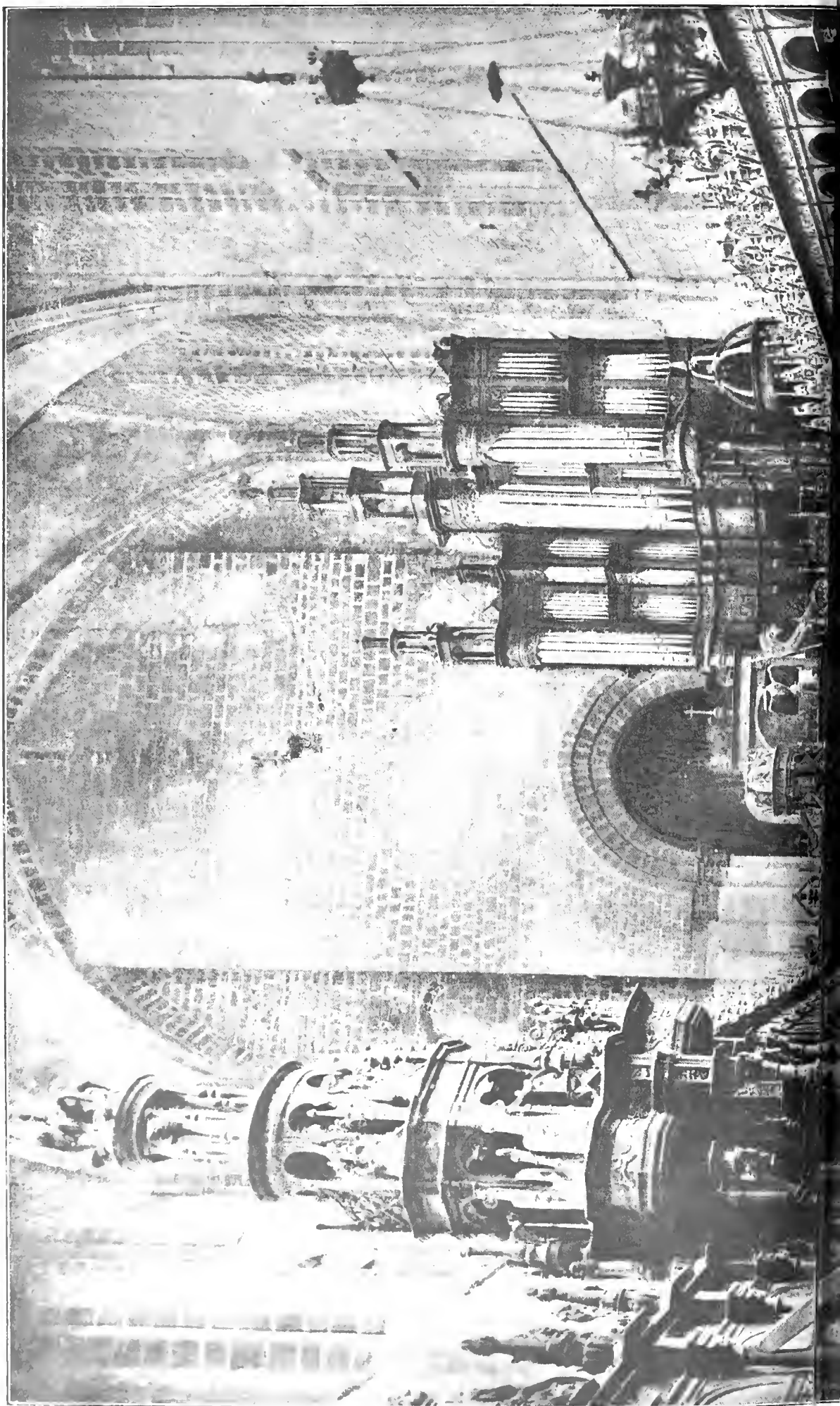
HERBERT BAKER, F.R.I.B.A., and ERNEST WILLMOIT, F.R.I.B.A., Architects.

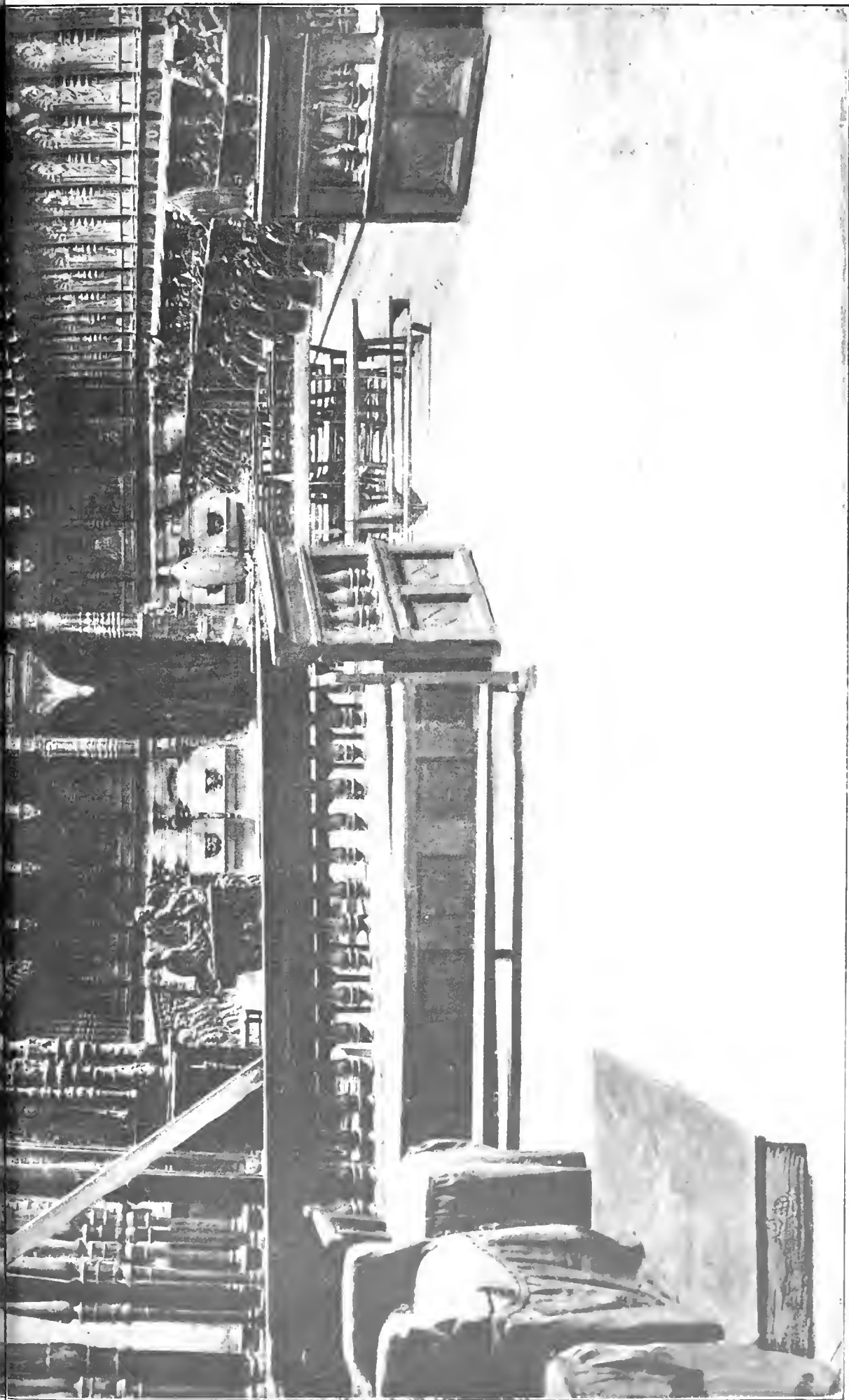


75-700



THE BUILDING NEWS, DECEMBER 4, 1914.





THE "CATHEDRAL," ST. BERTRAND DE COMMINGES, FRANCE: CHOIR STALLS AND ORGAN.



721-724

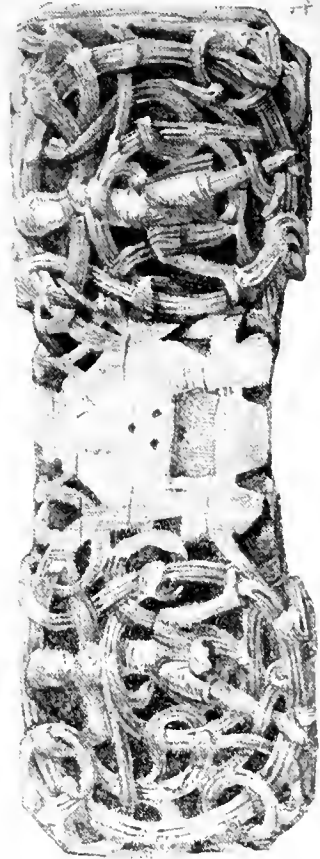




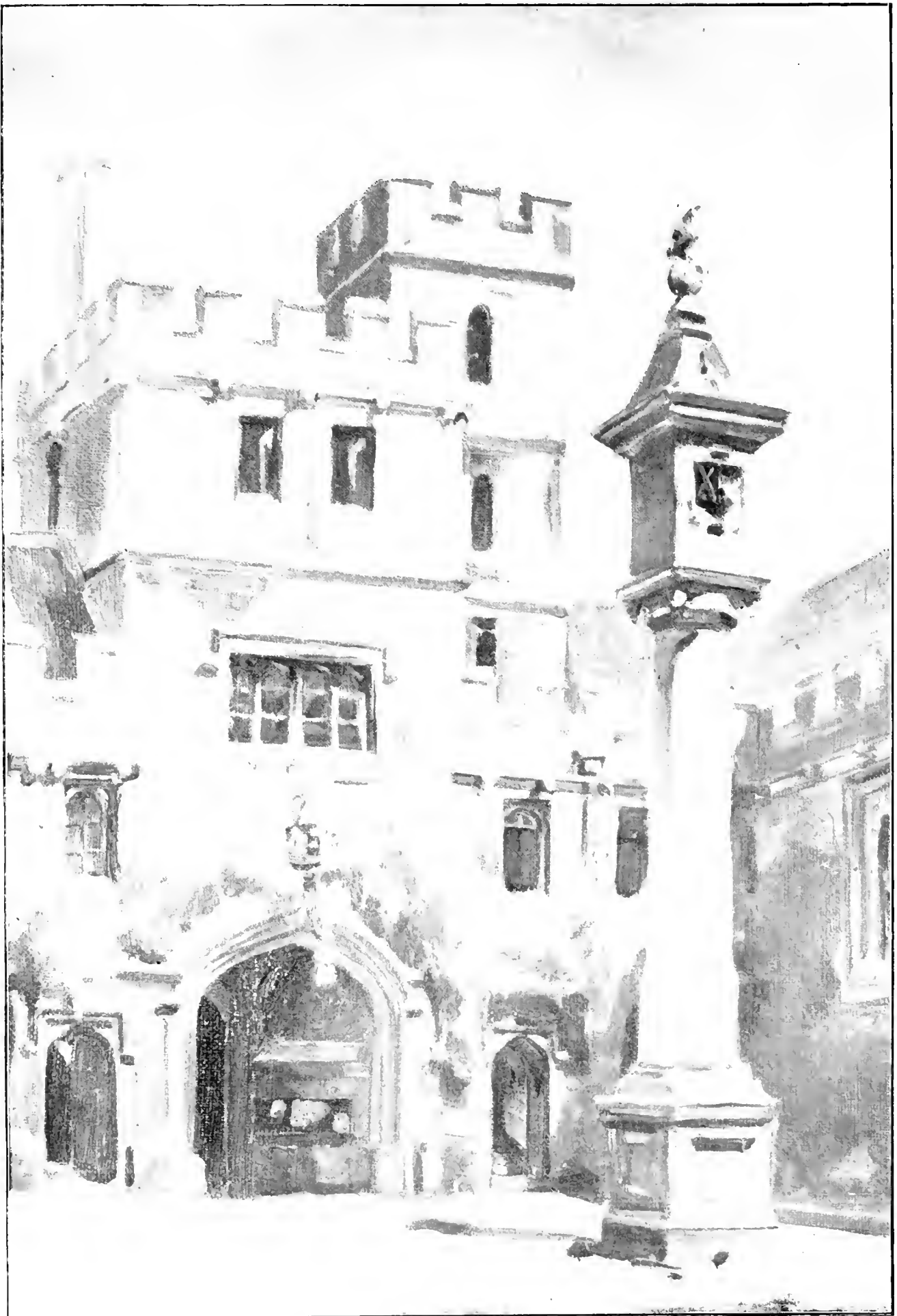
Openwork Ivory. Christ between St. Peter and Paul. Above are the Circumcision, the Adoration of the Kings and the Presentation. Height 7 cent., with base 1 cent. Bought by the Victoria and Albert Museum.



Openwork Ivory. Flight into Egypt. Bought by the Victoria and Albert Museum.

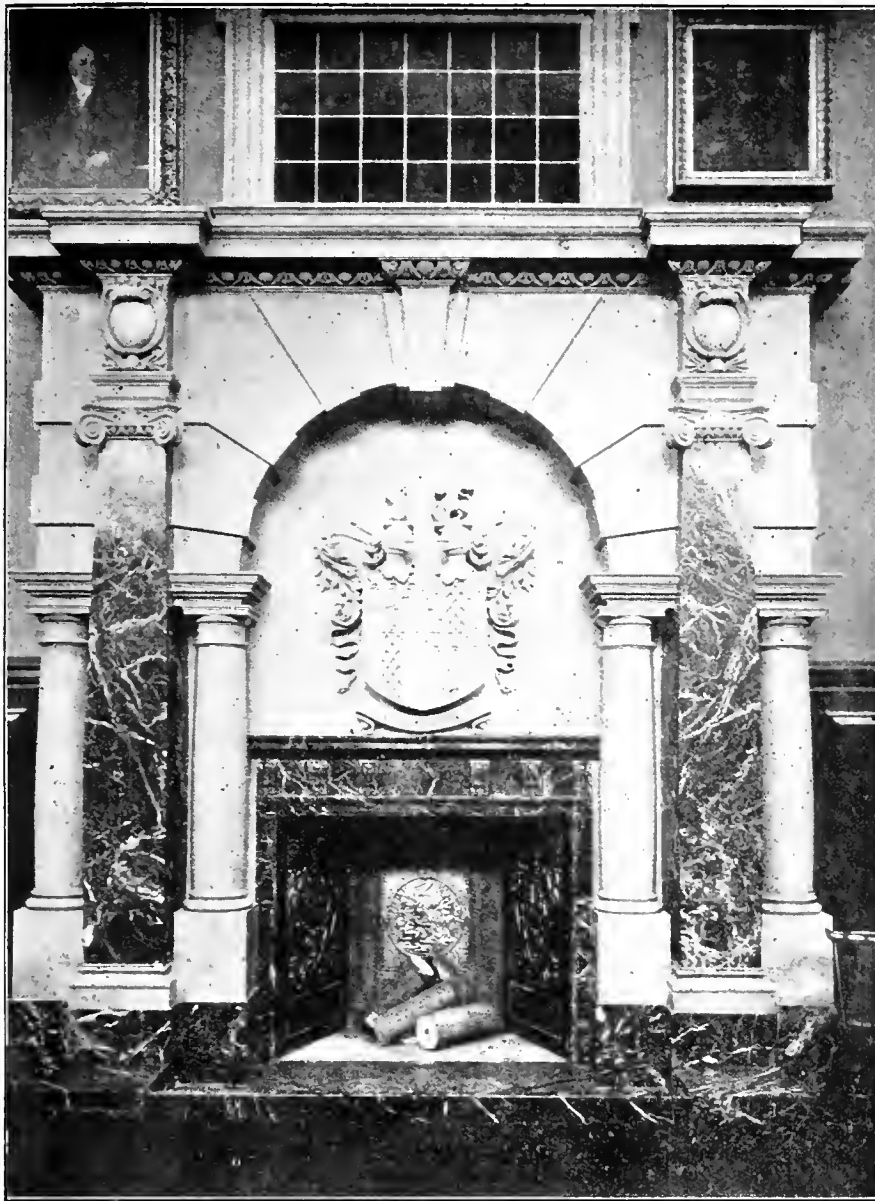


Openwork Ivory. Design of the Victoria and Albert Museum. Bought by the Victoria and Albert Museum.



CORPUS CHRISTI COLLEGE QUAD, OXFORD.
Sketched by Mr. ERNEST A. S. BENNEY, A.R.C.A.





HAGGERSTON CASTLE, NORTHUMBERLAND: GREAT HALL FIREPLACE.

The late R. NORMAN SHAW, R.A., Architect.

HAGGERSTON CASTLE, NORTHUMBERLAND: DETAIL OF THE GREAT HALL.

This geometrical detail shows to a good scale the original work of the main hall, carried out by the late R. Norman Shaw, R.A., when the original mansion was erected, some years ago, under his superintendence, and the photograph reproduced to-day represents the big fireplace in the same hall, also designed by him. Both illustrations, therefore, are of particular interest. His building was mainly destroyed by fire, and the plans and views which we gave in our issues for Oct. 23 and 30 last fully elucidate the rebuilding and newly-designed house, of which Mr. James B. Dunn, F.R.I.B.A., of Edinburgh, is the architect. The organ erected above the gallery of the great hall is his work. A description of the building and its large formal garden scheme will be found printed, with a double-page view, detail of the garden front, and interior of the octagon vestibule, in the BUILDING NEWS for October 23. The organ in the hall on the screen serves in reality to mask the end window, which is part of Norman Shaw's design, as drawn in the accompanying double-page sheet, lent us by Mr. James B. Dunn, who restored the hall after the fire, and repaired the marble-work, which had been badly damaged.

QUAD., CORPUS CHRISTI COLLEGE, OXFORD.

This spirited oil colour sketch, handled in a pictorial way, has been con-

tributed by Mr. Ernest A. S. Benney, A.R.C.A., who has been good enough to post us the following particulars by way of description: Corpus Christi College, Oxford, the first of the Renaissance colleges, was founded by Richard Fox, Bishop of Winchester, who was prelate, statesman, architect, soldier, herald and diplomatist. He purchased ground of Merton College, St. Frideswide's Priory, etc. The charter of the foundation, granted under Royal Licence from Henry VIII., four years later, bears date March 1, 1516-17. The college, to be called Corpus Christi, was founded to the praise and honour of Almighty God, the Most Holy Body of Christ, etc. Over the gateway approaching the quadrangle, "as seen in the picture" the name is indicated by sculpture a group of angels bearing a pyx, the receptacle of the sacramental Host (the Body of Christ: Corpus Christi). A fascinating hall, library, and chapel are the features of the quadrangle. Within are retained the pastoral staff of the founder, together with a chalice and paten, which rank among the finest examples of English silversmiths' work. The curious sundial in the centre was erected by a Fellow of the college in 1581. It is surmounted by a pelican valuing herself in piety.

Mr. Stanley Barker Johnson, one of the resident assistant engineers to the British Gas-light Company at Hull has been appointed assistant engineer and manager to the Gas and Water Company of Colombo Ceylon.

COMPETITIONS.

BOARD OF TRADE NEW OFFICES.—The final designs for the Board of Trade offices to be erected on the Thames Embankment, on the site at the rear of the Chapel Royal, Whitehall, were sent in on Wednesday last, the 2nd inst. The following is the correct list of the ten competitors, which almost exactly corresponds with that which we gave some months ago (April 10), after the selection was made by the assessors, Sir Aston Webb, R.A.; Mr. Reginald Blomfield, R.A.; and Mr. Ernest Newton, A.R.A., P.R.I.B.A. The names appear here in alphabetical order; Messrs. H. Percy Adams, F.R.I.B.A., and C. H. Holden, A.R.I.B.A., London; Messrs. H. V. Ashley, F.R.I.B.A., and F. Winton Newman, F.R.I.B.A., London; Mr. C. T. Armstrong, A.R.I.B.A., London; Messrs. Robert Atkinson, A.R.I.B.A., and George L. Alexander, A.R.I.B.A., London; Messrs. H. T. Buckland, F.R.I.B.A., and Edward Haywood-Farmer, F.R.I.B.A., Birmingham; Mr. Edwin Cooper, F.R.I.B.A., London; Messrs. Charles Gascoyne and George Nott, A.R.I.B.A., London; Mr. E. Vincent Harris, F.R.I.B.A., London; Messrs. Alick G. Horsnell and Amesley H. Brownrigg, A.R.I.B.A., London; and Messrs. Percy E. Thomas, Ernest Prestwich, and Ivor Jones, A.R.I.B.A., Cardiff.

McKINLEY MEMORIAL.—Seven architects will compete for the prize offered through a committee of the American Institute of Architects, for the best plans and drawings for the National McKinley Birth-place Memorial, to be erected at Niles, Ohio. The architects are Henry Bacon, 101, Park-avenue, N.Y.; Cass Gilbert, 11, E. 24th-street, N.Y.; McKim, Mead, and White, 150, Fifth-avenue, N.Y.; H. Van Buren Magonigle, 101, Park-avenue, N.Y.; Palmer, Hornbostel, and Jones and J. L. Decker, associated, 63, Williams-street, N.Y.; and J. L. Decker, Niles, Ohio, and Zantzing, Borie, and Medary, 139, S. 15th-street, Philadelphia, Pa. Mr. J. C. Butler, jun., of Youngstown, vice-president of the association, will announce the name of the architect as soon as the selection is made. The site includes five acres of ground. There has been raised 200,000dol. for the building. The building will have an auditorium that will seat 1,000 persons, a public library, a relic room, an assembly-hall, and a room for the meetings of city officials. The building will be of two stories, with a basement. Granite will be used in the construction. A life figure of McKinley will face the main entrance of the memorial, and bronze busts of men associated with him in the affairs of the nation will have place in the building. These men are the ex-Presidents, William Taft and Theodore Roosevelt, Senator M. A. Hanna, and James Ward, sen., a pioneer iron manufacturer of Niles.

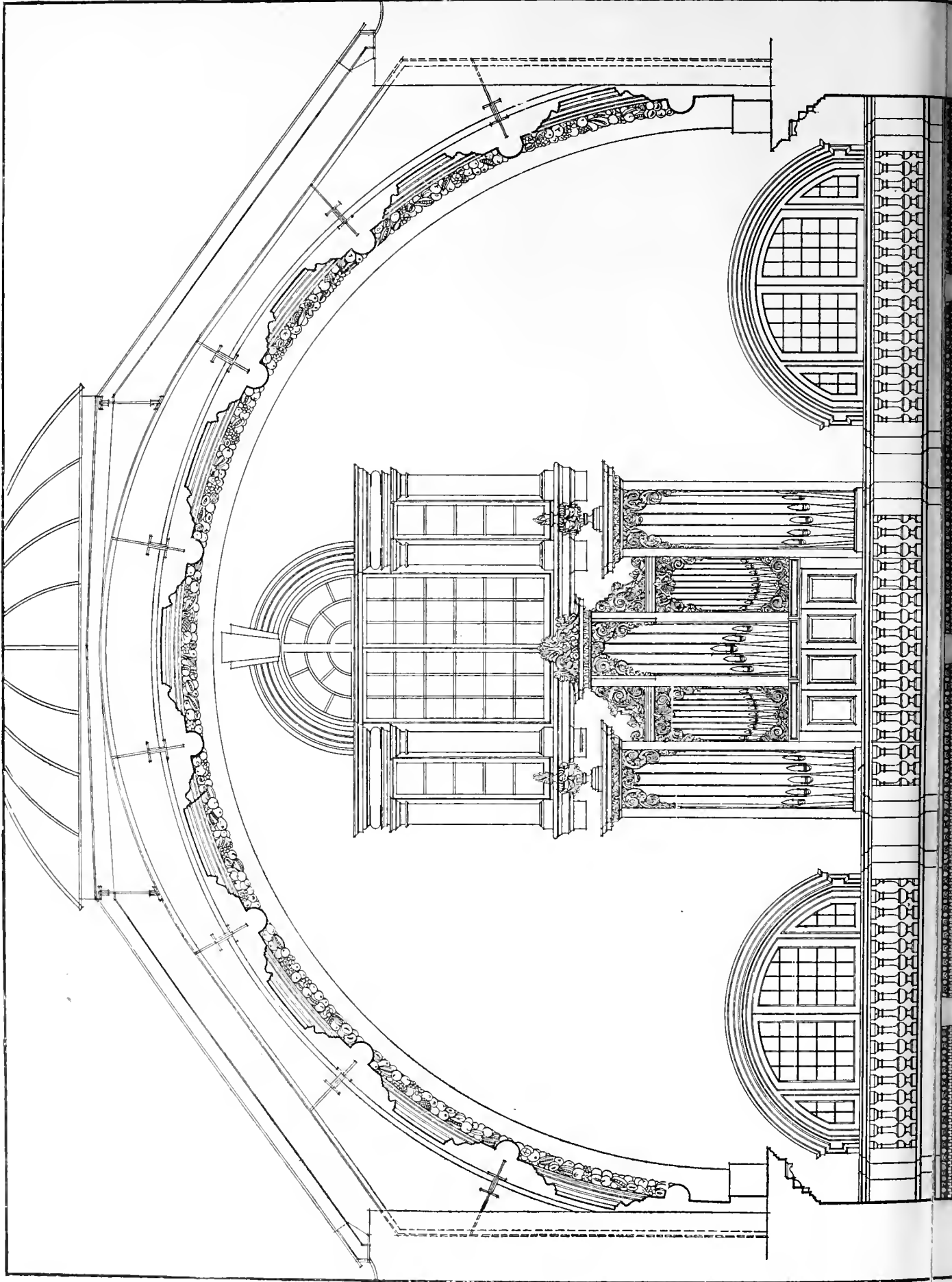
Mr. James Feehan, assistant county surveyor to the county council of Queen's County, has been appointed to act as temporary county surveyor.

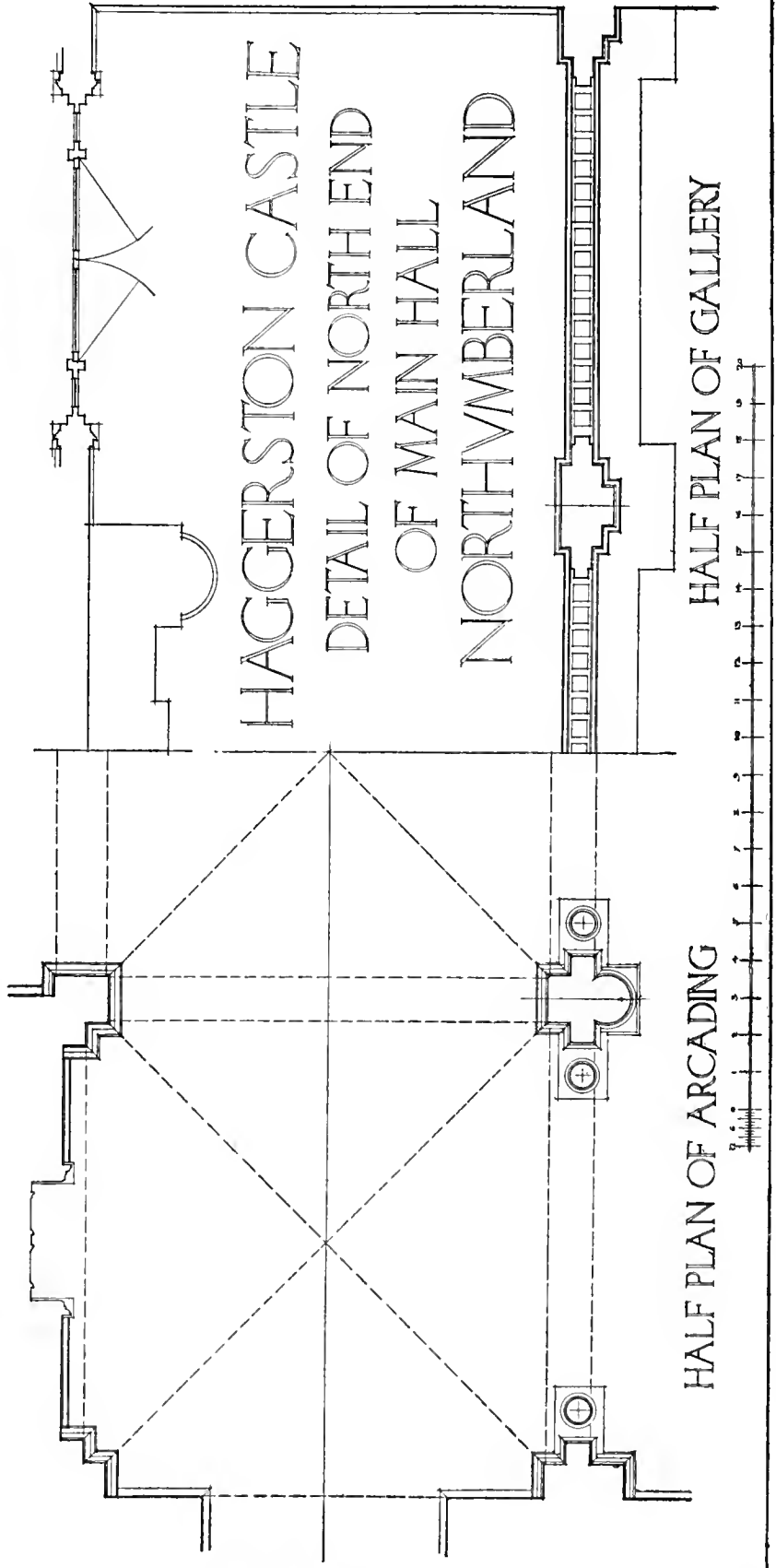
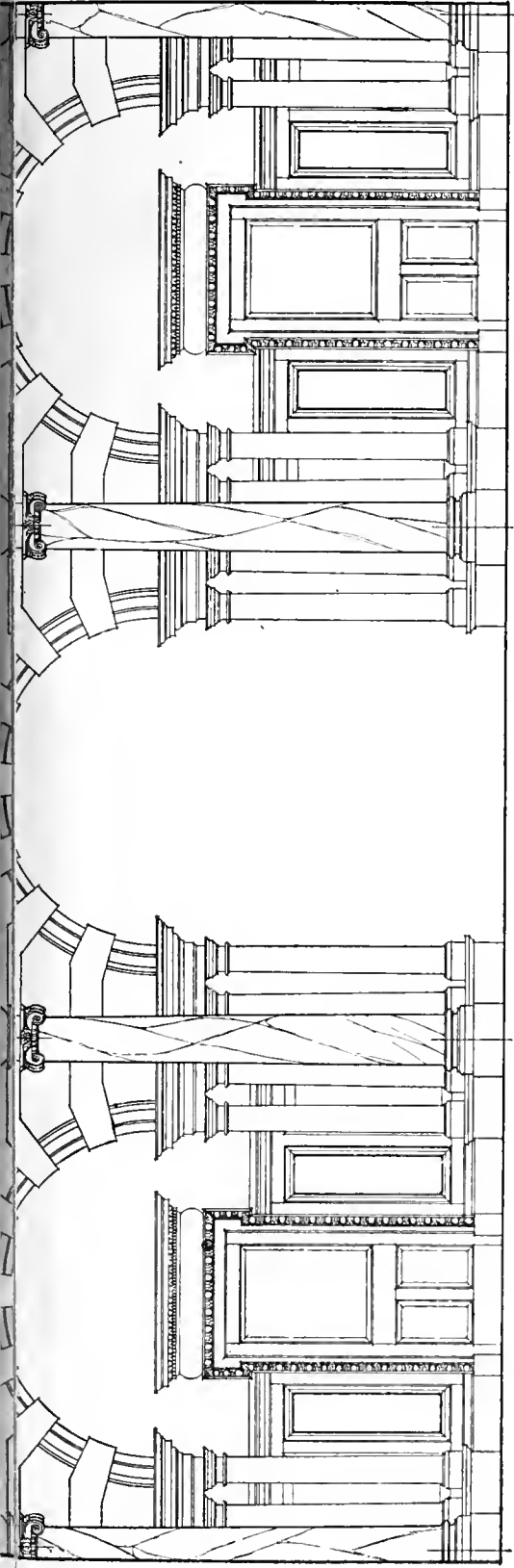
The foundation stone of a Roman Catholic church at Salfrey has been formally laid. The architect is Mr. Alfred Gilbertson of Liverpool and the contractors are Messrs. William Fleming and Co. of Neston.

The Chepstow Bridge Works have secured a contract for a pair of dock-gates for the Cardiff Railway Company to replace a pair built by the late Mr. Finch over fifty years ago. The firm intends to complete the gates, each of which will weigh about 100 tons, at its works, and launch and tow them to Cardiff, where the existing gates have to be removed and the new ones placed in position in five tides.

The corporation of Derby have purchased Nos. 9 to 17, Cheapside, thus paving the way to an important improvement in the centre of the town. They now own the whole of the property between the public library and art-gallery and Cheapside, and the education committee propose to erect a school of art on part of this site, and thus relieve the congestion at the technical college. The remainder of the land acquired will probably be used for the development of the library and art-gallery and street widening purposes.

THE BUILDING NEWS, DECEMBER 4, 1914





HAGGERSTON CASTLE
DETAIL OF NORTH END
OF MAIN HALL
NORTHUMBERLAND

HALF PLAN OF ARCADING

HALF PLAN OF GALLERY

The late R. NORMAN SHAW, R.A., Architect. Organ Case added by Mr. JAMES B. DUNN, F.R.I.B.A., Architect, 1914.

Building Intelligence.

NEW SANATORIA.—A sub-committee of the Metropolitan Asylums Board have approved and forwarded to the Local Government Board sketch-plans prepared by the architect, Mr. E. T. Hall, F.R.I.B.A., of Bedford-square, W.C., for the erection of sanatoria (1) for 232 women at Hyde Style, near Godalming, at an estimated cost of £42,138; (2) for 168 men at Felbridge, near East Grinstead, at an estimated cost of £29,900; (3) for 175 men at Ellisfield, near Basingstoke, at an estimated cost of £30,973. In the case of the proposed sanatorium at Godalming the Local Government Board has already given its general consent to the plans. The plans for the sanatoria at East Grinstead and Basingstoke are still under consideration.

The Local Government Board have intimated to the city council of Wakefield their sanction to the borrowing of £13,145 for the provision of working-class houses.

The corporation of Penzance are about to expend £2,000 in strengthening the Western Quay and the provision of stores for dealing with the proposed export trade in china-clay from the St. Just district.

The Coventry City Council are applying to the Local Government Board for authority to prepare a town-planning scheme, a portion of the land for which is situated in the parish of Foleshill, in the district known as Lythall's Lane, near the London and North-Western Railway.

Stained-glass windows erected to the memory of the late Rev. John Kelly and the late Rev. Charles Malfait, former priests at the Sedgley Roman Catholic Church, were officially blessed last week in that church. The windows are situated on either side of the altar. One represents a life-sized figure of St. John, and underneath is a smaller painting showing St. John leaning on the breast of the Saviour at the Last Supper. The other depicts Cardinal Saint Charles Borromeo. Underneath is a smaller painting of Saint Charles giving Communion at the time of the plague to the poor.

The work of widening and otherwise improving the North Bridge at Oundle has been completed. Explanatory statements on the work executed were made, at the formal inspection on behalf of the Northants County Council, by the county surveyor and the contractor. The bridge is 920ft. long and 36ft. wide. There are thirteen arches, nearly all of which have been rebuilt, and there is a footway for pedestrians, 6ft. wide, on each side. The total cost of the work was £10,000. At the suggestion of the county surveyor, the tablet which had been found, and which stated that the bridge was rebuilt in 1570, will be placed in the wall close to where it was found, but on the road side of the bridge.

The question of purchasing two farms adjoining Lech Lintrathen, which supplies Dunlee with water, was considered by the Dunder Water Commissioners last week. It was reported that the Water Commissioners' valuation of the land was £7,500, and it was suggested that the superior, Lord Airlie, might be offered £8,500. The engineer said that, rather than give the price asked by the superior, the Commissioners should consider a filtration scheme. The price which was being asked was thirty-two years' purchase of the gross agricultural and shooting rents, or thirty-eight years' purchase of the net annual return. It was agreed to make no offer meantime.

It was reported to the Kent County Council at their quarterly meeting that the works at Barning Lunatic Asylum, for which a grant of £9,500 was made, had been completed. There was a total saving of £785 13s. 5d. The work had extended over a period of six years, and been carried out under the supervision of Mr. Lauson, the engineer of the asylum, thus saving the employment of an architect and its attendant expenses, and the committee asked the county council to make a grant of £100 to Mr. Lauson for his services. The committee had been instructed by Mr. Ernest Newton, M.R.A.P.R.I.B.A., to prepare plans and specifications for the new house for the senior assistant medical officer at Barning Asylum, and now asked permission to obtain tenders and carry out the work; also for a grant of £1,700 to cover the estimated cost of the works. The recommendations were adopted.

Engineering Notes.

RAILWAY WIDENINGS IN KILBURN AND HAMPSTEAD.—The laying down by the Metropolitan Railway of a new express line between Baker-street and Harrow has entailed the construction of a new railway viaduct at Kilburn, and the demolition of two tunnels at Finchley-road. Most of the new line has been laid on land belonging to the Metropolitan Railway parallel with the existing lines; but between West Hampstead and Kilburn stations a lofty viaduct over one-third of a mile in length has been constructed; four bridges have also been built, the largest, that over Kilburn High-road, having a clear span of 147ft. centre. The engineer is Mr. W. Willox, M.Inst.C.E., engineer to the Metropolitan Railway. The contractors for the bridges over Kilburn High-road and Loveridge-road are Messrs. E. C. and J. Keay, Darlaston, and for the bridges over Iverson-road and the North-Western Railway, Messrs. Eastwood, Swinger, and Co., Derby. The work is under the superintendence of Mr. O. G. C. Drury, resident engineer.

A new church is about to be built in Newport, County Mayo, from plans by Messrs. Doolin and Butler, architects, Kildare-street, Dublin.

The urban district council of St. Helens, Isle of Wight, have appointed Mr. P. C. Cocks surveyor and sanitary inspector in place of Mr. A. S. Lilley, now surveyor and clerk of works to the Portland Urban District Council.

To cope with the increased demand for electricity, the Hackney Borough Council recently decided to make additions to their plant and buildings involving an outlay of nearly £200,000. The first important instalment of the work has now been completed.

Mr. Nagendra Nath Vasu, who recently returned from an exploration of Senabhum and Senapahari, on the border of the districts of Burdwan and Birbhum, left Calcutta a fortnight ago for Assam, where he proposes to explore the ruins and antiquities of different places mentioned in ancient inscriptions and copper plates.

Good progress is being made with the Doncaster tramway extensions to Warnsworth, on the one hand, so as to link up the colliery village of Edlington with the town, and to Woodlands, on the other, to serve the mining population associated with Brodsworth Colliery. It is expected that both routes will shortly be opened.

The Architects' Association of the Province of Quebec have under consideration the question of quantity surveying, and a committee appointed to study the subject recently held a conference with members of the Montreal Builders' Exchange, representing the general contractors, painters, plumbers, and electrical contractors. A majority of those present were favourable to the adoption of the system.

The committee of visitors to Fulbourne Asylum, under the Cambridgeshire County Council, have approved plans for the alteration and enlargement of the asylum and for the provision of an isolation hospital. The scheme includes the following: New block for forty-four female patients, with flat roof; new administrative block and alterations to existing centre block; isolation hospital; verandah to male infirmary ward.

The seal has been affixed to an agreement between the Warwickshire County Council, the Bulkington Urban District Council, the Foleshill Rural District Council, and the Coventry Canal Company in respect of the reconstruction of a dangerous canal-bridge on the main road between Bedworth and Bulkington. The work is to cost £1,100, and has been under discussion for ten years.

At Ferryenrig, near Wexford, a new bridge has been constructed over the River Slaney from plans by Mr. Stafford Garney, M.I.C.E., county surveyor for Wexford. The new bridge is 376ft. long and 25ft. 6in. wide, with one opening span for river traffic. Nine of the remaining spans are 30ft. in width from centre to centre of support, while the end spans measure 19ft. and 21ft. respectively between supports. With the exception of the opening span, which is constructed of steel girders, the bridge has been carried out in ferro concrete. The contractor was Mr. R. Colhoun, of London.

PROFESSIONAL AND TRADE SOCIETIES.

MISERERES IN BRUGES CATHEDRAL.—The forty-three misereres in the Church of St. Sauveur at Bruges, for nearly 120 years past known as the Cathedral, were described and illustrated by photographs shown as lantern-slides, by Miss Annie Abram, in a paper read before the Royal Archaeological Institute on Wednesday afternoon. Sir Henry Howarth presided. As regards all but two, Miss Abram concluded that these misereres belonged to the first half of the 15th century, or, at latest, a year or two after 1450. One of the exceptions was a "Conversion of St. Paul," a subject not found in misereres in England, and the other a woman's figure, distinctly Greek in type, and probably, as the chairman in the discussion which followed the lecture suggested, inspired by a piece of Classic sculpture. Both of these belonged, in all likelihood, to late in the 15th century, and seemed to indicate another hand from the others, the artist of which was doubtless some peasant craftsman. Miss Abram remarked that these examples were lacking in humour, and failed, especially when representing animals.

NOTTINGHAM AND DERBY ARCHITECTURAL SOCIETY.—At a meeting held on Wednesday, November 25, five honorary members were elected. The president, Mr. Harry Gill, announced that the society was arranging to send a Christmas greeting to each of the seventeen members who are now serving with the colours, their names being as follows: Capt. B. E. Baily, Active Service Battalion R.H.R.; Lieut.-Col. A. W. Brewill, Active Service Battalion R.H.R.; Lieut.-Col. M. Hunter, 5th Battalion Notts and Derbyshire Regiment; H. Beaverstock, 12th Battalion Sherwood Foresters; E. H. Brown, 7th Battalion Notts and Derbyshire Regiment; E. Burnett, King's Royal Rifles; Second-lieut. G. M. Eaton, 11th Battalion North Stafford Regiment; E. Fincham, 7th Battalion Notts and Derbyshire Regiment; H. P. Gill, 13th Battalion Sherwood Foresters; Second-lieut. C. W. F. Hasledine, 5th Lincoln; Sergt. L. Y. Harris, 4th P.S. Battalion Royal Fusiliers; A. L. Holbrook, 7th Battalion Notts and Derbyshire Regiment; Second-lieut. T. C. Howitt, Leicester Regiment; Corpl. B. Jessop, King's Royal Rifles; G. E. King, 12th Battalion Sherwood Foresters; D. E. Knight, Officers Training Corps; and Second-lieut. N. H. Pratt, Kent Sherwood Foresters. Mr. T. W. Hammond then showed upon the screen a large number of photographs of his charcoal and pastel drawings of old Nottingham, from the "sixties" to the present day. Their local value is, of course, immense, as, alas! most of the "quaint bits" of old Nottingham have gradually been replaced by "modern improvements." Some of the later ones showed how even a pile-driver on the river and the modern tram-poles and span-wires could be made into an artistic composition. Mr. Sutton, the past-president, tendered to Mr. Hammond their thanks for his lecture, and Mr. Watkins, vice-president, in seconding, suggested that Mr. Hammond should have his drawings reproduced.

Mr. Robert Rosbotham, of Ormskirk, the chief surveyor of the West Lancashire Rural District Council, who was a private in the West Lancashire Division of the Royal Engineers (Territorials), and is now stationed at Seven Oaks, has been offered, and has accepted, a commission as second lieutenant.

According to the Board of Trade report on the state of employment during October, the building trade in London has had a revival of activity, many large firms employing more men than before the war, though not so many as a year ago; while carpenters and bricklayers have benefited by the demand for army and hospital huts. The cabinet trade is still badly reduced.

A meeting was held in the City Chambers, Edinburgh, yesterday (Thursday), in connection with the proposed town-planning scheme for an area in the Abercorn, Dunnington, and Niddrie districts. The scheme was discussed with a view to securing the co-operation in the promotion of the scheme of all owners or other persons interested.

Correspondence.

SANITATION AT THE FRONT.

To the Editor of the BUILDING NEWS.

SIR,—Your readers will be interested to hear that orders have just been received from the War Office to send out several sections of the sanitary companies for sanitary duties with the Expeditionary Force. These will absorb practically the whole of the Imperial Service Company and a half of the First Reserve Company, rendering it necessary forthwith to recruit additional men to fill the vacancies, and to furnish the further sections which will be sent to the front later on. These new sections will afford opportunities for promotion to non-commissioned rank to men with good sanitary qualifications.

A large number of your readers have already come forward in response to my previous appeals, and I trust that the prospect of foreign service, and the official recognition now received of the value of the sanitary companies will stimulate many more to do so. Intending recruits should apply forthwith either personally or by letter to O.C. Depot, Medical Units, 2nd London Division, Duke of York's Headquarters, Chelsea, S.W.—1 am, etc.,

ARTHUR J. MARTIN, Capt. R.A.M.C. (T.).
O.C. 2nd (1st Reserve) London Sanitary Company.

Duke of York's Headquarters,
Chelsea, S.W., Dec. 1, 1914.

The Tottenham Education Committee have decided to ask two architects to submit competitive designs for a special school on the Orchard House site.

The Tottenham Urban District Council have agreed to a recommendation of the housing and town-planning committee that their engineer, Mr. W. H. Prescott, M.Inst.C.E., prepare a scheme for erecting working-class houses on the council's land at Tottenham Hale.

At Oxford University, the curators of the Hope Collections have appointed Mr. Charles F. Bell, M.A., F.S.A., Fellow of Magdalen College, and Keeper of the Art Galleries at the Ashmolean Museum, to be Keeper of the Hope Collection of Engravings, in place of the late Thomas W. Jackson, M.A., Fellow of Worcester College. Mr. Bell, who is a nephew of Sir Edward Poynter, A.R.A., is a trustee of the National Portrait Gallery.

A series of tests to determine the strength of glue were made by Messrs. O. Linder and E. C. Frost, and reported to the recent meeting of the American Society for Testing Materials. The results show a strength of from 1,100lb. to 1,950lb. per square inch for a glue made of 1 part dry glue and 3 parts water, and a strength of 60 to 70 per cent. of the above figures for a 1:5 glue. Prolonged heating lowers the strength of the glue. Glue solutions heated to 150deg. F. for twenty hours showed a loss of 30 to 45 per cent. in strength.

Considerable improvements and additions have been carried out by the managers of Penroyer's Free School at Pullham St. Mary, Norfolk. A new classroom has been added, one of the porches has been enlarged, and the other altered, and both fitted up as cloakrooms. The old portion of the school, which was formerly a guild chapel erected in 1401, remains much in the same condition, with the exception that a solid wood floor has been laid in place of the joists and boards, which had got into a very dilapidated condition. The work was carried out by Mr. Maurice A. Redgrave, of Bergh Apton, at a cost of £500, Messrs. Lacey and Upcher, of Norwich, being the architects.

At the last meeting of the Faversham Rural District Council a letter was received from Messrs. A. H. Ball and Co., Ltd., whose tender for carrying out the Boughton water-supply extension scheme had been accepted at the previous meeting, stating that as they had found two errors and one omission in their figures, the most straightforward course was to withdraw their tender. The clerk stated that the next lowest tender was £500 more than that of Messrs. Ball. The engineer wrote advising the council not to make an offer, but to re-advertise the job. He also suggested that when the new tenders were opened the result should be kept strictly private until the contract was signed. The council decided to take this course.

Intercommunication.

GUINEAS FOR BEST REPLIES.

We offer a prize of one guinea every week for what we deem the best reply to any query appearing in this column, which we deem worth insertion.

Replies must be sent in over real name and address. No others can receive a prize. The Editor's judgment is final.

This competition is restricted to buyers of the paper, and with each reply a coupon cut from our front page must be enclosed.

Any number of replies can be sent, but a coupon of this date must accompany each.

All else being equal, brief replies will stand the best chance. We emphasize this, as some correspondents ignore the fact that querists want terse facts, not long essays. Any necessary illustrations must be in line only—no tints or washes—and about twice the size they are meant to be reproduced. We are unable to avail ourselves of replies that contain illustrations unless we receive them by first post on Tuesdays.

The right to withhold the prize in the event of no reply being received worthy of it is reserved by the Editor, who also claims the right to publish any other replies he may deem useful.

We divide the guinea equally in respect of replies 13149 between Messrs. Thos. Thompson and Son, Arthur P. Crumpler, O. L. Abbott, and J. G. Hindworth. No satisfactory reply to query 13150 was possible. No universally recognised system has yet been evolved, and the many different methods employed incline us to the preference expressed for the retention of colour for working drawings.

REPLIES.

[13149].—PORTLAND CEMENT AND PLASTER.—Portland and Keene's cement plastering, without a doubt, is the finest and best form of plastering in experienced hands. The Portland cement backing to be ganged—2½ measures of sharp sand to 1 of cement. Finish with Keene's cement, neat (after the backing has stood for 24 hours). Then lay the work painted with a sharp priming coat within 12 hours—that is, during the time the Keene's cement is setting. The first coat will then set in with the cement. The remaining coats of paint can follow at any time. I have never known a failure with the above specification.—Thos. Thompson and Son (H. T.), 17, Queen-street, Bedford.

[13149].—PORTLAND CEMENT AND PLASTER.—During my experience I have always found it quite reliable to apply paint to Keene's cement plaster with Portland cement backing, if the work is carried out as follows:—The Keene's cement should be laid on in two coats: the first composed of 2 parts sand to 1 part cement, and the second coat of cement neat, and it is a good plan to apply the first coat of paint before the second coat of cement is absolutely dry. The paint used should be similar to that used for woodwork, but a larger quantity of oil should be mixed, owing to the absorbent nature of the plaster. If the wall to be painted is not new, it should be rubbed down lightly with sand-paper, and any cracks filled in with Parian cement, and then the priming coat applied. If the work is carried out in the above manner, I am sure "Plasterer" will have thoroughly satisfactory results.—Arthur P. Crumpler, 20, Alexandra-road, Hemel Hempstead.

[13149].—PORTLAND CEMENT AND PLASTER.—Portland cement backing, finished with fine Keene's cement in large surfaces as plastering on walls is not to be relied upon. Firstly, because Portland cement is treacherous, unless it is thoroughly calcined and air-slaked. I have known instances where Portland cement has been used as a backing to a patent plaster which has been painted; the cement has blown and flaked the plaster and paint off, or else efflorescence has worked through the plaster from the cement and blistered the paintwork and created patches resembling mould. To obviate this, and to secure a quicker setting and hard plaster, I advise the use of Parian or Sirapite, which can be applied direct to the wall, which should be thoroughly brushed down first, the first coat to consist of coarse quality of either plaster ganged with sand (one to two) ½ in. thick, and finished with neat superfine coat trowelled hard and smooth ½ in. thick, total thickness ¾ in. This can be painted on within a few hours of being finished. Salient angles would not require cement wings, as the plaster is hard enough to resist knocks, etc.—William J. Pywell, Cumberland House, Hanwell, W.

[13149].—PORTLAND CEMENT AND PLASTER.—Such a combination as that mentioned by "Plasterer" is not good; the reasons being that the aluminates in the Portland cement react chemically, in the presence of water, with the calcium sulphate of the Keene's cement, producing sulpho-aluminate of lime, which tends to increase in volume, or, in other words, has a tendency to "blow"; also, should there be any foreign matter in the sand this tendency will be increased. Another reason is cost. Quick-setting plasters are on the market, such as Sirapite, Adamant, Granite, Silicon, &c., which require only two coats, and can generally be finished the same day; but, of course, so much depends on the time of year. I know of several contracts in which one of these plasters has been used by the contractor to save time, and incidentally labour—i.e., two-coat work as against three, the additional cost on the material being very little as against that of ordinary plaster.—K. H. Read, Lecturer on Building Construction, Gloucester and Stroud Technical Schools.

[13149].—PORTLAND CEMENT AND PLASTER.—Yes, Portland cement backing, finished with fine Keene's cement in large surfaces as plastering to walls, is to be fully relied upon; but only for internal walls to which damp cannot gain access. For success it is a sine qua non that the rendering coat should be Portland cement, and not lime. The proportions for first-class

work would be:—Rendering coat: One part Portland cement, two parts clean sharp sand. Setting coat: Pure Keene's cement about ½ in. thick, giving a total thickness of about ¾ in. Keene's cement sets very hard in a few days, when it may be painted or papered; but Parian cement sets even quicker—in a few hours—and is then capable of receiving paint or paper; it is also preferable to Keene's for large surfaces, as it works freer, though not fatter. A very good combination is Portland cement rendering with a thin finishing coat of Sirapite. This latter sets rapidly, dries quickly, is much harder than lime plaster, dispenses with Keene's cement angles, and is cheaper than Keene's or Parian cement. It can very soon be painted and papered. Sirapite is, however, usually used as two-coat work, the rendering coat being one part Sirapite to three parts clean sand, the finishing coat being Sirapite only, and applied as soon as the first coat is firm, the two coats being finished off in 24 hours. This material does not crack with every little vibration on the floor above. Like Keene's and Parian cements, plaster of Paris, etc., it should not be used on permanently damp walls.—O. Lewis Abbott, 14, Carrington-road, Flixton, Manchester.

[13149].—PORTLAND CEMENT AND PLASTER.—"Plasterer" will find the following treatment to give every satisfaction for internal work:—(1) Rake out all the joists, both perpendicular and vertical, to a depth of at least 1 in. for good key, then thoroughly scrape, clean, and wash down with clean water "under pressure," used from hose-pipe, over the whole surface of wall to be plastered. Failing "water pressure," then scrub down, and thoroughly wash off with large-sized lime-white brush, and complete with clean water thrown from bucket treatment. (2) Fix screeds at a minimum of 4 ft. to receive thickness of 1 in. Portland cement backing, and plaster the said walls with an admixture of 1 part engineering standard Portland cement, 2 parts sharp, angular, clean, well-washed pit-sand or granite dust, and 1 trowelful of Pudlo to every cubic foot of mixing. The said cement to be turned out, and properly weathered for two weeks into a clean, wooden ark or bin, in a storeroom heated at a temperature of not less than 70°. After initial set of said cement, undercut with tip of trowel (not scratcher) for key in 2 in. meshes. Remove screeds and plaster to level surface, and complete with 4 parts White's Parian cement and 1 part Pudlo, with steel float to a polished face. (3) Allow the work to stand for one week if executed in summer weather, and two weeks in winter, the latter under a temperature of 70°, as before described, then give one coat of knotting, and follow on with one coat of red-lead in genuine oils of two raw linseed oil and one turp., and complete to colour as required. In any case, do not prepare or paint on a damp or moist surface. It must be absolutely dry to give satisfaction.—James Bromley, Moor Ville, 69, Lower Bank-road, Fulwood, Preston, Lancashire.

[13149].—PORTLAND CEMENT AND PLASTER.—Assuming that the materials are of the best, and properly mixed and manipulated, a most satisfactory job can be obtained with a Portland cement backing and a Keene's cement finish. I should recommend for the backing three parts of clean sharp sand to one part of one of the best grades of Portland cement, the float's walls to be then finished with a coat of neat fine Keene's cement. This latter cement is capable of being worked to a very hard and beautiful surface, which takes a brilliant polish. It can be painted upon within a few days, according to circumstances and time of year. Keene's cement is practically non-efflorescent, as if applied on a dry wall containing no soluble salt, in itself there would be no efflorescence that would spoil paint. If there is any suspicion of dampness in the walls, I would further recommend the addition of "Pudlo" in the cement backing. In a case that came under my notice some time ago, where in a large hospital (built with solid walls) the damp had penetrated through the original plastering and brought it off in large patches, the walls were stripped and replastered with a Portland cement backing containing five per cent. of "Pudlo," and finished in Keene's cement, and this has proved an absolute success.—J. G. Hindworth, L.R.I.B.A., Town Hall, Stockport.

[13149].—PORTLAND CEMENT AND PLASTER.—Having had nearly thirty years' experience of Portland cement, and Keene's setting on same, I can safely say it is the most reliable form for a sound, strong, and perfect surface for painting on as a finish that I know of, both for large or small surfaces. Execute as follows:—Render brick walls in usual way with Portland cement and clean sharp sand, ganged 1 of Portland cement and 3 of sand, ½ in. thick, and after same has set (which will be one day at the most), put on a setting coat ½ in. thick of finely-ground (not the coarse) Keene's cement, and finish same with an iron trowel to a glossy surface, and directly this is finished, put on a coat of ordinary white-lead paint, and let all (both Keene's and paint) dry together. Result: a perfect and durable surface. When dry, paint three or four coats to choice, according to finish required, well rubbing down after the second coat. Keene's cement setting put on neat; no sand with same.—James R. Barnes, Charenton, Sheldon, Teignmouth, S. Devon.

[13149].—PORTLAND CEMENT AND PLASTER.—Portland cement finished with Keene's cement forms a splendid surface for paintwork, and can without doubt be relied on. The number of walls so finished in both large and small buildings to-day and in the past is quite proof of its giving all-round, lasting, and satisfactory results. Good results are always obtained, provided the several points peculiar to this class of work are adhered to by the operator. If the plastered surface is not properly prepared to receive the paint, discoloration and peeling of the paint will follow. A plasterer and painter the writer employs always execute this work in the following manner:—The walls are prepared, the joints raked out a little, scored over with a broom to remove all loose particles, dust, &c. The surface is then made damp with clean water, and rendered with Portland cement and sand ganged 2½ to 1, the sand being well-sieved pit sand; both the cement and sand being well mixed into a heap, and turned over twice dry, water added and again turned twice to medium stiffness. This is followed up the next day with the floating coat, mixed in the same proportions, leaving the surface well scored. The total thickness of this coat is ¾ in. This is now left for three days, when it is ready for the

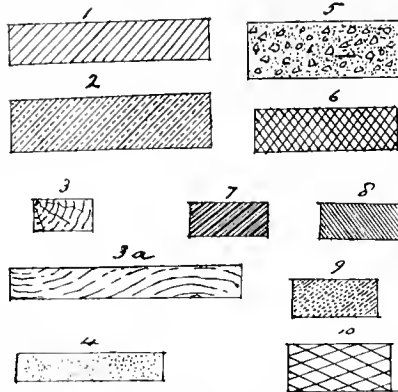
finishing coat, or setting of Keene's cement. The Portland cement rendering is first made damp. The Keene's, consisting of the superfine quality, gauged by sprinkling it into a pail containing water and fine sand, and with the cross-grained float, closing in the same material with the laying-trowel it is laid on, and scoring with a circular motion with but just sufficient water until a fine surface is brought up, followed by firm upright trowelling, and finally finishing both ways to remove all the superfluous cement by the float, and bringing to a true and even face with the trowel to a thickness of $\frac{1}{4}$ in.; first coat $\frac{1}{2}$ in. thick, one part cement and two sand; finishing, or second coat, $\frac{1}{4}$ in. thick neat cement. The surface must be brought out for the traversing rule to straighten by using the cross-grained float over the floating coat when it is beginning to set, so as to fill in all slack places—that is, small holes, hollows, &c. In finishing large surfaces in Keene's cement, several men should be employed at once, so that some may be setting, while others are laying down, trowelling, and finishing, &c., so as to avoid joints in the work. This finished plastered surface is now left two days to season, after which interval it is dressed with a size to receive the priming coat of paint. This size, which is kept in the form of a stock solution, is made up from dissolving 1 lb. glue in 1 gal. water, adding 1 oz. pulverised alum dissolved in 1 gal. hot water, adding 3 oz. sulphate of zinc and 1 oz. bar soap in 1 pint of boiling water. The Keene's finish is well brushed over with this size, which will naturally penetrate therein. When dry prime with paint made of 1 lb. red-lead, 6 lb. white-lead, 3 pints raw linseed-oil, with the addition of a little driers—about 2 oz., as such prevent penetrating. The second coat: Add a little more turpentine, and sufficient japan to dry it. Third coat, 13 lb. white-lead, 23 pints oil, $\frac{1}{2}$ pint turpentine, 1 lb. driers. Fourth, and last coat, 21 lb. white-lead, and from 1 lb. to 13 lb. colouring, according to depth required, ground stiff in oil, and thinned with $\frac{1}{2}$ pint mixing varnish, $\frac{1}{4}$ pint of gold size, $\frac{1}{4}$ pint of turpentine, and 3 gallons of turpentine. Stipple this coat, as it does away with all brush-marks, &c. Allow each coat to dry well before applying another. In cold weather better results are obtained by warming the paint a little before applying. This makes a first-class finish on Keene's cement. Four coats of oil-paint are not too many for good work. Scoring the surface for keying purposes with a pointed lath should not be adopted, this being done by the trowel as the work proceeds. It should be borne in mind that a much rougher surface is necessary with cement rendering than with lime, as the adhesibility of the subsequent coats of the former are in no way equal to the latter. It is important that any nails used for fixing screeds, fillets, &c., be removed, or that such are of a kind that are not likely to rust. Rust spreads rapidly over any work finished in Keene's cement. It is never safe to apply oil-paint directly on freshly-plastered surfaces on account of the free lime (calcium hydrate), as it saponifies the oil. This free alkali also has a destructive action upon colouring matters, working through the several coats of paints, and finally causing discolouration of the surface. This applies more especially to Portland cement than Keene's. Some plasterers size with a weak solution of hydrochloric acid and water to neutralise the free lime, and wash off with clean water. The next question is suction, whereby the ordinary sizing glue is often used. In some cases this answers the purpose, in others it does not, especially where the walls are somewhat damp it will loosen in time, and is one of the common causes of paint on plaster scaling off. It is also a cover to avoid applying the required number of coats of paint. The ordinary size is satisfactory when the work can be given a long period to season, as in old-style plastering. Some use a petrifying liquid, or silicate of soda 1 to 4, two applications. Two points to be remembered are first, a thoroughly-scoured surface or ground to work on, and, secondly, the surface properly prepared by a filling medium, resisting moisture, preventing undue suction, with good binding properties. The sizing mentioned acts as a filling, binding, and neutralising agent. Zinc is a good neutraliser of hydrate of calcium. The writer had a room decorated in the early part of last year in this manner, some of which was gilded, and the gold to-day is as bright and perfect as in the first place, although the situation is somewhat damp. The absorbency and dryness of the walls makes a good deal of difference.—Chas. A. Longley, 52, Ivanhoe-road, Denmark Park, London.

[13150].—WORKING DRAWINGS.—The method of finishing drawings, as mentioned by "Enquirer," has been introduced from America; but is hardly applicable to the small-scale drawings, such as fit, to one inch. For half-inch scale and upwards it is really admirable. The finest set of working drawings produced on this principle that I have ever seen were those for the Welsh National Museum at Cardiff, the architects being Messrs. Smith and Brewer, of London. The set, which numbered about 250 sheets, were put out for the students of my classes to see upon the occasion of their visit to Cardiff last May. These were mostly to $\frac{1}{2}$ in. scale, and none were coloured. Several have been reproduced in contemporary journals. I have also seen some of the details for the new Technical Institute at Cardiff (architects Messrs. Ivor Jones and Percy Thomas, old members of the "B.N." Designing Club) prepared in the same way. The Office of Works also use a similar method on some of their drawings, namely, hollow squares, with the names of the various materials against them, which are coloured in when the drawings are coloured up, according to the material they indicate. K. H. Read, Technical Schools, Gloucester.

[13150].—WORKING DRAWINGS.—There is no method of producing really distinctive working drawings without colour. Old walls shown on plans can be blacked in for reproduction in photo-copies. The colouring of working drawings is most helpful to builders, and it would be much regretted were the practice discontinued.—Builder.

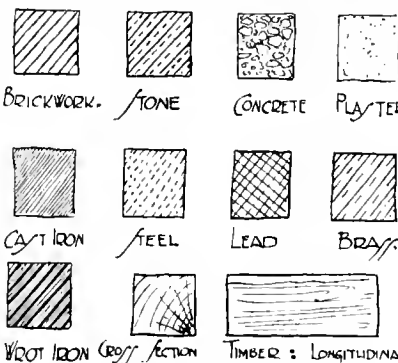
[13150].—WORKING DRAWINGS.—In America, I believe, the suggestion contained in this question has to some extent been given practical effect; but I do not know whether any standardised code of hatching to indicate different materials is yet adopted in this country. I rather think not. I believe the following is,

however, frequently used without confusion and misunderstanding, and where many prints of the same tracing are required it has, undoubtedly, considerable merits of a time-saving character; but where a small number of prints are required, I do not think the saving in time very great, if any, because hatching is a somewhat laborious process, and, to do it properly, certainly involves a good deal of time. The following, however,



suitably denote different materials:—1, Brickwork; 2, stonework; 3, timber (sectional); 3a, timber (longitudinal); 4, plaster; 5, concrete; 6, lead; 7, wrought iron; 8, cast iron; 9, mild steel; 10, glazing. If these were adopted to any general extent, contractors would soon recognise them nearly as readily as they now do colours. But I must say I prefer colour. It is more sharply defined and distinguishable, and easily recognised, and except in the case of a large number of copies of the same drawing, colour takes less time to apply. However, I concede there is much in the method of hatching to recommend it, especially with blue prints.—O. Lewis Abbott, 14, Carrington-road, Flixton, Manchester.

[13150].—WORKING DRAWINGS.—Sketches illustrate the recognised methods of shading the various



materials when preparing contract drawings.—Arthur S. Crumpler, 20, Alexandra-road, Hevel Hempstead.

Mr. William Lindley Cailin, late gas and waterworks foreman under the Millom (Cumberland) Urban District Council, has been appointed clerk of works to the Hinckley Rural District Council, under Mr. E. H. Crump, A.M.I.C.E., engineer for the Burghage water supply. The amount of the contract is £4,500.

At the meeting on Friday of the Stoke-on-Trent Corporation, Mr. F. P. Sissons, surveyor for the northern district, was appointed deputy borough surveyor at a commencing salary of £225 a year, to fill the vacancy caused by the resignation of Mr. J. R. Heath, who has been appointed borough surveyor of Swansea.

The Leeds Corporation gas committee have decided, subject to the sanction of the city council, to apply to the Local Government Board for sanction to borrow £114,717 required in connection with the reorganisation of the Meadow-lane gasworks, and £12,124 for improvement of the carburetted water-gas plant.

The collapse of several iron girders, on Monday, in a building in course of erection in the Market-place, Willenhall, by the Associated Provincial Picture Houses, London, resulted in fatal injuries to Charles Wall, of Mill-street, Willenhall, and severe injuries to Thomas Davies, Ward-street, Wolverhampton. Two other men—John Rogers, of Graiseley-street, Wolverhampton, and Benjamin Parcox, of Portobello, near Willenhall—were only slightly injured, while several workmen had narrow escapes. Eight men were concreting the floor of the building, when three iron supports, each weighing 12 cwt., fell to the ground. Five other similar supports had been erected in the interior of the building, and had remained there since the beginning of August, when work was suspended, until a fortnight ago, owing to the outbreak of war.

LEGAL INTELLIGENCE.

PORTER v. TOTTENHAM URBAN DISTRICT COUNCIL.—In the Court of Appeal, on Tuesday, Lords Justices Buckley, Phillimore, and Pickford delivered judgment in the appeal of the plaintiff in the action of Porter v. Tottenham Urban District Council from a judgment of Justices Ridley and Bankes, sitting as a King's Bench Divisional Court, who on January 21 last reversed a finding of an Official Referee awarding the plaintiff £560 12s. 6d. damages on a contract under which he was employed to build a school for the council. The plaintiff, Mr. Porter, had contracted to build the school for £11,043, and by the fourth clause of the contract he was to be at liberty to enter on the premises immediately after signing the agreement for the purpose of executing the works, to begin them forthwith, and to deliver up the premises fit for use within ten months of the date of the contract, subject to penalties. The site of the school was so situated that access to it could only be obtained from Keston-road. This thoroughfare was separated from the field by a fence, and one half of it had not been made up. The soil of the road was vested in a Mr. Rowley, who had an adjoining building estate; and the defendants, to give Mr. Porter access to the site, made an opening in the fence and put a gate in it, and it was provided in the bills of quantities that sleepers were to be laid down on the road as far as the middle and through the gateway on to the field. The plaintiff commenced the work on February 20; but on March 6 he received a letter from Mr. Rowley claiming the right to prevent carts from passing over what he claimed to be his private property, and threatening an injunction. The plaintiff thereupon had no alternative but to give an undertaking not to proceed with the work, and he gave notice to the council to that effect. After a great deal of correspondence, the strip of land claimed by Mr. Rowley being one inch in width, the council obtained an injunction against that gentleman on May 11, and the plaintiff recommenced work, though the matter went to the House of Lords. It was in respect of the delay between March 6 and May 11 that the plaintiff claimed damages. The Divisional Court held that the building-owners (the defendants) could not be held responsible for the interference of Mr. Rowley, and reversed the decision of the Official Referee, and entered judgment for the council. After hearing counsel, Lord Justice Buckley, in delivering judgment, said in his opinion the decision of the Divisional Court was correct. There was no implied warranty by the defendants to the plaintiff. It was a startling proposition if the Court were to say that because a building-owner told a builder he could go on to his land to do certain work, that that was a warranty that no person was to interfere with whatever he did. The building-owner had nothing to do with the wrongful acts of Rowley. There was nothing in the contract between the plaintiff and the defendants that they would warrant, or give the builder a warranty, against the whole world that he should not be interfered with. The builder was not instructed to cease work on the issue of the injunction. He did it of his own accord, and the authority of the defendants to resume work was not a confirmation of his ceasing work. The building-owner could not be held to be in default because a third party intervened. The council was not to blame for that. The defendants were not responsible for what the builder had done. By the contract they did no more than give him access to the land, and their responsibility ended there. It was said by the contract that what the plaintiff was to do should be lawfully done, and with that he agreed. He could not recover against the council for the interference of a third person.—The other Lords Justices agreed, and the appeal was dismissed, with costs.

Work has started on the Port Credit and Burlington sections of the new concrete highway between Toronto and Hamilton. The estimated cost of the undertaking is 600,000 dol. Mr. H. S. Van Scoyoc is the engineer.

Mr. R. H. Bicknell, an inspector of the Local Government Board, held an inquiry at the Council House, Birmingham, on Monday, into an application by the city council for permission to borrow £19,262 for the erection of public baths in George Arthur-road, Saltley.

The Leeds Corporation development committee propose to provide forty-eight semi-detached dwellings on the Ivy House estate, Ford-road, at the estimated cost of £9,953, "for the purpose of providing accommodation for persons of the working classes, and of preventing or mitigating unemployment in the building trades."

WATER SUPPLY AND SANITARY MATTERS.

HOUSING IN CORNWALL.—The housing problem in Cornwall is dealt with in the annual report, just published, of Dr. Robert Burnet, the medical officer of health to the county council. He says: "Housing in Cornwall constitutes one of the greatest barriers to sanitary progress. Villages have been built on entirely wrong plans, and particularly is this the case with regard to many of the seaside ones, where drainage and sewerage are rendered difficult to undertake on account of the low-lying position and consequent want of fall. Many cottages have no back-yards and no sanitary conveniences; these ought certainly to be condemned as unfit for habitation, as well as innumerable others which are rendered unfit for divers reasons. The difficulty then arises with regard to the local authority being compelled, in the case of closure of insanitary houses, to make provision for the population so displaced. A certain section of the community are, unfortunately, content to live in mere hovels at an absurdly low rent. With a general lack of houses for the lower working classes, owners are not usually disposed to spend money on repairs when the tenants are content to live in these cottages as they are. It is, however, possible to repair many of the apparently hopeless houses and to render them fit for habitation. Many of the local authorities have not adopted housing schemes when it has clearly been their duty to do so, and it is to be hoped that it will not be necessary in the ensuing year for the county council and Local Government Board to use their powers under Sections 10 to 13 of the Housing and Town-Planning Act."

Mr. William Hendry has been appointed burgh surveyor of Buckie.

A scheme prepared by Mr. J. T. Blizard, A.M.I.C.E., of Southampton, has been adopted for the main sewerage of Prestatyn, North Wales.

Mr. Edwin R. Babington, a well-known architect, passed away at his home, 43, Lee avenue, Toronto, on October 30. He was born in London, Ontario, in 1848, and had practised in Toronto for over twenty years.

The late Mr. John James Webster, M.I.C.E., of 39, Victoria-street, S.W., and Mount Nod-road, Streatham, S.W., designer and builder of many notable bridges and piers and other structures, including the Widnes and Runcorn transporter-bridge, the stadium at the White City, and the wheel at Earl's Court, and who died on October 30, aged sixty-nine, left £2,602.

A correspondent of the *Morning Post*, writing from Rheims, states that in the last bombardment admirable tapestries of Peppersack, the Flemish artist, one of the glories of the Archbishop's Palace, were burnt. The Archaeological Museum, which contained a unique collection of Gallo-Roman and Gallic remains, has been entirely destroyed. So much for German "kultur."

At Penybont, Mr. F. H. Tulloch has held a Local Government Board inquiry into an application by the rural district council for sanction to borrow £2,015 for the improvement of the coast road between Southerndown and the mouth of the River Ogmere. The surveyor, Mr. Ernest Jenkins, explained that it was proposed to widen and otherwise improve the road at both ends of the village of Southerndown, where there are at present sharp and dangerous corners, and to divert the road at Ogmere-by-the-Sea.

In view of the fact that practically no unemployment exists in Nottingham, the Government has withdrawn its offer of £50,000 towards the cost of deepening the River Trent between Nottingham and Newark. A special meeting of the city council has, however, decided to proceed with the scheme, which will cost £150,000, and to promote a Bill enabling them to take over the Trent Navigation Company's powers. It is proposed to invest the reserve funds of the gas and other municipal undertakings in the enterprise.

The marriage took place at St. Mary's, Carlow, Ireland, very quietly, owing to the war, on Saturday last, by the Rev. S. Ridgeway, M.A., of Mr. Laurence M. Gotch, A.R.I.B.A. and Institute Medallist in Drawing in 1904, now of Calgary, Alberta, eldest son of Mr. Davis Gotch, of Northampton, late of Kettering, and nephew of Mr. J. Alfred Gotch, F.S.A., F.R.I.B.A., to Auriel Williams, daughter of Dr. Leonard B. Williams, M.D., M.R.C.P., of 123, Harley-street, W., and Mrs. Bevan Williams, of Queen Anne's Mansions, S.W.

Our Office Table.

We regret to notify our Canadian subscribers that the postage of papers and magazines has been raised by the British Post Office. The new rates will be found in our usual notices elsewhere. It has, of course, never occurred to our Postal authorities here that the renewal notices of subscriptions have already been despatched to Canada by ourselves and all similar papers! We will bear the loss in the case of all readers who may have remitted ere they read this, but all future subscriptions must be at the new rates.

An example of the variety of ways in which people all over the world help the Prince of Wales's Fund is given by the donation of 7,500ft. of mahogany, to be sold for the Fund. The gift is made by the Otis Manufacturing Company, of New Orleans. The company suggest that the gift, "donated by a purely American corporation, should be a fine example" to others.

A special appeal is made by the Professional Classes War Relief Council in connection with their Arts and Crafts Exhibition on Saturday in next week, the 12th inst. They will very gratefully receive as gifts any suitable contributions, such as sketches, artistic handiwork, and objects of art, to be sold under Section 11, for the benefit of the council's fund. Many artists and others who are unable to contribute in money may, it is hoped, be glad to send their contributions in kind. All gifts, offers of which should first be made in writing, ought to be addressed to the Secretary, 13 and 14, Prince's-gate, S.W., and marked Exhibition, Section 11. The Lord Mayor of London, Sir Charles Johnston, has just been elected President of the Council.

The Education Committee of the London County Council is considering schemes for so arranging its expenditure on new schools that it will provide the maximum amount of employment. There is in existence an agreement between the Council and the Board of Education whereby during the next fifteen years the classes in the schools shall be reduced in size to forty children in upper schools and forty-eight in infants' schools. This will necessitate many alterations and many new buildings. It is now proposed to modify the method of carrying out this scheme so that while the war lasts money shall not be spent on sites, but on buildings on the sites already in possession of the Council. These new proposals will be discussed by the Council at an early sitting.

