THE ARCHITECTS' JOURNAL

THE ARCHITECTS' JOURNAL
WITH WHICH IS INCORPORATED THE BUILDERS' JOURNAL AND THE ARCHITECTURAL ENGINEER IS PUBLISHED EVERY WEDNESDAY BY THE ARCHITECTURAL PRESS (PROPRIETORS OF THE ARCHITECTS' JOURNAL, THE ARCHITECTURAL REVIEW, SPECIFICATION, AND WHO'S WHO IN ARCHITECTURE) FROM 9 QUEEN ANNE'S GATE, WESTMINSTER, S.W.

In pursuance of the policy which lies behind the COMPETITORS' CLUB the Editor has arranged for a full descriptive critique of the premiated designs in the Birkenhead Art Gallery Competition, which was won the other day by Messrs. L. G. Hannaford and H. Thearle. The critique will be accompanied by illustrations showing each of these designs in ample and legible detail.

THE ANNUAL SUBSCRIPTION RATES ARE AS FOLLOWS:
BY POST IN THE UNITED KINGDOM..... £1 3 10
BY POST TO CANADA..... £1 3 10
BY POST ELSEWHERE ABROAD..... £1 8 6
SUBSCRIPTIONS MAY BE BOOKED AT ALL NEWSAGENTS

* * *

SINGLE COPIES, SIXPENCE; POST FREE, SEVENPENCE. SPECIAL NUMBERS ARE INCLUDED IN SUBSCRIPTION; SINGLE COPIES, ONE SHILLING; POST FREE, 1S. 2D. BACK NUMBERS MORE THAN THREE MONTHS OLD (WHEN AVAILABLE), ADD 1S. 6D. TO ABOVE PRICES

* * *

SUBSCRIBERS CAN HAVE THEIR VOLUMES BOUND COMPLETE WITH INDEX, IN CLOTH CASES, AT A COST OF 10S. EACH. CARRIAGE IS EXTRA. A USEFUL BINDER, ALLOWING THE COPIES TO OPEN FLAT FOR READING, COSTS 4S. 6D. POST FREE

* * *

9 Queen Anne's Gate, Westminster, London, S.W.1
TELEPHONE: VICTORIA 6936 (OWN EXCHANGE)
TELEGRAPHIC ADDRESS: BUILDABLE, PARL, LONDON

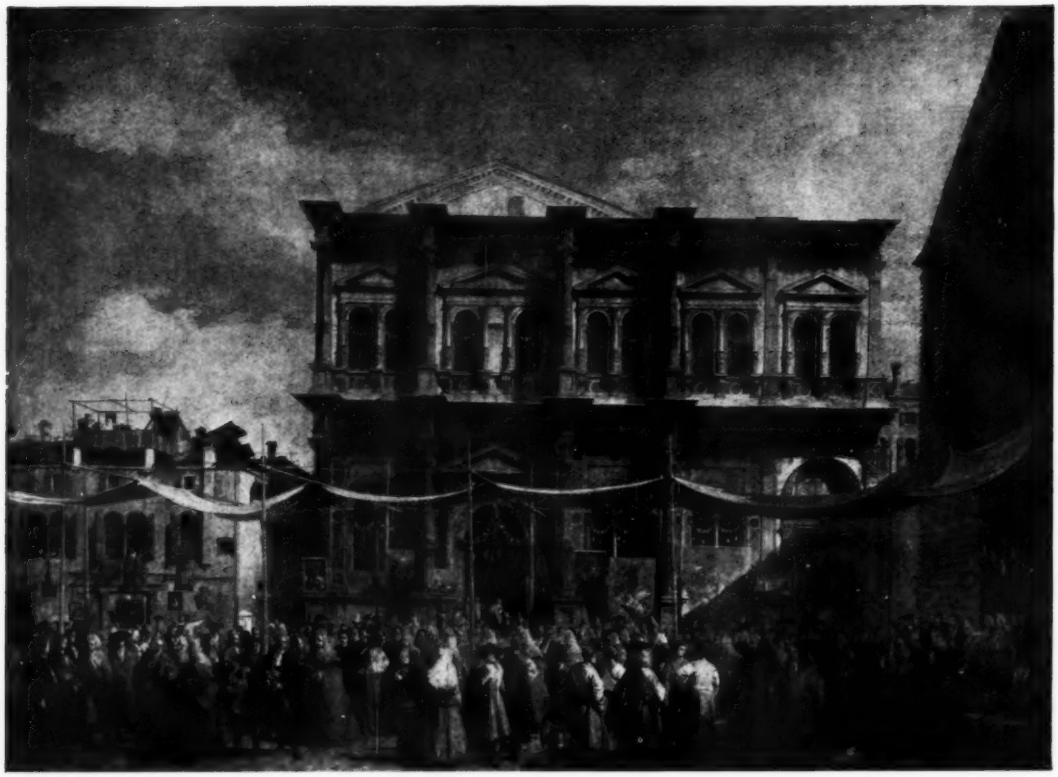
WEDNESDAY, MARCH 17, 1926. NUMBER 1628: VOLUME 63

PRINCIPAL CONTENTS

The Index to Advertisers will be found on page iv.

CHRISTIAN BARMAN, *Editor*

The Editor will be glad to receive MS. articles, and also illustrations of current architecture in this country and abroad, with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.



RENDERINGS OF ARCHITECTURE

Selected and annotated by Dr. Tancred Borenius.

xi. Antonio Canale, called Canaletto (1697-1768).
The Scuola di San Rocco.

The rendering of processions and pageants has traditions in the Venetian school of painting ever since the days of Gentile Bellini ; and little wonder that painters should have felt attracted by the combination of the sun and sky of Venice, the magnificent décor *of the architecture and the riot of colour in the costumes of the actors in the scene. Here we have one of the last in a series which stretches across the centuries ; Canaletto's picture of the ceremony on Maundy Thursday, when the Doge and officers of State, with the confraternity of San Rocco, went in procession to the church of St. Mark. The procession issues from the church of San Rocco, on the right, with its plain brick front—before Maccaruzzi's façade of 1771 ; and in front is the Scuola di San Rocco itself, built in 1524-50. It is interesting to note, from the canvases which are hung on the walls of the buildings, that the occasion was seized upon for a picture fair. This is one of the finest examples in existence of the art of Canaletto, showing his extraordinary festive luminosity of tone and his marvellous power of combining precision with atmospheric effect.*—[National Gallery, No. 937.]

THE ARCHITECTS' JOURNAL

Wednesday, March 17, 1926

OLD WOMEN

THE remarks which Sir William Joynson-Hicks made on the subject of "Artistic Old Women" have brought down upon his head the wrath of a large band of critics. His offence may be considered under two heads. In the first place, he made the bold and original suggestion that for the benefit of the occupiers of the new Devonshire House a strip of St. James's Park should be allocated as parking space for motor-cars; secondly, again in the interests of the owners of motor-cars, he proposed that traffic facilities in the neighbourhood of Hyde Park Corner should be improved by knocking down some of the columns in the Decimus Burton screen. It appears that public indignation has been aroused chiefly by the first proposal, while the enormity of the second has not yet been sufficiently emphasized. But let us consider the problem of St. James's Park first. If the policy outlined by the Home Secretary were universally adopted some attractive prospects would open up before speculative builders and others who contemplated erecting tall blocks of flats on the verge of London's open spaces; for they would have the pleasant assurance that while their own financial outlay need only cover the expenses of erecting the building, an additional amenity in the shape of parking space for cars would be provided gratis by an obliging Government, which would immediately volunteer to cut off a portion of the hitherto public open space for the benefit of the tenants. The immediate result would be that the building owner or landlord would take the opportunity to increase the rents of the tenants and obtain from them additional payment for the very advantages which the Government provided. There is no need, however, to elaborate the argument, for the storm of public protest has made clear to the Home Secretary that he was "on the wrong tack," and in reply to a question in Parliament, the Minister of Transport found it advisable to deny that there was any intention of sacrificing a portion of St. James's Park to the supposed needs of the occupants of Devonshire House.

The case of the Decimus Burton arch is slightly different, for here we come upon the question of architectural appreciation, and on this point the Government had not received from the public the sure guidance which was vouchsafed to it on the subject of St. James's Park. One comment, however, we may be permitted to make, and this has reference not to the matter of Sir William Joynson-Hicks's remark, but to its manner. The Home Secretary undoubtedly wished to convey to us that he considered the satisfaction of traffic needs to be more important than the preservation of architectural monuments. This seems to be a quite sensible opinion. A comparison of values, however, is not valid unless the person who makes it has an adequate conception of the values to be compared. Obviously, if the screen at Hyde Park Corner had no artistic merit, it might just as well be pulled down, whether this act of destruction benefited the traffic or not. But if this work of Decimus Burton be considered one of the chief ornaments of the metropolis, it would appear to a philosophical intelligence that the claim to destroy it on utilitarian grounds requires more justification, and the idea may even suggest itself that the purveyors of traffic facilities might be encouraged to exercise their wits in providing some alternative method whereby these facilities might be obtained. If such alternatives had already been explored and found to provide no adequate solution of the problem, then the Home Secretary or the Minister of Transport, or whoever else had authority to determine the traffic routes at Hyde Park Corner, would be entitled to say: "This is a case where, unfortunately, a precious architectural monument must be pulled down in order that vital needs of our present civilization should be satisfied." Such a statement, even if we did not agree with the conclusion expressed in it, would command our respect, because it would be apparent that the speaker had compared with a proper sense of responsibility two conflicting values with each of which he showed himself to be familiar. Let me quote, however, the Home Secretary's remarks upon the subject of the Decimus Burton screen. "There are three doorways into Hyde Park, whereas there ought to be six or seven. Between the gateways there were seven big stone columns. If they took two of those stone columns away they would get two more entrances. Of course, all the artistic old women would be up in arms at once. But art was made for man and not man for art."

Is it clear that his proposal to mutilate the Decimus Burton screen was made with the utmost light-heartedness and even gleefully, as if he actually enjoyed the prospect of such vandalism? Even before there was time or opportunity for anyone to protest against his suggestion he was ready with a contemptuous reference to such misguided folk as presumed to defend our architectural heritage. "Art is made for man." And is it not also made for Cabinet Ministers?

NEWS AND TOPICS

A general desire for some kind of control over design is shown in the protests continually being made against the defacement of town and country. Last week a writer in the *Morning Post* complained of the way in which we allow our manufacturers to defile the landscape with the rubbish from their works. They can pile slag-heaps as high as the hills and pour the filth of their factories into rivers and turn a beautiful countryside into an eyesore without so much as a fine being inflicted upon them. On the other hand, if a man throw rubbish into his backyard he is liable to be prosecuted by the Public Health Authorities for creating a nuisance. His pleas that an Englishman's house is his castle, and that a man is entitled to do what he likes in his own backyard, will be disregarded. Coldly, and without any argument about it, he would be fined, and if he persisted in his nuisance, imprisoned. There seems to be one law for the manufacturer and another law for the private citizen.

* * *

Again, in the *Spectator*, Sir Herbert Morgan calls attention to the need for some central authority to prevent the defilement of the countryside as the result of building operations. He says that in spite of a general improvement in architectural knowledge and taste, "buildings, grotesque in their unsuitability, continue to spring up." It appears that the latest type of atrocity is the petrol-filling station, which disfigures the landscape and violates all sense of beauty and good taste. Sir Herbert Morgan points out how York has suffered much in the last few years at the hands of ignorant building-owners, whose sole consideration has been immediate profits on the houses erected, and that we need only take a walk through the streets of that city to see what architectural monstrosities have been permitted by the Corporation to be put up by the side of beautiful buildings. He suggests the Ministry of Health as a suitable authority for the control of design, on the ground that many of its schemes for housing development have been intelligently planned. The *Spectator*, however, would prefer that the Office of Works should be the body in which power of architectural acts should be vested. Many people would prefer to see such authority vested in civic societies established in every town in the kingdom. But control of some kind there must certainly be if we are to preserve our architectural heritage.