The Dean of St. Paul's on Wednesday night presented the prizes to the students who distinguished themselves last year at the Trades Training Schools maintained by the Paper Stainers, Plasterers, Bricklayers, Wheelwrights, and other City companies. The schools have now been in existence for twenty-one years, and have recently made notable progress in several directions. The director of the schools, Mr. Herbert Phillips Fletcher, has gone to the front; but his brother, Mr. Banister F. Fletcher, has taken his place, and the number of students attending the classes just opened justify the decision to carry on the work as usual. Dr. Inge, in his address, said that when peace was again happily restored, and we turned to the arts of peace to make the future of this country even more glorious, the work these schools were doing would be of the utmost advantage.

Mr. Raymond Unwin, F.R.I.B.A., has accepted a post on the technical staff of the Housing and Town-Planning Department at the Local Government Board. His experience has certainly qualified him for good service there. Born in 1863, the son of William Unwin, M.A., Balliol College, Oxford, he was educated at Magdalen College School, Oxford. He commenced practice in 1896 at Buxton, in partnership with Mr. Barry Parker. He is now practising in London. He is special lecturer on Civic Design and Town Planning in the University of Birmingham, hon. sec. of the town-planning

committee, and a member of the Art standing and Competitions committee of the R.I.B.A., and lecturer on town planning for the Architectural Association. He is vice-president of the Town-Planning Institute, was a member of the Departmental Committee which prepared a report on buildings for small holdings for the Board of Agriculture, and is a member of the Advisory Departmental Committee of the Board of Agriculture on Labourers' Cottages. He is also a member of the Departmental Committee of the Local Government Board on Building By-laws. Among his publications the best known is "The Art of Building a Home" (joint author with Mr. Barry Parker); author of "Town Planning in Practice," "Nothing Gained by Overcrowding." His works include Earswick Village (plans and buildings), Letchworth Garden City (plan and buildings, including Howard Hall and estate offices), Hampstead Garden Suburb (plan and many buildings). He has been town-planning adviser to the Admiralty in connection with the development of Rosyth, and for King's College, Cambridge, in connection with the Ruislip Town-Planning Scheme. He has also visited the city of Halifax, Canada, to advise on the town planning there.

Mr. T. S. Robertson, of Broughty Ferry, writes protesting against the scheme now before the corporation of Dundee to demolish the town-house, in order to carry out an improvement scheme. The Dundee Town House was, Mr. Robertson reminds us, designed by William Adam, and finished in 1734. It is a fine example of his work, which was founded on Classical ideas, and became in his hands the most original architecture that appeared after the Gothic period ended. William's son Robert, on leaving the University, went to Italy for the study of architecture, and after his return, having risen rapidly to distinction, was appointed architect to the King. His brother James and himself in partnership became fashionable architects, and their practice was more extensive than that of any other architect of the time. The father's charming buildings are, however, by many preferred to those of the sons. Robert and James published a book of engravings of their own productions, in which was included their father's Dundee Town House, that has since their time been adorned by windows of stained glass by Cottier and William Morris. Dundee possesses very few fine old buildings, but so long as the Steeple and the Town House remain it will be in this respect no mean city.

"Hydraulics," by Louis J. Martin, jun. (London: Constable and Co., Ltd., 6s. 6d.), will be found of service by the engineering student. Especial attention is given to the theory and design of impulse-wheels and turbines, and numerous exercises are appended. The author is Professor of Mechanics at the American Stevens Institute of Technology, and some of his other textbooks are probably well known to many of our readers. They will do well to obtain this.

"The Modern Factory," by Dr. George M. Price (London: Constable and Co., Ltd., 17s.), is a valuable and readable work by a well-known New York sanitarian. His long experience has been well utilised in its preparation. It is a comprehensive, but well-condensed review of the safety and sanitary conditions of factories and workshops, as they are, and as they might be. No fads are aired. There is not an impracticable suggestion offered, and some of us this side will do well to study the book, if only to find where America is ahead of us, and where, in some respects, we think we are in front of her—or should be, if factory inspection were more scientific and oftener entrusted to really competent men.

The problem of durably tight joints was paramount in the design of the pipe-castings adjoining the 66in. diameter section-valves in the city tunnel of the Catskill Aqueduct, according to the 1913 report of the Board of Water Supply of New York City. Research did not reveal any gasket satisfactory for the purpose, except wire-cloth coated with red-

lead paste. After experiments in the laboratory it was decided that two layers of 40-per-inch mesh bronze wire-cloth coated heavily with red lead would make a satisfactory gasket, if the paste were allowed to set properly. The alternative was ground joints; but no precedent for them with diameters of more than 30in. could be found. It was decided, however, that if a 30in. joint could be made successfully, 8ft. joints could be also, and as a result they were specified for some of these castings.

In February, 1913, Mr. Sulzer, the Governor of New York State, appointed a committee of the members of the chapters of the American Institute of Architects in New York State, consisting of Messrs. D. Everett Waid, New York; H. Osgood Holland, Buffalo; and A. L. Brockway, of the Central New York Chapter, to investigate the office of the then State architect. This committee made such an investigation, and filed its report. Subsequently, Governor Sulzer appointed the present State architect, Mr. Lewis F. Pilcher. When Lieutenant-Governor Martin H. Glynn became Governor he took steps to familiarise himself with the report of the above committee, and called upon the New York State Association of the American Institute of Architects to cooperate with the State architect, with a view to securing legislation reorganising that department, and looking towards the creation of a Department of Architecture. The committee on legislation and the directors of the State Association held a conference with Mr. Pilcher, with the result that at the suggestion of the State Association a Bill was passed completely reorganising the department. The changes foreshadowed by that measure have now been carried out. Acting under the re-organisation plan, several architects in private practice throughout the State have already been appointed to take charge of various building operations for the State.

Trade News.

WAGES MOVEMENTS.

CARDIFF.—The building-trade workers in this city are demanding a general advance of three-halfpence an hour.

A new church is to be built at Ashford, Co. Wicklow, from the designs of Mr. J. P. Munden, architect.

From Wellington, New Zealand, we learn of the death of Mr. John Twist, for fifty years one of the principal builders and contractors in that city.

Bradford Corporation gas committee has resolved that a new trunk gas-main, estimated to cost £2,520, and a new tar-main, estimated to cost £1,320, be laid to connect the Birkshall and the Mill-street gasworks.

Mr. W. M. Cross, an inspector under the Local Government Board, will hold an inquiry at Mynddylwyn to-day (Friday) into an application by the district council for sanction to borrow £11,251 for the construction of a road.

A Local Government Board inquiry has been held at Stoke on Trent town hall by Mr. H. Ross Hooper, inspector, into the application of the corporation to borrow £41,000 for the purposes of their electricity undertaking. The amount sought to be borrowed included £5,000 for the lighting of Fenton, £2,800 for supplying power to the Goldendale district, and £14,000 which has been overspent on the new central power scheme. The Board had sanctioned an expenditure of £51,000 on this scheme, and £65,000 had been spent, leaving a deficit of £14,000.

At the last meeting of the Wrexham Rural District Council great indignation was expressed at the receipt of a letter from the Denbighshire County Council in which dissatisfaction was shown at the slow progress of inspection of houses. The chairman of the health committee of the rural council stated that no fewer than 3,802 houses had been inspected, and the owners of 1,776 had been ordered to remedy defects in them, with the result that 1,280 houses had been rendered habitable. A resolution was passed strongly resenting the county council's assertion in view of the rural council's great activity in regard to housing.

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (To-day).—Town Planning Institute. "The Ruislip-Norwood Scheme," by E. R. Abbott and F. M. Elgood, F.R.I.B.A. 92, Victoria-street, S.W. 8 p.m.
Glasgow Architectural Craftsmen's Society. "Reinforced Concrete," by T. G. Gilmour, A.R.I.B.A. 8 p.m.

MONDAY.—Victoria and Albert Museum. "Gothic Cathedrals of France," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
Surveyors' Institution: Junior Members. "The Rural Problem," by V. C. Fishwick. 7 p.m.
Architectural Association. "Rheims Cathedral," by W. H. Aymer Vallance. 8 p.m.
Royal Society of Arts. "The History and Practice of the Art of Printing," Cantor Lecture No. 3, by R. A. Peattie. 8 p.m.

WEDNESDAY.—Royal Society of Arts. "Domestic Metal Work of the Eighteenth Century," by William A. Young. 8 p.m.
St. Paul's Ecclesiastical Society. "The Design and Building of St. Paul's Cathedral," by Mervyn E. Macartney, F.S.A., F.R.I.B.A. 8 p.m.
Manchester Society of Architects. Special Meeting. "Old Cheshire," by A. W. Hennings, A.R.I.B.A. 16, St. Mary's Parsonage, Manchester. 6.30 p.m.

THURSDAY.—Association of Managers of Sewage Disposal Works. Annual Meeting. Phoenix Salon, Holborn Restaurant, W.C. 3.30 p.m.
British Museum. "Origin and Evolution of Corinthian Order," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
Society of Architects. Discussion on "A Model Form of General Conditions of Contract," to be opened by E. C. P. Monson, F.R.I.B.A., the President. 7.30 p.m.
Sheffield Society of Architects. "An Architectural Ramble in Belgium," by C. F. Innocent, A.R.I.B.A.

FRIDAY (Dec. 11).—Institution of Water Engineers. Annual Meeting at Burlington House, Piccadilly, W. 2 p.m.

SATURDAY (Dec. 12).—Institution of Water Engineers. Annual Meeting. Burlington House, Piccadilly, W. 11 a.m.

The State Legislature of California have voted an appropriation of 300,000dol. for building an addition to the State Capitol at Oakland.

At a general meeting of the Royal Society of Painters in Water-Colours, Mr. S. Curnow Vosper and Mr. S. J. Lamorna Birch were elected members of that body.

The Middlesex County Council have received the sanction of the Local Government Board to a loan of £7,884 for resurfacing the Edgware main road in the parish of Stanmore.

The Leeds sewerage committee have accepted the tender of Messrs. Harold Arnold and Son for carrying out a contract in connection with the sewage-disposal scheme at Thorpe Stapleton at a cost of £141,998.

At Stockport, on Tuesday, Mr. R. H. Bicknell, an inspector under the Local Government Board, held an inquiry into an application from the corporation for sanction to borrow £17,300 for works of road-improvement.

Messrs. William Beardmore and Co., naval-construction works, Dalmuir, have been granted lining at Clydebank Dean of Guild Court to erect a machine-shop and a machine-shed. The work is estimated to cost £20,000.

Mr. G. Gledhill, who until the recent amalgamation of the Balby Urban District with Doncaster was surveyor to the urban authority, has been appointed assistant borough surveyor of Doncaster at a salary of £230 a year.

The third National Loan Exhibition will be formally opened at the Grosvenor Gallery at noon to-day (Friday) by Adeline Duchess of Bedford, who is the chairman of the St. John Ambulance Association, to which the proceeds of the exhibition will go.

The scheme for the restoration and improvement of the ancient and historic church of St. Peter at Conisborough, immortalised in Sir Walter Scott's "Ivanhoe," has been completed with the installation of a peal of bells cast at the foundry of Messrs. Taylor, Loughborough.

A great decline is shown in private Bill legislation for the coming year. Last year the number of plans deposited at the House of Commons was 191; 3 of these related to railways, 4 to tramways, and 50 were miscellaneous. Plans deposited in accordance with standing order number 39, and electric-lighting provisional orders or certificates numbered 114. This year the total has fallen to 109, made up as follows: railways 4, tramways 6, miscellaneous 25, and provisional orders 74.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

	Per ton.	Per ton.
Rolled Steel Joists, English	£7 10 0 to	£8 0 0
Wrought-Iron Girder Plates	7 0 0 "	7 10 0
Steel Girder Plates	7 2 6 "	8 2 6
Bar Iron, good Staffs	6 5 0 "	8 10 0
Do., Lowmoor, Flat, Round, or Square	22 0 0 "	0 0 0
Do., Welsh	5 15 0 "	5 17 0
Boiler Plates, Iron—		
South Staffs	8 0 0 "	8 15 0
Best Snedeshill	9 0 0 "	9 10 0
Angles 10s., Tees 20s. per ton extra.		

Builders' Hoop Iron, for bonding, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

	No. 18 to 20.	No. 22 to 24
Galvanised Corrugated Sheet Iron—		
6ft. to 8ft. long, inclusive	Per ton.	Per ton.
gauge	£13 0 0	£13 10 0
Best ditto	13 0 0	14 0 0

Wire Nails (Pointe de Paris)—

	3 to 7	8	9	10	11	12	13	14	15	B.W.G.
8/3	8/9	9/3	9/9	10/3	11/-	11/9	12/6	13/6	per cwt.	

	Per ton.	Per ton.
Cast-Iron Columns	£6 17 6 to	£8 10 0
Cast-Iron Stanchions	6 17 6 "	8 0 0
Rolled-Iron Fencing Wire	8 5 0 "	8 10 0
Rolled-Steel Fencing Wire	7 5 0 "	7 10 0
" " Galvanised	8 15 0 "	9 5 0
Cast-Iron Sash Weights	5 10 0 "	5 15 0
Cut Floor Brads	9 15 0 "	—
Corrugated Iron, 24 gauge	16 0 0 "	—
Galvanised Wire Strand, 7 ply.		
14 B.W.G.	14 5 0 "	—

B.B. Drawn Telegraph Wire, Galvanised—

	0 to 8	9	10	11	12	B.W.G.
£10 10s.	£10 15s.	£11 0s.	£11 5s.	£11 15s.	per ton.	

	Per ton.	Per ton.
Cast-Iron Socket Pipes—		
3in. diameter	£6 2 6 to	£6 7 0
4in. to 6in.	6 0 0 "	6 5 0
7in. to 24in. (all sizes)	5 7 6 "	6 0 0

[Coated with composition, 5s. 0d. per ton extra. turned and bored joints 5s. per ton extra.]

Pig Iron— Per ton.
Cold Blast, Lillieshall 10s. 0d. to 117s. 6d.
Hot Blast, ditto 70s. 0d. to 75s. 0d.

	Per ton.
Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—	
Gas-Tubes	75 p.c.
Water-Tubes	7½ "
Steam-Tubes	67½ "
Galvanised Gas-Tubes	65 "
Galvanised Water-Tubes	61½ "
Galvanised Steam-Tubes	55 "

OTHER METALS.

	Per ton	£21 5 0 to	£21 7 6
Spelter, Silesian			
Lead Water Pipe, Town	£24 5 0 "		
" " Country	25 5 0 "		
Lead Barrel Pipe, Town	25 5 0 "		
" " Country	26 5 0 "		
Lead Pipe, Tinned inside, Town	26 5 0 "		
" " Country	27 5 0 "		
Lead Pipe, Tinned inside and outside	28 15 0 "		
" " Town	29 15 0 "		
" " Country	29 15 0 "		
Composition Gas-Pipe, Town	27 5 0 "		
" " Country	28 5 0 "		
Lead Soil-pipe (up to 4in.), Town	27 5 0 "		
" " Country	28 5 0 "		
" " [Over 4in. £1 per ton extra.]			

Lead, Common Brands	17 17 6 "	18 12 6
Lead Shot, in 28lb. bags	24 15 0 "	—
Copper Sheets, sheathing & rods	75 0 0 "	75 10 0
Copper, British Cake and Ingots	64 0 0 "	65 0 0
Tin, English Ingots	163 0 0 "	164 0 0
Do., Bars	146 0 0 "	146 10 0
Pig Lead, in lwt. Pigs (Town)	22 0 0 "	—
Sheet Lead, Town	23 15 0 "	—
" " Country	24 15 0 "	—
Genuine White Lead	29 15 0 "	—
Refined Red Lead	29 0 0 "	—
Sheet Zinc	55 0 0 "	—
Old Lead, against account	18 5 0 "	—
Tin	8 10 0 "	—
Cut nails (per cwt. basis, ordinary brand)	0 12 9 "	—

* For 5 cwt. lots and upwards.

SLATES.

	in.	in.	£ s. d.	per 1,000 of
Blue Portmadoc	20 x 10	12	12 6	1,200 at r. str
" "	16	8	6 12 6	" "
Blue Bangor	20, 10	13	2 6	" "
" "	20, 12	13	17 6	" "
First quality	20, 10	13	0 0	" "
" "	20, 12	13	15 0	" "
" "	16, 8	7	5 0	" "
Eureka unfading				
green	20, 10	15	17 6	" "
" "	20, 12	18	7 6	" "
" "	18, 10	13	5 0	" "
" "	16, 8	10	5 0	" "
Permanent Green	20, 10	11	12 6	" "
" "	18, 10	9	12 6	" "
" "	16, 8	6	12 6	" "

BRICKS.

(All prices net.)

Table listing various brick types and prices, including First Hard Stocks, Second Hard Stocks, Mild Stocks, Picked Stocks, and Accrington Best Red Plastic Facing.

GLAZED BRICKS.

HARD GLAZES (PER 1,000).

Table listing glazed brick types such as White, Ivory, and Buff, with prices for different finishes and quantities.

MOULDING BRICKS.

Table listing moulding bricks like Stretchers and Headers, and Compass bricks, with prices and specifications.

Table listing prices for carriers and nicks, including Thames Sand and Pit Sand.

STONE.*

Table listing stone types and prices, including Red Mansfield, Darley Dale, and Grouse Hill.

* All F.O.R. London.

Table listing Bath Stone, Portland Stone, and other stone types with prices per foot cube.

TILES.

Table listing various tile types such as Plain red roofing tiles, Hip and Valley tiles, and Staffordshire Reds.

OILS.

Table listing oil types like Rapeseed, Cottonseed, Olive, and others, with prices per ton.

GLASS (IN CRATES).

Table listing glass types such as English Sheet Glass, Fourths, and Thirds.

VARNISHES, &c.

Table listing various varnish types like Fine Pale Oak Varnish, Copal Varnish, and others.

The Bonhill School Board have decided to enlarge the public school at a cost of £2,420.

Friends and admirers of the late Lord Lifford have decided to erect at Broadway a parish hall as a memorial to his lordship.

A start has been made on the footings of the new Registry Office which is to be erected in Toronto at a cost of 400,000 dol.

TRADE NOTES.

Boyle's latest patent "Air-pump" ventilator has been applied to Cwmbran Church, Newport, Mon.

It is evident that abattoirs must be constructed in such a way that the floors will be absolutely impervious to the penetration of wet of every description.

CHIPS.

The rural district council for the Isle of Wight have received from the Local Government Board sanction to the borrowing of the sum of £33,000 for strengthening and resurfacing certain main roads.

At Toronto the Board of Education is erecting a commercial high school on Shaw and Dewson streets, at an estimated cost of 260,000 dol.

St. Saviour's Church, the fifth of the six new churches for Portsmouth provided for by the Bishop of Winchester's £50,000 fund, was consecrated by the Bishop of Southampton on Tuesday.

Exterior work is advancing rapidly on the new office building which the Liverpool, London and Globe Insurance Company are building on Dorchester-street West, Montreal.

At the last meeting of the Spalding Rural District Council the raising of three loans was authorised for housing and water schemes.

A stained-glass window in memory of the late Rev. Dr. Forrest, of West Coates, has been placed in the parish church of West Coates, near Edinburgh.

FOR

Olivers' Seasoned Hardwoods, W.M. OLIVER & SONS, Ltd., 120, Bunhill Row, London, E.C.

TENDERS.

Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ABERKENTIG, GLAM.—For the erection of a new council school at Aberkentiig, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., Cardiff county architect:— Bond, E. A., and Co., Cardiff ... £3,600 0 0 (Accepted.)

BRADDOCK.—For alterations and additions to the council school at Braddock, for the Cornwall Education Committee:— Elliot and Son, Liskeard (accepted).

CARDIFF.—For the supply of a pair of dock gates weighing about 100 tons each, for the Cardiff Railway Co.:— Chesbrow Bridge Works Co. (accepted).

CHEFFS CRIBBWR, GLAM.—For the erection of a new infants' county school for 208 scholars at Cefn Cribbwr, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., Cardiff, county architect:— Bond, E. A., and Co., Cardiff ... £2,607 10 0 (Accepted.)

ECCLES, MID-KENT.—For erecting a fence round the sewage farm at Eccles, for the Malling Rural District Council:— Couchman (accepted), 5s. 6d. per rod. (Lowest tender received.)

GELLIGAER, GLAM.—For the erection of a new infants' county school at Gelligaer, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., Cardiff, county architect:—
Davies and Lloyd, Sengheuydd £3,469 0 0
(Accepted.)

GLOUCESTER.—For the erection of a hospital for the treatment of tuberculosis, and for enlarging the administrative block of the Over Hospital, for the city council:—
Halls, W. J. B. (accepted)... £3,088 0 0

KINGWORTH.—For laying water mains, for the Midland Agricultural College. Messrs. Everard, Son, and Pick, 6, Millstone-lane, Leicester, architects:—
Barlow, T., and Co., Nottingham £2,200 0 0
Shardlow, J. J., Leicester ... 1,420 0 0
Clark, J., Nottingham ... 1,375 6 0
Hyslop, A. and S., Manchester* 1,363 19 8
Palmer, A. E., Gleafield, Leicester! ... 1,299 0 0
Walling and Davis, Bourne.
Lincs* ... 967 1 7
* Accepted. ! Withdrawn.

MANSFIELD.—For the erection and completion of three new fever pavilions and additions to the administrative block at the Southwell-road isolation hospital, Mansfield, for the corporation. Mr. T. P. Collinge, A.M.I.C.E., surveyor:—
Roe, A. R. ... £4,600 0 0
Percival, C. G. ... 4,500 0 0
Beckett, J. ... 4,396 0 0
Lomhard, Rogers, & Crooks, Ltd ... 4,396 0 0
Vallance, C., and Son ... 4,395 0 0
Vallance and Blythe ... 4,394 0 0
Perks and Son ... 4,375 0 0
Moore, R. ... 4,339 9
Harvey, J. ... 4,250 0 0
Greenwood, J. (accepted) ... 4,188 0 0
All of Mansfield.

ROSEBERY-AVENUE.—For the erection of the new central offices, for the Metropolitan Water Board, Rosebery-avenue. Mr. H. Austen Hall, F.R.I.B.A., 15, South-square, Gray's Inn, architect:—

	A.	B.	C.
Smith, J., and Sons, Ltd.—			
139,603 0 0	...	£139,603 0 0	... 36
Proctor and Sons—			
132,373 4 6	971 12 4	133,344 16 10	... 36
Foster and Dicksee—			
128,763 0 0	1,500 0 0	130,263 0 0	... 24
Wilcock, H., and Co—			
128,500 0 0	675 0 0	129,175 0 0	...
Mowlem, J., and Co, Ltd.—			
127,753 0 0	1,098 0 0	128,851 0 0	... 24
Leslie and Co.—			
127,363 0 0	466 0 0	127,829 0 0	... 17
Downs, W., Ltd.—			
124,900 0 0	1,320 0 0	126,310 0 0	... 25
Higgs, F. and H. F.—			
124,207 0 0	1,100 0 0	125,307 0 0	... 21
Godson, G., and Sons—			
123,682 0 0	1,350 0 0	125,032 0 0	... 24
Greenwood, J., Ltd.—			
123,650 0 0	1,250 0 0	124,900 0 0	... 24
Niuter, F. G.—			
122,712 0 0	1,029 0 0	123,711 0 0	... 18
Wylie and Lockhead, Ltd.—			
122,190 0 0	555 15 0	122,745 15 0	... 20
Perry and Co., Ltd.—			
122,125 0 0	462 0 0	122,587 0 0	... 24
Holloway Bros.—			
119,600 0 0	1,100 0 0	120,700 0 0	... 22
Pattinson, W., and Sons, Ltd.—			
118,861 0 0	1,394 0 0	120,255 0 0	... 18
Fairhead, A., and Sons—			
118,300 0 0	686 0 0	118,986 0 0	... 7
Blake, W. E.—			
117,950 0 0	512 0 0	118,462 0 0	... 21
Blay, W. F., Ltd.—			
117,246 0 0	530 0 0	117,776 0 0	... 24
Rice and Sons—			
116,932 9 5	657 19 3	117,590 8 8	... 21
Lawrence, W., and Son—			
115,850 0 0	980 0 0	116,830 0 0	... 22
Patman and Potheringham—			
115,771 0 0	141 0 0	116,212 0 0	... 22
Carmichael, J.—			
115,750 0 0	332 0 0	116,082 0 0	... 21
Wallis, G. E., and Sons, Ltd.—			
115,218 0 0	928 0 0	116,146 0 0	... 22
Henth, T. W., and Son*—			
107,337 0 0	732 0 0	108,069 0 0	... 18

* Accepted as corrected at £110,012. † To be arranged.
A.—Extra for mahogany in lieu of oak. B.—Total.
C.—Months for completion of the contract.

SOUTH BARGOED, GLAM.—For the erection of a new council school for 300 scholars at South Bargoed, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., Cardiff, county architect:—
Bennet, E. J., Bargoed ... £1,580 8 0
(Accepted.)

SOUTHAMPTON.—For repairing the floor of the warehouses, for the harbour board:—
Brazier and Son (accepted) ... £185 0 0
(Lowest tender but one of five received, the lowest, that from A. S. Fry for £143, having been withdrawn.)

STAFFORD.—For the installation of low-pressure hot-water heating apparatus in new engineering school, for the Staffordshire Education Committee:—
Gough and Felgate, Burton ... £28,500 0 0
(Accepted.)

THORPE STATION, WEST MIDLANDS.—For carrying out a sewage-disposal scheme at Thorpe Station, for the Leeds City Council:—
Arnold, Harold, and Son ... £111,008 0 0
(Accepted.)

TYNYSYD.—For sewerage works from Tynysyd to Pontlottyn Bridge, for the Rhymney Valley Sewerage Board:—
Baroes, Chaplin, and Co., Cardiff £62,792 6 3
(Accepted.)

UXBRIDGE.—For erection of 28 working-class dwellings near Waterloo-road, for the guardians:—
Hanson, A. and B., Southall ... £7,167 0 0
Farrell, H., Golder's Green ... 6,864 0 0
Gluyas, Bedminster ... 6,808 0 0
Hunt, C. H., and Co., Wycombe ... 6,750 0 0
Acack, J. W., Moorfields ... 6,660 0 0
Pickerill, H., Wealdstone ... 6,372 0 0
Payne Bros., Watford ... 6,364 0 0
Kearley, C. F., Uxbridge ... 6,300 0 0
Fassnidge and Son, Uxbridge ... 6,258 0 0
Bowyer, H. D., Slough ... 6,068 0 0
Lane, B., and Son, Colnbrook ... 5,900 0 0
Myall, Bros., Southend ... 5,616 0 0
Clarke, E., Mellow Mowbray ... 5,529 0 0
Grindell, Chesham ... 5,500 0 0
Spalding, Sons, & Co., Norwich ... 5,461 0 0
Street Bros., Slough ... 5,440 0 0
Lovell, Y. J., and Co., Gerrard's Cross (accepted) ... 5,160 0 0

WALSLEND.—For carrying out extensions at the borough hospital, for the corporation:—
Tait, R. and S., Seaton Delaval (accepted).

WARENFORD.—For erecting school (60 places), for the Northumberland Education Committee. Mr. C. Williams, Moot Hall, Newcastle-on-Tyne, architect:—
Elliott Bros., Chathill (accepted) £1,147 13 2
(Six tenders received.)

WEST HAM.—For the cleansing and painting of six schools, for the Education Committee of the County Borough of West Ham. Mr. Wm. Jacques, A.R.I.B.A., 2, Fen-court, London, E.C., architect to the committee:—

Washing down Beckton-road school.

Horswill, H. C.	£147 0 0
Chappell, W.	140 0 0
Kemp, C. J.	135 10 0
Chapman and Sturton	135 0 0
Woolaston, J. J.	128 0 0
Barker, J., and Co.	104 0 0
Burns, E., and Co.	100 0 0
Webb, A.	96 10 0
Noakes, I. (accepted)	75 10 0

Interior, Clarkson-street school.

Bragg, W. C.	319 2 9
Lovely, E.	275 0 0
Noakes, I.	268 0 0
Gibbons, W.	267 0 0
Woolaston, J. J.	250 0 0
Horswill, H. C.	246 0 0
Burns, E., and Co.	242 0 0
Webb, A.	237 0 0
Chapman and Sturton	227 12 6
Chappell, W.	220 0 0
Sharpin, W. S.	210 0 0
Inns, A. H.	208 0 0
Barker, J., and Co.	206 0 0
Kemp, C. J. (accepted)	195 10 0

Interior, Custom House school.

Horswill, H. C.	317 0 0
Gibbons, W.	297 0 0
Inns, A. H.	293 0 0
Chappell, W.	285 0 0
Woolaston, J. J.	283 12 0
Noakes, I.	275 0 0
Chapman and Sturton	265 0 0
Webb, A.	257 0 0
Burns, E., and Co.	239 0 0
Kemps, C. J.	233 10 0
Barker, J., and Co. (accepted)	226 0 0

Interior, Frederick road school.

Woolaston, J. J.	476 10 0
Webb, A.	475 0 0
Chapman and Sturton	448 0 0
Gibbons, W.	437 0 0
Horswill, H. C.	437 0 0
Chappell, W.	420 0 0
Burns, E., and Co.	418 0 0
Noakes, I.	402 15 0
Inns, A. H.	347 0 0
Kemp, C. J.	377 0 0
Lovely, E. (accepted)	365 0 0

Interior, Godwin-road school.

Woolaston, R., and Co.	£525 0 0
Stokes and Sons	393 0 0
Chappell, W.	350 0 0
Woolaston, J. J.	334 0 0
Gibbons, W.	332 0 0
Inns, A. H.	323 0 0
Burns, E., and Co.	320 0 0
Horswill, H. C.	317 0 0
Lovely, E.	309 10 0
Webb, A.	298 0 0
Clemens, W. J.	294 15 0
Barker, J., and Co.	276 0 0
Kemp, C. J. (accepted)	254 10 0

Interior, West Ham Park school.

Woolaston, R., and Co.	£175 0 0
Stokes and Sons	150 0 0
Bragg, W. C.	435 16 9
Inns, A. H.	130 0 0
Chapman and Sturton	125 0 0
Clemens, W. J.	120 10 0
Noakes, I.	110 0 0
Horswill, H. C.	383 0 0
Woolaston, J. J.	377 0 0
Chappell, W.	375 0 0
Webb, A.	350 0 0
Burns, E., and Co.	341 0 0
Lovely, E.	338 10 0
Gibbons, W.	337 0 0
Barker, J., and Co.	331 0 0
Kemp, C. J. (accepted)	307 0 0

WESTMINSTER.—For the supply of 20,000 5in. by 9in. wood blocks, for the Westminster City Council:—
Lee, J. B., and Son (accepted), £10,103.6d. per thousand.

WINCHEMB, GLOS.—For the erection of twelve cottages at Winchcomb, for the Winchcomb Rural District Council. Mr. Thomas Malver, Licentiate R.I.B.A., 21, Winchcombe-street, Cheltenham, architect:—
Davies, Winchcomb ... £2,150 0 0
Draw, Cheltenham ... 2,069 0 0
Fisher, Winchcomb (accepted) ... 2,028 0 0

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

* Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

NOTICE.

Bound copies of Vol. CVI. are now ready, and should be ordered early (price 12s. each, by post 12s. 9d.), as only a limited number are done up. A few bound volumes of Vols. XXXIX., XL., XLVI., XLIX., LIH., LXI., LXII., LXIV., LXV., LXVI., LXVII., LXVIII., LXIX., LXXI., LXXII., LXXIII., LXXIV., LXXV., LXXVI., LXXVII., LXXVIII., LXXX., LXXXI., LXXXII., LXXXIII., LXXXIV., LXXXV., LXXXVI., LXXXVII., LXXXVIII., LXXXIX., XC., XCI., XCII., XCIII., XCIV., XCV., XCVI., XCVII., XCVIII., XCIX., C., CI., CII., CIII., CIV., CV., and CVI. may still be obtained at the same price; all the other bound volumes are out of print. Most of the back numbers of former volumes are, however, to be had singly. Subscribers requiring any back numbers to complete volume just ended should order at once, as many of them soon run out of print.

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J. B.—S. D. W., Ltd.—H. M. and Co.—J. C. S.—
J. B. and Co.—C. N. and Co.—W. L.—E. C. S.—
Deva.—R. J. T.—L. M. G.—R. and S.—P. W.—
M. G. and T.

B. R.—Yes.
T. W. S.—Next week.

STUDENT.—Rules posted. There are no entrance fees.

KULTUR.—Hardly in our line. We quite agree with the sentiment.

DOUAFEL.—The copyright, of course, remains with the architect. Our copyright is simply in our own illustration, and does not in any way interfere with his rights.

"BUILDING NEWS" DESIGNING CLUB.

DRAWINGS RECEIVED.—"Tonnelier," "Alpin," "Why," "O. Gee," "September Morn.," "Empire," "Pinto," "Haircut," "Walbroke," "Romulus," "Black Cat," "Mersey."

Messrs. Carrere and Hastings, 225, Fifth Avenue, New York City, have prepared plans for a stone chapel, to be erected at a cost of 100,000 dol., for Lafayette College, Easton, Pennsylvania.

The State of Minnesota Historical Society has acquired the Merriam site, north-east of the State Capitol. On this site the State is to erect an historical library building, to cost approximately 500,000 dol. Plans for this proposed building are being prepared by Mr. Clarence H. Johnston, architect, of St. Paul, Minn., under instructions from the State Board of Control.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House

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Strand, W.C.

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House at Forest-row, Sussex. View and plans. Mr. Cyril A. Farey, Architect.
Hospital for Tuberculosis, Cottingham Castle, Hull. Bird's-eye view and plans of the buildings. Mr. Joseph H. Hirst, City Architect, Hull.
Portobello Town Hall, Edinburgh. Exterior and interior views, plans and detail of the façade. Mr. J. A. Williamson, A.R.I.B.A., City Architect, Edinburgh.
Little Otley, Herts. View of new part; photograph of the entrance front and plans. Messrs. Geoffrey Lucas, F.R.I.B.A., and Arthur Lodge, A.R.I.B.A., Architects.

NON-PLASTIC BRICKS.

Many inquiries have reached us during the last two years, especially from abroad, about the lime-sand brick, and we are obliged to confess that the information we have been able to give has not satisfied us, though in several instances we have been able to establish communication between correspondents interested and those who, as is not uncommon in this country, wait to be sought out by customers whom it should be their business to find. It ought not to be thus, of course—more particularly in a new industry which is, or might be, essentially British—if for no other reason than because strength and durability of construction are more indispensable in the manufacture of lime-sand bricks and artificial stones than novelty of design. We are inclined to hope that just now, when we are all out to capture German trade, this will not be forgotten, and that some of us, at any rate, with much better reason and perhaps with more permanent success, will emulate the push of some of the foreign reinforced-concreters, who reckoned so accurately on the indifference, and sometimes the ignorance, of architects, and boomed their systems and appliances so flamboyantly that for a while our own people were ousted from fair competition, and eclipsed by the glib pretensions of the invaders, who not seldom more than made up for absence of real merit by the zeal with which the vaunted advantages of their inventions and the skill and liberality with which their advocacy was secured.

For two reasons, perhaps, this has not been attempted in connection with the non-plastic brick. One was, as we have just said, that the foreign machines and systems were so palpably inferior to those made in Great Britain that none could fail to perceive it; and the other, that in our own country the low prices at which clay bricks are or have been sold necessarily limits the output of lime-sand bricks to districts where sand is plentiful and clay comparatively scarce or unsuitable. Elsewhere it has been otherwise, and the annual output of the lime-sand brick has been enormous, particularly in Germany. Mr. Alfred B. Searle—whose book, "Bricks and Artificial Stones of Non-plastic Materials," just published by Messrs. J. and A. Churchill, 7, Great Marlborough-street, W., we heartily commend to all readers, gives the following figures:—

Germany	1,000,000,000
Berlin alone	400,000,000
United States	400,000,000
Sweden	200,000,000
United Kingdom	80,000,000

Whatever may be the outlook as regards an increased production here, there can be little doubt that it will enormously increase in the British colonies, and British enterprise should receive its share as regards the supply of the necessary machinery and its installation and superintendence. There is no doubt, as Mr. Searle points out, that the cost of manufacture and the expense and uncertainty attending the use of kilns do render the manufacture of clay bricks a precarious business if not performed by skilled hands. Much of this is avoided by the utilisation of sand and other non-plastic materials, and we shall be surprised if the mass of information Mr. Searle has gathered together does not open a good many eyes to the fact that the admitted disadvantages attending the manufacture of lime-sand bricks by Michaelis and others as long ago as 1880, and, indeed, twenty years earlier than that if we include Frederick Ransom's productions of crushed rock in the 'sixties of the last century, have been completely overcome, and that the last twenty years have witnessed the growth of a lucrative commercial output, which is bound to increase.

Briefly, the lime-sand brick is made of a mixture of sand, lime, and water pressed into the ordinary shape, and hardened by heating in an autoclave containing steam under pressure. They improve with keeping. Mr. Searle treats successively on the raw materials, their preparation, mixing, pressure into shape, and hardening—perhaps the most important stage of all.

The essential materials, as we have just said, are sand and lime. If sand is not procurable, crushed slag or clinker may be used. All sources of sand are available, the ideal sand being one every grain of which can be covered with lime in the mixing, and during which the whole of the lime comes into direct contact with the silica. Not that the sand need be altogether silicious—indeed, it is possible to use an entirely non-silicious sand, provided each grain can be covered with a film of silica. It is said by some that felspathic sands are better than pure quartz for the purpose of the lime-sand brick-maker; but Mr. Searle assures us that is a mistake based on the assumption that felspar combines most easily with lime. In his opinion, nothing can be better than a quartz sand. He gives the fullest details of the necessary tests for sands, and deals at length with the importance of the shape of the grains thereof, points out when grading is necessary, and explains its object, which is to make sure of the proper interlocking of the grains, and a suitable proportion of voids or interstices between them. He describes and illustrates a simple but

ingenious method of determining the proper proportion of voids.

There is really no definite knowledge available as yet with regard to the actual composition of the binding agent of the non-plastic brick, which appears to be a hydrous calcium silicate produced by the action of the lime on the sand, or other aggregate, or by the action of water on Portland cement, when that is added to the aggregate. Various other binding agents have been tried; but lime has been found the best, and it and Portland cement are the only two bonds now in extensive use. A rich or fat lime is best, and as even that is seldom perfectly uniform in composition, the necessity of tests is insisted on, and particularly that the testing samples are truly representative of the bulk. Portland cement, when used, should be of a slow-setting variety. The water should be clean and soft.

In the mixing the usual proportions are: Aggregate, 85 per cent.; lime, 8 per cent.; and 7 per cent. of water. The essentials of success in mixing are the correct size of all particles of the aggregate—only to be secured sometimes by grinding; that the proportions of the particles should be such as to produce a mass with a minimum of voids—hence grading may be indispensable; that each grain of the aggregate should be coated with lime, which is only to be effected by efficient mixing; uniform distribution of the lime; and proper and complete hydration of the lime before the material is sent to the press. It is seldom necessary to dry the aggregate by artificial heat. Various mixing machines are illustrated and described by Mr. Searle.

To press the material into bricks, adequate strength and power must be employed, as a load of eighty tons on each brick must be insured—a hundred tons is better. Various presses are described and figured, and their respective advantages or drawbacks pointed out.

As they come from the press, the bricks should be hard enough to handle, with reasonable care, without damage; but before they can be used by the builder they must be thoroughly hardened by converting the compound of lime, silica, and water into an insoluble substance that will bind the grains of the aggregate so tightly together that the bricks will resist all ordinary usage or damage by weather. The bricks must not stand about too long before going to the hardening chamber. If they do, they never harden properly, as some, seeking to effect economy in working, have found to their cost. The cause of the hardening is not definitely known. The water and lime seem to attack the grains of the aggregate, and form a fairly definite compound, the value of which depends on the nature thereof. This action is continued

in the hardening chamber, and at the higher temperature some loss of lime and addition of water occurs, the compound then forming a hard tenacious mass. So far as it has been possible to examine the cementing material, it appears to consist of 43.1 per cent. of silica, 13.1 of alumina, 37.2 of lime, and 6.5 of water. Air-hardening and carbonic-acid hardening are sometimes resorted to; but steam hardening in an autoclave, at a temperature of 300deg. F., with the steam at a sufficiently high pressure to provide the requisite humidity, is found the most ideal process. The size of the hardening chamber is of importance.

As regards cost of manufacture, broadly speaking we are told that is always less than that of clay bricks, and that under average conditions a lime-sand plant, selling bricks at 25s. per thousand, will give a clear profit of 15 per cent. on the capital invested, after allowing for interest and depreciation. Under favouring and local circumstances the profit is much greater; as, for instance, where a large quantity of sand overlies a valuable clay deposit or other minerals, or where sand has to be removed from foundations, or to level an estate.

Mr. Searle freely admits that for certain purposes a properly-made clay brick is superior to any made of lime and sand; but that for structures where commercial needs are the chief consideration they are fully as satisfactory. As regards their appearance, he declares that some architects who objected thereto, readily consented to specify them when told that a portion of a lime-sand brick was part of a block cut from natural sandstone! He gives one or two buildings which do not seem to have suffered by the adoption of the sand-brick. Leaving facing-bricks out of the question, Mr. Searle insists that for other building purposes the sand brick has many advantages. For the interiors of factories especially it reflects more light than red-burning clay, and is so uniform on surface that less plaster is wanted where the walls are so finished.

Mr. Searle is no extravagant advocate of the lime-sand brick. He puts his facts fairly and reasonably. He declares that some localities are particularly adapted to its manufacture, which all must admit; but he warns intending-makers that if they want to compete with the clay brick they must convince builders by comparative figures, and give some sort of a guarantee of quality and durability. So far, in this country, as we hinted at the first, makers have more generally seemed inclined to hide their light under a bushel, and wait for prospective buyers to find them in the darkness. If they, or more enterprising successors, are wise, they will buy Mr. Searle's book at once. It is a most instructive and lucid one, and worthy in every way of his reputation as one of the foremost experts in the great group of industries of which he is a master.

THE ARCHITECTURAL ASSOCIATION.

A meeting of the Architectural Association was held on Monday evening at 18, Tutton Street, Westminster, the chair being occupied by Mr. H. Austin Hall, F.R.I.B.A., Acting President. Mr. G. Leonard Elkington proposed the adoption of the Council's report and his own sheet, as published in the "A.V. Review Book." This was seconded by Mr. H. M. Fletcher, Hon. Secretary, and was agreed to. For the purpose of the Council caused by the death of Mr. F. Date Caplan, the chairman nominated Mr. Philip F. Webb. By show of hands twenty-seven ordinary members and fifty country members were unanimously elected, and further nominations to both classes were read. The chairman called attention to the

excellent work that is being done by the War Relief Bureau, and in particular by the Comforts for Soldiers' Committee. He mentioned that if any member was thinking of joining the Army, and was in doubt as to the regiment in which his special capabilities would enable him to render the most efficient service, the committee would be pleased to give him advice, if he would apply to them.

RHEIMS CATHEDRAL.

A paper on this subject, illustrated by lantern views, was read by Mr. W. H. Aymer Vallance, F.S.A. He introduced his subject by showing a number of pictures of, and describing the much older and wider, Abbey Church of S. Remi, in another quarter of the city (illustrated in our issue of Oct. 16 last, pp. 485-496). The barrel-vaulted Romanesque nave and its aisles, the Late 12th-century choir, covered in with a quadripartite vault; the Flamboyant façade of the south transept rebuilt by Robert de Lenoncourt in 1506, and the Early 14th-Century and much-restored tomb of the great archbishop in the centre of the choir, were dealt with in detail, the lecturer remarking that the abbey church owed its beauty to the possession of S. Remi's body, for to see and revere this there came streams of pilgrims; they brought offerings, and with their costly gifts the building was erected and decorated with stained glass, statues, and tapestry. The extraordinary fact was that the famous cathedral church of Notre Dame in the same city, the finest and most perfect edifice in France, possessed neither relics nor saint's tomb to attract a crowd of worshippers. It owed all its fame and all its marvellous wealth of sculpture and of stained glass to the fact that it was the coronation and the metropolitan church of France—a France which, in the days when it was being rebuilt on its present sumptuous scale, was divided into petty kingdoms, and was, in great part, in the hands of the English. Perhaps for this very reason the Cathedral of Rheims was cherished and valued as the symbol of national life and unity. Although manifestly a building in ground-plan and in structure of the 13th century, the cathedral occupied a very ancient site, and some fragments of the earlier churches were visible here and there within it. Originally built at the end of the 4th century by S. Nicaise, that bishop was murdered on its threshold by the Vandals in 406. Other and larger churches successively occupied the site, the last of which was destroyed by fire in 1211. The first stone of the present cathedral was laid in May, 1212, by Archbishop Alberic d'Humbert, and although the choir, transepts, and the three western bays of the nave were brought into use before the end of the 13th century, the entire fabric, as it existed in August last, was not completed until about 1430. Even then the scheme, which proposed to crown the western towers with spires of the S. Remi type, to erect over the crossing a third spire, and to add spires to the four other towers flanking the junctions of the north and south transepts with the nave and choir, was never brought to completion. In 1487 a calamitous fire broke out in the church and destroyed all the fittings of the choir. The King, Charles VIII., expressed great indignation at the injury to the cathedral church, and promised to allocate for its repair certain taxes for over a number of years—a promise never fulfilled. His eldest son, the Dauphin, afterwards Louis XII., also offered contributions, which were for a time duly provided, and, with the aid of gifts from all over France, the cathedral was restored. Clovis had been baptised in the other great church by S. Remi in 496, and later kings were consecrated in the cathedral with oil from the *sainte ampoule*, or holy flask, said to have been brought from heaven by a dove for the baptism of Clovis. This flask was kept in a reliquary, which was brought in solemn procession from the abbey church to the cathedral for each coronation, and as reverently taken back to S. Remi's, and there kept until again required for a like regal ceremony. It was destroyed by Revolutionists in 1793; but a fragment containing, it is asserted, some of the sacred

chrism, was preserved, and from it oil was used at the last coronation, that of Charles X., in 1825. The names of the 13th-century architects of the present cathedral had given rise to heated controversies; but the lecturer believed that they were established by the ones formerly recorded in the outer bastions of a labyrinth of black and white marble, with their symbols of square, compasses, and circle; a labyrinth finally destroyed late in the 18th century, because children made its mazes a playground. The first architect and master mason seemed to have been Robert de Coucy, who was assisted, or possibly succeeded, by Bernard de Soissons, Gauthier de Rheims, Jean d'Orbais, and Jean de Loups. The cathedral consists of a short apsidal choir of two bays, with an eastern chevet of five chapels; broad transepts of three bays, with east and west aisles, and a nave and aisles of nine bays, to which no chapels have ever been added. On the north transept there are two portals, but none on the south side, and at the west end are noble triple portals. The walls are of unusual solidity, and have never been tampered with, and the whole church is vaulted in stone on a quadripartite scheme at a height of 124ft. above the pavement. To the fact that no structural alterations or additions have been made to the original ground-plan the author attributed the fact that the walls and vault remained intact, although the building had again and again been bombarded, and the outer lead-covered timber roofs and all the internal fittings had been destroyed by the Germans' fire. Passing round the edifice, the lecturer called attention to the figures of angels in canopies on piers, and compared the actual execution of the lancets and buttresses of the choir with the 13th-century sketch by Villars d'Honnecourt. A unique feature of great beauty was the Angel Spirelet, a flèche of timber covered with lead, rising from a gallery formed by caryatid figures, from the apex of the eastern termination of the leaden roof of the choir; this exquisitely-proportioned flèche, completed in 1515, was recently destroyed, together with the roof itself, by the Germans. The sculpture in the gallery of the bay and between the western towers, in the portals to the north transept, and in the grand triple portals on the west front, were described in detail. The lecturer said he was puzzled by the Classic character and suspicious prettiness of Le Bon Dieu—the figure of Christ in benediction—against the centre pier of the north-transept doorway, and the Blessed Mary of the Visitation on the west front; but he could not determine whether they were abnormal works of the 13th century much restored, or modern additions to the sculpture. Four different types of sculpture—Romanesque, and 13th, 14th, and 15th centuries—were easily distinguished. Among the fittings were the tapestries (fortunately rescued before the bombardment), executed about 1530, 1570, and 1630; the organ in pendant case, built by Oudin Mestre in 1481; the pulpit, and a curious 14th-century clock, with moving figures, in the north transept. In conclusion, Mr. Vallance described the coronation of Charles VII. in the cathedral, in the presence of Joan d'Arc, as one of the most thrilling scenes in French history. The Maid of Orleans stood, banner in hand, close to the high altar, watching the performance of the sacred rites which testified to the fulfilment of her dreams. When the anointing had been performed she knelt down, and with tear-stained face kissed the feet of the monarch, and begged his permission to return to her flocks. This scene helped us to realise what the unnecessary bombardment of the cathedral meant to the French nation. It was the violation of the most revered and cherished sanctuary in all the land of the Gauls, which was beyond all others regarded with veneration by French men and women, even by those among them who lived in open revolt against the Christian religion. The French were one and united in the consciousness that the Cathedral of Rheims was the home of holies whose seal was set on the chart of their independence. If Canterbury

Westminster should ever be stricken—which God forbid!—we English could not be more profoundly outraged than were the French by the manner in which the Germans had violated Rheims. Reflecting on the destruction wrought on priceless monuments by this war, he did not know who could be deemed most fortunate—those who had seen these buildings, and would mourn as they realised that they would never again see them, or unborn generations, who would be spared the poignancy of our grief, and would be unable to gauge the full measure of their irreparable loss.

Mr. Louis Ambler proposed a vote of thanks to Mr. Vallance for his most timely lecture. It was a good many years since he saw Rheims, and he could only deplore the terrible damage caused by the Germans to that exquisite work of art. He felt that the gallery of the kings across the west front was too large in scale, and out of proportion to the rest of the building.

Mr. Ronald P. Jones said he had been impressed by the extraordinarily logical design and construction of the west front, the magnificence of the richly-sculptured portals, and the enchanting effect of the open masonry in the upper stage of each of the towers. He had been greatly amused to see in the accounts of the non-architectural journalists assertions made that the glass in the upper parts of the western towers was burnt out, and on the illustrations arrows were shown pointing to the open tracery, with the inscription: "All the painted glass here destroyed." The journalists also said that the roof having been set on fire the interior was open to the sky, not observing that the stone vaulting remained intact after bombardment and burning.

Mr. Arthur Belcher and Mr. W. Curtis Green also joined in the vote of thanks, the latter speaker remarking that he was thankful the lecturer had not harrowed their feelings by exhibiting views of the building since its bombardment. Anatole France had well said: "There is nothing precious in the workman's hands save when God gives the work His countenance."

The chairman, in putting the vote of thanks, observed that to his mind one of the gems of the cathedral was the angel fleche on the apex of the choir roof, now, alas! among the treasures utterly destroyed by the invaders.

THE ALLEGED "DESTRUCTIVE" WORK IN CHURCHES.

ANCIENT MONUMENTS (CHURCHES) COMMITTEE'S REPORT.

At the request of the Archbishops of Canterbury and York, Sir Lewis Dibdin, Dean of the Aches; Sir Alfred B. Kempe, and Sir Charles E. H. Chadwyck-Healey have been acting, since June 18, 1913, as a committee to ascertain what steps are taken on the issue of faculties in the different dioceses to secure due protection, both on archaeological and on artistic grounds, for church fabrics which have to undergo repair, or in which changes are being made. Their report to the Archbishops, with their recommendations suggested by the information collected, is now published.

The committee have addressed a series of questions (a) to every Bishop, and have received replies from all; to every Chancellor, and have received replies from all of them. The committee have had the advantage of full discussion with Mr. Walter Tapper, F.R.I.B.A. (Appendix C), and Mr. Ernest Newton, A.R.A., Senior Vice-President (now President) of the Royal Institute of British Architects (Appendix D), who were kind enough to give the committee the benefit of their experience and judgment, having been nominated for the purpose, at the request of the committee, by the (then) President of the Royal Institute of British Architects. They have also received valuable information from Mr. W. D. Caroe, F.S.A., F.R.I.B.A., who, at the request of the committee, gave evidence before them based on his special experience as architect to the Ecclesiastical Commissioners.

The committee have also had under con-

sideration a memorial presented on July 16, 1913, to the Archbishops by a deputation from the Society for the Protection of Ancient Buildings, together with a list of forty churches where "destructive work" is alleged to have been "carried out under a faculty since 1896." The committee have received communications from various other persons.

CHURCHES AND THEIR CONTENTS

are placed by law under the care of the Ordinary—i.e., of the Bishop of the diocese and those delegated to act on his behalf. The Ordinary's jurisdiction exercised by the Chancellor in the Consistory Court of a diocese extends to the control of every change whether by way of addition, alteration, removal, renovation, or repair which affects the structure of a church or its appearance or its ornaments or decorations or furniture. This jurisdiction is not in practice asserted in small matters, such as mending windows, replacing tiles, supplying kneelers, and similar minor works of repair or furnishing. It is obvious that it would be impossible for churchwardens to discharge their duty of seeing to the upkeep of churches, unless some authority, independent of, or delegated by, the Ordinary were recognised as inherent in their office. Its extent is to be defined rather by common-sense in particular cases than by the general application of precise rules. But if a substantial alteration—even by way of repair—e.g., an entirely new roof—is contemplated, the license or faculty of the Ordinary is necessary. Especially is this the case with regard to so-called repairs to ancient work, which, if carried out, might impair, or otherwise affect, historical or artistic tradition. If an incumbent, churchwardens, or vestry be in doubt whether a particular work is substantial enough to require a faculty, the view of the Ordinary should be sought and must prevail, because his jurisdiction extends to all changes, and the limits of its exercise are determined rather by his discretion than by express law.

The details of procedure and the expenses of faculties are commented on in the Report, which goes on to remark that, having regard to the great variety of the works for which, before they can be lawfully executed, a faculty should be obtained, it would be difficult to enforce any hard-and-fast condition as to the employment of an architect, or, if an architect be employed, as to his professional rank. But it is clear from the answers received by the committee that, with some exceptions, faculties involving considerable alteration and renovation of ancient churches are not in fact granted unless an architect of recognised position recommends the work and supervises its execution. In at least 23 out of 36 dioceses the Chancellors state that in all suitable cases the employment of an architect is made a specific requirement, or would be, if it were attempted to carry on important works without professional advice. The Court, in considering an application for a faculty, properly and inevitably relies largely on the views expressed and the information furnished by the architect in charge of the work. In addition to plans, detailed specifications are required in many—and should be in all—dioceses. An examination of the plans and specification frequently suggests to the Chancellor the need of further information, which is sought in different ways.

It is in fact, and it is apparent from what has already been stated, that there exists no uniform or officially recognised machinery by the use of which the Court can obtain skilled and independent advice upon archaeological, architectural, and artistic questions arising on applications for faculties. In the opinion of the committee this is a defect which is not fully met by the various precautions taken. The effectiveness, and even the employment, of these depends almost entirely upon the personality of the Chancellor. He is generally a lawyer conversant with ecclesiastical law, but he is not necessarily an expert in archaeology. He may, or may not, have opportunities of obtaining skilled advice, and, if he has, he may, or may not, care to use them. The answers received to the questions addressed by the committee

to the Bishops and Chancellors show that the need of some more systematic method is recognised, and, provided it were so devised as to help, without superseding, the Court, would be generally welcomed.

It is a matter for congratulation that, so far as the committee have been able to discover, the faculty jurisdiction has been carefully and judiciously exercised, and, notwithstanding the lack of independent expert advice, has been largely effective, especially during the last twenty or thirty years, in preventing ill-considered changes in the fabrics of ancient parish churches. The committee are aware that a contrary view has been somewhat confidently stated. But while it is inevitable that in so considerable a number of Courts, worked with varying degrees of efficiency, mistakes and miscarriages should from time to time occur, evidence adduced to prove any general failure of the Consistory Courts to fulfil their proper function in this respect is either wholly wanting or breaks down under examination. In this connection mention is made of the list of forty churches submitted by the

SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS

to the Archbishops, and by them referred to this committee. The Society describes them as cases which have come under their notice, where "destructive work has been carried out under a faculty since 1896." The committee have examined this list and have made inquiries of and through the Chancellors of the various dioceses concerned. They find that in 21 out of the 40 cases no faculty was obtained, and in two of these the absence of a faculty was known to the authors of the list, for it is actually mentioned by them. The alleged instances, therefore, of "destructive work" done "under a faculty" must in any view be reduced to less than one-half the proposed number. An examination in detail leads to startling results. In one case the only criticism is that the church was "entirely restored" by Bodly (sic). By "Bodly" is meant the late G. F. Bodley, R.A., and the inference seems to be that any works suggested by this eminent architect must be harmful. It is not for the committee to comment on the taste of this statement made in a formal document by responsible persons. But it can hardly be contended that the Court ought to have disallowed the work because it was advised by Mr. Bodley, and showed inefficiency in not doing so. As a matter of fact the works were of enlargement and adornment rather than "restoration," and were very carefully considered by the Chancellor. In another case not only was no faculty granted, but the list is blank as to the nature of the work and the objection to it. Yet this is solemnly submitted as one of the forty cases of "destructive work" done "under a faculty." In 18 of the 19 cases where faculties were obtained well-known architects were employed—e.g., the late Mr. Hodgson Fowler, Sir Thos. Jackson, the late Mr. Bodley, Mr. Comper, and Mr. Currey. In the nineteenth case the faculty was not for architectural work, but for stained-glass windows. In 10 of the 19 cases—viz., Austerfield, Cherington, Compton Martin, Malton, Norwich St. Mary Coslany, Pulling on Sea, Puddletown, Runwell, Sherburn St. Hilda, and Watlington, the allegations of the Society as to removal of work which could have been repaired, as to the fact of removal, as to the antiquity of work removed or as to the insertion of new work, are categorically denied by those on the spot with intimate knowledge of, and responsibility for, the churches concerned. In another case (one of the non-faculty group) complaint is made of the refacing of an ancient wall, which, however, seems to have been erected almost within living memory—viz., about 1818. St. Petrock's, Exeter. In other cases matters are criticised, whether justly or not, which seem scarcely important enough to be described as "destructive work." Thus at Birford a new porch was erected under the supervision of Mr. Comper. It is denounced only because it was built into an ancient wall, "instead of standing free." But while

the committee cannot regard this list as a very weighty indictment of the efficiency of the faculty system, they recognise its honest intention, and, despite all defects, its value. It is, of course, regrettable that its effect is marred by inaccuracy and exaggeration and that its aim has not found more decorous expression, especially as the memorial contemplates the society undertaking some official responsibility for the care and supervision of ancient churches.

There are, however, two conditions which those whom the Society for the Protection of Ancient Buildings represents must fulfil, if their advice is to be really useful. First they must put themselves in the position of the faculty authority, whose duty it is to consider, not the preservation of an interesting ruin as a relic of the past; but the maintenance and, if need be, the adaptation of an ancient building which has to be used for important purposes in the present and in the future. The primary purpose of a parish church is to provide a suitable place for public worship adequate to the needs of the parishioners. Its value even from this point of view is much enhanced if it has association with the past, and no pains are too great to bestow upon the preservation of its ancient features. But nevertheless the Consistory Court ought not to allow considerations of that kind to obscure its predominant duty in regard to all church fabrics. Secondly, they must realise the distinction between—on the one hand—the admitted conclusions of architectural science and antiquarian research, and—on the other—views on those subjects which, however strongly held by individuals, are not universally accepted. A judge would ill fulfil his duty if he allowed theories of the hour, as to the best mode of treating old buildings, to govern his action, and gave to them the weight of settled determinations of science. For example, the Society for the Protection of Ancient Buildings not only deprecates very strongly any renovation of ancient work in a church and any addition to an ancient church, but it further maintains as a principle that if new work has to be inserted, either to replace or to add to the old, it must not be made to look like the old. "Restoration" is said to be fundamentally wrong, because if you renew in 1914 work which was done in, say, 1314, you misrepresent the date of your 1914 work, and the more accurately the old work is reproduced, the more misleading the result. Thus old stone should be replaced, not by similar stone, but with cement and tiles, which, creating patches here and there on the original surface, will distinguish the new work from the old for all time. If additions be inevitable they must not imitate the style of the rest of the building, but must be frankly different. On the other hand, there are many who argue that a church has to be used, and that when ancient work is so worn out that it cannot be preserved consistently with the present use of the building, the old work must be replaced with something, and further, that it is better that the old work should be reproduced, as nearly as may be, in new material, than that the old design should perish as well as the old material. A living authority, speaking at the Royal Institute of British Architects on this subject recently, said:

"Never use base materials if you can help it, and do not be afraid that your repairs will deceive future ages. Ancient repairs, done without afterthought or self-consciousness, do not mislead us to-day, our own repairs, honestly done, with the knowledge of the antiquary and in the spirit of the artist, will not destroy the history and memory of a building for those who have eyes to see" (Mr. C. R. Peers, F.S.A., Inspector of Ancient Monuments, *Architectural Journal*, Vol. XVI, 3rd series, p. 136 c).

It is not part of the duty of this committee to express an opinion on what is obviously a moot point amongst archaeologists. But attention is drawn to it in order to emphasise the danger of allowing sectional opinions asserted with dogmatic confidence to control official action with regard to ancient churches. The Society for the Protection of Ancient Buildings rules out all work of "restoration" as something "destructive" and "false" which ought to be prevented by authority. The insistence

on this view lies at the bottom of the criticism contained in the list of the 40 churches. It is submitted that until expert opinion, not to say public opinion, has been converted, the society is claiming an exaggerated importance for views, the soundness of which is far from having been established, and which may even come to be recognised as merely eccentric.

RECOMMENDATIONS.

The committee make the following recommendations with regard to the procedure in faculty cases of the kind under review.

I.—The practice and the system of pleading should be the same in every Consistory Court. It should be remembered that every application for a faculty is a cause in a Court of law which may become contentions, and even if unopposed, has to be dealt with by the Chancellor on judicial principles and by judicial methods. As it is impossible to say *a priori* whether a faculty case will be opposed or not, the proceedings should be launched so as to adapt themselves readily to either event. The practice generally, but not universally, adopted, of the applicants presenting a petition in which they describe the faculty they desire and the grounds on which they ask for it, is satisfactory. The petition gives the Chancellor the statement of the case which he needs. Its preparation requires very little technical knowledge, and it is an equally effective beginning to an opposed as to an unopposed application. The Diocesan Calendar or Directory of each diocese should contain, as many of them do, plainly expressed instructions and forms which can easily be followed, and will, in ordinary circumstances, enable anyone who will take the necessary pains to draft his petition without professional assistance. For opposed cases, pleadings subsequent to the petition are generally requisite, and technical training is useful, though not absolutely essential, for their preparation. It would not be difficult to frame rules of pleading and skeleton forms adapted to modern requirements from the extant books of ecclesiastical practice which, owing to the rarity of contested ecclesiastical suits, have been somewhat neglected, and are indeed wholly unknown to the ordinary practitioner, whether solicitor or counsel. The adoption of this recommendation would not require statutory sanction, but would require concerted action by all the Chancellors.*

II.—It is desirable that the category of parties having a *locus standi* in the Consistory Court in a proceeding for a faculty with regard to a parish church or chapel of ease should be enlarged so as to include the bishop of the diocese, and any person or body of persons approved by him, and any other person or body of persons with the leave of the court. The anomaly of the bishop appearing as a party in his own court is apparent rather than real. He already frequently appears as prosecutor in criminal cases in the Consistory Court, just as the Crown prosecutes criminals in the King's Court. In the opinion of the committee it would unfairly embarrass applicants for faculties if any person, or even any society, could intervene in these cases without limitation or condition, and the chancellor ought to have power, on any application for leave to intervene, to grant the application subject to such order as to security for, and also as to payment of, costs as he may think just.

This recommendation would require statutory authority for its adoption.

III.—It is desirable that an advisory body should be constituted in every diocese for the assistance of the court in architectural, archaeological, historical, and artistic matters relating to churches as to which faculties are sought. There seems no reason why the constitution of the advisory body should be the same in every diocese. It should be appointed by the bishop, and might be a body created *ad hoc*, or an existing diocesan or county society, or an existing committee of some such society, according to the circumstances of the particular diocese. The important considerations are:—

(i.) That it should possess local knowledge. In some dioceses it might be desirable to appoint separate advisory bodies for different portions of the diocese, as, for example, when a diocese includes districts in more than one county.

(ii.) That experience in all necessary departments of knowledge should be so represented as to give weight and prestige to the opinions expressed by the advisory body; and

(iii.) That the advisory body should be unpaid.

In the opinion of the committee a central body acting for all or many dioceses would not be advisable, not only because it would lack local knowledge, but also because the amount of work thrown on the central body would be so great that it could not be expected to be undertaken by volunteers. It would either have to be paid for—in which case the expense would be great—or the work would often be postponed to other and more remunerative business, and the delay would be considerable. No doubt if the advisory body were central it would afford more opportunity of including amongst its members eminent professional men. But these are precisely the persons who would find it difficult to give any, and impossible to give much, time, promptly and regularly, to the work.

The advisory body should advise the Chancellor if and when asked to do so by

* As to the Consistory Court of the diocese of London and the Commissary Court of the diocese of Canterbury, see 10 Geo. IV, cap. 57.

him, during and not before the pendency of the application. It is not desirable to impose conditions upon applicants which they must satisfy before they are allowed to submit their case to the Court. Reference of plans to the advisory body, and still more, a requirement of approval by such a body or by the Bishop personally, before the matter reaches the Chancellor, would be undesirable, because such expedients tend to impair the sense of responsibility, and, therefore, the efficiency of the Court, by weakening its authority and appearing to shift the burden of its duty on to others.

There are many details of machinery which will require to be worked out if this recommendation be adopted, such as the form in which a reference is to be made to the advisory body, the form in which that body is to make its report, the communication of the report to the applicants for the faculty, and to the opponents (if any), and the opportunity (if any) to be afforded them of dealing with the report. The Court must be free to act, or not to act, upon the report as it thinks fit. Any attempt to make opinions expressed in the report binding on the Court would be fatal to its authority and would create great confusion. The great majority of the Chancellors and a majority of the Bishops are disposed to give a general support to the main idea contained in this recommendation. Mr. Tapper's and Mr. Caröe's evidence is to the same effect. Mr. Newton, on the other hand, apprehends friction might result if the architect's plans were subjected to the criticism of other experts. The adoption of this recommendation would not entail statutory sanction.

IV.—The advisory body would be of service in cases of proposed sales of chattels belonging to churches (e.g., valuable communion plate), as well as in those of alterations of ancient buildings.

V.—The question of the expense of faculties is one of the most difficult matters connected with the subject. The fees for unopposed faculties payable to officials, as distinguished from the costs of applicants who employ the professional services of solicitors and counsel, are fixed by Order in Council at £2 2s. for minor cases, and £5 5s. for others. It is essential that these fees should be kept as small as possible. But any reduction in this scale—in several dioceses, as has been mentioned, the minor faculty fees are less than £2 2s.—means that the necessary work involved in the due consideration of an application for a minor faculty must be done more or less without payment. If the committee's recommendations be adopted the work will be increased. Any substantial reduction of the present fees is not, in the opinion of the committee, practicable.

It not infrequently happens that a petition for a faculty is withdrawn, or simply allowed to lapse, either because an opponent has appeared or because the chancellor has raised questions, or has made conditions which petitioners feel unable or indisposed to satisfy. In such a case there is at present no way in which the petitioners can be made liable to reimburse the officials for their expenses and labour. The committee recommends that in every case a fee should be paid upon presentation of a petition for a faculty, to be allowed in the full fees for the faculty, if decreed, but in no case to be returnable.

If the right to appear in the Consistory Court in opposition to proposed faculties be extended in the manner herebefore suggested, it is possible that the number of contested cases will be considerably increased, and questions will constantly arise as to the fees payable to the chancellors and other officials in respect of the proceedings in such cases. The table of fees fixed by Order in Council under 30 and 31 Vic. cap. 135, makes no provision for the necessary court fees in contentious matters, such as exists with regard to proceedings under the Public Worship Regulation Act, 1874, and the Clergy Discipline Act, 1892. It deals only with the fees in non-contentious cases, and even in these cases it overlooks those instances in which, owing to legal or other difficulties, there must be a hearing in court—possibly a lengthy one—before the Chancellor can be in a position to decide whether he can properly decree the grant of the faculty asked for. These omissions are to some extent supplied in the Province of Canterbury by a Table of Fees issued on July 22, 1889, by Archbishop Benson under the authority of the 135th Canon of 1603, and the power to make such a table exists with reference to the Northern Province.* But the committee think that it would be more satisfactory that the matter should be dealt with by the issue of a new Table of Fees by Order in Council under 30 and 31 Vic. cap. 135. That statute enables such a table to be made specifying all fees and payments to Chancellors and other officials "on and incidental to the grant of faculties," and therefore all fees arising in contentious as well as non-contentious cases could be included.

The committee also recommend that the table should make provision for the cost of visits of inspection by the Court to churches as to which applications for faculties are made, wherever, in the opinion of the court, such a visit is desirable in order to enable the judge to deal properly with any application.

With reference to these fees payable to diocesan officials, the committee think it is important that it

* The statutory power given by 10 Geo. IV, cap. 53 to establish and revise fees applies only to the Consistory Court of London and the Commissary Court of the Diocese of Canterbury.

should be more widely known than seems to be the case that since 1895 in the majority of dioceses, all such fees have, with the consent of the officials concerned, been taxable by a taxing master of the High Court of Justice specially designated for the purpose, and any person who is called upon to pay such fees can have the amount which he ought to pay settled by the taxing master.

With regard to the professional charges of solicitors and counsel, and general costs in faculty cases, the committee do not think that any general recommendation can usefully be made. But they would suggest that in opposed faculty cases, where petitions are withdrawn or allowed to lapse, and also in cases where opposition has been entered, but is afterwards abandoned, provision should be made for application in some summary manner for costs against the party who so retires from the contest.

In making the foregoing recommendations the committee have considered how the machinery of the Consistory Courts may be made more effective for the protection of ancient churches from neglect or ill-advised alterations. But it is plain that no machinery, however perfect, will be of the smallest use for this purpose unless it is used. The Chancellor may sit in his court, he may deal with matters, when they come before him, with admirable knowledge and judgment; the procedure of the Court may be simple, speedy, effective, and inexpensive, but all will be to no purpose for the protection of ancient churches unless, first, those who desire to restore or alter or add to them are induced to enter the court, or, in other words, are compelled to apply for a faculty, and unless, secondly, the orders made and the faculties granted by the Court are properly carried out. The committee desire to express their emphatic opinion that these two matters are of far greater importance and urgency than any improvement of the existing faculty procedure, and even than the formation of advisory bodies.

There is reason to fear that a considerable proportion of the works undertaken with regard to parish churches are, as a matter of fact, executed without faculty—that is to say, without the control of any public authority. The list of forty churches, to which reference has already been made, however ineffectual as evidence of the failure of faculties, when granted, to accomplish their purpose, is important as showing how often faculties are omitted altogether. In more than half of these forty ancient churches works important enough to attract the attention of the Society for the Protection of Ancient Buildings have been effected without faculty. It is true that most of the Chancellors report that, so far as they know, such cases are rare. But it must be borne in mind that the authorities of the Consistory Court are the last persons whom those attempting to carry out alterations irregularly would be likely to inform of their intentions. Moreover, in the one diocese where an effort has been made to furnish information on this point from documentary evidence, it appears that on the admissions of the churchwardens themselves, made in their answers to visitation articles, between 1905 and 1910, alterations without faculty were effected in 101 parishes out of 478. When it is remembered that many churchwardens—and those the least inclined to defer to authority—do not attend visitations or answer the Ordinary's articles of inquiry (the number of benefices in the diocese is about 515), it will be seen that the number of parishes where this sort of irregularity has occurred may not improbably be even greater than has been stated.

In a few dioceses great care seems to be taken to prevent unauthorised works from being effected, and in many others it is regarded as part of the duty of the rural dean to report to the Archdeacon or to the Bishop any case of irregularity which comes under his official notice. But the rural dean's official inspections of churches do not normally take place more than once a year; in some dioceses they are triennial or even quadrennial; and it seems to be generally admitted (with some notable exceptions) that the machinery is not very rigorously worked. It ought to be added that in the opinion both of the Bishops and of the Chancellors the tendency during recent years has been towards greater stringency of supervision, and, no doubt, in consequence, greater regularity in the dealing with church

fabrics. It is evident to anyone with practical experience in this matter that in many cases incumbents and churchwardens assume to act independently of the Ordinary, not so much from a quite natural disposition to do what they please with "their own church" as from sheer ignorance of the requirements of the law as to faculties.

The committee recommend:—

VI.—That a statement should be prepared in every diocese setting out clearly and simply the law with regard to faculties and the obligation of churchwardens to observe it, their responsibility for its non-observance, and the steps which will be taken in the event of wilful disregard of its provisions.

VII.—That a printed copy of this statement be handed to every churchwarden on admission to office by the Ordinary.

VIII.—That a printed copy of this statement be forwarded by the Bishop to every incumbent with a request that it be permanently and conspicuously hung up in the vestry of the church.

IX.—That the Ordinary (whether Archdeacon or Chancellor) in visitation make specific inquiry in the articles as to any works effected in the church since the last visitation, and as to whether a faculty has been obtained, and further, that the Ordinary, both in his charge and in his personal interviews with the churchwardens on their presentation of the answers to articles, should deal specifically with the matter, according to the circumstances of each case.

X.—That the Rural Deans be definitely instructed (i) to advise and warn incumbents and churchwardens in their Dioceses not to undertake works in their churches, or to sell valuable chattels belonging to the church without faculty, and (ii) to report to the Bishop or the Archdeacon any case in which, in their view, there is danger of irregularity being attempted, and, of course, any case where works have in fact been irregularly carried out, or Communion plate irregularly sold; and that the Rural Deans be further instructed that their performance of duty, whether in the way of counsel to the clergy and churchwardens, or of report to the Bishop or Archdeacon, is not to be confined to periodical inspections of churches, but is to be deemed to be continuous, and to extend to knowledge unofficially acquired.

XI.—That the Bishop and Archdeacon should deal promptly and decidedly with all cases of this kind which come under their notice.

XII.—That no pecuniary grant be made from central or diocesan funds or societies towards church restorations or alterations, unless it be shown that a faculty has been obtained, or at least that such grants should be made conditional on a faculty being obtained.

XIII.—That the Bishop and all other diocesan officers—e.g., Suffragan Bishops, Archdeacons, and Cathedral Dignitaries satisfy themselves that faculties have been granted, and strictly observed, or, at least, are in course of being granted, before they consent to dedicate, or to attend the inauguration of, alterations of, or additions to, the fabrics or ornaments of churches.

XIV.—That it be the duty of the Registrar to inform the Bishop of every petition for a faculty on its presentation, in order that he may take such action thereon as his Lordship may think fit by way of appearance to the citation, or of authorising the appearance of some other person thereto, or of communicating with the Archdeacon or Rural Dean with regard to the matter.

It is not too much to say that at the present time no machinery exists for supervising, on behalf of the Bishop, the execution of works authorised by faculty. In some of the old forms of faculty there was contained a clause requiring the person to whom the faculty was granted to bring into the Registry within a stated time a certificate of what had been done thereunder. The form of words may yet survive in use here and there, but the practice, if it ever actively existed, has been but rarely used in recent times. Although it is greatly to the honour of the parties concerned that the terms of faculties once granted are generally loyally observed, it cannot be denied that damage has been done in certain cases by departures from approved plans, made, it may be assumed, thoughtlessly, rather than in deliberate contempt of authority. Irregularities of this sort have been probably encouraged by the extremely concise and even vague terms in which faculties are often worded. In the opinion of the committee greater care is needed in the drafting of faculties, so that the works authorised may be described explicitly and with adequate fullness. Harm has also resulted from careless or ignorant work done in pursuance of a faculty, which might have been prevented, or at least detected earlier, if it had been somebody's duty to see that the faculty was properly acted on. No part of the evidence given by Messrs. Tapper, Newton, and Caroe was more impressive than their unanimous insistence on the supreme importance of a suitable selection of the contractor and even of the actual workmen to whom works on an ancient church is confided. It must be confessed that this is a side of the problem with which the faculty

system can never satisfactorily deal. More can be accomplished by the informal advice and intervention of the Bishop and those acting under him; but it depends most of all on the architect.