* * *

The interesting paper read at the Town Planning Institute last week by Mr. William Haywood, F.R.I.B.A., of Birmingham, contained so much valuable matter that it would take long to explore its various implications. His subject, "The Control of Design," is an extremely topical one at a time when the newspapers contain so many protests against acts of architectural vandalism which are continually being committed both in the town and in the country. Yet the subject is a very thorny one, for while there may be general agreement that some kind of control is necessary, when we come to consider who is to exercise the control, and in what manner, it becomes apparent that we have propounded a problem of great complexity. Mr. Haywood considers the scope of control under four heads or subdivisions. The first of these covers the protecting of designs already in existence and worth preserving, extending the application of this form of control beyond the preservation of ancient monuments to extend to existing amenity of all kinds which may be in danger of needless destruction. The second subdivision deals with the control of new designs. In Mr. Haywood's opinion no one with an understanding of art would seek to place control upon those forms of design which can only be adequately handled by individual genius. In such matters we can do no more than advise upon the preliminary choice of proper executants, or actively to oppose gerrymandering and neglect. Guidance in the choice of executants for new works would go far to eradicate initial error in the patronage of new design. Under the third section Mr. Haywood places those things of relatively small individual importance which are apt to be neglected because they are thought to have no relation to design, or because it is no one's business to see that they are treated urbanely. These may be called "Urban accessories." In the fourth section are included designs for individual buildings and schemes for suburban site-planning.

* * *

An examination of these four subdivisions reveals their logicality, and it is difficult to conceive how the scope of control could have been better defined. As a general proposition no one could possibly object to No. 1, the preservation of all existing amenity. We are constantly losing, or being threatened with the loss of beautiful things for want of an approved authority to protect them. Waterloo Bridge is almost lost to us, and the Whitgift Hospital has barely escaped because it is left to the people to defend by public clamour the buildings—things they value. Moreover, the opposition to the act of destruction is often initiated too late to affect the course of events. The control here necessary should include the codification of works of architectural beauty whether old or new beforehand, so that the vandals have no excuse to pretend ignorance of the nature of their acts. Mr. Haywood's second proposal to guide building owners in the choice of executants for new works would command general assent among architectural practitioners, who have everything to gain by the patronage of an impartial body such as a civic society might become if properly supported by people of goodwill. In the category of urban accessories are included such items as tramway masts, lamp-posts, electric sub-stations, and the like, and it is obvious how important it is that these should be well designed. Section 4, "The Control of Design of Individual Buildings and Schemes for Suburban Site Planning," is more contentious matter, but that Mr. Haywood makes out a remarkably good case for such control will be apparent to all who care to study his admirable paper, which will be printed *in extenso* in the *Journal of the Town Planning Institute*. Mr. Haywood was able to illustrate his remarks by reference to the activities of the Birmingham Civic Society, which body, it is well known, owes to him, its energetic secretary, no small part of its success.

When, by a dramatic coincidence the like of which rarely happens save in the dire emergency of playwright or novelist, the Shakespeare Memorial Theatre at Stratford-on-Avon was burnt down on the very day of Sir Sidney Lee's cremation, and but shortly after the hour at which his ashes were deposited in Stratford Cemetery, there was much criticism of the building, but I saw no mention of the name of its architect. It was Mr. W. F. Unsworth who designed the theatre, which was opened in 1879. Its style is described in the guidebooks as "a free treatment of Gothic," but Mr. St. John Ervine, the *Observer's* critic of plays, rather unkindly recalled a certain cynical classification of the style as "Late Marzipan." Mr. Bernard Shaw was even more heartless. So fine a site on the bank of the Avon certainly deserved a better building. If and when it gets it there will be rejoicings over yet another apt illustration of the poet's gentle philosophy : "sweet are the uses of adversity." Sir Israel Gollancz, hon. sec. of the Shakespeare Memorial Committee, has written to the newspapers that while he favours this happy consummation, he wishes to correct an unwarrantable hope that his committee will pool funds for the erection of a new theatre at Stratford. He still hopes for a London theatre worthy of the poet. Well, the more the merrier, say I.

* * *

"The Making of a Slum," which was the subject of the paper read by Mr. George H. Duckworth at the R.I.B.A. on Monday night, was concerned, I am glad to say, with suggestions for the avoiding of slums rather than for their making.

Certainly, the lecturer—who was associated for some years with the late Charles Booth in his monumental researches into the lives and labours of the London poor—went exhaustively into the questions of how slums actually came into being, of what gave a start on the downward path to what had once been decent residential districts, and what was the actual process of degeneration, but these precepts for the avoiding of slums did Mr. Duckworth commit to our memory :

Discourage building in closed pockets off main streets. Build in blocks of four or six, rather than in semi-detached houses. Give a common frontage in place of front gardens, and maintain it out of a common fund. Give seclusion to the backyards, and provide for a garden, however small. Plan for through draughts and sunlight. Provide for a parlour as well as a living-room. Avoid sharp turns in the stairway, so as to allow a coffin to be carried downstairs. (A coffin slung from a window will disaffect a neighbourhood.) Provide indoor accommodation for a perambulator. The genesis of a slum, Mr. Duckworth insisted, was due as much to the landlord as to the tenant, and, in the last resort, the architect—or rather, the builder who built houses without the help of the architect—was to blame.

* * *

The new telephone box, designed by Sir Giles Gilbert Scott, is making its appearance in London. It is a very great improvement on the type of box which it supplants. In this matter of telephone boxes London is to some extent indebted to the Birmingham Civic Society, and particularly to its indefatigable Honorary Secretary, Mr. William Haywood. The question was taken up by the Society in 1923, and designs were then prepared and submitted to the Post Office, but whether the idea emanated originally from the B.C.S. or the P.O. I do not remember. One hopes that these new boxes are but the beginning of a general effort to improve the appearance of "street furniture," the amount of which seems for ever to be on the increase. There is certainly plenty of room for improvement. I remember being delighted at the sight in Gothenburg of the tram standards which, in the summer, are garlanded with baskets of flowers.

* * *

The article on Nigerian architecture which my friend, Mr. Gordon Holt, contributed to the JOURNAL a fortnight ago set me rummaging through the box-room for something his article had brought to mind. I believed I had, hidden away there, a very fine example of the art of "Nyjay." I unearthed at last a large packing-case about which there hung a queer musky smell. Took forth from it ankle and arm ornaments of coloured beads threaded on some sort of grass, an elephant's tusk, and a necklet made of human teeth and bones. Then I lifted out what I was looking for—this !

I took it to the light; then hung it on the wall and stepped back, so that I could view the thing in its full beauty of line and form. The lower jaw was hinged, and fell open at a ghastly angle. I have never seen a more genuine piece of savage art, nor—awake or asleep—a crueller face. The face of a being without any heart, and with no mind. In a world which now likes its artists to call a spade a spade, the fellow who wrought this—if he be still alive, and not eaten in some terrible orgy—should go far.

At Southwark Cathedral there has been discovered—in exactly what circumstances I should greatly like to know, but the newspaper account is silent on the point—a portion of a roof that is apparently of Tudor fashioning. This fragment is described as being "a section of bosses, with rich carvings of the Tudor Rose." Of course it is being added to the chapter's interesting collection of relics of the early history of the cathedral building. I must make pilgrimage to do homage to this latest discovery. I should like to urge upon the A.A. *alumni* that Southwark Cathedral should certainly be included in, or perchance added to, their programme of visits or visitations. Inside, the building is rich in varied interest—archæological, architectural, historical, literary—in more gradations than those so glibly particularized by Polonius in his commendation of the players. How magnificent are its memories! Think of its intimate associations with Gower, Shakespeare, Beaumont, and Fletcher, Massinger, Launcelot Andrewes, Alleyn! Into the Alleyn memorial window, by the way, is introduced the imposing figure of Inigo Jones. Externally, the cathedral is what St. Paul's is to the City, or what the Abbey is to Westminster—it gives architectural life and character to a large sub-section of London. Its pinnacled tower redeems its environment from sheer sordidness, and broods over the district like a yearning spiritual guardian and mentor. Yes, I unhesitatingly recommend the A.A. to make Southwark Cathedral the scene of several visits, and to invite as their guide the Rev. T. P. Stevens, who has written an admirable little book about the cathedral he knows and loves so well. He is fain to call it London's South Minster, and I think it would not disgrace the proud title.

* * *

It being now all but certain that Covent Garden Market will be transferred as soon as may be to the site of the Foundling Hospital, there is naturally much speculation as to what will be done with the Covent Garden site of $5\frac{3}{4}$ acres. It is not at all likely to revert to its original condition of a "select residential quarter," but is far more likely to be yielded up to an uncontrolled orgy of commerce. No second-sight is needed, either, for the further anticipation that some philanthropic millionaire will not present it to London as a public park or as a site either for a Shakespeare memorial theatre or for London's university buildings. What is painfully probable is that the ground will be yielded up to traders avid of demi-semi-skyscrapers with façades uglified by detestable lettering aggravated by night-terrors—terrific and dazzling advertisements of quack medicines and of strong drink, either warranted, like the flashlight advertisements thereof, to kill at thirty paces. Quite futile were it to hope for a renaissance of the old-time aristocratic character of which the noble church of St. Paul is the sole survival. Inigo Jones finished this church in 1638, having begun it seven years earlier, and it was perhaps his last work. Burnt out in 1795, it was restored by the elder Hardwick. Among the notabilities buried there are Grinling Gibbons the carver, Sir Robert Strange the engraver, and Wycherley the dramatist. On the Hustings formerly erected in front of the church during elections, Fox, Sheridan, and other famous orators addressed disorderly multitudes of the types rendered familiar by Hogarth, Gillray, and Rowlandson.

Like many another keenly interested observer, I am wondering what will be done with the old Bethlem Hospital building. Some persons are for scrapping it without compunction, as if in the selfsame act they could also destroy its melancholy associations with the worst of all human afflictions. Others say nay, knowing the hospital to be in the direct line of descent from a hospital founded in Bishopsgate in 1247, and thence removed, in 1675, to Moorfields. The existing structure (James Lewis, architect) was completed in 1815. Its familiar dome, which country cousins and American visitors, seeing it for the first time through a London haze, have been known to identify as the dome of St. Paul's Cathedral, was added by Smirke in 1846. In the hospital grounds is the obelisk which formerly obstructed the traffic in St. George's Circus, and was immortalized by Theodore Hook's Mrs. Ramsbottom as "the Obstacle opposite the School for the Indignant Blind." Personally, I hardly think the demolition of the building would provoke a rebellion. It hath a portentous dullness that troubles the atmosphere worse than a miasma, for it perpetuates a painful tradition. Standing almost opposite is a building that, being a momument to hope, should serve as a corrective to the melancholy mood induced by its neighbour. I refer, of course, to the cathedral of St. George. It was a-building when Smirke put up the hospital dome—that is to say, in the "Hungry 'Forties," and its stinted and stunted tower always appeals to me as a memorial to Hard Times, as well as to Great Expectations even yet unrealized. But the unfinished tower is a not inappropriate monument to Pugin's piety, and a too apt symbol of his brief, but brilliant, career and disappointed hopes.

* * *

It is said that Henry VIII, wishing to build Bedlam in a dignified style, sent his architect to Paris to copy a palace of the King of France. This so annoyed our royal neighbour, who regarded it as an insult, that he retaliated by sending his man over to London to copy St. James's Palace for public lavatories.

ASTRAGAL

ARRANGEMENTS

SATURDAY, MARCH 20

The Royal Institute of British Architects. Visit to the Devonshire House Buildings. (1) Piccadilly Building; (2) Messrs. Cook and Son's New Premises.

WEDNESDAY, MARCH 24

At the Royal Society of Arts. 4.30 p.m. Sir Frank Baines, C.V.O., C.B.E., on The Preservation of Folk Architecture in this Country.

FRIDAY, MARCH 26

At the Royal Sanitary Institute. 7.0 p.m. C. A. Clews, M.INST.M. and CY.E., on Some Aspects of the Housing Problem.

MONDAY, MARCH 29

At the Royal Institute of British Architects. 8.0 p.m. Special and Business Meetings: Election of the Royal Gold Medallist; Election of Members.