The committee recommend—

XV.—That on the grant of a faculty it be the duty of the Registrar to inform the Archdeacon of its terms, and to forward to him copies of the plans and specifications (furnished by the petitioners in duplicate on the presentation of the petition).

XVI.—That it be the duty of the Archdeacon to take such steps (if any) as he or the Bishop may think desirable, to inspect or cause to be inspected, the works during their progress, and, if he think fit, to report thereon to the Bishop, and to certify to the Bishop when the works have been executed in due compliance with the faculty, or (if not) in what particulars the faculty has not been complied with. The Archdeacon to be at liberty to avail himself of the advisory body for the purpose of performing the duty described in this recommendation.

The committee are of opinion that if the above recommendations (which can be adopted without statutory sanction) are fully and energetically carried out, there will be few cases in which either an application for a faculty is altogether evaded, or in which, a faculty having been granted, it is subsequently disregarded or inadequately carried out. The influence of the Bishop, exerted directly and through his representatives, will generally be found sufficient for the purpose. But there will, no doubt, remain a few cases in which the Bishop's admonitions will be neglected, and in which coercive measures will be required to insist on application being made for a faculty, to insure the non-execution of works, or the retention of chattels proposed to be sold, until a faculty has been granted, and to enforce due obedience to the terms of the faculty when granted. Here, again, everything depends on the Bishop personally.

The Bishop is empowered, under the Church Discipline Act, 1840, to proceed against any clergyman who is charged with any offence against the laws ecclesiastical, and also to allow any other person to do so. The Bishop has, under his general jurisdiction, power to institute, or to authorise the institution of, proceedings against churchwardens for any offence against ecclesiastical law committed by them in the performance of their office. There are many precedents for proceedings against churchwardens and also against incumbents for alterations in parish churches effected without faculty.

Phillimore ("Ecc. Law," Vol. II., pp. 836-7, 2nd edition) mentions amongst "offences which are the subject of ecclesiastical discipline in the clergy . . . offences relating to injuries done to the fabric or ornaments of the church or to alterations of them without a faculty or proper license from the Ordinary."

It will be remembered that the Public Worship Regulation Act provided that proceedings against incumbents might be taken, with the leave of the Bishop, by the archdeacon, churchwarden, or three parishioners, on the ground that in the parish church "any alteration in, or addition to, the fabric ornaments or furniture thereof has been made without lawful authority."

As the law stands, there is also authority which would justify an action in the High Court of Justice for an injunction to restrain an incumbent or churchwardens from making alterations in a parish church in the absence of, or in defiance of the terms of, a faculty.

XVII.—The committee think it desirable that the ecclesiastical courts should possess jurisdiction to deal with such cases, both as to incumbents and churchwardens, not only by inflicting the usual ecclesiastical censures, but should also have full powers to order things intruded without faculty to be removed, and things removed without faculty to be reinstated.

The adoption of this recommendation would require statutory sanction.

The committee draw attention to the fact that a Bishop who initiated proceedings such as may, in any case, and must, in some cases, be inevitable if due protection is to be extended to all parish churches, would incur a responsibility for costs which, as the law stands, would not be defrayed from any public source. The anomaly of the position in this respect is obvious, but it is beyond the function of this committee to do more than draw attention to the matter. The

committee ventured to submit the following question to the Bishops:—

"Are you prepared to enforce the law by taking proceedings in the ecclesiastical courts against incumbents and churchwardens who carry out works in their churches, either without faculty, or in disregard of the conditions of a faculty? Would you be prepared to do so, provided you were secured against any expense in so doing?"

The replies from thirty-four Bishops varied in their effect. In the opinion of the committee the machinery of the Consistory Courts for the proper consideration and decision of cases submitted to them can, without much difficulty or change, be made reasonably effective by the joint action of the Bishops and Chancellors. But in order to make this machinery adequate for the protection of ancient churches it is necessary to enforce (1) applications for faculties in all proper cases, and (2) the due observance of faculties when granted. The fulfilment of these conditions can only be secured by the direct and sustained efforts of the Bishops themselves, first and chiefly by using their very large powers of influence and persuasion, and, secondly, if and when necessary, by coercive proceedings to compel obedience to the law.

THE LONDON COUNTY COUNCIL.

At the meeting of the London County Council on Tuesday the General Purposes Committee reported that the cost of works carried out by direct employment of labour and completed in the half-year ended March 31, 1914, was £418,078 9s. 2d. The total cost of works executed during the preceding half-year by direct employment of labour under the direction of the committees controlling services was £261,352 1s. 4d. The largest item was for petty works of current maintenance of highways, amounting to £329,287 12s. 9d.

The borrowing was sanctioned by the St. Pancras Borough Council of £8,970, made up of mains £2,587, plant £1,140, house services £2,676, meters £1,835, and lamps on hire for outside lighting £732.

The Improvements Committee reported that representations had been made from time to time by the Battersea, Fulham, and Wandsworth Metropolitan Borough Councils as to the congested condition of the traffic on Putney Bridge, and urging that in the interests of public safety the bridge should be widened. The bridge, which was built in 1826, is a granite arched structure having a total width between parapets of 44ft. and a carriage-way of 25ft., and two footways, each 9ft. 6in. in width. The bridge not only forms part of the main traffic route leading out of London from the south-west, but also provides a connecting link for the traffic in Fulham Palace-road, Fulham-road, and New King's-road on the north, and Lower Richmond-road, High-street, Putney, and Putney Bridge-road on the south. The committee decided, after careful consideration, that the time had arrived when, in order to remedy the existing congestion, the Council should take in hand the widening of the bridge. They considered that a width of about 74ft. should be adopted, this width being obtained by extending the piers on the down stream side. This would allow for two lines of traffic on each side of the tramways and for two footways of about 11ft. 6in. each. The cost of such a widening, including the cost of acquiring the necessary property for widening the bridge approaches, was estimated at £230,000.

The Finance Committee were of opinion that it was not desirable on financial grounds that the Council should undertake the improvement at present; they suggested, however, that plans for the widening should be prepared and any preliminary negotiations completed, so that if there should be any acute distress due to unemployment which could be met by proceeding with the improvement, the matter could be put in hand at once. The preparation of these plans, and the incidental surveys, soundings, and borings would also involve expenditure, the total cost for the current financial year being estimated at £1,000. The Finance Com-

mittee therefore recommended that the borough councils of Battersea, Fulham, and Wandsworth be informed that the Council, while considering that the Putney Bridge improvement should be carried out as early a date as possible, could not at the present time authorise the suggested expenditure of £1,000 on preliminary plans and particulars.

The Improvements Committee, in a further report, recommended that proceedings be taken in the widening of Terrace-road and Cassland-road, Hackney, at a total estimated cost of £2,600, as part of the reconstruction of the existing horse-traction tramways in that line of thoroughfare.

The Main Drainage Committee recommended that the North Woolwich pumping-station be enlarged, and that a new rising main from that station to the Northern outfall be constructed, and that an estimate of expenditure on capital account of £45,600, submitted by the Finance Committee in respect of this enlargement of the pumping-station, and the construction of a new 24in. main from that station to the Northern outfall, excluding so much of the main as lies between Woolwich Manorway and the entrance basin to the Royal Albert Dock, be approved. The committee stated that they proposed to accept the lowest tender received for the enlargement of the station, amounting to £11,615, subject to inquiries. The installation of new machinery at the station involved a partial rearrangement of the existing piping and the provision of some new steam and other piping. It was necessary to keep the machinery of the station running, and it was, therefore, desirable that this portion of the work should be carried out by the direct employment of labour. In accordance with the standing rules consideration of these recommendations were postponed until the meeting next Tuesday.

The General Purposes Committee recommended that the resignation by Sir Laurence Gomme of the office of Clerk of the Council, which was accepted in February, take effect as from March 31 next. It had not been practicable, the committee reported, to relieve him from the responsibilities of his office pending the conclusion of several important matters. The Council will not be able to determine the amount of pension and allowance which may be granted to Sir Laurence on retirement until after the expiration of the completed years of service by him; this will be after January 24, when he will have served forty-one years, and the committee proposes to report on the point at the first meeting after the Christmas recess. A long discussion took place on the amendment to the report, moved by Sir John W. Benn, that the resignation should not take effect until applications for the post had been invited by advertisement, which, he contended, was the way to insure the rate-payers getting what they had a right to demand, the best talent in the market. Mr. Cyril Jackson replied that the General Purposes Committee had decided that, before resorting to advertisement, it would be desirable to allow members of the Council's staff an opportunity of coming forward and having their claims considered. Why, he asked, should they go outside if they found men in their own service able to fill the post? The committee thought they were more likely to be able to fill the vacancy satisfactorily from within than from without their own staff. Mr. Scott said he knew provincial town clerks who, if appointed, would bring valuable ideas with them to a place where such were often required. Major Gray, the chairman of the committee, said that his experience had been that for the council to advertise offices and then appoint persons who were already in their service caused great dissatisfaction among unsuccessful candidates. The amendment was rejected by 61 votes against 41, and the report of the committee, embodying a series of changes in the duties of the clerk, was adopted.

The Education Committee of the London County Council adopted on Wednesday a proposal to modify their programme of work in

connection with the scheme of building, rebuilding, and remodelling schools in order to reduce the size of classes to a maximum for forty in boys', girls', and mixed schools, and forty-eight in infants' schools. The Finance Committee had suggested that the maintenance of a standard which was reasonable before the war might not be reasonable now, and that while no doubt the Council would desire to proceed with the erection of new schools on sites already acquired, further expenditure on the purchase of sites might perhaps be stopped. The Accommodation Sub-Committee, having considered this suggestion, recommended the postponement of the purchase of certain school sites of the estimated value of £155,000. At the same time, however, they suggested that the building of new schools on the sites already acquired should be expedited. After considerable discussion the recommendation was adopted.

HOME INTERIORS.

The Caxton Publishing Company, Ltd., Clun House, Surrey-street, Strand, have just published Section 5 of Mr. R. Goulburn Lovell's excellent series of "Home Interiors," the previous sections of which we have before noticed.

This present instalment includes decorative window schemes for a blue and grey drawing-room, green drawing-room, and a blue and gold sitting-room, with fully-detailed working instructions for each. The price is 12s. 6d.

Of the value to our own readers of such a series as this, in which good taste combines with real practical knowledge, and the capacity to impart the latter, we have before spoken. We are sure also that the work deserves a far wider circulation than the ordinary attempts of its kind get or deserve, and we congratulate the architect or builder who has a client wise enough to have made himself acquainted with Mr. Lovell's suggestions. He will not sin against knowledge thereafter by compelling those he employs to perpetrate the enormities of some of the ordinary trade decorators!

The Lossiemouth Boat Shelter Commissioners have accepted the tender of Messrs. Cooper and Faris, of Dunfermline, for new harbour-works. The amount of the contract is a little under £16,000.

An inquiry was held at Wigan on Wednesday, before Mr. F. H. Tulloch, an inspector under the Local Government Board, as to an application from the corporation for sanction to borrow £11,881 for works of paving.

The corporation of Salford have authorised their health committee to apply to the Local Government Board for sanction to borrow the sum of £27,414 to cover the cost of the erection and equipment of the tuberculosis hospital at Nab Top Farm, Marple.

Mr. Henry Card, formerly county surveyor of East Sussex, died on Nov. 27, at the advanced age of ninety-six. The funeral, which took place on Tuesday week at Lewes, was attended by, among many others, Mr. F. J. Wood, the present county surveyor of East Sussex.

The Manchester Corporation, after a long debate, decided at their last meeting, on the recommendation of the rivers committee, to take over the Stockport Corporation sewage-works and lands adjoining, having an area of over 94 acres, and to connect such works with the city system of sewerage.

The new Sale and District Higher Elementary Central School, which occupies a commanding site in Ashfield-road was opened on Friday by Mr. Alfred Nixon, principal of the Manchester School of Commerce, and chairman of the managers. The school, including the value of the site, cost £13,000.

The general purposes committee of the Southwark Borough Council report the receipt of a communication from the London County Council stating that it had been decided that the proposal regarding the suggested tramways from Waterloo-road to Blackfriars-road, through the New Cut and Great Charlotte-street, would not be proceeded with in the next session of Parliament. The scheme has met with strong local opposition on behalf of the traders of the district.

Corrente Calamo.

We give elsewhere, with a few slight omissions, the Report of the Ancient Monuments (Churches) Committee, which, at the request of the two Primates, undertook, just eighteen months ago, to ascertain and report on the steps taken on the issue of faculties for the protection of church fabrics which have to undergo repair or alteration. It is, of course, common knowledge that the Report was requested in great measure as a consequence of a memorial presented to the Archbishops by the Society for the Protection of Ancient Buildings. That Memorial was not a fair one, and we think the Committee's remarks thereon are deserved. With regard to the list of forty churches submitted by the Society as cases where destructive work has been carried out under a faculty since 1896, the Committee find that in twenty-one out of the forty cases no faculty was obtained. In one case the only criticism is that the church was "entirely 'restored' by Bodly" (sic). By "Bodly" is meant the late G. F. Bodley, R.A., and the inference seems to be that any works suggested by this eminent architect must be harmful. As a matter of fact, the works were of enlargement and adornment rather than "restoration," and were very carefully considered by the Chancellor. In another case not only was no faculty granted, but the list is blank as to the nature of the work and the objection to it. In eighteen of the nineteen cases where faculties were obtained well-known architects were employed—e.g., the late Mr. Hodgson Fowler, Sir Thomas Jackson, the late Mr. Bodley, Mr. Comper, and Mr. Currey. In the nineteenth case the faculty was not for architectural work but for stained-glass windows. In ten of the nineteen cases the allegations of the society are categorically denied by those on the spot with intimate knowledge of and responsibility for the churches concerned. In another case (one of the non-faculty group) complaint is made of the refacing of an ancient wall, which, however, seems to have been erected almost within living memory—viz., about 1818.

It is certainly regrettable, as the Committee say, that the allegations of the Society are marred by inaccuracy and exaggeration, and that its aim "has not found more decorous expression, especially as the Memorial contemplates the Society undertaking some official responsibility for the care and supervision of ancient churches." The truth is, as we have several times said, that the animadversions of the Society have, to say the least, been all along based on a few instances which all representative architects have deplored, and that in the great majority of cases the Chancellors of the dioceses for many years past have co-operated with architects to prevent a "destruction." A church is built primarily for worship, and local or national associations must be indeed more than usually important to justify the patchwork "restoration" the Society prescribes. Take a case which is, to a considerable extent, analogous. Our warships are structures of the highest importance to the nation. One of these—the very name of which is an inspiration to every British sailor, and a guarantee to the nation that Nelson's devotion still animates every man and boy afloat, is still maintained by the Admiralty as a precious memorial of the great fight that kept our shores inviolate when Europe lay

at the feet of Napoleon. We trust it will be, while a plank of it can be kept intact. But surely no one will argue that we are bound to keep every obsolete vessel afloat, to mark our love for the Navy, and our admiration of the graceful battleships and frigates of the past, which have been superseded by the more formidable, but less beautiful, leviathans of to-day? Such a proposition would surely be recognised as "merely eccentric," and so the Committee, not unjustly, describes the contentions of the Society.

The seventeen recommendations of the Committee seem to us reasonable and feasible, generally speaking. The first is that the practice and system of pleading should be made the same in all the Consistory Courts, which would not require statutory sanction, but would require concerted action by all the Chancellors. It is also recommended that the category of parties with a *locus standi* to oppose, recognised by law, should be widened to include the bishop of the diocese, and that in each diocese there should be constituted a body appointed by the bishop, and created ad hoc, to advise the Court in architectural, archaeological, historical, and artistic matters relating to churches as to which faculties are sought. The other recommendations, under the heads of fees, preventive measures, and the supervision of works after the faculty has been issued, are detailed in the Report, as given on another page. In conclusion, we heartily endorse the Committee's warning that no machinery will ever be effective unless it is used. The over-zeal of extremists among the clergy of all sections, or that of those who support them, is, in the first place, the concern of the legal guardians of the fabric. While churchwardens and others interested allow work to be done without faculties to the extent mentioned as having been done in one diocese during five years, things will certainly happen that need checking. No architect worthy of the name should lend himself to the perpetration, and we are persuaded that very few do.

The report of the Local Government Board on the proposal for the erection of a new town-hall at Middleton, in which it is suggested that the scheme "might well be deferred for a time"—the Board declining for the present to sanction the borrowing of the £18,000 which would be required—has caused great surprise, and no wonder! In every department accommodation is inadequate. The plans for the proposed new building, by Mr. Aleck G. Horsnell, of Gray's Inn-square, was selected from among 107 designs sent in, Mr. G. Hastwell Grayson, of Liverpool, being the assessor, and were fully illustrated in our issue of Aug. 21 last. Although designed to meet the needs of the next half century, they were not estimated to provide for more than the staffs of the already existing municipal departments. At the inquiry the Local Government Board inspector was assured that the corporation had no intention of proceeding with the new building until the condition of the building trade showed that the provision of employment was desirable, and that the council would not immediately go on with their plans if it was seen that the effect of the war was considerably to increase the cost of building. The council desired borrowing powers (amounting on a thirty years' basis to less than a twopenny rate), in order that they might proceed with the work as soon

as the time appeared suitable. The report of the Local Government Board is in direct contravention of the pledge of the Government to do all in its power to facilitate home employment, and pressure should be brought to compel its reconsideration.

The rate of Income tax payable during the current year was left in some confusion upon the reports of the Chancellor's Budget speech. But it has since been cleared up by the Attorney-General, and, later, by the circular from the Inland Revenue. It is now explained that the tax is doubled from Dec. 6, 1914, to April 6, 1915—i.e., for a third of the year now running. The effect of this raising of the rate for that period is to make the tax for the whole year 1s. 8d. in the £1, which it works out at, upon unearned income, taking 2s. 6d. in the £1 as the rate for the last third of the year, and 1s. 3d. as that of the first two-thirds. Now that we have passed December 6—at which date the line is drawn—this rate is from then at 2s. 6d. in the £1. Therefore, on the Christmas ground-rents and rents there will have to be a calculation as to the sum rightly to be deducted. If this rent were payable in one annual sum it would be 1s. 8d. Where, as is more usual, these rents are payable half-yearly, then, presuming the June rents were charged tax at 1s. 3d., the deduction at Christmas will be 2s. 1d., and if this was done quarterly—i.e., in June and Michaelmas—at this rate, the deduction will also be 2s. 1d. at Christmas and 2s. 1d. at Lady Day next year. There must thus be such an adjustment of the amounts deducted as will bring the rate of Income-tax from April to April up to 1s. 8d. in the £1 upon the whole current year, and, of course, the same general rule applies to mortgage interest, dividends, etc.

The Boston (U.S.A.) "Monthly Letter" of the Master Builders' Association records that its representative has been calling from time to time on various architects to secure from them suggestions as to contractors or building material dealers with whom they have business relations, and who they think should be members of this Association, and one architect upon whom he called said it would be impossible to suggest such persons for the reason that he had for years made it a point not to invite estimates from concerns that were not members of the Master Builders' Association. Another architect made the same statement, and added that this practice he considered distinctly valuable, for while he did not expect perfection among builders any more than in any other class of people, he knew that by confining his invitations to members of the Association he was getting concerns that had passed the scrutiny of their fellow contractors, and that he would be reasonably well assured of getting satisfactory results. He also remarked that he believed his practice was also a benefit to the members, for they not only realised that he was using discretion in his selection of bidders, but it also stimulated them to do their best in execution of work, and this naturally resulted in making their services still more desirable. There is something in this which deserves consideration here. Probably the day is coming when no architect will be recognised by builders unless he is legally recognised as qualified, and when no recognised architect will employ a builder who is not similarly qualified and recognised. Meanwhile, even

informal stipulations, if mutual, can do no harm, and will sometimes, at any rate, shut out the inefficient pretender.

At the beginning of business at the last meeting of the Wirksworth Urban District Council, the chairman, Mr. W. J. Harrison, said he wished to dissociate himself entirely and emphatically from a decision arrived at by the council in refusing to grant leave to enlist to the surveyor, Mr. J. F. Wardle. Speaking for the majority of the members, Mr. Storey, a councillor, replied that while there was an urgent need for recruits they felt they had no alternative. The engineer who had carried out the sewerage works had gone, the water bailiff had gone, and there was practically no one as an official, or even anyone else, who could undertake to see that Mr. Wardle's duties were carried out; Mr. Wardle was practically acting for the engineer and the water bailiff, and the council would be left absolutely with no one who understood what was necessary for the carrying on of the duties. A Mr. Smith and other members said they had to consider the ratepayers, and the subject dropped. We can hardly bring ourselves to believe that the ratepayers even of an isolated village community like Wirksworth will endorse the selfish and unpatriotic action of their representatives.

A letter appeared in the *Times* of Oct. 21, 1914, commenting on his Majesty's Office of Works and their invitation of tenders for furnishing with bookcases the offices of the Board of Agriculture, particularly mentioning that Austrian oak was to be used. This letter has created considerable discussion regarding the merits of different sorts of oaks, and it was decided—with the object of bringing about the use, as far as possible, of home-grown timber and timber grown in the countries of our Allies, preventing the supplies of money to the enemy, and finally disposing of the controversy which has existed—to lay the matter before Professor Groom, M.A., D.Sc., and to ask for a full report from him. A meeting has therefore been arranged to take place at the Royal College of Science and Technology at 3 p.m. to-day (the 11th), to hear Professor Groom's report, at which meeting the Right Hon. the Earl of Selborne, K.G., G.C.M.G., P.C., will take the chair. Professor Groom is undoubtedly worth hearing, and we hope to report the meeting in our next issue.

One of the local ill consequences of the war is the indefinite postponement of the scheme to establish a common meeting-place and library for those engineering and technological societies which are represented in Manchester. The first public expression of the desire, which culminated in the formation of an organising committee under the chairmanship of Sir Thomas A. Holland, was a letter from Mr. W. T. Anderson, which appeared on February 17 last. A conference was held at the rooms of the Manchester Geological and Mining Society on May 1, at which the following institutions were represented: The Institution of Electrical Engineers, Manchester Association of Students of the Institution of Civil Engineers, Society of Chemical Industry, Association of Mining Electrical Engineers, Manchester District Engineering Employers' Association, the Junior Institution of Engineers, the Institution of Mechanical Engineers, the Manchester Geological and Mining Society, the

Engineers' Club, the Textile Institute, and the Institution of Gas Engineers. A provisional organising committee was formed, which held its first meeting on May 15, and from then onwards others. On Saturday last a circular letter was despatched by Mr. Anderson to all concerned, stating that he is requested to say that a scheme of this sort cannot, and ought not to be, pursued at the present time, when the energies and efforts of so many of those interested are fully absorbed in more urgent work.

Times have changed since, we fear, but, according to the *Liverpool Daily Post*, one of the best known churches in the district our contemporary covers was built originally as a business speculation. There was an opening for a church in Everton, as there might be for a general shop, and a number of local gentlemen met at Everton Coffee-house to consider the matter. The scheme propounded and carried out was to erect a church by a body of shareholders; shares to be £100 each, and 110 to be issued. When the takings of the church were productive beyond the expenditure, the profits were to be divided between the proprietors in proportion to their shares. The pews or seats were to be put up by auction and sold to the highest bidder, which was done later at the Coffee-house. The ownerships in the church and seats were given legal sanction by an Act of Parliament. The scheme was inaugurated in December, 1812, at a time when Everton was a beautiful residential district, and it was a success, the shareholders for a time making a good thing out of their investment.

The winter exhibition at the Royal Academy will consist of a collection of paintings by members of all the independent societies, as well as those of the Academy, and will also include a number of important works by Belgian artists and the selection of Belgian sculpture which was on view at the Royal Scots Academy, and more recently at Glasgow. A proportion of the money taken at the doors will be given to the Belgian relief funds and to the Red Cross Society, and it will all go to charitable work. The exhibition is looked forward to with some interest, as, apart from the Old Masters exhibitions at Burlington House it will be the first within living memory really representative of all British painters.

Messrs. Pritchard and Pritchard, of Kidderminster, have been instructed by the rural district council of Droitwich to prepare plans for cottages at Ombersley, Cutnall Green, and Snead's Green.

Mr. F. H. Tulloch, an inspector of the Local Government Board, held an inquiry at Nelson, Lancs, on Tuesday, into an application from the town council for sanction to borrow £6,645 for street-improvements and the provision of public conveniences.

The new Parliament Buildings at Wellington, N.Z., are making good progress, the contractors—Messrs. Hansford, Mills, and Hardie, of Christchurch, whose tender was accepted in January last at £151,639—having had very little delay in the supply of materials so far. They anticipate some delay, however, through the steel not arriving from England at due date, which will mean an extension of contract time (two years). They have now been six months on the work above the foundations, and until recently kept all their men employed. Four electric cranes are used for placing the masonry blocks in position; they carry a weight of three tons, and have a range of 70ft. The architects are Messrs. Campbell and Paton, of Wellington, N.Z., whose design, chosen in competition from thirty-three sent in, was illustrated in our issue of November 24, 1911.

THE PRESERVATION OF SENLIS CATHEDRAL.

Writing in the "R.I.B.A. Journal" after a personal visit to "Senlis After the German Invasion," Mr. Edward Warren, F.S.A., F.R.I.B.A., describes the destroyed railway-station and the houses in the Rue de la Republique, the result of careful and deliberate incendiarism, not of bombardment, and adds: "In the charming high-walled lanes close to the cathedral there are very few instances of destruction, and the beautiful building itself, small for a cathedral, but of respectable size for a church, has, in spite of newspaper accounts, suffered almost not at all. The tall, narrow 13th-century south-west tower, with its thin detached shafts and attenuated spire, is practically intact. A little of the traceried parapet between the two west towers is smashed, a gargoyle has been lopped like a carrot, a pinnacle or two truncated, and there are two holes in the outer roof. Inside there is no trace of war or trace of demolition. The vivid and deplorable modern glass of the windows is intact—one is tempted to say unluckily so. The lofty 15th-century transepts, and their elaborate doorways, owe none of their slight dilapidations to recent war, but perhaps to the Revolution. No harm has been done by the Germans to this interesting and charming little cathedral than can be put right for three or four hundred pounds. Outside, amidst the clustering houses, it is different, and it is difficult to understand how such complete ruin can have been dealt to the Rue Bellon, a little street close to the conspicuous church, and to the Carréfour de la Licorne without more damage to that structure. The cause may have been inaccurate aim, but the two fine desecrated churches of St. Frambourg and St. Pierre have also escaped, which looks like discrimination.

"The fine Collège of St. Vincent, a Jesuit establishment which retains the lofty 13th-century tower and the chapel of the ancient Abbaye, on whose site it stands, is intact, with its incongruously picturesque Louis Quatorze façade, and its quiet cloistered quadrangle, which reminds one of a Cambridge court, with a little added 'style.' Chalked on a doorway near the college we came, almost with a shock, upon a German inscription, well remembered from the newspaper accounts of two months ago, praying good folks to spare this house, a prayer happily granted."

In a report to the corporation of Wells, Somerset, the city surveyor, Mr. C. Pursey, stated that he had carried out tar-spraying on main and district roads over an area of 74,924 square yards, at a total outlay of £250 19s. 3d., or 8d. per square yard, the cost including all repairs to the sprayer.

The following improvements are about to be carried out by the corporation of Tynemouth:—Rosella Field improvements; new road (Rake House-lane to Mast-lane), widening of Shields and Blyth-road, Albion-road widening, repaving works, Saville-street improvement, Sea Banks restoration, housing scheme, purchase of land for water undertaking, stores and offices (Union Quay), market-shed (Fish Quay), close sheeting at Quay, and construction of Spring Gardens school. The following works are being deferred for the present:—Construction of infectious diseases hospital, construction of temporary smallpox hospital, reconstruction of baths, installation of mechanical filters, construction of King Edward School extension, and Low-street improvement.

The corporation of Dudley are about to carry out the widening of Downing-street and the continuation to Ednam-road. The corporation will divert the northern intercepting sewer to the line of the new street, and pay Earl Dudley £914 as compensation for the land given up in Downing-street and for the loss of buildings in Downing-street and Tower-street. In consideration of this Lord Dudley is to construct the new road at his own cost, the work to be completed in two years. The new road will provide a more direct way from Birmingham-road to the Priory and the principal educational institutions of the town, and will constitute one of the most important street-improvements effected at Dudley for many years. It will involve the destruction of a number of private garden allotments.

Our Illustrations.

HOUSE AT FOREST ROW, SUSSEX.

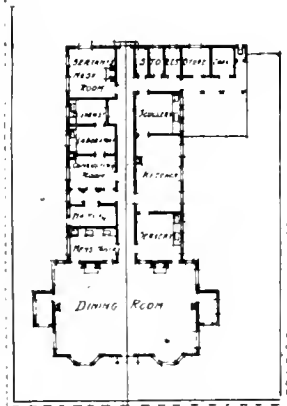
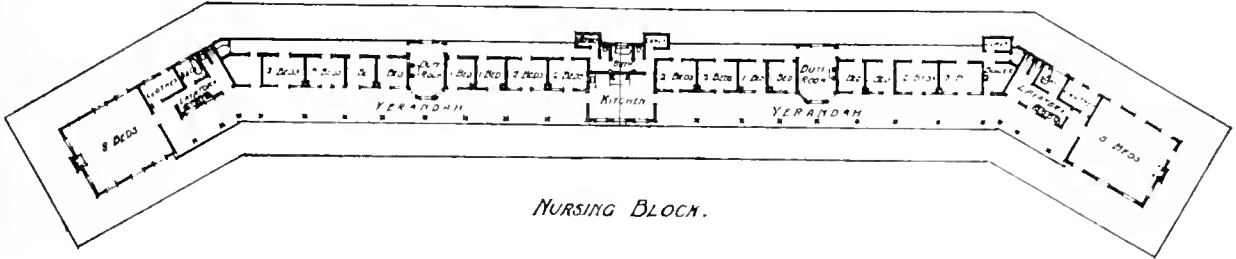
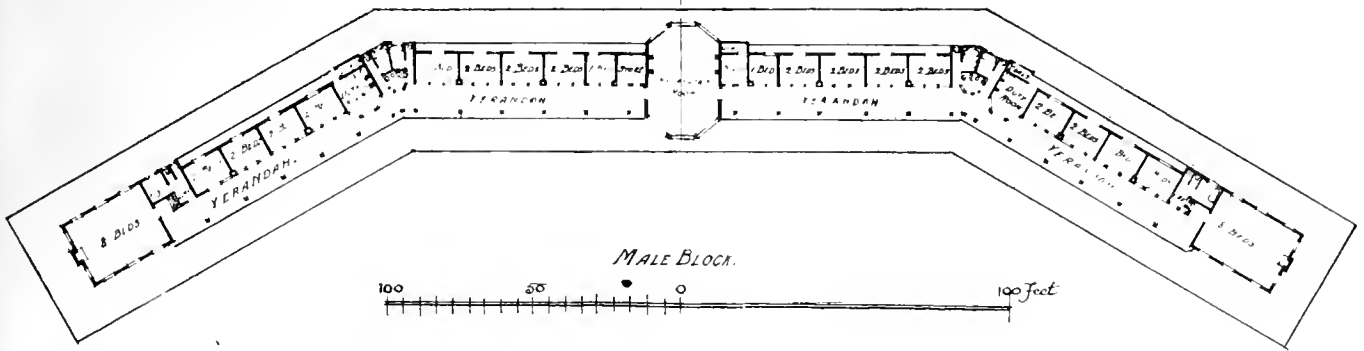
On the north, or entrance, front a fountain court is provided, surrounded by a cloister arrangement. Three alleys of this cloister serve as entrance and corridor to the staircase, hall, and reception-rooms, while the remaining alley is appropriated to the services of a pantry corridor communicating with the kitchen and offices. The three reception-rooms have a south-east aspect. On the first floor the courtyard is surrounded by a terrace, which opens into a corridor connecting the main staircase, bathrooms, bedrooms, and back corridor. The attic contains two servants' bedrooms and a boxroom. The house was designed to be executed in Fletton bricks, with external finish in rough plaster, the stringcourses, cornices, and dressings in local stone, and the

roofing in glazed black pantiles. The drawing was exhibited at the Royal Academy this year by Mr. Cyril A. Farey, of Lincoln's Inn Fields, who planned the house for a special site in Sussex. The plans explain the particular arrangements, which are very original.

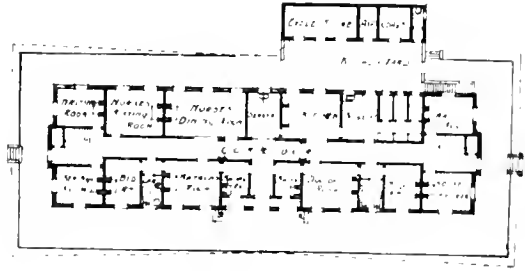
HOSPITAL FOR TUBERCULOSIS AT COTTINGHAM CASTLE, HULL.

This hospital, which is now in course of construction, occupies part of what is known as the Cottingham Castle Estate, and is situated to the north-west of the city, about six miles from the Guildhall. The site, which lies at the foot of the Yorkshire wolds, contains about thirty-five acres. The area built upon falls from north-west to south-east, and is protected on the east by a fine belt of trees. The outlook is one of the finest in the neighbourhood, commanding as it does an uninterrupted view over lands which slope gradually to the river Humber,

four miles away. The main entrance to the hospital will be on the south, where the site has a frontage of 243 yards to Castle Hill-road. The several buildings will accommodate 120 patients, 30 female, 40 hospital, and 50 male patients. The buildings comprise administrative block, dining and kitchen block, three pavilions, laundry, destructor and disinfector, post-mortem and mortuary, and lodge. The total cost, including laundry machinery, is £24,890. The corporation are erecting the administrative block, laundry, and lodge, and the pavilions, and kitchen and dining block are being carried out by the Frazzi Construction Co. The plans have been prepared by the City Architect, Mr. Joseph H. Hirst, who is also supervising the carrying out of the work. We give a bird's-eye view, which shows clearly the lay-out of the several buildings, and of these we have grouped together the plans. Had we reproduced these as disposed on the block plan of the ground, they would



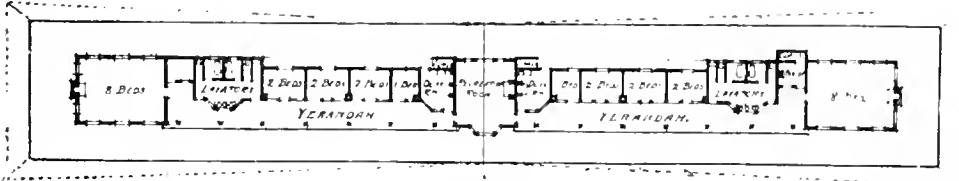
95 90 DINING HALL AND KITCHEN BLOCK



ADMINISTRATIVE BLOCK.



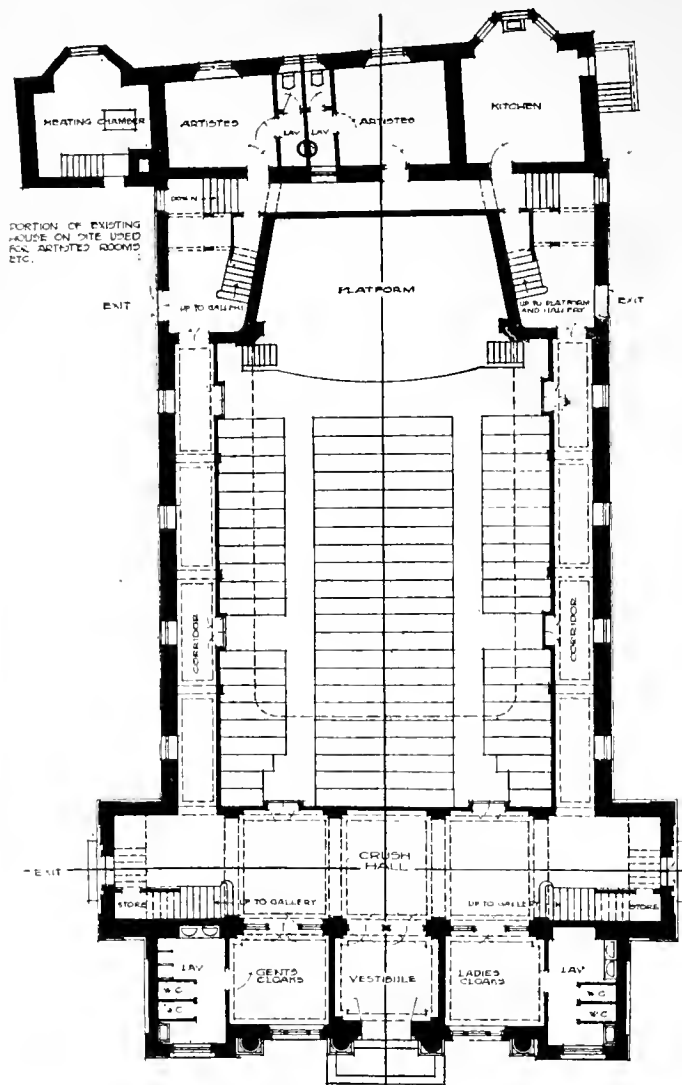
LAUNDRY BLOCK



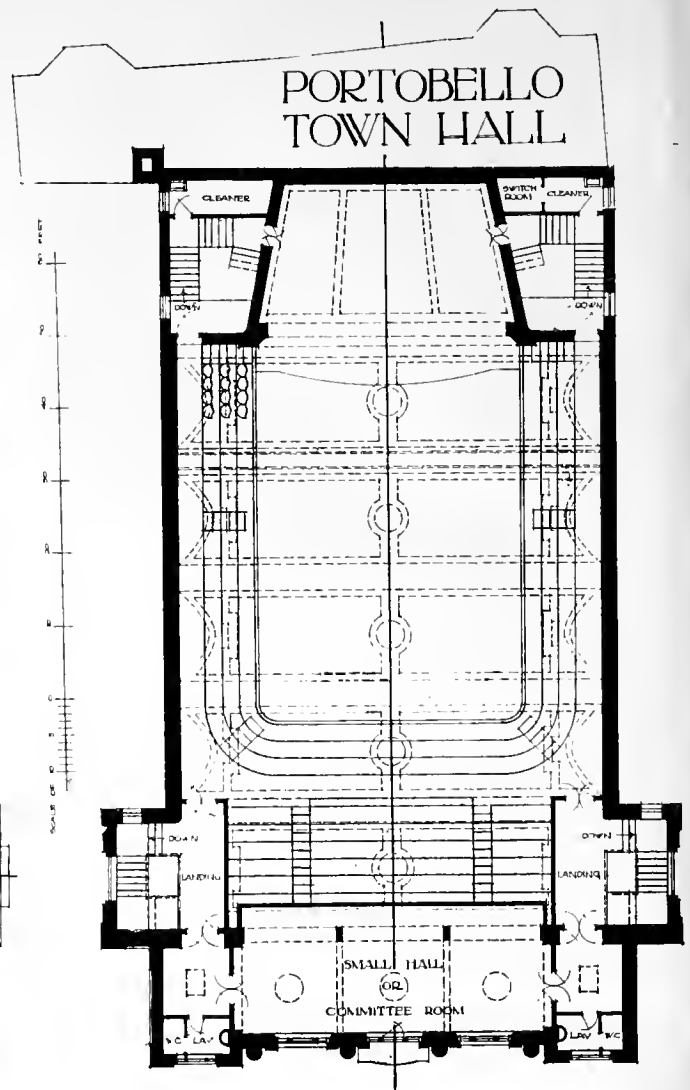
FEMALE BLOCK.

PLANS OF THE SEVERAL BUILDINGS, HOSPITAL FOR TUBERCULOSIS, COTTINGHAM CASTLE, HULL.

MR. JOSEPH H. HIRST, City Architect.



GROUND FLOOR PLAN



PLAN OF GALLERY

Mr. J. A. WILLIAMSON, A.R.I.B.A., City Architect.

have been too much reduced to be understood.

PORTOBELLO TOWN HALL, EDINBURGH.

This building was recently opened by the Right Honourable R. K. Inches, Lord Provost of the city. By the Edinburgh Extension Act of 1896, whereby the then outlying burgh of Portobello was annexed to the city, one of the obligations undertaken by the city was, among other things, the provision of a town-hall to accommodate not less than 800 persons. It was resolved to carry out this last of the undertakings under the agreement, and the town-hall has now been completed, having accommodation for 1,000 persons, exclusive of the platform and the small hall. The plans explain themselves. The oblong type was considered the most suitable for a building situated in a district where it has to be adapted to a large variety of public uses. The arrangement on plan is, therefore, simple and direct. The hall is flanked on either side by a corridor 5ft. 6in. wide. This is taken off the width between main walls, thus restricting the overhang of side balconies, and effectively rendering the hall less liable to draughts. The building is carried out in stone from Darney Quarry, Northumberland. The stone carving has been executed to the architect's drawings by Mr. Berne Rhind, R.S.A., of Edinburgh. All internal woodwork is of Columbian pine finished in the natural colour by a waxed finish. The interior plasterwork is finished in pale cream Ouzo. The approximate cost of the building is £8,500. The architect is Mr. J. A. Williamson, A.R.I.B.A., the City Architect.

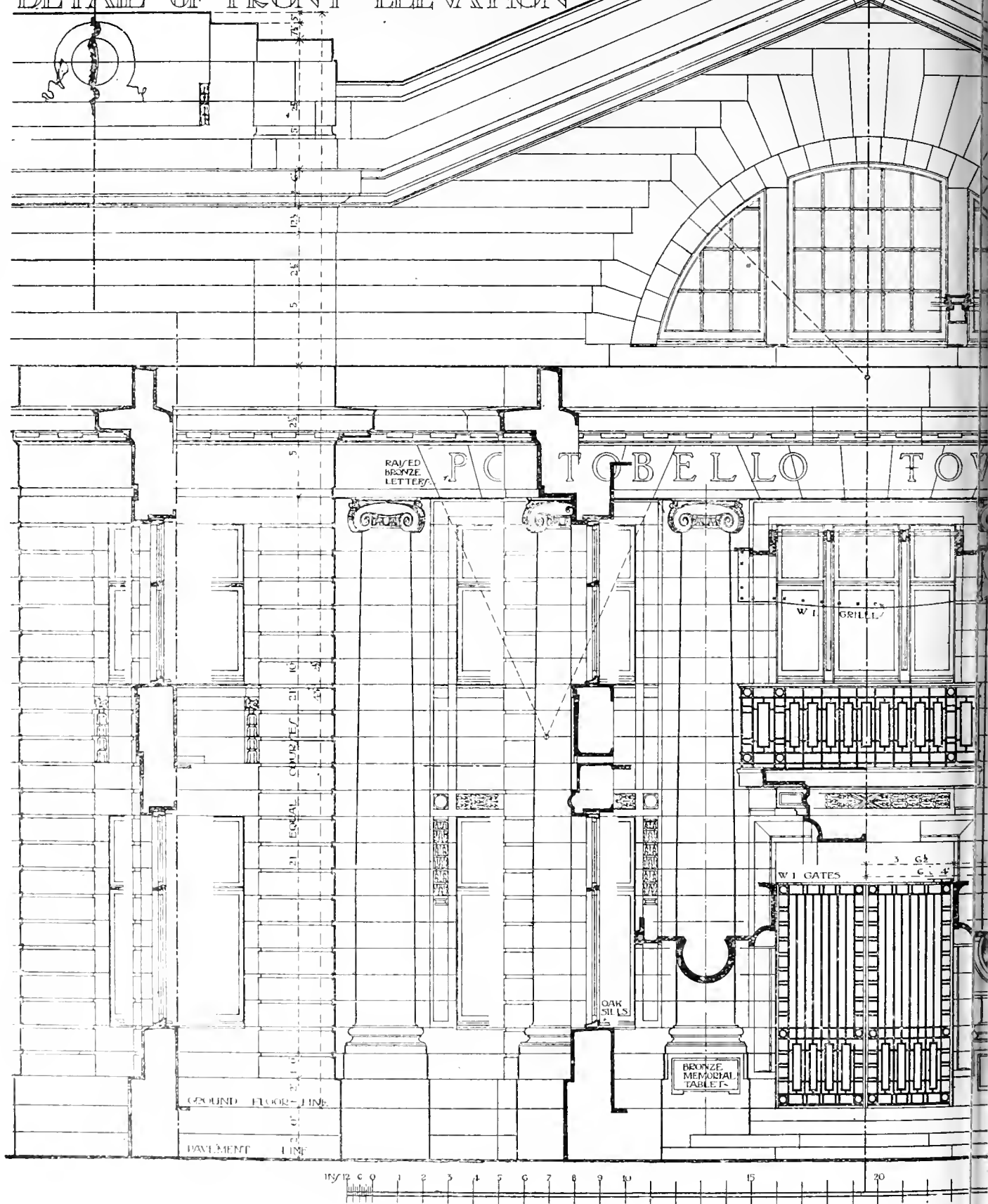
LITTLE OFFLEY, HERTS.

This ancient house, after a period of comparative neglect, has been recently thoroughly renovated throughout by its new owner. Not much actual new building was required, the necessary work being really a complete reparation, and provisions of a utilitarian character, consisting of sanitary fittings and drainage for the house, farmhouse, and bailiff's cottage, well-boring and water supply for the buildings on the estate, heating and general repairs. A new loggia and night nursery, illustrated in the accompanying drawing, were, however, added to the south end of the house, while other building works were a water-tower, a pair of cottages, and a new lodge added to an existing one, which was altered in character. The estate lies on high ground about one and a half miles off the road between Hitchin and Luton, and the house, with its subsidiary buildings and cottages, is all that is left of the one-time hamlet of Little Offley. Whether the place is on the site of King Offa's Palace or not, is a matter for the antiquarian; but it is reputed that Great and Little Offley take their names from this king having built his "palace" and resided here. The house is, however, very interesting from the different dates of work it contains, and the evidence it offers of development from a simpler structure. The photograph on the top of the plate gives the main front. It would appear to have been originally a timber building, on the typical plan of roof high hall, with gabled end wings. The only bit of timberwork that now shows on the exterior can be seen in the accompanying drawing. The hall has been subsequently divided up and converted into

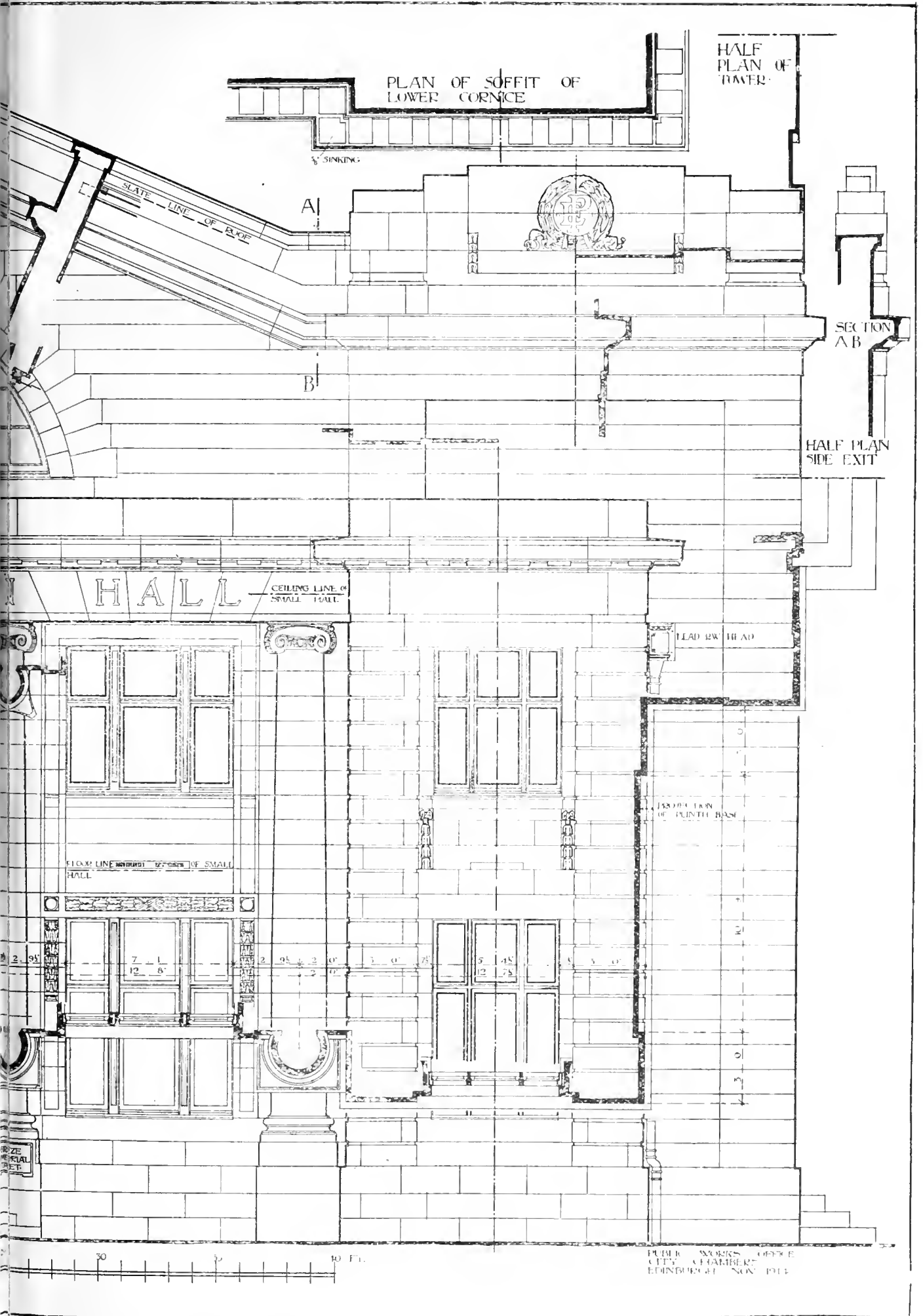
a two-storied building and the entrance brought to the centre. The result is that the ground-floor rooms are rather low, the first-floor corridor just allows headroom, and the bedrooms were continued up into the roof. The chimney-stacks, the brick gabled structure containing the staircase, the brick gables of the front, and the few remaining wood-mullioned, transomed, lead-glazed windows probably belong to this early period of improvement. Subsequently the centre of the building was refronted in thin red brick, a flat towards the front, about half-way up the roof, allowing the ceilings to be continued level towards the exterior wall, and this permitting of the introduction of early sash windows with thick bars. Both the mullioned lead-glazed and the sashed windows have in places been replaced by later ones, while the house has been extended by the addition of small subsidiary wings on the front, one at least to serve the purpose of a powdering room, and a recently added wing to the service portion of the house. The scullery and servants' hall occupy what used to be the brew-house. The house is thus, perhaps, an interesting example, on a small scale, as could be found of the evolution of domestic work to meet the requirements of succeeding generations. A quaint drawing of the house, published in Sir Henry Chauncy's "History of Hertfordshire" (1700), gives a clue to its then condition, and shows a turret in the centre of the building. Evidence that this once existed is to be found in the sturdy oak cage-framing to support such a feature in the roof over the boxroom. Various fragments of panelling of different date remain in the house, and sufficient old oak panelling was

NEW TOWN HALL
PORTOBELLO
DETAIL OF FRONT ELEVATION

48 3
TO FLOOR



DETAIL OF FRONT, PORTOBELLO TOWN HALL, D



OBITUARY.

The death is announced from Sutton, Surrey, at the age of sixty-eight, of Mr. Edmund Thomas Perrott, an architect who retired from practice about five or six years ago. A native of Stratford-on-Avon, he was articled to the late Mr. Whitfield Haukes, of Whitehall. After working with Mr. Preedy he began practice in John-street, Bedford row, about 1874, and soon afterwards removed from London to Sutton, where much of his later work was executed. In 1876, in collaboration with Mr. Charles Henman and Mr. William Harrison, he obtained the first place in the competition for Walsall Cottage Hospital, and the building was erected from their design. Other works of this period were the churches of St. John, at Portmadoc, and of St. Martha at Tyddingwun, close to Festiniog. From 1884 to 1890 Mr. Perrott was assisted in his work by Mr. R. Langton Cole, who lived near him, and during this period the buildings carried out included Sutton Rectory, St. Barnabas Vicarage, the small public hall, the offices of the Sutton Water Co., and other works in the neighbourhood, as well as the rebuilding of Messrs. Bartrum, Harvey, and Co.'s woollen merchants' warehouse in Gresham-street, E.C. Between 1890 and 1904 Mr. Perrott was chiefly engaged on domestic work in Surrey, and in the latter year he met with a bicycle accident from which he never wholly recovered. Mr. Perrott joined the Royal Institute of British Architects as an Associate in 1882, became a Fellow half a dozen years later, and retired from membership in 1909.

The death occurred with startling suddenness, on Saturday afternoon, of Mr. J. Lloyd Jones, a Bangor architect, engaged in the service of the London and North-Western Railway Company at Bangor. Mr. Jones, who was fifty-six years of age, had been in bed for a fortnight, but was so much better that on Saturday he invited some friends to tea. While conversing with a friend at the tea table he fainted and died. The present Bangor Eisteddfod Pavilion was designed by Mr. Lloyd Jones, as was the Bangor Eisteddfod Pavilion of 1890. He married a daughter of Mr. Thomas Lewis, ex-mayor of Bangor, who died some years ago. He leaves two sons and two daughters. One of his sons, Edgar, was professionally engaged in South Africa, but came home some time ago, and on the outbreak of war enlisted in the Shropshire Light Infantry.

At Golden's Green, on Friday, the body of the late Mr. H. W. B. Davis, R.A., was cremated, and the ashes have been interred at Llanwrthwl Churchyard, among the Welsh hills he so often painted.

A new church of St. John is about to be built at Woking. The architects are Messrs. Talbot, Messer and Pender, of Whitehall, S.W., and the contractors are Messrs. Norris and Co., of Sandringham.

Plans have been prepared by Messrs. E. Beedham and Son, of Norwich, and have been adopted for an emergency hospital to be built on the grounds of the Norfolk and Norwich Hospital at Norwich.

Formal special school for physically and mentally defective children was opened at London on Friday. The school, which is situated in the Dowdell Estate, has accommodation for 200 pupils. Its cost has been £6,500.

The Swedish "Lumber Trade Journal" states that the British Government has invited a number of leading English lumber importers to visit Sweden, for the purpose of obtaining regular supplies of timber for export on the west coast of Sweden.

The annual distribution of prizes, gained by students of the Glasgow School of Art, took place on Thursday night in last week. Mr. Patrick S. Dunn, who presided, in handling over the medals, and that the standard of work done in the evening classes during the past session was higher than in any other year. While the number of students was smaller owing to some of them being on military service, the attendance had been very regular. Professor Annie Bell, R.B.A., afterwards addressed the students.

PROFESSIONAL AND TRADE SOCIETIES.

AN EDINBURGH ART PROFESSOR ON THE WAR.—Professor G. Baldwin Brown, of the Fine Art Chair in Edinburgh University, performed the opening ceremony on Friday afternoon in connection with the exhibition of arts and crafts which is being held in the Outlook Tower, Castlehill, Edinburgh, and which will remain open till December 12. History had, he said, shown that between war and the arts there was a close connection. At the actual moment of the struggle there was little room for the artist's work, especially now that photography had taken the place of drawing in the illustrated journals. It had been reported early in the war that a certain War Lord had engaged an artist to paint pictures of the prospective scenes of triumph, the stage management of which had gone a little wrong. If anything had actually been portrayed it was the ruin and destruction wrought by the greatest military power of modern times on a small, unprepared country, the safety of which this great military Power had solemnly guaranteed. Those were not the sort of works of art one looked for in one's own country. When that war came at last to an end, and the end was not yet, they looked for a deepening of the national life, for an ennoblement of aims, a purifying of the body politic from sources of weakness and corruption, and on the basis of such a national, such an imperial, life they looked for a new development of the arts, perhaps to greater results than the country had as yet known. Meanwhile the artists needed their help and sympathy. It was characteristic of this war that, with microscopical exceptions, all classes in the Empire were absolutely united in their faith in the righteousness of their cause and in their determination to see the business out to the bitter end. That union meant that the classes would lend to each other helping hands that all might be enabled to tide over the difficult times which must come before the consummation, and in a small way that exhibition would afford an opportunity for such good and kindly work to be done.

GLASGOW.—The sixth meeting of the Glasgow Royal Technical College Architectural Craftsmen's Society was held in the college on Friday, the 4th inst., when a paper was given by Mr. T. G. Gilmour, A.R.I.B.A., on "Reinforced Concrete By-Laws." The lecturer devoted himself to the London County Council regulations for the proper construction of reinforced concrete buildings, and compared these with the rules at present in force in Glasgow. He gave details of the calculations required to arrive at the correct size of the various members, and how to place the steel in order to get the maximum of strength with the minimum of metal. A short discussion followed.

HUGH MYDDELTON EVENING COMMERCIAL INSTITUTE.—The Easter term of this Institute commences on Jan. 12 at 7.15 at St. John's Walk, Clerkenwell-green, London, E.C. The lecturer is Mr. A. C. J. Green, Foye, Rosemount, Romford. The syllabus of lectures comprises:—1. (a) Salesmanship—What it Offers; (b) The Advertising man. 2. (a) Capturing German Trade in Australia; (b) The Psychology of Advertising. 3. (a) Breaking New Ground; (b) Advertising as a Selling Force. 4. (a) Men Who Make Big Sales; (b) Advertising Media—Newspapers and Catalogues, Trade Papers. 5. (a) Argentina; (b) Retail Advertising—the Fallacies of Present Day Publishers. 6. (a) Salary or Commission; (b) Real Estate Advertising—Posters and Catalogues. 7. (a) Law of Agency—Secret Commissions; (b) Copy and Design. 8. (a) Financial and Insurance Salesmanship; (b) Financial Publicity—its Opportunities. 9. (a) The Store Salesman; (b) Outdoor and Exhibition Advertising. 10. (a) The Salesman's policy; (b) The Advertisement Manager and his Duties; the Advertising Agency. 11. (a) Town and Country Traveling; (b) Opportunities for Advertising, and Articles that might profitably be given more

Attention. 12. (a) Complete Scheme for Selling a Branded Article; (b) Advertising Novelties. The term just ended has been a very satisfactory one, and we are sure not a few readers will find Mr. Green's lectures helpful during 1915.

THE LEEDS AND WEST YORKSHIRE ARCHITECTURAL SOCIETY.—A general meeting of the Leeds and West Yorkshire Architectural Society was held at the Leeds Institute on Thursday evening, Dec. 3. The President, Mr. G. F. Bowman, occupying the chair. A lecture on "The Churches of Caen and Neighbourhood" was given by Mr. James R. Wigfull, A.R.I.B.A. Amongst the many examples illustrated by slides were some smaller and lesser known churches of great interest. The development, general history, and particular points of detail were dealt with in an excellent lecture, and the lantern-slides, prepared from the author's own photographs, presented the subjects in an artistic and very satisfactory manner. Mr. Frank Gedon Foster proposed a hearty vote of thanks to the lecturer, which was seconded by Mr. J. E. Braithwaite.

ORIGINS OF IONIC ARCHITECTURE.—In his last lecture at the British Museum Mr. Banister Fletcher traced the origin of the Ionic Order of Architecture, as used by the Greeks, more especially in their Colonies in Asia Minor. It was slighter and more graceful than the sturdy Dorian, the capital being widened by the addition of the Ionic volute above the echinus and a base being given to the fluted column to supply an appearance of strength. He discussed the various suggestions, more or less fanciful and fantastic, as to the prototype of the downward curving volute or curl. Amongst the many temples of this order are the two widely different temples of Niké Apteros, picturesquely perched on the Acropolis rock, which was dedicated to Athena in her character as patron goddess of naval enterprise, and the gigantic buildings at Ephesus, erected to Artemis, better known as Diana of the Ephesians. The most striking record of this temple, the site of which was discovered by the late J. T. Wood, with its services, its craftsmen, and its surroundings, is its dramatic description in the Acts of the Apostles.

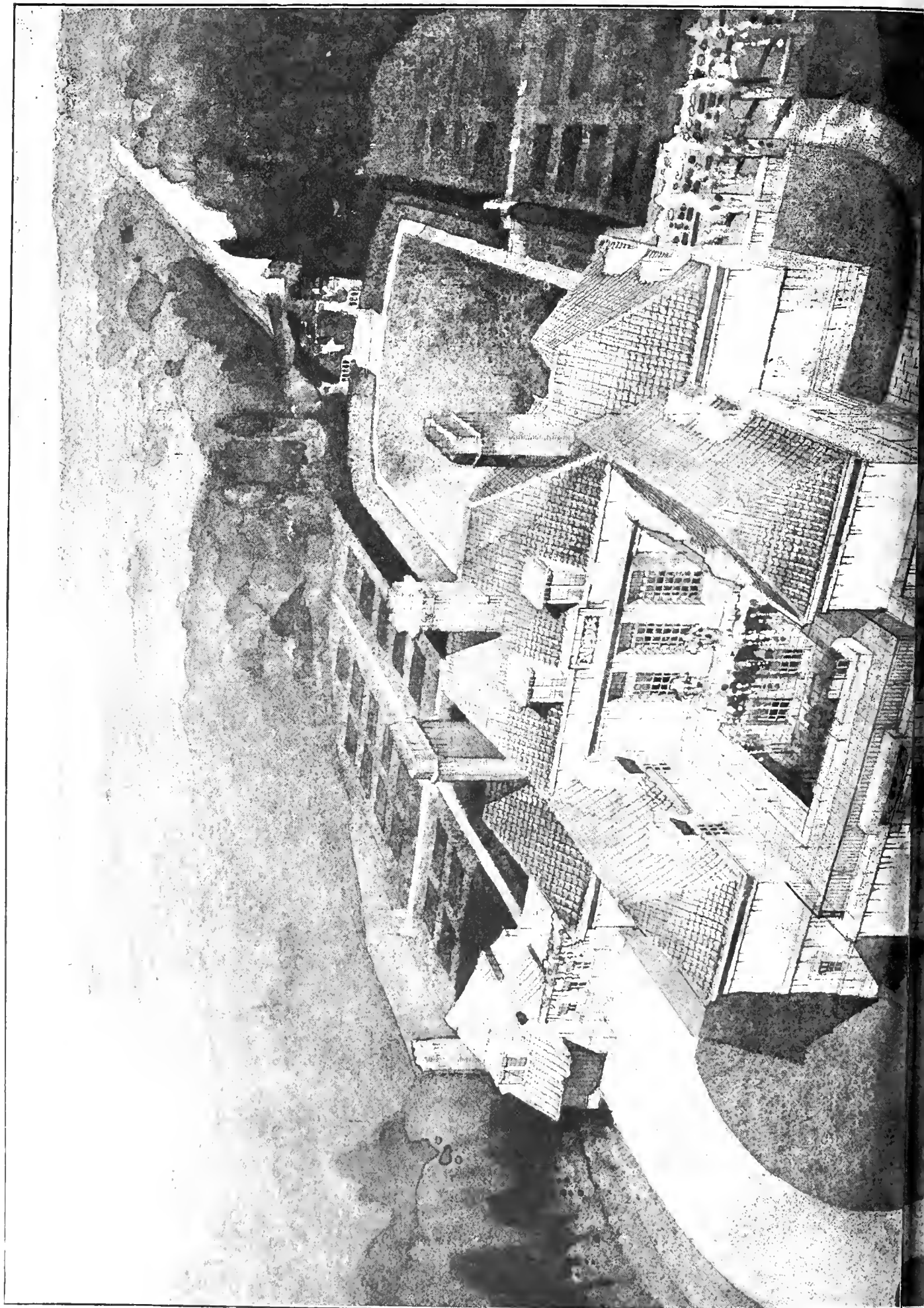
THE SOCIETY OF ARCHITECTS LODGE OF FREEMASONS.—Owing to the fact that the W.M. elect, Captain T. Stewart Inglis, is serving with the colours, Mr. Alfred George Ware is continuing in office as W.M. for a second year of The Society of Architects Lodge (No. 3244). At the annual meeting held at the Holborn Restaurant the following officers were re-appointed:—I.P.M., Mr. Edwin J. Sadgrove, L.R.; S.W., Captain T. Stewart Inglis; J.W., Mr. H. W. Lockton; Treasurer, Mr. F. J. Eedle, P.M., P.P.G. Supt. Wks. (Essex); Secretary, Mr. C. McArthur Butler, P.M., L.R.; S.D., Mr. F. L. Fitness; J.D. and Chaplain, Rev. Everard Digby; D.C., Col. F. S. Leslie, R.E., P.M., L.R.; Almoner, Mr. Albert E. Pridmore, P.M., L.R.; I.G.; Mr. J. Jellis, P.M. (2416); Stewards, Messrs. J. J. Fry and A. Alban H. Scott; Tyler, Mr. H. W. Webb. It was reported that the W.M. had during the past year represented the Lodge at each of the three Masonic festivals, and had taken up a total list of £100. Contributions were voted to the funds connected with the war under the auspices of the Prince of Wales, Princess Mary, and Lady Amthill.

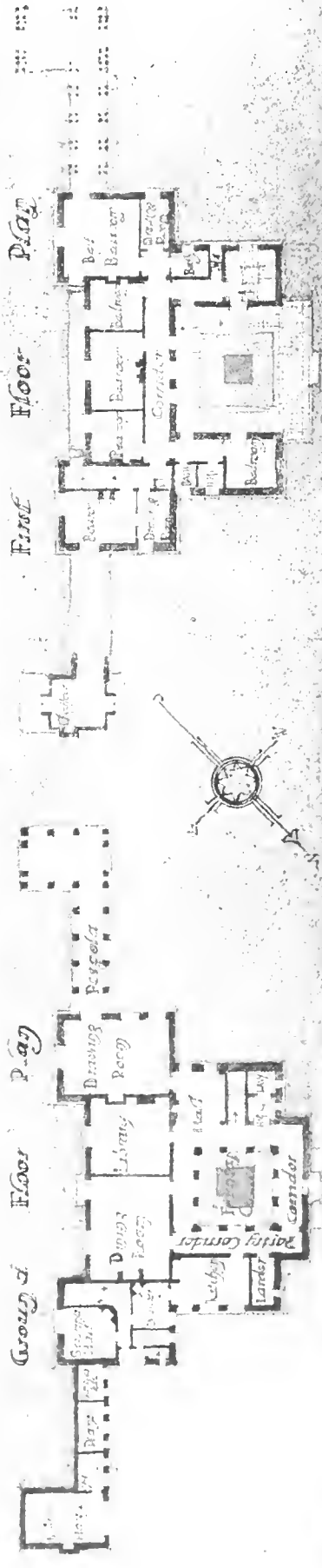
TROPICAL DISEASES.—The first of the year's Chadwick Public Lectures was given by Sir Ronald Ross at the London School of Economics on Monday night. Sir Ronald Ross took as his subject "Government and Civil and Military Sanitation in the Tropics." He said that civilisation had been excluded from large Tropical areas, and this was largely due to the presence there of grave diseases, which had not been investigated until recently. We now knew how many of these maladies were caused, and how they could be prevented, but the

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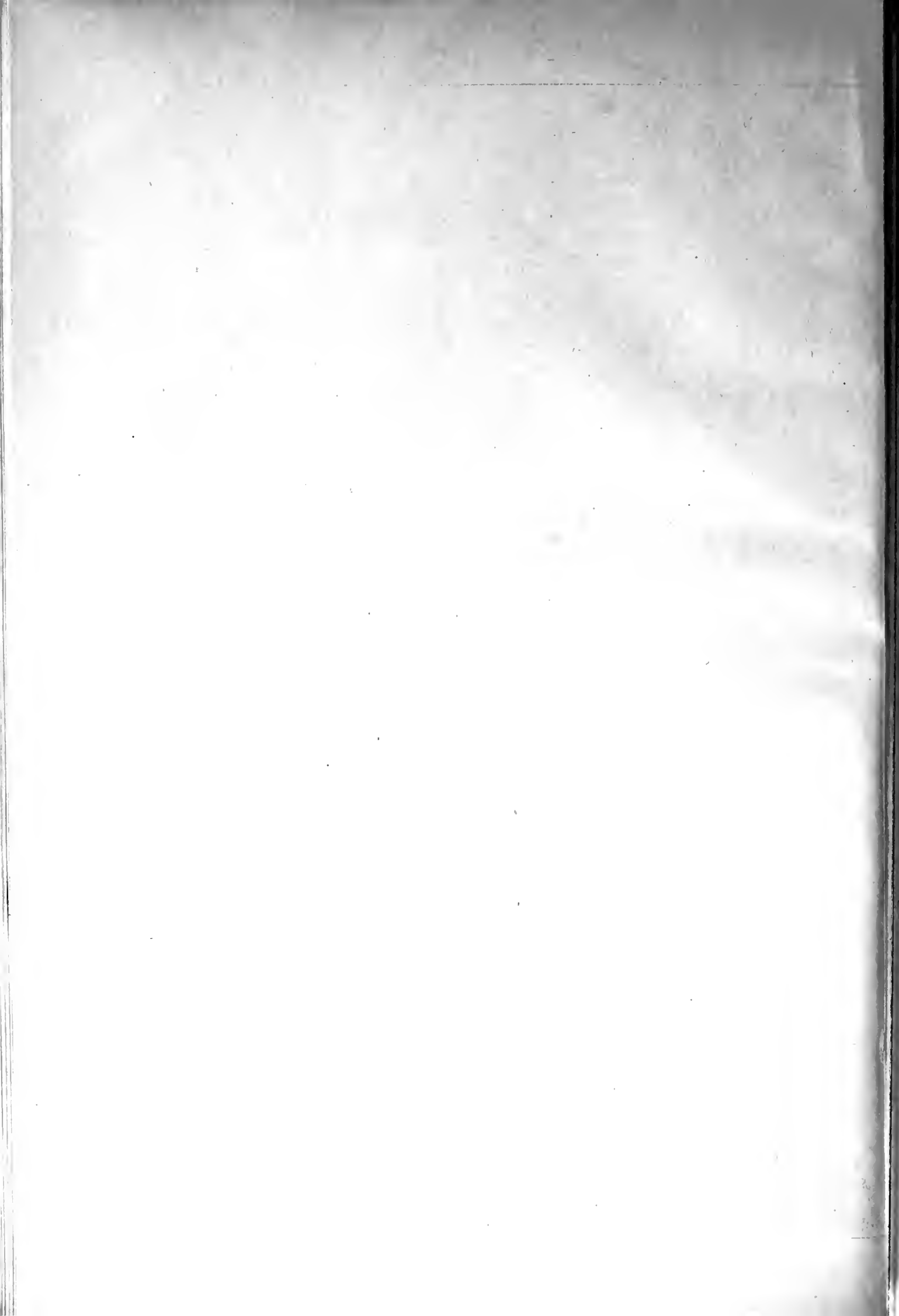


THE BUILDING NEWS, DECEMBER 11, 1914.



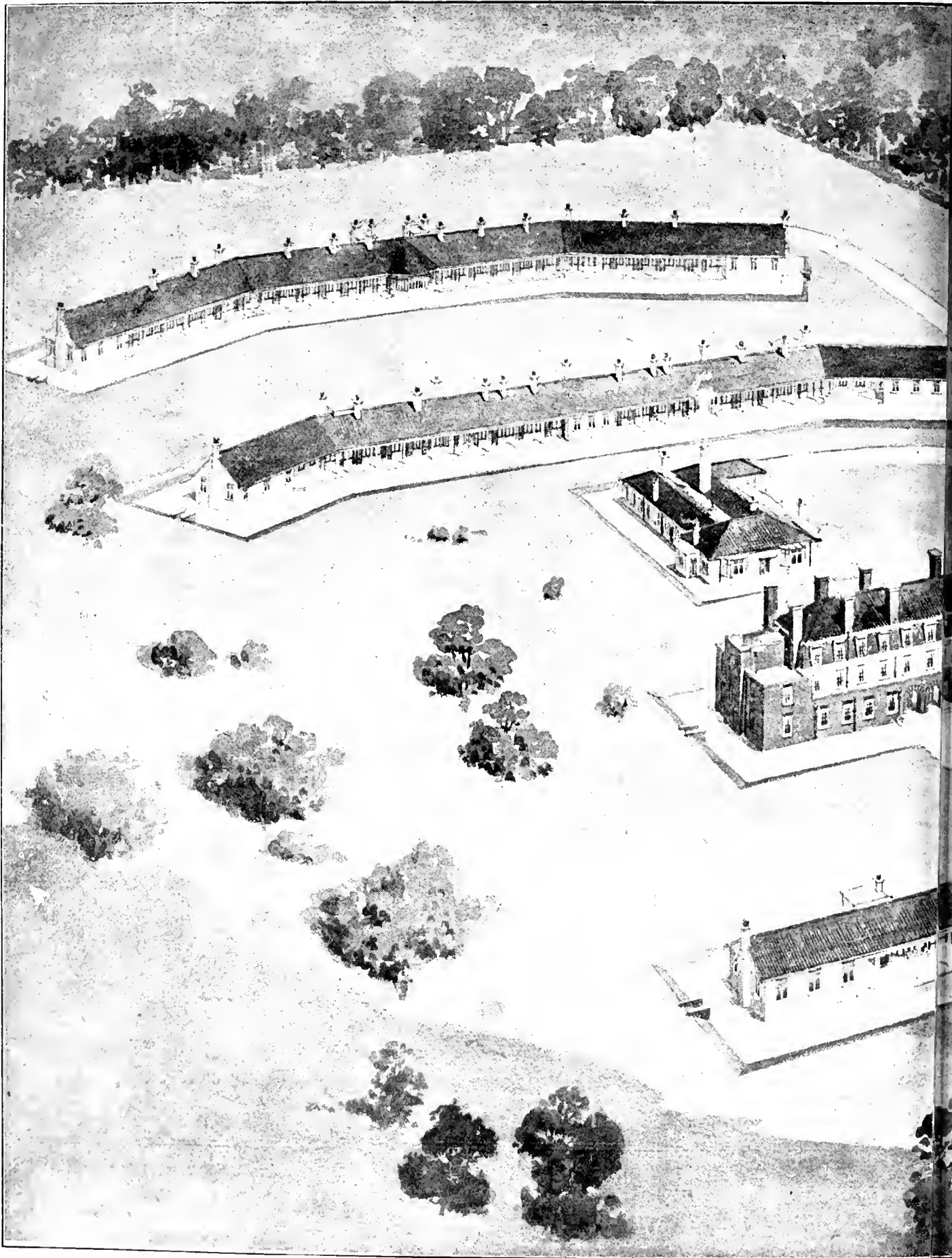


HOUSE AT FOREST ROW, SUSSEX.—MR. CYRIL A. FAREY, ARCHITECT.