SMOKE

BY H. J. BIRNSTINGL

i: ITS EVILS

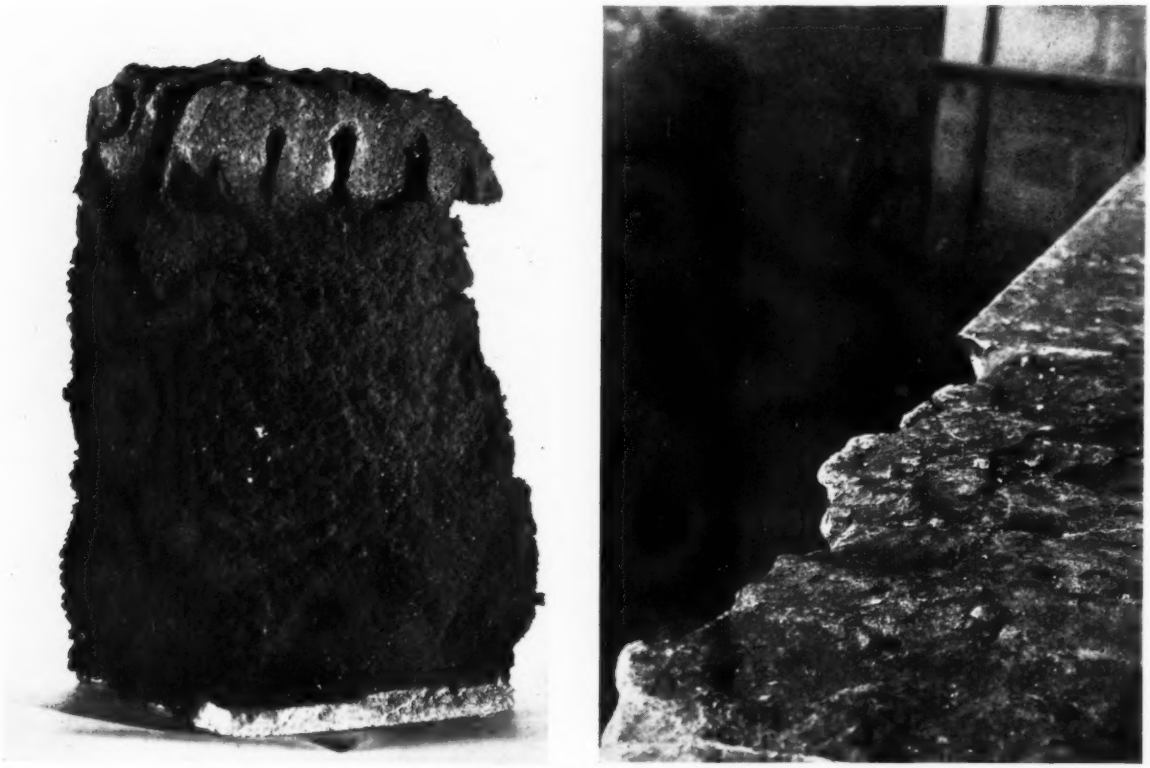
OF all the preventable evils from which civilization suffers surely atmospheric pollution for two reasons is the most curious. First, we are absolutely dependent upon the air for our continued existence on this planet, and the state of our health varies with its purity. Secondly, air pollution is comparatively easy to prevent. There is no mystery surrounding it; we know its cause, and we know its cure. Yet, while we are careful to ensure a pure water supply, and have thus succeeded in almost completely stamping out water-borne diseases; while we take steps to prevent food contamination, the measures which we adopt to prevent air pollution are of the very slightest. Meanwhile, the annual cost to the nation of this easily preventable evil is estimated at £40,000,000.

The evils arising from smoke can be grouped under three headings: waste of fuel, damage to health, damage to property. The waste of fuel is due fundamentally to an entirely wrong attitude towards coal, which regards it primarily, instead of incidentally, as a fuel. Coal is a substance full of the most valuable by-products. These by-products are lost when raw coal is burnt in a grate. The products from a ton of coal have been assessed as follows: coal-gas 12,000 cu. ft.; coke and breeze, 13½ cwt.; coal-tar, 10 gals.; sulphate of ammonia, 25 lb.; benzol, 2½ gals., and a small quantity of retort carbon. In the report of the Committee on Smoke and Noxious Vapours Abatement, it is estimated that 2½ million tons of potential fuel in the form of soot escape annually from domestic, and 500,000 from industrial, chimneys. At £2 per ton this represents a waste of six million pounds. The annual fall per average square mile of soot measured in tons is estimated as follows: Liverpool 560, Newcastle 546, Glasgow 280, London 256, Malvern 70. In July, 1924, over 53 tons of soot and dirt fell on the square mile of the City of London. Of this nearly 30 tons was soluble, consisting of sulphates, ammonia, and chlorine, and the remainder insoluble, consisted of tar, carbon, and grit. Sufficient soot fell in London in the year 1922–23 to cover Hyde Park to a depth of 11 in. In 1888 the Hon. Rolls Russell estimated the waste of fuel in London from domestic chimneys at one million pounds per annum.

A model representing the soot-fall in a minute within the County of London, and a Londoner on the same scale. From The Smoke Problem of Great Cities.

In addition to this direct waste of fuel there is the incidental waste caused by the extra illumination necessary in our towns owing to the loss of daylight. Some loss from this cause occurs in all large towns on almost every day of the year, that is to say, artificial illumination is necessary at an earlier hour than it would be were the air unpolluted by smoke, and of course during a fog the loss is very great. In this respect the load diagrams from electric power-stations for Wednesday, January 22, 1924, a particularly foggy day, published in the report of the Committee for the Investigation of Atmospheric Pollution, are particularly interesting. The cost of the additional current supplied at one station by one company (The Kensington and Knightsbridge Electric Lighting Company) was 2,520 units Taking the cost at 5½d. per unit (an average between the lighting and the power price, and remembering that most of the additional load was for lighting), this represents an additional expenditure of £57 15s. for an area of about 100 acres. Taking these figures as a basis for the whole metropolis the total amounts to £55,440. During a day of fog, when street lighting is necessary from, say, 7 a.m. to 5 p.m. (i.e. ten extra hours), the approximate cost of gas consumption is £60 per square mile, or £9,000 for the whole of London, or £900 per hour. This figure does not take into account the vast sum spent by individuals in lighting their own houses and premises, or by vehicles.

Another incidental waste of fuel, which is difficult to compute, is that of petrol and coal due to traffic delays caused by fogs on road and rail. Sir Henry P. Maybury, writing in the *Times*, gave some very interesting figures as to the disorganization caused by fog to the huge fleet of motor-buses owned by the London General Omnibus Company. During the three years 1920–21–22 there were about twenty-seven days on which ground fogs were prevalent. The number of motor-omnibuses which were unable to complete their scheduled mileage during these twenty-

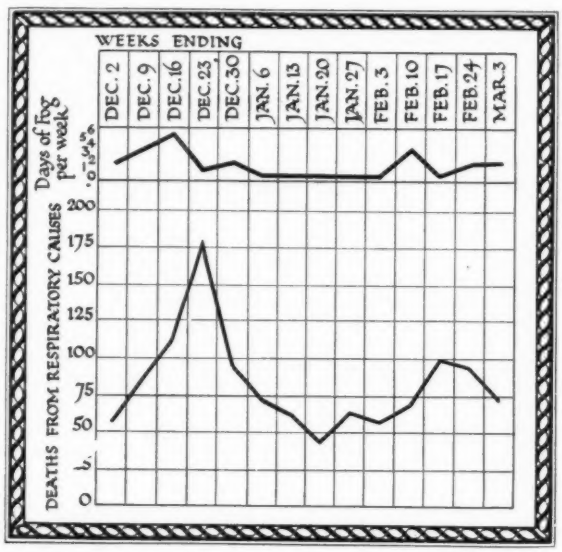


Left, a carved modillion from the cornice at Buckingham Palace, showing the heavy soot encrustation. Right, the top of a cornice at Lancaster House, showing the erosion of the stone.

seven foggy days totalled 10,202, the number of miles actually lost being 434,457. During three successive days in November, 1921, there was a dense fog in practically all the London districts, and the result was that during that brief period 3,448 buses were unable to complete the scheduled mileage, and the number of lost miles totalled 141,564. The tramways are not affected to so great an extent, but there is, of course, a heavy extra expenditure in the increase in the electric current consumption attributable to the frequent and slow acceleration of cars and lighting. The payment of overtime for extra duty, and the employment of extra staff at junctions and along single lines are also serious items of cost.

A further waste of which approximate estimates have been made relates to lost hours of work due to fog delays. It has been estimated that 2,000,000 people travelling into London every morning are delayed for an average of an hour during heavy fog, and, putting the value of their time at 1s. 6d. an hour, the loss created by the delay amounts to about £150,000. The losses due to time wasted in reaching business offices, delivering goods, etc., can only be conjectured. During the winter of 1922–23 the approximate number of train trips cancelled on the District Railway owing to fog was 360, representing, approximately, 2,500 lost train miles.

The damage to health is a far more serious matter than the waste of fuel, and the ramifications of the smoke evil under this heading are innumerable. Moreover, it is not possible to produce figures showing the loss in monetary terms.



How, for example, is the general debility caused by atmospheric impurities and by loss of sunshine to be assessed? Nevertheless, Dr. R. Veitch Clark, medical officer of health to the City of Manchester, writes: "The abolition of smoke from our midst—a thoroughly feasible proposition—would do more for the improvement of public and individual health . . . than any other single action open to this country." Some idea, however, of the immense cost which air pollution is inflicting upon the nation from this cause may be gathered from the fact that the Ministry of

Health in its annual report for the year 1923–24 shows that the expenditure by local authorities in the treatment of tuberculosis amounted to £2,698,794. The entire incidence of tuberculosis cannot of course be attributed to this one cause, but on the other hand this figure ignores private expenditure on this disease. Moreover, tuberculosis is but one out of many diseases for which air pollution is largely responsible. Health damage is due to two causes, a positive one, which has long been recognized; the damage done to the system owing to the inhalation of impurities. "Consider the conditions under which the unfortunate town-dweller's lungs have to work," write the authors of *The Smokeless City*. "Every day he breathes into his lungs some 40 lb. weight of air, many times the weight of what he eats, laden with soot, tar, and acid. This air deposits dirt inside him, and his lungs, if examined after death, are found to have lost their natural pink hue, and to be permeated with a black, sooty deposit." The other cause is a negative one, the absence of sunlight and particularly of the ultra-violet rays in our cities; a general realization of the vital necessity of sunlight is comparatively recent. That there is an immediate relationship between the incidence of fogs, and the death-rate from respiratory diseases is clearly shown in the diagram prepared by the Manchester Public Health Department for the winter of 1916–17; from this it will be seen that the death-rate lags about a week behind the acute fog periods in December and January. This relationship was also shown clearly at Glasgow during the coal strike of 1921, when, over a period of six weeks, deaths from respiratory diseases were 539, compared with 996 for the corresponding period in 1920.

It is estimated that smoke arrests about 50 per cent. of the available solar energy. Dr. R. Veitch Clark has gathered some interesting figures dealing with the loss of light in Manchester. The amount of light in that city varies from 37 per cent. to 70 per cent. of that obtained in a village immediately to the south-west. In the height of summer the sun records only slightly exceed the winter records of towns such as Southport, Brighton, and Eastbourne. Lately the *Times* has taken to reporting the daily records of ultra-violet rays measured at Kingsway, Hampstead, and Peppard. Very rarely does the Kingsway figure exceed 50 per cent. of that of Peppard. The absolute dependence upon the ultra-violet ray of human life has only recently been recognized; so, too, have the marvellous curative effects of the middle group of rays. Dr. Rollier, of Leysin, has demonstrated to the whole world the value of sunlight in dealing with rickets and with tuberculosis of all kinds, and his treatment is now being carried out at Alton and Abergale. There are, however, a multitude of indirect ways by which the health of the nation is affected owing to the absence of ultra-violet rays. "The recent work of Hess," writes Dr. Saleeby, "shows that the milk of cows fed on pasture in the sunlight maintains the growth and health of young animals, whereas the milk of cows fed in shadow and on vitamin-free fodder will not maintain life. Our children are thus disadvantaged in winter by light starvation, and also by the defect of the milk of light-starved cows." Milk is not the only food which suffers. Fundamentally plant life is dependent upon the sun rays for the green colouring matter, chlorophyll. But the vitamins which provide the essential food values, and without which the bodily structure is incomplete, and the absence of which lead to rickets, scurvy, and tuberculosis, are the result of the stimulating action of the sun upon vegetation. The study of vitamins is still in an early stage, but it has been suggested that certain materials when exposed to the sun's rays have the power of storing ultra-violet rays and subsequently radiating them and thus building up vitamins.

A Portland stone cornice at Somerset House. A near view showing the encrustation, and a portion with the encrustation removed.

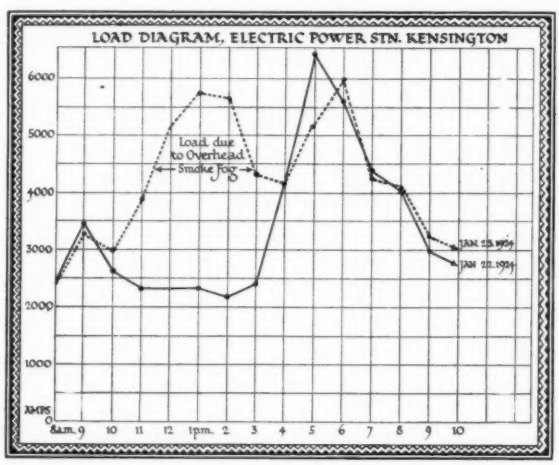
A red-brick pier at Chelsea Hospital, showing the exfoliation.

"In smoke-infested areas the grass is coarse and poor in quality," writes Mr. R. W. Ashcroft, M.B.E., F.R.H.S., "and farmers find it difficult to provide adequate grazing for their cattle." This is a direct economic loss to the agriculturist as well as contributing to a general loss of health values. The layer of impurities which descend upon the leaves of plants has an immediately deleterious result, particularly due to the sulphurous acid which enters through the stomata. In the Lea Valley tomato-growing area it was estimated that the cleaning of, and damage to, glass after a severe fog cost £5 per acre. Truly the ramifications of the smoke evil are endless. But perhaps this loss comes more properly under the heading of damage to property, as also does the fact that in 1919 the Food Controller allowed an extra twopence per gallon to be charged on milk by the West Riding farmers, owing to the difficulty of maintaining cows in the vicinity of manufacturing towns.

Green Westmorland slates on dormer cheek at Chelsea Hospital.

Perhaps the most sensational figures indicating damage to property are those which relate to household washing. In the report of the 1921 committee the increased cost of household washing on account of smoke in Manchester alone is given as over £290,000. The Air Pollution Advisory Board published a pamphlet in 1919 which gives comparative figures for Manchester and Harrogate. Thus the cost of household washing in Manchester might be reduced by a quarter of a million pounds were Manchester as clean as Harrogate. As between the two towns the extra cost in Manchester averaged 7½d. per week per household, and the extra time spent collectively in the course of a year by housewives who do their own washing is computed at 668 years.

Most architects are familiar with the damage done to buildings by atmospheric pollution. Sir Frank Baines stated in November, 1924, that his department spent £1,570,000 a year in looking after Government buildings, the Royal Palaces, and the Houses of Parliament, and that 30 to 40 per cent. of this might be saved had we an acid-free atmosphere. But the actual disintegration of stonework is but one form of damage. There is the damage to internal and external decoration, to metal, to furniture, fabrics, books, and works of art, and there is the additional cleaning of windows and skylights, including railway stations.



Let us, however, end this account on a more cheerful note. In the first place the incidence of bad fogs in London is steadily decreasing. During the period 1883–92 fog gripped London on an average for thirty days a year. Between 1893 and 1901 the incidence declined by ten days a year; during the next period, 1902–1911, the incidence was further reduced to an average of ten days a year. Conversely the sun is gaining power. In 1902 the number of hours of sunshine registered in London was 1,010; during the next twelve years the average yearly gain was eighty-four hours. According to Sir Napier Shaw, chairman of the Advisory Committee on Atmospheric Pollution, the solar radiation in Westminster in 1881 was 17½ per cent.; in 1920 it had risen to 45 per cent. Similarly the soot-fall has decreased. The medical officer of health of the City of London in his annual report (April, 1925) states that the soot-fall in London in 1912 was 76,000 tons; in 1923–24 it was 35,000 tons. But for public apathy, however, this improvement would be even more rapid. There are otherwise quite intelligent citizens who regard smoke as something quite inevitable, and there are business men who try to measure the prosperity of a district by the smoke emission of its factory chimneys. "Ah," they say, pointing with satisfaction to some belching monster, "if there were more of that there would be less unemployment." It would be about as reasonable (but business men are rarely able to reason) to point to a street accident with delight and hail it as an indication of a city's activity and prosperity. These people still refuse to see that smoke emission is no measure of prosperity, but rather an indication of waste and inefficiency; of inefficient plant, of inefficient stoking, and of wasteful fuel consumption; finally, they are apparently ignorant of the fact that to-day the countries with the minimum industrial unemployment are comparatively smokeless. Then, too, there are those who regard anyone as a crank who would seek to alter the existing state of affairs. Yet despite these foolish obstructionists the smoke pall is slowly lifting.

[*To be continued.*]

CURRENT
ARCHITECTURE
SECTION

THE PLAZA THEATRE

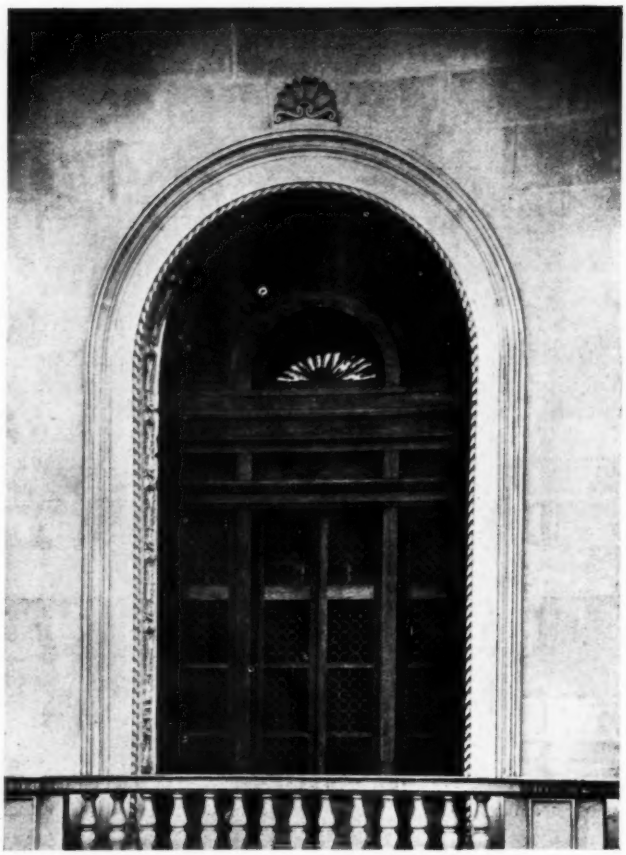
BY A. TRYSTAN EDWARDS

THE Plaza Theatre is by far the most sumptuous of all the theatres in England. It is also modern in construction, modern in plan, and certainly expresses a twentieth-century conception of what an ornate and luxurious auditorium should be. Yet Mr. Frank T. Verity, its architect, has drawn freely from the treasury of decorative detail which the masters of past ages have bequeathed to us. Although he has utilized his scholarship in the handling of classic motifs the result may truly be described as an individual style immediately recognizable as belonging to Mr. Verity himself. It is clear that this building has been to him a labour of love. It has occupied his thoughts for several years, and represents in some measure the dream building which he has often fancied, but never dared to hope that he would have the opportunity of executing in solid materials.

The two façades. By Frank T. Verity.

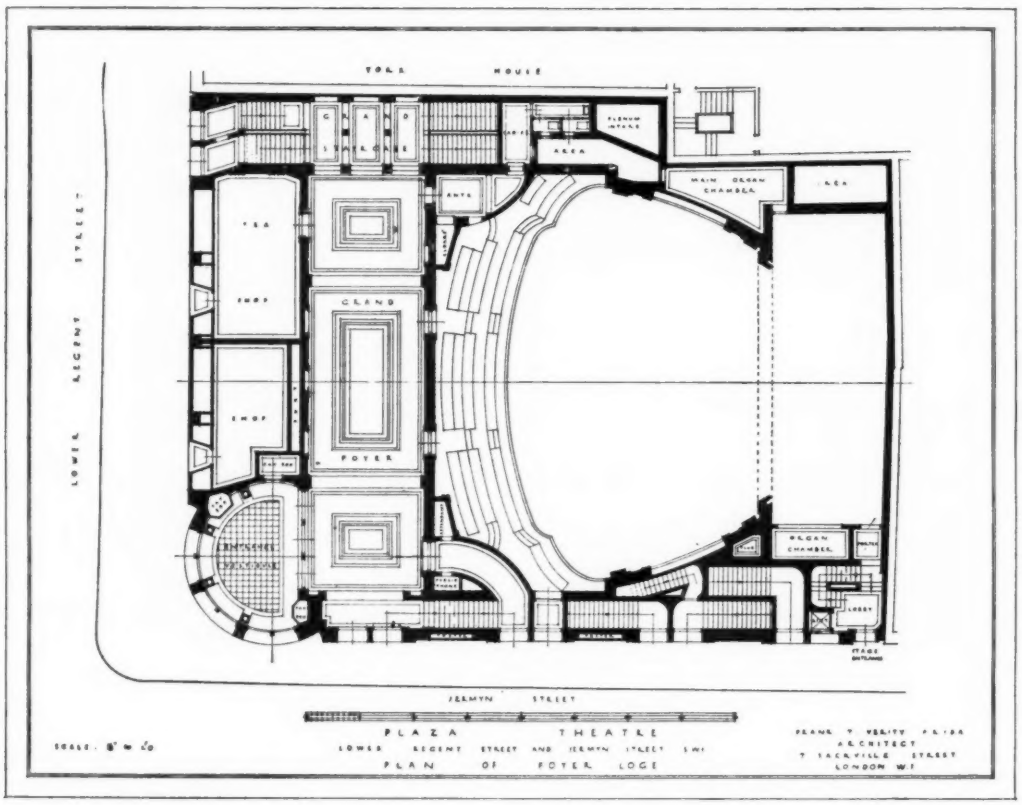
Let us examine the interior first, for this is the aspect of the building which will, perhaps, attract even more attention than its refined and decorative exterior. The first thing to notice in this building is that it is conceived as a palace, and a highly romantic palace at that. Going in the entrance doorways underneath the dome we find ourselves in a small, but dainty, ante-room, decorated with frescoes in the Italian primitive style. From here we proceed to the grand foyer, conceived as a *salle de reception*, which, in character, belongs to a gorgeous private house rather than to a public building. The floor is covered by an immense prayer carpet of wonderful pattern, while the candelabrum, torcheres, and crystal brackets of rare Venetian designs, give a note of splendour to the scene. A remarkable feature in the furnishing of this room is the way in which the radiators and fire-extinguishers are disposed so that instead of becoming an eyesore they are actually an architectural embellishment. The radiators are treated as gracefully framed apertures surmounted by pictures, while the fire-extinguishers are in neat little niches, each having a golden star behind its head. The colour scheme is blue and gold, the segmental panelled ceiling being richly embossed. From the foyer or *salle de reception* are doors leading to the royal circle. At the end of the foyer are two antique gilt columns, through which we obtain access to the grand staircase and again into the royal circle. From this latter position we immediately obtain a view of the auditorium itself. Here the element of romance is further emphasized, for the architect has conceived himself to have been commissioned to build a theatre in the courtyard of a Florentine palace. The illusion is supported by the painted arcades on either side, the left representing a logia looking towards the Duomo, while the right gives us a view of the Boboli gardens. Here, again, the colour scheme is predominantly blue and gold. Immediately above the proscenium beam and underneath the arch is Italian glass segmental in shape, with a figure pattern engraved on it. Behind the tableaux curtains of gold volute is the inner

proscenium of violet coloured velvet. The safety curtain is treated as tapestry, painted on the asbestos cloth, which shows that in Mr. Verity's hands even the most utilitarian devices are made to serve his artistic purpose. The fresh-air outlets are through decorative frets in the richly - coffered ceiling, while the inlets are situated underneath the seats. These latter are covered with silk damask, while the walls of the royal circle are hung with pêche-coloured volute. On either side of the proscenium is a gilt screen concealing the organ, while in front of these hangs, from the cornice above, a brilliant star chain, from which is suspended a large silver lampeda that illumines the tapestry behind the grill. Above the royal circle, which seats eighty-six people, is the larger gallery divided into balcony and