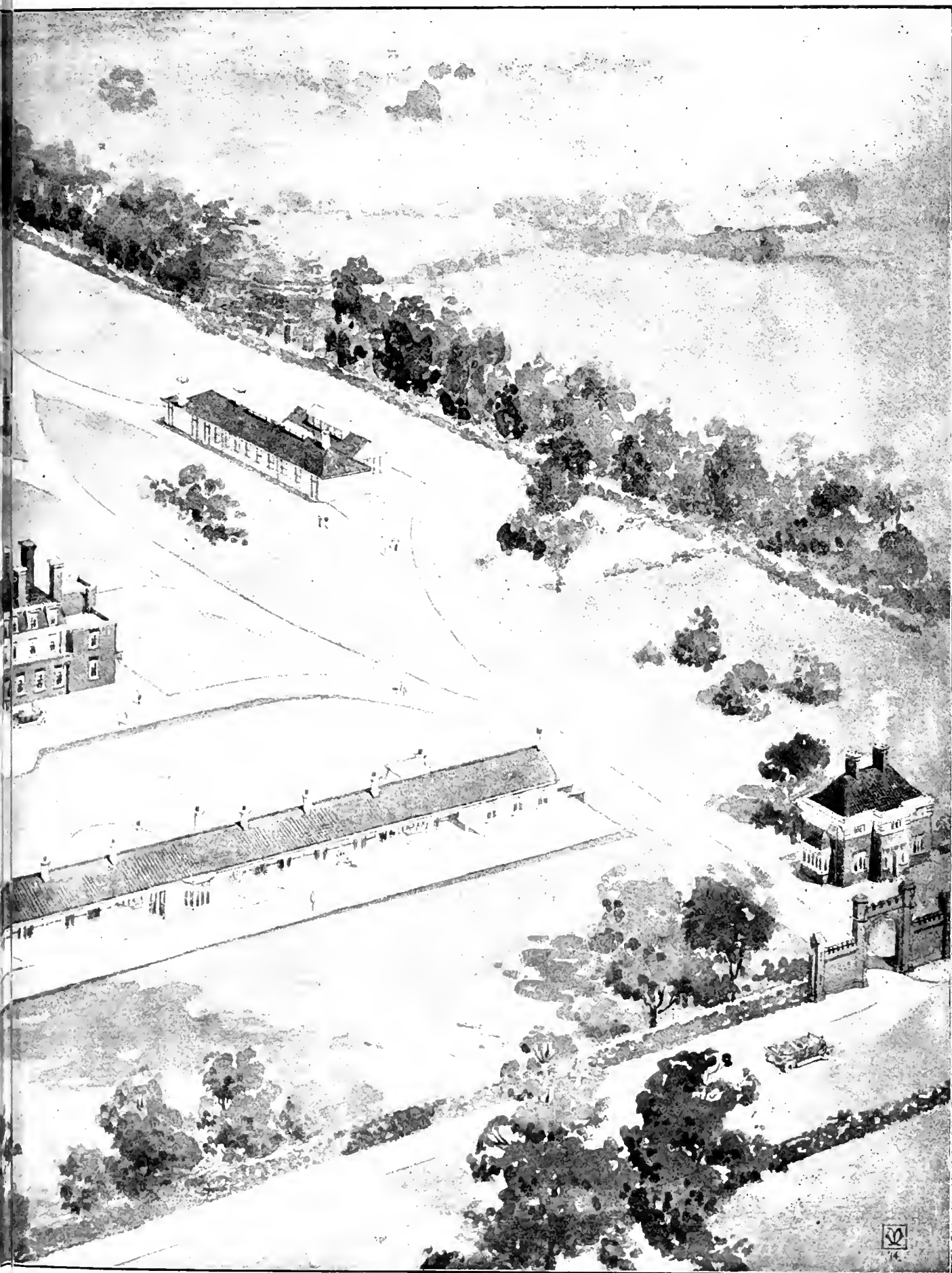


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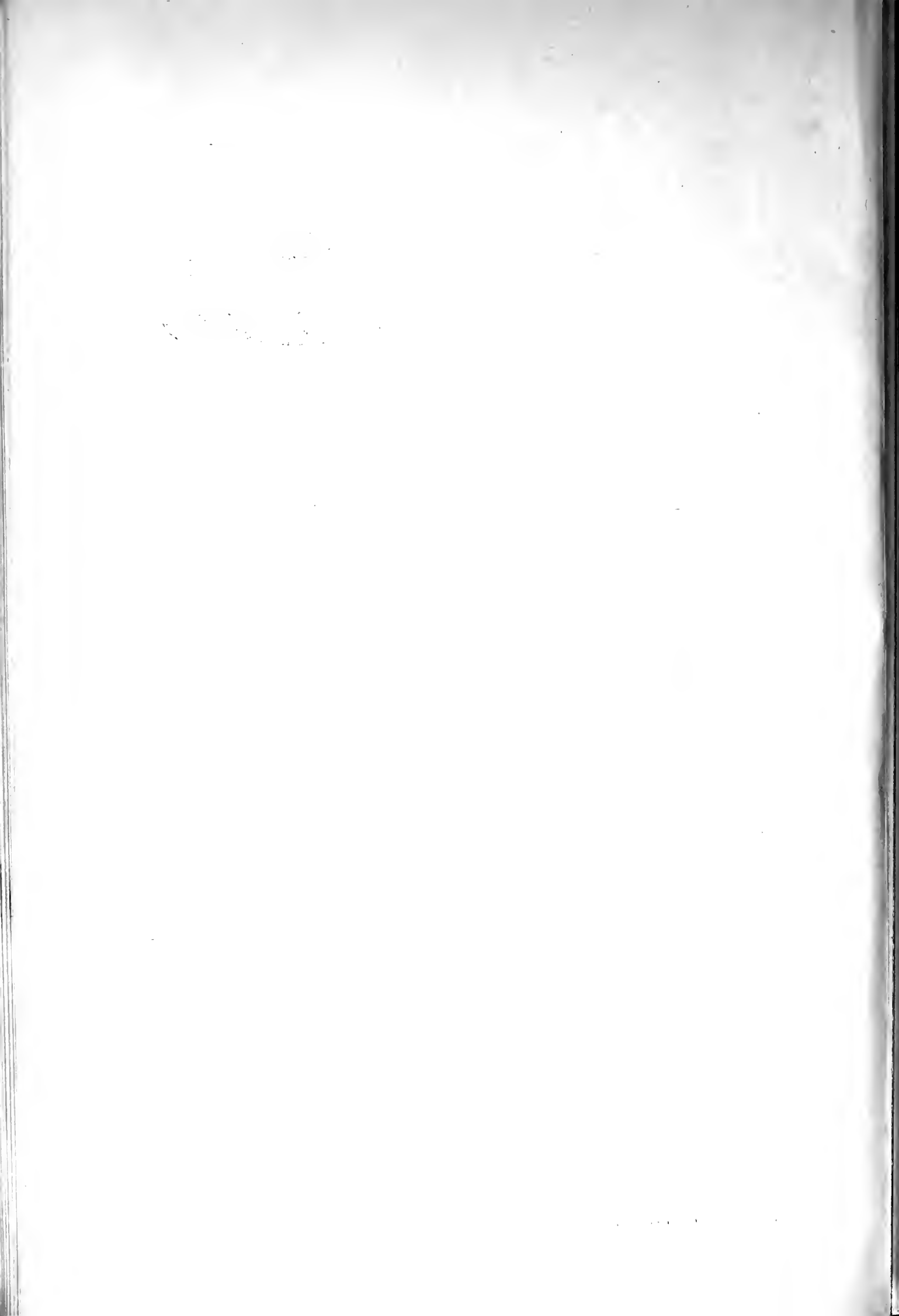




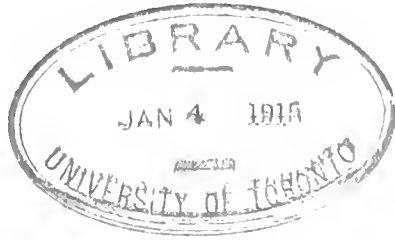
HOSPITAL FOR TUBERCULOSIS, COTTINGHAM CASTLE, HULL: GENERAL VIEW



SHOWING LAY-OUT OF THE BUILDINGS.—Mr. JOSEPH H. HIRST, City Architect, Hull.



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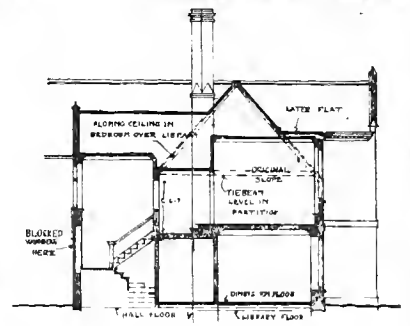
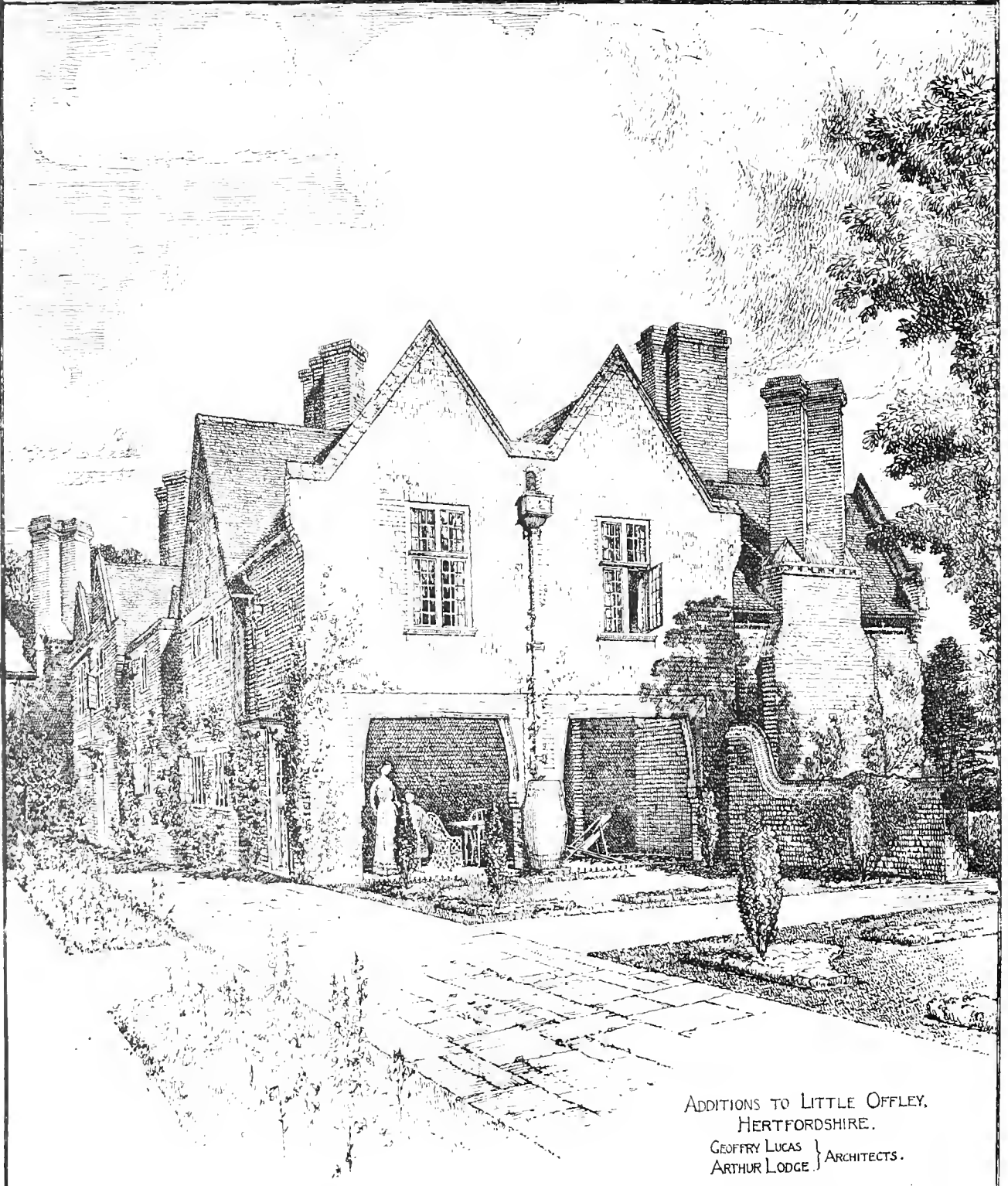


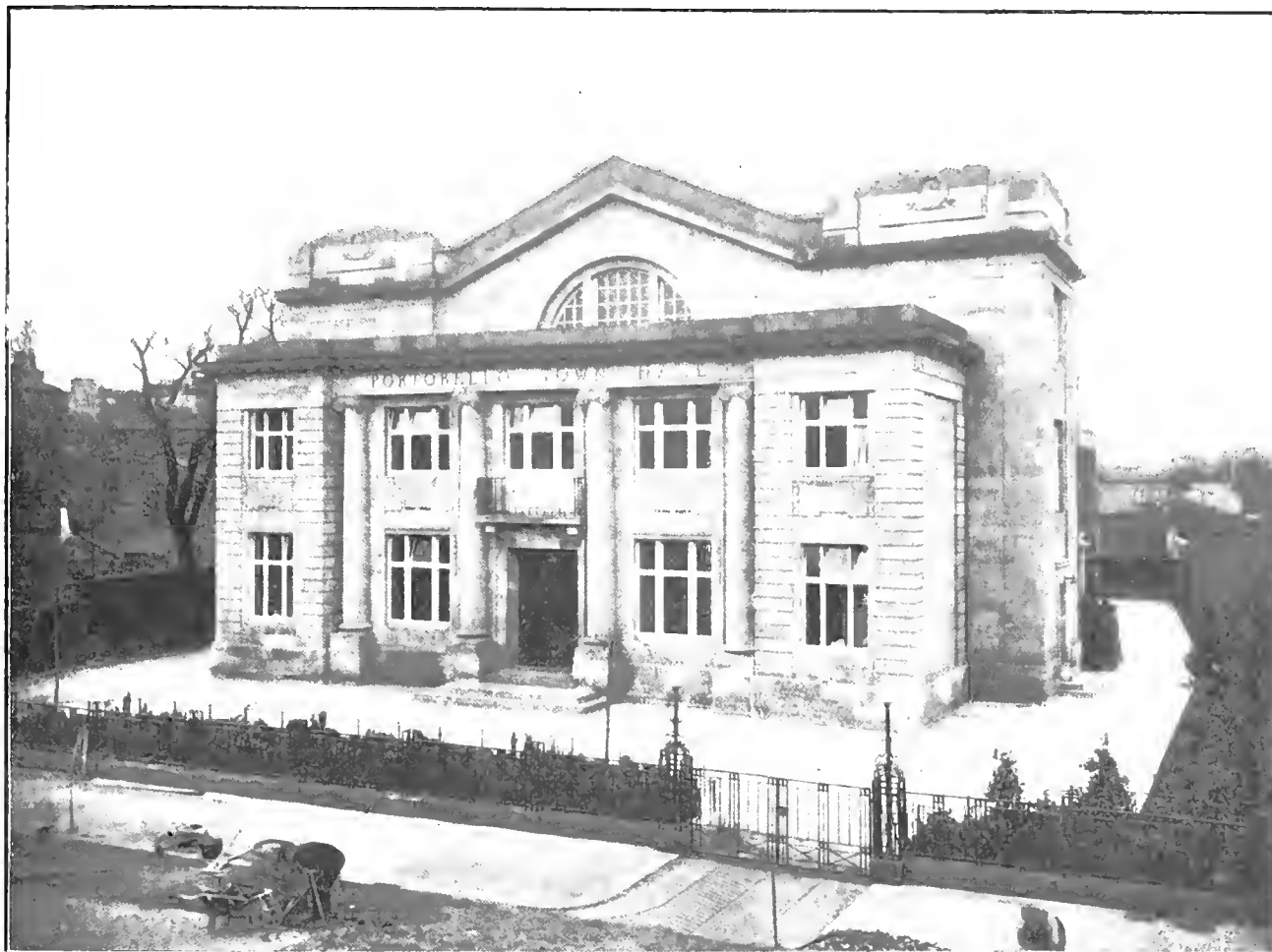
DIAGRAM SECTION THROUGH STAIRS & DINING ROOM.
LITTLE OFFLEY HERTS
SCALE OF FEET



ADDITIONS TO LITTLE OFFLEY,
HERTFORDSHIRE.
GEOFFRY LUCAS } ARCHITECTS.
ARTHUR LODGE }

LITTLE OFFLEY. HERTS: ALTERATIONS AND ADDITIONS.

Messrs. GEOFFRY LUCAS, F.R.I.B.A., and ARTHUR LODGE, A.R.I.B.A., Architects.



PORTOBELLO TOWN HALL, EDINBURGH.
Mr. J. A. WILLIAMSON, A.R.I.B.A., City Architect.



question still remained whether public administration could utilise the preventive measures suggested by science. The seven commandments of sanitary science were: a pure pipe water-supply, pipe sewerage, no vermin, efficient management of towns and villages, special measures against special diseases, adequate sanitary law, and adequate sanitary organisation. These were beginning to be obeyed by Governments and peoples in the Tropics.

ULSTER SOCIETY OF ARCHITECTS.

—A meeting of the war committee of this society was held on Wednesday, the 25th ult. at the Rooms of the Society, 9, Howard-street, Belfast. The president (Mr. N. Fitzsimons, F.R.I.B.A.) presided. Some matters in connection with the war which affect the profession were discussed, and a volume of correspondence was read and dealt with. It was reported that three more Ulster architects had joined Lord Kitchener's Army since the last meeting, making a total of ten architects from the province at present serving with the Colours. A special general meeting of members, associates, and students of the society was held at the Society's Rooms, 9, Howard-street, Belfast, on Monday afternoon, the 30th ult. The president (Mr. N. Fitzsimons, F.R.I.B.A.) occupied the chair, and amongst those present were: Messrs. R. M. Young, F.R.I.B.A., R. E. Buchanan, A.R.I.B.A. (Londonderry), J. A. Davidson (Londonderry), F. H. Tulloch, F.R.I.B.A., H. Seaver, B. E. and T. W. Henry, M.S.A. Apologies were received from Messrs. W. J. Gilliland, F.R.I.B.A., J. Ferguson, R. E. and W. J. W. Roome. The hon. secretary having read the minutes of the previous meeting, which were confirmed and signed, the meeting entered on the discussion of some matters affecting professional practice, for the consideration of which the meeting had been called. The work of the war committee up to the present was reviewed. The president informed the meeting that the representative of the Board of Architectural Education of the Royal Institute of British Architects had inspected the Architectural School at the Technical Institute along with a sub-committee of the Council on the 26th ult. He also informed the meeting that the intermediate examinations of the Royal Institute of British Architects had been held at the Society's Rooms on November 23, 24, and 25, and the examinations had been conducted by the members of the Council.

The tower and spire at Roscommon Church are about to be completed from plans by Messrs. O'Callaghan and Webb, architects. The contractor is Mr. John Maguire, of Cork.

The annual smoking concert of the Architectural Association of Ireland was held on Wednesday evening at the Central Hotel, Exchequer-street, Dublin. A very good programme was carried through, and the proceeds will be devoted to the R.I.B.A. special war fund for architects.

An exhibition of drawings forming part of the London section of Professor Geddes's collection will be opened at the R.I.B.A. Galleries, 9, Conduit-street, S.W., on Tuesday next, at 4 p.m. These drawings have been prepared and collected in order to replace a portion of Professor Geddes's collection lost by the sinking of the Clan Grant. Mr. H. V. Lancaster, Vice-President R.I.B.A., will give a brief paper on "Civic Survey Work," illustrated by these drawings, on Thursday evening next, at eight o'clock. The exhibition will remain open till the 19th inst.

The Leitrim County Council have considered the "tenders" of architects in connection with the proposed new Carrick-on-Shannon Tuberculosis Dispensary, and have accepted the offer of Mr. J. V. Brennan, Belfast, at 2½ per cent. on the outlay. "Tenders" were also received from Mr. W. O'Brien at 2½ per cent. and from Messrs. Kaye-Parry and Ross, Dublin, at 5 per cent. Our contemporary the *Irish Builder* denounces in no measured terms, we are glad to see, the pernicious practice of inviting tenders from architects so freely indulged in by local authorities in Ireland. The custom will cease when qualified architects decline to respond to these invitations, so derogatory to the dignity of the profession.

Correspondence.

UNHEALTHY SCHOOLS.

To the Editor of the BUILDING NEWS.

SIR,—Your appeal under the above title on behalf of the "helpless little ones" subjected to the horrors of cross-ventilation in winter weather, is indeed opportune now that the wintry blasts are full upon us. As a case in point, I would mention a certain school in Swanage, Dorset, which is "ventilated" on the open-window cross-current principle, such as you describe, the lower and upper sections of the windows being pivoted and fixed at an angle, allowing the wind to blow in at one side of the classrooms and out through the windows on the opposite side, the result in cold weather being an epidemic of chills, sore throats, and other miseries. Ringworm was also very prevalent in this school during the past winter, and the school had, indeed, to be closed for a time, owing to the excessive amount of illness amongst the children, which, I have more than a suspicion, might be traceable to the barbarous mode of ventilation in use, enough to howl over even your "hardened enthusiast" dressed in Arctic attire, let alone insufficiently-clad children, as they are when their wraps are off in school.

I quite agree with you that the Education Board should lose no time in remedying this "crying evil," as doubtless there must be many other schools similarly afflicted, and it is little use "locking the stable," etc., and allowing the winter which is now on us to reap its full harvest before anything is done. —I am etc.

Dec. 6, 1914.

C. E.

SIR,—The article in your current issue on "Unhealthy Schools" forms a very instructive exposition of the evils of through-draughts, and it is more than surprising that such an obnoxious travesty on ventilation should be allowed in any school, especially in the winter.

A down-draught is bad enough at any time; but when it is launched upon one from open windows on both sides it is simply an unmitigated nuisance. This method is well called "cross ventilation," as its painful results would make even the most equitable individual "cross," to say nothing of the injury sustained.

As children are even more sensitive than "grown-ups" to differences in temperature, and as cross currents of cold air produce this dangerous difference, it should be made an indictable offence to employ such means of changing the air in schoolrooms. A Royal Commission, if appointed, as suggested by you, should certainly recommend this course, which might prove a deterrent to the "fresh air at any price" fanatics. —I am, etc.

ANTI-DRAUGHT.

London, Dec. 7, 1914.

PORTLAND CEMENT AND PLASTER.— FLOORS BELOW GROUND-LEVEL.

SIR,—In your Intercommunication Column of December 4 you publish some very practical replies on how to render plaster over Portland cement, and two writers advocated the use of Pudloed cement.

Every architect knows that when a plasterer renders Parian or Keene's on Portland cement, it is necessary to sprinkle the Portland cement with water before he can render the Keene's. The result of this sprinkling is an irregular circle marked over the surface of the wall, showing where the plasterer left off each time to again sprinkle the Portland cement with water.

It has been found that when even 2 per cent. of Pudlo has been put in the Portland cement that it is not necessary to sprinkle, and time is thereby saved, and, what is more important to an architect, there is no water mark; but the Keene's presents a clean, continuous surface over the entire wall. The reason for this is the non-absorbent property which the Portland cement possesses when

the powdered Pudlo has been added to it. This is a point we have only discovered during the last few months, and it is not in any of our booklets; indeed, this is the first time it has been published.

In Mr. E. Whitwell's paper, delivered before the Institution of Municipal Engineers at their last meeting, he suggests that when houses have been built with their floors below the ground, either internal or external cavities should be insisted upon. This is, of course, a very expensive business, and in some old properties would be objected to by tenants because of the harbourage which such cavities afford to vermin.

A much less expensive way, and one making a perfectly dry basement, is to render on the interior of the wall to a thickness of 1 in. with Pudloed cement. If the wall is slightly damp 3 lb. of Pudlo to every 100 lb. of cement, rendered with 3 parts of sand to 1 part of cement, will be ample; but if it is dripping wet there should be 5 lb. of Pudlo to every 100 lb. of cement, to a two-and-one mixture.

I can assure your readers that I can forward them copies of numerous letters which have been received, stating that this treatment has been perfectly satisfactory, and in no case have we ever received one word of failure.—I am, etc.

J. H. KERNER-GREENWOOD.

King's Lynn.

The new towers added to the Cathedral of Lahore have been dedicated by the Bishop of the diocese.

A new church which has been erected at Westbourne, Bournemouth, at a cost of about £9,000, has been dedicated by the Bishop of Southampton.

Mr. Thomas Hargreaves, builder and contractor, of Manchester-road, Rochdale, whose death occurred on Sept. 13 last, left estate valued at £17,892 18s. 11d. gross and £12,110 19s. 7d. net.

A cinema palace was opened at Wexford on Monday evening. It is seated for 750 persons, and has been built from plans by Mr. G. L. O'Connor of Dublin. The contractor was Mr. William Underwood.

Montgomeryshire Education Committee on Friday opened a new council school at Brookes Berriew to replace an old Church school also used for Church services. The new building cost, with the site, £1,100 and accommodates fifty-six.

The death of a well-known English artist—Mr. Charles Prosper Sainton, R.I.—is announced from New York. He succumbed while undergoing an operation. His mother was an English woman—Charlotte Helen Dolby, well known as a contralto vocalist in mid-Victorian times.

At the Chester Consistory Court, on Monday, the Chancellor granted a faculty for the erection of a new vestry and for changing the position of the organ at the parish church of Delamere. Other faculties were granted for the erection of stained-glass memorial windows in the churches of Holy Trinity and of St. Paul, both at Birkenhead.

The Birmingham Association of Mechanical Engineers held their annual meeting on Saturday evening at the Grand Hotel, Birmingham, when Mr. A. Home-Morton was re-elected president, and the other officers were also re-elected. Messrs. R. A. Chaffock, W. Hadley, E. J. Jewell, and A. McSwiney were elected on the council.

At Southampton West Station, early on Friday morning, after a train to Bournemouth had left Mr. Perren, builder, of Regent street, Southampton, who was very deaf, was found lying across the rails, with his arm partly torn off, the toes of one foot completely severed, and a gash along the other arm. Mr. Perren died soon after admission to the Royal South Hants and Southampton Hospital.

An inquiry was held by Mr. A. W. Brightmore, D.Sc., M.Inst.C.E., Local Government Board inspector, at Aldwick-le-Street on Thursday in last week, into an application made by the Doncaster Rural District Council for powers to borrow £7,100 for the purposes of a water supply and reservoir to hold 481,000 gallons at the junction of Roman Bridge and Rudee Balk. Mr. H. M. Marshall, clerk to the rural council, presented the case for the application, and the scheme was explained in detail by Mr. Balfour, the engineer.

STATUES, MEMORIALS, &c.

PORT SUNLIGHT.—A memorial to the late Lady Lever was unveiled at Port Sunlight on Friday—the anniversary of her birth—by Sir William Lever. The memorial takes the form of a sculptured canopy adjoining the west end of Christ Church, beneath which is a bronze recumbent figure of the late Lady Lever resting upon a green marble subbase. At the feet of the figure is a group of two children, also in bronze. On either side of the tomb are bronze tablets bearing inscriptions in relief. The sculptor is Sir W. Goscombe John, R.A. The memorial structure, which is of Shropshire red-flaked sandstone, has three openings to the west and one each to the north and south. The supports between the openings are carried up from a double base, finishing above the line of coping in carved pinnacles, each main shaft having a flanking buttress, also with pinnacle finish. In the stone-vault ceiling is a star-centre which is filled in with lead-glazing, and the whole building finishes with an embattled coping. The style is that of the tabernacle and chantry of the early 15th century.

LEGAL INTELLIGENCE.

AYRSHIRE CONTRACTORS' CLAIM.—Judgment Reserved.—The House of Lords, consisting of Earl Loreburn and Lords Atkinson, Shaw, and Parinor, reserved judgment on Monday in the cross appeals of the Glasgow and South-Western Railway Company and Messrs. Boyd and Forrest, contractors, Kilmarnock. In addition to the £272,030 paid by the railway company for the construction of the Dalry and North Johnstone Railway, the contractors claimed a sum of £106,688, and contended that the work was not done under the contract, and that they were induced to enter into the contract by the fraud or misrepresentation of the railway company, and that the work proved to be entirely different from that contemplated. On the previous occasion the House of Lords decided against the contractors on the question of fraud, and the question that now came back from the Court of Session was whether the contractors entered into the contract under essential error, and were entitled to be released, and paid on the basis of *quantum meruit* for the work done. The Court of Session decided in their favour. The hearing of the appeals in the House of Lords lasted five days. In regard to a minor matter in the case, the parties agreed that the order of their Lordships should be without prejudice to the right of the respondents (the contractors), if so advised, to make any further claim before the arbitrator under the contract in respect of or consequent upon the construction of bridge 12a, and the diversion of Paisley water-pipes, and any delay on the part of the appellants in furnishing plans for dealing with the watercourses.

WATER SUPPLY AND SANITARY MATTERS.

WATERWORKS EXTENSION IN AYRSHIRE. Important extensions to the water supplies of several Ayrshire towns and works were agreed to at a meeting of Irvine and District Water Board at Kilwinning. The board supplies the towns of Irvine, Kilwinning, Stevenston, Saltcoats, and Nobel's Explosives Factory. It was decided to promote a Provisional Order for power to construct a new reservoir on the Dram Barrs and a tunnel. It was also decided to promote a second Order for powers to conclude an agreement with the town council of Paisley with reference to a proposed supply from Campbell reservoir, to lay a pipe for the introduction of such supply into the local reservoir at Munnoch, and also to lay a new pipe from Munnoch reservoir to filters.

GREVE. At the last meeting of the town council the completion was announced of the new sewer disposal works. The members of the general purposes committee recently visited the farm and found everything working satisfactorily. The works cost £49,500, and the method adopted suggested by the borough surveyor, Mr. Albert Brigg, announced, justified in every way the expectations which were held out when the scheme was accepted. The medical officer of the county was satisfied with the efficient and the provision they had made would meet all their requirements for many years to come.

At the annual election of the Pittsburg Chapter of the American Institute of Architects the following were elected: President, Mr. F. A. Russell; vice-president, Mr. Richard Kimmel; secretary, Mr. Charles T. Ingham; treasurer, Mr. Carlton Strong.

Our Office Table.

The Troops' Comforts Committee of the War Service Bureau, originated by an appeal made by Mrs. Maurice E. Webb, the wife of the President of the Architectural Association, is now in thorough working order, and is busily occupied with its duties. A letter has been sent to all members who are known to be serving with the Colours, and many answers have been received, showing that the idea is much appreciated and can be of real help. Many offers of help have been received, together with gifts in kind or money. Games, books, magazines, tobacco, cigarettes, warm clothing have poured in to the A.A., and it is hoped will continue to do so, as a regular supply is wanted—particularly warm clothing. Donations of money are specially welcome, as it is then possible to buy what is most wanted at the moment. Daily parcels of clothes, games, etc., are sent off to the various men.

In reply to an inquiry as to whether builders are in any way liable for damage to the works caused through the King's enemies, Mr. Leonard Tubbs, of Aldersgate-street, E.C., solicitor to the Society of Architects, says: "In the event of a building, or addition to a building, in course of construction, being damaged by the King's enemies, where the contract provides for a fixed sum to be paid upon completion, the loss would fall upon the contractor, and not upon the employer, in the absence of express provision to the contrary. In the event, however, of the contract providing for periodical payments against works performed, the contractor's claim for payment against works performed at the time of the loss would remain valid, and the loss to that extent would fall on the employer."

The town-planning committee of Edinburgh Town Council considered at their last meeting various proposals concerning areas in the city and district. There was before them a letter from the Merchant Company, submitting amendments on the feuing plan for their ground at Harrison Park. The area affected, which includes the public park and recreation ground, extends to thirteen acres. In connection with certain points the new plan was submitted to the burgh engineer. The burgh engineer submitted a draft plan for an area at Powderhall and Warriston district as the initial step for a town-planning scheme. The area comprises ground extending from Ferry-road to Canonmills, the Botanic Gardens and Arboretum grounds, and including Inverleith Place. The committee in this case recommended that the town clerk should make application to the Local Government Board for permission to prepare a scheme for the area. The draft scheme for the Bellevue area was also under review, and was remitted for further consideration. Later the committee had a conference with the representatives of the owners interested in the land included in the area at Abercorn and Duddingston, in respect of which the corporation proposed to make an application to the Local Government Board for power to prepare a town-planning scheme. The area is for the most part included in the city, but a portion of it is outwith the city boundaries.

Christmas more than ever this year will be the "home holiday" of the year, and in these days of expeditions and comfortable travel no unfavourable weather conditions need exclude any who may wish to join the family circle at this festive season. We have just received a copy of a most attractive programme issued by the Great Central Railway Company. It is intended for those who are spending their Christmas in the Midlands, Yorkshire, Lancashire, Lincolnshire, or North of England. On Thursday, December 24, special expresses will leave Marylebone at suitable times for over 500 different stations. The tickets (issued at extremely low fares) will be available for return on the following Saturday, Sunday, Monday, and Thursday, enabling those who may so desire to spend the special

bank holiday period with their friends. Breakfast, luncheon, or restaurant cars will be attached to the trains, and the compartments represent the acme of comfort, being well lighted and maintained at a genial temperature. Shopkeepers and others whose business will keep them in town until late on Thursday evening will have the advantage of suitable night trains. Copies of this Special A.B.C. Programme can be obtained free at Marylebone Station, G.C.R. town offices and agencies, or post-free from Publicity Department, 216, Marylebone-road, London, N.W.

At the Diocesan Conference, held at Birmingham on Thursday, the archdeacons presented reports in which attention was called to substantial structural work having been done at a church without a faculty, while in another instance the exterior of an ancient and beautiful parish church had been disfigured by a hideous stove-pipe at the west-end. The archdeacons pointed out that the Church of England was trustee for a number of buildings, many of them possessing the very highest artistic and archaeological value, and, therefore, it would be fatal if the impression prevailed that the churches might be regarded as private property, and that all kinds of alterations could be carried out without authority. A resolution was unanimously passed requesting the archdeacons to take steps to obtain, at the expense of the conference, from every church in the diocese an inventory of church property on a suitable diocesan form.

Mr. R. Clipston Sturgis, President of the American Institute of Architects, has appointed a committee composed of Mr. Elmer C. Jenson, Chicago; Mr. Wilbur T. Mills, Columbus; and Mr. Benjamin Hubbell, of Cleveland, Ohio, to act in an advisory capacity to the Lincoln National Highway Association in the building of the proposed memorial highway. In appointing the committee it was announced by Professor Sturgis that the purpose was to secure "uniformly intelligent architectural treatment of all the bridges, markers, stations, and monuments which are to define the course of the great thoroughfare."

Colonel Walton, R.E., has been posted as Senior Government Inspector of Railway, Lahore, replacing Mr. Doye Wilson, who becomes deputy engineer-in-chief, North-Western Railway of India.

The following have satisfied the examiners of Oxford University in the examination for the Diploma in Public Health: Part I, Thomas R. Bowen and Alfred E. A. Carver; Parts I. and II., George B. D. Adams; Part III., Francis S.

The parish church of Turriff, Aberdeenshire, was reopened on Friday after undergoing reconstruction and embellishment. The total cost of reconstructing the building was £2,825. In addition to this, a new pipe-organ has been introduced at a cost of £850.

At Ardwick-le-Street, on Friday, a Local Government Board inquiry was held into the application of the Doncaster Rural District Council to borrow £7,100 for works of water supply for the parish. It was stated that through the Bradsworth Colliery the population had increased from 307 in 1901 to 6,750 at the present time.

At Friday's meeting of the Mersey Docks and Harbour Board the warehouse committee recommended the adaptation of two blocks of the Wallasey Dock Warehouse and the enclosing quays on the south and west sides of the Albert Dock for tobacco-storage purposes, at an estimated cost of over £6,000. The recommendations were confirmed.

At the last meeting of the Torquay Corporation a letter was read from the Local Government Board sanctioning a loan of £15,860 for the new scheme at the electricity-works. A claim was made by Messrs. Wilkins and Sons, the contractors for the new municipal buildings, and the general purposes committee recommended that a cash offer of £306 be made without prejudice, and that, in addition, the council waive the account for £193 in respect of stone supplied and £390 for penalties incurred by the contractors for the non-completion of the work within the contract time. The matter was discussed in committee.

MEETINGS FOR THE ENSUING WEEK

FRIDAY (To-day).—Institution of Water Engineers. Annual Meeting at Burlington House, Piccadilly, W. 2 p.m.
 Royal College of Sciences and Technology, South Kensington. "Austrian Oak," by Professor Groom. 3 p.m.

SATURDAY (To-morrow).—Institution of Water Engineers. Annual Meeting. Burlington House, Piccadilly, W. 11 a.m.

MONDAY.—Victoria and Albert Museum. "The Glories of Rheims Cathedral," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
 Royal Institute of British Architects. "The Work of the late John Belcher, R.A.," by J. J. Joass, F.R.I.B.A. 8 p.m.
 Royal Society of Arts. "The History and Practice of the Art of Printing," Cantor Lecture No. 1, by R. A. Peattie. 8 p.m.

TUESDAY.—Royal Institute of British Architects. Opening of Exhibits of London Section of Professor Geddes' Collection of Town Planning Drawings. 4 p.m.
 Institution of Civil Engineers. Papers to be further discussed: "Tests of Reinforced Concrete Structures," by James Benjamin Ball; "Corrosion of Steel Wharves at Kowloon," by Sumers Howe Ellis; and "Concreting in Freezing Weather and the Effect of Frost upon Concrete," by John Hammersley-Henan. 8 p.m.
 Architectural Association of Ireland. "The Annual Excursion, 1914," by T. E. Hodman. 15, South Frederick-lane, Dublin. 8 p.m.

WEDNESDAY.—Royal Society of Arts. "Testing Pigments for Permanence of Colour," by Sir W. de W. Abney, K.C.B., F.R.S. 8 p.m.

THURSDAY.—British Museum. "Greek Theatres and Town Planning," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.
 Royal Institute of British Architects. "Civic Survey Work," by H. V. Lancaster, V.P.R.I.B.A. 8 p.m.
 Royal Society of Arts. "The Indian Indigo Industry," by Dr. F. Mollwo Perkin. 4.30 p.m.

The highway-bridge at Culverley has just been rebuilt for the rural district council for the New Forest. Mr. Masters was the engineer.

Second-Lieutenant Kenneth Hooper, S.R., East Lancashire Regiment, son of Mr. Francis Hooper, F.R.I.B.A., previously reported wounded, and later as missing, has now written home that he was for twelve days in the temporary hospital at Ligny, near Cambrai, has recovered, and is at Torgau-on-Elbe, a prisoner of war. His brother, Lieutenant Arnold F. Hooper, left England on Oct. 29 for India with the 5th Batt. Royal West Kent Regiment.

The application by the corporation of Newcastle-on-Tyne for sanction to borrow sums of £22,467 and £7,210 for a scheme for the erection of working-class dwellings, and for consent to the appropriation of certain lands vested in the council in St. Lawrence-square and at City-road, formed the subject of a Local Government Board inquiry at the town-hall, Newcastle, on Monday evening. The inquiry was conducted by Mr. H. A. Chapman, F.R.I.B.A.

The Clutton Rural District Council have decided to offer a premium for the preparation of an engineering scheme for providing an efficient water supply for Chew Magna, Chew Wood, Chew Stoke, Norton Malward, Publow, and Stanton Drew. At the same meeting the council instructed their sanitary inspector, Mr. R. S. Davey, to prepare a scheme of sewerage for High Little-on, showing separate outfalls at Rotcombe and the Batch, a scheme for the whole of the parish of Paulton, and a small outfall-works for Hobbs Wall, Farnborough.

An inquest was held at the Lambeth Coroner's Court on Wednesday on John Frederick William Cooper, 21, a builder's signalman, who died as the result of the collapse of a derrick-staging at the new County Hall, Belvedere-road, S.E., on Friday last. The coroner stated that the staging consisted of three legs of skeleton timber, erected in the form of a triangle. There was a full gale blowing of a very gusty nature at the time of the accident. Some workmen on the ground below saw a balk of timber come down from the direction of one of the legs supporting the staging and resting on the embankment. Next they heard the cracking of the wood, and then the whole thing collapsed. One man died on the way to the hospital, but the other was still alive and able to give some account of what happened. He would break the record in surviving a fall of 115ft. on to hard concrete. It was deposed that the accident was due to the jib hitting the back stay through the force of the gale. The inquest was adjourned for the attendance of the injured man.

Trade News.

WAGES MOVEMENTS.

GLASGOW.—The wages of building-trade labourers in Glasgow have been advanced from 6½d. to 7d. per hour. The new rate, which is the highest yet reached by the labourers, will continue in operation for six months. The bricklayers employed in the Glasgow district have also received an increase of a halfpenny per hour, as also the members of the local branches of the Operative Masons' Association of Scotland. These advances, like that of the labourers, are the sequel to negotiations in June last. Altogether over 4,500 workmen will benefit by the new rates.

NO TIMBER FAMINE IMMINENT.—In their wood-market report Messrs. Denny, Mott, and Dickson state the unexpected action of the German Government in declaring all wood goods as contraband, and thus putting a stop to further supplies from the Baltic, has, of course, had a very considerable effect on the market for spot goods; but to what extent it will cause prices to further advance it is difficult to say at present. The demand was well maintained throughout November, and shows no falling off, and with all further requirements having to be supplied from stock, except for the few remaining cargoes still to arrive from the White Sea, and possible shipments from Norway, values must certainly improve. Shipments, fortunately, have been considerable during the last few weeks both from the White Sea and the Baltic, so that stocks must have increased in spite of the heavy consumption, and there is no need to consider the possibilities of a timber famine. It is certainly to be hoped that prices will not be unduly forced up, as any such course is bound eventually to react detrimentally to importers.

The University of Pennsylvania has received news that its Professor of Architectural Design, Paul Philippe Cret, has been killed in action in Northern France.

The Road Board have made a grant of £20,000 for the construction of a new road between Blackpool and Poulton on the main highway to the North.

Mr. Fred Knee, secretary of the London Trades Council, the National Workmen's Housing Council, and other committees, died on Tuesday evening, at Radlett, Herts, from an attack of pleurisy following on bronchitis.

The council of Sheffield University, at their meeting on Tuesday, appointed Mr. H. Birkett Leighton, A.R.I.B.A., of Upper Albert road, Sheffield, to the post of junior lecturer and demonstrator in the department of architecture.

At the annual meeting of the Texas State Association of Architects it was decided, after full discussion, to instruct the committee on legislation to take such action as might be necessary to secure the passage of a State licensing law. Mr. H. A. Oberbeck, of Dallas, was elected president for the ensuing year.

(At a meeting on Friday of the St. Asaph (Denbigh) Rural District Council it was reported that the repairs of Bodrochwyn Gamol and Bodrochwyn Fawr roads, after extraordinary traffic in connection with the carrying of building materials to the latter village, amounted to £123 15s. 5d., against an estimate of £7 for ordinary repairs. It was decided to make a claim against Mr. Thomas, architect, Liverpool, in connection with the matter.

The Doncaster Town Council are taking further steps to cope with the housing difficulty. They are about to erect 102 workmen's dwellings at Carr House, Doncaster. Altogether a site of about twenty acres will be laid out. The designs are to be thrown open to public competition, and the workmen's dwellings, which are to occupy four acres, will be upon garden city lines. The Local Government Board has agreed to the erection of the houses, and the Doncaster Corporation have appointed a housing committee to proceed with the scheme.

The following additions have been made to the collections in the Tate National Gallery of British Art: (1) A painting entitled "Bath-sheba," by William Blake, presented by the National Arts-Collections Fund; (2) a painting entitled "The Spiritual Form of Nelson," by William Blake, purchased from Mr. Joseph Jackson; (3) two drawings by Alfred Stevens for the roundels of the doors at Dorchester House, one presented by Mr. W. C. Alexander, the second by Mr. W. C. Alexander and Mr. Sheepshanks; (4) portrait of "The Duchess of Abercorn and Child," by Sir Edwin Landseer presented by Mr. Landseer MacKenzie.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

	Per ton.	Per ton.
Rolled Steel Joists, English	£7 10 0	£8 0 0
Wrought-Iron Girder Plates	7 0 0	7 10 0
Steel Girder Plates	7 2 6	8 2 6
Bar Iron, good Staffs	6 5 0	8 10 0
Do., Lowmoor, Flat, Round, or Square	22 0 0	0 0 0
Do., Welsh	5 15 0	5 17 0
Boiler Plates, Iron—		
South Staffs	8 0 0	8 15 0
Best Snedshill	9 0 0	9 10 0
Angles 10s., Tees 20s. per ton extra.		
Builders' Hoop Iron, for bonding, &c., £8 15s. to £9.		
Ditto galvanised, £14 to £15 10s. per ton.		
Galvanised Corrugated Sheet Iron—		
No. 18 to 20.		No. 22 to 21
6ft. to 8ft. long, inclusive	Per ton.	Per ton.
gauge	£13 0 0	£13 10 0
Best ditto	13 0 0	14 0 0
Wire Nails (Points de Paris)—		
3 to 7	8	9
8/3	8/9	9.3
9.9	10/3	11-
11/9	12/6	13/6
	per cwt.	
	Per ton.	Per ton.
Cast-Iron Columns	£6 17 6	£8 10 0
Cast-Iron Stanchions	6 17 6	8 0 0
Rolled-Iron Fencing Wire	8 5 0	8 10 0
Rolled-Steel Fencing Wire	7 5 0	7 10 0
Galvanised	8 15 0	9 5 0
Cast-Iron Sash Weights	5 10 0	5 15 0
Cut Floor Brads	9 15 0	—
Corrugated Iron, 24 gauge	16 0 0	—
Galvanised Wire Strand, 7 ply.	14 5 0	—
14 B.W.G.		
B.B. Drawn Telegraph Wire, Galvanised—		
0 to 8	9	10
10	11	12
13	14	15
16 B.W.G.		
£10 10s.	£10 15s.	£11 0s.
£11 5s.	£11 15s.	per ton.
Cast-Iron Socket Pipes—		
3in. diameter	£6 2 6	£6 7 0
4in. to 6in.	6 0 0	6 5 0
7in. to 24in. (all sizes)	5 7 6	6 0 0
[Coated with composition, 5s. 0d. per ton extra. turned and bored joints 5s. per ton extra.]		
Pig Iron—		Per ton.
Cold Blast, Lillieshall	10s. 0d.	to 117s. 6d.
Hot Blast, ditto	70s. 0d.	75s. 0d.
Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—		
Gas-Tubes		75 p.c.
Water-Tubes		7½ "
Steam-Tubes		67½ "
Galvanised Gas-Tubes		65 "
Galvanised Water-Tubes		61½ "
Galvanised Steam-Tubes		55 "

OTHER METALS.

Spelter, Silesian	Per ton	£21 5 0	to	£21 7
Lead Water Pipe, Town		24 5 0	—	—
" " Country		25 5 0	—	—
Lead Barrel Pipe, Town		25 5 0	—	—
" " Country		26 5 0	—	—
Lead Pipe, Tinned inside, Town		26 5 0	—	—
" " Country		27 5 0	—	—
Lead Pipe, Tinned inside and outside		28 15 0	—	—
" " Country		29 15 0	—	—
Composition Gas-Pipe, Town		27 5 0	—	—
" " Country		28 5 0	—	—
Lead Soil-pipe (up to 4in.) Town		27 5 0	—	—
" " Country		28 5 0	—	—
[Over 4½in. £1 per ton extra.]				
Lead, Common Brands		17 17 6	to	18 12 6
Lead Shot, in 25lb bags		24 15 0	—	—
Copper Sheets, sheathing & rods		75 0 0	to	75 10 0
Copper, British Cast and Ingot		64 0 0	to	65 0 0
Tin, English Ingots		163 0 0	to	164 0 0
Do., Bars		146 0 0	to	146 10 0
Pig Lead, in cwt. Pigs (Town)		22 0 0	—	—
Sheet Lead, Town		23 15 0	—	—
" " Country		24 15 0	—	—
Genuine White Lead		29 15 0	—	—
Refined Red Lead		29 0 0	—	—
Sheet Zinc		55 0 0	—	—
Old Lead, against account		18 5 0	—	—
Tin		8 10 0	—	—
Cut nails (per cwt basis, ordinary brand)		0 12 9	—	—

* For 5 cwt. lots and upwards.

SLATES.

	in.	in.	£ s. d.	per 1,000 of
Blue Portuadoc	20 x 10	12	12 6	£ 1,200 at r. sin
" " " " " " "	16 x 8	6	12 6	" "
Blue Bangor	20 x 10	13	2 6	" "
" " " " " " "	20 x 12	13	17 6	" "
First quality	20 x 10	13	0 0	" "
" " " " " " "	20 x 12	13	15 0	" "
" " " " " " "	16 x 8	7	5 0	" "
Eureka unfading green	20 x 10	15	17 6	" "
" " " " " " "	20 x 12	18	7 6	" "
" " " " " " "	18 x 10	13	5 0	" "
" " " " " " "	16 x 8	10	5 0	" "
Permanent Green	20 x 10	11	12 6	" "
" " " " " " "	18 x 10	9	12 6	" "
" " " " " " "	16 x 8	6	12 6	" "

BISHOP'S STORTFORD.—For construction of a mental ward, for the guardians:—
Markwell and Son (accepted) ... £160 0 0

BONHILL.—For extension of Bonhill school, for the school board:—
Boston, Menzies, and Morton ... £2,420 0 0
(Accepted.)

BRELSLEM.—For erection of finance offices, for the Stoke-on-Trent Corporation:—
Godwin, T. (accepted) ... £595 0 0

CAMBRIDGE.—For additions to the Guildhall, for the town council:—
Kidman and Sons (accepted) ... £5,586 0 0

CASTLEFORD.—For making good back middle Oxford-street, for the urban district council:—
Rodger and Son (accepted) ... £163 13 8

CHIPPENHAM.—For erection of houses for filters, &c., at the sewage works, for the corporation:—
Simms and Sons, Colne ... £128 10 0
(Accepted.)

CORK.—For supply of 11 tons of 3in. and 7 tons of 4in. pipes, for the corporation:—
Stanton Ironworks Co., Ltd. ... £123 6 6
(Accepted.)

DOVER.—For the erection of county school for boys, for the Kent Education Committee. Mr. Wilfrid H. Robinson, M.S.A., architect:—
Wise, S., and Brightman, Hythe £14,600 0 0
Dadds, L. T., Canterbury ... 14,560 0 0
Griggs, W. H., Dover ... 13,980 0 0
Lewis, G., and Sons, Dover ... 13,943 0 0
Hayward and Paramor, Dover ... 13,878 0 0
Skinner, C. E., & Son, Chatham 13,863 0 0
Ellie Bros., New Romney ... 13,646 10 0
Wallis, C. E., & Son, Maidstone 13,624 0 0
Denne, G. H., and Son, Deal* ... 13,280 0 0
Barwick, R. J., Dover ... 10,321 6 0
*Accepted.

KIRKCALDY.—For the erection of sanatorium and dispensary, for the town council. Accepted tenders:—
For sanatorium.
Mason:—
Smith, G., and Sons ... £1,305 1 10
Joiner ... 803 7 6
Carmichael, H. Plumber:—
Blyth, J. ... 150 13 0
Slater:—
Currie, W. ... 182 18 1
Plasterer:—
Forrester, T. ... 203 14 5
Total, £3,127 18s. 10d.

—
Additions to administrative block and erection of dispensary.
Mason:—
Wilkie, D. ... 855 18 4
Joiner ... 569 15 0
Carmichael, H. Plumber:—
Wood, J., and Son ... 238 18 3
Slater:—
Currie, W. ... 66 12 1
Plasterer:—
Forrester, T. ... 115 15 9
Total, £1,846 19s. 5d.

LONDON, S.W.—For repairs to roofs and sundry works at the Fountain temporary asylum, Tooting, for the Metropolitan Asylums Board:—
King, H., and Son, Peckham ... £215 0 0
Gardner & Hazell, Islington, N. ... 215 0 0
Handover, F., North Kensington ... 200 0 0
Bland, G., Brixton Hill, S.W. ... 178 10 0
Wall, E., Summerstown ... 158 0 0
Honour, F. W., Warlingham, Surrey ... 149 17 9
Fletcher, F. W., Tooting, S.W.* ... 112 0 0
*Engineer-in-chief's estimate, £165.
*Recommended for acceptance.

LOSWITHIEL.—For alterations and additions to Braddock School, West Taphouse, near Lostwithiel. Mr. A. E. Skentlebury, Lostwithiel, architect:—
Runnalls and Sons ... £300 0 0
Elliott and Son, Liskeard ... 375 0 0
*Accepted.

NEWPORT, I.W.—For erection of a caretaker's cottage, clinic, and cookery centre, for the education committee:—
Jenkins (accepted) ... £1,172 0 0

NORTH SEATON.—For erecting a council school at North Seaton, to accommodate 32 scholars, for the Northumberland Education Committee:—
Hedley, T. S., and Son, Blyth ... £4,756 2 8
(Accepted.)

OSWESTRY.—For sewerage and sewage disposal works at Chirk Bank, for the rural district council:—
Jones and Evans (accepted) ... £98 6 6

ROCHFORD, ESSEX.—For constructing 3½ miles of glazed stoneware and cast-iron pipe sewers, from 6in. to 13in. diameter, in connection with the Rochford sewerage and sewage disposal works, for the rural district council. Mr. A. C. Madge, Rochford (G.E.R.), Essex, surveyor:—
Dickson, J., St. Albans ... £13,604 3 10
Muirhead, W., and Co., Westminster ... 13,550 0 0
Johnson and Langley, Leicester ... 13,231 0 0
Riley, J., Cheltenham ... 12,905 12 2
Myall Bros., Southend-on-Sea ... 12,450 0 0
Lingwood, W., jun., Romford ... 11,908 5 3
Davey and Armitage, Southend-on-Sea ... 11,787 0 0
French, W. & C., Buckhurst Hill ... 11,400 0 0
Bell, G., and Sons, Tottenham ... 11,392 0 0
Pedrette, T. W., Enfield ... 10,990 0 0
Bentley, C., Emsworth ... 10,939 5 3
Iles, W., Southend-on-Sea* ... 10,540 0 0
Barrell, B. B. and M., Wivenhoe 9,903 12 10
(Engineer's estimate, £10,900.)
*Accepted.

OVER.—For erection of a tuberculosis hospital at Over, for the Gloucester Corporation:—
Halls, W. J. B. (accepted) ... £3,088 0 0

PORTGORDON.—For drainage work at the school, for the Enzie School Board:—
Dawson, J., Buckie (accepted) ... £22 10 0

REDCAR.—For paving Lumley-road, for the urban district council. Mr. J. Howcroft, surveyor:—
Elison, H., Ltd., Cleckheaton ... £423 18 7
Inglett, W., West Hartlepool* ... 400 9 11
*Accepted.

OSWESTRY.—For water main extension at Weston Rhyon, for the rural district council:—
Evans and Co., Heathtown ... £1,065 10 3
(Accepted.)

RUSTINGTON.—For repairs to the timber work of the sewer outfall at Millfield, Rustington, for the Metropolitan Asylums Board:—
Swales, W., Southwick ... £184 11 0
Liffeld, J., and Sons, Littlehampton ... 135 0 0
Wall, E., Summerstown, S.W.* ... 97 0 0
(Engineer-in-chief's estimate, £110.)
*Recommended for acceptance.

SALFORD.—For erection of a transformer sub-station, for the corporation:—
Polefield Hall Estate, Ltd., Prestwich ... £120 0 0
(Recommended for acceptance.)

SALFORD.—For the construction of an additional office and gangway at the electricity station, Frederick-road, for the corporation:—
Knight, J. J., Salford (accepted) £495 15 0

SALLYNOGIN.—For erection of 36 artisans' dwellings, for the Kingstown Urban District Council:—
Pemberton and Son (accepted) ... £6,219 0 0

SLOUGH.—For erection of a special subjects' centre at Horsemoor Green, for the Bucks Education Committee:—
Ford, E. (accepted) ... £436 0 0

STAFFORD.—For the construction of a road on the site of the proposed farm institute, for the Staffordshire Education Committee:—
Nevitt, C. J., Ltd., Stafford ... £1,135 6 8
(Accepted.)

WASHINGTON.—For the erection of houses at Washington, for the Chester-le-street Rural District Council:—
Groves, C. ... £12,761 9 7
(Provisionally accepted.)

WESTGATE-ON-SEA.—For sewer-extension work, for the Isle of Thanet Rural District Council:—
Lockwood and Co. (accepted) ... £219 10 0

WINDSOR.—For ground work in connection with baths extension, for the corporation:—
May, Mortimer, & Co. (accepted) £404 13 0

WOODFORD BRIDGE.—For the enlargement of the temporary school, for the Essex Education Committee:—
Cearne, W. J. (accepted) ... £435 15 0

YORK.—For the construction of the track for electric trams in Hull-road, for the city council:—
Pearce, J. W., Doncaster ... £22,203 0 0
(Accepted.)

Mr. John Burns has been elected an honorary member of the Institution of Civil Engineers.

Mr. J. Skidmore has resigned his position as surveyor to the Amblecote Urban District Council, after twenty-eight years' service.

A new United Free church was opened at the village of Addiewell, N.B., on Monday night. The building has sitting accommodation for 250 persons.

The foundation-stone of a new Roman Catholic church of St. Joseph has been laid at Penarth. The architect is Mr. F. A. Walters, F.S.A., F.R.I.B.A., of Westminster, and the contractor is Mr. W. T. Morgan of Cardiff.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the EDITOR of the BUILDING NEWS, Effingham House, 1, Arundel-street, Strand, W.C., and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

*Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects—small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

CHRISTMAS DAY.

CHRISTMAS DAY falling this year on Friday, the BUILDING NEWS of Dec. 25 will have to be published at 1 a.m. on the morning of WEDNESDAY, Dec. 23, in order to reach all readers before the holidays.

All Advertisements for that issue, therefore, must reach us, at the latest, before 3 p.m. on TUESDAY, Dec. 22, instead of by 3 p.m. on Thursday as usual.

Correspondents sending News, List of Tenders, &c., are asked kindly to do so early that week, and, at the latest, by the first post on TUESDAY, Dec. 22, so as to preserve an unbroken sequence of news as far as possible.

NOTICE.

Bound copies of Vol. CVI. are now ready, and should be ordered early (price 12s. each, by post 12s. 9d.), as only a limited number are done up. A few bound volumes of Vols. XXXIX., XL., XLVI., XLIX., LIII., LXI., LXII., LXIV., LXV., LXVI., LXVII., LXVIII., LXIX., LXXI., LXXII., LXXIII., LXXIV., LXXV., LXXVI., LXXVII., LXXIX., LXXX., LXXXI., LXXXII., LXXXIII., LXXXIV., LXXXV., LXXXVII., LXXXVIII., LXXXIX., XC., XCI., XCII., XCIII., XCIV., XCV., XCVI., XCVII., XCVIII., XCIX., C., CI., CII., CIII., CIV., CV., and CVI. may still be obtained at the same price; all the other bound volumes are out of print. Most of the back numbers of former volumes are, however, to be had singly. Subscribers requiring any back numbers to complete volume just ended should order at once, as many of them soon run out of print.

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*The special rate to Canada is £1 3s. 10d. = 5dols. 80c. for 12 months, and 11s. 11d. = 2dols. 90c. six months. Our Direct Subscription Agents for Canada are Messrs. Selts, Ltd., 302, Shaughnessy Buildings, McGill-street, Montreal, who will receive Subscriptions, £1 3s. 10d. per annum, on our account.

*Our Direct Subscription Agents for Australia are Messrs. E. T. Kibblewhite and Co., Printers and Publishers, 19, York Chambers, 105, Liverpool-street, Sydney, New South Wales; for Japan, Messrs. Z. P. Maruya and Co., Ltd., 11-16, Niombashi Tori Sanchoe, Tokyo; who will receive Subscriptions at £1 6s. per annum on our account. Copies of the paper will be sent by us direct to the subscribers' addresses.

Telephone: Gerrard 1291.

Telegrams: "Timeserver, Estrand, London."

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The charge for Competition and Contract Advertisements, Public Companies, and all official advertisements is 1s. per line of Eight words, the first line counting as two, the minimum charge being 5s. for four lines.

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Advertisements for the current week must reach the office not later than 3 p.m. on Thursday. Front-page advertisements and alterations or stop orders for serial advertisements must reach the office by Tuesday morning to secure attention.

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ROVERS.—Yes.
G. L. E.—Thanks, no.
A. P.—We incline to doubt it.
PURA.—We could do with a good measured drawing.
K. H. READ.—We do not know the makers. The overalls are to be bought here in London of most of the better-class ready-made tailors.
C. G.—Put in one of Hayward's "Return" Lantern Lights. Write Hayward Bros. and Eckstein, Ltd., 187, Union-street, Borough, S.E., for particulars.

LIST OF COMPETITIONS OPEN.

Dec. 31—Planning Workmen's Settlement, Campine Coalfield ... £100, £240	M. le President de la Commission pour l'Aménagement de Agglomérations Industrielles, Rue de Louvain, Brussels.
.. 31—Workmen's Houses, Dumfries	The Town Clerk, Dumfries.
Jan. 23—Workmen's Dwellings (102), Carr House, Doncaster	R. A. H. Tovey, Town Clerk, Doncaster.
Feb. 8—Designs for Workmen's Dwellings (500 persons), Rathbone-street Area, Liverpool. (H. Hartley, F.R.I.B.A.; Assessor)	£100, £50, and £25
No date—Sewage Disposal Works, Elland	Urban District Council
do. —Replanning Streets in Central Area, Bradford (Reginald Blomfield, R.A., Assessor)	E. R. Pickmere, Town Clerk, Municipal Offices, Liverpool.
do. —Houses for Working Classes, Walthamstow (about £16,000)	J. Clarkson, Clerk, Council Offices, Elland.
	F. Stevens, Town Clerk, Town Hall, Bradford.
	C. S. Watson, Clerk, Town Hall, Walthamstow.

LIST OF TENDERS OPEN.

BUILDINGS.

Dec. 11—Window Cleaning at General Post Office, E.C.	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
.. 11—Cemetery Chapel and Lodge, Surbiton	Urban District Council	H. W. Bannan, Archt., 8, Philipot-lane, E.C.
.. 11—Telephone Exchange, Extending, Lee Green, S.E.	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
.. 11—Crookhills Council School, West Bromwich	Education Committee	Wood and Kendrick, Archts., High-st., West Bromwich.
.. 11—Chemical Works, Additions to, Milsbridge .....	.....	Luon and Kaye, Archts., Milsbridge.
.. 11—Connecting Corridor at British Museum, W.C.	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
.. 12—Working Class Houses (500), Towobill, Swansea	Corporation	C. A. Broadhead, A.R.I.B.A., 3, Prospect-place, Swansea.
.. 12—Alterations at Bidborough Corner, Southborough	Urban District Council	W. Harner, Sur., 137, London-road, Southborough.
.. 14—School, Albert-road, Southampton	Corporation	The Clerk, Education Offices, St. Mary's-road, Southampton.
.. 14—Two Cottages, Additions to, Dromore-road, Dublin	Great Northern (Ireland) Rly. Co.	T. Morrison, Sec., Amiens-street Terminus, Dublin.
.. 14—School, Alterations to, Maynard-road, Walthamstow	Education Committee	H. Prosser, M.S.A., High-street, Walthamstow.
.. 14—Academy, Additions to, Leith	School Board	G. Craig, Archt., 85, Duke-street, Leith.
.. 14—Cottage, Howth Junction	Great Northern (Ireland) Rly. Co.	T. Morrison, Sec., Amiens-street Terminus, Dublin.
.. 14—Electricity Sub-station, Southend-on-Sea	Corporation	E. J. Elford, M.I.C.E., Boro' Eng., Municipal Bldgs., Southend.
.. 14—School for Boys, Hawthorn	Pontypridd Education Com.	D. M. Jones, Sec., Municipal Buildings, Pontypridd.
.. 14—Piesties and Granary, Mill Farm, Monkash	Glamorgan County Council	The Clerk, Glamorgan County Hall, Cardiff.
.. 14—Gatekeeper's Cottage, near Coraghwood, Dublin	Great Northern (Ireland) Rly. Co.	T. Morrison, Sec., Amiens-street Terminus, Dublin.
.. 15—Peel Hall, Additions to, Little Hulton	County Tuberculosis Committee	H. Littler, County Archt., 16, Ribblesdale-place, Preston.
.. 15—Sanatorium, Thingwall, near Storeton	Birkenhead Corporation	G. Brownridge, M.I.C.E., Boro' Eng., Town Hall, Birkenhead.
.. 15—Nurses' Home at Infirmary, Harrow-rd., W.	Paddington Guardians	E. H. Sim, Mowbray House, Norfolk-street, Strand, W.C.
.. 15—Block of Offices, King George Buildings, Cardiff .....	.....	Jones and Thomas, Archts., 6 & 7, St. John's-square, Cardiff.
.. 15—Detached House, Crossbills .....	.....	C. H. Petty, Archt., Halifax.
.. 15—Isolation Hospital, Bathrooms at, Davenham	Northwich Rural Hospital Com.	John Holland, Clerk, Leadsmithey-street, Middlewich.
.. 16—Disinfectant Building, North Wharf, Blackwall, E.	Metropolitan Asylums Board	W. T. Hatch, M.I.C.E., Eng.-in-Chief, Embankment, E.C.
.. 16—County Police Cottage, Coombe Bissett, Salisbury	Wilts County Council	J. G. Powell, County Sur., Trowbridge
.. 16—Houses (50), Chester-le-street	Urban District Council	Boyd & Groves, Archts., Emerson Chambers, Newcastle-on-T.
.. 16—Central Police Station, Wash-houses at, Devizes	Wilts County Council	J. G. Powell, County Sur., Trowbridge.
.. 16—South-Western Ambulance Station, Stockwell, S.W.	Metropolitan Asylums Board	W. T. Hatch, M.I.C.E., Eng.-in-Chief, Embankment, E.C.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House

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OUR ILLUSTRATIONS.

Dunblano Cathedral: New Choir Stalls, Altar Screen and Organ-Case. General view and detail of one side. Sir Robert Lorimer, A.R.S.A., F.R.I.B.A., Architect.

Church of St. Mark, Camberwell: New Parish Hall and Vicarage. View and plan. Messrs. Richard Creed, F.R.I.B.A., and A. V. Heal, A.R.I.B.A., Architects.

BUILDING NEWS Designing Club: A Market Hall. Three selected designs by "Why," "September Mora," and "Wallbroke."

STUDENTS' WORK AT THE ROYAL ACADEMY.

This is not the Gold Medal year, so that the more ambitious efforts in architecture, painting, and sculpture are necessarily not in evidence, and not a few of the men have gone on active service. Several of the designs submitted for the Architectural School prizes are marked "Unfinished on account of the war." Some of the prizes, notwithstanding, have been numerously competed for, and although the ladies have not scored so prominently on this occasion, we may not be wrong, perhaps, in conjecturing that the quantity of works entered—for example in the Landscape subject—may be due to the zeal of the women-students. The oil-paintings in this class which we have just alluded to are more than usually numerous, though none was considered worthy of the prize, and certainly the whole series is below the average in merit.

The designs for the Decoration of a Portion of a Public Building were also numerous, the prize falling to Mr. G. V. M. Frampton, the subject set being "A Harvest Procession." The treatment generally is, perhaps, too slight in colour for mural work. The winner has handled the problem in a delicate and well-arranged group of passing workers from the harvest field, presumably wending their way homewards. In some parts of a building lightness of touch may be appropriate enough, and blues and greens mostly are pretty and pleasing. The effect nevertheless suggests a panel picture removable in its frame rather than a solid piece of architectural adornment. This lack of appreciation of the technical qualities of mural attachment and conventional fitness in applied decoration is peculiar to one and all of these competition designs. Some are more solidly composed and broader in their grouping, and so far appear more deserving of the choice of the judges; but we also observe that in these few instances there is a certain amount of confusion due to the massing of the figures, which gives a lumpy effect when seen from a distance. The initial faults of all these proposals rank under one or more of the above criticisms, and some—including, perhaps, the selected one—appear to be equally suitable for a picture-card or a big-scale wall-panel. Most large paintings can be reduced, no doubt, for posting purposes at greeting-time; but a mural decoration design as such should be dominant and unmistakable.

The paintings of Heads from the Life are prominently displayed this year, and for the greater part are strongly done. Mr.

Harold Williamson, who wins the Silver Medal, sends out and away the best; and the same remarks apply even more strongly to the oil-paintings from the Nude, in which class Mr. Joannes G. A. Pisani deserves unqualified praise in addition to the Silver Medal he has carried off in competition with some other excellent work.

There are five cartoons submitted in the Draped Figure competition. Four of the number are of seated females, the subject being "Uranus." Mr. James Williams wins the Silver Medal and £30 for an upright and imaginative personality springing into brilliance, with draperies contrived as a setting, the planet disc completing the composition above the figure. In spite of the decided air of movement embodied in the whole thing, the artist has retained a recognition of decorative exigencies, and avoided the limitations of pictorial work, even if he has scarcely adhered to the ordinary meaning of a draped figure, treating his draperies rather as accessories. The committee, anyhow, had no choice, and so, quite rightly, have chosen one of the best cartoons shown for some years at Burlington House.

The Architectural Travelling Studentship only attracted three competitors. Of these, that of Mr. William H. Hamlyn is distinctly the best. The subject set is for a Picture Gallery in a Public Park, free from all encumbrances and all overshadowing by adjacent buildings. There could, therefore, be no reason why all the picture galleries save those on the ground floor should have been top-lighted, which is by no means so effective a method as vertical windows in a clerestory, throwing direct light at a pleasant angle on to the paintings. His big central gallery is intended for sculpture, and has skylights. Six minor galleries range round this big hall, those on the top floor being top-lit. At the four angles of the building are square rooms. The lower series of these apartments have only two small windows each, one of these being deeply recessed, with big columns, helping to keep out the light. At the ends of the building, right and left, are open colonnaded cortices, or courts, with apsidal ends to their outside extremities, fountains being set behind the encircling colonnade of the Ionic Order. This is very palatial in design, and a gateway increases the grandiose effect of the colonnade at the rear, there being no columns towards the park; but steps lead down to a lower terrace in front of the building. Here are two more fountains flanking the wide flight of steps, divided into three bays, leading up to the picture gallery. The service court is to the back

of the premises, and on this side of the sculpture gallery is placed the grand staircase, so that everyone wishing to visit the first floor must go through the big room, the entrance being on the front side. There are no lifts or reception-doors for contributions received for periodical exhibition, and the "service court" seems more of a name than a reality. The end-portico treatment is associated with the flanking cortices before named. The central portico, with the prominent pediment above, has its columns taller than those of the same Corinthian Order along the façade. Behind this portal, on the first floor, is a picturesquely-arranged "saloon" looking into the sculpture gallery, but having no outlook into the park. The middle great hall rises as an attic in the midst of the group, and tall parapets are employed to increase the height of the lower buildings. On the top of the projecting verandah flats stand a series of isolated statues, each above a column below; and these latter extend from the level of the ground-floor up to the cornice halfway or more above the first floor, so the Order is massive and bold. Much is made of the central pavilion, and in the bird's-eye perspective the statues look very odd. The recessed alcove-like features to the end treatments of the front, having segmental pediments carried by seated figures of giants, look very like seated arbours wherein the statues, ranged like watchdogs on the look-out for aeroplanes, may seek an occasional rest. Mr. Hamlyn's excellent set of four drawings is capably done, with a workmanlike detail, though his figure-drawing is not a strong point.

The design marked 193 is far the better of the two others. The design is simple, with clerestory lights to the central hall for sculpture. The picture galleries are top-lighted, except the ground-floor rooms. The stairs come right and left of the main entrance, and lead to an ugly, awkward landing. There is a lift at the back of the premises, and a service stairway behind a students' stock-space. Between these subsidiary rooms a throughway passage for public use is provided; but in front no one can get from side to side of the entrance, and so reach the galleries beyond, unless they pass through the middle sculpture gallery, because the stairs come in the way. This design is refined and cleanly drawn; but it lacks distinction, being commonplace rather than being cleverly reserved.

Mr. J. M. Wilson wins a Silver Medal for ornament with his architectural pilaster shown in plaster, with a lion's head at top and scroll truss by the side—a

good, simple piece of work, well adapted to the current style in Free Classic.

The Architectural School work at the Royal Academy is slovenly and drawn in a rather grimy way, so that one feels that the French style of draughtsmanship is going by the board. The winning design for a Tea Room is by Mr. James M. Wilson, the same subject in the lower school being successful at the hands of Mr. Harold C. Mason. The Kursaal designs are over-elaborated. The designs for an Insurance Building seem more architectural and worthy of the student's time.

The following is the list of awards:—

Design for the Decoration of a Portion of a Public Building.—£30 and silver medal, G. V. M. Frampton; £10 and bronze medal, Alfred C. Gardner.

Design in Monochrome for a Figure Picture.—£30 and silver medal, no award; £10 and bronze medal, Alice D. Cohen.

Composition in Colour.—£5 and silver medal each, Gladys M. Baker and Marjory F. Mostyn.

Cartoon of a Draped Figure.—£25 and silver medal, James Williams.

Painting of Figure from Life.—£10 and silver medal, Joannes G. A. Pisani; bronze medal, Winifred B. Edge.

Painting of a Head from Life.—£5 and silver medal, Harold Williamson; bronze medal, Hilary F. C. Skinner.

Perspective Drawing in Outline (for painters and sculptors only).—£5 and silver medal, Winifred B. Hardman.

Four Drawings of a Figure from the Life.—£15 and silver medal, Evan J. Walters.

Drawing from the Antique.—£5 and silver medal, Dorothea L. Lyster.

Painting from Still Life.—£5 and silver medal, Dorothea L. Lyster.

Model of a Design.—£30 and silver medal, Edgar A. Howes; £10 and bronze medal, Alexander Stiles.

Two Models of a Bust from Life.—Silver medal, Peter Induni.

Three Models of a Figure from Life.—£15 and silver medal, Joseph H. Cawthra.

Design in Architecture.—Travelling studentship (England), £60, tenable for one year, William H. Hamlyn.

An Architectural Design.—£20 and silver medal, James M. Wilson.

An Architectural Design (first-term students only).—£15 and silver medal, Harold C. Mason; £10 and bronze medal, James G. Swinton.

Original Composition in Ornament.—£5 and silver medal, James M. Wilson.

Landseer Scholarships in Painting and Sculpture of £10 a year each, tenable for two years, have been awarded: In painting to Joannes G. A. Pisani and Hilary F. C. Skinner; and in sculpture to Edgar S. Frith and Thomas H. Page.

TOPOGRAPHICAL DRAWINGS AND HISTORICAL MAPS OF LONDON.

On Tuesday last Viscount Peel, Chairman L.C.C., on behalf of the London Society opened at the Royal Institute of British Architects in Conduit-street a comprehensive and informing collection of illustrations of an archaeological character chosen as bearing upon projects of town planning. Prof. Patrick Geddes, who went to Madras to advise as to the development of that city, had consigned to the Governor of Madras a unique collection gathered together concerning civic development, which, as our readers know, was shipped on the Clan Grant steamer sunk by the Emden. The Architects' Emergency Employment Committee, to make good as far as possible this disaster, has prepared a fresh series of maps and diagrams with the co-operation of the London County Council, the R.L.B.A., and other friends and authorities, and this constitutes the present exhibition.

The maps supply an enormous amount of information, showing as they do the various periods of the growth of the Metropolis and the accretion of its congested areas, as well as setting out its main approaches. Among the drawings, the most valuable perhaps are the seven fac-simile sheets from the Bodleian Library, Oxford, forming a set of views 7ft long by 1ft. 5in. high, drawn in bistre in 1550 by Antony Van den Wyngaerde, showing London at that date. This splendid reproduction is from the originals, which belong to the Sutherland collection of topographical prints, and these draughts, of course, are most valuable as records archaeologically and from the Society's point of view. These prints have been lent by the London County Council. Some framed photographs of Old London Bridge hang hard by, taken from Mr. Thorp's models shown at the White City a year or two ago.

A diagram representing Westminster Abbey from over the fields, looking south, has been drawn after Hollar, and in the other gallery a superimposed diagram is displayed to indicate the proportions of Old St. Paul's and the relative outline of Sir Christopher Wren's building. Mr. J. Berrington has made for the Society an excellent panorama of London as sketched from Hungerford Bridge, looking east. Cleopatra's Needle on one side of the river, and the Shot Tower on the other, form two watchdogs, as it were, to the picture of the Metropolis. It is intentionally topographical, and shows all the towers and spires in their correct relative positions, very skilfully delineated, the waterway being advisedly left white. The large coloured view exhibited by Mr. J. H. Bucknell presents London in a bird's-eye view, which is artistically rendered. Hollar's view of London (1647) was reproduced by the London Topographical Society in 1906, and it here naturally finds the prominent place it deserves. The set of views dedicated by John Kep to Royalty make up one vast representation of London and Westminster about 1710; and London as known to Shakespeare in 1616 is shown by drawings hanging on this wall from the hand of Nicholas John Visscher. The six mezzotints given to the Institute Library by W. J. Booth, Fellow, in 1841 include the docks, and add much interest to the collection; as also does the longitudinal elevation through Kensington to Hyde Park and Knightsbridge on the other wall of the small gallery. An "Embankment Improvement Scheme," dated 1838, by John Martin, R.A., shows a combined Piazza in three stages giving covered ways, much on the same lines as lately proposed on one level for St. Paul's Bridge, and for the projected bridge at the bottom of Northumberland-avenue. A covered bridge also is shown as designed by Charles Fowler, C.E., in 1800, and at the same date the Suspension Bridge at Hammersmith accompanies a Report on the Thames Bridges. A view of London Bridge as it was in 1747 shows the old wharfs, boats, and general environments of the period. The Underground Railway was anticipated by a scheme for building subways, and a sectional chart is here exhibited giving an idea of the underneath roadways for heavy waggons and lorries for perfecting the Metropolitan traffic relief scheme early in the last century.

Among the outline and tinted diagrams are views of old Temple Bar, the Piazza, Covent Garden; old gabled house called the Cloth Hall, Smithfield; some old plastered fronts just pulled down opposite the Tivoli site in the Strand; half-timbered houses long gone from Westminster; the first Royal Exchange, with which Pepys has made us so familiar; the courtyard of the Bull and Month Tavern, galleried round; St. Stephen's Church, Walbrook, and the old Pump in Cornhill.

There are many other subjects of interest in the galleries, and the collection is well worthy of careful study.

"BUILDING NEWS" DESIGNING CLUB.

A SMALL MARKET HALL.

The modern municipal market-house usually in recent times has been identified as a pretentious thing of iron and glass, too often disfigured with rignaroles of applied superfluous castings, such as bristling crestings stuck on ridgeless roofs, or overdone with sprawling scrolls casually set about on the roof-trusses and gallery fronts of their interiors, making a veritable masquerade of trappings, badly spoiling elementary constructional forms, struggling to produce all the while a superficial attractiveness in a brainless way, instead of simply leaving utilitarian building lines to tell their own tale without affectation. The result is devoid of interest, with its cheap, self-conscious effect soon degenerating surely enough, with dust and dirt, into a dowdy, miserable air amidst all this ostentation and mistaken adornment. The gari-h brick

façades added often to such markets serve merely as masks to disguise what happens behind them, and by being treated only as frontispieces they look meaningless and unworthy of the name of good taste. Other markets have external elevations which are scarcely more commendable, because, although structurally part of the rear premises, they are made restless by being broken up with inappropriate features such as turrets, spires, or perhaps with towers. The universal receipt to get enrichment is the commonplace expedient of varied-coloured brickwork, panelled out in such a way as to oust all sense of breadth, simplicity, and scale.

Our Designing Club problem is divested of all this type of thing. Probably for an everyday market the scheme set out is somewhat restricted in scale, and intentionally is made quite a small sort of project. The idea is, however, based upon the prime importance of an appropriate architectural treatment worthy of a modern town and suitably planned for the object in view, combined with a commodious, covered-in open space where perishable goods may be displayed and sold with despatch, the place being made available for everyday variations, with ample ventilation, proper light, and plenty of room so far as it goes. The conditions of the competition are attached hereto. Some may consider it an initial shortcoming on our part that we did not specify a larger type of market building. We remind such critics that we have always to consider the possible ultimate response, and likewise the limitation of our Club, for too much specialisation only leads to failure; besides which, it would be a mistake for students to attempt needlessly big subjects. If longer wings were needed to amplify this market-house, such an extension would not interfere radically with the design, as such and more outside shops could be very easily added. In admitting this much we are not offering any apology for the project as it stands; indeed, we think most critics will readily recognise the capability displayed by the designs which have been placed in our award. If the plans are short of stall-room, that is the fault of stipulated sizes and shape provided in our instructions, and the designs must be judged accordingly.

We decide that "Why" comes out top, "September Mora" stands second, and "Walbroke" is third. The architectural scheme produced by "Why" is refined and well worked out. He has not shown the required wind-screens or weather glazings, which undoubtedly would have to be fixed, in order to keep out the wind and weather; but such a provision could readily be made behind the colonnaded openings at the ends of the nave and transepts without material detriment to the very capable design. We have also considered this point in regard to the other two proposals, in which such screens are shown, and we are not unmindful of this obvious point in their favour, specially as their façades are arranged particularly to accommodate, and they recognise the necessity for such guards in winter-time. The plan submitted by "Why" is preferable to that placed second. The lay-out is architectural and nicely-proportioned, with good solid and big cardinal piers adroitly overcoming the irregular formation incidental to the specified sizes, and "Why" has masked this deviation from the square better than any of the others. "Walbroke's" plan is set out pretty much on the same lines, but seems less massive and less successful in the handling of these piers. "Why" has not adopted a central column or pier, as suggested in our conditions in regard to the treatment of the transept openings. "September Mora" is more certainly in harmony with our provision in this respect, and, what is more, he puts the shop-doors leading into the market-hall much better by locating them in the corner, avoiding thereby cutting up valuable wall-space for stalls. It is by thus contrasting one plan with the other that we arrived at our final conclusion in favour of "Why." This area is not spoiled by detached piers, such as the

second plan has adopted. The perspective sketch of the premier plan relies entirely on massing, and all detail is omitted. "Why," in fact, has not otherwise done his proportions justice by this blocking-out method of showing his work; the building in reality would come out so very much better than this sketch indicates. The top-light to the dome is more adequate than the bull's-eye lights to the second man's cupola, and it is much better-looking, both inside and out. "September Morn's" domers, we may add, would, for that matter, be seldom seen in reality, except from a distance. "Why's" outside shops are well arranged in the contrivance of glazings, even though, perhaps, their glass-line is too low down where market labourers are continually knocking about. No granite posts are shown for keeping carts and goods off the building, as we suggested should be put up. Also ventilation appears to depend too exclusively on draughts and cross-currents. There is one other point about the domical top-light in this scheme which seems to require a revise; at present the snow would lodge badly in the gutter, and rains would be liable to continually give trouble. The whole thing wants also lifting up a foot or two for ventilation, and, if needs be, an open ceiling-light could be added to keep the soffit line. As to the somewhat delicate detail of "Why's" architecture, an objection might be made to it on account of expense—a remark which would be fair enough, because buildings of this kind, as a rule, have to be relatively inexpensive, and that reason furnishes to usual excuse when these premises are spoken of as ugly. "Why's" design would still be good if these minor enrichments were left out. The perspective which we have criticised is not at fault so much because of the omission of this detail, but for the reason that the drawing rather spoils the proportions of the relative parts of the setting-out.

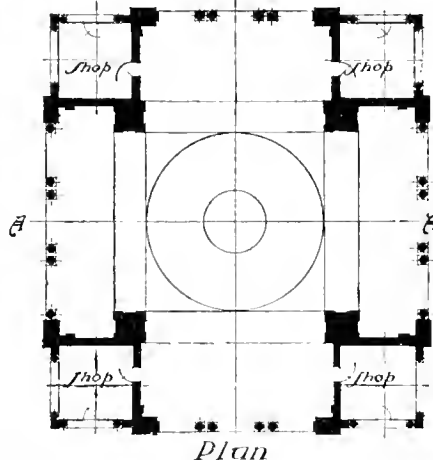
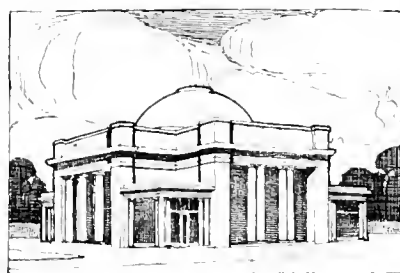
"September Morn" must read the foregoing remarks, as some criticism on his design occur therein. The skyline of his building is not vastly different to the last, and his attic wall to the ball of the dome is a gain by lifting it up bodily. We fancy "Why" has shown more of his dome in the perspective than perhaps his section warrants, besides tampering with its saucer-like contour. The arches have a very thin appearance in "September Morn's" sketch, and they run too high up, being set close under the fascia. More apparent structural strength is wanted for big openings of this dominating kind, and a little less of the glasswork fillings would have sufficed. The side-windows over the top of the shops are not a success, looking over-ample and out of character, besides cutting up the walling too much. The drawing is well arranged, spiritedly executed, and all the better for a little colour in the draughtsmanship.

"Wallbroke" is a bit too big in his scale, and the attics to the shops look a trifle like tanks, though, perhaps, as blocks of mural masonry some support is given by them to the general idea by this largeness. Such an effect of size is in keeping with a market. At a glance a person in a hurry to catch a train might mistake the building for a railway station. The notion of a nave running through all at one skyline level is all right; but the elevation and view do not quite agree one with the other; somehow, the latter seems to require that the entablature should run through, and the dome in this case scarcely justifies itself. The treatment adopted would have done more fittingly, perhaps, for a more extensive building. Even then these vast fields of quarry glazings seem so overwhelmingly generous in amount, and likely to get distorted or disturbed by wind-pressure in course of time. There is not much freshness about the shop fronts, which are poor.

"Hair Cut" is afforded the fourth position. This proposal, which he has placed before us, is specialised by a tower-like centrepiece covered by a saucer dome on an attic rising within the limits of the external walls at the cardinal centres on each face, with pendentives, presumably springing from the lower cornice-level inside the market-house.

The design is much overweighted by this central feature, and the flanking openings to the middle doors at ends of nave and transepts are glazed in, which is hardly what we intended, and the difference in the total length on the longest dimension given is made up by extending the nave wings instead of widening the crossing, as done by "Why." The effect got by "Hair Cut" is by no means second-rate; but his plan is hampered by the eight columns round the circumference of the central area.

"Tounefier" draws with a thin line, and he spoils his pediment on the west front by starting it wrongly. He should look up any standard textbook on Classic architecture another time, and study good precedents. The circular tower shown stands on the roof flat, which has big, bold piers at the square corners of its parapet wall. The entrances



A MARKET HALL.
BUILDING NEWS Designing Club: Design by "Why," placed first.

have iron glazed doors, like the Palm House at Kew Gardens, and these would be always very much in the way for a market business, with labourers running in and out early in the morning, when the rush is in progress. A gallery runs round the domed enclosure, and this is intended for electioneering speeches, when a step-ladder would be used to enable the speakers to mount this rostrum. Not a particularly dignified provision.

"Pinto," after consulting Gwilt, Chambers, and other great leaders of the Classic architectural school, is unable to find out precisely our meaning when we called for a "middle column" arranged at the ends of the transepts. "Pinto" decided to ignore this requirement, whereas, had he asked the question, his doubts might have been put to rest. The segmental roofs have radiating glazings in their ends, and an open iron grille insures plenty of air passing through the market. Collapsible iron gates are fixed in wind-lobbies at the four entrances. The conveniences for both sexes, as shown, would be a nuisance, and are not required, provision being made elsewhere for these adjuncts, more in the open.

"Black Cat" places a pair of enormous vases on each face of the angle piers, and so three of these terminals enrich the skyline at each corner, in a bewildering fashion. Over the little swing-doors a tablet in stone proclaims the date of its erection, for the

New Zealander, when he arrives with his notebook, counting up our national monuments, in years to come. Folding screens, like school classroom screens, are set in the archways. The big arches of 40ft. span, with less than a foot rise, are not very graceful, and scarcely strong, though solidly arched in big stones 5ft. long at the springing. The plan has the stalls marked, but the others omit them.

"Alpha" comes next. We really cannot do him justice, and his perspective fails also in this respect. "Empire" has a scheme, delineated with care in a bird's-eye view. The plan is the best part of this proposal. "Mersey" would do well to study architecture; at present he is wasting his time. The low arches between the crossing and the transepts spring from the floor-level, and would get in the way of the traffic. "Romulus" has a fanciful plan, with niches in the nave, and great cumbersome piers blocking up the interior. The best feature in this proposal is the inside treatment, as seen in this section, if only we had thought of erecting a garden-house, not a mere market. Externally the scheme suggests a reptile house at the Zoo with a fog coming on from the left of the picture. The scribble expresses a fog.

"Ogee" sends in an incomplete set in pencil, poorly executed. The walls are thin for so palatial an edifice.

A small stone-built covered-in market-hall on a central open level site, the out-to-out dimensions of the building being 95ft. long from N. to S., and 85ft. wide from E. to W. Each corner of the premises to have a square shop, 20ft. out-to-out, with open glazed fronts on the two external elevations, and each shop to have a private door leading into the market-hall, which will be cruciform on plan; but the difference caused by the width of the open-ended transepts on the E. and W. sides, these being 50ft. wide in the clear, and the N. and S. transepts being 40ft. wide in the clear, may be rectified by a central column or pier on the E. and W. of the crossing, and projecting piers or pilasters may be employed on the corners of the shop-walls inside the building facing N. and S. This will make the middle space, or 'crossing,' of the market-hall square above the floor-area space, and permit of a small domed roof rising on pendentives in the usual way on a low drum, against which the roofs of the four transepts may end. A middle-column treatment is to be employed to the façades of the E. and W. transept openings. At the N. and S. ends of the building an arch may span the opening between the two shops at the corners. The roofs of these shop pavilions may be either flat or conical in shape, suitably treated for lead covering. The height of the market-hall to top of inside cornice to be 20ft. Roof soffit open and plastered. The shop ceilings need not be so tall. One 6in. step to floor of shops and hall above the paved space round the market, and a series of granite posts, 3ft. high, to be arranged 9ft. away from the walls, to keep carts off the plinth at the angles of the building. The details of lighting and also glazing to keep out weather at ends of transepts left to competitors. Roofs of iron and concrete, asphalted outside and plastered within. Stone to walls to show as ashlar. Style Late Renaissance plainly treated. Plate-glass to shops, movable stalls next walls inside market. Scale, 8ft. to inch. Plan, two elevations, and section; also view sketch of exterior. The plan may be drawn to the scale of 16ft. to the inch, if desired, on account of size of the sheet, as per rules."

THE REPORT OF THE LAND INQUIRY COMMITTEE.*

By ANDREW YOUNG (Member of Council).
The Report of the Committee is divided into five heads, the second being "The Acquisition of Land by Public and Quasi-public Bodies," and I have been asked to deal with this to-night from the promoter's

* Read at the Ordinary General Meeting of the Surveyors' Institution, held on Monday, December 14, 1914.

point of view, while my colleague, Mr. Mathews, will deal with it from the owner's point of view. The conclusions and recommendations of the Land Inquiry Committee relating to the procedure and practice in the expropriation of land for public purposes are as follows:—

SECTION VIII.—SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

1. Notwithstanding provisions contained in the Housing Acts 1899-1909, modifying the procedure in the case of insanitary areas and land otherwise acquired for housing purposes, the present methods of obtaining compulsory powers for the acquisition of land are cumbersome, dilatory, and expensive. Especially in the case of smaller local authorities, the difficulty and cost of obtaining these powers often prevent improvements from being carried out. Except in the case of schemes of great magnitude or novelty, recourse to Parliament should not be necessary. (See p. 295.)

2. Where compulsory powers are obtained, the procedure for assessing compensation laid down in the Land Clauses Consolidation Acts is needlessly complicated and expensive. The provision that the promoters shall pay the whole of the costs unless the award is equal to or less than the promoters offer, is an encouragement to claimants to pile up costs unduly. (See also pp. 300 et seq.)

3. The constitution and working of the tribunals which assess the compensation are unsatisfactory. There are objections to leaving the determination of the amount of compensation payable to professional men in private practice. (See also p. 302.)

4. The basis of compensation laid down in the Lands Clauses Consolidation Acts is indefinite; its interpretation admits evidence of an exceedingly speculative character, and it has enabled claimants to obtain awards largely in excess of the real value of the land acquired. The almost universal addition of at least 10 per cent. of the purchase price of the land as an allowance for compulsory acquisition is unnecessary and unjustifiable. (See also pp. 304-11.)

5. "Value to the owner" is unsatisfactory as a basis of compensation. Rateable value is not a suitable basis, since it does not pretend to represent the annual equivalent of the full capital value of the land. The only satisfactory basis for the assessment of compensation will be a valuation based on the market value of the land if sold by a willing seller. (See also pp. 305-6.)

6. The provisions in the Land Clauses Consolidation Acts as to compensation for injurious affection to other lands than the lands taken enable large sums to be awarded for prospective and hypothetical values, and is unfair as between the owner whose land is taken and the adjoining owner from whom no land is taken, but who may be equally injured. Betterment charges are unsatisfactory for similar reasons—namely, the difficulty of assessing betterment and the unfairness of discriminating between owners who are similarly affected. (See also pp. 307-10.)

7. The provision in the Lands Clauses Consolidation Act that promoters are not allowed to take a "part only" of any house or building is a further cause of difficulty and expense. (See also pp. 311-12.)

8. The knowledge that the obtaining of compulsory powers and arbitration proceedings are so costly, and that the amount awarded will probably exceed the real value of the land, enables owners to exact very high prices in private negotiation from local authorities. (See also pp. 258-9.)

9. The fact that they are at such a disadvantage in exercising their compulsory powers compels local authorities to resort to the practice of buying lands through the medium of secret agents. This practice, though inevitable under present conditions, is open to considerable objection. (See also p. 284.)

10. Local authorities are not, as a rule, allowed to buy land and hold it for future use. Consequently they cannot secure any of the increment in value due to the public service they provide. If they were free to do this, they would not only be able to obtain this increment, but also be better able to control the development of their area and the surrounding neighbourhood. (See also pp. 293-4.)

11. Quasi-public bodies, such as railway companies, etc., are placed in a similar position to local authorities with regard to the land they acquire compulsorily. (See also pp. 286-9.)

Following these conclusions the recommendations we make with regard to the public acquisition of land may be summarised as follows:—

1. Compulsory powers for the acquisition of land needed for public purposes should be obtained in these ways:—

(a) For certain specified purposes, land should be acquired compulsorily by means of a resolution passed by the local authority requiring the land.

(b) For purposes not included in (a) compulsory powers for the acquisition of land should be obtained by means of an order of a Government Department, which need not be confirmed by Parliament.

2. Where the magnitude or novelty of the project demand it, compulsory power should be sought from Parliament by means of a Private Act under a simplified procedure. (See also p. 294.)

3. The tribunal for assessing the sum to be paid for the purchase of land, and compensation for severance and disturbance, in all cases of compulsory purchase, should be the Imperial Land Commission. The Commission should have power to award costs in any proportion to the two parties, to limit the number of witnesses, and to exclude counsel. (See also pp. 300-1.)

4. The basis of compensation for land taken should be the price they might be expected to realise, if sold in the open market by a willing seller, and this sum should be assessed on the principle of land

down in the Finance (1909-10) Act, 1910, for determining the "total value" of land. No additional allowance should be made for compulsory purchase. (See also p. 311.)

4. No compensation should be paid for injurious affection of other lands, nor should any allowance be made for betterment. Compensation should be paid for damage due to severance and disturbance. (See also p. 311.)

5. Promoters should have power to acquire a part only of land or buildings. (See also p. 312.)

6. Local authorities and Government departments should have powers to purchase land in advance of their immediate requirements. (See also p. 312.)

The compulsory purchase of lands may roughly be divided into two main divisions: (1) For public purposes, and (2) for purposes of public companies operating principally for private profit. The subject may conveniently be considered under three heads:—

I.—Method of obtaining the specific powers;

II.—Basis of compensation and matters incidental thereto;

III.—Tribunal for assessing compensation.

I.—METHOD OF OBTAINING SPECIFIC POWERS.

The Land Inquiry Report sets out with a wealth of detail the varying methods by means of which promoters may now obtain compulsory powers, the keynote of which is that they are notoriously cumbersome and proverbially expensive. Generally speaking, a special Act of Parliament or its equivalent is necessary, the effective work for which must be completed before the month of November in any year, and to secure this end the decision of a local authority to apply for powers in practice must be taken before the end of July. As special Acts usually receive the Royal Assent in August, it not infrequently happens that, owing to the necessary preliminary work to comply with Standing Orders of Parliament, powers cannot be obtained for some eighteen months, and, may be, nearly two years, after the occasion when the powers might usefully have been exercised. Procedure by way of Provisional Order is sometimes advocated as an improvement on the ordinary Private Bill legislation, and at present the principal avenue of legislation in London on these lines is for educational purposes. Powers to acquire sites for schools are obtained by means of Provisional Orders made by the Board of Education and confirmed by Parliament. In the event of opposition the difficulties and expense are greater than in a Bill, as in opposed cases a preliminary inquiry is held by the Board, at which witnesses are heard, and if the Board decides to grant the Provisional Order, the opponents may still oppose before Committees of Parliament when the Order is presented for confirmation. Probably the feeling that, at the Board of Education's inquiry, the Board are acting in a judicial capacity in a case arising from compliance with their own requirements, induces opponents to carry the case further. Public inquiries of a like character, conducted by the Local Government Board and other Government departments empowered to issue Provisional Orders, have been much criticised on this ground, and some such feeling was doubtless the principal cause of the litigation through the Courts to the House of Lords in the Arlidge case, where a somewhat similar point arose under the Housing, etc., Acts. As the preliminaries for a Provisional Order must be completed at about the same time as a Private Bill, and no provisions exist for intermediate necessities being dealt with, there is no advantage over the Private Bill procedure. Moreover, there is a distinct disadvantage in that it is the custom of the Government departments introducing Provisional Orders Confirmation Bills not to incorporate modifications of the Lands Clauses Acts unless they conform to model clauses; although it may be quite usual for a local authority to have established by long custom for its district a special code of clauses embodying such modifications. For example, between the years 1899 and 1905 the London County Council obtained in some ten private Acts clauses based on the Housing Acts to enable them, when acquiring property for various improvements, to purchase insanitary

property on the basis of the Housing Acts. Another instance is the specific power granted to the Council in each of their Improvement Acts since 1898 to take a part only of properties not involving interference with the main structure of a building. Although Parliament had repeatedly granted the above provisions, after full discussion before Committees of Parliament, the Board of Education, in Provisional Order Confirmation Bills, have felt it incumbent upon them to refuse to insert the Insanitary Property clause at all, and they have inserted only a modified form of the clause as to taking parts of properties, so as to conform with the Model Clause. Under the Housing and Town-Planning Act, 1909, the Local Government Board may make an order, putting in force, for the purpose of the clearance of insanitary areas, the special compensation provisions of the Housing Acts; and the order takes effect without confirmation by Parliament, whereas previously, under the Act of 1890, an order issued in respect of slum areas was not of any validity until confirmed by Parliament. Property can also be compulsorily acquired by the responsible authority under the Town-Planning Sections of the Act of 1909; under the Small Holdings and Allotments Acts, 1907 (which also empowers the compulsory hiring of land for a specific period), under an order made by the appropriate Government department, without further confirmation; and under the Development and Road Improvements Funds Act, 1909, the confirming power is vested in a body of Commissioners constituted ad hoc. Probably the earliest Act giving powers to a local authority to acquire property without the necessity of obtaining the specific authority of Parliament or a Government department is Michael Angelo Taylor's Act. This is not exercisable by the central authority in London; but the powers have devolved upon the Metropolitan borough councils, and are put into force merely by a resolution which may, however, be impugned in the courts on the ground of mala fides. Under the London Building Act, however, the London County Council has power to appropriate land to insure a width greater than 40ft., and under the same Act in special circumstances an owner may be required to set back buildings to the general line and relinquish the part in front of the general line for street widening. Compensation is payable in these cases; but the power is exercisable by resolution of the Council, without specific confirmation from a superior authority. In a large number of provincial cases in recent years local authorities have been authorised to prescribe lines of frontages in streets, and when buildings projecting beyond the line are rebuilt or reconstructed they must be set back to the prescribed line of frontage, subject to the payment of compensation. The gradual simplification of procedure described above will be observed: the simplest being the putting in force of compulsory powers of acquisition by a mere resolution of the authority charged with a public duty for the exercise of which the land proposed to be taken is required. In my opinion it would be perfectly safe for responsible public authorities to be vested with general powers, exercisable by resolution only, compulsorily to acquire property required for the proper discharge of statutory duties. This would appear to conform with the views of this Institution in the reply of the Council of this Institution to the inquiries of the Land Inquiry Committee, as follows:—

Possibly, however, some further means might be provided by which responsible authorities, where the interests at stake are not of overwhelming importance, might be relieved of the expense of obtaining Parliamentary sanction. In London, for instance, the Metropolitan Paving Act of 1917, associated with the name of Michael Angelo Taylor, permits the City Corporation and Metropolitan Borough Councils to take property, or portions of a property, for street-widening without going to the expense of a special Act.

The procedure under this Act is complicated and unsatisfactory; but the principle is a useful one, and might with advantage be extended to other large municipalities.

There would appear to me to be no valid reason in restricting such general powers to

municipalities: "responsible authorities" might include statutory companies who might be relieved of the necessity of obtaining specific statutory authority for property required for the proper discharge of their statutory duties. Safeguards by way of approval of a Government department or otherwise which might be considered essential in the case of a company operating principally for private profit, would probably be considered superfluous in the case of a public authority whose actions are open to public criticism, and who, under its constitution, must, within a limited period, seek the suffrages of its constituents.

II.—BASIS OF COMPENSATION AND MATTERS INCIDENTAL THERETO.

Value to Owner.—Probably the portion of the subject around which the greatest controversy will arise is that relating to the basis of compensation. It is common ground in this room that the basis of compensation is substantially the value to the owner and damage to other lands belonging to him by reason of the taking of the part required. This basis is now firmly established, principally by means of decisions of the Courts, as there is no specific provision in the Lands Clauses Acts directing exactly what is to be the basis.

Market Value.—In many recent statutes the basis of compensation has been specifically considerably modified. Legislation relating to insanitary areas has always made special provision as to the basis on which the compensation is to be assessed. The original Housing Act of 1875 fixes the basis as that of market value. In the course of years, however, in connection with the large and costly schemes carried out immediately following that Act, a tendency had developed whereby substantially the only difference between Lands Clauses procedure and Housing procedure was the omission of the 10 per cent. My experience goes back to those years, and I well remember how prominent members of the profession, in giving evidence under the Housing Acts, appeared to consider that the basis of market value intended under the Housing Act was not the same as what was commonly understood to be value in the market. It became a conventional value; much in the same way as there were indications some years ago that valuations under the Lands Clauses Acts were purely conventional, and had no real regard to the proper basis that should be adopted. This gave rise to such dissatisfaction that a strong Commission was appointed in 1888 to investigate the whole question, with the result that the law relating to insanitary areas and clearances was codified and amended in the Housing of the Working Classes Act, 1890. The compensation provisions of this Act take the form which has frequently been referred to as penal. For our present purpose one need only observe that while the basis was still reaffirmed as fair market value at the time of valuation, it further provided that, if the rental arising from the property were encroached by user for illegal purposes or by overcrowding, the enhanced rental obtained by such conditions must be disregarded, and a proper rental assumed, having regard to the fair and proper use of the premises, and this adopted for the purpose of calculating compensation. Whether the actual rental derived or the assumed fair market rental that might be obtained was to be adopted for the capitalisation, regard was specially directed to the state of repair, and if, as was nearly always the case, the property had been neglected, and required a substantial sum to put it into a proper habitable condition, the amount of such expenditure was to be deducted from any capitalisation, and it also contemplated the possibility of the value being assessed merely as that of a vacant site, to which was added a sum in respect of the old materials. It was obvious that these drastic modifications not only affected the amount of compensation to be paid in the case of property acquired in connection with clearances under the Housing Acts, but it also affected market value of all property of a similar class, and reacted on the level of market value to be adopted for

the purchase of such property, whether included in a scheme or not. In some recent statutes dealing with different matters entirely, the purchase price is to be determined by what the property would fetch in the open market. I am referring to the Ancient Monuments Consolidation Act, 1913, where a property the subject of a preservation order may be purchased by the Office of Works at the price it would fetch in the open market. There has been no legal decision as to what constitutes value to owner, nor, indeed, until recently has there been of market value. But recently the term "value in the market as between willing vendor and purchaser," of which we have heard much in connection with the Finance Act, 1910, has been legally defined. In the case of "Inland Revenue v. Clay and Others" and "Inland Revenue v. Buchanan and Others," the Master of the Rolls expressed himself as follows:—

The context before us has turned mainly upon the words "open market" and "willing seller." I think the view ultimately taken by counsel for the appellants, and also for the respondents, as to the meaning of "open market" is correct. "Open market" includes a sale by auction, but it is not confined to that. It would include property publicly announced in the usual way by insertion in the lists of house agents. But I think that it does not necessarily involve the idea of a sale without reserve. I can see no reason for excluding from consideration the fact that the property is so situated that to one or more persons it presents greater attractions than to anybody else. The house or the land may immediately adjoin one or more landowners likely to offer more than the property would be worth to anybody else. This is a fact which cannot be disregarded. The Solicitor-General ultimately admitted that some regard must be had to the facts. But he urged that one ought only to consider, first, what an outside purchaser would give, say, £750, and then allow the adjoining owner one more bid. In other words, something very small beyond the £750.

We had our attention called to the valuable judgment of Lords Johnston and Salvesen in the recent Scotch case of "Glass v. Commissioners of Inland Revenue" (unreported), and I accept their view of the meaning of the words "open market." The price at which the property was sold in 1910 is not the test of the gross value in April, 1909, but it cannot be disregarded. I adopt the language of Mr. Justice Scrutton: "He (the Referee) was right in this, not because of the sale for £1,000, but because of the reasonable expectation that a willing seller could get £1,000 or more from the nursing home." An "open market" sale of property "in its then condition" presupposes a knowledge of its situation with all surrounding circumstances. To say that a small farm in the middle of a wealthy landowner's estate is to be valued without reference to the fact that he will probably be willing to pay a large price, but solely with reference to its ordinary agricultural value, seems to me absurd. If the landowner does not at the moment buy, landbrokers or speculators will give more than its pure agricultural value with a view to reselling it at a profit to the landowner. It is for the Referee, whose competence is not challenged, to arrive at a figure. The Court ought not, as a rule, to review his decision on what is in truth a question of fact. I see no ground for supposing that there has been any misdirection in point of law.

The other point as to the meaning of "willing seller." It is urged that Mrs. Buchanan never was a willing seller; that she never wished to vacate the house in which she was living, and that it was only after pressure from the trustees that she agreed to sell for £1,000. I am disposed to think that a willing seller is a person who is a free agent and cannot be required by virtue of compulsory powers to sell, and that Mrs. Buchanan was a willing seller when, in 1910, she voluntarily agreed to accept £1,000. If, however, contrary to my view, she was not a willing seller, the problem still remains, for the existence of a willing seller, whether Mrs. Buchanan or not, must be assumed for the purpose of the section.

This view of market value is that which has been expressed in this room on previous occasions. An owner is not bound to accept any price that may be offered, and transactions in the auction room are not conclusive as to market value. A willing vendor not under compulsion to sell may anticipate a purchaser to whom the property possesses special advantages of a general kind. This definition seems to bring the basis of market value extremely close to that of value to the owner as we know it in practice. It also includes so much of the doctrine of special adaptability as should properly be brought into account, while excluding that distortion of it which offends the maxim that promoters should not pay for the value to those vested with statutory powers which a private owner without such powers could not realise. In these circumstances a claimant would not, in my opinion, be harshly treated if, for land expropriated for a public purpose, he were paid the full market value

of the property taken. In these words it is intended to convey that the price to be paid would be that which a willing vendor would accept from a willing purchaser. This connotes no compulsion on the vendor to accept any price a purchaser may offer, and has no necessary relation to the figures realised at a forced sale under the hammer. Moreover, a price arranged on such a basis would be fixed only after consideration of injurious affection and of betterment, and so obviate the discussion of these matters as separate items of claim. Another subject having an important bearing on the question of value is that flowing from the principle embodied in Section 92 of the Lands Clauses Act: "No party shall at any time be required to sell or convey to the promoters of the undertaking a part only of any house or other building or manufactory if such party be willing and able to sell and convey the whole thereof." It was early found that this inflicted hardship upon promoters, and various modifications were secured from time to time until at present the Model Clauses provide that parts can be taken if, in the opinion of the tribunal assessing compensation, such part can be taken without "material detriment" to the remainder. In addition to private Acts this, in effect, has also been embodied in recent public Acts, such as the Housing Act, 1890, and the Development and Road Improvement Funds Act, 1909. In connection with tramway schemes involving the acquisition of parts of forecourts, etc., the London County Council were successful in obtaining a clause giving specific power to take such parts without the limitation of the "material detriment" clause, and this has been extended in the Council's later Acts to enable them to take parts of buildings, subject only to the proviso that the Council "shall not take or interfere with the main structure of a house, building, or manufactory." If the view that the payment of market value represented the price the vendor would willingly accept from a purchaser who would willingly give it, there appears no reason for the retention of the principle embodied in this section. A local authority would then be able to acquire compulsorily whatever portion of a property was required for the public purpose to be effected without being liable to be compelled to take more than was so required. The owner would, on the other hand, be entitled to be paid the value of the part that was taken. It is obvious that no willing vendor would so sell unless regard were had to the value of the portion which was left to him after the part had been taken away, and in this way the owner would be completely indemnified.

Allowance for Compulsory Sale.—It has been customary in compulsory purchases to add to that part of the compensation which represents the value of property taken an allowance which varied according to the district, but which in London is invariably 10 per cent. There seems to be a considerable divergence of opinion as to the purpose of this addition, and when it originated, but it is usually referred to as being added for compulsory sale. I am inclined to the view that originally the principle underlying this existed before the Lands Clauses Act of 1845, and was due to the custom of claimants of including in their claim a sum representing the cost and loss to them of a change in investment. There appears to be every probability that in the earlier cases evidence of considerable length was given by both sides on this point. I have heard of the suggestion made by one who has had an unexampled experience at the Bar that he had come to the conclusion that the leaders of the Bar at that time concluded that for a relatively small sum the time involved in calling witnesses was hardly commensurate with the results, and that, consequently, an arrangement was made as a matter of convenience that to whatever was ascertained to be the value of the property taken, an all round addition of 10 per cent., in cases where the amount was substantial, should be added instead of discussing in each instance this particular item of claim. This was obviously

purely a matter of convenience dealing with an item that had found its way into compensation cases, and, consequently, when the Lands Clauses Consolidation Act was settled in 1845 it was not provided for specifically as a matter of law, and rests entirely on custom. Legislation of recent years, and particularly a series of legislative enactments dealing with insanitary property, has expressly excluded this allowance. In the series of Housing Acts from 1875 to 1882, and the amending Act of 1890, this additional allowance is expressly excluded in the case of the acquisition of insanitary property. In the Housing and Town-Planning Act, 1909, this elimination is not only continued as to insanitary property, but is extended also to the purchase of sites for the erection of lodging-houses. Legislation of a different character has also disallowed this customary allowance from the Small Holdings and Allotments Act, 1907, and the Development and Road Improvement Act, 1909. If in compulsory purchase cases the basis be adopted of market value the unwilling vendor would be only on the same footing as to price as a willing vendor, and as a solatium for compulsory expropriation an allowance of, say, the 10 per cent. might properly be added to the market value. This should be provided by statute, instead of relying upon custom. These observations relate to property of an ordinary character required for usual public purposes. In my opinion there should be no weakening, but rather a strengthening, of the present penal compensation clauses, specially applicable to insanitary property.

III.—TRIBUNAL FOR ASSESSING COMPENSATION.

At the present time the normal tribunal in compensation case is a jury of non-experts, although the claimant has the option of having the value determined by an arbitrator. The tendency of late years, however, in public Acts has been the elimination of a jury and the substitution of a sole arbitrator, as will appear from a consideration of the following statutes. The Housing Act of 1890 provided that all disputed cases should be referred to an arbitrator appointed by the Home Office, a duty since transferred to the Local Government Board. An appeal, however, could be made from his award to a jury if the amount awarded exceeded £1,000. In the Ranges Act, 1891, and the Military Lands Act, 1892, the tribunal was an arbitrator at the option of the person or authority acquiring the land. Under the Small Holdings and Allotments Act, 1907, following the precedent of the Allotments Act, 1887, and the Local Government Act, 1894, disputed compensation "shall be determined by a single arbitrator appointed by the Board," who is, "so far as practicable in assessing compensation, to act on his own knowledge and experience." In almost identical words the tribunal for similar purposes is set up under the Housing and Town-Planning Act, 1909. Under the Light Railways Act, 1896, and the Development and Road Improvement Act, 1909, a single arbitrator is the tribunal. It is of interest to note that the Great Northern Railway Company's Bill of last session provided that disputed compensation should be assessed by a single arbitrator. There is no doubt in my mind that the most satisfactory, because it is the most reliable, tribunal is one of trained experts, and failing a perpetually constituted tribunal a single arbitrator of standing is to be preferred. This would accord with the trend of modern legislation as indicated above. The Land Inquiry Committee have a novel solution for this problem, and is, as set out on pp. 303 and 304, in the following terms:

JUDICIAL AND PROCEDURE

(a) That in all cases where land is acquired under compulsory powers, the final determination of the purchase price, the amount of the compensation for severance and disturbance due to the claimant, and the apportionment of the compensation as between several claimants, should be determined by the Judicial Land Commissioners.

(b) That the procedure for determining the amount of compensation for the land taken should be as follows:—

(1) At the time of applying for compulsory powers the promoters should serve a notice on the district

valuer and all interested persons as to the lands to be acquired.

(2) If and when the compulsory powers are obtained the district valuer should assess the market value of the property to be acquired, as at the time of the application for compulsory powers, provided that where the owners or persons interested are unable to agree to the valuation, they should have the right to appeal to the Land Commissioners against the valuation of the district valuer.

It is to be observed that, under these proposals, the District Valuer is, in the first instance, to assess the market value of the property, presumably as a whole, and as many of the owners of interests in a property may not know all the particulars to deal with the other interests, or with the whole, it must follow that objections must be made to all such valuations if injustice either to the promoters or to owners interested, is to be obviated. In the event of non-agreement there would be an appeal to Land Commissioners, not against the valuation of the various interests, but against the value of the whole property, when, presumably, not only would there be a contest as between the promoters and the owners of each interest, but as between the owners of the various interests themselves. Moreover, the effect of such a method of procedure would be to reduce almost to vanishing point the possibility of arrangements by negotiation between the promoters and the owners of any interest, so that the amount consumed in costs, which the Land Inquiry Committee so much deplore, would be greatly increased. I do not know that as surveyors, merely looking at it from an interested standpoint, we need object; but it would not, I venture to think, be to the best interests of the public or of our profession. I think it is obvious that the scheme suggested by the Land Inquiry Committee is not practicable. There is no doubt that the appointment of a skilled tribunal, upon which the surveyor should predominate, would be best, and, failing this, a single arbitrator. It is, however, particularly essential that questions of value should always and only be determined by a tribunal capable by its experience and personal knowledge of testing the evidence given before it. From their Report the Land Inquiry Committee appear to be driven to the course they advocate by reason of the evidence collected by them which leads them to form the opinion—

that there are strong objections to referring questions such as those arising under the Lands Clauses Acts to professional men in private practice.

In saying this we wish it to be clearly understood that we are casting no slur upon a great profession, whose reputation for integrity stands second to none. But in the case of a surveyor who at one time acts on behalf of some particular body or person, and at another sits as arbitrator to determine some question of value in which the body or person is a party, it would seem difficult to avoid an unconscious bias.

One regrets that the Land Inquiry Committee should consider they had grounds for such expression of opinion. My experience is that it is not the case that a surveyor has a bias because he may have acted at different times for the various parties appearing before him when he sits as an arbitrator. I can only conclude that it is the lack of experience of those who have been responsible for the Report that has led them to the conclusion that surveyors, engaged in active practice, when placed in the arbitrator's chair, are incapable of acting in a strictly impartial manner, and in accordance with the highest traditions of the profession. While we may hold most strongly this view, there is no doubt that to the un instructed mind the extreme evidence given in some cases by members of our profession has given ground to the impression which led the Land Inquiry Committee to the conclusion embodied in the portion of their Report just quoted. Coupled with this is the endeavour to cheapen procedure by limiting witnesses and prescribing a scale of costs. Under the Lands Clauses Act there is no limit to the number of witnesses, although it is not uncommon for the parties to agree as to the number to be called on each side, and this has been extended to the number of counsel. One of the first instances of limiting witnesses by statute is set out in the Local Government Act, 1894, and also embodied in the Small

Holdings and Allotments Act, 1907, where the arbitrator is directed to hear, by themselves or agents, parties interested; but he is not, unless so directed by the Government department, to hear counsel or expert witnesses. The same idea is embodied in the Housing and Town-Planning Act, 1909, but in the Allotments Act, 1887, and the Development and Road Improvement Funds Act, 1909, the arbitrator may determine costs, and "shall have power to disallow as costs of the arbitration the costs of any witnesses whom he considers to have been called unnecessarily, and any other costs which he considers have been caused or incurred unnecessarily." From my experience there is still much room for improvement in limiting the costs in connection with proceedings to determine price; but the entire elimination of the professional witness in determining value is likely to lead in some cases to injustice. I think, however, the tribunal should have power similar to that with which an arbitrator is vested in cases under the Development, etc., Act, 1909, enabling him to disallow witnesses whom he considers to have been unnecessarily called, and also any other costs which he considers have been caused or incurred unnecessarily. Summarising, my conclusions, are:—

1. The Land Inquiry Committee have established their case, that the present method, by means of which promoters now obtain compulsory powers, are notoriously cumbersome and proverbially expensive. Although I am not in complete agreement with them as to the remedies they suggest, I think responsible authorities might be vested with general powers allowing them by resolution to acquire compulsorily such property only as is required by them for the proper discharge of existing statutory duties.

2. I think the Land Inquiry Committee have established their case that the time has arrived when there should be a statutory definition of the basis upon which compensation should be awarded. In view of the fact that the term "value in the market as between willing vendor and purchaser" has now been construed by the Courts, I am of opinion that their suggestion that this should be the basis in the future is one that might be adopted. As, however, compulsory expropriation means that the vendor is unwilling it would appear fair and proper that he should have, in addition to the value in the market as between the willing vendor and purchaser some statutory solatium for being compelled to sell. Although not on the grounds for which it was originally adopted, I think that this solatium might represent 10 per cent. upon the price as determined in accordance with the definition. But the penal clauses of the Housing Acts for insanitary property should be retained, if not strengthened.

3. I think the Land Inquiry Committee have established their case that the time has arrived when there should be an alteration in the normal tribunal for determining price where property is taken compulsorily. The scheme suggested by the Land Inquiry Committee is not a practical one. In my opinion the best tribunal would be one upon which surveyors would predominate; but, failing this, the general adoption of a single arbitrator, who should have complete powers enabling him to disallow witnesses whom he considers to have been unnecessarily called, and also any costs he considers to have been caused or incurred unnecessarily.*

CONCRETE POLES AND THE POSSIBLE MAXIMUM LOADS ON POLE LINES.

It is widely conceded among engineers who are confronted with the task of providing a suitable substitute for the present timber pole that the concrete product is the only practical solution of the problem. The two foremost points in which the concrete pole is superior to that of wood are the facts that a properly constructed concrete pole is practically everlasting, and that almost all such

* We shall give Mr. Mathew's paper next week.—Ed. "B.N."

poles can be designed so as to make them much stronger and far more stable than the timber product. Aside from the actual strength of wires, the stability of all supports for electric conductors is the main factor which governs the length of wire spans, and inasmuch as the stability of concrete poles can be made greatly to exceed that of wooden poles, the fact is probably established that extremely long wire spans will accompany the advent of concrete poles for general use.

Many engineers have published figures representing the possible theoretical loads on pole lines, the main factor in all such calculations being an assumed violent wind-pressure acting against ice-covered wires. In addition to this the assumption is also made that the above conditions may be accompanied with a temperature of 10deg. below zero, and that the consequent contraction of the wires might cause them all to break in the same span. It is claimed in this connection, under the above conditions, with the wind blowing in a direction parallel to the wires, that the maximum load occurs in this direction on the pole next adjacent to the broken span.

The foregoing conditions are apparently very uncalled-for assumptions; statistics have shown that such a simultaneous combination of the elements is a very rare occurrence. No engineer attempts to figure any structure against an earthquake or a cyclone, still, such calamities may occur in any locality at any time, and just as frequently as the foregoing combination of conditions. Viewing the situation from the standpoint of the purchaser who invests his money in the construction of pole lines, one must realise the vast importance of considering the interest on the increased capital which is necessary to make such work proof against conditions which so rarely occur.

Owing to the peculiar action of the catenary curve in horizontally suspended wires, a very slight movement of the wire at its point of attachment to the cross-arms will materially affect the sag at the centre of the span, and it is unreasonable to conceive of any suitable attachment between the wire and the insulator which will not allow such wire to slip, in case of breakage of wire, so that the sag will touch the ground at the centre of span and relieve the pole from about 50 per cent. of the extreme load against which it is usually figured.

The vertical load on any support for electric conductors is of little consequence as compared with the possible side-pull in a horizontal direction at right angles to the wires. A properly designed concrete pole, therefore, should be widest at the ground line and tapering both ways therefrom; provided, however, that the bases of such poles are designed with sufficient area so as to support the combined weight of ice-covered wires. The width of the pole at the ground line should be made so as to resist the horizontal action of wind-pressure blowing at the rate of seventy miles per hour at right angles to wires covered with $\frac{1}{4}$ in. of ice.

Many high-tension transmission lines have been constructed with spans up to 1,200ft. Such long spans are made possible through the use of steel towers with wide bases. There seems to be no authentic reason why trolley-wires for electric railways should not be hung on longer spans than are now being used in connection with standard construction of such lines. The only apparent objections to long spans for such service is the sag in trolley-wires, which must be reduced to a minimum, on account of the limited movement of the trolley pole. Through the use of the well-known catenary suspension, in which the trolley-wire is supported from a messenger cable, the sag in trolley-wires can be eliminated entirely, and the length of spans in such lines is governed only by the economical strength of the messenger cable. Owing to the possibility of cross-currents being caused by the side-sway in telegraph and telephone wires, the use of long spans in this connection has been questioned. It seems reasonable to believe, however, that this objection can be overcome through the use of insulators staggered alternately above and below the

cross-arm, and while we believe that minimum increases in wire spans can be accomplished with telegraph and telephone lines, still there is really no authentic reason against the adoption of increased spans for all concrete-pole lines which are erected for the support of electric conductors.

The development of concrete poles and the improved method of setting them result in extreme stability, greatly increased spans, and a consequent reduction in first cost per mile, through the elimination of many poles, cross-arms, insulators, and labour. For example: An ordinary pole line, using fifty 30ft. cedar poles per mile, set up with cross-arms and insulators attached, ready for wires, costs somewhere about \$50dol. per mile, with a probable life of fifteen years and the possibility of renewing it entirely after every storm of any consequence. Substituting good concrete poles for this same service, using thirty 30ft. poles per mile, set up with all attachments, ready for wires, the cost per mile will not exceed 600dol., and the line will last indefinitely.

In view of the above conditions, it does not require any great amount of forethought on the part of the conservative pole purchaser to realise that concrete poles will eventually not only solve one and all of his present pole troubles, but that, in the long run, a saving of many thousands of dollars can be effected through the elimination of constant maintenance, frequent renewals, and unnecessary first cost of heavy construction.—*Concrete-Cement Age*.

THE HYDRATION OF PORTLAND CEMENT.*

By A. A. KLEIN and A. J. PHILLIPS.

The study of the hydration of Portland cement follows as a natural sequence to the study of its constitution. The latter has been determined by the work of the Geophysical Laboratory on the ternary system lime-silica-alumina, and for that portion of the ternary field in which Portland cement is situated these compounds have been verified by the Pittsburg laboratory of the Bureau of Standards.

In the present paper various hydration experiments were made on monocalcium aluminate ($\text{CaO} \cdot \text{Al}_2\text{O}_3$), 5:3 calcium aluminate ($5\text{CaO} \cdot 3\text{Al}_2\text{O}_3$), tricalcium aluminate ($3\text{CaO} \cdot \text{Al}_2\text{O}_3$), mono-calcium silicate ($\text{CaO} \cdot \text{SiO}_2$), beta-ortho-silicate ($2\text{CaO} \cdot \text{SiO}_2$), gamma-ortho-silicate ($2\text{CaO} \cdot \text{SiO}_2$), and tricalcium silicate ($3\text{CaO} \cdot \text{SiO}_2$), lime burned at different temperatures and ground to various degrees of fineness, and on the following commercial cements, a high silica, a low silica, a high iron, and a high magnesia cement.

The tests consisted of (1) hydration on microscopic slides with water, without access of air; (2) hydration with superheated steam in a cylinder, according to the method proposed by Bied; (3) hydration in an autoclave, and (4) moulding with limited quantities of water, approximating those used in normal consistency mixes. Lime-water and plaster-of-Paris solution were also used as hydrating mediums. Petrographic methods were employed to determine the hydration processes and the final products.

The only crystalline product observed in the hydration of the aluminates was hydrated tri-calcium aluminate ($3\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot x\text{H}_2\text{O}$), and this is only formed with a large excess of water. It crystallises in hexagonal needles, plates, and spherulites, and is uniaxial positive. The refractive indices are $=1.552-.003$ and $=1.535-.003$. The 5:3 calcium aluminate and mono-calcium aluminate split off amorphous hydrated alumina and form the crystalline hydrated tri-calcium aluminate. The hydration of the aluminates commences quickly in all cases; but with restricted amounts of water the unhydrated grains become coated with the amorphous form, and further hydration is more or less retarded, this amorphous form slowly changing to the crystalline form. With steam at atmospheric pressure the weakly basic aluminates do not hydrate above 110° ; but

the more basic ones absorb water up to 140° , tri-calcium aluminate containing high-burned free lime absorbing water even at 175° .

The hydration of the aluminates in lime water reveals no new products; but in plaster solution, in addition to the same compounds formed with water, there is a compound observed with a formula $3\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot \text{CaSO}_4 \cdot x\text{H}_2\text{O}$ —tri-calcium sulpho-aluminate, usually referred to in cement literature as "sulpho-aluminate." This compound is identical for three aluminates and crystallises in long prismatic needles. The double refraction is low, the character of the principal zone negative, and the extinction parallel. The indices of refraction are less than 1.48. It is biaxial positive with a large optic axial angle. Its formation is only incidental in the retardation of the initial set caused by the gypsum. In the autoclave, crystals of both the sulpho-aluminate and gypsum are destroyed.

Burned lime hydrates with an excess of water to either the crystalline or amorphous form of lime hydrate. A preponderance of the former is produced where the lime is coarse and high-burned, while the formation of the amorphous form is favoured by fine grinding and low burning. Crystallised lime hydrate occurs as flaky hexagonal crystals or as hexagonal prisms with excellent cleavage parallel to (0001). It is uniaxial negative, and the refractive indices are $=1.581-.002$ and $=1.559-.002$. In the autoclave amorphous lime hydrate does not change to the crystalline form; but free lime may yield crystals of hydrate whose size depends upon the length of time of reaction, temperature, and pressure.

The mono-calcium silicate and the gamma-ortho-silicate do not hydrate, while the beta form of the latter hydrates but slightly with water after long periods. Lime water and plaster solution do not materially increase the hydration, whereas a solution of the calcium aluminate gives the maximum hydration and best-appearing test pieces. The 28-day test-pieces of beta-ortho-silicate and the aluminates, while exhibiting fairly good rigidity, have by no means the strength of corresponding neat cement briquettes. The aluminates are completely hydrated, but the beta-ortho-silicate shows only a comparatively slight hydration. The hydration product of the silicate is amorphous hydrated ortho-silicate, there being no lime hydrate split off and no needles of hydrated mono-calcium silicate formed, as noted by others.

The tri-calcium silicate hydrates readily and quickly with all concentrations of water, the products of hydration being crystallised lime and amorphous hydrated ortho-silicate. Moulded specimens set hard in five hours, and show no disintegration after twenty-eight days in water. It has no favourable effect on the hydration of beta-ortho-silicate. Mixtures of it and the aluminates show first the beginning of hydration of the aluminates, followed shortly by the hydration of the silicate. Moulded specimens of these are dense, hard, and strong, comparing very favourably with neat cement briquettes.

On the hydration of cement, the first constituent to react is the aluminate, with the formation of amorphous hydrated tri-calcium aluminate, with or without amorphous hydrated alumina. The sulpho-aluminate crystals are also formed, and the low-burned or finely-ground lime hydrates. This occurs within a few hours after the cement is gauged. The next compound to hydrate is the tri-calcium silicate. This commences within 24 hours, and is generally completely hydrated within 7 days. Between 7 and 28 days the amorphous aluminate commences to crystallise, and the beta-ortho-silicate, the least reactive compound, begins to hydrate. The 24-hour strengths are due mainly to the hydration of the aluminates and of any fine-grained, low-burned lime present. The large increase in strength between 24 hours and 7 days is due mainly to the tri-calcium silicate hydration. The increase between 7 and 28 days is due to the hydration of the beta-ortho-silicate. Where there is a decrease of strength during this period it is due to the hydration of very high-burned free lime, as

* U.S. Bureau of Standards Notes.

in very high-burned, high-limed cements, or to the crystallisation of the aluminates, as in high alumina cements. The iron compounds in a cement are resistive to hydration. It does not form crystalline hydration products, but occurs as a rust-like material.

The initial set of cement is affected by the action of small amounts of electrolytes in retarding coagulation of the aluminate material. With a limited amount of water, such as used in normal consistency mixes, the aluminates coagulate and separate from supersaturated solutions as amorphous bodies, the rate of coagulation being affected by such small quantities of electrolyte as to nullify the possibility of the reaction being solely a chemical one.

Failure of cement in accelerated tests is due to the growth of large lime hydrate crystals. The disrupting action results from the pressure caused by growing crystals. Cement will fail in the boiling test which contains lime sufficiently fine and high-burned, so that during boiling it hydrates and crystallises. The growth of crystals is sufficient to cause disintegration. When a cement passes the boiling test, but not the autoclave test, it contains lime so coarse or high burned as not to hydrate in the boiling test, but only in the autoclave, due to the high temperature and pressure employed. Some cements will pass either test only after aging. In this case aeration with insufficient water to allow solution and crystallisation causes the lime to hydrate as amorphous hydrate, and in the accelerated tests there is no crystallisation and no disintegration.

The reactions when cement is subject to the autoclave test are not abnormal. The disintegration action attributed to the crystallisation of the sulpho-aluminate has been greatly exaggerated.

LONDON COUNTY COUNCIL.

At the meeting of the London County Council on Tuesday the Education Committee reported that they had selected certain schools—namely, Winstanley-road, Battersea; the Chancer, Bermondsey; and Dempsey-street, Stepney, at which minor improvements should be carried out, at a total expenditure of £1,313. They stated that the Barrett-street elementary school, in West Marylebone, which is being adapted and equipped as a trade school for girls, will be ready for occupation at Easter next.

Steps are being taken for the sifting of the Council's documents, with a view to those coming within the definition of "records" being preserved, catalogued, and arranged in the record rooms at the new County Hall, where, it is recommended, access may be had to them where not detrimental to the public interest. The records are to include all documents of historical, antiquarian, or archaeological interest; plans of buildings, sewers, tunnels, roads, bridges, and other works carried out by the School Board for London, the Metropolitan Board of Works, the various Sewers Commissions, the Metropolitan Commission of Sewers, the Justices, the Wandsworth Common Conservators, etc., or any committee thereof; and plans of buildings, sewers, tunnels, roads, bridges, and other works carried out by the Council or any committee thereof, or by an officer acting under specific delegated powers.

The Improvements Committee recommended the contribution of two-thirds the cost, estimated at £1,600 in all, of widening Fulham-road by setting back the frontages of Nos. 555 to 561, which immediately adjoin the Fulham Town Hall, thus increasing the width of the thoroughfare from 17ft. to 55ft.

The Highways Committee reported in favour of the reconstruction of tramways in Bardon-road and Grove-road, Stepney, at an expenditure of £79,250. Provision was made in the estimate for £2,855 for cables and ducts, and £7,600 for cars. The report will be considered at the next meeting.

Approval was given to the London and District Electricity Supply Bill, after a long discussion. Mr. Cyril Jackson defended the measure as providing a fair basis of compromise, but promised that if by the time it

reached second reading it was discovered to be highly contentious, and was attacked by the borough councils and other authorities, it need not be proceeded with further. It would not be desirable, in such circumstances, to go to great expense. Complaint was made by Mr. Gordon that the scheme did not provide for municipal responsibility. The scheme was amended to provide that fourteen out of the eighteen representatives of the County Council on the authority should be members of the Council. In answer to Mr. W. C. Johnson, Mr. F. St. John Morrow, the chairman of the Parliamentary Committee, said the Parliamentary notice of the Bill would cover its alteration so as to give the authority itself power to work the undertaking.

It was decided to inform the borough councils of Battersea, Fulham, and Wandsworth that the Council, while considering that the widening of Putney Bridge should be carried out at as early a date as possible, did not see its way to effect the suggested improvement forthwith. On the motion of Major Levita, however, the Improvements Committee was instructed to provide for the requisite preliminary works in order that the widening might be commenced whenever ordered by the Council.

At the meeting on Wednesday of the London Education Committee, the Buildings Sub-committee reported that in connection with the new school to be provided for 100 physically defective children in St. Mark's-road, Kensington, they had considered plans of a somewhat less expensive scheme than that already approved, and that the cost was now estimated at £5,000. Preliminary plans for the erection of a new school for 868 children at the "Stowage," Greenwich, were presented for approval. The sub-committee recommended the acceptance of the following tenders: For rebuilding Southampton-street School, Camberwell, the tender of Messrs. Rowley Bros., Wood Green, at £22,082; for the erection of a new school for 120 physically defective children at Meeting House-lane, Peckham, the tender of Messrs. S. N. Soole and Son, at £5,242 19s. 7d.; for the enlargement of Redman's-road school, Stepney, the tender of Messrs. Allen Fairhead at £4,760. The sub-committee further recommended the acceptance of the tenders of Mr. W. Freer, at £663, and Messrs. W. G. Cannon and Sons, Ltd., at £840, for installing heating apparatus in the Grafton-road, Islington, and the Exmouth-street, St. Pancras, schools respectively; that of Mr. W. Pollock, at £351, for adapting premises in Deansfield-road for secondary school purposes in connection with the county secondary school for girls, Eltham; that of Messrs. Gates and Sons, for the execution of general repairs and minor new works at the Portslade Industrial School, Sussex; those of the Thames Bank (Blackfriars) Iron Co., Ltd., at £259 and £299, for installing heating apparatus at the Halstow-road, Greenwich, and the Hotham-road, Wandsworth, schools respectively; and that of Messrs. H. J. Cash and Co., Westminster, for heating works at Silwood-street, Rotherhithe, at £398.

Mr. H. L. Florence, F.R.I.B.A., President of the Architectural Association in 1878-79, has been elected Master of the Haberdashers' Company.

It was reported to the Metropolitan Water Board at their meeting on Friday that the borough council of Wandsworth are about to widen the bridge carrying High-street, Putney, over the London and South-Western Railway, which will necessitate the alteration of the Board's three 24in. mains, two 12in. mains, and one spare 24in. main crossing a private bridge separated from the existing roadway by a parapet-wall on the west side of High-street. These mains convey water from the Putney Heath reservoir to the Chelsea area of the western district, and in lieu thereof the Water Board decided to lay in steel three 24in. mains and two 12in. mains for immediate use and two 18in. mains for future use across the reconstructed bridge. The entire outlay to which the Board will be put will be repaid by the borough council.

Our Illustrations.

DUNBLANE CATHEDRAL: CHOIR-STALLS, ALTAR-SCREEN, AND ORGAN-CASE.

The general view, looking east, and the detail single-page plate given to-day illustrate the completed set of choir-stalls and sanctuary mural screen which Sir Robert Lorimer, A.R.S.A., designed and superintended for Mr. John Graham Stewart, who presented these additions to Dunblane Cathedral. The architect has produced a specially interesting and admirable work in a dignified way, with due regard to the objects in view and the material employed, the chief merit of the whole being that the furniture befits its position. These stalls are well worthy of the architect of the "Thistle Chapel," which we illustrated in the BUILDING NEWS of July 21, 1911. The east wall screen at Dunblane has been erected in memory of Bishop Robert Leighton (1600-71). The Seven Acts of Mercy and Beneficence figure among its enrichments, carved in relief, below the vaulted canopy at the top. Sir Robert Lorimer is responsible for the choir-stalls, organ-case, and this screen. Messrs. Clow, also of Edinburgh, carried out the work and carvings, the whole of the fittings having been lately finished. Messrs. Bedford Lemere and Co. took these fine photographs. A double-page perspective from south, with plan of Dunblane Cathedral, as restored under the direction of Sir Rowand Anderson, LL.D., appeared in our issue of Dec. 1, 1893; drawing of the exterior and a plan by Mr. J. B. Tyerman, and an interior view by Mr. J. S. Gibson, of Dundee, were given in our number for July 24, 1885. The west front was illustrated from a sketch by Mr. W. Ferguson in our pages on Dec. 14, 1878; an elevation and details of the same façade, by Mr. E. F. C. Clarke, in that of May 20, 1870; and the nave and south aisles, also by Mr. E. F. C. Clarke, in that of Oct. 14, 1870; the fine Memorial to the Stirlings of Keir, on the east wall of the north nave aisle of the cathedral, was given in our issue of March 22, 1912.

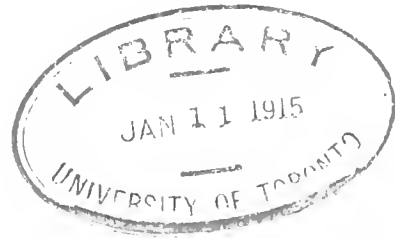
ST. MARK'S CHURCH, HALL, AND VICARAGE, CAMBERWELL, S.E.

The existing buildings, erected in 1881 to the designs and under the supervision of the late R. Norman Shaw, R.A., consist of the east end of the church, including the chancel, organ-chamber, clergy vestry, and two bays of the nave and aisles; with the parish hall and clubrooms on the south side. The new works now illustrated provide for the completion of the church by the addition of two bays to the nave and aisles, with a western tower, lead spire, and porches. At the east end the existing organ-chamber is enlarged to provide for a Lady-chapel and the organ-chamber and choir vestry are formed in the existing south transept. We give a plan showing these additions, which will increase the seating accommodation by 550. A vicarage is to be erected facing west, on a site adjoining the hall, and caretaker's apartments are to be formed in the existing roof over the club-rooms at that end. The existing west-end of the hall buildings and the new vicarage have been embodied under the motif, to give emphasis to this important elevation towards the street. Externally the materials to be used are red or brinded bricks, with stone dressings; internally, the walls and piers of the nave and wide aisles are to be faced with red bricks and ceiled with a groined wooden vault, on the lines of the existing work. The architects are Messrs. Creed and Heal, of 5, Verulam-buildings, Gray's Inn, W.C. The drawing which we have to-day reproduced was shown this year at the Royal Academy Exhibition.

"BUILDING NEWS" DESIGNING CLUB

(The three designs illustrated are described in our referee's report on p. 768.)

A fresh scheme for the sewerage of Bulkington has been prepared by Mr. F. C. Cook, surveyor to the town council of Nuneaton.





Journal Lemercier & Co., Photo

DUNBLANE CATHEDRAL: NEW CHOIR STALLS, ALTAR SCREEN

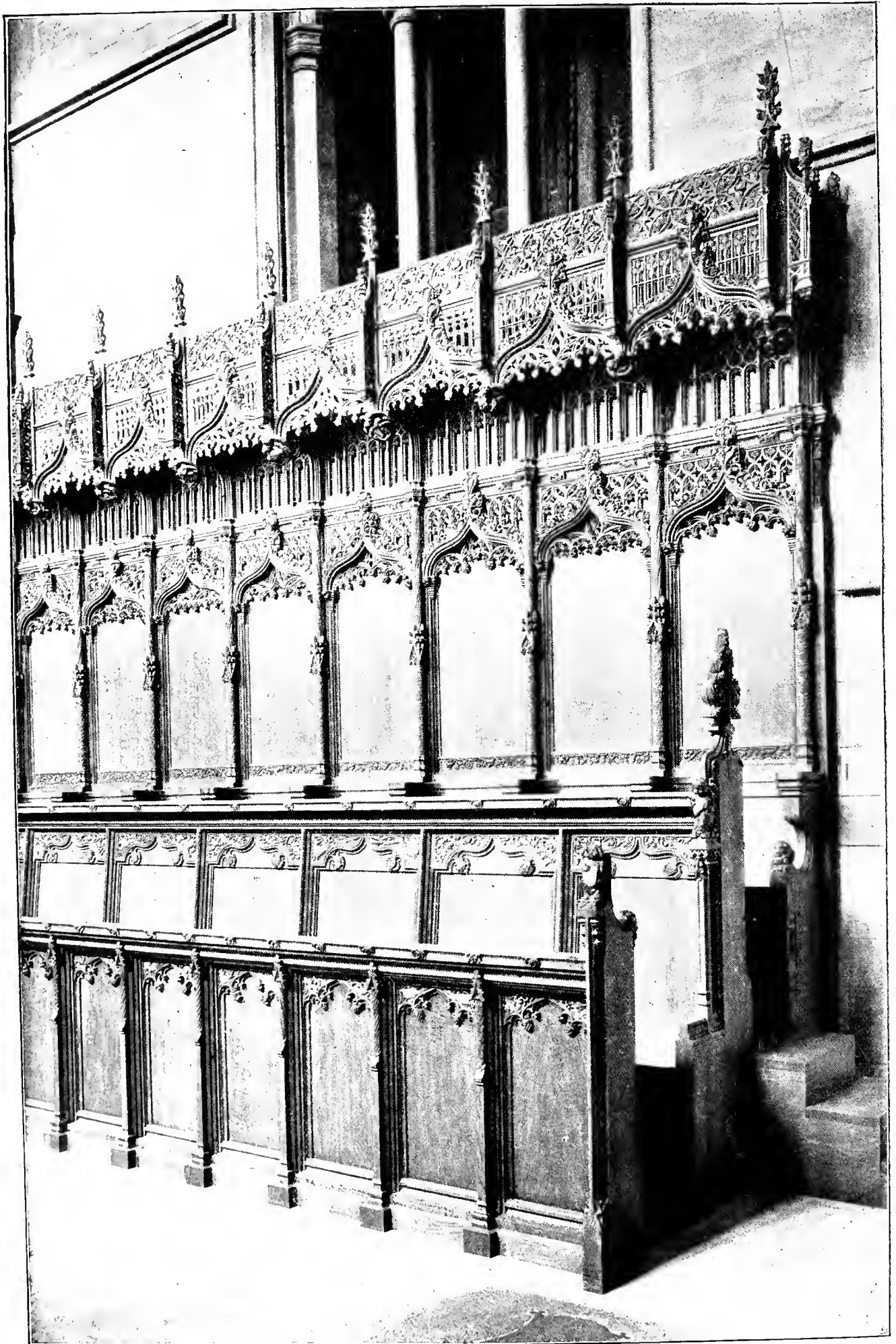


ND ORGAN CASE.—Sir ROBERT LORIMER, A.R.S.A., F.R.I.B.A., Architect.



779-782.

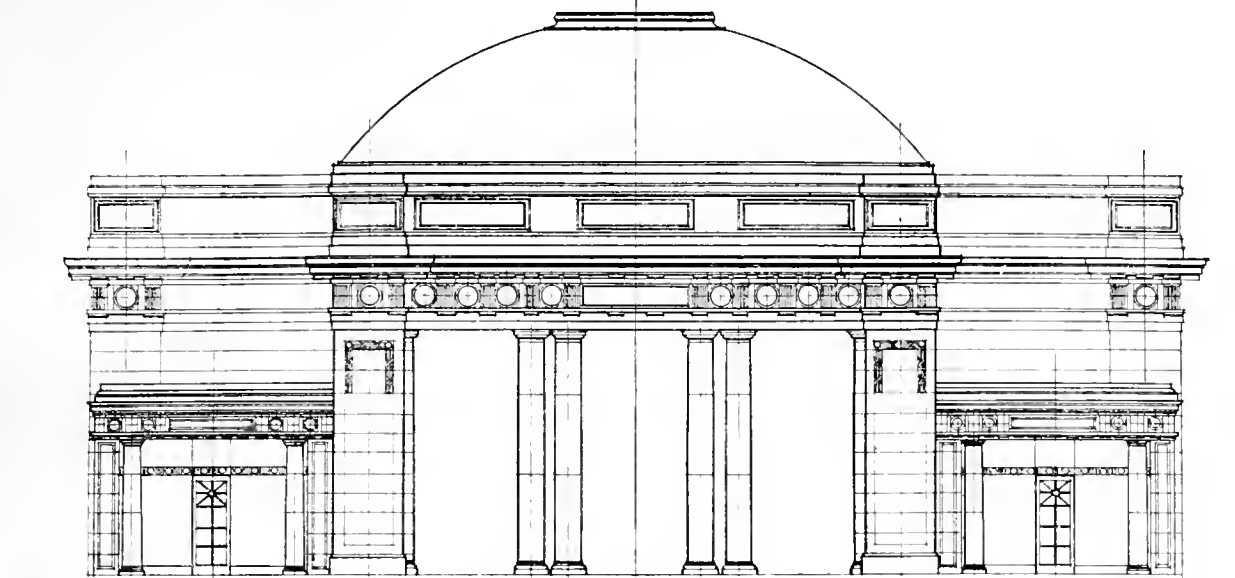




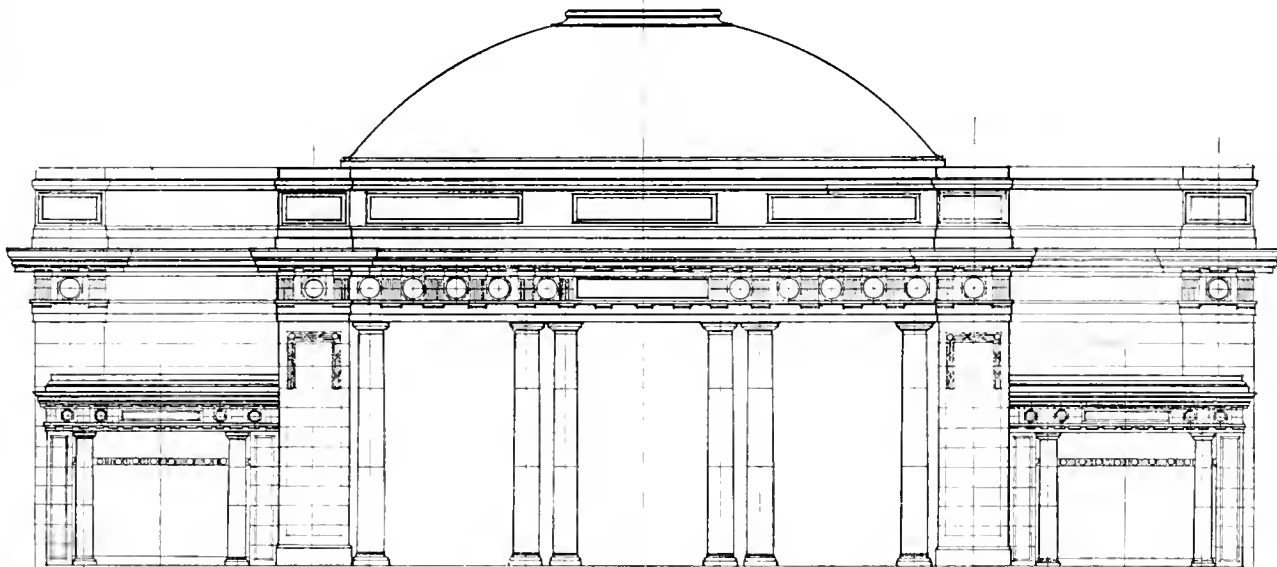
Balfour Lemser & Co., Photo.

DUNBLANE CATHEDRAL: DETAIL OF NEW CHOIR STALLS.

SIR ROBERT LORIMER, A.R.S.A., F.R.I.B.A., Architect.



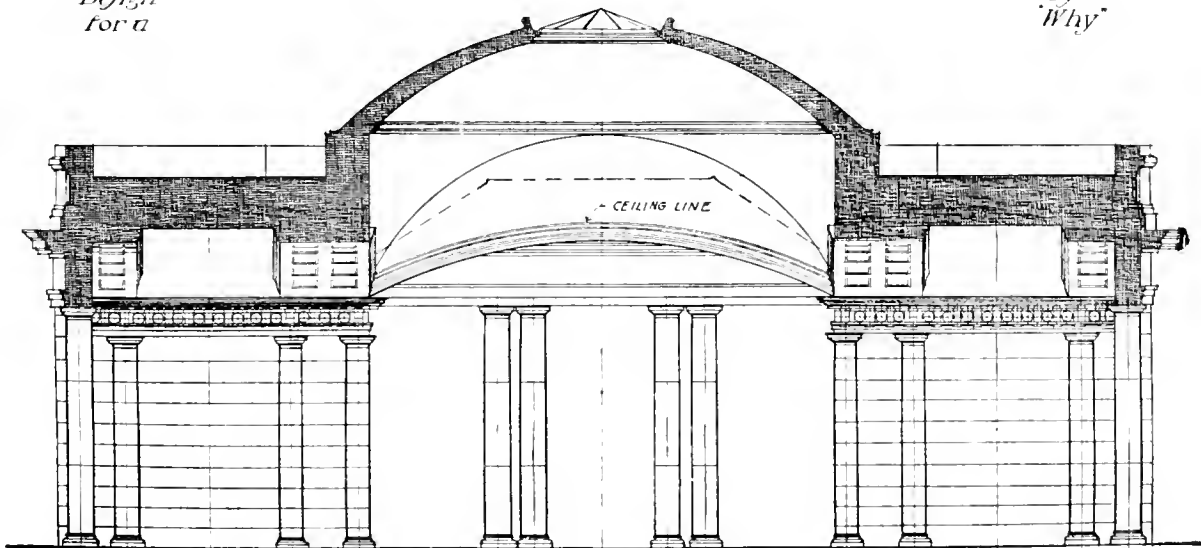
Front Elevation



Side Elevation

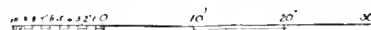
*BNDG
Design
for it*

*'Market Hall'
by
'Why'*

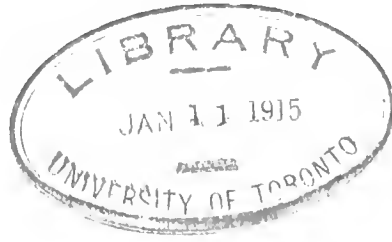


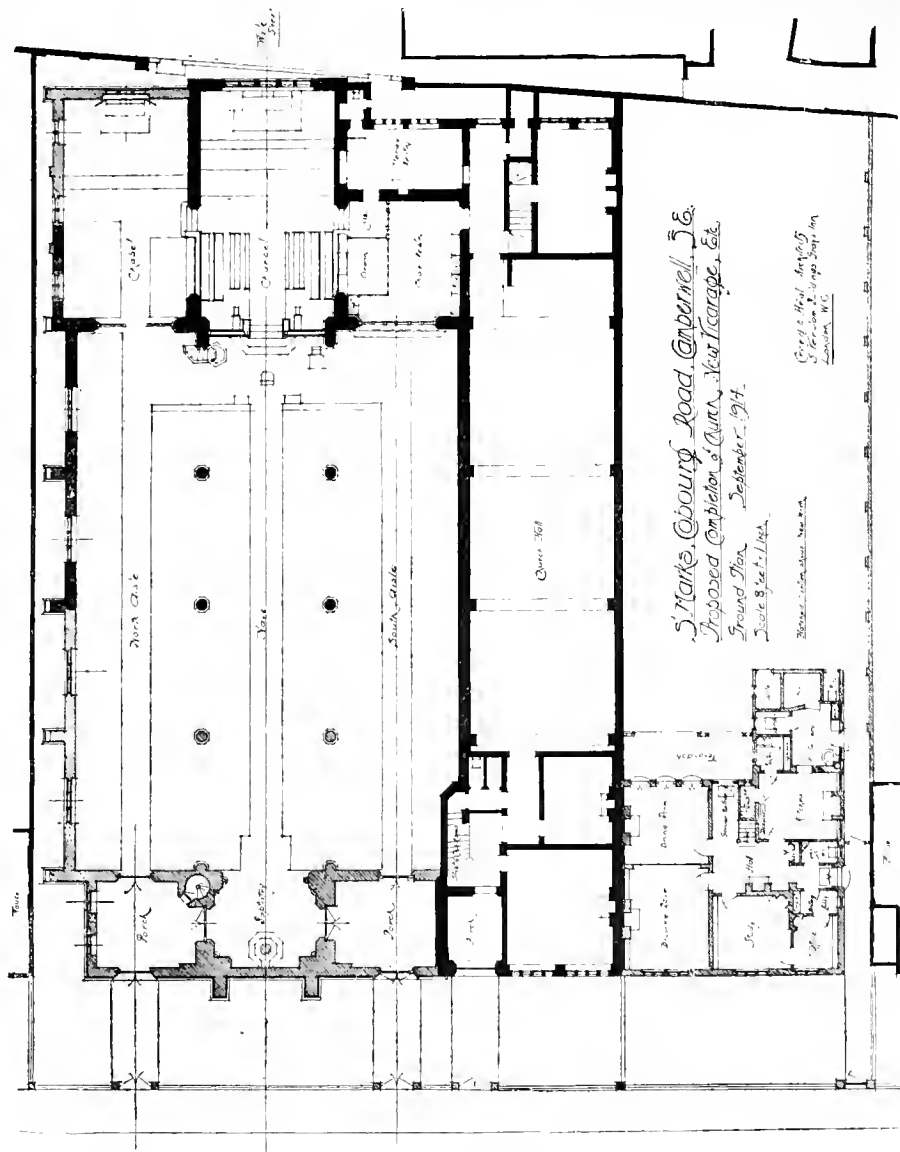
PLACED FIRST

Section A.A.