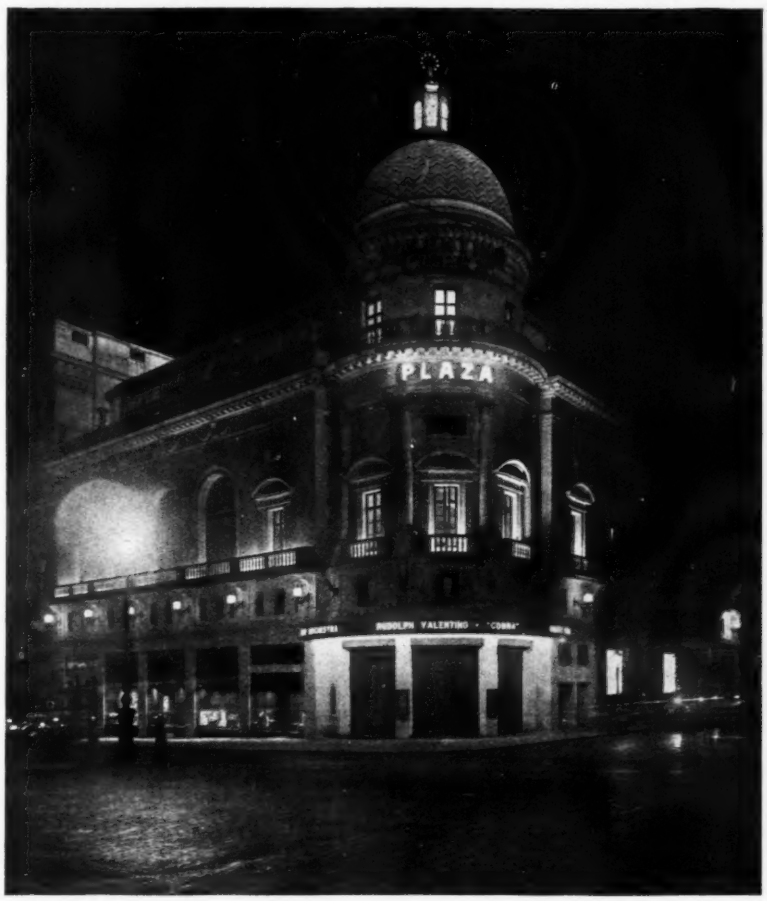


circle, which, between them, seat 674 people. Underneath the royal circle on parterre level are 1,155 orchestral stalls. It is noteworthy that from every seat in the house there can be obtained a complete view of the stage, which, incidentally, is equally well adapted for either the cinematograph or the spoken drama. Behind the coffered ceiling, adjacent to the proscenium and at a higher level, is a flat ceiling-light of amber-coloured glass, through which is obtained the subdued illumination required when the pictures are being shown upon the screen. From this ceiling-light there comes a golden glow, just sufficient to enable those members of the auditorium who are fortunate enough to possess banknotes to read the

Above, a detail of a window in Lower Regent Street. Below. the plan of foyer loge.



stamped letters upon them, this apparently being the standard of illumination required to insure that people may find their way out towards the exits, and may also be discouraged from promiscuous flirtation, this latter object being further secured by pilot lights at strategic points. The general impression of the auditorium is one of spaciousness and comfort, while the decorative scheme is devised to give points of interest wherever one may direct one's glance; but the proscenium is made the centre of the pattern, all decorative motifs leading up to it so that the elaboration of design will not for one moment distract one's attention from the functional purpose of the building. Visitors to the Plaza are likely to be especially attracted by the delightful tea-rooms provided on parterre and royal circle levels, and will discover that the architect has studied their comfort in every possible way.

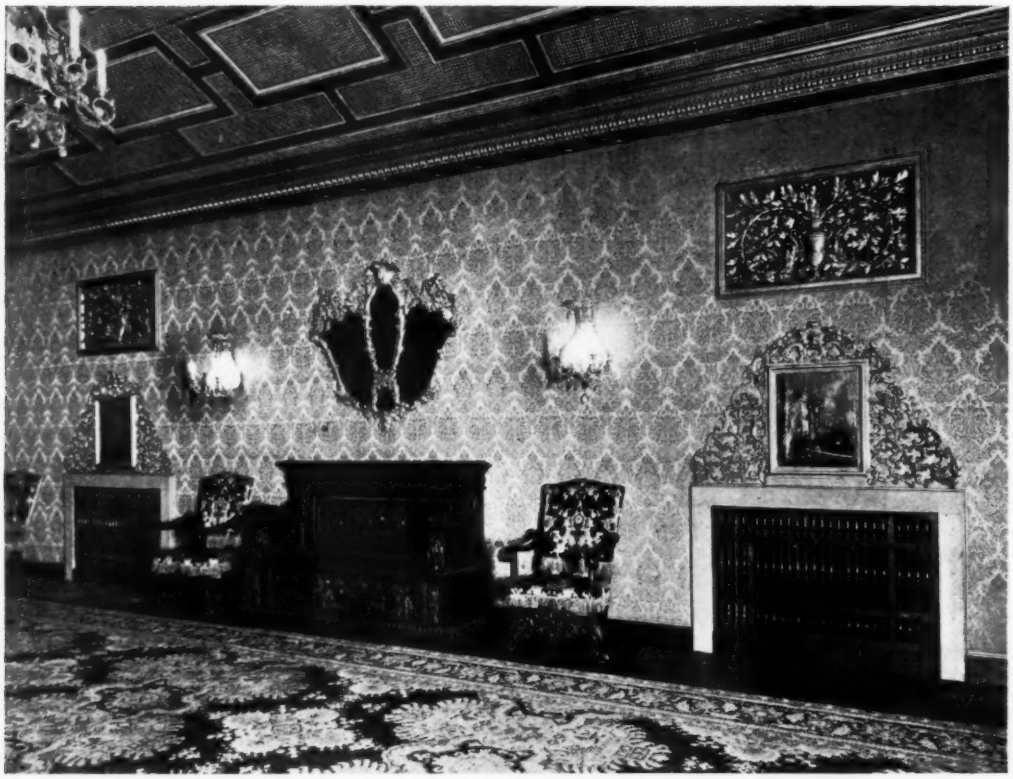


The theatre floodlighted.

Let us now glance at the exterior. The architectural problem presented in the Plaza Theatre was a somewhat difficult one, as several apparently conflicting conditions required simultaneous satisfaction. The modern picture theatre has complexities in its planning which render a simple and dignified external architectural treatment by no means easy of accomplishment. In the present instance two façades abut on public highways, the principal one being on lower Regent Street, and the secondary one on Jermyn Street. The general effect aimed at is one of order, a quality which indicates that the architectural problem has been not merely attempted, but actually solved, then a certain elaboration and richness, which will prepare us for the highly decorative interior, and, lastly, a note of gaiety and lightness, suggestive of a place of amusement. Mr. Verity has taken advantage of the corner site by erecting a dome, of which an excellent view can be obtained from Piccadilly Circus. This dome of mosaic, decorated with a pattern of yellow and green waved ornament upon a blue background, is surmounted by a lantern, from which will flow a limpid stream of water, giving to the surface a delightful glitter when seen by nocturnal illumination. This feature will differentiate the building from its neighbours, and establish its character as a semi-public institution which, however, does not take itself too seriously. The façade towards Regent Street, in spite of its limited dimensions, achieves a fine scale through the simplicity of its parts. The ground-floor story has five bays, four of which are occupied by shops. An overhanging balustrade groups these bays together, and is itself surmounted by three large arched windows, intended to suggest the presence of a large hall within. The Jermyn Street frontage, of which the fenestration belongs entirely to small subsidiary rooms is, nevertheless, arranged symmetrically, the windows being grouped in an orderly pattern, punctuated on each side by larger openings adorned with pediments. One of the most difficult problems encountered was concerned with the disposal of the necessary advertisement signs. These have been relegated to positions on the façade, where they will harmonize with the architecture. The Plaza Theatre, more than any other building in the new Regent Street, may be said to reflect the spirit of Nash. It is essentially a good-mannered building, which adequately expresses its function, while at the same time paying due respect to its neighbours. In this very English building Mr. Verity has succeeded in paying regard to the spirits of modernity and of tradition.

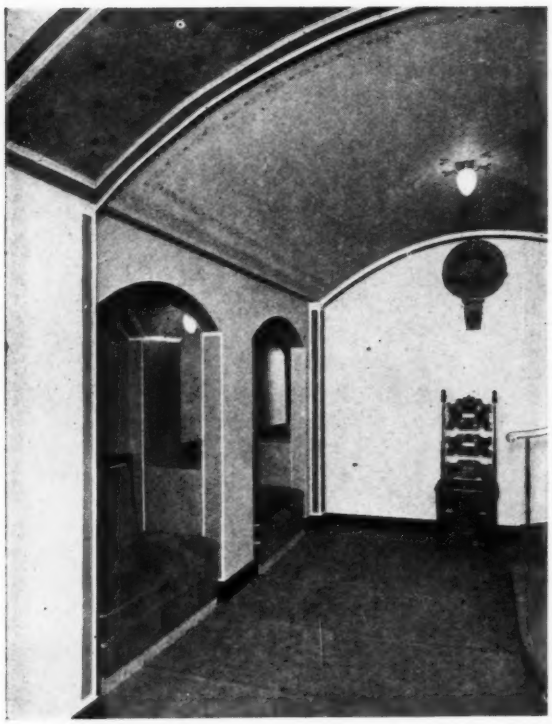
The technical problems of theatre design, the seating and lighting, the planning of approaches and exits, and all the subsidiary compartments of the building are here solved in a way which scarcely admits of improvement, for the "programme" of the design has been studied with extreme thoroughness. It is most important, however, that the Plaza should not be criticized as if it were nothing but a picture theatre. If it had been such, its profuseness of decoration might have appeared unjustified in a hall destined to be shrouded in darkness during the whole period when it was being used for its proper function. Modern conditions, however, necessitate that a building of this kind should be equally adapted to the drama, the ballet or for concerts, as well as for the cinematograph. When the composite purpose of the building is recognized it becomes apparent with what very great skill this purpose has been achieved in Mr. Verity's design.

[For list of contractors and sub-contractors see page 435.]

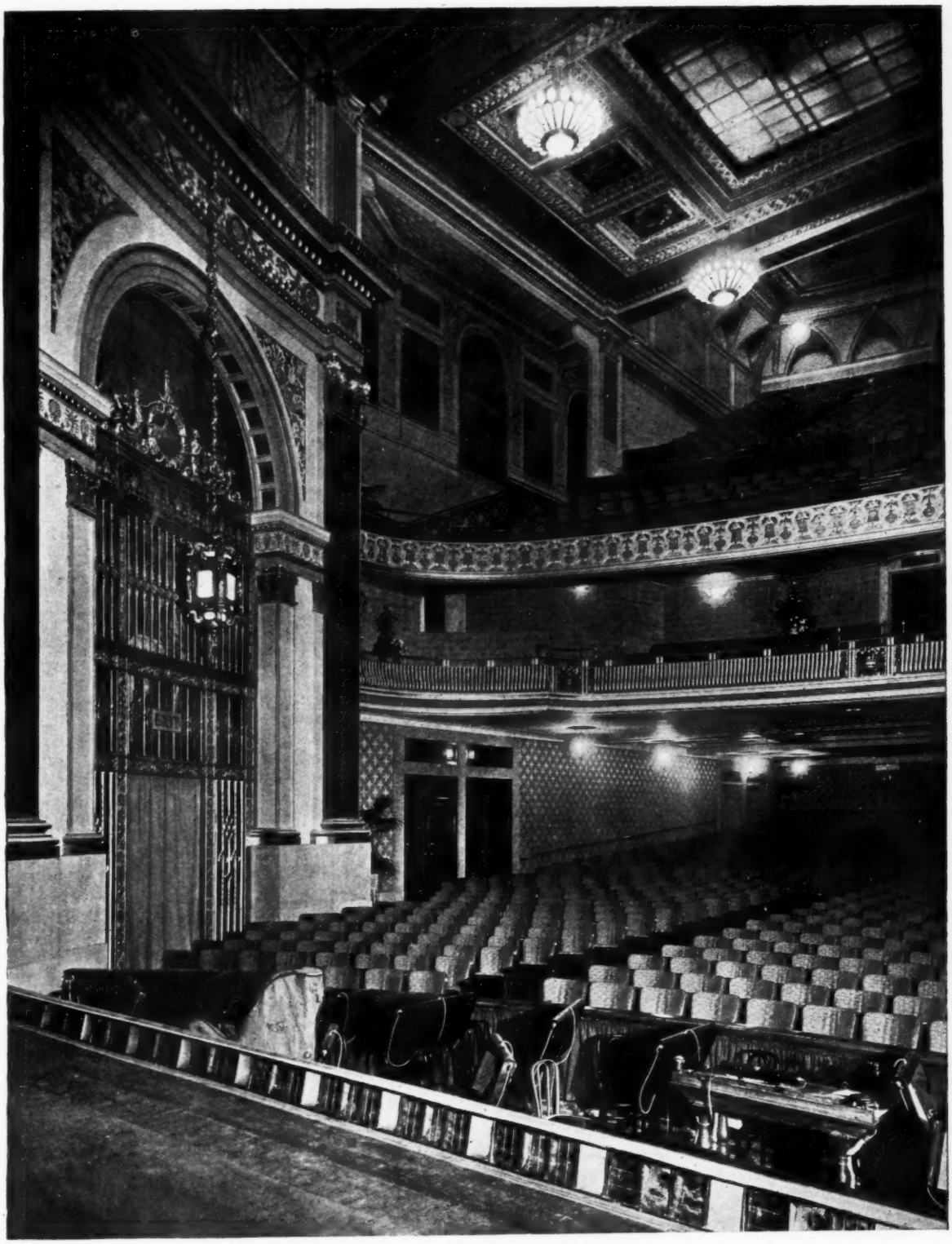


Two views in the grand foyer.

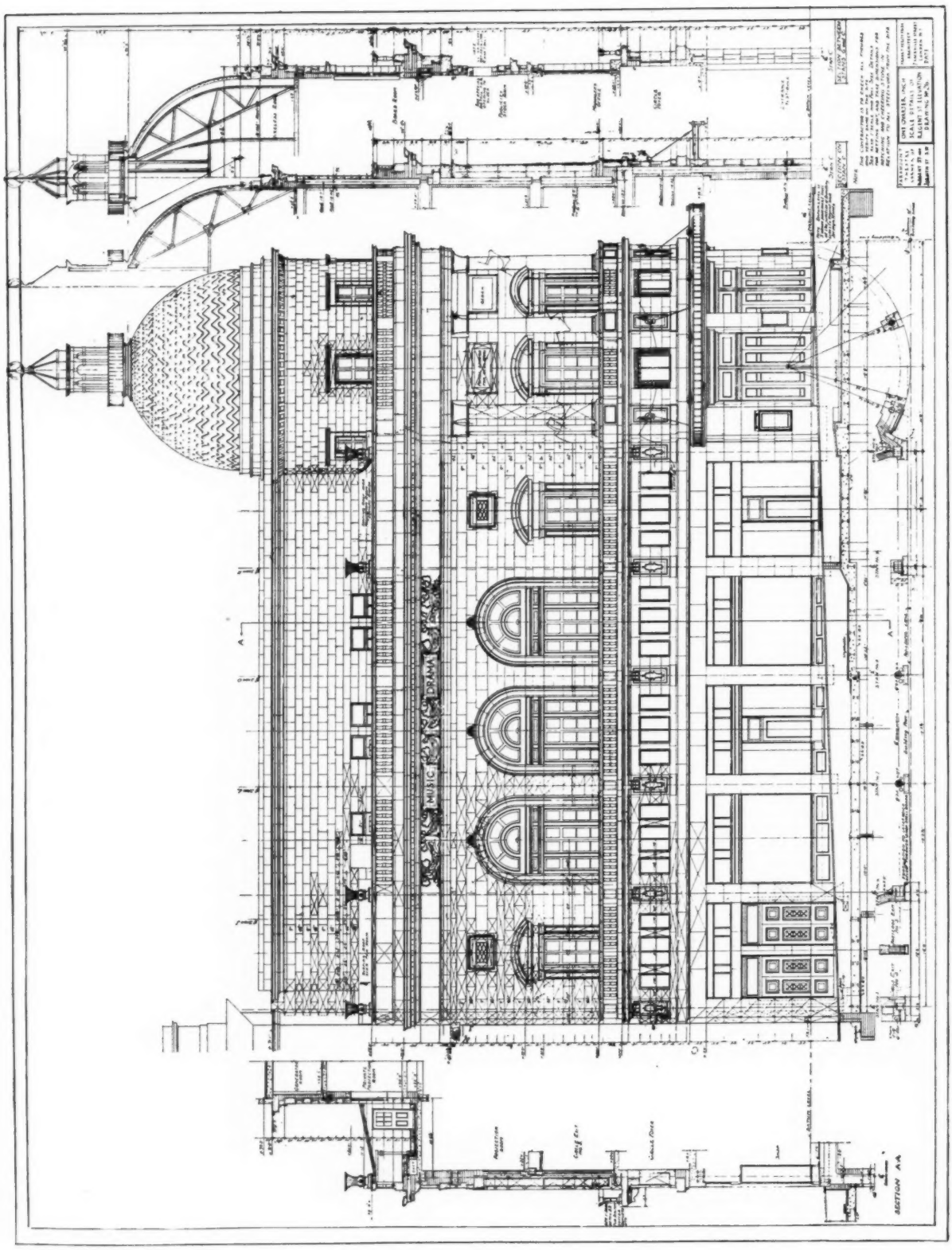
The proscenium and an exit.



Above, the auditorium from the stage. Below, left, the circle south ante room; right, the circle corridor.



The auditorium.



A detail of the main elevation.

THE COMPETITORS' CLUB

A DOUBTFUL EXPERIMENT

THE competition for the Australian War Memorial at Canberra, though open to Australian architects only, has a certain measure of general interest in that, among other features in the conditions, it introduces what may be regarded as a new method of adjudication. The clause runs as follows: "The adjudication will be performed in two stages. The designs will, in the first instance, be examined in Australia by a Board of Adjudicators who will select not fewer than ten designs. These will then be transmitted to Great Britain for final adjudication by an architect to be nominated by the R.I.B.A. The Australian Board of Adjudicators will be assisted by two assessors representing the Federal Capital Commission and the Australian War Memorial Committee respectively. The function of these assessors will be to afford to the adjudicators special information of a local character and in relation to the requirements of the museum, but they will not vote as adjudicators. The Australian Board of Adjudicators will be: Sir Charles Rosenthal, K.C.B., F.R.I.B.A., president of the Federal Council A.I.A., and N.S.W. Institute; Professor Leslie Wilkinson, F.R.I.B.A., University of Sydney, and Mr. J. S. Murdoch, F.R.V.I.A., chief architect of the Commonwealth Government.

This means apparently that the jury which is responsible for an analysis of the merits of all designs sent in, and for the selection of the best ten of these, has no say at all in the final decision. This is certainly a mode of procedure open to criticism. It is not clear whether the jury can submit a report as to the relative merits of the ten designs to the final assessor, but there is no suggestion of any such course being admissible.

For an adjudication in two separate stages, such as this, it would be more reasonable to place the single assessor first, and the jury in the final position, but a more dubious element is the entire divorce between the two, and the uncertainty as to what lines the final decision will be on. One of the competitors has obviously felt this very strongly, and has put his views in the form of a question which runs as follows: "Will consideration be given to the fact that the name of the architect who is to be the final adjudicator has not been made known to competitors, a condition without precedent in a competition of such magnitude, whereby in my opinion a further element of chance enters into the competition? The leading architects in England are pronounced stylists in the matter of architectural design, particularly in regard to treatment of elevation, and none more so than those at the head of the profession to-day, who are definite and decided in their preferences, each for his own particular style. Other things being equal, it is difficult to believe that the choice between two designs would not be made in favour of the style practised by the adjudicator. It is doubtless from the eminent architects that the final adjudicator will be chosen. Were the final adjudication made by more than one architect this disability might be somewhat discounted; but, bearing in mind that the selection in a competition is a matter of opinion and not of fact, the absence of the name of the final adjudicator constitutes in my opinion a serious handicap to the competitors." This little homily has apparently left the promoters unmoved, the reply being simply that the arrangements for selecting the final adjudicator have not yet been completed.

New readers will be interested to learn that this page is set aside each week for a causerie on competitions, old and new. The nom de plume *of* SENESCHAL *conceals the identity of a well-known architect, who has been successful in a number of major competitions.—Editor,* A. J.]

Now, despite the manner in which our leading architects are ticked off as inveterate stylists in one direction or another, it is impossible not to feel a certain sympathy with this competitor's point of view. While it is by no means desirable to attempt to play up to an assessor's known characteristics, it is only fair that his name should be published in order that the way in which he visualizes the fundamental principles of architectural design may be appreciated. It cannot reasonably be assumed that the assessor appointed by the R.I.B.A. will not be fully qualified for his task, but it is equally within the knowledge of habitual competitors that this task can be approached from different standpoints, in some cases so different from the competitor's own, that he would not enter, in others, he might do so, recognizing at the same time that he would be wise to qualify his preferred methods to some extent, while yet again when he knows the assessor to be a man after his own heart, he would let himself go without restraint.

At this point it may be well to introduce a paragraph from an article in the *American Architect* when reviewing the position in the case of Manchester Art Galleries: "A competition is not a lottery, it is a contest in design in which are submitted a number of schemes which have taken months to prepare, and from these schemes the best is to be selected as the winner, and the prize is relatively great. And the decision is not a question of fact, it is a question of opinion. In a race or in a ball game the decision is a question of fact: one man breaks the tape first, or one side makes the most runs; in nearly every case there can be no question as to the justice of the award. But in a decision based on opinion and judgment there is a fertile field for disagreement: the judgment may be honest enough, but the judges may not be competent; or they may base their judgment on prejudices; or on facts that have come to their knowledge, but which are not in the programme and, therefore, presumably unknown to the competitors; or it may happen that the award is made to a competitor who has wilfully violated the programme in order to produce a superior scheme, the attitude of the jury being that this man, by his bold defiance of restrictions, has shown himself a man of genius; his scheme is much the finest, and it would be a great pity if the city or state were to lose the chance of a great building."

It may be regarded as certain that, with but few exceptions, competing architects like to know by whom their work will be judged, and that they are entitled to have this information; but this is not the only weak spot in the arrangement under review, the worst point being the complete discontinuity between the first and second stage of the adjudication. The preliminary jury in selecting the ten designs will probably base its work on some definite principles, and unless the final assessor clearly understands what guided this selection, and there is no indication that he will be informed as to this, he may introduce other elements into the estimate of merits, and change the whole direction of the decision, so that if he is right, the ten chosen may not be the ten best, and if the jury were nearer the mark, the best of the ten in their view may not secure the final verdict.

The decision could possibly have been safely left to the jury, but if it was thought best to consult further authorities, it would surely have been wiser to obtain a suggested award from this body with a fully-reasoned report on the designs as placed, pointing out the grounds for the selection and placing, for submission to a jury (not to a single assessor) in England, who would have powers to revise the positions of the designs and would give their reasons for so doing to the jury making the preliminary selection. The number to be selected first should not have been fixed, but ought to include those only that the selecting jury might consider possessed sufficient merit to be regarded as possible finalists, and the sum allotted as premiums might have been left to be divided in a discretionary way, according to merit. Surely this case is one in which a jury is clearly the right procedure for the final decision, more especially as the designs are to be sent to London, and as the nomination is to be made after the designs are prepared.

SENESCHAL

A detail of the main elevation.

PRESENT-DAY BUILDING CONSTRUCTION

BY WILLIAM HARVEY

ii: THE BRICKLAYER AT WORK

THAT point at which the normal passes into the exceptional inevitably forms a focus for our attention and our interest. Nothing could be more ordinary than bricklaying, but few things more fascinating than the work of the bricklayer when carried out with the skill and discretion which raise a craft into an art. Far too much brickwork of the present day fails to achieve this standard, for bricks are not only hidden behind the stucco and the roughcast on the exterior of our houses, but are also disguised with plaster in their interiors. So fully has this state of affairs been accepted that brickmakers have reduced the quality of their wares in proportion, and a great number of bricks now used in England are unworthy to appear in the light of day. Any brick or brick substitute that can be laid in a wall is considered good enough to support the plaster or to form the backing for the rendering. It is no wonder that the bricklayer ceases to feel any interest in his work as long as these conditions prevail.

The opportunity to use a sound brick where it will be seen puts bricklaying on an entirely different footing, and the bricklayer constructing a fireplace realizes his opportunity and rises to it. Figure 1 shows a cottage bedroom fireplace constructed in hard Dorking pressed facing bricks, ranging in tint from red, through maroons and purples, almost to black. This sound brick has remarkable wearing properties, and if the harder specimens are selected for the parts which will receive most wear, a hearth built of them will stand the scratching of fidgeting feet. The heat-resisting qualities of the brick make it possible to use it even for the backing of the grate, so as to maintain the colour interest throughout the whole composition, though the lower courses of the fire lining are bedded in fireclay, and are not bonded to the structural brickwork carrying the weight of the stack. In using these hard, non-absorbent bricks the practice, usually good, of dipping the brick into water is not complied with, for to do so would invite sliding and settling of each brick after it was laid. The water, unabsorbed by the brick, would simply tend to make the mortar more fluid. The exact consistency of the mortar is a matter of importance, for in building face work the bricklayer prides himself upon keeping the brick surfaces absolutely clean and unsmudged. The mortar used in constructing the fireplaces shown in the photographs is a Portland cement compo in the proportion of one of cement to two of sand, mixed with as little water as possible and worked to a stiff jelly-like consistency. With this each brick is liberally buttered, and is then tapped into position with the handle of the club hammer upon its bed on the course below. As the excess of mortar bulges out from between the bricks it is neatly removed with a small trowel, and the brick surface preserved unstained.