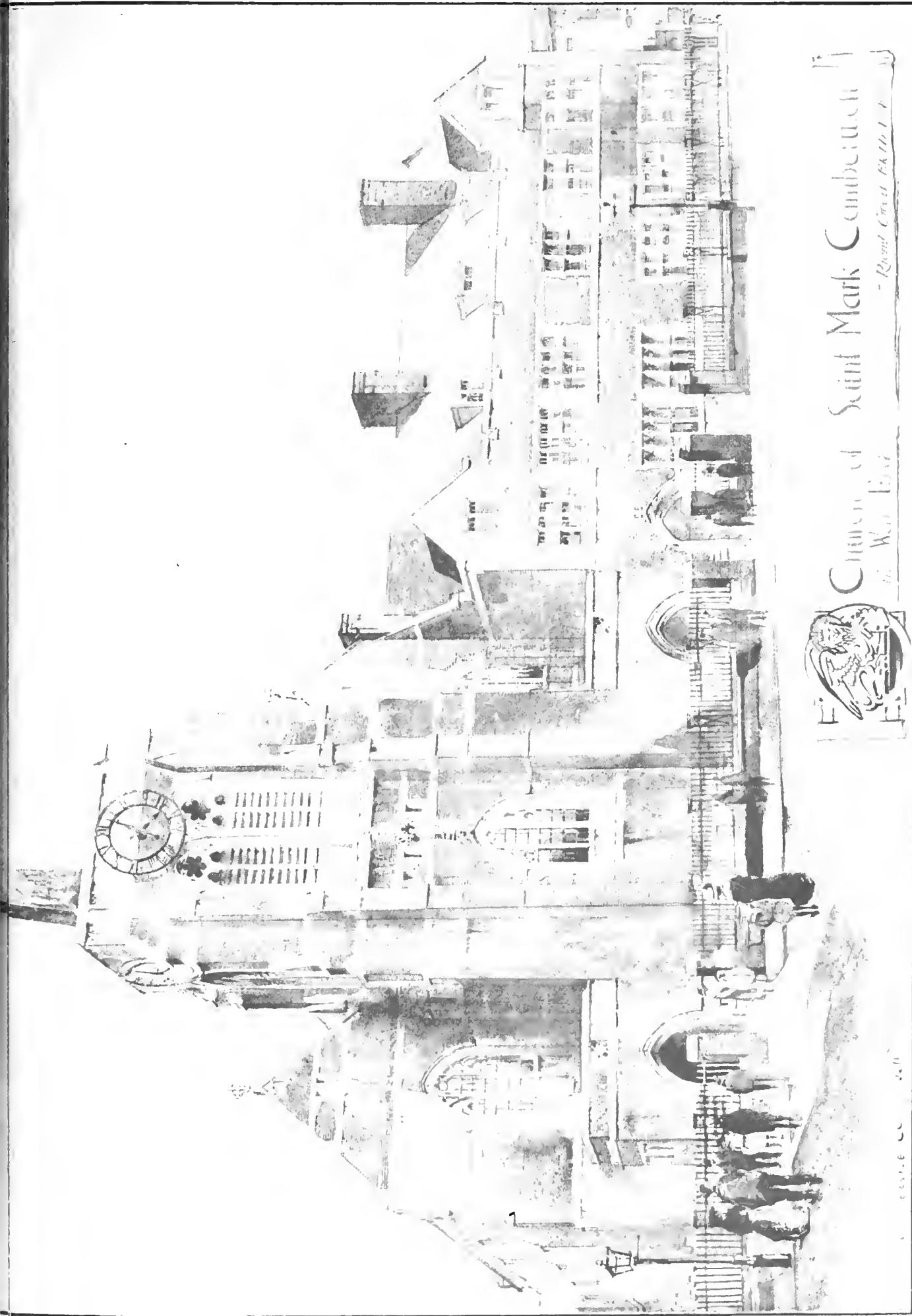




*S. Marks, Courage Road, Camberwell, S.E.
Proposed Completion of Quare, West Garage, Etc.
Ground Plan September, 1914.
Scale 3/16" = 1'.*

*Prepared by
S. Marks & Co. Ltd.
London, W.C.*

Revised plan from New York



Church of Saint Mark Camberwell

in West End

— Royal Circuit 1861 —

CHURCH OF ST. MARK, CAMBERWELL, PARISH HALL, AND VICARAGE.

Messrs. RICHARD CREECH, F.R.I.B.A., and A. V. HEAL, A.R.I.B.A., Architects.



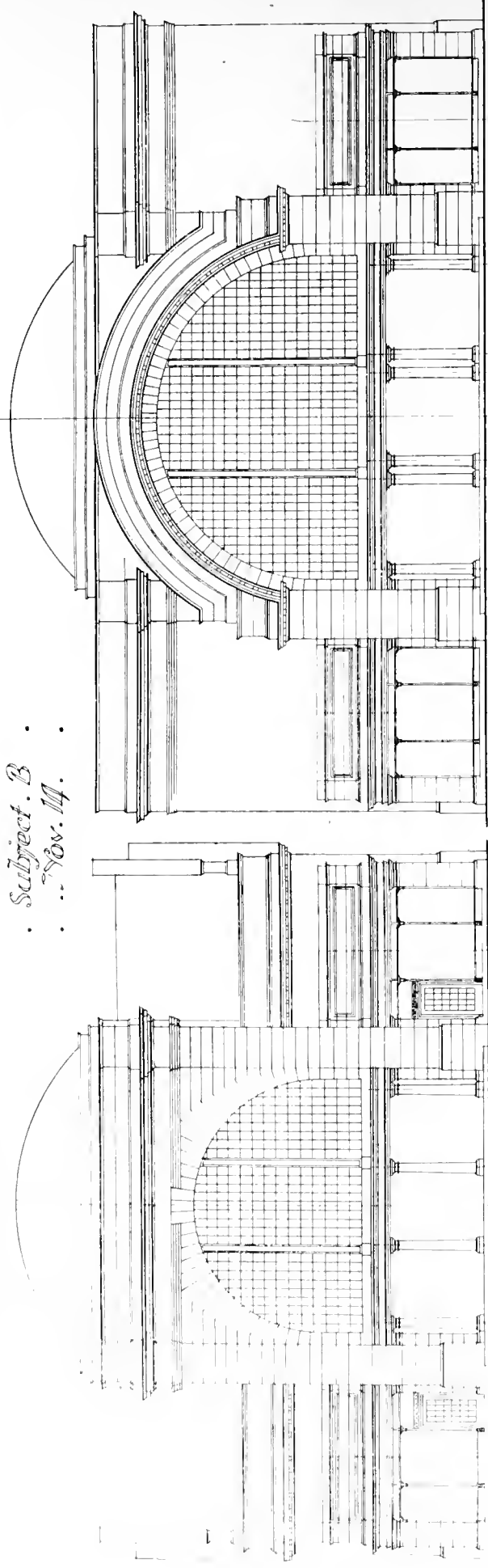
787-790.



SOUTH ELEVATION.

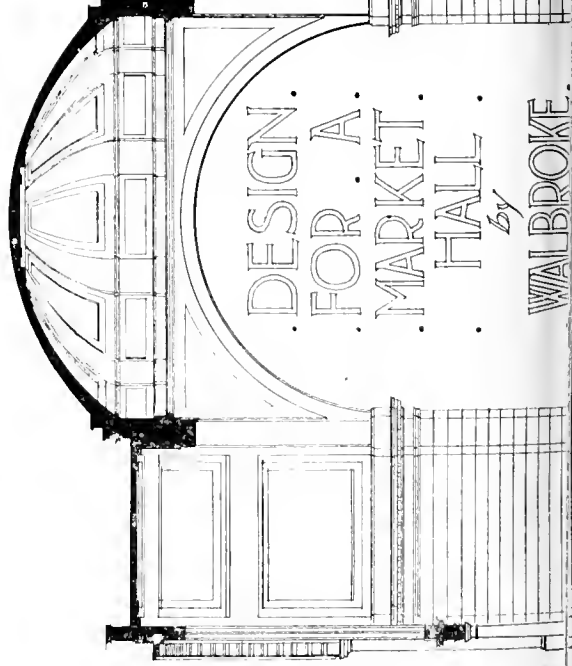
B.N.D.C.
Subject B
Nov. 14.

WEST ELEVATION.

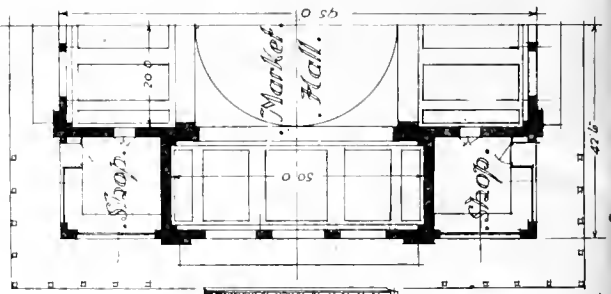


PLACED THIRD

CROSS SECTION.



HALF GROUND PLAN



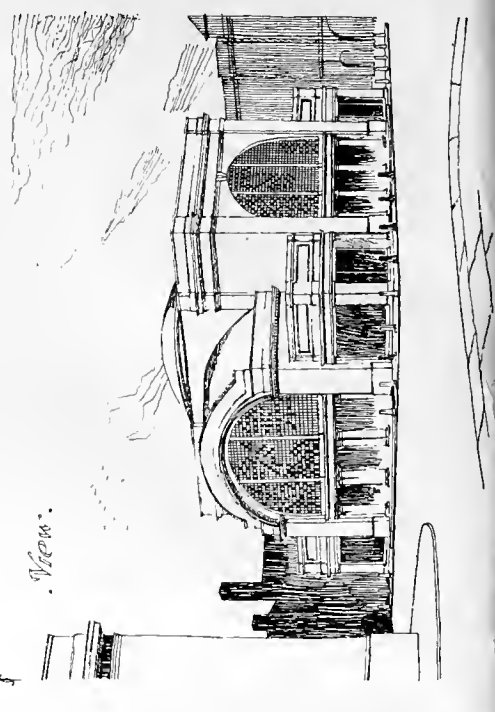
Scales of Feet.

Elevations &c.

Plans



View.

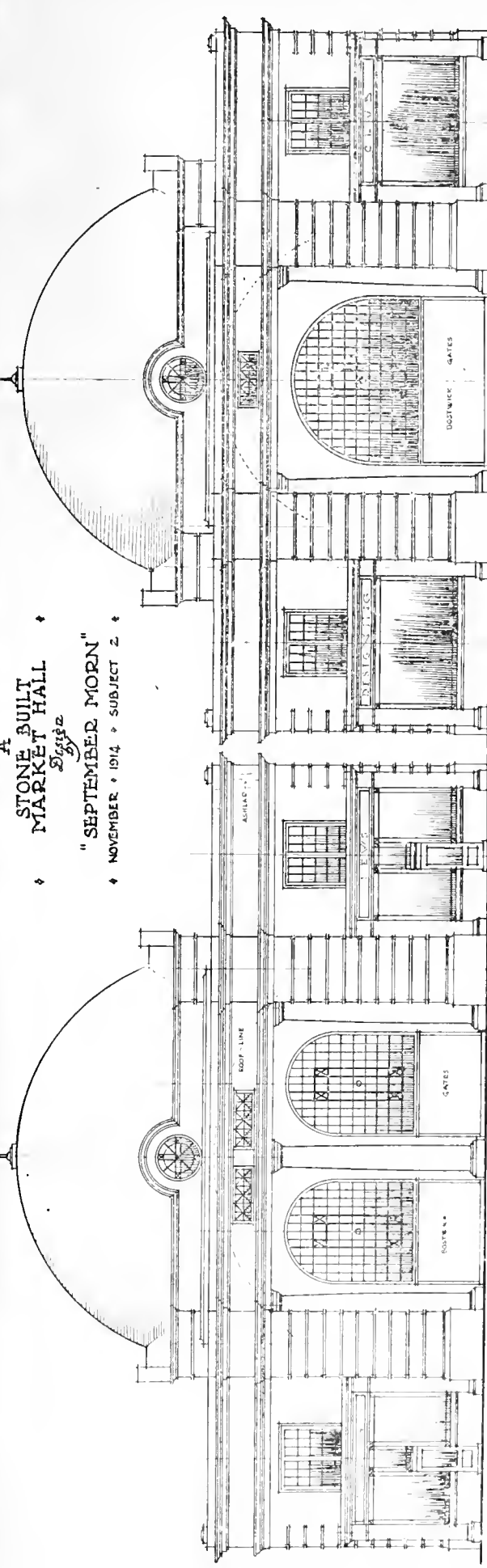


PLACED SECOND

B.N.D.C.

STONE BUILT MARKET HALL

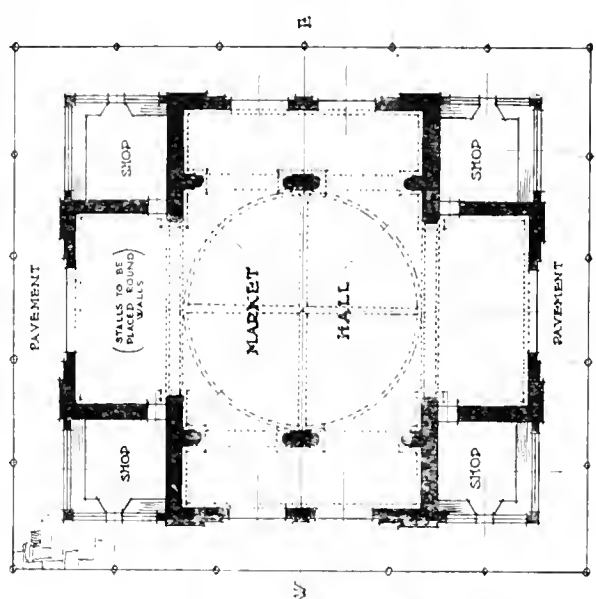
"SEPTEMBER MORN" NOVEMBER 1914 SUBJECT 2



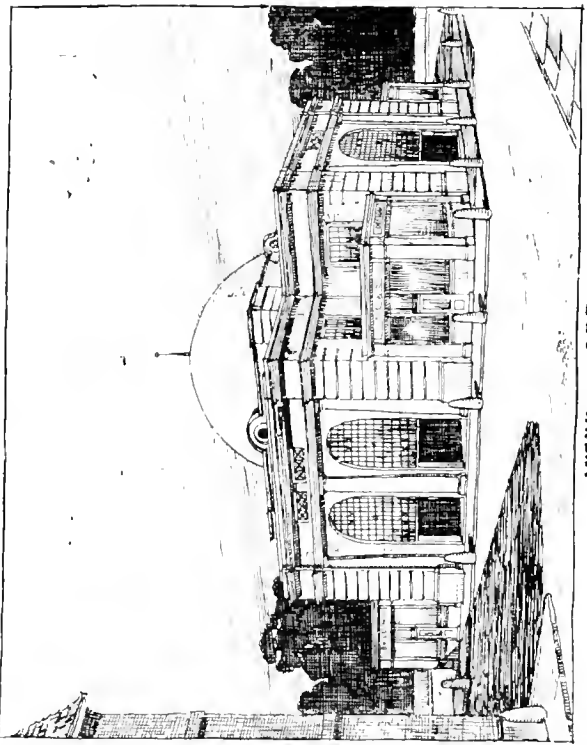
WEST ELEVATION

NORTH ELEVATION

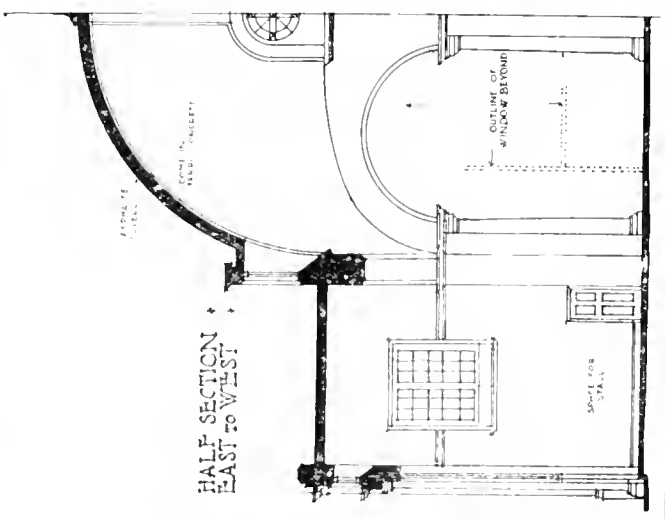
SCALE IN FEET



PLAN

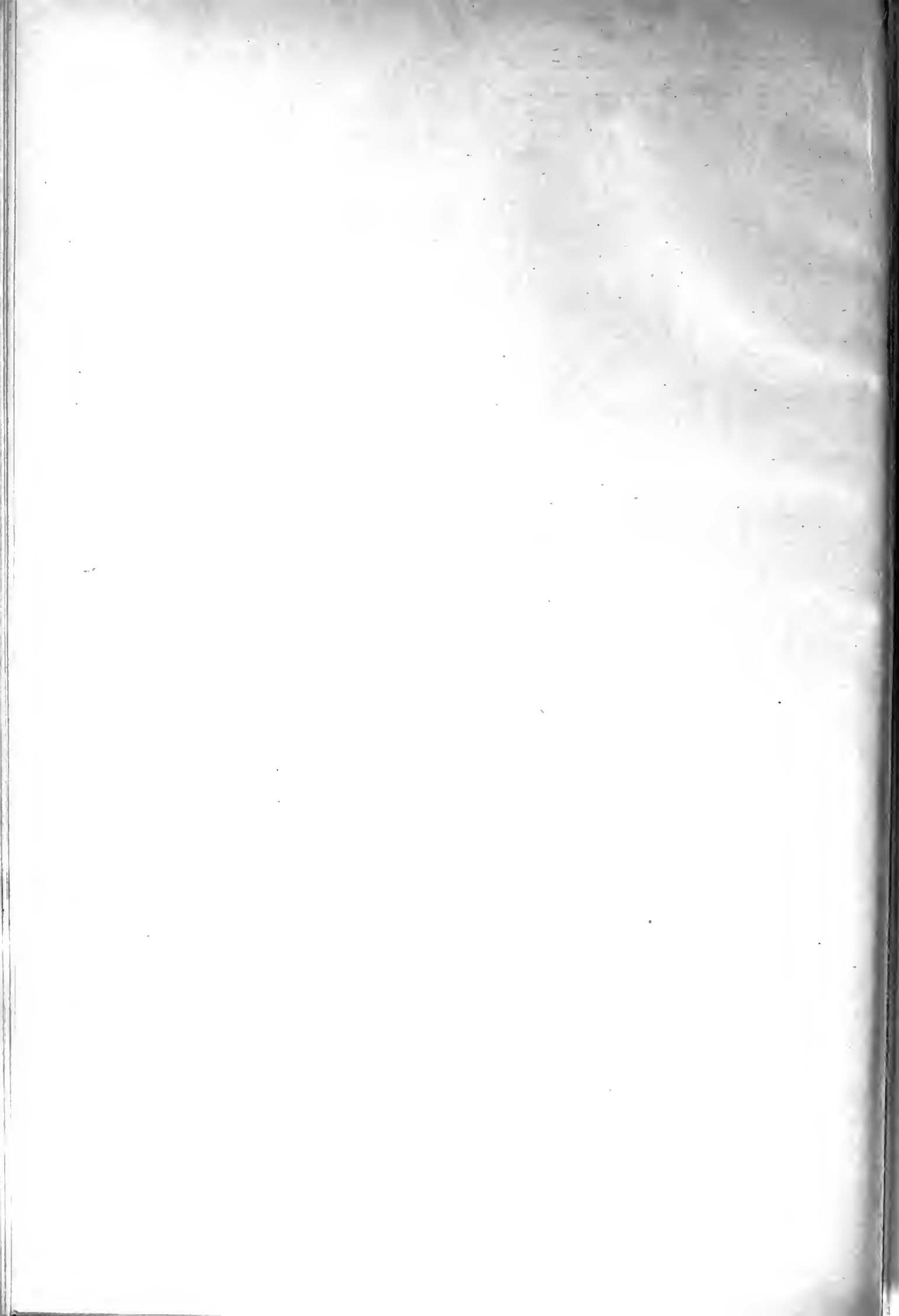


VIEW FROM S.W.



HALF SECTION EAST TO WEST

"BUILDING NEWS" DESIGNING CLUB: A SMALL MARKET HALL. Designs by "SEPTEMBER MORN" (Placed Second) and by "WALBROKE" (Placed Third).



Currente Calamo.

"The Acquisition of Land by Public and Quasi-Public Bodies" was the large subject discussed on Monday evening at a general meeting of the Surveyors' Institution. It is undoubtedly a matter of pressing importance, and deserves to be dealt with thoroughly by experts. It has taken a long time to get near those first principles of equity upon which it should be considered. For centuries our landowners made our land laws, and when, in later days, public and quasi-public bodies came into being, such as municipalities and railway companies, who were desirous of acquiring land, the owners were found to be holding such strongly fortified positions that approach was well-nigh impossible. The common-law rights of individual ownership had, however, gradually to give way before the march of public policy. But so deeply entrenched were the landowners, and so well protected were they behind their barriers of legal authorities, that every assault could only succeed after hard fighting. The fact that a Land Inquiry recently made a report full of valuable conclusions and recommendations, which have still to be accepted and carried out, shows that there is yet much to be done before the line of justice, as between owners and public bodies, can be said to have been fairly laid down. Mr. Andrew Young, at this meeting, read a paper upon the acquisition of land by public bodies, from the point of view of the promoters, which shows all that business ability and experienced grasp of this large and difficult subject that are needed nowadays. Indeed, he went through the whole matter in so patient and practical a way that his paper will be read with extreme interest by the whole of the profession.

Special Acts of Parliament should certainly be no longer needed by public bodies as to the acquisition of land. The costliness and delay of this procedure are both simply scandalous, though Parliamentary agents and their counsel may, and do, thereby easily make fortunes. Then as to the basis of compensation, the only fair value is the market value as between willing seller and buyer. This means value in an open market, which is not always quite the same thing as "value to the owner," the phrase now often employed. It is recommended that the tribunal for finally assessing the sum to be paid in cases of compulsory purchase should be the Judicial Land Commission. But this proposal begins by the suggestion that the District Valuer shall first assess the value of the land to be bought in his locality, subject to an appeal to the Commissioners. Now, it cannot be said that these District Valuers, hurriedly appointed under the Great Budget, have inspired confidence in owners or in anyone else. Neither side would accept their estimate, and so every case would, of course, have to go to the Commissioners. At present an ordinary jury often tries these disputes, sometimes with ludicrous or startling results. A single arbitrator is rarely found satisfactory; but a tribunal of three or five expert surveyors—the decision of the majority of them to be binding—would seem to us more likely to succeed and work out well. All questions of costs and as to witnesses and counsel should also be in their discretion, while, of course, there would always remain the usual right of appeal to the High Court.

Another paper, read by Mr. L. O. Mathews at the same meeting, is also very interesting. To some extent he took the opposite view and spoke for the owners. But both these papers are written upon the basis of a businesslike desire to deal fairly with all the practical difficulties. It is common ground that reforms are needed as to the acquisition of land by public bodies, and that it could well be along the lines of the committee's report. So it is also agreed that an assessment by a District Valuer would serve no useful purpose. Indeed, it is clear that this would soon become only another official form, merely causing delay and expense. At present 10 per cent. is added to the estimated value in every case of compulsory sale. This addition, which began many years ago as a round sum to cover costs, has now, by usage, grown to be customary as a part of the price. The report advises its being abolished altogether, which Mr. Mathews considers to be doubtful policy. Mr. A. Young proposes, as a compromise, that it should only be claimable by an unwilling vendor. But, then, if this were so, few vendors would be willing, at the cost of 10 per cent. upon the market value? The recommendation that a public body should be able to acquire a part only of the owner's land is generally supported, so long as compensation is given for the depreciation of the part that is left, as well as value for that which is taken, which seems fair enough. As to betterment, although the ethical and logical theory is sound, its practical realisation has been found so unsatisfactory as to leave it outside most business calculations.

We hope all architects and builders will study carefully Professor Percy Groom's report, given elsewhere, on the respective merits of Austrian and British oak. Few, comparatively, know the splendid work Professor Groom and his confrères are doing at the Royal College of Science and Technology. That institution and its teaching staff have made it no longer necessary, as it was ten years ago, for young British students to go to Charlottenburg if they really wanted to complete their technological studies. The work there in every department is of the most practical nature, and some of the very best men in the realm are engaged. The resources of the school are totally inadequate, and they ought to be increased tenfold. We have known South Kensington for sixty years and have had some hard things to say in past years about some of the "Research" cultivated there. All the more delighted, therefore, were we by the agreeable contrast revealed at our first visit to the school, and all the more earnestly do we endorse Professor Groom's final appeal elsewhere for the encouragement of organisation and the businesslike and profitable recognition by all concerned of the fact that the British Empire possesses a veritable wealth of decorative and furniture woods, and that if these were properly made known we need never buy a single plank from the foreigner.

"That the Board of Trade must be reorganised and the Consular Service put on a business basis, if Britain is to get the full benefit of the trading opportunity now offered," was debated by the British Engineers' Association at Manchester on Tuesday, and unanimously affirmed. Most people will agree. Established by Cromwell, and confirmed in 1660, it was 1786 before the Board assumed anything like its present

form. The Railway Department was added in 1840, the Marine Department in 1850, the Harbour and Finance Department in 1866, and the Labour Department more recently. The Board also controls the Patent Office and the Bankruptcy Board, and lately we have had an Exhibition Department tacked on to it. The Consular Service, speaking generally, is better than it was. Until very recently the British Consul-General for the German Empire was not British, but a German, and one of the recommendations of a Parliamentary Commission on the Consular Service in 1903 was to the effect that resident foreigners were useful as British Consuls; possibly it was meant only in unimportant localities and in countries which did not compete keenly with us. As the main objects of the Board of Trade and the Consular Service are, or should be, the facilitation of trade, the Engineers have done well to start a proposition which we hope will be seconded by every chamber of commerce and representative trade organisation in the kingdom.

A pregnant pamphlet is issued under the authority of the High Commissioner for Australia, from 72, Victoria-street, S.W., which all should read who are discussing the capture of German trade. Sir George Reid points out that the least Australia expects in return for her services to the Empire is a friendly attitude here in official and trading circles towards Australian products when they reach their patriotically enforced market in the Mother Country. In this matter surely some course might be adopted to give effect to a real preference. If it can be done without seeming to infringe the political principles of a party and established rules under which tenders for supplies are invited, there should be prompt action. Before the war the five best consumers of Australian exports were Great Britain, Germany, France, Belgium, and the United States. Germany was, next to Great Britain and France, Australia's best customer. Her ports are now closed. Australia's trade with France and Belgium is, to say the very least, seriously crippled. Her trade with Great Britain and the United States is by no means safe. The sale of copper and lead, just to take two examples, affects mines in Australia employing many thousands of hands. Germany used to take large quantities of copper and lead and concentrates. Immediate relief as regards the concentrates is impossible, perhaps; but the ready sale of the copper and the lead may help to keep thousands of men employed profitably in Australian mines who may otherwise lose work. It is much the same as regards timber. All this Sir George Reid insists is attainable, if, at any rate, the British War Office and the Admiralty would choose their own method of deciding what the market rate is. Australia is a splendid backer of British manufacturers. Even in times of peace 60 per cent. of her imports are from the United Kingdom, from the Empire 72 per cent. Our self interest alone should dictate the response that patriotism endorses; and we cannot believe Sir George Reid's appeal will be unheeded.

The effect of the High Court's decision on Form IV, as dealt with in the fifty-seventh report, issued on Tuesday night, of the Commissioners of Inland Revenue. The work of the original valuation of land under Part I. of the Finance Act, 1910, proceeded

"steadily" during the first eleven months of the year ended March 31 last, we are told, but was delayed during that month of March. Up to March 31 last the total number of Forms IV. issued was 10,989,716, and the number of forms received back was 10,262,636, or 93.38 per cent. The total number of provisional valuations made and notified up to March 31 was 5,616,502, which included 752,011 hereditaments. The approximate area of the land included in the provisional valuations is 35,466,901 acres, and the aggregate total value £2,953,412,359. Of the total number of hereditaments (approximately ten millions) seven and a half millions have already been valued, the hereditaments valued in the year under review amounting to over three millions. During the year the number of provisional valuations notified to the owner was 2,113,880, showing an increase of 409,092 over the figure of the previous year, while the area valued was 21,189,372 acres, or 37 per cent. of the total area of Great Britain, as compared with 19 per cent. in 1913, and the aggregate total value of the land was nearly £1,395,000,000. An adverse decision in the High Court practically caused the suspension of the issue of valuations relating to agricultural land during the month of March. The result of this decision was reversed on two points. The practice upon which the valuations had hitherto been made was the suspension of all valuations of land in which an element of agricultural value was present. The figures given, therefore, represent in the main the work of the Valuation Department for eleven months only, the issue of provisional valuations during the month of March being limited to urban properties in which no question of agricultural value arose. An appeal against the decision has been entered.

In the appeal of Lord Iveagh against the provisional valuation of his property, No. 7, Longridge-road, Earl's Court, S.W., for the purpose of land valuation under the Finance Act, 1910, Sir Alexander R. Stenning, the Official Referee, who heard the objections, has now issued his decision, which is in favour of the appellant, increasing the gross value of this residence from £965 to £1,075, and the site value from £320 to £400, with costs against the Commissioners. It was complained on behalf of the appellant that the Valuation Department had based the figures on the £80 rent shown in the Estate Duty account of 1912, and had ignored the £100 rent mentioned in Form IV.

Messrs. Hayward Brothers and Eckstein, Ltd., of 187 to 201, Union-street, Borough, London, S.E., send us the best Diary for 1915 we have seen yet. Its 80 pages of special illustrated matter are all of considerable interest to architects and the building trades, and some of the items are quite exceptionally so, as on pages 7, 9, and 14, where the firm's pavement and floor lights and prismatic glazing are fully illustrated. Staircases in actual fires are shown on page 19. The large assortment of ventilators (pages 27-35), of which Messrs. Hayward Bros. are actual makers, the sash and casement sections and particulars and guide to costs on pages 45-47, and the casements and fittings on succeeding pages, where special information is given as to steel opening frames for wood, making excellent cheap casements, will be useful to all readers. Hardly less so are the details of Prior lead glazing on pages 62-65; steel sky-lights and domes, 68-73; garage fittings, page

78; and Hayward's "Leadising," page 80. Quite apart from its value as a trade guide, the space given to the ordinary uses of a diary, and its general get-up, will agreeably surprise some who may as yet be unfamiliar with the enterprise and liberality which its thousands of customers associate as a matter of course with this leading and long-established firm.

A correspondent who has just moved into a new house (modern Jacobean) made a survey of the premises, accompanied by the builder. Everything seemed to be all right except that the two bottom stairs creaked painfully. The builder was not perturbed. Without the slightest sign of facetious intent he said, "Well, sir, you see, we thought a creak would go with this style of house."

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A meeting of the Royal Institute of British Architects was held on Monday evening at 9, Conduit-street, W., the chair being occupied by the President, Mr. Ernest Newton, A.R.A.

THE WORK OF THE LATE JOHN BELCHER, R.A.

Mr. J. J. Joass, F.R.I.B.A., read a paper on this subject, illustrated by lantern slides of the principal works and chief competitive designs of his late partner, several being reproductions of charming autograph drawings by Mr. Belcher. In his opening remarks the author pointed out that the father of the subject of his memoir, Mr. John Belcher, the elder, practised in the City of London at a period when the traditions of Soane, Donaldson, and their school had by no means died out. He was almost entirely unaffected by the Gothic Revival and the teachings of its prophets, not from any inability to appreciate and understand the beauty of Gothic, but from a logical conviction that such work was unsuitable to the requirements of his time, particularly in the class of work he was likely to be engaged upon in London City. He sent his son to Paris to study especially the Renaissance work. A continuity of thought and tradition was thus preserved from father to son which connected him to an unusual extent with the traditions of the later phases of English Renaissance architecture and specially qualified him to take part in the early manifestations of its revival. Notwithstanding the paternal warnings and example, the younger Belcher came under the influence of the Gothic movement, and became one of its most enthusiastic devotees. During Mr. Belcher's Gothic period Mr. Harry Wilson, Mr. Needham Wilson, and Professor Beresford Pite were at work in his office, where most of the work carried out was of a domestic character, a notable feature of most of the designs for country houses being the treatment of the garden. About 1875 Mr. John Belcher, sen., retired from business, and his son entered into partnership with Mr. James W. James, who conducted the business management of the firm until his retirement in 1882. Soon afterwards Mr. Beresford Pite returned to Mr. Belcher's office; in 1885 he became a partner, and much of the work subsequently produced exhibited his influence very strongly. Their conversion from Gothic took place about the same time, and the Renaissance soon captivated them. Mr. Belcher's first important public building, the new hall for the Institute of Chartered Accountants, was won in competition. It was the lighter and more fanciful phase of Renaissance architecture which appealed most to him at this time, and his mind was strongly stimulated by visits to Southern Germany and Vienna. The eccentricities of the Late Italian work at Genoa also had its effect upon him, and was reflected in the Accountants' Hall. At the date of its completion in 1891 this building possessed many novel and almost startling features, though

many of them had now become so familiar by much repetition as to seem almost hackneyed. Its sound proportion and beautiful detail made this building even now, in the lecturer's judgment, one of the most interesting and stimulating examples of the modern Renaissance style in England. Moreover, it was unique in being embellished by the work of two English sculptors, Mr. Hamo Thornycroft, R.A., and the late Mr. Harry Bates. Mr. Joass mentioned that the interior decoration of the council chamber of this building, now being carried out by Mr. George Murray, had the entire sympathy and approval of Mr. Belcher. About this time Mr. Belcher prepared competition designs, Renaissance in character, for South Kensington Museum and the Royal Insurance Offices, Liverpool. With the removal of his office in 1890 from Adelaide-place to Hanover-square, a change came in the character of his practice; he had less work in the City, but devoted much time after 1895 in collaboration with Mr. Macarty and the late Mr. Bradley Batsford in the production of "The Later Renaissance Architecture in England." This work absorbed much time and interest, and had a great influence on his subsequent work. While engaged on this book in 1895 Mr. Beresford Pite suggested to Mr. Belcher that the lecturer might have some drawings which were required for illustration. Several were found suitable, and the lecturer made others which found a place in the volume. In this way a lasting friendship commenced which endured until the day of Mr. Belcher's death. In 1905 they entered into partnership, and since then worked constantly together. The new town hall at Colchester, won in competition, was the first of several designs based on decidedly English lines. From this time onward the practice, which was a steadily increasing one, left him little time for further efforts in a literary direction. He found time in 1906-7 to write "Essentials in Architecture," an opportune work representing the principles which he continually strove to put into practice. Other important representative works of these years were the Tower, Pangbourne, Eletra House, Cambridge Town Hall, Cornbury Park, and the Ashton Memorial at Lancaster, all of which were illustrated and described by the lecturer. Other work of this period included the Royal London Friendly Society, the reconstruction of No. 45, Belgrave-square, a library in 49, Prince's Gate, Mappin and Webb's new premises, Oxford-street, additions to Winchester House, Old Broad-street, and the Royal Insurance Building in Piccadilly. Later buildings were the Royal Society of Medicine, Holy Trinity Church, Kingsway, the Zoological Society's Offices, and the Mappin Terrace at the Zoological Gardens, and Whiteley's Stores, Paddington. Mr. Belcher was of a singularly modest and retiring disposition, and only undertook the Presidency of the Institute as the result of great pressure by some of his friends. How ably, and even brilliantly, he filled the post and carried out the arduous duties as President of the International Congress of Architects which took place during his term of office most members would recollect. In conclusion, Mr. Joass referred to the inquiring and receptive character of Mr. Belcher's mind, to his gifts as a draughtsman and musician, and to the modesty and sympathy which specially attracted younger men, making him a most charming companion and friend.

In proposing a vote of thanks to Mr. Joass, Professor Beresford Pite observed that it had not been an easy paper to write, but the lecturer had shown a great breadth of view, a wise judgment; his memoir was in every way just, attractive, and accurate. Mr. Belcher's work was equal in force and vigour to the charm of his personality; it revealed the wide sympathy and power of assimilation which were characteristic of modern design. A great liberality of view was noteworthy in the men of Mr. Belcher's generation who worked successively in Classic, Gothic, and Renaissance phases of art. It was Mr. Belcher's good fortune to design and carry out two halls for the Carriers'

Company and two warehouse buildings for Mr. John Rylands, whose premises absorbed the first of these halls, and were themselves reconstructed after a disastrous fire. The profound respect Mr. Belcher had for the work of Norman Shaw unconsciously influenced his domestic buildings. These houses showed Mr. Belcher a master of homely and quaint qualities; they settled well on the sites, and their gardens designed by him were in consonance with them. His travels all over England, when writing his volume on the Later Renaissance for Batsford, influenced his later work, and also that of other architects. The speaker enjoyed the privilege of Mr. Belcher's friendship to the end, and always found him very modest about his work and gifts. He had a great love for his work, in all of which was displayed a fine sense of proportion and a great freshness and delightful originality—in fact, he never repeated himself in his designs. He fancied that if Mr. Belcher had been through the mill of the Board of Architectural Education, instead of being one of its advisers, Mr. Joass would have had a very different tale to tell that evening.

The motion was seconded by Sir William Plender, past president of the Institute of Chartered Accountants, who applied to Mr. Belcher's work the aphorism by one of the great Frenchmen of the 18th century, "Great thoughts came from the heart." He was proud of the Chartered Institute hall, and was glad to be able to state that the decoration of the council chamber, by Mr. Murray, was now practically completed.

Sir Aston Webb, K.C.V.O., R.A., said he was glad that Mr. Joass had done honour both to the man and his work in his paper. His friendship with Mr. Belcher had extended over many years, and was maintained unbroken under what would seem very trying conditions: alike as competitors, in which they were striving their utmost, and in the elections to the Royal Academy. Mr. Belcher showed no bitterness or ill-feeling; indeed, he never knew a more modest or kind-hearted man. As president of that Institute he proved hard working and capable, and won the esteem of all; it was mainly due to his quiet work in his year of office that the gap in the profession was closed, and the Royal Institute had since represented the entire profession of the kingdom. He seriously encouraged sculptors to take up the study of architecture, associating their work with his buildings. The best memorial to their late friend would be to open out the view of his Chartered Accountants' Institute to Moorgate-street.

Sir W. Goscombe John, R.A., referred to the opportunities Mr. Belcher's buildings offered to sculptors in their characteristic qualities.

Mr. Edmund Gosse, C.B., spoke of his friendship with Mr. Belcher extending back to 1879, to the simplicity and modesty of his character, and his loyalty to his friends, adding that one might say of him as Dr. Brown, of Trinity College, Cambridge, remarked of the poet Thomas Gray, that he "never spoke out"; this restraint and reserve, so characteristic of his life, was also apparent in his buildings.

Sir Ernest George, A.R.A., and Dr. Chalmers Mitchell also contributed to the discussion, the latter speaking of Mr. Belcher from the viewpoint of client and personal friend.

The President, in putting the vote of thanks, remarked that he had known Mr. Belcher for more than thirty years, and could add his testimony to his modest and retiring disposition. At the same time their late friend valued very highly his election to the Royal Academy.

The Local Government Board have intimated to the Wakefield Corporation their sanction to the borrowing of £13,145 for the provision of working-class houses.

Mr. J. R. Heath, deputy borough surveyor, who has been appointed borough surveyor of Swansea, has been presented by the borough officials of Stoke-on-Trent with a solid silver tea service, with oak tray, suitably inscribed, and a pipe.

THE MERITS OF AUSTRIAN AND BRITISH OAK.

At the Royal College of Science and Technology, South Kensington, on Friday afternoon, the Earl of Selborne, K.G., presiding, Professor Percy Groom, M.A., D.Sc., read the following paper upon Austrian oak:—

When I was invited to draw up for consideration a report dealing with the utilisation of Austrian oak in this country, it seemed that the most useful evidence that I could supply would be that dealing with:—

(1) The relative merits of the different kinds of oak obtainable in this country and subserving the same purpose as Austrian oak.

(2) The economic significance of the great demand for Austrian oak in this country.

Also, in order to place before you concrete evidence bearing on the matter, it seemed advisable to supply for inspection a number of authentic specimens of the different kinds of oak considered in this report.

In a majority of cases, where oak is used in the woodwork of better-class buildings in this country, architects specify that the oak shall be Austrian. Consequently, if there be available in this country other kinds of oak equal in merit to, but cheaper in price than, Austrian oak, then the custom of demanding Austrian oak in contracts involves an undue inflation in its price and waste of our national financial resources. Austrian oak is demanded where lasting decorative effect is the sole end to be attained. The question of the strength of the wood is therefore irrelevant, for the high price of Austrian oak at once excludes it from use for mere constructional purposes.

The kinds of oak-timber regularly available in this country and suitable for decorative woodwork are: (1) British; (2) American; (3) Russian; (4) Austrian; (5) Japanese.

American oak, as a rival of Austrian, can be instantly dismissed. For although some of it is very boldly figured by reason of its deep silver grain, yet the supplies reaching this country are so mixed and varied as regards tint and texture that it is not practicable to secure sufficient uniformity of appearance for better-class work. Moreover, in these timbers, derived from several species of oak (*Quercus alba*, *Q. rubra*, *Q. velutina*, *Q. patris*, and others), sap-wood is frequently included. American oak is therefore not an adequate substitute for Austrian, and is properly relegated to lower class woodwork.

In order to appreciate the relative merits of the four remaining kinds of available oak-timbers, it is necessary to consider briefly their structure and the two modes of sawing them. The main mass of the wood is traversed at intervals by ribbon-like structures running across the grain and directed towards the actual centre of the trunk. When the trunk is cut down the middle, these radially arranged ribbon-like structures, or medullary rays, are visible as glistening bands constituting the so-called silver grain. It is not possible, however, to cut the cylindrical trunk into boards whose sides were all originally directed to the centre: the nearest practicable approximation has to be adopted. The result is that the middle boards show relatively long and deep, and therefore relatively bold silver grain; at increasing distances the boards on the two sides show shorter and often shallower silver grain. When two kinds of oak differ in the boldness of their figure, marginal boards of the bolder-figured kind may be far inferior in silver grain to the more central boards of the other. Hence, although Austrian oak generally appears to be somewhat bolder figured than Russian and Japanese, yet its marginal boards may be inferior in figure or indistinguishable from more medium boards of the other two. In fact, if the boards be cut too far from the middle ones, they are very poor in figure and become almost indistinguishable from boards cut in the manner about to be described. Boards cut so as to show the silver grain are said to be "cut in the quarter," or "quartered," and constitute genuine "wainscot" oak.

Boards cut in a direction at right angles to that in which quartered oak is are "bastard sawn"; they are dull, in so far as they show no silver grain, and are described as "plain oak."

Another character of wood must be mentioned before discussing the relative merits of the different oaks. When drying, including seasoning, wood shrinks least lengthwise, and in a transverse or cross direction it shrinks much less in a radially than in a direction of the annual rings. The result is that boards of quartered oak shrink less in width, and warp less than do bastard-sawn boards, and the nearer the quartered boards are to the middle one the more marked the lack of shrinking and warping. Hence, in comparing the shrinkage and warping of boards, comparison must be made between similarly cut boards; and, for instance, one must not condemn British oak because bastard-sawn boards tend to warp and consequently crack in drying more than do Austrian boards cut on the quarter.

Of Austrian oak the salient merits are that it is mild, of even, open grain, easy to work, and obtainable in boards that are of considerable width, yet free from defects. The true wainscot wood of the best quality shows bold figuring due to deep silver grain, and is unsurpassed by others in this respect.

Straight-grained British oak is not only exceptionally strong and hard, but shows silver grain as handsome as that of Austrian oak. The fine decorative effect of such British oak is demonstrated not only in historic buildings, but also to an equal degree in modern woodwork, thus proving that the appropriate kind of wood is still obtainable. The conclusions concerning the decorative value of British oak will be given later, when other classes of the wood are considered.

In Russian oak, imported from Riga, Dantzic, Stettin, and Odessa, the silver grain is generally somewhat shallower and less bold than that of Austrian (though, as already pointed out, this holds good only for corresponding boards of the two opposed kinds). But inasmuch as some persons prefer the shallower silver grain, this cannot be counted wholly as a disadvantage. It should, however, be pointed out that the boards are so cut that the majority show no silver grain near one edge, which therefore must be cut off to secure a wholly figured panel. Or sometimes, in order to secure wider boards, the Russian log is cut in such a manner that all the resulting boards show nearer one edge a plain band of wood that is actually "bastard cut" and devoid of silver grain. But when Russian wainscot oak is cut to the best advantage it may, in situ, be indistinguishable from Austrian oak, or, if showing a difference from this, is regarded as superior or inferior according to the beholder's taste.

While British, Russian, and Austrian oak-timbers owe their strong likeness to one another largely because they are derived from one and the same species or two very closely allied species (or co-species) of oak, Japanese oak as at present imported is obtained from at least two entirely different species. Despite of this fact, Japanese oak-timber shows so strong a likeness to the European oak-timbers mentioned that in completed woodwork it may readily be mistaken for one of these. Derived from old forest trees, Japanese oak has straight, even grain, and narrow, very uniform annual rings, which nevertheless (in frequent contrast with narrow annual rings of European oaks) have a good percentage of wood-fibres that impart strength and hardness to the wood. Japanese oak certainly has great power of resisting shrinkage, warping and cracking, that are liable to occur in oak during seasoning and drying. For I have seen cases of woodwork in which it was exposed to alternate dryness and moisture, and also in which it was exposed to a severe test as regards dryness and heat (associated with a radiator very close to the wood in a draughty passage). The silver grain is, on the whole, a little less bold than that of Austrian oak, yet is sufficiently bold to cause the wood to yield handsome wainscot

panels, practically indistinguishable in situ from Austrian oak panels.

As regards plain (bastard cut) straight-grained oaks of all four kinds under discussion, it is not possible by mere inspection to distinguish these from one another when in situ (though this is not true when the magnifying lens and microscope are used). It is now necessary to consider some special varieties of oak-timber so far passed over.

Set in three classes by themselves are certain kinds of British oak.

In the first place, there is the highly decorative burrwood, which, however, is too scanty in quantity and too costly to be regarded as other than a furniture wood; it is therefore not a rival of Austrian oak.

Abundant, on the other hand, is a second type of British oak-timber, which is obtained from trees grown in well-lighted situations, and has, in place of straight grain and even texture, twisted grain and varied texture (due especially to inequality in width of the annual rings). The cut wood owes its decorative and varied "figure" not merely to the depth and abundance of the silver grain, but also to the tortuous and obliquely cut grain. This oak-wood, which can be obtained at a lower price than that of Austrian oak, I regard as the finest decorative oak of ordinary colour that is procurable. Yet where the artistic scheme demands greater uniformity or austerity of design a straight-grained oak will be selected.

Absolutely without rival for richness of colour is a third kind of British oak—the famous British "red" or "brown" oak—which is unobtainable from any other country. This unique wood, I understand, can be obtained at present at a price scarcely exceeding that of Austrian oak, which cannot compare with it as regards colour.

In regard to British oak, several circumstances militate against its use. They are:

(1) The supply is irregular and uncertain. This fact, in turn, reacts on the demand and on the economic policy of the timber merchants in regard to purchase and storage for seasoning. I understand that there is no shortage of large-sized oak trees in this country, and that if the demand were more continuous there would be a satisfactory supply.

(2) A considerable amount of British oak-timber has twisted grain and knots, and architects frequently refuse to accept such wood for decorative purposes, regardless of its most attractive appearance.

(3) Partly connected with this last is the stigma under which British oak rests in regard to its liability to warp, crack, and shake. It is true that wood with twisted or irregular grain is, during seasoning, more liable to crack than is straight-grained wood, but with careful seasoning this tendency can be guarded against. Moreover, when the wood is once fully seasoned for indoor use, such oak in internal woodwork will endure indefinitely without shrinking appreciably or cracking. That this is the case is demonstrated by the superb modern woodpanelling in the Court of Criminal Appeal. But oak wood of this kind is not so well suited to alternate exposure to moisture and draught.

British oak is apt to be more wasteful when cut up, and is harder to work than is the case with the other oaks mentioned. Its wastefulness will doubtless influence the price paid but will not otherwise affect the consumer. And, as regards difficulty in working, practical men state that this is largely due to lack of practice on the part of workmen, and that country joiners, who are not accustomed to the use of British oak, never become adepts in dealing with it.

CONCLUSIONS.

The following are the conclusions to be drawn from the facts and considerations already recounted as to the relative merits of the different kinds of oak available in this country and suitable for the same and sub-purpose as Austrian oak, namely, for decorative woodwork.

(1) From the point of view of colour, the supreme place is taken by British "red" or "brown" oak, a unique wood which at

present somewhat exceeds Austrian oak in price.

(2) Of oak woods normal in colour, the one giving the highest and most varied decorative effect is that abundant form of British oak which has twisted, irregular grain, including knots.

(3) Where a more uniform scheme of decoration is required, but the satiny surface of "silver grain" is desired, the choice can be made among five kinds of straight-grained true (figured) "wainscot" oak. Of these American oak is excluded from better-class work by reason of its mixed nature and other structural defects. Among the remaining four kinds—British, Russian, Japanese, and Austrian—I can make no distinction. For, although each of these is apt to possess certain characteristics of its own, yet many specimens of all four kinds can be found presenting such similarities to each other as to render it difficult or impossible to recognise their precise origin. In such cases the magnifying lens and microscope in the hand of an expert alone can shed critical light on the identity of the specimens.

3. When a still more uniform, and cheaper, scheme of decoration is required, there is available the straight-grained, plain, or "bastard-sawn," wood (not showing the glistening silver grain) of the four last-named kinds of oaks. Again, there is no reason, other than economic, to give the preference to any of these for decorative purposes.

This double conclusion to make no distinction as regards suitability for indoor woodwork among the three European and Japanese oaks is fortified by the fact that even when Austrian oak is specified in contracts, the wood actually used by the builder is very often wholly or mainly not Austrian. This fact alone proves that in Great Britain there are other oak-timbers cheaper than Austrian oak, yet sufficiently resembling it to satisfy or deceive the architect.

As regards durability in relation to decay, there is no doubt that all four kinds of oak under discussion would equally be attacked by the worst dry-rot fungus (*Merulius lacrymans*). Nor is there any evidence available that there is any difference in their powers of resisting "worm-hole" attack. The silver-grain effects are durable in all four.

To conclude. From the point of view of durable decorative quality, Austrian oak does not deserve its present superior reputation and preferential treatment. From an economic standpoint the cheaper British, Russian, and Japanese take precedence. While on political and economic grounds Austrian oak should at present be excluded, and first choice given to British, while of the two remaining kinds, which are products of our Allies, Russia and Japan, preference might be accorded to the latter, not alone because Japanese oak is cheaper, but also because the merits of the wood as now imported need wider advertisement. The present position of this country as regards the supply of timber emphasises the fact that, through our continued neglect of afforestation, we have not only to import oak that could profitably be grown on better class soils, such as those of English estates, but we have also to import fir wood at an annual cost of between twenty and twenty-five millions, although such wood could be grown on inferior soil too poor for profitable agriculture. Much of the decorative and furniture wood purchased from foreign countries could be profitably replaced by less known woods now growing in the Colonies and self-governing countries of our Empire. Such a substitution would be feasible were the scheme aided by true enterprise on the part of the governments concerned, who would favour the substitution, and proper advertisement of the qualities of the woods concerned.

The late Mr. Edward Ingress Bell, F.R.I.B.A., aged seventy-seven of St. Stephen's, Winchester-road, Worthing left as net personalty £12,582

The committee of the Bishop of London's Fund has approved the plans of the proposed new church at Colindale, Hendon, and has made a grant of £1,500 towards the cost, which will be about £6,500.

OBITUARY.

Captain Samuel Roberts, Royal Engineers, F.S.I., news of whose death, from wounds received in action, is reported from Rouen, was born in August, 1874. He was a son of Mr. Samuel Roberts, builder and contractor, of Plymouth. In May, 1899, he was appointed assistant surveyor on the Staff for Royal Engineer Services, and served in military centres in the North of England, in Ireland, and at Gibraltar, and in April, 1907, was promoted to the post of Inspector of Works. In May, 1911, he was granted the honorary rank of captain, and on vacating the appointment commenced practice in Plymouth as an architect and surveyor. On the outbreak of the war he at once offered himself to the War Office, and was soon made captain. In his younger days he was a stalwart of the Plymouth Amateur Swimming Association, and a keen water-poloist and swimmer; he helped to make the late Plymouth Leander Club one of the most powerful in the West. He played for his county on numerous occasions, and was captain of the side. He was also keen on football. He had been a Fellow of the Surveyors' Institution from October, 1900.

PROFESSIONAL AND TRADE SOCIETIES.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.—The annual smoking concert of the above body this year in aid of the special fund for architects was held at the Central Hotel, Dublin, on Dec. 9. The president, Mr. Harry Allberry, A.R.I.B.A., occupied the chair, and there was a large attendance of members and guests. The architectural profession in Dublin numbers many musicians and singers in its ranks, and amongst those who contributed to the success of the concert were Messrs. F. G. Hicks, A. E. Jones, L. F. Giron, W. N. Spence, and R. Caulfeild Orpen, who in a series of lightning sketches depicted many of the persons prominent at the moment in the Press. Numerous well-known Dublin artistes also kindly assisted.

THE SOCIETY OF ARCHITECTS.—In reply to inquiries, the Secretary of the Society of Architects intimates that as it was decided at short notice that the discussion on Thursday last on proposed Conditions of Contract should be held in camera, there will be nothing available for publication at the moment. The Secretary will communicate with the professional journals as soon as he is in a position to do so.

Expenditure on building-work in Sydney, N.S.W., during the past year amounted to £8,000,000, exceeding all previous records. Private enterprise was responsible for £6,000,000. Over 8,000 suburban residences were built.

H.M. Trade Commissioner reports that tenders are invited in the local press for heating and ventilating plant for the new Parliament Buildings at Wellington. Tenders on the proper forms will be received up to noon on Jan. 8, 1915, at the Public Works Office, Wellington, N.Z. Drawings, specifications, and conditions of contract may be obtained at the Public Works Offices at Auckland, Wellington, Christchurch, and Dunedin, and a copy of the specification and schedule of quantities may be consulted by United Kingdom heating and ventilating engineers at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

A report on the work of the war relief committee was presented at a meeting of Worcester-shire County Council, at Worcester, on Monday, by Mr. Willis Bund, who presided. Under the scheme of relief, the report stated, work was proposed in connection with buildings and the roads. The buildings proposed to be proceeded with were new schools in Watt Close and Stour-bridge-road, Bromsgrove; Malvern Council schools, to cost £7,788; new police-station and court at Droitwich, and new offices at the Shire Hall, Worcester. The road-work included putting in slag foundations and remaking roads at Kidderminster, Oldbury, Stourbridge, and Stourport, which had been approved, but the loans not yet sanctioned. Road-works for borough and urban districts amounting to £29,457 had been prepared by the county surveyor in case of unemployment arising.

COMPETITIONS.

RECONSTRUCTION AT GLASGOW TRONGATE.—At the last meeting of the Glasgow Corporation, the city improvements committee recommended that Design No. 18 for the reconstruction of the corner of Tron-gate and High-street, retaining the present Tron steeple, be accepted, the estimated cost being £28,000. Mr. Paxton moved that the matter be reconsidered. Bailie James Stewart seconded. It was, however, agreed to accept the plan by 39 votes to 35. The sealed envelope being opened, it was found that the successful architects were Messrs. Honeyman and Keppie, West George-street, Glasgow. The second and third premiums were awarded to the authors of No. 14 and No. 12 respectively, whose names were not, however, disclosed at the corporation meeting. The first premium of £50 will be merged in the commission. The assessors, Mr. Alexander N. Paterson, A.R.S.A., of Glasgow, and Mr. A. B. McDonald, M.I.C.E., the city engineer, stated in their report that a considerable proportion of the thirty-eight designs submitted gave evidence of careful study of a difficult problem. They continued: "We place first and select, in terms of, and under the restrictions contained in, the conditions, for the first premium of £50 or for execution, the design numbered 18. We place second the design numbered 14, and third that numbered 12, and recommend that the premiums of £30 and £20 respectively be paid to the authors of these. The plan of No. 18 is so arranged as to provide a large and unrestricted floor area, and such as will work in satisfactorily with the buildings already erected on either side. The elevation, while complete in itself, composes admirably with the Cross Steeple, and that without sacrificing in the matter of lighting the practical requirements of a shop and warehouse building. The scheme adopted for the retention of the Cross Steeple and its support in the isolated position it will occupy is both sound structurally and of excellent effect architecturally, while the proposed Cross is also successfully treated in the traditional manner. The cost of this scheme, as estimated by the measurer at £28,512, including £2,500 for the Cross and Steeple, compares very favourably with the others submitted. Nos. 14 and 12 are also able designs, each marked by special qualities, which fully entitle them to the second and third positions respectively, with the premiums attached to these. When erected, the selected design should, in our opinion, prove well worth its important and historic position, and in so doing effect a noted city improvement."

Judge Atherley Jones, at the City of London Court, on Wednesday, decided that a tenant could deduct his landlord's property-tax out of subsequent payments of rent if he had inadvertently omitted to make the deduction from the first rent-payment.

Messrs. Patman and Fotheringham, Ltd., 100 and 102, Theobald's-road, London, W.C., and Park-street, Islington, have been successful in securing the contract for rebuilding No. 5, Holles-street (shop and offices), Oxford-street, W. Mr. Lionel Barrett, A.R.I.E.A., is the architect.

The Birmingham Education Committee will be asked to-day (Friday) to approve of plans for submission to the city council for the erection of a new council school at Hall Green. The cost of the school is estimated at £15,000, plus £900 for furniture and fittings. The accommodation will be for 1,000 children.

The "Diario Oficial" (Rio de Janeiro) publishes a decree approving an extraordinary credit of 500,000 milreis (about £29,100) in favour of the Brazilian Ministry of Communications and Public Works, with the object of completing the work on the new postal-telegraph building in Nictheroy, State of Rio de Janeiro.

At the meeting of the City Corporation yesterday (Thursday) afternoon the Cattle-Markets committee reported, recommending provision for additional chill-room machinery and accommodation at the Metropolitan Cattle-Market at an estimated cost of £6,000. The committee was authorised to confer with the Coal, Corn, and Finance Committee on the matter of providing funds.

Correspondence.

UNHEALTHY SCHOOLS.

To the Editor of the BUILDING NEWS.

SIR,—Referring to the leader on "Unhealthy Schools" in your issue for Dec. 4, it is obvious to me that the case for through ventilation has not been fully considered or appreciated. Experiments have proved that where a cross-ventilated classroom has been designed on the proper principles, no down-draught has taken place.

When mentioning the school at Swanage, your correspondent "C. E." should have given in detail the type of window used, its position, the heating surface and position of heating pipes and radiators, also what action was taken with regard to the opening of these windows. Any system of ventilation will fail if misused. May I point out to him that the mere placing of windows on opposite sides of a room does not necessarily mean a perfect system of ventilation? There are other things to consider. The only practical suggestion I can make to disprove your statements is a visit to certain open-air schools during a winter season, and to study the means which make through ventilation a success, without down-draught. I strongly advise "Anti-Draught" to do so. In open-air schools there must be a minimum heating surface of 30ft. per 1,000, which is necessary on account of the large amount of fresh air admitted and of the increase of glass area.

Again, ventilation does not necessarily mean putting into a building certain appliances, either mechanical or otherwise. We must have sufficient fresh air passing through a room to maintain it in a certain state of purity, and, with a perfect system of through ventilation, this is obtained. This system by many architects ("Anti-Draught" has the indecency to call them fanatics) is considered to be the most successful way of dealing with the question.

I have always been taught that fresh air prevents disease, and it has yet to be proved otherwise. Experiments recently made in the West of England and on the Continent to provide open-air schools and institutions for the physically unfit points to the necessity of having as much fresh air as possible.—I am, etc., D. WYNNE-THOMAS.

Glenthorne, Nunthorpe, Yorks, Dec. 14.

SIR,—Is not the responsibility for the resort to what you are pleased to call "methods of barbarism"—viz., "cross-ventilation" by open windows—to be found in the indiscriminate use of the thousand-and-one varieties of tinpot monstrosities which decorate (?) so many of our schools, and the majority of which, I'll be bound to say, are about as useful as air-extractors as the ridge-poles on which they roost?

The Education Board—or, at any rate, the architect to the Board—must be perfectly cognisant of the existence of these contrivances on schools, and also of the employment of what you stigmatise as a relic of the Dark Ages, the open window, so favoured by the troglodyte as a means of ventilation.

One must not, however, expect too much from sorely perplexed officials, who may have neither the time nor the technical qualification to investigate into and decide upon the respective merits, or demerits, of the multitudinous "systems" of ventilation with which they are doubtless inundated. Is it any wonder that they should take refuge in the simplest and the "easy" way—open windows?

It is all very well to exclaim that this would be callous and reprehensible indifference to, as you say, the first half of their trust—the welfare of the children; it is human nature, all the same. "What though the galled jade wince; our withers are unwring." It is wonderful with what fortitude we can bear the misfortunes of others, as per example your tragic story of the suffering inflicted on helpless children by "cross-ventilation" in schools in cold weather.

Tinkering with these so-called "natural" methods of ventilation and cold-air atrocities

is as fallacious as it is undesirable. There exist other "resources of civilisation" which are not so dependent upon nor—as quotations seem to be the order of the day—so "fickle as the wind," as the Education Board and its advisers should well know.—I am, etc.,

Dec. 12, 1914.

PLENUM.

WAR ON GERMAN TRADE IN BELGIUM.

SIR,—Through the columns of your valuable paper may we draw the attention of English manufacturerers to the splendid opportunity they have at present in making arrangements to be represented in Belgium? Amongst the good class of refugees there are a number who before the war acted for German firms and who are wishful to replace these makers by English manufacturerers of similar goods. These refugees are here unoccupied, and would be very pleased to spend their time in acquiring the knowledge of the lines they will be called upon to introduce later on.

The Belgian Chamber of Commerce in London, 24, St. Dunstan's Buildings, St. Dunstan's Hill, E.C., is at the disposal of manufacturers to put them in communication with suitable applicants for such posts. We further take advantage of the present to invite all employers who have vacancies for foreign correspondents, etc., to let us have particulars of their requirements, as the enforced idleness is very irksome to our countrymen.

We thank you for your kindness in publishing this letter, and we remain, Sir, yours faithfully,

L. GODCHAUX, President.

P. DORCHY, General Secretary.

Belgian Chamber of Commerce in London (Incorporated), 24, St. Dunstan's Buildings, St. Dunstan's Hill, E.C.

LEGAL INTELLIGENCE.

SCOTTISH ARCHITECT'S ACTION FOR SLANDER AGAINST THE DUNDEE ADVERTISER.—J. H. Langlands v. J. Leng and Co., Ltd.—Counsel were heard on Friday last, before Lord Audersou, at the Scottish Court of Session, on the adjustment of issues in the action by James Hendry Langlands, architect, Cunnont, Kingtonie, near Dundee, against John Leng and Co., Ltd., proprietors of the Dundee Advertiser, for £3,000 damages in respect of alleged slander. The pursuer, who is the architect under the Dundee School Board, said he was asked from time to time to prepare plans for proposed extensions of Harris Academy, Dundee. He prepared such plans in the beginning of 1914 for an extension which was to cost £17,100, and tenders were advertised for on August 1. Owing to the meagre response from tradesmen, the Board suspended the advertisements for tenders, and in September issued a circular to tradesmen inviting offers for only part of the work. A meeting of the Board was held on October 6, and on the following day, in addition to a report of the proceedings, the Dundee Advertiser published a leading article, to statements in which the pursuer took exception. He said that they were false and calumnious, and represented that he had wilfully and corruptly misled the Board by furnishing estimates which he knew to be false, inaccurate, and misleading, for the purpose of inducing the Board to proceed with extensions and alterations of the Academy to enable the pursuer to earn fees; that he was a man whose advice was coloured by self-interest, and who placed the earning of fees above the interest of his clients, and that he had been unfaithful to the trust reposed in him. He was not, he said, consulted by the Board with regard to the policy of enlargement of the Harris Academy, nor did he tender any advice in favour of enlargement as against the erection of a new school. Had the defenders made the slightest inquiry, they would have learned that the discrepancy between the rough estimates furnished to the Board by the pursuer and the tenders of the contractors was due to the difference in the specification of style and quality of the workmanship and the materials, and the increased prices of labour and material, owing to the war in Europe. The defenders denied having slandered the pursuer, and explained that he wrote a letter to the Board, dated October 9, in which he complained that reflections had been made against him in the article in question. On this coming to the knowledge of the defenders,

they, on October 17, published in a leading article a repudiation of the interpretation put by the pursuer on their comments, and affirming that they had no desire to impugn the pursuer's professional ability, far less his honesty. Lord Anderson sustained the defenders' plea that the action was irrelevant, and dismissed the action, with expenses. His Lordship said the question he had to determine at that stage was whether the publication was defamatory. It was well settled that a newspaper did not, in writing such an article, enjoy a situation of privilege in the ordinary acceptance of the term. A newspaper, of course, was entitled to publish what was fair comment on public events, and to publish reports of events of local importance, such as a meeting of School Board with reference to a matter of this sort. The pursuer did not maintain that the language in itself was defamatory, but he said it was capable of being innuendoed in a sense which imported defamation. His Lordship had to determine whether or not any reasonable body of men could reach the conclusion that the language complained of was defamatory. His Lordship's judgment was that no reasonable body of men could extract the proposed innuendoes from the language used. Although in these cases he was always unwilling to prevent a pursuer stating his case to a jury, he thought he had no option in this case, where he was very clearly of opinion that the pursuer had not been defamed, save to stop the case at this stage.

A CONTRACT DISPUTE.—In the King's Bench Divisional Court, on Tuesday and Wednesday, before Mr. Justice Ridley and Mr. Justice Sankey, the case of Dakin v. Lee was heard. This was a motion by the appellants, who are builders and contractors at Upper Richmond-road, Putney, to set aside the decision of the Official Referee in a disputed contract. The respondent was Mrs. Lee, proprietress of a private school at Wimbledon Park-road, S.W. The Official Referee held that, as a matter of law, Messrs. Dakin could not recover under their contract for all the work which had been done. The respondent had the benefit of £250 worth of work for nothing if this decision should stand. The total amount of the bill was £404 18s. 4d., which included £264 2s. 10d., the amount of the estimate which Messrs. Dakin gave for certain work set out in their specification. Mrs. Lee had paid £52 14s., to which she was entitled to be credited. This left £352 4s. 4d., which was the amount claimed. The Official Referee found that as regards £91 8s. 6d. for extras, the plaintiffs were not entitled to it. If they deviated from the contract, this was done at plaintiffs' risk. There was no dispute as to the cost of the material, but the charges for the time were considered to be high. Further legal argument was heard on Wednesday, when the Court reversed the Official Referee's decision and found appellants were entitled to the amount due under the contract. The appeal was accordingly allowed, with costs, and judgment entered for the plaintiffs for £242 10s.

STATUES, MEMORIALS, &c.

THE KING EDWARD MEMORIAL IN LONDON. Through Alderman Sir Vezey Strong, the chairman of the Mansion House Committee, an anonymous donor has contributed £5,000 towards the amount required for the completion of the King Edward memorial in London. The memorial is to consist of an equestrian statue of the late monarch by Mr. Bertram Mackenall, A.R.A., to be erected opposite the Athenaeum Club in Waterloo place, Pall Mall, on the site now occupied by Lord Strathmairn's statue and the conversion of the site of the datchet fish-market on the riverside at Shadwell into a park and recreation-ground for the inhabitants of the East End of London. The site has been purchased from the corporation for £70,000.

Among the victims of the German raid on Whiteley was Mr. John Hall, J.P., an ex-Member of Scarborough, and a retired architect, living at Edgeway.

A meeting of the town-planning committee of Birmingham City Council was held on Friday, when further progress was made with the South Birmingham scheme. Preparations were also made for the commencement of a new scheme.

At the annual meeting of the San Francisco Chapter of the American Institute of Architects, the following officers were elected for the ensuing year: President, Mr. William E. Fayville; secretary and treasurer, Mr. Sylvain Schmitt; trustees, Messrs. Henry Schulz and James W. Reid.

Our Office Table.

The injuries caused to the picturesque ruins of the church of Whitby Abbey by Wednesday's bombardment by the German cruisers seem to have been comparatively small. They occupy a prominent position near the edge of the east cliff, and are but a shell of brown masonry, consisting of the outer walls of the choir (rebuilt in the first quarter of the 13th century), those of the north transept, which is slightly later in date, having been constructed between 1245 and 1248; the north aisle of the church, which retains a little of the stone vaulting and some fragments of the eastern end of the nave, which was finally completed in 1325. After the Reformation the Abbey and its church speedily fell into ruin, and became a free quarry for the townsfolk. The nave of the church fell in 1736, during a storm, further parts of the nave came down in November, 1794, and the central tower collapsed in 1830. We published some details of the beautiful Early English choir arching of the Abbey church in our issue of April 15, 1898; and measured drawings of the eastern arcading and the east elevations, exterior and interior, with plans, by Mr. Archibald H. Winterburn, in our number of November 8, 1901; a section and elevation of the east end of choir by the same architect on November 15, 1901; and a third measured drawing, also by Mr. Winterburn, of the two only remaining tracery windows and the aisle wall, on September 13, 1912. Some sketches of the "Older Parts of Whitby," by Mr. Elias Bancroft, R.C.A., appeared in our issues of May 8, July 10, and November 6, 1908. At Scarborough some damage was occasioned by the shells to the fragmentary walls of the historic castle, and to the low-pitched roof of the picturesque parish church of St. Mary.

The Board of Agriculture, in a special leaflet dealing with the supplies of pit timber, state that it is desirable to impress upon owners and agents the importance of keeping woodcutters and hauliers fully employed during the winter season. It is added: "The amount of labour and haulage available for woodland operations is limited, and any possible shortage in pitwood supplies that may arise will be due not to any lack of material in the country to make up the deficit in foreign supplies, but to the difficulty of getting the timber in good time to the pits. This difficulty can best be minimised by keeping the available men and teams steadily occupied."

MEETINGS FOR THE ENSUING WEEK.

FRIDAY (To-day).—Institution of Mechanical Engineers. Papers by W. C. Aelfield (Midland Railway); L. P. Lewis (Caledonian Railway); V. L. Raven (North-Eastern Railway); W. A. Stanier (Great Western Railway); and W. Wilcox (Metropolitan Railway), on "Audible and other Cab Signals on British Railways." Storey's Gate, S.W. 8 p.m.

MONDAY.—Victoria and Albert Museum. "Military Architecture in France," by Banister F. Fletcher, F.R.I.B.A. 4.30 p.m.

TRADE NOTES.

Under the direction of Mr. William Dunbar, C.E., lurch surveyor, Tranent, Boyle's latest patent "Air-pump" ventilators have been applied to the town-hall, Tranent, Scotland.

Apart from recent war scares, there seems increasing evidence of the adoption of concrete for flat roofs perhaps owing to the cheaper method of surface-finishing. One of the most recent flat roofs is upon Southmead workhouse infirmary, which has been surfaced with "Pulford" cement.

On and after the 21st inst. the address of Messrs. Pilditch, Chadwick, and Co. will be Old Bond-street House, 67-8, Old Bond street, W. (a few doors from Piccadilly). The contemplated rebuilding of the block of premises in Pall Mall East, in which the firm has practised for the past twenty years, following the thirty years spent at 17, Parliament-street, has necessitated this removal.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Rolled Steel Joists, English	£7 10 0 to	£8 0 0
Wrought-Iron Girder Plates	7 15 0	10 0 0
Steel Girder Plates	8 0 0	9 0 0
Bar Iron, good Staffs	6 5 0	8 10 0
Do., Lowmoor, Flat, Round, or Square	22 0 0	0 0 0
Do., Welsh	5 15 0	5 17 0
Boiler Plates, Iron—		
South Staffs	8 0 0	8 15 0
Best Sreedsbill	9 0 0	9 10 0

Angles 10s., Tees 20s. per ton extra.
Builders' Hoop Iron, for honing, &c., £8 15s. to £9. Ditto galvanised, £14 to £15 10s. per ton.

Galvanised Corrugated Sheet Iron—		
No. 18 to 20.	No. 22 to 24	
6ft. to 8ft. long, inclusive gauge	£13 0 0	£13 10 0
Best ditto	13 0 0	14 0 0

Wire Nails (Points de Paris)—		
3 to 7	8 9 10 11 12 13	14 15 B.W.G.
8/3 8/9 9/3 9/9 10/3 11/-	11/9 12/6 13/6	per cwt.

Cast-Iron Columns	£6 17 6 to	£8 10 0
Cast-Iron Stanchions	6 17 6	8 10 0
Rolled-Iron Fencing Wire	8 5 0	8 10 0
Rolled-Steel Fencing Wire	7 5 0	7 10 0
Galvanised	8 15 0	9 5 0
Cast-Iron Sash Weights	5 10 0	5 15 0
Cut Floor Brads	10 15 0	—
Corrugated Iron, 24 gauge	16 0 0	—
Galvanised Wire Strand, 7 ply.		
14 B.W.G.	14 5 0	—

B.B. Drawn Telegraph Wire, Galvanised—		
0 to 8	9 10 11 12	B.W.G.
£10 10s. £10 15s.	£11 0s. £11 5s.	£11 15s. per ton.

Cast-Iron Socket Pipes—		
3in. diameter	£6 15 0 to	£7 2 6
4in. to 6in.	6 10 0	6 12 6
7in. to 24in. (all sizes)	6 17 6	7 2 6

[Coated with composition, 5s. 0d. per ton extra, turned and bored joints 5s. per ton extra.]

Pig Iron—		
Cold Blast, Lillieshall	80s. 0d.	to 127s. 6d.
Hot Blast, ditto	87s. 0d.	97s. 0d.

Wrought-Iron Tubes and Fittings—Discount off Standard Lists f.o.b. (plus 2½ per cent.)—		
Gas-Tubes	72½	p.c.
Water-Tubes	66½	..
Steam-Tubes	65	..
Galvanised Gas-Tubes	60	..
Galvanised Water-Tubes	56½	..
Galvanised Steam-Tubes	50	..

OTHER METALS.

Spelter, Silesian	Per ton	£21 5 0 to	£21 7
Lead Water Pipe, Town	£24 5 0	..	..
Country	25 5 0	..	..
Lead Barrel Pipe, Town	25 5 0	..	..
Country	26 5 0	..	..
Lead Pipe, Tinned inside, Town	26 5 0	..	..
Country	27 5 0	..	..
Lead Pipe, Tinned inside and outside	Town	28 15 0	..
Country	29 15 0	..	..
Composition Gas-Pipe, Town	27 5 0	..	..
Country	28 5 0	..	..
Lead Soil-pipe (up to 4in.)	Town	27 5 0	..
Country	28 5 0	..	..

Lead, Common Brands	17 17 6	18 12 6
Lead Shot, in 28lb. bags	24 15 0	..
Copper Sheets, sheathing & rods	76 0 0	76 10 0
Copper, British Cake and Ingot	61 5 0	61 15 0
Tin, English Ingots	153 0 0	154 0 0
Do., Bars	154 0 0	155 0 0
Pig Lead, in lcwt. Pigs (Town)	19 2 6	19 10 0
Sheet Lead, Town	23 15 0	..
Country	24 15 0	..
Genuine White Lead	30 15 0	..
Refined Red Lead	29 0 0	..
Sheet Zinc	50 0 0	..
Old Lead, against account	18 5 0	..
Tin	8 10 0	..
Cut nails (per cwt. basis, ordinary brand)	0 12 9	..

* For 5 cwt. lots and upwards.

SLATES.

Blue Portmadoc	in. 20 x 10	in. 12	£ s. d.	per 1,000 of 1,300 at r. sin
" " "	16 " 8	6	12 6	..
Blue Bangor	20 " 10	13	2 6	..
" " "	20 " 12	13	17 6	..
First quality	20 " 10	13	0	..
" " "	20 " 12	13	15 0	..
" " "	16 " 8	7	5 0	..
Eureka unfading green	20 " 10	15	17 6	..
" " "	20 " 12	18	7 6	..
" " "	18 " 10	13	5 0	..
" " "	16 " 8	10	5 0	..
Permanent Green	20 " 10	11	12 6	..
" " "	18 " 10	9	12 6	..
" " "	16 " 8	6	12 6	..

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House

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OUR ILLUSTRATIONS.

"Petwood," near Kirkstead, Lincolnshire, the residence of Major A. G. Weigall, M.P. Views of exterior, detail photographs, views of the "Oak Room" and Staircase Hall, with plan. Mr. Frank Peck, Architect.

"Orient House," New Broad-street, for Messrs. Kilburn, Brown, and Co., East India Merchants. Mr. Ernest Flint, F.R.I.B.A., Architect.

Dedications and Patron Saints of English Churches.

General Points on Moving Large Structures.

THE SUPERVISION OF WORKS.

Where a proposed building is not of sufficient importance to warrant the engagement of a clerk of works, the supervision of the contractor's operations devolves upon the architect. The position, in the case of a young man carrying out his first commission, is an onerous one. He needs to be successful for a twofold reason—that it may not, by direct failure, prejudice his future, and that it may lead to further commissions. It is well understood, and commonly enough averred, that one "job" leads to another—often to more than one, directly and immediately. This is, in fact, for the architect, his best, and indeed the only, form of effective advertisement.

As a first step towards the insurance of a successful contract, it is imperative very carefully to select the firms tendering. The best and most elaborate of building agreements will not prevent trouble if the contractor has a disposition to create such. The position of affairs where the architect is his own clerk of works is plain enough. Much must be taken on trust, for the obvious reason that if one visit of one hour's duration per week be paid to the works, this means that for, say, some fifty-nine sixtieths of the whole course of the contract period there is absolutely no supervision.

It is not always easy to follow our rule. The practice is not, at times, encouraged by the attitude of clients, who tend to regard the combination of architect and agreement as all-sufficient. The prior knowledge of parties tendering, too, is usually second-hand—recommendation. Where we have tested by previous business relations, and so know at first-hand, harmonious progress of building-work is assured. With mere recommendation by a third party, we are liable to fall where we think we stand. It was a recommended and highly "moral" individual who drove us to a first inspection of new building-works. Nevertheless, the sample of "clean sharp sand" that we took home and washed yielded 50 per cent. of honest mud, so that, there being required for the execution of these particular works 120 loads, we were proposed to be treated to sixty loads of sand and sixty loads of mud—the latter, in its way, an excellent material; in fact, we recommended it to the contractor's notice as a most desirable top-dressing for a clayey garden-soil. That contractor, we remember, being of a distinctly "religious" turn of mind, warned us, as we jogged along in the buggy, that "a man's conscience" alone

might prove a sufficient Hades. We are by no means sure—in his case!

Sad it may be; but we shall find that, when all is said and done, *Caveat emptor* is the word. We may do well to sharpen our wits in the interest of clients; but before laying blame in specific cases, let us assure ourselves that we are not at fault. Want of foresight, want of care, want of definite expression in specification, are constants in the troubles attendant on architects' duties as supervisors, and hotbeds for engendering and multiplying "extras."

Foundations are, as a rule, considered fair excuse for extras. "I am astounded," wrote a client some years back. The extras certainly had mounted up. A preliminary and not expensive set of boreholes would have saved annoyance. There was a reliable clay for the main building, but an important addition stood over made ground. The work was far from town, and many "wires" were despatched advising the stiff-necked foreman to "get down to the yellow clay." In the end our insistence prevailed, and the building is without the broken back that assuredly must have been the result of giving heed to the special pleading of the foreman in his letters of advice as to his progress downwards. The avoidance of extras is a matter largely of care and forethought before a sod is cut or a brick laid.

"I could have done that myself, had I known," said another client. He was a carman and contractor, and the ground-levels had not been carefully ascertained, which necessitated much digging and carting away, and in London. Comparatively, it was not a heavy item; but to the hard-working owner of a carting business the oversight savoured of sin. Too often, the inexperienced in supervision, afraid of high tenders that may cause his client to abandon the proposition, runs things on too narrow a margin, and brings, later, a peck of troubles on his head.

Whoever may be directly to blame for difficulties attendant on imperfect supervision, the architect cannot shelve final responsibility. The onus is ultimately on him. This is as it should be. The client employs an architect not merely to design something, but to see it soundly constructed. The youthful practitioner who may have started independently—as some do—but a few years out of his articles fails not, as a rule, from want of knowing what constitutes plain, sound building-construction, but for want of knowledge of the world—of his fellow-men, of the influence of character, of the necessity for rigid firmness and quick decision in condemning inferior materials and workman-

ship. The knowledge of good material and workmanship is patent to the most youthful of properly-educated architects, so that advice to the young architect as to works supervision becomes not simply a matter of hints on practical constructive methods. Two men may equally know and recognise good work: the one gets what he wants, the other does not. Both, let us say, specified brickwork to be properly flushed. One gets a homogeneous, rock-like structure—brickwork as it should be; the other, an aerated, honeycombed mess of bricks and mortar. To a large extent, successful first essays in independent architectural practice are by men sufficiently experienced as subordinates under older architects. These men know good work when they see it. Plainly, therefore, in the majority of cases the art of supervising demands no addition in practical knowledge, but rather—since it is a point of management—that exercise of self-control which is a first requisite for the control of others and the insurance of the client's interest as building-owner.

The young architect with a first commission, and without clerk of works, will do well to spend as much time as possible upon his building in progress, especially at the outset, when the ground is open, and during concrete-laying and foundations-making. At this stage we shall see the difference between the man with a will and the man without, taking it for granted that the knowledge of brick, tile, slate, stone, and plaster, and the whole gamut of building operations, is equal in both cases. An ounce of firmness now is better than a ton of remonstrance by-and-by, and when, unhappily, the structural work is nearly complete, and the builder bankrupt. It will have been remarked to many, "I do not want an architect to plan me a building: I want him to see that the building is properly carried out." Sometimes, no doubt, the first assertion is a delusion; but the latter is rational enough. But client and architect must alike recognise that trouble arises too often, not by reason of the bad intentions of contractors, but from lack of foresight before the builder comes upon the scene. No amount of supervision will readjust and bring into final harmony matters still nebulous and ill-defined at the staking-out of the work. While, therefore, we repeat the old adage as to the necessity for caution in buying, we must emphasise the fact that indefinite plans and loose specifications are as largely responsible for difficulties and unpleasantness during construction as actual scamped building. To write advice to the inexperienced on supervision of works that

will insure the obtaining of sound workmanship is, in one way, to attempt the impossible. The architect, young or old, who knows exactly what he wants, and intends to get it, is the man who will carry his point. But he must know how to state it, and the builder must know and feel at a very early stage of the job that the stipulations he has to fulfil are alike the fruit of sound knowledge and the pledge of due vigilance. In our next we will endeavour specifically to indicate with what the latter must concern itself.

ACQUISITION OF LAND.*

By L. O. MATHEWS (Fellow).

If there is one thing for which we, as surveyors, ought to feel indebted to the Land Inquiry Committee, it is that they have provided us with much food for thought and unlimited material for discussion. It is sometimes a useful thing for those who are engaged in the solution of practical problems to have an opportunity of reconsidering the principles upon which their practice is based, and such an opportunity is afforded by the Reports now before us. These Reports bring out in striking relief two opposing schools of thought, which, in their extreme forms, may be roughly summarised as follows:—There is, on the one hand, the individualist view that an owner of land may do what he likes with his own, that he may offer his land for sale or withhold it, according as he thinks fit, and that unless the purchaser has compulsory powers he is under no obligation to sell, except at his own price. On the other hand, there is what may be called the Socialist view, that the landowner is the last relic of the feudal ages, exercising a tyrannical power over the dwellers on his soil, and using his position to exploit the necessities of the community for his own private profit. These two views come into the most violent conflict in connection with the problem of the acquisition of land by public authorities, which is the subject of our discussion this evening. If I were to attempt to define the attitude of mind in which this subject ought to be approached, I should say that we ought to aim at establishing a system whereby private individuals would be unable to stand in the way of necessary public improvements by the extortion of prohibitive prices for their land; and, on the other hand, public authorities would not be allowed to exercise their powers unreasonably, and would pay fair compensation, based upon the actual loss to the owner. It is not necessary to explain the present state of the law and practice of compensation for the compulsory acquisition of land to an audience of surveyors, and I therefore propose to deal with a few of the objections to the present system urged in the Report, and to consider the remedies suggested. These objections fall, roughly speaking, under three main heads:

(1) That the cost of obtaining compulsory powers is excessive, and sometimes prohibitive;

(2) That the method of settling the compensation by arbitration is costly and unsatisfactory;

(3) That the basis of compensation is unfair, and the prices awarded are frequently excessive.

The desirability or otherwise of increasing the facilities and cheapening the cost of obtaining compulsory powers by local authorities and public companies is a question of political expediency which only indirectly affects us surveyors, so that I do not propose to deal at any length with this point. Under the present system a local authority can obtain compulsory powers only by means of a special Act of Parliament, except in a few cases which are provided for in certain Acts, the most important of which is that known as Michael Angelo Taylor's Act of 1817. This Act gives power to the borough councils in the Metropolitan area to acquire land for

street-widenings without confirmation by any other authority. It cannot be denied that the cost of obtaining special Acts of Parliament is a serious burden upon local authorities, especially in the smaller districts, and often stands in the way of public improvements. In order to meet this the Committee recommends:—

(a) That powers should be given to county councils, county boroughs, and urban district councils, to acquire land compulsorily for certain specified purposes without having to obtain the sanction of any other authority. These purposes are street-widenings, the provision of schools, baths, washhouses, municipal halls, fire stations, police stations, markets, hospitals, and other purposes of a similar character;

(b) That in other cases compulsory powers should be obtained by means of an order of a Government department; and

(c) When the magnitude or novelty of the proposals demand it, compulsory powers should be sought by a private Act of Parliament, as at present, except that it is proposed to simplify and cheapen the procedure.

Having regard to the increased duties which Parliament is continually placing upon local authorities, and to the great variety of purposes for which land is required, it appears inevitable that greater powers must be given them for the acquisition of land, and I do not think that any serious objection need be raised to the above proposals. Great care will, however, have to be taken to distinguish between the cases which come under the headings (b) and (c); the Report is very vague upon this point, but a clear dividing line ought to be drawn between cases where application to Parliament is necessary, and those where a Departmental Order is sufficient. We now come to the question of the tribunal to be set up for settling disputed cases of compensation. The present methods provided for in the Lands Clauses Consolidation Acts are severely criticised by the Committee. The sheriff's jury is condemned as unfitted to deal with questions of a very technical nature, as is also the tribunal composed of two justices or a stipendiary magistrate, while the system of appointing two arbitrators and an umpire is regarded as unsatisfactory, on the ground that the two arbitrators would be much more useful as witnesses. So far we may agree with the Committee, but they then proceed to discuss the question of the single arbitrator, and express the opinion that there are strong objections to referring questions such as those arising under the Lands Clauses Acts to professional men in private practice, on the ground that a surveyor who at one time acts on behalf of some particular body or person, and at another sits as arbitrator in some case in which that body or person is a party, will have difficulty in avoiding an unconscious bias. It may be said that surveyors, being interested parties on this particular point, may not be able to avoid an unconscious bias in discussing it; but I think we are entitled to point out that the public has never shown any reluctance to engage the service of members of this profession in the capacity of arbitrators, and so far as I am aware no suggestion of bias, conscious or otherwise, has ever been made against them. Moreover, there would be absolutely no difficulty in any particular case in appointing an arbitrator who had never acted on behalf of either of the parties. When the Board of Agriculture appoint an arbitrator under the Agricultural Holdings Acts they invariably inquire before making the appointment whether the proposed arbitrator is in any way interested on either side, and there is no reason why this practice should not be extended to other arbitrations. What, then, is it that the Committee propose to substitute for this procedure? They propose that the District Valuer should, in the first instance, assess the market value of the land to be acquired, and that if the owners or persons interested are unable to agree to the valuation, they should have the right to appeal to the Land Commissioners. It is not quite clear from this whether the right of appeal would extend only to the owners, or whether it is suggested that the purchasing authority should have a similar right. This proposal is open to objections from almost every point of view, including that of the District Valuer himself. Owners, no doubt at first, are not likely to regard a public

official as being altogether free from that unconscious bias which has already been referred to, and when that official represents the taxation department of the Government, they are even less likely to place confidence in his decisions.

The District Valuer himself would be placed in a very difficult position, for, as the representative of the Valuation Department, it is his business to obtain as much increment as he can for the State, so that he would appear to have a direct interest in making a high valuation; on the other hand, he would approach the subject with a provisional valuation already made, which could hardly help influencing his mind to some extent; at any rate, he would have some difficulty in making a new valuation at a different figure unless something had occurred in the meantime to affect the value of the property. It may be taken, however, that this valuation would be only a preliminary, and that the real decision would lie with the Land Commissioners. This raises the further objection that there would have to be two arbitrations, for unless the parties attended before the District Valuer and put their case before him, his decision would be worthless, and might as well be omitted altogether; whereas if they did attend before him, they would have to appear again before the Land Commissioners, and the cost of the proceedings would be doubled. We are not told how it is suggested that the Land Commission should be composed, except that it should be of a judicial nature, so that the practical effect of these proposals would be to substitute a judicial committee for an expert valuer as the final authority in compensation cases. We are given to understand that this process would be less costly in its application and more satisfactory in its results than the system of reference to a single arbitrator; but there is little evidence that such is likely to be the case. It is a very frequent practice at present, especially in smaller cases, to have an informal arbitration, when the decision is left to the arbitrator sitting as an expert, no evidence being given except by the agents on either side. No other method could be cheaper than this. The Land Commissioners, not being expert valuers, and having no local knowledge, would have to depend entirely upon evidence, and though it is suggested that they are to have power to limit the evidence, in order to keep down the costs, it is difficult to see how they could arrive at a fair decision unless ample opportunity were given to the parties to put their cases properly before them. Hitherto it has been the generally accepted view that questions of compensation, being of a highly technical nature, could be adequately dealt with only by those having an intimate practical knowledge of market values, and this knowledge can be possessed only by professional men in active practice. I, therefore, venture to express a doubt as to whether the decisions of the proposed tribunal would be regarded with as much confidence as those of an expert arbitrator.

The third set of objections relates to the "basis of compensation," and this is really the source of all the trouble. Numerous cases are quoted in the Report, and the opinions of a large number of public officials are given, with the view of showing that local authorities are often compelled to pay unduly high prices for land, and that many desirable improvements are abandoned on that account. It is, of course, impossible to form any opinion upon the merits of a particular case merely upon an ex-parte statement by one of the parties, so that the only conclusion which can be legitimately drawn from the evidence submitted is that there seems to be a fairly widespread feeling among those representing local authorities that they are at a great disadvantage in purchasing land for public purposes, and often have to pay a higher price than would be accepted from a private individual. In taking this view I think local authorities are apt to forget that the purposes for which they require land are often such as to affect prejudicially the surrounding neighbourhood. No one, for instance, would choose to have a sewage farm, or a gasworks, or even a

* Read at the Ordinary General Meeting of the Surveyors' Institution, Monday, Dec. 14, 1914.

lunatic asylum or hospital, planted in the middle of his property, and he can hardly be blamed if he claims a price which is calculated to cover the possible depreciation to the remainder of his estate. I have known a local authority feel aggrieved because they were unable to purchase a site for a lunatic asylum on the outskirts of their district at the bare agricultural value of the land; but a landowner is surely justified in saying that if his land is not worth more than its agricultural value, he would prefer it to remain agricultural, and he might add that the fact that it is required for another purpose is the best evidence that it has a higher value. But, allowing for this, I have no doubt there have been cases where excessive prices have been demanded, more particularly when the local authority has no compulsory powers. In these cases they often prefer to give a high price to save the expense of making application to Parliament, and even when they have compulsory powers they will sometimes give more than the land is worth to save the costs and uncertainties of arbitration. To this extent the landowner certainly has the advantage in bargaining, the only remedy for which is to cheapen the cost of obtaining compulsory powers and simplify arbitration proceedings. This grievance would to a great extent have been removed if the Government had adhered to their original intention of allocating the proceeds of increment value duty to the districts in which it arose. Local authorities would thus have been able to recover a portion of the price paid in the form of increment duty, in addition to which they would receive the duty on all other transactions in their district where increment had occurred. It is said that in order to avoid excessive claims local authorities sometimes resort to the method of secret purchases. That this does not always fulfil its object is shown by a case which is within my own experience. A certain authority desired to purchase a site for a gasworks, and fearing that if this became known the price would immediately be put up, they succeeded in purchasing it by means of a secret agent at a moderate price. When, however, the inhabitants of the neighbourhood learned the purpose for which the land has been acquired they made such a strong protest and organised such an effective opposition, that the proposal was defeated in Parliament, with the result that the authority was left with a large block of land on its hands for which it had no particular use. This case is referred to in the Urban Report as an example of the advantage of secret purchases, but the subsequent history of the transaction is discreetly omitted.

A number of opinions, chiefly of town clerks and other public officials, are quoted in the report, for the purpose of showing that many public improvements are delayed or abandoned on account of the cost and difficulty of acquiring land. On analysing these it will be found that out of a total of thirty-nine cases, no less than fifteen refer to street-widenings, while in fifteen others reference is made to schemes for public improvements, without any statement as to the nature of the improvement, leaving only nine cases in which schemes other than street improvements are specifically mentioned. It would appear, therefore, that one of the chief causes of complaint is in connection with this class of improvement; but if it is anticipated that the recommendations of the Committee will result in a reduction of cost, I am afraid these hopes are not likely to be realised. Street-widenings are necessarily expensive; they involve the maximum interference with the property affected for a minimum of land purchased, and it is just in those cases where the cost is likely to be greatest that the necessity for the improvement is the most urgent. The actual value of the land required is but a small part of the cost; there is, in addition, the cost of reconstructing the premises, and compensation to the lessee or occupier for disturbance. In one respect the recommendations of the Committee are more likely to increase than to diminish the cost, for in the section dealing with tenure it is proposed to give leaseholders security of tenure, with a right to the

renewal of their leases. This will put them in a far stronger position for claiming compensation, as they will have an unlimited term of tenancy instead of a fixed number of years. Under present conditions the expiration of leases often affords a convenient opportunity to carry out improvements at a moderate cost; but under the new conditions this favourable moment would never occur. These remarks apply, of course, to street-widenings in fully developed areas, where the value of land is considerable. In suburban and country districts there is, as a rule, little difficulty, as owners are generally willing to give up the necessary land free of charge in consideration of the benefit they receive from the improvement; moreover, the Housing and Town-Planning Act has already conferred ample powers upon local authorities for the regulation of new streets and the improvement of old ones in undeveloped areas.

Having satisfied themselves that the present basis of compensation is unsatisfactory, the Committee make sundry recommendations, the object of which is to enable local authorities to acquire land more cheaply. The first is merely an alteration of a phrase. They point out that "value" has been interpreted to mean "value to the owner," and that this has resulted in owners obtaining compensation in excess of any fair value of the land taken. They, therefore, propose to substitute the following definition of value, taken from the Finance Act, 1909-10—viz., "The price which might be expected to be realised if the property were sold at the time in its then condition in the open market by a willing seller," or, in other words, what is commonly known as "market value." Is there any real difference between these two definitions? Personally, I think not. The value of a property to the owner, unless he happens to be also the occupier, is the price he could get for it in the market, so that the new definition is only a more roundabout way of saying precisely the same thing. It may be pointed out that the expression "value to the owner" does not occur in the Lands Clauses Act, but is the interpretation laid down by the Courts of the word "value," contained in Section 63, the object being to protect the promoters from having to pay an enhanced price on account of any special value the land might have to them for the purpose of their undertaking. There is no element of value which could be legitimately claimed under the old definition which would be excluded by the new. It is explained, for instance, in the Report that it would include those elements of value reasonably to be ascribed to "special adaptability." The doctrine of special adaptability is a very difficult and intricate one which cannot be adequately dealt with within the limits of a short paper, and I only mention it for the purpose of noting that the Committee do not propose to eliminate it altogether, though doubtless they intend to confine it within very narrow limits. The next recommendation refers to consequential damage, severance, and disturbance. No alteration is proposed in connection with compensation for severance, which will still remain as a legitimate subject for claim; but it is suggested that no compensation should be allowed for any depreciation or injury that might be caused to adjoining lands, and, on the other hand, that no charge for betterment should be made. This would be a perfectly reasonable proposition if it could be shown that as a general rule betterment and depreciation are, as the mathematician would say, "equal and opposite"; but such is notoriously not the case, and I am afraid it would be poor consolation to a man whose property had been injuriously affected to be told that if it had been benefited no charge for betterment would have been made. I think it would be quite fair to give power to the arbitrator to set off betterment against depreciation where both could be proved to exist; but this suggestion is dismissed by the Committee on the ground that cases might arise where the betterment would exceed the whole value of the lands taken, plus the depreciation to other lands, so that the owner, in addition to having his lands taken compulsorily, would be called upon to pay a

sum of money to the promoters. This shows a most praiseworthy solicitude on the part of the Committee for the pockets of landowners; but the difficulty, if it ever occurred, could easily be overcome by providing that the amount awarded for betterment should not exceed the depreciation.

In considering this question of depreciation it ought not to be forgotten that local authorities and public companies obtain from Parliament power to do certain things which a private individual could not do without rendering himself liable to an injunction if his actions injuriously affected his neighbours. It seems, therefore, only reasonable that an owner, being deprived of his ordinary remedy at law, should receive compensation for the damage done to him by obtaining something more than the ordinary market value of the land taken. The position of the lessee or occupier is not considered at any length in the Report; but the following recommendation is made, that "the occupier should be awarded a sum which, in the opinion of the Commissioners, would adequately compensate him for any loss or expense due to his being disturbed in the use or enjoyment of the land acquired." No objection need be made to this; but in another paragraph it is explained that an owner, if selling to a private purchaser, would be called upon to compensate the occupier for fixtures, goodwill, and improvements, in accordance with the recommendations contained in that part of the Report dealing with tenure, and that an allowance in respect of these items should be made to the lessee or tenant from the compensation paid by the promoters. As a matter of fact, an owner, if selling to a private purchaser, would sell his interest in the property, subject to the interests of the lessee and occupiers, and would leave the purchaser to deal with them if he wished to obtain possession for his own occupation. The wording of the paragraph, however, seems to suggest that the total sum to be paid for the property would first have to be ascertained, and the amount then apportioned between the owner and occupier. This would obviously be a most unfair method of procedure; the interests of the owner and occupier are entirely distinct, and are both capable of being separately valued; in fact, they can only be valued separately. The occupier's interest does not necessarily bear any relation to the actual value of the property. It may be only a comparatively small sum, as in the case of a small business carried on upon a short tenancy, or it may be an amount exceeding the whole value of the property. Every person interested in the property to be taken ought to have the right to present his own case, and to have it treated on its own merits, quite independently of any other person; otherwise grave injustice will be done.

Another recommendation is that no additional allowance should be made on account of the purchase being compulsory, or, in other words, that the customary 10 per cent. is to be abolished. In support of this the Committee say that, if full compensation on a fair basis is given to owners, they are unable to see why the fact that land is being acquired for the public good should be made a reason for an additional allowance over and above the value of the land taken. It might with equal justice be said that the fact that an owner is compelled to give up for the public good something which he would much prefer to keep for himself is a very good reason why he should receive some slight allowance over and above the value of the land taken. But the whole point is whether he will receive full compensation on a fair basis if the recommendations contained in the Report are adopted. If he can really be assured of this he would probably be willing to make a graceful concession of the 10 per cent.; but as the whole object of the recommendations is to whittle down the compensation to the irreducible minimum, he may perhaps be excused for being somewhat sceptical on the point.

The last proposal I shall refer to is that when part only of a property is acquired the promoters shall not necessarily be required

to take the whole. Section 92 of the Lands Clauses Act provides that no party shall be required to sell part only of any house or other building or manufactory if he is willing and able to sell the whole; but since the passing of the Metropolitan Management Act of 1862 this has not applied to street-widenings in any part of the Metropolis. Under certain recent Acts—e.g., the Housing Act, 1890, the Development Act, 1909, and some special Acts, a modification of this principle has been adopted whereby the promoters cannot be compelled to take the whole, provided the "part" can be taken without material detriment to the remainder. If this is what is intended no objection need be made to the proposal; but it would be obviously unjust to give promoters power to take part of a property, regardless of the effect upon the remainder. It is easy to imagine cases where the taking of part of a property would leave the remainder practically valueless. In such cases the compensation payable should be based, not only upon the value of the part taken, but also on the depreciation caused to the remainder. Any other principle would amount to partial confiscation.

The object of this paper has been to introduce the discussion on this important section of the Report of the Land Inquiry Committee. I have only attempted to deal with a few of the main points arising out of it, so far as they relate to the acquisition of land by local authorities, though many of the arguments will apply equally to purchase by companies having statutory powers. Subsequent speakers will, no doubt, refer to many other points which time has not permitted me to deal with. I have endeavoured to treat the subject as far as possible from an impartial standpoint, having regard to the necessities of the community as well as to the rights of individuals; but so long as private ownership of land remains the recognised system of tenure, and so long as land is the subject of free purchase and exchange, landowners have a right to a reasonable security in the enjoyment of their property. If, in the public interest, it is sometimes necessary to deprive them of powers they have hitherto possessed, and appropriate their land without asking their permission, the least they are entitled to is a just and even generous treatment in the matter of compensation. Any legislation which has the effect of diverting capital from land to other classes of investment can only result in a general depreciation in the value of land which will be just as prejudicial to the community as it is to the individual.

TECHNICAL SCHOOLS AND SCHOOLS OF ART.

AMENDING REGULATIONS.

The following Article is hereby substituted by the Board of Education for Article 33 of the Regulations for Technical Schools, Schools of Art, and other forms of Provision of Further Education in England and Wales for the year beginning August 1, 1913 (Cd. 6925 of 1913), and for the corresponding Article of the Regulations for the year beginning August 1, 1914 (Cd. 7531 of 1914), and the Board of Education may apply the Article in assessing the grant to be paid in respect of schools for work done during either or both of the above school years.

Article 33. The Board may, in lieu of any grant otherwise payable under Articles 29 to 32 of these Regulations, pay an inclusive annual grant in respect of any school, work, recognised under chapter 2 of the Regulations, and in respect of any school which occupies a site reserved for, and in part or in place in the educational area of, the area, and provides approved Senior or Advanced courses of instruction arranged with due regard to the educational needs of the students. This grant may be paid in the same form and in the same instalments as are provided for by the Regulations, and may be paid in respect of the estimated effect of any redistribution of work between the several and any other school or course in respect of which grants are payable under these Regulations.

The following Article is hereby added to Chapter 2 of Part I. of the Regulations for Technical Schools, Schools of Art, and other forms of Provision of Further Education in

England and Wales for the year beginning August 1, 1914 (Cd. 7531 of 1914):—

Article 34. (a) The Board may, in lieu of all grants otherwise payable under Articles 29 to 32 of these Regulations, pay an inclusive grant to any local education authority in respect of all courses satisfying the conditions of the Regulations in schools under the direction of the authority for the school year 1914-15.

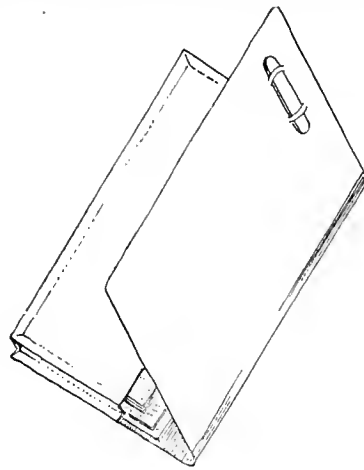
(b) The inclusive grant will be based upon the aggregate grants paid to the authority in respect of similar courses for the school year 1913-14, subject to an increase or decrease proportionate to any increase or decrease in the class hours (or other lesson hours) occupied by the courses.

(c) Instructions given in schools receiving an inclusive grant under article 33 for the school year 1914-15 will not be taken into account for the purposes of this calculation, and the Board may also leave out of account the hours of any courses which they consider to have been unduly prolonged, or arrange for an unreasonably small number of students whose attendances would have been eligible for grant under article 4 of the Regulations.

Dec. 11, 1914. L. A. SELBY-BIGGE.

FILING AND INDEXING MANUFACTURERS' LISTS, ETC.

This is a problem which affects everyone having anything to do with the specifying or the using of the multifarious manufactures necessary for the completion of any work, be it connected with the building, engineering, or other professions, and it troubles the



architect, surveyor, engineer, builder, and contractor alike. It is the bane of our lives, the continual influx of literature, odd in size and shape, which goes on from day to day, and soon makes "the heap on the floor, in the window-sill, or in the cupboard" a curse, drawing forth little "cuss-words" every time any particular pamphlet or list may be wanted, and which, "as sure as fate," will always be the last to come to light, whether we commence the search from the top, bottom, or middle.

It is true that there is a large percentage of the stuff which arrives that is of no use, or calls for no special care; still, a careful and methodical man will always scan through these arrivals, and if anything strikes him as likely to be useful, he puts it on "the heap," with the thought that it might come useful some day; but when that "some day" comes and he wants that particular list, although he knows that it is "there" somewhere, and "you must find it" is the peremptory order to the office-boy, who immediately settles himself down to a quiet all-day search, or, if his master is in a hurry, then to a mad scamper through the whole lot, and in the end the grimy face of the lad, the scowling face of the master, and the littered floor or table are signs of an uncomfortable half-hour.

The author has devised a system for his own office whereby a great deal of this unnecessary labour and ruffled temper may be avoided, and he passes the same on through these columns to his "fellow-creatures in distress," with the hope that some may benefit.

By means of a series of cases he has arranged a system whereby any desired list or list can be brought to light with a minimum amount of trouble. These cases can be bought at any of the large stationers for a modest 2s. 6d. or 3s. per dozen for foolscap size (4 1/2 in. by 9 in.), similar to sketch herewith, and will hold a large number of papers of all sizes. They can be obtained in

five different colours, which materially assist in the object to be attained—viz., the proper classification and arrangement of these pamphlets, lists, etc.

The various manufactures are divided up into five classes, one for each colour of the cases. Thus—

Class I. includes Bricks, Terracotta; Floor, Wall, and Roof Tiles; Slates and Roof coverings, Marbles, Stones, Reinforced Brickwork, Reinforced Concrete, Patent Partitions, Asphaltes, Cements, Limes, Dampcourses, etc.

Class II. includes Carpentry, Joinery, Wood Buildings, Seating, Sliding Partitions, Fibrous - Plaster Decorations, Sewerage, Sanitary Fittings, Chimney-pots, etc.

Class III. includes Gates, Railings, Pipes, Metal Casements, Ironwork, Glass and Glazing, Ironmongery, Metal Shop-fronts and Letters, Sunblinds, Lifts, Hoists, and Machinery, Safes, Clocks, Fire Appliances; Hose, Ladders, Carts, Lightning Conductors, etc.

Class IV. includes Heating, Lighting, and Ventilation Specialities, Paints, Colours, Varnishes and Enamels, and House Furniture.

Class V. includes Office Sundries and Books published.

The author then has a large foolscap book, the first part of which is divided up as follows—i.e., one open page set apart for each colour of case, which colour is marked thereon, and also gives the number of the case, the nature of its contents, and the page further on in the book where details of the manufactures, the maker's name and address, may be found. Thus—

Red case.	Specimen Page.	Page.
No. 1	Bricks, Terracotta, Floor, Wall, and Roof Tiles, Slates, and Roof Coverings	4
No. 2	Stones and Marbles	6

The remainder of the book is divided up into five parts, again to correspond with the colours of the cases, and is subdivided into four or more pages for each case, thus—

Page No. 4.	Red Case No. 1.	Manufactures.
Name.	Address.	
Bell's United Asbestos Co., Ltd.	Southwark-street, London, S.E.	"Poilite," "Briter-nite," "Titanic," Asbestos Cement Tiles and Sheets.
British Fibro-Cement Syndicate.	Norfolk House, Laurence Pountney Hill, London, E.C.	"Fibro - Cement" Tiles and Sheets.

The manufacturers' names are set out in alphabetical order in the first instance, and as a fresh pamphlet arrives it is placed into the case, either following those already there belonging to the same manufacturer, or, if a new name, at the end, and the new name recorded in the book under the case number referred to above.

The cases are numbered to correspond to the numbers in the book, and are stored away in any convenient place, not necessarily in the office, but in an adjoining room or other place easy of access. The foolscap book, however, is kept in a handy place in the office, and all that has to be done when information on any particular article is required is to look up the first part of this book for the class or colour of case in which that class of article is entered; then, having ascertained the page number from the same place, turn to same and see if the manufacturer's name is there, and, if so, send for or fetch the case whose number appears at the head of the page, and the list or pamphlet can be quickly found, because the search is limited to those contained in the case, which will contain from twenty-five to thirty fair-sized lists in each, and the modest expenditure of 14s. or so will solve the problem for a small office. Now that business is quiet in almost all offices is an opportune time to effect the remedy. A little of the time now spent in fruitless "heel-kicking" on the desk might be used in sorting and registering these lists, and so save valuable time when business is brisk once more.

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Corrente Calamo.

"To all absent friends!" That last toast to-day will thrill our hearts indeed. We shall drink it, as usual, amid the comforts of home, and remember this time, at any rate, what some of us often forget, that our enjoyment is secured and our safety guaranteed by those who are facing death for us on sea and land all the Empire over. There are few households in the land where they they will not be tenderly remembered—there are many, alas! from which the long, long absence of those who have died for us and for England will outlast our poor tribute to their valour, but not the love of those to whom they were so near and dear:

"They who with smiles lit up the hall,
And cheer'd with song the hearth"
Alas for love, if thou wert all,
And nought beyond, O Earth!"

See to it, all of us, that we cease not—he or she who has failed so far has a bitter Christmas to keep, indeed—to continue every effort to help and cheer those who are in deadly peril for us, and those who are bereft of the stay and comfort of their lives. See to it also that our own part is played manfully, and that the children who are keeping Christmas to-day shall not grow up to reproach our lack of self-sacrifice. And remember that, if needs be, as Ruskin taught us half a century since, it is as imperatively our duty—teacher, lawyer, physician, craftsman, merchant, whatever we are—to die at our posts, rather than fail in one iota of service, as it is that of the soldier or sailor in battle. We shall be shamed indeed, if, when they return after victory, the Motherland of the Empire is not better every way, and not worse, than when they left it.

At the next meeting of the Royal Institute of British Architects in January, Mr. Max Clarke (F.) will move the following resolution: "That the Austrians and Hungarians, seven in number, now enemies of the King, whose names appear in the 'Kalendar' for the present session, on p. 231, cease to be members of this Institute, and their names be removed from the list of members. And also that the Germans, eight in number, now enemies of the King, whose names appear in the 'Kalendar' for the present session, on p. 232, be dealt with in a similar manner." We take it for granted that this motion will be promptly carried, and we trust it will be fittingly supported by some of those who are well able to voice the detestation with which the enemies of civilisation, who have violated every counsel of humanity and every canon of reverence for art, are regarded by the representative institution of British architecture. There can be nothing in common henceforth between its members and their colleagues of other nations and the savages who have revelled in the destruction of the precious monuments of France and Flanders and the baby-killers of Scarborough!

As Mr. J. G. D. Campbell reminds the *Times*, it is of interest at the present time to recall Ruskin's estimate in 1874 of the German nature ("Fors Clavigera," Vol. IV, p. 84): "Blessing is only for the meek and merciful, and a German cannot be either; he does not understand even the meaning of the words. In that is the intense, irreconcilable difference between the French and German natures. A Frenchman is only selfish when

he is vile and lustful; but a German, selfish in the purest states of virtue and morality. A Frenchman is arrogant only in ignorance; but no quantity of learning ever makes a German modest. 'Sir,' says Albert Dürer of his own work (and he is the modestest German I know), 'it cannot be better done.' Luther severely damns the entire Gospel of St. James, because St. James happens to be not precisely of his own opinions. Accordingly, when the Germans get command of Lombardy, they bombard Venice, steal her pictures (which they can't understand a single touch of), and entirely ruin the country, morally and physically, leaving behind them misery, vice, and intense hatred of themselves, wherever their accursed feet have trodden. They do precisely the same thing by France—crush her, rob her, leave her in misery of rage and shame, and return home smacking their lips and singing Te Deum."

The usefulness of metal lathing has in many cases been impaired, as plasterers know, by its susceptibility to the corrosive effect of hard wall-plaster. Protection by coating has not seldom proved futile, and attention is being directed in Canada by Mr. Clarence W. Noble, who communicates his success to the Canadian "Contract Record," to the making the metal lath itself of one incorrodible alloy, or, where cost forbids that, to reduce the corrosion to such a degree that, while the protective coating will still be used, the attack at the scratch, should this occur, will have a negligible result. He announces a specification for metal lath in hard wall-plaster, which will not increase the price of the material in the slightest, and will reduce the corrosion at scratches to one-fifteenth of its former amount, a quantity which can safely be regarded as negligible. It is also found that this corrosion ceased under normal circumstances within a comparatively short time after the application of the plaster. In the spring of 1913 the attention of the writer was called to the greatly-increased resistance to corrosion that could be imparted to steel by the addition to its composition of a small percentage of copper. This alloy is now being manufactured commercially by the United States Steel Corporation. Roughly speaking, it will resist the corrosive effect of dilute sulphuric acid about fifty times as long as ordinary steel. Its life, when exposed to atmospheric influence, is from fifty to seventy-five per cent. greater than the life of steel free from copper. When immersed in a solution of table salt it will last twenty times as long as ordinary steel. These facts led to the hope that in this material might be also found an increased resistance to corrosion arising from hard wall-plaster. It was this hope that caused the writer to make his tests at the Laboratories, Limited, Toronto, which, as set out in detail, certainly seem satisfactory.

The earliest use of lead in the common form of a pencil occurs in a treatise by Conrad Gesner, of Zurich, in 1565. So architects before then had to manage without lead-pencils. Soon after the middle of the 16th century, however, the Borrowdale lead-mine was discovered, and natural graphite was made up and used in square, slender rods for draughtsmen and writing purposes. Substitutes for lead were used by Faber of Nuremberg, and Brockedon compressed powdered lead for pencils with great success

in 1843, when the Cumberland lead-mine already alluded to had become exhausted. Indeed, before then, in 1795, Conté, of Paris, invented a mixture for pencils in common use made up of graphite and clay, washed with acid, to clear the composition of iron. Plumbago has a remote resemblance to lead, and is, of course, an impure form of native carbon, which in James the First's lime was called "black cawke" or "sops," and it is found in dykes of diorite, or can be obtained from masses of meteoric iron. Workmen get a similar sort of material in the preparation of cast iron, which they call "kish," resembling plumbago. This substance gives a red mark, and molybdenite makes a greenish line. How far the common lead-pencil in use, say, thirty years ago contained an alloy of baser ingredients, more or less liable to oxidise, may furnish matter for inquiry.

Modern architects and painters may be assumed to have always used the better makes of lead-pencils, and after the inking-in with Chinese ink had been completed, it was a common practice during the whole of the 19th century carefully to rub out all the pencil marks, neatness being considered of the utmost consequence, and particularly so as long as Classic architecture was copied or emulated by the practitioner. Later on William Burges and some of his contemporaries adopted coarse, bold, heavy, thick lines, while George Edmund Street dropped "Indian ink," as it was called, and used writing fluid for his pen and ink sketches. For coloured plans Chinese ink had to be washed off, because it was so liable to run, particularly with ochres and burnt sienna. This led to the invention of indelible liquid inks, chiefly manufactured in America, and their use ever since has encouraged the very bold, black lines now common everywhere in this country. Fine lines are difficult to make with ruling-pens when using fluids of this kind, and blobs cause bad language, making also much mess. To soften down these crude effects some artistic minded draughtsmen leave in their heavy pencil lines, instead of rubbing them out, and Norman Shaw went further by stumping over parts of his pen and ink masterpieces of perspective work with lead-pencil, and this application of lead first has strengthened by time, whereas Street's common ink has faded and gone brown by age. Ink lines generally tone down in this way, aided, of course, by the natural discolourisation which overtakes most drawing-paper the older it gets. Pencil softens down; but this softening effect happens more from the assimilation of the colour of the paper surface with the pencil than by the fading of that medium itself, and this point is emphasised by the fact not generally known, that lead pencil, even when actually rubbed out, will reassert itself and come up again. Whether this is due to oxidation or not, it is a fact that pencil-marks are more susceptible to the camera than to the naked eye. This can be seen in the facsimile reproductions by photography of Old Masters' drawings, where faint pencil lines in the originals get undue prominence.

Lord Alverstone, in his "Recollections of the Bar and the Bench," just published, recalls the famous Whalley will case of 1881, one of the most remarkable causes ever tried in a court of law, and which nearly ended

in a gross failure of justice. The issue was the validity of a will by Whalley, who died in 1881. He lived in obscurity at Leominster, lodging with a railway porter, and he died worth £100,000. He said he intended to leave his money to his nephew, a clerk in the Great Western Railway, and Whalley showed this nephew his will a fortnight before he died; but when that event happened no such will could be found. Another will, however, was produced, giving only £5,000 to the nephew, £100 to another individual, and the remainder of the estate to the railway porter. This document was properly signed by the testator and duly attested. Under the circumstances, though forgery was suspected (and this will was carefully scrutinised by experts in handwriting), nothing but a compromise seemed possible, so £30,000 each was agreed to be between the nephew, railway porter, and the "next-of-kin," for whom Lord Alverstone, then Mr. Webster, was acting. This compromise, however, was ultimately upset when this disputed will had, by a singular coincidence, established itself, and so proved to have been the result of a conspiracy, which was managed in this manner: Whalley on his deathbed asked for a letter to be written to call his nephew immediately. It was written in pencil on blue foolscap paper, and Whalley signed and dated it in ink. The latter was, however, not sent to the nephew, but carefully rubbed out, and above the signature a will was written in ink, and the necessary attestation added. On the advice of an experienced officer of the Probate Court, who said that "pencil-marks will come back again, and always more or less reappear," this said will was once again examined at the Gloucester Registry, when it was discovered that the last line or two of the pencil letter could be clearly made out in parts. The writer of this will was in due course discovered, in consequence. The nephew got all the money, save £30,000, which he voluntarily gave to the "next-of-kin," allowing the first arrangement to stand so far, and one or more of the other parties got convicted. In the reproduction of this concocted document the pencil configurations alluded to came out clearly enough in the space inadvertently left over the signature of Whalley, and yet every trace of these marks must have been undiscoverable when the will was critically scrutinised by the experts and produced in the court at the trial.

Another instance of the assertiveness of the lead-pencil occurred under very different circumstances. During the "eighties," or thereabouts, Mr. E. J. Gregory, R.A., painted his well-known picture called "Dawn," in which the morning light is shown peeping through venetian blinds, the lamplight of the room competing with it. This beautiful painting has changed hands several times, but it is presumed that the following may be the reason for this. The artist evidently made a very careful nude study on his canvas before he painted in the lady's figure, when he added the draperies over the outline made from the life. This outline has gradually asserted itself, so that the entire form became clearly discernible, coming, in fact, right through the solidly-painted oil-colours. Some artists paint in the nude entirely previous to draping their figures; but in this case it is the pencil delineation of the outline only which has come into evidence. Another well-known contemporary painter produced a picture of

"Rembrandt painting the Portrait of his Mother," and prior to commencing the figures of this subject he carefully drew in the black-and-white marble floor, so as to insure its correct perspective. This he did three times before he could get the pattern right. He then lined it in before painting over the work thus set out. The picture was exhibited and sold, but in a few years the owner wrote to the painter saying that the figures were developing lines all over their lower limbs, the pavement jointings were coming to the front. The artist rectified the matter by repainting the parts complained of. In this instance ink had been employed to touch up the perspective lines on the canvas, so it was not so much the pencil.

Some years ago, as another instance of the assertiveness of lead-pencil, an architect engaged in a limited competition having to go into the country on business took his drawings with him to avoid loss of time. To save the risk of losing his parcel, he wrote, before starting, on the back of one of the sheets his name and address in pencil. Before the plans were mounted this was all rubbed out; but when he subsequently visited the exhibition of the competition plans he found, to his dismay, that the particular sheet on which he had put his name happened to be hung in front of a window, so that everyone could readily enough discern the authorship, although the designs were to be sent in anonymously, without any distinguishing mark whatever. He did not, however, win the premium, and nothing was said. The linen backing hid all marks from behind it, and it was only on holding the strainer up to the light that the pencil name could be read. The soaking for mounting had evidently brought up the lines in a way never contemplated for a moment by the competitor.

A METHOD OF PROPORTIONING CONCRETE.

By WILLIAM B. HUNTER.*

The writer submits herewith the results of studies as to a simple method of proportioning the ingredients of concrete so as to insure a satisfactory quality of concrete, and at the same time to avoid the use of an excessive amount of cement. Several methods for proportioning concrete have been proposed and are in use. These may be outlined as follows:—

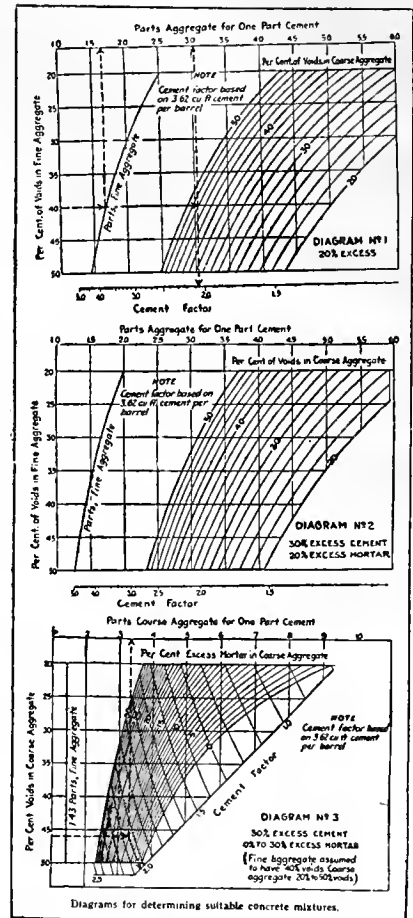
1. A careful mechanical analysis of the aggregates and the grading of the same, so as to get small percentages of voids, thereby reducing the amount of cement required to a minimum. This may be called the ultra-scientific method.
2. Arbitrarily fixing the proportions of cement to the aggregates; as 1 part cement, 2 parts fine aggregate, and 4 parts coarse aggregate, commonly spoken of as 1:2:4 concrete.
3. Adopting a given cement factor—i.e., the number of barrels of cement to be used per cubic yard of concrete; as a cement factor of 1.80 to 2.10, etc., and adjusting the proportions of the aggregates from time to time to fulfil these conditions.
4. Determining the amount of cement in excess of the voids in the fine aggregate required to make an acceptable mortar, and the amount of mortar in excess of the voids in the coarse aggregate required to make an acceptable concrete, and then, after determining the percentage voids in the aggregates, proportioning the ingredients so as to fulfil these requirements.

Method 1 may be dismissed without further

* Assistant Engineer, Board of Water Supply, New York City.

consideration on the ground of its impracticability.

Methods 2 and 3 are usually satisfactory, and, where the character of the aggregates remain constant, obtain practically the same results as the fourth method. With very little experimenting and the exercise of good judgment, satisfactory results can be obtained. There are, however, objections to these methods, where the aggregates are variable, especially in the percentages of voids contained. For example, assume a 1:2:4 mixture, which is usually expected to give a rich concrete with a considerable excess of cement and mortar over the voids in the fine and coarse aggregates respectively. With 40 per cent. voids in both fine and coarse aggregate, which may be considered as a fair average, with 1 part



cement, 2 parts fine aggregate, and 4 parts coarse aggregate, there is an excess of 0.2 part cement over the voids in the fine aggregate, and an excess of 0.6 part mortar over the voids in the coarse aggregate, which gives 4.6 parts concrete.

On a basis of 3.62 cu. ft. of cement per bl., this gives a cement factor of 1.62. This mixture would give good results, and the cement factor is about what is ordinarily expected. But, with 50 per cent. voids in fine and coarse aggregate, again with 1 part cement, 2 parts fine aggregate, and 4 parts coarse aggregate, there is no excess of cement or of mortar, and there results 4 parts concrete. It is evident that it would be very difficult to get satisfactory results with this mixture in many structures, such as conduits, thin walls, etc., where the ratio of the superficial area to the volume of concrete is large, and smooth surfaces are required, and yet the cement factor would be 1.86, which would ordinarily be expected to give excellent results.

Again, with 30 per cent. voids in aggregates and 1 part cement, 2 parts fine aggregate, and 4 parts coarse aggregate, there is an excess of 0.4 part cement over the voids in the fine aggregate, and an excess of 1.2 parts mortar over the voids in the coarse aggregate, which gives 5.2 parts concrete. It is easily seen that with these last conditions, satisfactory results would be obtained; but

the cement factor in this case is only 1.43. From the above it is apparent that a high cement factor does not necessarily insure a good concrete, nor does a low cement factor necessarily result in an inferior quality of concrete.

The fourth method is the result of the writer's endeavour to formulate a method which will meet the objections to the second and third, and could be used in conjunction with the first, if it were practicable to impose the conditions of that method. For the purpose of illustrating the use of this method three diagrams are herewith presented.

Diagram 1 is based on the assumption that it is desired to obtain a concrete in which the quantity of cement remaining after filling the voids in the fine aggregate will be 20 per cent. of the gross volume of the fine aggregate, and the quantity of mortar remaining after filling the voids in the coarse aggregate.

Diagram 2 is prepared on the assumption that it is required to have 30 per cent. excess of cement, as previously described, after the voids in the fine aggregates are filled, and 20 per cent. excess mortar after the voids in the coarse aggregate are filled.

Diagram 3 is submitted to indicate the application of this principle where the voids in the fine aggregate can be considered as constant, as is often the case, and the voids in the coarse aggregate are variable. In this case one diagram can be made to cover all percentages for a given percentage of excess cement over the voids in the fine aggregate. The diagram is based on the assumption that the voids in the fine aggregate are 40 per cent., and is computed to give an excess of cement, after filling the voids in the aggregate, of 30 per cent. of the gross volume of the fine aggregate, and 0 to 30 per cent. excess mortar after filling the voids in the coarse aggregate, the voids in the coarse aggregate varying from 20 per cent. to 50 per cent.

In Diagrams 1 and 2, the curve "parts of fine aggregate" can be used alone where a single aggregate is used.

The accompanying tabulation shows the comparison of results by this method, using Diagram 1, with the standard proportions 1:2:4, frequently used where a rich concrete is required:

Fixed proportions—	1:2:4	50	50	0	0	1.86
20 per cent. excess—	1:1.43:2.45	50	50	20	20	2.53
Fixed proportions—	1:2:4	40	40	10	15	1.62
20 per cent. excess—	1:1.67:3.33	40	40	20	20	1.86
Fixed proportions—	1:2:4	40	30	20	30	1.43
20 per cent. excess—	1:2:4.5	30	30	20	20	1.30
Fixed proportions—	1:2:4	40	30	10	25	1.49
20 per cent. excess—	1:1.67:4	40	30	20	20	1.55

From this table it will be seen that concrete proportioned on the basis of a given percentage of excess gives uniform results as to the quantity, the proportions, and the cement factor varying with the percentages of voids in the aggregates; whereas, with arbitrary fixed proportions, the quality of the concrete and the cement factor vary with the percentage of voids in the aggregates.

Using Methods 2 and 3 (fixed proportions and fixed cement factor, respectively), proportions are usually used which in many instances give mixtures much richer than necessary, in order to guard against getting inferior results from time to time when the aggregates run bad.

The diagrams submitted are merely illustrative of the principle involved, and are not necessarily expected to meet the requirements of any particular class of work, although the 20 per cent. excess diagram would probably give as good results as a 1:1½:3 mixture or a cement factor of 2, and would, in most cases, require less cement.

USE OF DIAGRAMS.

Example 1. To find proportions to give 20 per cent. excess cement and mortar after filling voids in fine and coarse aggregate respectively, when voids in fine aggregate are,

say, 40 per cent., and in coarse aggregate are 46 per cent. On Diagram 1, on the left side, find the line representing 40 per cent. voids in fine aggregates; follow this line to its intersection with the curve marked "parts of fine aggregate"; from this intersection follow up to the scale marked "parts of aggregate"; this gives 1.67 parts of fine aggregate. On the line for 40 per cent. voids in fine aggregate, follow to the right to the intersection of this line with curve for 46 per cent. voids in coarse aggregate; from this intersection again follow up to the scale of "parts of aggregate." This gives 3.03. The proportions are then 1:1.67:3.03. To find the cement factor: Read on cement-factor scale directly below the last found intersections, and we have the cement factor 2.06+.

Diagram 2 is used in the same way as Diagram 1.

Example 2.—To find proportions for 30 per cent. excess cement and 10 per cent. excess mortar, with the voids in aggregates the same as above—i.e., 40 per cent. and 46 per cent. respectively—use Diagram 3. The proportion of fine aggregate is constant in this diagram at 1.43. To find parts of coarse aggregate: On the left side of diagram, on line marked "per cent. of voids in coarse aggregate," find horizontal line for 46 per cent. voids; follow this line to the right to its intersection with curves for 10 per cent. excess mortar; from this intersection, go to the top of the diagram to the scale of parts of aggregates for one part cement; this will give 3.31. The proportions are then 1:1.43:3.31.

For the cement factor: From the intersection of the 46 per cent. void line with the 10 per cent. excess curve, follow parallel to the cement-factor curves, and read the cement factor—2.04+ on the cement factor scale. In advocating the employment of the percentage of voids contained in the aggregates as an agency in determining the proportions of aggregate to the cement in concrete, the writer is aware that he is proposing a method which has been cast aside by some of the concrete experts. Notwithstanding, he believes that the method herein described is sound in theory and practicability. The writer would further state that in the preparation of the accompanying diagrams he has neglected some small indeterminate coefficients which would not materially affect the results, but which would considerably increase the labour of preparation. The basis of the computation follows:

1. The effect of the amount of water required to give the mixture a proper consistency in increasing or decreasing the volume is neglected.

2. For the purpose of volumetric determination, the gross volume of the cement is considered as the absolute volume.

3. The volume obtained from given proportions is assumed to be the gross volume of cement and the absolute volumes of the aggregates.

4. The volume of one barrel of cement is considered to be 3.62 cubic feet.

The principal effect of these assumptions is that the cement factors are only approximate, but are believed to be close enough for all practical purposes; and inasmuch as all coefficients are more or less unreliable unless based on experiments with the particular ingredient to be used, it seems best to use none.—"Engineering News."

At York, on Monday, Mr W. H. Collins, an inspector under the Local Government Board, held an inquiry into an application by the city council for leave to borrow £6 214 for the erection of houses for the working classes.

For the new halls to be erected for the Wesleyan chapel at Nicolson-square, Edinburgh, the trustees have acquired property to the east of the chapel. There is to be provided, on the ground floor, six classrooms, a room for men's meetings, and a hall to accommodate 150; on the upper floor, a hall to seat 400, a ladies' room, and a hall kitchen. Messrs. Cousin, Ormiston, and Taylor, 140, Princess-street, Edinburgh, are the architects for the work, which will be put in hand at once.

Our Illustrations.

"PETWOOD," NEAR KIRKSTEAD, LINCOLNSHIRE.

This house, the country residence of Major A. G. Weigall, M.P., and Mrs. Weigall, lies amongst the pines, the birches, and the gorse of the charming and historical neighbourhood in Tennyson's country on the edge of the Lincolnshire Fen near Kirkstead, Tattershall Castle, and Woodhall Spa. The mansion is now being utilised as a hospital for soldiers recovering from the hurt and shock of war. The house was originally a straggling modern bungalow. The walls were of brick at the base, faced above with oak half-timbering, but of the modern superficial type, and the problem set through increasing so much the length of the house was that difficult one of insuring adequate dignity as well as a sense of size, and with a view to that end, the architect advised the introduction of a Tudor-to-Jacobean treatment. By introducing various massive stone features—almost in the "grand manner"—by screening off the old half-timbered features with projecting gabled extensions, faced with substantial oak half-timbering brought down low and based upon a solid and robust stone course, and by employing genuine good craftsmanship in all trades, an appropriate result has been secured. The series of plain, tall, angular chimney-stacks rising out of the long original main roof somewhat symmetrically, were noticed at the first as giving a stately effect, and these stacks were "played up to" by many new chimneys of similar proportions, but of different detail. Many of the ordinary ground-floor casement windows and other features are also left in position or reused for the extensions. The extensions, etc., have been made during the last four or five years, to meet additional requirements from time to time, and the house has become of comparatively great length; but this feature is found to be very desirable in a house where the summer parties of guests have been large, for it allows the company to be detached and distributed. The Oak Room is on occasion a banqueting room, and sometimes a ballroom; every convenience is at hand for perfect service, and there is an electric-light installation. The oakwork and plasterwork of the interior treatment were mostly drawn out in detail by the architect on the spot, and the design could thus be correctly adapted to suit the existing work and circumstances and to prevent waste. The general contractors were Messrs. W. Wright and Son, Ltd., builders, of Lincoln, who also carried out the oakwork in the Oak Room. Mr. Frank Peck, of Westminster, is the architect.

"ORIENT HOUSE," XLII-XLV, NEW BROAD STREET, E.C.

This building is an extensive block of offices, erected for Messrs. Kilburn, Brown, and Co., the East India merchants. The front is of Portland stone, the windows are fitted with steel casements, and the hall and staircase walls are treated in ornamental tiles. The building is of fire-resisting construction throughout. Messrs. Colls and Sons were the contractors, and Mr. Ernest Flint, F.R.I.B.A., of 80, Coleman-street, E.C., is the architect.

It was stated at the last meeting of the Flintshire County Council that at an early date a new river bridge will have to be erected at Queen's Ferry to connect Flintshire with the Wirral Peninsula. The cost will probably be about £22 000.

The new church which has been erected for the congregation of St. Mary's Parish Church, Motherwell, was formally opened last week. The church, which was designed by Mr. P. Macgregor Chalmers, architect, is in a simple type of Romanesque architecture. The interior is faced with stone, and has two side aisles and a chancel with organ-chamber. Vestries and a small hall adjoin the church, which has accommodation for 630 persons, and has cost over £4 000.



FIG. 1.—St. Barbara, Henry the Seventh's Chapel.
St. Uucumber.



St. Mary Magdalene, West Fr.

DEDICATIONS AND PATRON SAINTS OF ENGLISH CHURCHES.*

This is a most interesting volume, for it is written by an enthusiast in ecclesiology, who puts his heart into his work, with manifest zeal and a wide knowledge. Like the other eight or nine volumes produced by Mr. Francis Bond's prolific pen within the last few years, the work before us is profusely illustrated from photographs, some of which, by the way, have done service elsewhere—and by a few engravings from older works. Mr. Bond has a fluent and lucid style, and his deductions are sound and well supported by analogy.

The work is divided into three parts, the first and by far the largest section dealing with dedications to saints, the second treating upon ecclesiastical symbolism, and the third providing two alphabetical lists of saints and their emblems.

There is no authoritative list of English dedications in existence; but in the *Valor Ecclesiasticus* of 1536, containing the names of all parishes in England and Wales, and first printed in 1711 by John Ecton, the antiquary Browne Willis added the dedications so far as he was able to obtain them, in a new edition published in 1742 and a considerable bibliography

* *Dedications and Patron Saints of English Churches, Ecclesiastical Symbolism, Saints and their Emblems*. By FRANCIS BOND, M.A., Hon. A.B.D. V. Demy, 8vo, cloth, 343 pp., 252 illustrations, 7s. 6d. net. London: Humphrey's, Midford, Oxford University Press, Amen Corner, E.C.

has grown around the subject. Miss Frances Arnold-Forster's "Studies in Church Dedications," issued in 1899, being the most comprehensive. Mr. Bond has restricted himself to the dedications prior to the 18th century. He has first arranged these earlier dedications in order of frequency of occurrence, so as to arrive at the relative popularity or unpopularity of various saints, and has then endeavoured to ascertain how the old churchmen came to have such very different ideas from our own as to the merits or demerits of particular characters. This necessitated their division into various categories, such as the saints mentioned in the Bible, those of royal blood (chiefly of Anglo-Saxon dynasties), ascetics, evangelists, and martyrs. The anomalies of the relative popularity of saints as revealed in dedications are strange, and the author has valiantly attempted to explain their causes in some fascinating chapters.

There is not a single dedication in England to God the Father; but a considerable number of churches are dedicated to Christ, St. Saviour, or Jesus; some to the Cross and to the Sepulchre, two to the Holy Ghost, and no fewer than 297 to the Holy Trinity. But an unexpected fact is brought out by Mr. Bond, that these three dedications, 450 pre-Reformation examples in all, are far outnumbered by the 2,335 dedications to the Blessed Virgin, 1,255 to All Saints or All Hallows, 1,110 to St.

Peter, 687 to St. Michael and All Angels, 637 to St. Andrew, and just 500 to St. John the Baptist. The most numerous class is that of intercessory dedications, of which there are more than ten thousand examples. Of the 325 saints to whom churches were dedicated, 41 have but two dedications, and 146 only one. Most of those which occur but once or twice are obscure personages, and from Celtic districts, especially in Cornwall, or in districts adjacent to Cornwall and Wales. They were, the author suggests, missionaries who first evangelised a village, or persons who built the first humble Christian church of wattle or wood. St. Michael, as the protector of high places and as the leader of the Church militant, was popular; while, being a fighter, clad in armour and vanquishing a dragon, the Archangel



FIG. 4.—Agnus Dei. 16



FIG. 2.—Female Saint. Wells Cathedral.



FIG. 3.—St. Anne Teaching the Blessed Virgin to Read. West Wickham Church, West Kent.



end, South Brent Church.

was admirably adapted for pictorial representation. It is strange that there are but half a dozen dedications to St. Gabriel, the Angel of the Annunciation, and none at all to St. Raphael or St. Uriel, in the United Kingdom. St. Andrew became a favourite because of the highly imaginative description of his mission labours and martyrdom at Wondron, or the City of Dogs, an undesirable abode of cannibals, of which the precise locality is unidentified by modern explorers. The 137 dedications to St. Nicholas are chiefly in maritime districts, he being the patron saint of ships and sailors as well as of children. It is strange that there are but 181 dedications to St. John the loved disciple, against 500 to the Forerunner, St. John the Baptist. Indeed, those who built our churches cared, as

the author shows, little for those who wrote the Scriptures, and for those who interpreted the Scriptures still less. The scholar was of small repute compared with the soldier, or even the man or woman of ascetic life. In fascinating style Mr. Bond narrates the stories of many of the early saints—of the impulsive and unpractical St. Bridget, one of the nine holy people who hung their cloaks on sunbeams; of the chequered career of St. Wilfrid, missionary, archbishop, and exile by turns; of the Fenland preachers, St. Botolph and St. Guthlac. The choice of dedications from among the white-robed army of martyrs, the author shows, singularly capricious. St. Lawrence has no fewer than 237 dedications, St. Oswald 67, St. Catherine of Alexandria 62, and St. Edmund 61; but few of the other martyrs were honoured with a dozen. No fewer than eighty dedications were made to Thomas a Becket, most of which after 1537 were either varied to St. Thomas the Apostle or were altogether changed. A curious history attaches to the little cruciform Norman church high up on the downs between Guildford and Dorking, on the pilgrim-way to Canterbury. Originally it was the church of the "Holy Martyrs"; after the murder of Becket, in 1170, it was rededicated to St. Thomas of Canterbury and All Holy Martyrs; after 1537 it became "Martyrs' Church," and finally this was corrupted into "St. Martha's Church," a

dedication otherwise quite unknown in England. The omissions from the dedications of English churches, such as Elizabeth, Cleopas, Silas, the Fathers, and the founders of the great religious orders—are remarkable. On the other hand, there are various uncanonised saints, such as Sir John Schorn, rector of North Marston, who conjured the devil into a boot, and is depicted performing this feat on the roof screens at Cawston and Gateley.

In the second section of the book before us, Mr. Bond points out that much of the mystic symbolism claimed for the planning and features of churches by pious churchmen proves illusive when subjected to analysis. Not a few details are common to churches and to pagan basilicas and temples, and many find their origin in the needs of ritual. A great amount of Mediæval carving and painting is, however, the author admits, quite unintelligible without some acquaintance with the emblematical import of the representations. A valuable chapter is devoted to the emblems usually associated with the saints, a description being given here of the eucharistic garments as commonly depicted. The excellent method has been adopted of compiling an alphabetical list of the generic emblems, with the name attached of the saint or saints with which they are associated, a second table being arranged alphabetically according to the saints' names, with their feast-days,

approximate date of death, and emblem in each case. These catalogues will be found invaluable for purposes of reference, and add greatly to the practical usefulness of the volume, which, like all Mr. Bond's works, is very fully and carefully indexed.

By the courtesy of the publisher, Mr. Humphrey Milford, we reproduce a few of the numerous illustrations. On the eastern wall of the south aisle of Henry VII.'s Chapel at Westminster are figures of St. Barbara and St. Uncumber, a couple of virgins, each of whom was martyred by her unbelieving father. The former saint (to whom but one church is dedicated) is shown supporting the model of a tower and her angel's robes in her left hand, while she is diligently reading from a bound volume held in her right hand. She derived her fame from having been slain by her father because she caused three windows to be substituted for two in a tower he was having built, the alteration being in honour of the Trinity. Many a building-owner has displayed wrath at departures from the approved plan, but the expression of his anger has seldom gone so far as in this case. The pious but interfering maiden is often portrayed in a statue or on glass as trampling upon her father. Another representation in the chapel of this saint carrying her tower (in that case side by side with St. Mary Magdalene) is on a circular panel on the north side of Henry the Seventh's tomb. The second figure is the still more popular one of the Bearded Lady, St. Uncumber, properly St. Wilgeforte, who prayed for, and was dowered with, a beard to keep off a pagan suitor, and was thereupon promptly crucified by her father. According to Sir Thomas More, she was in great favour with housewives because "for a peck of oats she would not fail to unumber them of their husbands." She is reading from a book resting on what seems like a T-square.

A second illustration is of two female saints on the west front of Wells Cathedral, the one unidentified having no distinctive emblem, the other easily recognised by the jar of ointment as St. Mary Magdalene.

The Late 15th-century window in the north wall of the Lady-chapel at West Wickham Church, on the Surrey border of West Kent, contains a beautiful representation of St. Anne teaching her daughter, the Blessed Virgin, to read from a leather-bound volume in black letter. At the period when this window was executed, the Mother of Mary was enjoying a sudden and great popularity. The simplicity and almost heraldically decorative treatment of the subject in this window are noteworthy.

Our last illustration is a crude 15th-century carving of the *Agnus Dei* from a bench end in the church at South Brent, under the abrupt mass of Brent Tor, and between a railway station and the Devon shore over Avon. The church, which contains work of every kind from Norman to Perpendicular, is one of fourteen dedicated to St. Peter, or Petrox, a sixth-century bishop.

GENERAL POINTS ON MOVING LARGE STRUCTURES.

In preparing a plan for the moving of any large structure, it will be necessary to make a careful study of the structure. The first object should be carefully estimated, the general construction of the building should be understood in order to know the distribution of weight on present foundations. The character of ground over which the structure is to be moved should be

considered, especially if the building is of a heavy type. After the above points have been carefully considered, a lay-out is made showing the manner of picking up the structure, which is done in the case of a brick or stone structure by inserting either beams or heavy cross-timbers at proper places to take the load without causing strains in the

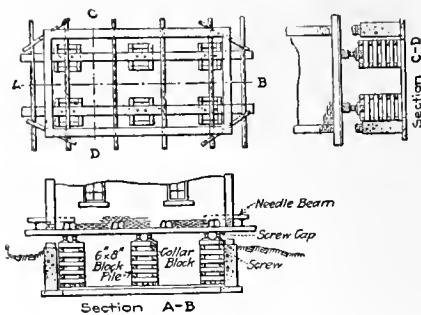


FIG. 1.

main structure, when the building is raised. The main principle in raising structures is to keep conditions as nearly as they were when on original foundations.

In the case of steel structures, special consideration is given to each individual case, and no set method can be laid down for the work; however, the general principles are applicable to all structures. The following sketch (Fig. 1) shows the manner of building

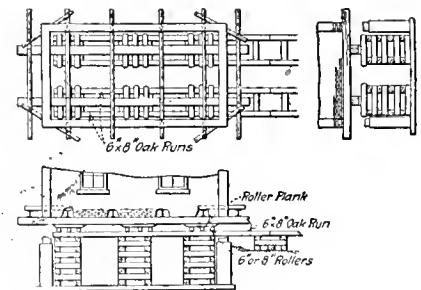


FIG. 2.

a blocking and the setting of timbers and arrangement of screws for raising a structure. Regularity and care must be used in building the blocking and in the manner of setting the screws and locating cross-timbers for taking up the building. After the building has been raised the required height and it is desired to move it, oak runs are built and the building lowered on rollers which bear on 6in. by 8in. oak runs below and on roller planks above, after which the jackscrews are removed. This is shown by the sketch, Fig. 2.

In case it is desired to turn the building

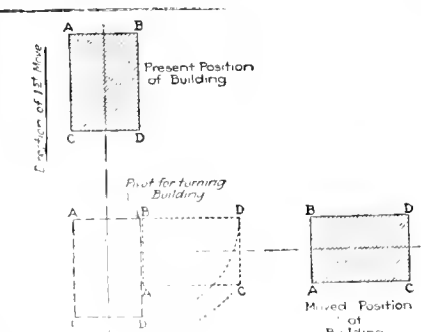


FIG. 3.

slightly, the rollers can be "cut," that is, set at a slight angle to the general direction and gradually brought over to proper line. Cutting the rollers is a term used for knocking one end of the roller slightly with a hammer to change the general direction of the structure being moved. However, it is sometimes necessary to actually cut the rollers with a saw. Where the building is to be given a quarter or half turn, or a complete

turn, a pivot point is selected, and runs laid and rollers set to operate about this point (Fig. 3).

In the alteration of buildings, such as the change in fronts or shoring of floors or the supporting of heavy structures where high blocking would be required, pump logs or drums are used. Pump logs are timbers, usually 8in. by 8in. in size, but often larger, one end of which is bored to a 4 1/2in. diameter about 18in. deep. In this hole operates the screw, the lower part of nut sets in the 4 1/2in. hole in the timber, and the flange of nut bears directly on the bottom of timber—more often a collar-block is used to form a bearing for the nut. Drums are usually set in position with the screw at the lower end, so that the screw may be more easily operated.

In the moving of brick structures great care is required to keep the building level and the movement uniform. It is usually customary to run cables entirely round the building and tighten by means of ratchets. In attaching the ropes to take the blocks for moving a brick structure these are not connected directly to any part of the brick building, but to the timber or steel grillage upon which the building sets.

The building is watched carefully by all the men, to assure raising in a level position. These levels are procured by means of ordinary carpenters' spirit-levels, which are placed on runs and timbers which support the structures, and these kept as near level as possible. In raising the building a number of screws are divided among the men. Each man may have ten screws to turn. Each man takes his screws and makes two rounds on a given signal. He starts at one end and makes a quarter-turn and goes through to the end of his screws, and then returns and stops until everyone else is through and until the signal to turn is given again.

According to the latest returns, the number of members of the Royal Institute of British Architects on active service is as follows: 25 Fellows, 173 Associates, 63 Licentiates, 113 students—total, 374.

A public hall, with soup kitchen attached, is about to be built at Kilkenny for the corporation of that city. Mr. T. A. Mandeville, of Haddington-road, Dublin, is the architect, and Messrs. Thompson, of Fair View, Dublin, are the builders.

The only memorial to Sydney Smith (except the stained-glass window in Combe Florey Church) was unveiled on Sunday morning in Foston Church, near York, of which parish he was rector from 1809 to 1829. The memorial consists of a bronze tablet showing in bas-relief Smith's portrait by Eddis in the possession of Lord Knutsford.

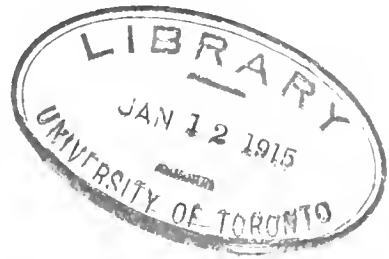
A full-size photographic reproduction of the Bayeux tapestry, coloured by hand, has been added to the Victoria and Albert Museum. A guide to this fine copy of the most famous of Medieval embroideries has been prepared by Mr. F. F. L. Birrell, and is sold at the museum for sixpence. Its aim is to present in a handy form the most important of the ascertained facts regarding the tapestry. It contains twelve illustrations.

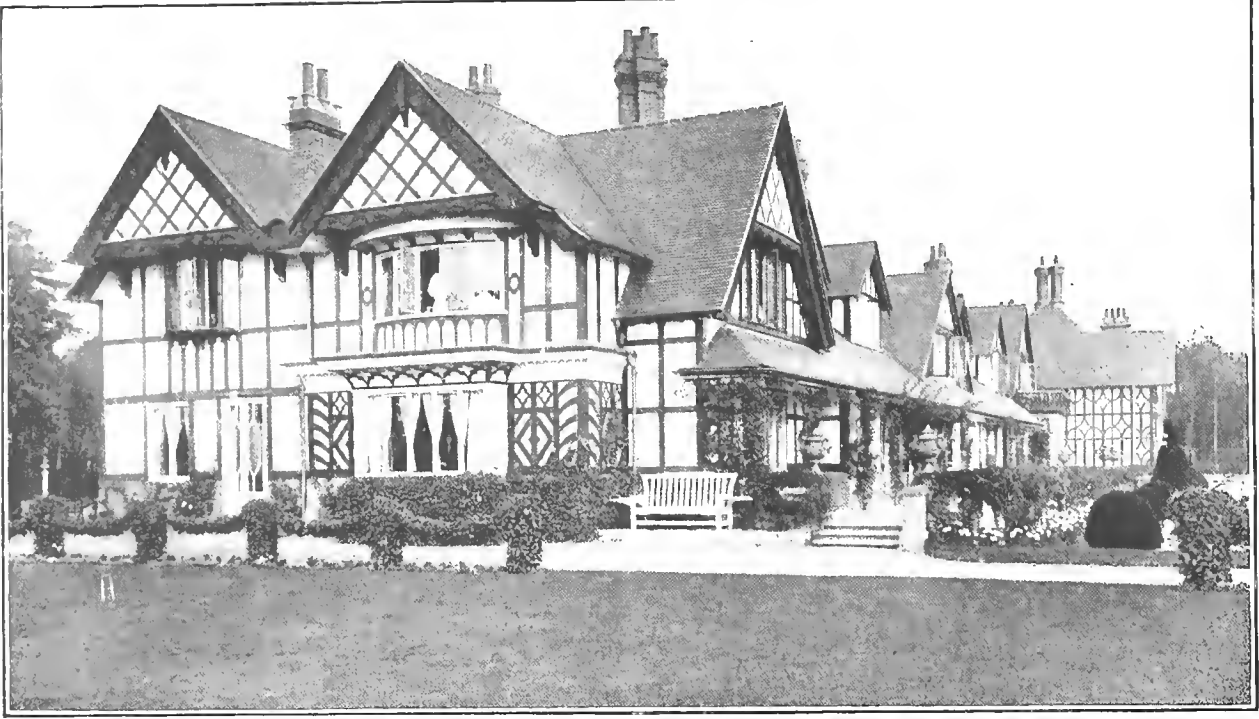
The council of the Institution of Municipal and County Engineers have decided to support the proposal of asking for tenders for sanitary pipes at a discount off the standard gross list prepared and published by the Midland Pipe, Northern Potters', and Devon and Dorset Sanitary Ware Manufacturers' Associations, and obtainable from Mr. W. H. Facon, secretary of the Midland Pipe Association, in view of the reduction of clerical work and simplification of classification rendered possible thereby.