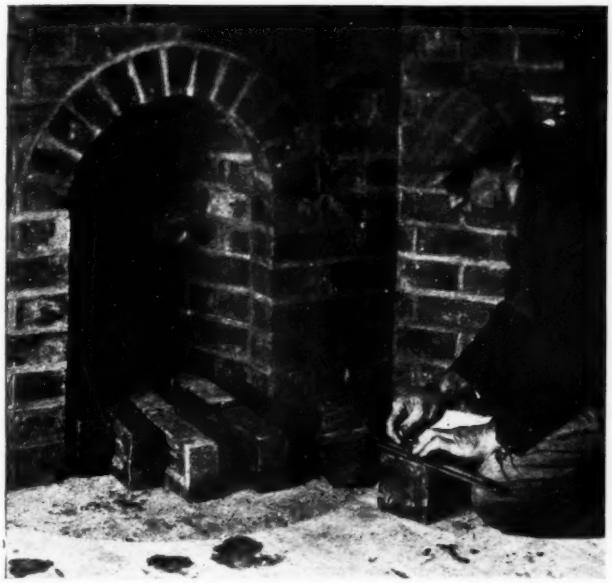
Figure one. Fireplace in a subsidy cottage. Wide radiating joints were designed, but the bricklayer insisted upon cutting the bricks to give parallel-sided joints in the curb.

As originally designed the arches and the hearths were intended to have wide joints, but the bricklayer could not bring himself to execute the work in what he considered a slovenly fashion, and cut all the voussoirs and the bricks on edge forming the curb of the hearth into radiating shapes. Cutting a brick of this hard character is no light matter, and each particular brick has to be treated on its merits. Some few of them can be roughly dressed by repeated blows with the side of the trowel, but the majority had to be cut with a scutch, or bricklayer's axe, or with hammer and chisel. A chisel, intermediate in width between an engineer's cold chisel and an ordinary bricklayer's wide bolster, was actually used with a light plumber's hammer, as fewer bricks were smashed with this than when the bricklayer's heavy club hammer was used. To set the bricks out for cutting, a semicircular line was drawn on the floor and the half bricks for the arch were laid in position against it, with their inner corners just touching one another. The tapering outline was then marked with a pencil on each brick, and the paring action commenced.

Marking the bricks of the hearth was done in a similar way, care being taken to get the joints in the flat part of the hearth regular and symmetrical, as well as to cut their outer extremities to the curve (figure 2). The curb, which tilts inwards and has its two exposed surfaces in the forms of parts of truncated cones, is a particularly dainty piece of work. The outer edge of each half-brick was temporarily placed upon the edge of the floor-boards bounding the curve of the hearth, and the bricks were marked and cut at the bricklayer's discretion to fit the conditions of the case (figure 3).

The innate sense of form with which Auguste Choisy credited the Byzantine vault-builders must have been inherited by the English bricklayer. All the marking was done by eye, and the placing of the bricks composing the curb was performed without the use of spirit-level or template.

A hearth of rectangular plan in the same cottage presented an even more exacting problem of shaping the bricks for the mitre of the curb. The same tilt of the bricks had to be kept, and four half-bricks at each corner had to be cut for the mitres. Instead of worrying the architect for a full-size detail showing the true angles of the setting-out for these angle bricks, the bricklayer



settled the geometry by a process of application. The half-bricks to form the straight sides of the curb were first loosely bedded in position with a square space left for the mitres at each corner. Another half-brick was then held in position in the space, and while so held, a line, distant from the mitre to the extent of half a joint, was sketched upon it. The mitred corner of the brick was then hacked away, its companion brick being treated in the same fashion. The bricks for the extreme angle have to be mitred on two faces, and to work out the mitres geometrically would mean some hours spent in draughtsmanship; they were, however, set out quite satisfactorily by placing the brick in position and sketching the mitre line by eye (figure 4). The whole arrangement of four bricks was then placed in position on the mortar-bed for a final adjustment of surfaces, and any parts which intruded upon the space devoted to joints were hacked away with a series of light blows of the scutch. The bricks were then carefully buttered and put in position, and hammered down level with the rest.

The joints were finished by cleaning off any excessive bulge of mortar and pressing the cement down between the edges of the bricks with the point of the trowel. No final cleaning off was necessary, for each brick had been cleanly set once and for all without any splashing or smudging. Not every bricklayer can attain to this artistic method of execution, and many count upon washing the brick faces with water as soon as the cement joints have set, or even with spirits of salt to shift the smudges which they consider unavoidable. The washing process leaves a great deal to be desired, however, for the smudges are seldom cleaned off in such a uniform manner as if they had never been made.

Figures 5 and 6 illustrate the setting of a range, which is as delicate a task, in its own way, as the building of a brick interior grate. The bricklayer's work does not show upon the exterior, but the same skilful and conscientious treatment is necessary if the fire is to burn and the supply of heat to the oven and hot water to the cistern are to be satisfactorily maintained. The work does not involve such extreme care in brick cutting and in keeping uniform joints, but it is necessary for the bricklayer to work in co-operation with the designer of the range, and enter into the spirit of his disposition of the flues and dampers. Fairway for the smoke must be provided in the proper places, and every other crevice through which smoke might escape must be filled up in an impenetrable manner. Figure 5 shows a brick being placed in position to form the side of a duct in a "back-to-back" range. Only a part of the brickwork can be erected before the stove is put in position, and a considerable amount of infilling has to be done through openings in the partly-erected ironwork.

The range is of an ingenious design, and is intended to save fuel by acting as a sitting-room grate on one side of the partition and heating an oven on the other. The attempt to warm two rooms with one fire in the interests of cutting down the cottager's fuel bill necessitates some extra work in bricklaying, but, against this, it has to be remembered that in the ordinary course two separate pieces of heating apparatus would be required. Figure 6 shows the bricklayer starting to

Above (left), figure two. The bricks were marked for cutting by means of a process of application to their positions, and (right)—figure three—cutting the bricks to a tapering shape with an old-fashioned double-ended scutch. Below, figure four. The four tilted bricks at the corner of the curb have to be cut to form the mitre. They are shown placed loosely in position while adjoining bricks are first set.

build up the sides of the flues surrounding the oven. Special cast-iron plates are provided to cover this brickwork, but the effective action of the dampers makes it imperative to have a buffer of non-conducting material between the flue and the outside of the range.

The burning of the fire in a closed range is generally attended with less difficulty than is the case with open brick-built fireplaces, where it is a good plan to keep the arch of the fire-opening low—not higher than 2 ft. above the fire grid—or be prepared to provide a metal canopy effectively to reduce the height of the opening. Many smoky chimneys that have been provided with cowls or extraordinary patterns in chimney-pots do not owe their ill-success to any defect in the flue, but simply to the excessively high or wide opening of the fireplace. It is necessary, however, that the flue should be carried up full bore in graceful curves from fireplace to its outlet at the top of the chimney, and that its walls should be impervious to the entrance of cold air or the exit of smoke. It is only by architect and bricklayer working together that these results are likely to be obtained. Unless the lines of the flues are drawn out beforehand there is a tendency on the part of the careful foreman to get the gathering over performed too quickly, so that he can be sure of getting to the stack in time to avoid conflict with the rafters or roof slope. Even when drawings have been prepared, frequent supervision is necessary to see that they are made use of. As far as possible a uniform slope at the rate of $2\frac{1}{4}$ going to 3 rise should be adopted for the gathering over of flues, as this agrees with the ordinary bond of the brickwork. Where flues have to be carried across passages it is better to avoid the use of arches, for which the abutment is seldom calculated in our modern economical domestic buildings.

Chimney stacks have been known to pile themselves and the arches supporting them in heaps in the passage. Stout concrete lintols provided with plenty of tensile reinforcement are more serviceable in these days when arches are no longer fully understood by so many English builders, and the flues can be carried through the lintol either in a stoneware flue-pipe or by forming the duct in the concrete by means of a temporary wooden boxing. If an arch is used to carry the stack it can be made very much more stable by chaining it effectually with some tensile reinforcement across its springing, but, since the concrete lintol possesses advantages from the point of view of setting-out the next stage of the chimney's height, and permits of the bricks being laid in horizontal courses, it is more freely used than the arch in present-day building construction.

Above, figure five. Forming the side of a flue. The brick is being placed on its lime mortar bed. Below, figure six. Building up the vertical side of the oven flue. The quadrant plate of cast-iron will ultimately cover up this brickwork.

THE ARCHITECTS' INCOME-TAX

HOW SCHEDULE "D" FORM SHOULD BE COMPLETED

BY OUR FINANCIAL CORRESPONDENT

[*The references in this article are those from a Form of Return for* 1925-26, *as the* 1926-27 *forms are not yet issued*]

THE assessable profit of an architect's business is arrived at, for income tax purposes, by taking the average of the profits for the three years immediately preceding April 5, 1926. For 1926-27, therefore, if the financial year ended on December 31, then the following years would fall into average, and the amount to be returned would be, say, £608, based on the following assumed figures :

Year ended December 31, 1923, equals £540.
Year ended December 31, 1924, equals £602.
Year ended December 31, 1925, equals £681.
The total, £1,823, divided by three gives the average, £608.

Untaxed dividends and interest are dealt with in an entirely different manner, and the following will explain the method to be adopted. The amount to be entered from this source is the sum received between April 6, 1925, and April 5, 1926, but, if the first receipt from such source only commenced after April 6, 1925, then the amount to be entered is the sum expected to be received between April 6, 1926, and April 5, 1927.

As an example, it is assumed that £100 of 5 per cent. War Stock, 1929-47, was purchased in 1924, the amount to be entered for 1926-27 would be £5; £2 10s. having been received on both June 1 and December 1, 1925.

As a second example, presuming the Stock was purchased on August 1, 1925, the amount to be entered for 1926-27 is still £5, although up to April 5, 1926, only £2 10s. would have been received by December 1, 1925; but a year's interest will have been received by April 5, 1927—for, in this case, it will clearly be seen that the income first arose after April 6, 1925, which alters the method to be adopted according to the Income Tax Acts.

It must be remembered that page 5, Section C, is filled up only for the purpose of giving the Inland Revenue authorities the total income of the person concerned *from all sources*, and has nothing whatever to do with the amount upon which tax is payable, with the exception of subsections (*b*), (*c*), and (*d*).

Subsection (*b*) relates chiefly to office employment, or pensions, on which tax is chargeable, but why these are not to be entered on page 3 with other taxable income, I do not know. However, this is in accordance with the regulations.

With regard to (*c*) and (*d*), these relate to the ownership of house property and land, and the tax payable (Schedules "A" and "B") on these assessments is invariably demanded separately.

Taking the sections on page 5 *seriatim*, it is important to note that, with regard to No. 1 :

(*a*) Only enter the total from page 3.

(*b*) Enter any income from office employment, etc., which you expect to receive for the year ending April 5, 1927.

(*c*) Enter the Schedule "A" assessment of any property.

This figure can be obtained from your last receipt for Schedule "A" tax; if the figure is not known, the Inspector of Taxes will give particulars, if necessary.

Note.—In this connection, if the business property is freehold, the whole of the Schedule "A" assessment can be deducted as a charge against the profits of the business. If leasehold, charge the Schedule "A" assessment of the business property if higher than the rent paid per annum.

(*d*) See Note 22(*d*) of the instructions with the form of return.

(*e*) Enter the dividends or interest taxed before receipt. Put the gross figure for the year ended April 5, 1926. For example, if £50 were received during the year, enter £62 10s., or add one-quarter of the amount received to the amount received; this gives you quickly the amount of dividend receivable before deduction of tax. Thus, £62 10s., less tax, at 4s. in the £, equals £50.