At the last meeting of Dewsbury Town Council, Councillor Garforth protested against the decision of a committee not to return to the contractors the priced schedules of quantities which accompanied their tenders for the sewerage contract at Mitchell Laithes, proposed to be carried out from plans by Mr. Diggle, C.E. Councillor J. Oldroyd remarked that the tenders had been sealed and put away. Evidently they were no good to the corporation, and he suggested that they should be returned to the contractors. Alderman Gledhill stated that the committee acted on the advice of Mr. Diggle and the town clerk in the matter. The committee had acted within their rights. The subject then dropped.

Continued on page 819. W. Bond's works, published by the Publishers of the Engineering Society of Western Pennsylvania.

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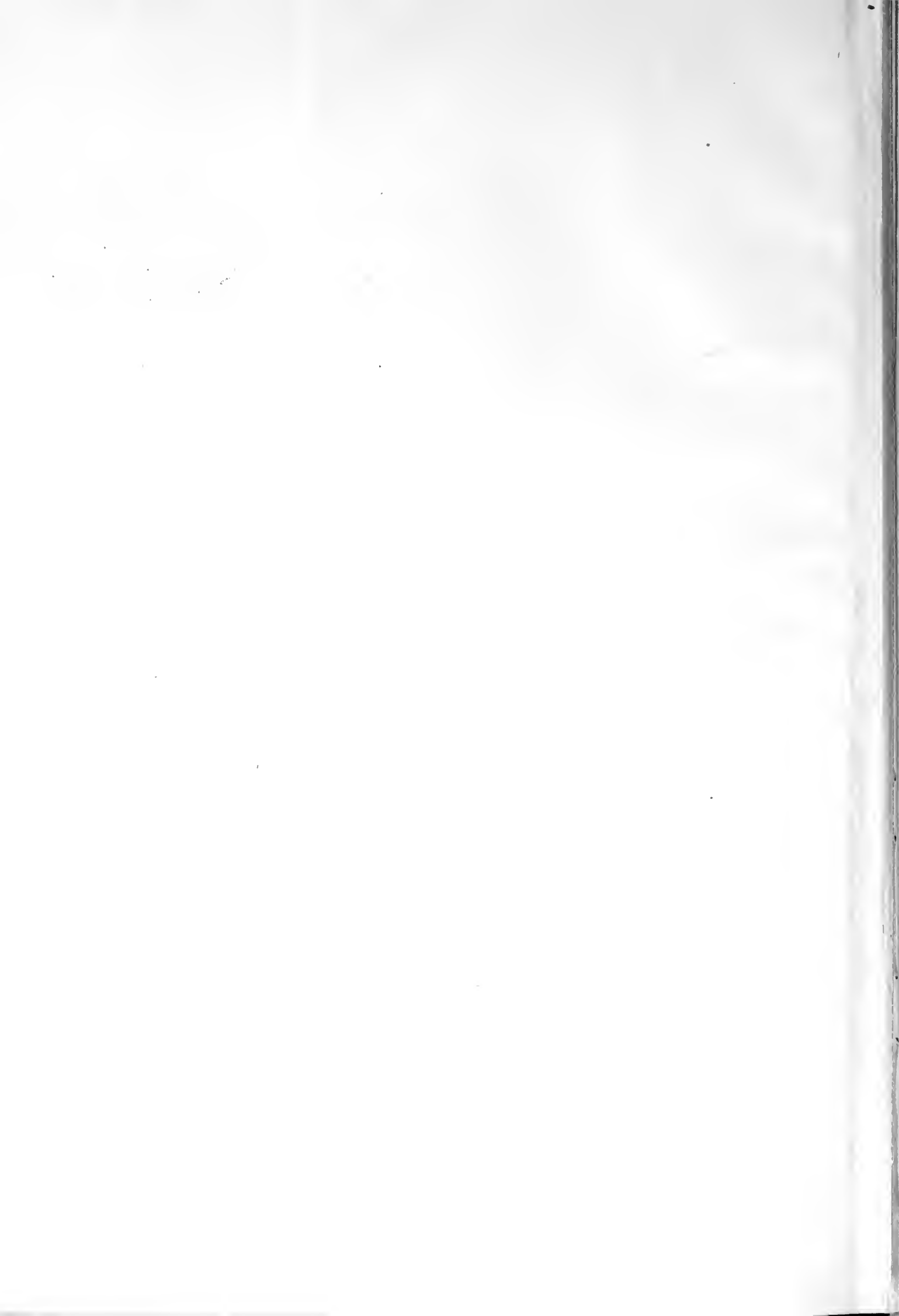


Hart & Co. Photo. London.

"PETWOOD" (NEAR KIRKSTEAD, LINCOLNSHIRE), THE RESIDENCE



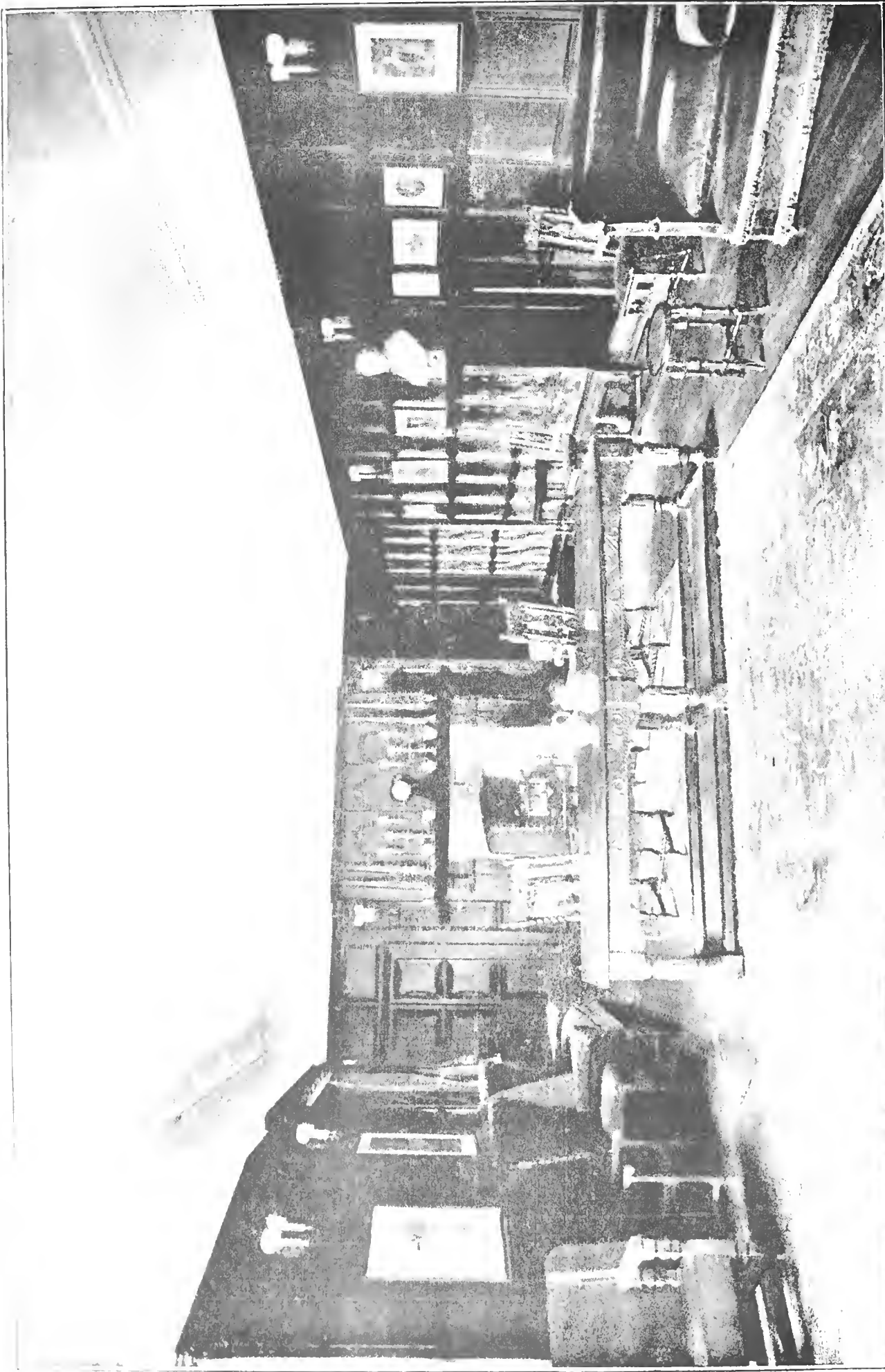
DENCE OF MAJOR A. G. WEIGALL, M.P. Mr. FRANK PECK, Architect.



21-819



THE BUILDING NEWS, DECEMBER 25, 1914.



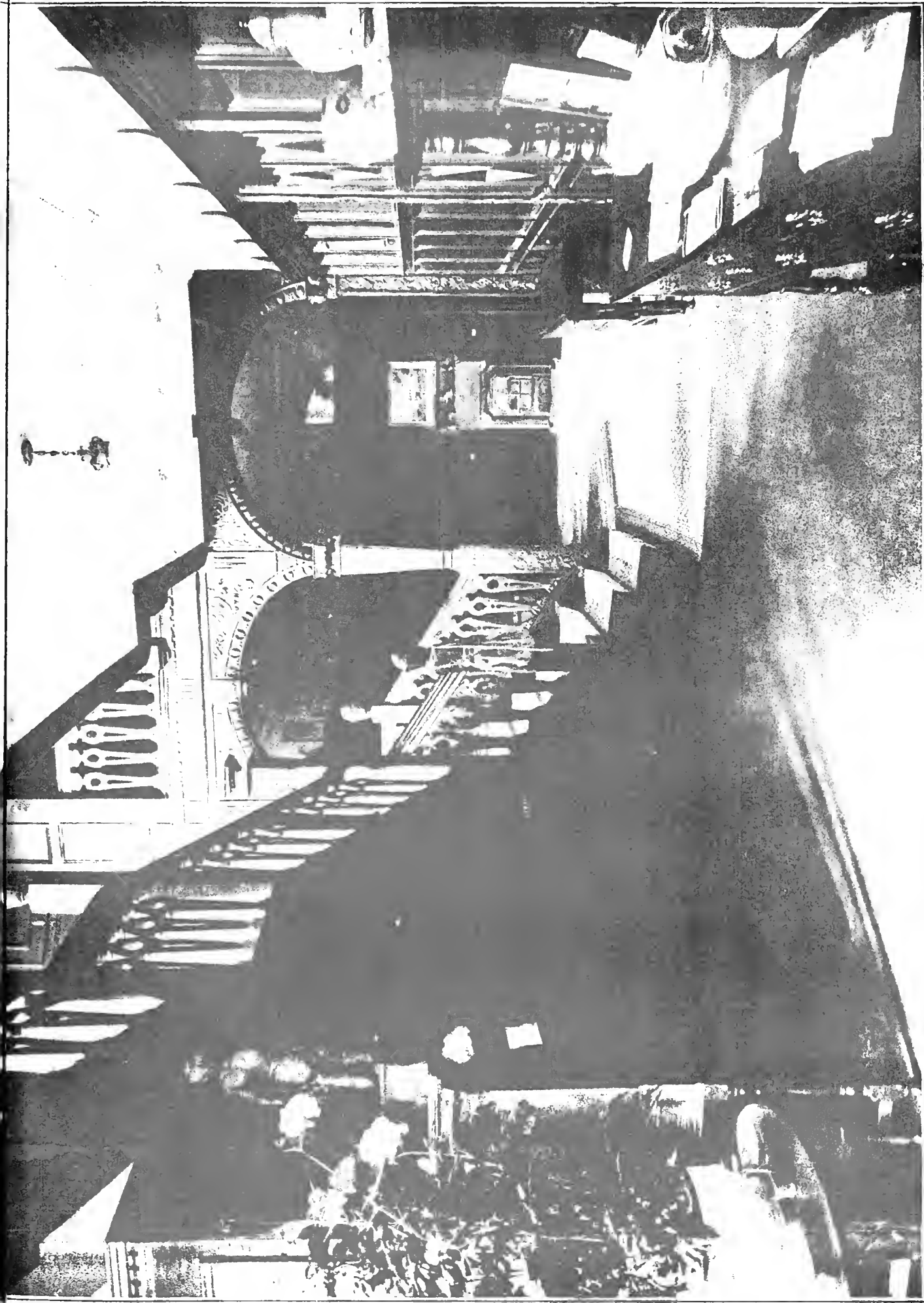


Illustration by J. C. ...

THE OAK ROOM AND STAIRCASE HALL, "PETWOOD" (NEAR KIRKSTEAD, LINCOLNSHIRE), THE RESIDENCE OF MAJOR A. G. WEIGALL, M.P.—Mr. FRANK PECK, Architect.



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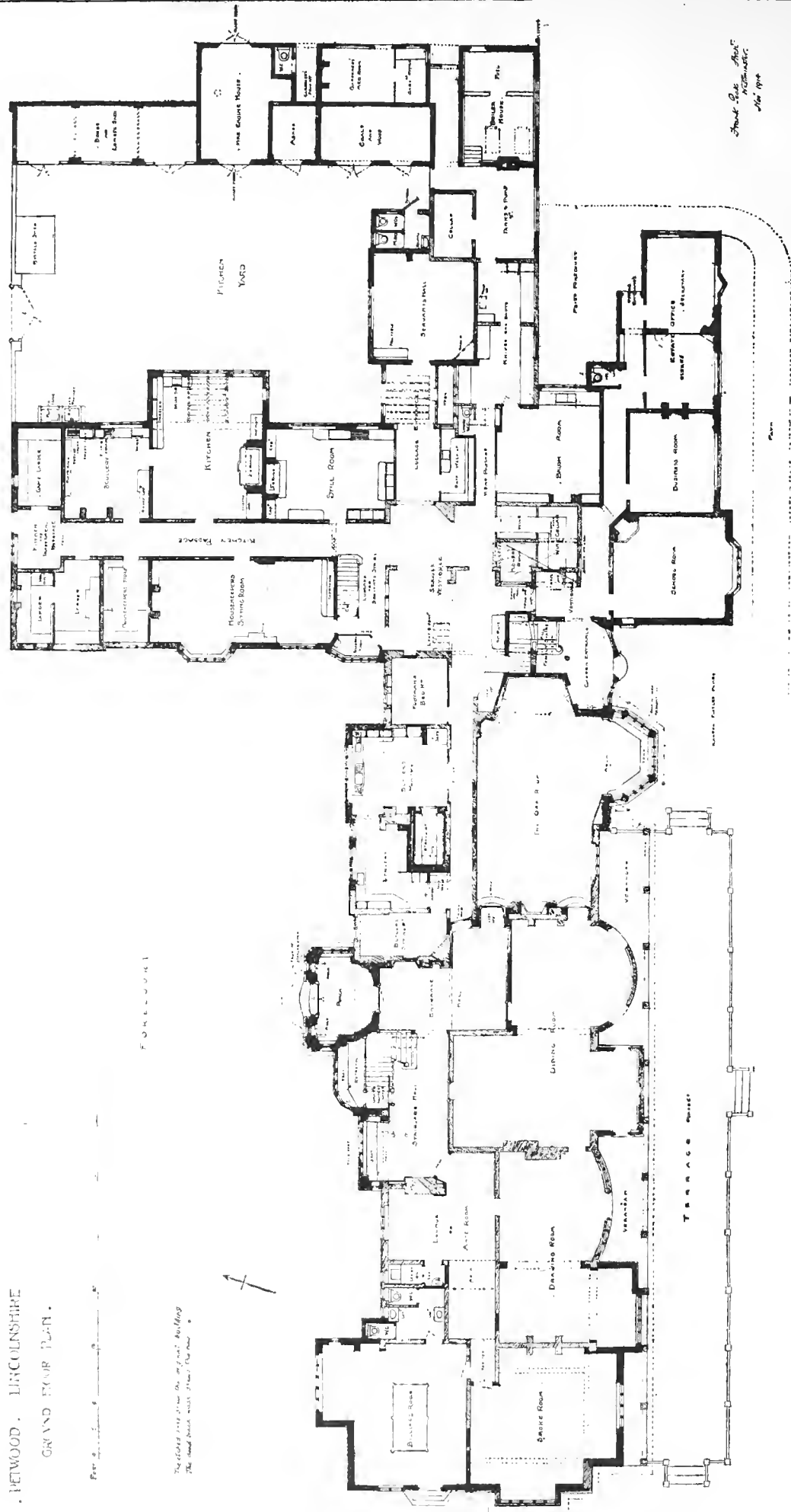
THE BUILDING NEWS, DECEMBER 25, 1914.

PETWOOD, LINCOLNSHIRE
 GRAND FLOOR PLAN.

FIG. 2.

The dotted lines show the original building.
 The solid lines show the new building.

FOR LAYOUT



Frank Peck, Architect
 1914

"PETWOOD" (NEAR KIRKSTEAD, LINCOLNSHIRE), THE RESIDENCE OF MAJOR A. G. WEIGALL, M.P.
 Mr. FRANK PECK, Architect.



Bedford Levers & Co. Photo.

"ORIENT HOUSE," NEW BROAD STREET, E.C. MR. ERNEST FLINT, F.R.I.B.A., Architect.



Building Intelligence.

BOURNEMOUTH.—A new church was dedicated on Monday, the 7th inst. It is situated at Westbourne, a central portion of the West Cliff, and when the lofty spire is added, it will form a beacon from the sea. The plan is cruciform, and there is a lofty clerestory above the nave arcade and transept. Rock-faced Purbeck stone has been used for the facings, with Monk's Park dressings, the style adopted being that of the 14th-Century, the window-heads being fitted with Geometric tracery. The roofs are covered with small grey-green slates, and inside they are boarded upon arched ribs. The ventilation is by Messrs Boyle and Son. The general contractors were Messrs Hayward, of Washington-avenue, Bournemouth, and the architect Mr. E. H. Lingen Barker, of Moscow-court, London. Mr. W. K. Ellerton acting as clerk of works. The total cost is given as £9,000 (irrespective of tower, etc.), and the accommodation is for about 600.

COCKERHAM.—The parish church of St. Michael's, Cockerham, has, with the exception of the historic beacon tower, been completely rebuilt, and was dedicated on Sunday. The cost has been £5,000, and of this Mr. F. J. Harrison, of the Harrison Shipping Line, contributed £3,050. He started the scheme as an expression of respect to his ancestors, who were yeomen of Cockerham, and his wife laid the foundation-stone. There has been a church on this site since 1160. Ancient piscinas and other relics were discovered during the restoration. The tower arch, which was built up, has been exposed and the tower thrown open to the church, the west door being restored. Messrs. Austin and Paley, of Lancaster, were the architects.

COMPETITIONS.

ST. PANCRAS TOWN-HALL.—In the limited competition for designs for alterations to the St. Pancras Town-Hall, Mr. H. W. Wills, the assessor, has awarded the first premium of £52 10s. to Mr. A. J. Thomas, Licentiate R.I.B.A., of 28, Upper Park-road, Haverstock Hill. Three architects were invited by the borough council in June last to compete, and premiums of fifty, thirty, and twenty guineas respectively were offered.

The "Boletín Oficial" (Buenos Aires) contains a decree authorising the Dirección General de Obras Hidráulicas to make arrangements for the construction of a new quay at the port of La Paz at an estimated cost of 50,490 pesos currency (about £4,400).

Mr. N. O. Meade-King, Local Government Board inspector, has held an inquiry at the town-hall, Manchester, respecting the corporation's proposal to borrow £14,110 for works of private street improvements. Mr. Heath, deputy town clerk, appeared for the corporation, and evidence in support of the application was given by Mr. Meek, deputy city surveyor. There was no opposition.

Sir Laurence Gomme unveiled, on the north side of Lincoln's Inn Fields, on Saturday afternoon, a memorial of Margaret Macdonald, the wife of Mr. Ramsay Macdonald, M.P. The memorial assumes the form of a seat of old ship teakwood, with an enclosing granite setting carrying a bronze group, some twelve feet in length, representing a female figure with arms outstretched over groups of little children. The group appeared in the Royal Academy Exhibition this year. The artist is Mr. Richard R. Goulden.

A verdict of "Suicide during temporary insanity" was returned on Saturday by an East Kent coroner's jury at Kingsnorth, near Ashford, at an inquest on the body of Mrs. Mary Frances Crane, aged sixty-eight, the wife of Mr. Walter Crane, R.I. Mrs. Crane was found on the railway line some distance from a level crossing, having been knocked down by a Hastings-to-Ashford train. She had been staying at Finn Farm, Kingsnorth, for a rest cure. She was the daughter of the late Mr. Thomas Andrews, of Hempstead, Essex, and was married to Mr. Crane in 1871. The funeral took place at Ashford, Kent, on Monday.

PROFESSIONAL AND TRADE SOCIETIES.

THE BRITISH SCHOOL AT ROME.—Notice is given that the open examinations for the Rome Scholarships in Architecture, Sculpture, and Decorative Painting, and for the Henry Jarvis Studentship in Architecture, due to be held in 1915, will be postponed for one year. Announcement will be made later of the date by which the works for these postponed examinations are to be submitted. Candidates who would have qualified to compete for the 1915 Scholarships will not by reason of this notice forfeit their qualification to compete in the postponed examinations.

LONDON MASTER BUILDERS' ASSOCIATION.—The forty-third annual general meeting of the London Master Builders' Association was held at Koh-i-Noor House, Kingsway, W.C., at 4 p.m. on Dec. 16, 1914, the chair being occupied by Mr. Walter Lawrence, jun., president. The report of the council for the year was received and adopted. Prior to proceeding with the election of the officers and members of the executive council for the ensuing year, an especially pleasing function occurred. In October last Messrs. Ernest J. Brown and James S. Holliday, both past-presidents of the association, issued a circular to all members containing the following: "Although the recent 'trade dispute' is perhaps nearly forgotten, the members of the L.M.B.A. will not readily forget the services rendered throughout this prolonged dispute by the president, Mr. Walter Lawrence, jun., who not only devoted his time and energy unsparingly, and consented, at the urgent request of the council, to extend his term of office for two years, but also protected the interests of the Association with conspicuous ability." The result culminated at this meeting, when Mr. Brown, on behalf of the association, presented Mr. Lawrence with a handsome silver centrepiece and two fruit-dishes, inscribed as follows: "Presented to Walter Lawrence, jun., by the London Master Builders' Association as a mark of appreciation of his devotion to its interests during his presidency, 1913-15." The sentiments expressed by Mr. Brown, who was supported by Mr. Frank May, having been received with unanimous acclamation, the president suitably returned thanks, and assured the meeting that the interest of the Association would continue to receive his earnest support and attention. The following elections were made for the ensuing year, namely: President, Mr. W. E. Wallis, J.P. (Messrs. G. E. Wallis and Sons, Ltd.); senior vice-president, Mr. Edmund J. Hill (Messrs. Higgs and Hill, Ltd.); junior vice-president, Mr. Wm. Downs, Walworth; treasurer, Mr. F. Shingleton, M.V.O. (Messrs. Leslie and Co., Ltd.); hon. auditor, Mr. C. Elliott (Messrs. Dove Bros., Ltd.); and nine members of the executive council to fill vacancies occurring, in accordance with the rules of the association.

METHODS OF PURIFYING WATER.—Mr. James R. Milne, D.Sc., vice-president, occupied the chair at the last meeting of the Royal Scottish Society of Arts, held at 117, George-street, Edinburgh. A paper was read by Dr. T. W. Drinkwater, F.I.C., on "Methods of Purifying Water." The various sources of town water supply and the relative merits of each source were discussed. Tracing the history of the water, from rain-water to river, lake, and well, the lecturer described the characters of each kind of supply and their bearing on health. As regards river-water, it was shown that the death rate of towns supplied with river-water compared favourably with those supplied by moorland and lake water. The problems connected with sand filtration were described in some detail, and the various mechanical filters, such as the Bell and the Candy filters (the former being used at Fairmilehead) were explained. Chemical methods of treating polluted water so as to render it fit for primary purposes, were described, and the results were illustrated by numerous analyses.

THE ORIGIN OF THE CORINTHIAN ORDER.—The origin and use of the Corinthian Order, which was Greek by birth but Roman by adoption, was discussed by Mr. Banister F. Fletcher, F.R.I.B.A., in his last lecture at the British Museum. The Greeks' love of the beautiful and their gift for developing art-forms tempted them, for a time, away from the sturdy Doric and the simple and slighter Ionic to that more varied and ornate combination of nature forms which became known as Corinthian. Doric and Ionic were both tribal names, but Corinthian bears no such meaning. Some of these early capitals were in bronze, a metal worked at Corinth by a certain Callimachus, and thus known as Corinthian bronze: much as we call a certain product Sheffield plate. So the material may have given the name to the style. Mr. Fletcher considered that, as to origin, it was hardly likely that the new Order was suggested by the anthemion necking of the Ionic capitals of the Erechtheion, because that did not account for the altered shape and increased height. It was more probable that Greek artist-craftsmen, who ever sought some new thing, seized upon the Egyptian lotus and papyrus prototypes at Karnac and Philæ, and from them reproduced the bell-shaped capital, sheathed in tiers of carved acanthus leaves and curling calices. Greek imagination was strong enough to create the Order, but Greek love of simplicity was stronger, and the Order was little used, except in small buildings, like the Choragic monument to Lysicrates and the Athenian merchant's Tower of the Winds. It made, however, a stirring appeal to the Romans, who were then making use of beautiful forms in building to emphasise their Imperial power.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—The Board of Architectural Education announce that the designs submitted by the following students who are qualifying for the Final Examination have been approved:—

Subject XVII.—(a) Design for an Elementary Mixed School: C. H. Aslin, R. Bisiker, J. McL. Brown, W. J. Brown, A. B. Bailey, W. Dougill, E. W. Filkins, R. B. Hall, N. G. Harland, W. Holden, N. Keen, C. Lancaster, F. C. Langrish-Tove, S. H. Loweth, V. Middleton, S. E. Minns, C. H. Mitchell, J. J. Nathanielsz, J. Palmer, C. S. Pictou, I. B. Pite, L. J. Bontley, T. H. Smith, A. S. Tanner, H. F. Walker, W. J. Watt, P. Whitehead. (b) Design for a Concert Hall: D. C. L. Derry, R. E. Doll, T. C. Evans, F. E. Gooder, G. B. Howcroft, V. Hull, E. Lyue, jun., T. S. Shearer, K. Takekoshi.

WILTSHIRE SURVEYORS' ASSOCIATION.—The first general meeting of the Wiltshire Surveyors' Association was held at the town-hall, Trowbridge, on Saturday, the 12th inst., the following members being present—viz.: Messrs. J. Geo. Powell, county surveyor (Trowbridge), A. E. Adams (Chippenham Borough), J. W. Brooke (Marlborough Rural), A. O. Crew (Devizes Main Roads), C. G. M. Cross (Westbury Urban), E. Plummer Davies (Tisbury), R. J. Giddings Bradford-on-Avon Rural), J. Godfrey (Calne Rural), H. G. Nicholson-Lailey (Trowbridge Urban), A. H. Lapham (Chippenham Rural), A. F. Long (Warminster Main Roads), S. W. Saunders (Devizes Rural), and W. H. Stanley (Westbury Rural). Letters of regret for inability to attend were received from several surveyors. Mr. H. G. Nicholson-Lailey was voted to the chair pro tem., and the following were elected to constitute the council for the ensuing year:—President: Mr. J. Geo. Powell, county surveyor. Members of council: Messrs. A. E. Adams, J. W. Brooke, A. O. Crew, J. W. Goodwin (Salisbury), J. Hamp (Swindon), H. G. Nicholson-Lailey, A. H. Lapham, and W. H. Stanley (the last named being elected chairman of council, with Mr. E. Plummer Davies as hon. secretary. It was resolved to hold at least four meetings each year, viz., in March, May, July, and the annual meeting the last Saturday in October. The March meeting is to be held in Chippenham.

Mr. H. S. Stewart, an inspector under the Local Government Board, held an inquiry at Epsom on Monday into an application from the urban district council for sanction to borrow £3,500 for the provision of working class dwellings.

Engineering Notes.

QUEENSFERRY.—The Flintshire County Council is faced with the prospect of having to construct a new toll-bridge at Queensferry, the present structure uniting Cheshire and Flintshire being scarcely adequate for modern conditions of heavy traffic. A report has been sent in by Sir Douglas Fox and Partners, engineers, London, who state that a new bridge has become necessary. They estimate the cost of the new bridge, fully adapted for present-day traffic, at £22,000; and they state that while the new bridge is in course of construction the existing structure can be used.

Mr. Wm. Garbutt, surveyor, of Epworth, has been elected president of the Derbyshire, Yorkshire, and Nottinghamshire Tenant Right Valuers' Association.

The West Kent Main Sewerage Board have received the sanction of the Local Government Board for borrowing £7,849 for extensions to their outfall works.

The committee of management of the Worthing Hospital have appointed Mr. Arthur H. Tucker, L.R.I.B.A., architect and surveyor, of Chapel-road, in that town, as secretary of the hospital.

The building of the new technical schools in Rutland-square North, Dublin, is making good progress under the city architect, Mr. C. J. McCarthy. The contractors are Messrs. A. Frazer and Co., of Bray.

Most of the principal buildings in the new Bankipore capital, including the High Court, Government House, and the Secretariat, are now well in hand, and the bungalows are being begun as the plans are finished.

At Ogmoo, Glami., on Tuesday in this week, Mr. Edgar Dudley, an inspector under the Local Government Board, held an inquiry with reference to an application from the urban district council for sanction to borrow £5,000 for the provision of working-class dwellings.

The rural district council of Warmley have decided to purchase 63 acres of land at £700 for the Bilton housing scheme, and their sanitary surveyor, Mr. H. M. Bennett, has been instructed to submit plans for eight houses.

Widespread sympathy will be felt with Mr. A. G. R. Mackenzie, F.R.I.B.A., son of Mr. A. Marshall Mackenzie, LL.D., A.R.S.A., who was severely wounded in action when with the London Scottish, and has had to suffer amputation of a leg. He is progressing favourably in Hursley Park Hospital, near Winchester.

Progress is being made with the negotiations for the construction of a new road in the Cambridgeshire Fens from Strotham to Dimock's Cote. The authorities concerned are the Cambs and Isle of Ely County Councils, the South Level Commissioners, and the Road Board. The scheme includes the proposed construction of a bridge over the river.

Mr. Whitney Warren, a well known American architect and a foreign member of the Academie des Beaux Arts, who has just returned from a tour of the devastated area in France and Belgium, has addressed an open letter to the American Institute of Arts and Letters asking that a movement be undertaken in the United States to stem the tide of German organised military vandalism.

Sitting in camera the Court of Common Council have considered a proposal of the War Office asking for a clause in the hiring agreement relating to Deptford Market giving an option of purchase. It was suggested that an option, to be exercised within two years, putting the selling price at £250,000, should be agreed to. The Court refused the option pending the result of a fresh valuation which is to be made.

The Newcastle-on-Tyne City Council are energetically taking up the question of housing the working classes, and 402 houses are to be erected by them at Walker. Application has been made to the Local Government Board for permission to borrow the money. The scheme will involve an expenditure of £66,977, whereas the revenue account shows an estimated surplus of £90 per annum. It is proposed to erect six types of houses: one of self-contained houses, while the other five types are to be on the flat principle, two-story high, and semi-detached. The rentals (free of rates and taxes) are to be from 4s. 3d. to 7s. 6d., the tenant paying the water rate in the latter case.

Correspondence.

UNHEALTHY SCHOOLS.

To the Editor of the BUILDING NEWS.

SIR,—I observe from a paper on ventilation recently read in London that with the latest "fresh-air" craze it is proposed to provide the "breath of life" propelled on to us in a horizontal direction; also that reduction of the body heat should be the sole aim of the "perfect" system, as nothing else matters nor need be considered.

We are gravely assured that the evil effects of foul air were entirely suppositionary and quite erroneous; that there existed no evidence—what about our senses?—that it was in any way injurious to health; but that, indeed, on the contrary, for all we knew, it may constitute a necessary factor in the preservation of health.

The horizontal blasts of fresh air with which we are threatened in future to be subjected to with this system, and which, it may be noted, should preferably be cold air—heated air being, seemingly, anathema—should, it is stated, "be continued until the maximum point of endurance is reached"—presumably when the unhappy martyrs to this, the latest cult in fresh air, cry out "Hold, enough!" when the current, we are told, may then be reduced, possibly, to enable the frozen victims to be thawed out, with the aid of hot drinks and other restoratives, to fortify them for further doses of the "horizontal" régime. Ambulances would doubtless be provided to convey the survivors to their homes or the nearest hospital, where they—at least, the married ones—might during convalescence, perhaps, meditate upon the truth of the Spanish proverb quoted by you: "The two greatest evils in life are a through draught and a scolding wife."

We are paternally advised not to mind "earaches" or "local pains in the body," which may result from this system, as they are all for our good, if we only knew it. Now, if we *must* have our "fresh air cure," at least let us have it in a little less disagreeable and drastic form than the methods now proposed, and which, as you truly say in respect to "cross" ventilation, would appear only to "add to the ills it is sought to cure" by creating others still more deadly and offensive. These "scientific" demonstrations involuntarily remind one of Panurge's famous lecture at the Sorbonne.

Curiously enough, though "plemm" and other artificial systems of ventilation in which fans are employed are freely criticised in the paper, and the huge sums which have so fruitlessly been expended on these methods deplored, it is somewhat inconsistently proposed to use fans with the "horizontal" suggestion. It was also advocated that if, instead of living in houses, as we so stupidly do, we occupied trenches, presumably in the back garden, we would be ever so much healthier, and that if this plan were only tried we would be surprised at the results. I should say we would; a case of the survival of the fittest, or eugenics at the other end—the end of most of us, probably.

Now, some people may think that this was "fresh air" run mad, or at least a violent attack of hygienic hysterics, and that these sapient, but admittedly well-meaning, Solons of the air were either lunatics at large, or, like Jack the Ripper, enemies of the human race, and who, in any case, should be locked up. Nothing of the sort. My private opinion is that they are humorists—hygienic humorists—and disciples of Mark Twain, with the humorous proclivities of Pooch Bah in the way of "ticklers," and "something lingering, with a little boiling oil in it," and suchlike pleasantries, only in place of "boiling oil" in this case it is cold air, and instead of being "lingering" it is more likely, when pneumonia supervenes, to be quite sudden.

The bark of these good folks is doubtless, however, worse than their bite, and they would probably think twice before putting into practice—at all events, on themselves—what they preach. All the same, these extreme views so confidently enunciated by

our self-constituted "fresh-air" instructors, who, on the question of ventilation, appear only to agree to differ, can but result in a rejection of, and general disbelief in, their fantastic dogmas and obnoxious nostrums, a consumption that would be greatly to be deplored, in the interests of saner and less erratic endeavours in the cause of good health.—I am, etc.,

London, Dec. 14, 1914.

R. G. B.

SANITARY SERVICE.

SIR,—May I beg the favour of your columns to appeal for recruits for the 1st London (City of London) Sanitary Company (T.F.)? Men of the company have been at the front for some time past, and further sections are at present under orders for duty with the Expeditionary Force. These sections, which consist of an officer, a staff-sergeant, two sergeants, two corporals, and twenty men, are going fully equipped for laboratory work, examining and sterilising water, disinfection, and general camp sanitation work.

The formation of these sections has absorbed the Imperial Service Company, and the majority of the 1st Reserve Company, and it is therefore necessary to raise further reserve companies, sections of which will have the prospect of going abroad almost immediately.

All recruits must be prepared to sign on for Imperial Service, and men from municipal engineers', architects', and public health offices, or from similar private offices, who possess satisfactory sanitary qualifications, are eligible for immediate promotion to N.C.O. rank. Pay is at the usual Army rates, with additional corps pay.

Applications should be made, either personally or by letter, to the Officer Commanding 1st London (City of London) Sanitary Company (T.F.), Room B6 (Turk's-row entrance), Duke of York's Headquarters, Chelsea, S.W.—I am, etc.,

C. N. DRAYCOTT, Staff-Sergeant.

Duke of York's Headquarters, Chelsea, S.W.,
Dec. 19, 1914.

At York, on Monday, a Local Government Board inquiry was held as to an application from the city council for leave to borrow £6,214 for a housing scheme.

Mr. Edgar Dudley, Local Government Board inspector, has held an inquiry at Worcester relative to the application of the city council to borrow £3,400 for an improvement in St. Martin's Gate.

Mr. H. T. Wakelam, who has been county engineer and surveyor of Middlesex since 1898, having previously a like appointment under the county council of Herefordshire for half a dozen years, has been elected President of the Institution of Municipal and County Engineers, in succession to Mr. J. S. Pickering.

A contract has been signed between the corporation of Chipping Norton and Messrs. Rowell and Sons, contractors, of that town, for carrying out the extensions to the sewerage and sewage-disposal works in accordance with the scheme prepared by Messrs. Berrington, Son, and Watney. Messrs. Rowell and Sons' tender for the work is £9,088.

At South Edmonton, Alberta, operations have been renewed on the new buildings for the University of Alberta. The general contractors are the Geo. A. Fuller Company, Ltd., and the total cost of the undertaking is placed at 450,000 dol. The building now under construction will be four stories high, 60ft. by 375ft. in dimensions, of stone and brick construction.

At the first meeting of the session for the year 1914-15 of the Society of Antiquaries of Scotland, held in the Rooms of the Royal Society of Edinburgh (the Hon. John Abercromby, LL.D., in the chair), Professor W. J. Watson, LL.D., described researches in regard to a class of small circular structures with an interior diameter averaging about 60ft., built of dry stone, the remains of which exist in the basins of the Lyon, Upper Tay, Tummel, Braan, and in the neighbourhood of Dalnally, in North-East Lorne. Professor Watson described the excavation of one of these fortlets near Borenich, on the side of Loch Tummel. No chambers were found in the wall; a few relics were recovered, and these were of such a character as to indicate an Iron Age occupation.

LEGAL INTELLIGENCE.

DISPUTED BUILDING CONTRACT.—In the King's Bench Divisional Court, on Friday, before Justices Ridley and Sankey, Mr. J. Bromley Eames mentioned the case of Dakin v. Lee, in which he appeared for the appellants. We reported the case last week. There was a dispute as to the amount due under the contract, and this went before an Official Referee, who decided that, as there had been three deviations in the contract, Messrs. Dakin were not entitled to the sum due under the contract. Messrs. Dakin appealed, and on Wednesday the Divisional Court reversed the Official Referee's award and found that Messrs. Dakin were entitled to the amount due under the contract. Mr. Bromley Eames now stated that when the case was decided on Wednesday the figure mentioned as the amount due to the appellants was £242 10s. The appellants had been overpaid for some additional work, and, allowing for this, he asked that judgment should be given for appellants for £227.—Mr. Cassels, for the respondent, stated that he did not agree to the figure. This was one of the results which followed a decision without the evidence having been looked at. The figure found by the Official Referee was £290. As regards the amount stated to be due for extras, this work had not been ordered at all. His client was also required to pay for four feet of concrete when only two feet had been put in. The whole thing was in confusion and muddle. It was impossible to fix the figure without going through the evidence.—Mr. Justice Ridley said the figures would have to be altered.—Mr. Eames said he should be prepared to accept a deduction for the concrete.—Mr. Justice Ridley said he did not follow Mr. Cassels's objection.—Mr. Cassels: Without any evidence at all, your Lordships are asked to put a value on the work.—Mr. Justice Ridley: That statement is not true.—Mr. Eames asked that the Court should order judgment to be entered for £227. He was perfectly prepared to justify this figure.—Mr. Cassels again made a protest.—Mr. Justice Sankey: You had better have another nine days' trial.—Mr. Cassels: I only want a proper decision.—Mr. Justice Ridley: The Court do not want to see the parties ruined.—Mr. Cassels: One has got to be ruined; the question is, which one?—Mr. Justice Ridley: You can go to the Court of Appeal and ask them to say that we are wrong.—Judgment was entered for the appellants for £227.

GODFREY v. EBNER.—In the Court of Appeal, on Saturday, Lords Justices Buckley, Phillimore, and Pickford heard the appeal of F. W. Godfrey (trading as Godfrey and Collins) v. Ebner, an action by Tewkesbury builders against the architect of a mansion (Honiton Court) near Tewkesbury. The plaintiffs, among other things, had contracted to put down a floor with elmerite, a cement composed largely of cork. Owing to damp in the cement flooring, the elmerite, it was alleged, was a failure; it would not wash, and all swept up. Mr. Justice Scrutton heard the action at Gloucestershire Assizes without a jury on February 2 (as reported in our issue of Feb. 6, p. 209), and held that the plaintiffs could not recover the expenses they had been put to, as they had been guilty of negligence in suffering the under-floor to be damp, and dismissed the action. They now appealed. The Court dismissed the appeal.

OLD HOUSES CONVERTED: ARE THEY NEW DWELLINGS?—At the Liverpool Police-court the stipendiary (Mr. Stuart Deacon) has delivered judgment in cases in which Allan Tracy and Son had been summoned on four informations for alleged breaches of the Liverpool Corporation by-laws. The defendants had been converting houses in Huskisson-street into flats, and the corporation held that the properties thereby became new dwelling-houses, and that they should have open spaces exclusively belonging to them. His Worship dismissed the informations on the ground that the corporation had not determined, as required by the local Act, which was the old part of the houses and which was the new. He also held that an open space did not mean ground-space, as contended by the corporation, but airspace, and that it was impossible under the by-laws to provide such ground-space for upper flats.

The Alnwick Urban District Council are about to apply to the Local Government Board for sanction to borrow £5,800 for the erection of workmen's dwellings on a site in the South-road, Alnwick, given by the Duke of Northumberland.

The death has occurred of Mr. J. F. Hewitt at Victoria Villa, Oldfield Park, Bath, at the age of seventy-two. For thirty-eight years the deceased was connected with the Somerset and Dorset Railway, resigning, as district engineer, seven years ago.

Our Office Table.

Part II. of the forty-third annual report of the Local Government Board, issued on Friday as a Blue Book, mentions that the problem of the housing of the working classes in England and Wales is undoubtedly one of the most serious of the present day. During the year to which this report relates the Board sanctioned the borrowing by 124 local authorities of sums amounting in all to £759,440, for the purpose of providing dwelling houses for persons of the working classes, under Part III. of the Act of 1890, as against £395,432 sanctioned in the previous year, and £229,100 sanctioned in the year ended March 31, 1912. This sum of £759,440 represented the estimated cost of approximately 394 acres of land, 3,337 dwellings or tenements, and incidental street works, drainage, fencing, etc.; and £193,580 of the total was for the purpose of 167 acres of land and the erection of 872 houses by rural district councils. The rent proposed to be charged varied from 1s. 9d. to 10s. per week.

Mr. A. E. Harvey, who is at the head of a party of architects, doctors, and nurses endeavouring to alleviate physical suffering and lay the foundations of the work of reconstruction in the districts over which the battles have swept in the Marne, has sent home, says the London correspondent of the "Manchester Guardian," some interesting accounts of the work that is being done. Next to medical assistance, what the peasants need most is some temporary shelter to replace their ruined homes. In the villages of Champagnon and Châtillon the architects have improvised several makeshift homes with planks and beams and a roof of tarred felt, with an angle of the standing walls as main support. In many cases, unfortunately, the walls are usually quite unsafe, and there is nothing for it but to demolish them and sort out any sound bricks for use when permanent rebuilding can begin. At every point there are serious difficulties. Labour, particularly skilled labour, is almost unobtainable, timber and felt are very scarce, and glass will probably have to be sent from England, for in France the supply is exhausted. And when the peasants are housed there still remains the urgent necessity of finding agricultural implements and seed corn to enable them to regain the power of self-support.

In his annual report to the City Corporation, Mr. Frank Sumner, the City Engineer, states, in reference to improvements, that claims amounting in the aggregate to £253,632 were settled during the year for £175,975. Further claims to the amount of over £182,500 were in course of negotiation at the close of the year. The quantity of water used during the year for washing and watering streets and courts is stated at 69,378,336 gallons. The number of "open" electric lamps in lighting at the end of the year was 232, a decrease of 97. In addition, there were 194 "Oliver" and "Excello" flame arcs and 126 metallic filament lamps in lighting. The number of gas-lamps at the end of the year was 2,264, a decrease of 360, the shrinkage being due to the reorganisation of the public lighting. The amount charged to the Corporation for water was £3,486, as against £3,834. The amounts received for hoards, scaffolds, and advertisements were respectively £768 15s. 6d., £217 11s. 4d., and £362, compared with £623 12s. 3d., £232 9s. 4d., and £81 15s. The total number of inhabitants of the artisans' dwellings on December 31 is given as 642, as against 839.

Many antiquities, mainly Roman, discovered during excavations on the site of City Corporation property at the corner of Sherborne-lane and King William-street, have been presented by the City Lands Committee, the "City Press" states, to the Guildhall Museum. From a Roman rubbish pit were taken a decorated Samian-ware bowl, 1st century A.D.; eight plain Samian plates and cups, same date; a large number of plain and decorated Samian fragments; a

vessel of coarse ware, hand-made; three clay net sinkers, a terracotta lamp, a fragment of tessellated pavement, a fragment of a terracotta stand, a bone whistle, a glass bead, a mortarium, a lid of a vessel in coarse pottery, a bronze fibula, imperfect; and two bronze coins of Claudius, 41-54 A.D. Other objects of Mediæval or later date were found in a layer of miscellaneous rubbish that overlies the pit, or in a well which was sunk through it—probably in the 17th century. These relics include an encaustic tile, 13th century; a pitcher, 14th century; a bellarmine, about 1600; a barber's pewter bowl, 17th century; a fragment of a Lambeth Delft bowl, early 18th century; and three glass phials, 18th century.

At the suggestion of Professor Ralph Adams Cram, president of the Boston Society of Architects, the mayor of that city has granted permission to the society to study Faneuil Hall, with a view to its restoration to its original aspect. Co-operation on the part of the city has been promised by the mayor, who desires that every proper step shall be taken to safeguard the preservation and historical interest in the building. The society very wisely proposes to not only restore the building, but, as far as possible, secure its fireproofing.

New rules for building elementary schools were issued officially in July, 1914 (Cd. 7516), and a useful résumé correcting the first column in the folded sheet opposite p. 14 in "School Planning," by Philip A. Robson, A.R.I.B.A., 1911, is issued by Mr. J. Nicholson-Smith, publisher, No. 5, St. Stephen's House, Westminster, S.W., price 6d. net, or 7d. flat net, post free.

"The Architects' and Surveyors' Diary and Price-Book for 1915" (London: Waterlow Bros. and Layton, Ltd., Birchington, E.C., 3s. 6d. and 6s., according to diary space and binding) is as indispensable as during any of its thirty-three predecessors. Its contents are too well known to all users to call for comment, and they are in every respect up to date. For the busy man the three-and-sixpenny edition may suffice; but, really, the liberal diary space and splendid binding of the six-shilling edition must tempt every really economical buyer to take the latter. That and his passbook will in many cases be as good to him as a set of books; no diary that comes our way has its equal.

According to an American contemporary, an experimental stretch of what is termed a glass road has been laid down on a portion of the new Lincoln Highway in Illinois. Thirteen barrels of a by-product of glass manufacture were sent to the convict road-making camp from a big glassworks for experimental use on the new transcontinental highway. Packed in airtight receptacles, the substance is said to have the consistency of molasses; but when exposed to the atmosphere it forms a translucent kind of glass, useless from a glassmaking standpoint, and usually thrown away. The liquid was mixed with clean crushed stone by the convicts, and the resultant material distributed over the highway in the same way as concrete might be. It hardened and formed a surface declared to be as lasting as concrete and much smoother. Some American road experts declare the weather will have a deleterious effect, but others think it will be found to be durable. Motorists who have used the stretch are, it is said, favourably impressed.

The property committee of the Selby Urban Council propose to submit a scheme to the Local Government Board for the erection of houses in Flexley-road on land proposed to be purchased from the Earl of Lonsborough. Forty-two houses erected in a new street called Powell street have been taken over by the council.

St. Martin's Church, on the South Cliff at Scarborough, was injured by the German shells on Wednesday in last week. The church was built from designs by the late Mr. G. F. Bodley, R.A., in 1863, and contains pulpit panels by Rossetti, stained glass by Morris, and a reredos designed by Burne-Jones. It has a roofscreen of carved oak, and a tomb of Purbeck marble.

MEETINGS FOR THE ENSUING WEEK.

THURSDAY (DEC. 31).—The Camera Club, "Belgium and Northern France as They Were and as They Are," by E. W. Harvey Piper, 8.30 p.m.

The School of Art at the Crystal Palace is to be closed at the end of the present term; but the School of Practical Engineering will remain open.

Mr. C. W. Kendrick, surveyor and sanitary inspector to the Bingham Rural District Council, has had his salary increased from £150 to £200 a year.

Mr. W. E. Woollam, surveyor and inspector to the East Grinstead Urban District Council, has been granted an increase of salary of £50 per annum.

Mr. Fred Elwell, the Beverley artist, has presented to the public library of his native town his Academy picture, "The Visit to the Lawyer," for which he has received the thanks of the corporation.

The Railway Board of India have sanctioned the construction by the agency of Messrs. McLeod and Co., Calcutta, of a line of railway on 2ft. 6in. gauge from Ahmadpur to Kutwa—distance 32.19 miles.

A Local Government Board inquiry was held at Brighouse on Thursday in last week with regard to an application from the urban district council for leave to borrow £2,300 for road repairs and £530 for works of sewerage.

At Beckenham a Local Government Board inquiry was held on Tuesday into applications of the urban district council for sanction to borrow £2,120 for road-widening, £1,090 for private-street works, and £515 for culverting operations.

The new Church of St. Mark, Harlesden, the advowson of which is vested in the trustees of St. Olave's, has been consecrated by the Bishop of London. At present the church is constructed to hold a congregation of 600; but as soon as funds permit it will be extended to seat about 800 or 900.

Mr. Eugene Zimmermann, the famous American caricaturist, died on Monday at Cincinnati, aged fifty-two years. Born in Basle, Switzerland, he started life as a boy on a New Jersey farm, doing odd jobs, and was successively assistant fish-peddler, baker, and sign-painter. From 1882 to 1885 he was connected with Puck, and since then had been cartoonist to Judge.

On Monday, at Derby, John Travis, a stonemason, was killed, and two other workmen were so seriously injured that their lives are despaired of, through the fall of a block of masonry weighing a ton and a half, which was being placed in position on some new premises. In its fall the block displaced three others, which smashed through some scaffolding, bringing down the three workmen.

During the twelve months ending Nov. 30 the plans committee of the Aberdeen Town Council sanctioned plans of new buildings or alterations of premises to the value of £101,912, the number of buildings being 214. In the previous year the value was £184,536, and the number of buildings 258. New dwelling-houses involved a sum of £15,825, business premises £26,976, public buildings £21,841 and alterations £37,270.

At Emmanuel Church, St. Philip's, Bristol, on Saturday afternoon, memorials were unveiled and dedicated to the late Rev. Richard Cornall, who was the first vicar of the church, and continued in that office for forty-five years. The memorials consisted of a cast-bronze tablet, mounted on black marble, and a brass reading-block. The cast-bronze tablet was supplied by Messrs. Joseph Bell and Son, of College Green, Bristol.

The London County Council has acquired Nos. 75 to 90, Strand, formerly the site of Court's Bank and built in 1768 from designs by the Brothers Adams. The premises are held on a lease expiring on Lady Day, 1915, which was obtained by the Council to prevent the creation of any fresh interests in the property and an increase in the cost of widening the Strand at that point. The Council has now bought the freehold interest from Lord Salisbury. The necessity of the improvement is estimated at £2,500. There is a story that in the planning of the Adelphi the Adams deferred to Mr. Thomas Gutter's wishes that his view of the Surrey Hill should not be obscured and that Robert Green, which leads into Adelphi terrace, was a place that the windows of his house (afterward occupied as the bank) still overlooked the river.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us. Timber quotations we omit altogether, as published figures differ so widely that they are, we fear, in many cases quite unreliable.

IRON.

Table with columns: Item, Per ton, Price. Includes Rolled Steel Joists, Wrought-Iron Girder Plates, Steel Girder Plates, Bar Iron, and various iron products.

Table for Galvanised Corrugated Sheet Iron, showing prices for different gauges and lengths.

Table for Wire Nails (Pointe de Paris), listing sizes and prices per cwt.

Table for Cast-Iron Columns, Cast-Iron Stanchions, Rolled-Iron Fencing Wire, and other iron products.

Table for B.B. Drawn Telegraph Wire, Galvanised, listing different gauges and prices.

Table for Cast-Iron Socket Pipes, listing diameters and prices.

Table for Pig Iron, listing types like Cold Blast, Lillieshall, and Hot Blast, with prices.

Table for Wrought-Iron Tubes and Fittings, listing various types and prices.

OTHER METALS.

Table listing various metals and alloys such as Spelter, Lead, Copper, Tin, and Sheet Lead, with prices per ton.

SLATES.

Table listing different types of slates like Blue Portland, Blue Bangor, and Permanent Green, with prices per 1,000 ft.

BRICKS.

(All prices net.)

Table listing various types of bricks and building materials like First Hard Stocks, Second Hard Stocks, Picked Stocks, and various facing bricks.

GLAZED BRICKS.

Table listing glazed bricks and hard glazes, including White, Ivory, and Salt Glazed bricks, and prices per 1,000.

MOULDED BRICKS.

Table listing moulded bricks and headers, including stretchers and various sizes, with prices.

Text describing carriage paid in full truck loads to London Stations, Thames Sand, and Pit Sand.

Text describing Portland Cement and Ground Blue Lias Lime, including prices and delivery details.

STONE.*

Table listing various types of stone like Red Mansfield, Darley Dale, and Ancaster, with prices per foot cube.

Bath Stone, delivered on road waggons, Paddington Depot per foot cube	£ s. d.
Ditto, ditto, Nine Elms Depot	0 1 7 ¹ / ₂
Beer Stone, delivered on rail at Seaton Station	0 1 1
Ditto, delivered at Nine Elms Station	0 1 7 ¹ / ₂
Portland Stone, in random blocks of 20ft. average:—	
Delivered on road waggons	Brown White
at Paddington Depot, } Whit Bed. Base Bed.	
Nine Elms Depot, or } Per foot cube.	
Pimlico Wharf	£0 2 3 ... 40 2 4 ¹ / ₂

TILES.

Plain red roofing tiles	42 0 per 1000	Divrd. at ry.sn.
Hip and Valley tiles	3 7 per doz.	"
Broseley tiles	50 0 per 1000	"
Ornamental tiles	52 6	"
Hip and Valley tiles	4 0 per doz.	"
Rnabon red, brown, or brindled ditto (Edwards)	57 6 per 1000	"
Ornamental ditto	60 0	"
Hip tiles	4 0 per doz.	"
Valley tiles	3 0	"
Selected "Perfecta" roofing tiles: Plain tiles (Peake's)	46 0 per 1000	"
Ornamental ditto	48 6	"
Hip tiles	3 10 ¹ / ₂ per doz.	"
Valley tiles	3 4 ¹ / ₂	"
"Rosemary" brand plain tiles	48 0 per 1000	"
Ornamental tiles	50 0	"
Hip tiles	4 0 per doz.	"
Valley tiles	3 8	"
Staffordshire (Hanley) Reds or brindled tiles	42 6 per 1000	"
Hand-made sand-faced	45 0	"
Hip tiles	4 0 per doz.	"
Valley tiles	3 6	"
Hartshill "brand plain tiles, sand-faced"	45 0 per 1000	"
Pressed	42 6	"
Ornamental ditto	47 6	"
Hip tiles	4 0 per doz.	"
Valley tiles	3 6	"

OILS.

Rapeseed, English pale, per tun	£28 15 0 to £29 5 0
Ditto, brown	26 15 0 " 27 5 0
Cottonseed, refined	29 0 0 " 30 0 0
Olive, Spanish	39 10 0 " 40 0 0
Seal, pale	21 0 0 " 21 10 0
Cocount, Cochín	46 0 0 " 46 10 0
Ditto, Caylon	42 10 0 " 43 0 0
Ditto, Mauritius	42 10 0 " 43 0 0
Palm, Lagos	32 5 0 " 33 5 0
Ditto, Nut Kernel	35 0 0 " 35 10 0
Oleine	17 5 0 " 19 5 0
Sperm	30 0 0 " 31 0 0
Lubricating, U.S., per gal.	0 7 0 " 0 8 0
Petroleum, refined	0 0 6 ¹ / ₂ " 0 0 6
Tar, Stockholm, per barrel	1 6 0 " 1 10 0
Ditto, Archangel	0 19 6 " 1 0 0
Linseed Oil, per gal.	0 2 3 " —
Baltic Oil	0 2 8 " —
Turpentine	0 3 0 " —
Putty (Genuine Linseed Oil)	0 9 0 " —
Pure Linseed Oil	0 9 0 " —
"Stority" Brand	0 9 0 " —

GLASS (IN CRATES).

English Sheet Glass: 15oz.	21oz.	26oz.	32oz.
Fourth	5d.	6d.	7d.
Third	5 ¹ / ₂ d.	6 ¹ / ₂ d.	7 ¹ / ₂ d.
Fluted Sheet	4 ¹ / ₂ d.	5 ¹ / ₂ d.	—
Hartley's English Rolled Plate	3d.	3 ¹ / ₂ d.	4d.

Figured Rolled and Repoussine	White.	Tinted.
	1d.	5 ¹ / ₂ d.

VARNISHES, &c.

Fine Pale Oak Varnish	£0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 0
Extra Fine French Oil	1 1 0
Eggshell Flattening Varnish	0 18 9
White Copal Enamel	1 4 9
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knottling	0 10 6
French and Brush Polish	0 10 0

The Local Government Board have sanctioned a loan of £6,900 to the town council of Stratford-on-Avon for a housing scheme.

TRADE NOTES.

Under the direction of Mr. Fredk. Hopkinson, architect, Worksop, Notts, Boyle's latest patent "Air-pump" ventilator has been applied to the Workmen's Institute, Dinnington.

It has been decided to hold the annual meeting of the Kent Archeological Society at Dartford in July next.

The urban district council of Bolton-on-Dearne have received the sanction of the Local Government Board for borrowing £71,000 for the provision of working-class houses.

The decoration of Cavan Cathedral is about to be carried out by Mr. Patrick Smith, of Kells, under the supervision of Mr. J. J. McDonnell, architect, Belfast.

The death of Mr. George Haw, assistant secretary of the Development Commission, took place on Saturday night at his home in the Hampstead Garden Suburb, after six weeks' illness. Mr. Haw had written much on the conditions of the poor in London and on the housing problem.

H.M. Secretary of State for India has sanctioned the construction by the Mysore Durbar of a line of railway on the 2ft. 6in. gauge from Kolar, the present terminus of the Bowringpet-Kolar Railway, to Chikballapur via Srinivasapur, Chintamani, and Siddlaghatta, a distance of 52.82 miles.

The streets and buildings committee of Edinburgh Town Council paid a visit on Friday to the proposed site of the Gladstone memorial at the Mound for the purpose of adjusting details. After consideration the committee resolved to remit the matter to a sub-committee of three of their number to meet Mr. MacGillivray, the sculptor, and Sir James Guthrie, P.R.S.A.

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TENDERS.

* * * Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate of the accepted tender; it adds to the value of the information.

BULL BAY.—For the erection of pumping station, pumping plant, construction of concrete service reservoir, and laying 3in. cast-iron mains, for the Marquess of Anglesey. Messrs. T. B. Farrington and Son, Llandudno, engineers:—

Thornton, W. & Sons, Liverpool	£1,120 0 0
Edwards, P., Doleston, Chester	985 0 0
Evans, J., Old Colwyn	896 0 0
Lumb, B., Old Colwyn	888 0 0
Jowett, W., Prescot	842 15 7
Law, G., Kidderminster	842 0 0

* Accepted.

CANTERBURY.—For erection of nurses' and attendants' quarters at the smallpox hospital, for the city council:—

Mount, C. (accepted)	£183 0 0
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CHELMSFORD.—For the erection of nine slipper baths for the use of the military, for the corporation.

Accepted tenders:—

Building:—	
Bailey, J. T.	£350 0 0
Engineering:—	
Joslin, Ltd.	92 10 0
Baths:—	
Hunt, E. L., and Co.	25 17 6

CHIPPING NORTON.—For additions and alterations to the sewerage and sewage-disposal system. Messrs. Berrington, Son, and Watney, Wolverhampton and Westminster, engineers:—

Thorpe, W., Hollywood	£9,898 19 10
Tilt Bros., Bromsgrove	9,843 0 0
Shardlow, J. J., Leicester	9,762 0 0
Hill, A., and Son, Kidderminster	9,170 0 0
Holloway, G., Wolverhampton	9,400 0 0
Rowell & Sons, Chipping Norton	9,088 12 11

* Accepted.

COALVILLE.—For erection of a mortuary at the stores yard, Coalville, for the urban district council:—

Moss (accepted)	£172 0 0
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COLCHESTER.—For erection of two War Office pavilions at the infectious diseases hospital, for the corporation:—

Went, T. G. (accepted)	£1,369 16 0
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COVENTRY.—For supply of cooling towers, for the corporation:—

Worthington Pump Co., Ltd.	£3,260 0 0
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(Recommended for acceptance.)

COVENTRY.—For supply of a cast-iron tank, for the corporation:—

Matterson and Co., Ltd.	£96 0 0
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(Recommended for acceptance.)

EDINBURGH.—For supplying a 50H.P. motor lorry chassis, for the town council:—

Scottish Motor Traction Co.	£725 0 0
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GLASGOW.—For the construction of a sludge main from Dalmarnock works to Shieldhall works, for the sewage committee:—

Craik, J.	£11,477 11 0
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(Recommended for acceptance.)

GLOUCESTER.—For the erection of a tuberculosis block, and for making alterations and additions to the administrative block at Over hospital, for the corporation. Mr. R. Read, A.M.I.C.E., surveyor:—

Drow, W., Cheltenham	£4,135 0 0
Long, J., and Son, Ltd., Bath	3,788 0 0
Gorton and Shapcott	3,470 0 0
Peir, F. W.	3,451 0 0
Collings & Godfrey, Tewkesbury	3,422 0 0
Bowers and Co., Hereford	3,402 0 0
Byard and Sons	3,398 0 0
Williams, T. J.	3,308 0 0
Nicholls, W. T.	3,279 0 0
Jones, W.	3,220 0 0
Halls, W. J. B. (accepted)	3,088 0 0

(Rest of Gloucester.)

GRIMSBY.—For the erection of an additional gallery at public free library. Mr. H. Gilbert Whyatt, M.I.C.E., borough engineer and surveyor:—

Barkworth, L., Cleethorpes	£181 15 7
Edwards and Raynor, Grimsby	153 17 0
Borrill, J., Grimsby	120 0 0

Borough engineer's estimate, £135.

HAYWARDS HEATH.—For the erection of new post office, for His Majesty's Office of Works:—

Finch, H., Haywards Heath (accepted)	
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LEWISHAM, S.E.—For kerbing, channelling, and making-up Dukethorpe-road, for the Lewisham Borough Council:—

Gloag, J. G.	£630 17 0
Mowlem, J., and Co., Ltd.	603 0 0
Pearce, W.	593 0 0
Woodham, H., and Sons	579 0 0
Fry Bros., Ltd.	575 0 0

* Recommended for acceptance.

LYDNEY.—For erection of Lydney Senior Council School, for the Gloucestershire Education Committee. Mr. R. S. Phillips, architect:—

Wilkins, F., Bristol	£4,800 0 0
Bendall, D., and Son, Tutshill	4,682 0 0
Cooke, A. S., and Son, Stroud	4,630 0 0
Walters, E., and Son, Bristol	4,537 0 0
Franklin, Ltd., Deddington	4,180 0 0
Love, E., Bristol	4,378 0 0
Orchard and Peir, Stroud	4,333 0 0
Dimery, G., and Sons, Berkeley	4,269 0 0
Flewelling, E. J., Lydbrook	4,200 0 0
Dallow, J., and Son, Birmingham	4,183 0 0
Nicholls, W. T., Gloucester	4,113 0 0
Halls, W. J. B., Gloucester	4,082 0 0
Collings & Godfrey, Tewkesbury	4,000 0 0
Jones, W., Gloucester	3,976 0 0
Bowers and Co., Hereford	3,820 0 0
Lewis, W. P., and Co., Hereford	3,620 0 0
Byard and Son, Gloucester	3,640 0 0

ROMFORD.—For the supply of best quality blue Guernsey granite (only) as follows: 800 tons broken to 2in. cube; 600 tons broken to 1 1/2in. cube; and 110 tons to 1in. cube, for the rural district council. Mr. G. Lapwood, highway surveyor:—

Brookes, Ltd.	£1,332 9 3
Mowlem, J., and Co.	1,306 11 8
Mannelle, A. and F.	1,303 11 1
Griffiths, W. and Co., Ltd.	1,276 15 9

* Accepted. All of London.

(Continued on page XI.)

LIST OF COMPETITIONS OPEN.

Dec. 31—Planning Workmen's Settlement, Campine Coalfield	£400, £210	M. le President de la Commission pour l'Aménagement des Agglomérations Industrielles, Rue de Louvain, Brussels.
.. 31—Workmen's Houses, Dumfries		The Town Clerk, Dumfries.
Jan. 23—Workmen's Dwellings (102), Carr House, Doncaster		R. A. H. Tovey, Town Clerk, Doncaster.
Feb. 8—Designs for Workmen's Dwellings (500 persons), Rathbone-street Area, Liverpool. (H. Hartley, F.R.I.B.A., Assessor)	£100, £50, and £25	E. R. Pickmere, Town Clerk, Municipal Offices, Liverpool.
No date—Sewage Disposal Works, Elland	Urban District Council	J. Clarkson, Clerk, Council Offices, Elland.
do.—Replanning Streets in Central Area, Bradford (Reginald Blomfield, R.A., Assessor)	£700, £300, and £200	F. Stevens, Town Clerk, Town Hall, Bradford.
do.—Houses for Working Classes, Walthamstow (about £16,000)		C. S. Watson, Clerk, Town Hall, Walthamstow.

LIST OF TENDERS OPEN.

BUILDINGS.

Dec. 30—Laundry and Extension of Bakehouse, Haslingden	Guardians	H. Ross, A.R.I.B.A., 15, Cannon-street, Accrington.
29—Eight Houses, Newhall	Nantwich Rural District Council	C. E. Davenport, Archt., 152, Hospital-street, Nantwich.
29—School (200 places), Willaston	Bebington & Neston Sub-Com.	E. Kirby and Son, Archts., 5, Cook-street, Liverpool.
29—Working-Class Dwellings, Buxhall	East Stow Rural District Council	H. H. Simon, Archt., Council Office, Stowmarket.
30—Police Station, Rochford	Essex County Council	G. Topham Forrest, County Archt., 79, Duke-st., Chemsford.
30—Relief Station, Watson-street, Deptford, S.E.	Greenwich Guardians	A. Roberts, F.R.I.B.A., 92, London-street, Greenwich.
31—Workhouse and Infirmary, Additions to, Grimsby	Guardians	H. C. Scapling, Archt., Court Chambers, Grimsby.
31—Research Institute, Addlestone, Surrey	H.M. Works Commissioners	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
31—Hospital, Repairs to, Yeading-lane, Hayes	Uxbridge Joint Hospital Board	W. L. Eves, F.R.I.B.A., 54, High-street, Uxbridge.
31—Hospital Laundry, Yeading-lane, Hayes	Uxbridge Joint Hospital Board	W. L. Eves, F.R.I.B.A., 54, High-street, Uxbridge.
31—House, Ovenden	Surrey County Council	M. Hall and Son, Archts., 1, Harrison-road, Halifax.
31—School Clinics, Kingston-on-Thames	Surrey County Council	The Surveyor, County Education Offices, Kingston-on-Thames.
31—Tuberculosis Dispensaries, Kingston-on-Thames	Doeking Rural District Council	The Surveyor, County Education Offices, Kingston-on-Thames.
31—Six Workmen's Dwellings, Brancaster	H.M. Works Commissioners	J. A. Stoughton, Clerk, Fakenham, Norfolk.
Jan. 1—Post Office, Northwich, Cheshire	Municipal Authorities	The Secretary, H.M. Office of Works, Storey's Gate, S.W.
5—Market, Alicante	Bingham Rural District Council	The Com. Intel. Branch, Board of Trade, 73, Basinghall-st., E.C.
6—Six Workmen's Dwellings, Scarrington	Wandsworth Borough Council	C. W. Kendrick, San. Sur., Bingham, Notts.
9—Tate Public Library, Additions to, Streatham, S.W.	Docks Committee	P. Dodd, M.I.C.E., Boro' Eng., 215, Ballham High-road, S.W.
11—Ferro-Concrete Tobacco Warehouse, Bristol	Education Committee	W. W. Squire, Eng., Cumberland-road, Bristol.
12—Schoolhouse, Additions to, Lawrence-st., Worthington	Metropolitan Water Board	E. J. Hedworth, Sec., Education Offices, Worthington.
15—Pumping Station, Shortlands, Kent	Picture House, Albert-road, Widnes	The Chief Engineer's Department, Savoy-court, Strand, W.C.
No date—Detached Residence, near Torrington-street, Bideford	Sanatorium, Glen Lomond, Kinross-shire	L. Haggard, Albert-road, Widnes.
do.—Army Huts (minimum size 108ft. by 30ft.), Alderhat	New Buildings, Myrtle-street, Douglas	Smyth-Richards and Fox, Bridge Chambers, Bideford.
do.—Cottages (16), Town End, Chapel-en-le-Frith	Semi-detached Houses, Hightown, Castleford	A. C. Dewar, L.R.I.B.A., Leven.
do.—Cottages (38), Ebbw Vale	Council School, King-street, Devonport	J. Williams Dunford, Archt., 100c, Queen Victoria-street, E.C.
do.—Stabling, Cattle Market, Bridgend	Stabling, Cattle Market, Bridgend	G. Kay and Sons, Archts., Athol-street, Douglas, I.O.M.

ELECTRICAL PLANT.

Dec. 28—Cable (10 miles), Melbourne	Victorian Government Railways	The Victorian Railway Offices, Spencer-street, Melbourne.
28—Three Electric Cranes, Alicante	Town Council	Junta de Obras del Puerto, Alicante.
29—High-Tension Switchgear, Hornsey	Town Council	Te Clerk, Town Hall, 99, Southwood-lane, Highgate, N.
Jan. 2—Low-Tension Switchgear, Hornsey	City Council	The Town Clerk, 99, Southwood-lane, Highgate, N.
5—Cable, Melbourne	City Council	McIlwraith, McEacharn, & Co. Pty., Billiter-sq. Bldgs., E.C.
6—Six Single-Phase Transformers (100k.v.a.), Melbourne	Municipality	McIlwraith, McEacharn, & Co. Pty., Billiter-sq. Bldgs., E.C.
12—Electric Lighting Plant, Moosel Bay		The Town Clerk, Mossel Bay, Cape Province, South Africa.
14—Telephones and Cables, Brisbane		The Deputy Postmaster-General, Brisbane.
27—Telephone Material, Adelaide		The Commonwealth Offices, 72, Victoria-street, S.W.

ENGINEERING.

Dec. 26—C.I. Water Mains, Calow and Temple Normanton	Chesterfield R.D.C.	R. F. Hartwright, Clerk, Union Offices, Chesterfield.
28—Reconstructing Kentford Bridge, Bury St. Edmunds	West Suffolk County Council	W. L. Jenkins, A.M.I.C.E., Shire Hall, Bury St. Edmunds.
28—Laundry Machinery at Institution, Bathorpe	Guardians	J. A. Battersby, Clerk, Shakespeare-street, Nottingham.
31—Water-Supply Works, Upton-on-Severn	Rural District Council	Willcox and Raikes, Engs., 63, Temple-r-w, Birmingham.
Jan. 1—Dust Destructor, Battersea, S.W.	Borough Council	W. M. Williams, Town Clerk, Town Hall, Battersea.
3—Single-Lift Gasholder and Steel Tank, Cudworth	Urban District Council	T. Newbigging and Son, Engs., 5, Norfolk-st., Manchester.
4—Street-Sweeping Machine, Huddersfield	Highways Committee	F. Campbell, M.I.C.E., Boro' Eng., Huddersfield.
4—Cast-iron Mains (6 1/2 miles), Portcawl	Urban District Council	Taylor and Sons, C.E.'s, Caxton House, Westminster, S.W.
5—Ferro-concrete Bridge, High Wycombe	Corporation	T. J. Rushbrooke, Boro' Eng., Easton-st., High Wycombe.
7—Waterworks Extension, Paversham	Rural District Council	H. H. Humphreys, Eng., 28, Victoria-street, Westminster.
7—Reconstructing Plant at Gaaworks, Manchester	Gas Committee	J. G. Newbigging, M.I.C.E., Rochdale-road, Manchester.
8—Heating Plant, Parliament Building, Wellington, N.Z.	Waterworks Committee	The Public Works Office, Wellington, New Zealand.
9—Brick Culvert, White Syke Drift, Oswaldtwistle	Town Council	R. N. Huoter, Water Eng., Town Hall, Oswaldtwistle.
19—Ejectors, Hamworthy Sewage Works, Poole	City Council	S. J. Newman, F.R.I.B.A., Boro' Sur., King-st., Poole.
22—Overhead Travelling Crane, Leeds	Greek Government	C. Nelson Pefferd, Man., 1, Whitehall-road, Leeds.
Mar. 9—Water Supply, Athens	Municipal Commissioner	The Ministry of Communications, Athens.
7—Refuse Destructor, Bombay		Henry S. King and Co., 65, Cornhill, E.C.

FENCING AND WALLS.

Jan. 12—Boundary Fence at School, South Ockendon	Essex Education Committee	T. Jessop, Clerk, School Office, Grays, Essex.
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PAINTING.

Dec. 26—Gorbals and Parkhead District Libraries, Glasgow	Corporation	J. Lindsay, Town Clerk, City Chambers, Glasgow.
No date—Mount Pleasant Wesleyan Chapel, Oswaldtwistle		P. Riley, 7, Church-street, Accrington.

ROADS AND STREETS.

Dec. 28—Making-up Roadways, Isolation Hospital, Billericay	Rural District Council	H. R. Bird, Archt., St. Thomas's Gate, Brentwood.
31—Surface Tarring on Main Roads (One Year), Wells	Somerset County Council	E. Stead, A.M.I.C.E., County Sur., Wells.
Jan. 1—Street Works, Portcawl	Urban District Council	A. J. Oborn, Sur., Portcawl.
1—Widening Darlworth Hill, Normanton	Urban District Council	J. W. Martin, Clerk, Council Offices, Normanton.
1—Widening Mottingham-lane, Mottingham	Bromley Rural District Council	R. Craig, Highway Sur., Farnborough, Kent.
11—Paving, Lintwhaithe	Urban District Council	A. Mallinson, Sur., Lintwhaithe.
No date—Concrete Flagging, Loughborough	Town Council	A. H. Walker, A.M.I.C.E., Boro' Sur., Town Hall, Loughboro'.
do.—Surface Tarring Main Roads (80 miles), Gloucester	County Council	E. S. Simott, M.I.C.E., County Sur., Shire Hall, Gloucester.

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