Dividends received free of tax, or from tax-compounded British Government Stocks, such as 4 per cent. National War Bonds, 1927, are similarly treated as if they had suffered deduction of tax. Likewise, if £8 2s. 8d. were received from a company "free of tax," it would be entered as £10 3s. 4d.

(*f*) Requires no comment.

No. 2. *Charges on Income.*—In this space is entered the (gross) annual amounts of any ground rent, interest payable, etc.

Sections D to J, inclusive, are easily filled up, but they should be carefully read, in order that any allowances due may be claimed. The chief of these, together with examples, may be tabulated as follows : "A" equals Actual Allowance; "L" equals Limit.

(*a*) Married man "A," £225. (*b*) Wife's earned income (nine-tenths of income), "L," £45. (*c*) On all earned income (one-sixth only), "L," £250. (*d*) Widower, widow, spinster, or bachelor, "A," £135. (*e*) A widower or widow, who has a female relative or other female person taking charge of children (or acting in the capacity of housekeeper), "A," £60. (*f*) An unmarried person who has living with him or her and maintains his or her mother (widowed or living apart from her husband) or some other female relative, for the purpose of taking charge and care of any brother or sister of his or hers in respect of whom the deduction for children or adopted children is given, "A," £60. (*g*) One child under sixteen years of age, "A," £36. (*h*) Two children under sixteen years of age, "A," £63. (*i*) Two children over sixteen years of age receiving full time education, "A," £63. (*j*) Two children under sixteen years of age, each receiving over £40 per annum in their own right, Nothing. (*k*) Every child, after the first, if not excluded by circumstances (see (*j*), "A," £27. (*l*) Nine children under sixteen years of age, "A," £252. (*m*) Maintaining a relative incapacitated by old age or infirmity, "A," £25. (*n*) Maintaining widowed mother, whether incapacitated or not, "A," £25. (*o*) Maintaining daughter upon whose services the individual depends by reason of old age or infirmity, "A," £25. *Note.*—[(*h*), (*i*), (*j*), and (*l*) are shown for the purpose of example.]

It should be borne in mind that an allowance is given on any premiums paid during the year of assessment, so that if the Income Tax Return was sent in on June, 1926, and a new policy was taken out afterwards, say, on October 2, 1926, then an allowance should be claimed on this premium in respect of the year 1926-27, notwithstanding the fact that the Return had already gone in without details of the additional premium paid during the year. An application should therefore be made for this allowance in the circumstances described above.

The first £225 of anyone's income is only chargeable at 2s. in the £ for 1926-27. Any person whose taxable income is under £225, and who has declared gross dividends which have been taxed at source, is entitled to an allowance of 2s. in the £, so that presuming the taxpayer was paying on a taxable income (that is, income after deduction of any allowances) of £143, and had suffered deduction of tax on gross dividends of £60, he would be entitled to a reduction of tax to the extent of £6, because the first £225 is only chargeable at the rate of 2s. in the £. In other words, the next £82 of any of his income being only liable to the 2s. rate, gives him relief on any income charged at the full rate up to £82 in this particular example.

The accumulated interest on National (War) Saving Certificates is exempt from income tax.

If, therefore, for the purposes of illustration, an architect had made £624 profit for the year 1926-27, was married, had three children under sixteen years of age, and maintained his widowed mother, and also paid a premium of £20 on a life policy taken out before June 22, 1916, and returned £50 taxed dividends (gross), he would have to pay (taking the standard rate of tax at 4s. in the £) £11 10s., made up as follows : Profit, £624; less earned income allowance, £104; less personal allowance, £225; less three

children, £90; less dependent relative, £25 (total £444). Taxable income, £180 (£180 at 2s. in the £, £18). Less allowance for life insurance premium (£20 at 2s. in the £, £2), equals £16. Less allowance for taxed dividends returned gross, at reduced rate, viz. £45 (out of £50) at 2s. in the £, £4 10s., equals tax payable, £11 10s.

Note.—Tax on the first £225 of anyone's income is at half rate. Tax on only £180 was paid at half rate above, therefore there is still £45 taxable at half rate.

The calculations in this article are worked on the assumption that the tax and allowances are the same as those ruling for 1925-26.

In conclusion, any architect who has any investments, either large or small, will find it of great assistance, if he keeps a small register, as shown in the illustrations, showing the income derived from such investments for each year ending on April 5, differentiating between those dividends taxed before receipt and those received without deduction of tax.

Free of tax dividends are, in effect, the same as taxed dividends, to which reference has already been made as to where they are to be shown in the return, and they should therefore figure in the investment register under the heading of *Taxed Dividends*.

Those dividends received after deduction of tax must be entered "gross," that is to say, the amount of the dividend before tax was deducted. A quick method of arriving at this figure, when the standard rate of income tax is 4s. in the £, is to add to the amount received one-fourth of it, e.g. if the dividend received (net) was £40, the gross is £50, or £40 plus one-fourth of £40. £50 less income tax at 4s. in the £, equals £40, which proves the calculation.

Many dividends are received less varying rates of tax, owing to the period which the dividend covers being a split one, and if the standard rate of tax rises or falls these varying rates are bound to occur.

If an investment register is kept as shown in the illustrations, the taxpayer will have every detail always at hand for his Income Tax Return. One investment is shown, the income of which is *untaxed*, and one which is *taxed*—these details being copied from the dividend warrant when received.

Note.—No. 6 of the Notes and Instructions in regard to the return of income for 1925-26 should be read and closely followed, in this connection, for there are certain dividends which, although usually received *after being taxed at source*, are nevertheless received *without deduction of tax*, if the dividends do not exceed £5.

Note.—The standard rate of tax ruling for the purposes of the calculations in this article is taken to be 4s. in the £.

Taxed. INVESTMENT REGISTER.

300 8 per cent. Cumulative Preference Shares of £1 each, fully paid up.

ARKITEX LIMITED.

Interest payable April 1 and October 1. Purchased July 14, 1925.

Year ended April 5, 1927.

Date.	Gross.			Tax.			Net.			Space would be left for subsequent years.
1926	£	s.	d.	£	s.	d.	£	s.	d.	
October 1	12	0	0	2	8	0	9	12	0	
1927										
April 1	12	0	0	2	8	0	9	12	0	
	24	0	0	4	16	0	19	4	0	

Untaxed. INVESTMENT REGISTER.

£200 5 per cent. War Stock, 1929-47. Purchased February 18, 1926 for £203 9s. 6d. Interest payable June 1 and December 1.

Date.	Year ended April 5, 1927.			Year ended April 5, 1928.			Space would be left for subsequent years.
1926	£	s.	d.	£	s.	d.	
June 1	5	0	0				
December 1	5	0	0				
	10	0	0				

[Inquiries from architects on any point relating to the filling in of Income Tax returns, or any doubt they may have upon the correctness of the assessment, will be gladly dealt with by our contributor. Such inquiries will, needless to say, be treated in the strictest confidence.—ED., A.J.]

CORRESPONDENCE

HOW *I* WOULD LIKE TO REGULATE ARCHITECTS

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—I am of three types—rich, middling, and poor. That is to say, I have been the latter two types, and am now the first. I have been left a comfortable fortune, which I can the better appreciate because I have worked hard, and been poor, and then comparatively affluent in the past. I can therefore speak for my three types, having in each of my several conditions wished to be decently housed.

When I was poor my first aim was to have a house of my own, which I could share with my young wife. Poor men cannot pay much, and only by the mortgage system was I able to achieve my desire. This meant, for some reason known only to building societies and the like, and probably not understood even by them, that being a poor man I had to be content with a ready-made house, poorly built to nobody's particular requirements. I speedily found that as the place was not handy to my work, fares, repairs, and illness made it impossible to live in; and I was lucky in disposing of it at a loss, which seemed to me to be a good investment, as it helped me to leave. Until I became more affluent I then had to rent a flat as badly conceived and designed as was the house. But here, at least, the necessary repairs had to be carried out by my landlord; and it was easily accessible to my business. Victor Hugo said that houses were like the human beings who inhabited them. As far as poor men are concerned he was absolutely right, except that the houses are generally poorer even than their inhabitants.

When I became comparatively affluent, that is to say, when I had a little capital, and my income had increased to four figures—£1,500 a year to be exact—I found the same trap was laid for me, and only by the mortgage system could I obtain a house suitable to my income. Once more the gods (with a very small "g") who rule such matters decreed that I could only be provided with an uninhabitable house. Everything offered to me was either unæsthetic, jerry built, uncomfortable, inaccessible, or had all these qualities combined. Once more I had to have recourse to a flat—though it was rather more comfortable and better designed than before.

Now that I am ready to spend up to fifteen thousand pounds on getting a house for myself I find the state of affairs reversed. I want to buy something already in the market, and, incidentally, when I find the right place I shall do so. But all my architect friends, who, for some reason, never bothered with the smaller house where beauty and comfort would have been so much more appreciated, want to design one for me. I tell them that all the small houses I have been offered are so bad that I will certainly not trust them to build me a big one. I prefer something old,

which I can see "ready-made," as it were, without risking my money on a speculation. The reply to this is that the architect is not called in to design these "ready-made" small houses. Well, why isn't he? I take it that it is his own fault that he does not design them, and suspect that he does not do so because it would not pay him. He says that is rubbish, and that he is not consulted. Well, why isn't he? Architects are trying to get a Bill through Parliament to enable them to register themselves, so that no one who has not passed examinations can call himself an architect and nobody but an architect can design a building. It seems as if they have been a hundred years setting about this, and that they are likely to be another hundred getting it through. Instead of this sort of thing, why don't the architects go to the working-man and the Socialist Party—or any other party likely to act—and tell them, and keep on telling them, that they will never be decently, comfortably, and beautifully housed until they see to it that only qualified architects are allowed to design their dwellings? Why don't their leaders shout about it in the press, and keep on shouting, and even take a quarter-page advertisement every day in a daily paper until a man will be ashamed to build a house unless an architect has designed it? Why does not the leading Society compel all its members to have their name engraved on a corner-stone, or other prominent place, on every building they design, so that we—the public—can see at a glance whether a house has been designed by an architect or no?

If the architect takes no interest in the small houses which give shelter to the vast majority of the population, and only bothers himself with the rich client, how can he expect the public to trust him or take any interest in him? It is all very well for him to talk about "bad times," "lack of public support," "lack of public interest or appreciation of the art of architecture." The public are not going to worry about him unless he, through his big Societies, tries to help the public or let them know how he is placed. Architects are full of their competition regulations, their etiquette regulations, their fee regulations. I'd regulate them if I had the chance! And when I had regulated them into taking a real live interest in small homes, I would have a look at the work of the different men, and choose one to build me a big home.

A CLIENT

THE MODERN STREET

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—I was rather interested in reading Mr. J. D. Beresford's article on "The Modern Street" until I reached the concluding paragraph, when I rubbed my eyes and read it again, and yet again, and then turned back to see if I had made the mistake of taking a satirical article seriously.

I came to the conclusion that Mr. Beresford was quite serious, and was responsible for perpetrating one of those delightful "howlers" like we read sometimes in the non-technical press.

Might I suggest that the reason why the principal shops are on the north side of Oxford Street (or any other street, for that matter, running east and west) is because people in England generally prefer to walk in the sunshine, i.e. on the side of the street facing south?

H. E. WATKINSON

[*After reading the above communication we asked the six first people we met the following question:* Does a building on the north side of a street have a north or a south aspect? *Four out of the six gave the same answer as Mr. Beresford. But the curious thing—and our readers will agree that it is a* very *curious thing—is that though Mr. Beresford's illustration may be wrong, his statement about the effect of sunlight is right. According to the latest American manual of city values, "the rays of the afternoon sun shining on a window display of fine and highly-coloured fabrics will fade colours and damage goods." The result is that "almost invariably the side of the street which is subjected to the rays of the afternoon sun in summer is less valuable, the difference ranging from 10 to 30 per cent.* (*Stanley L. McMichael and Robert F. Bingham,* City Growth and Values, *p. 105*).—*Editor*, A.J.]

THE READY-MADE HOUSE

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—Your admirable leading article on "The Architect and his Territory" touches a question for which I suggest the author of an earlier leader on "The Superfluous Architect" was (am I right?) preparing the way. I believe you may be interested in the cutting which I enclose. It was taken from a recent London evening paper; it, too, is germane to the self-same subject. Is Mr. Harrod an architect?—I seem to remember that while he was alive he exercised the profession of greengrocer—until, that is to say, he became a limited liability company. Neither the greengrocer nor the limited liability company can be described as architects; yet from that source the readers of my advertisement are advised to obtain the designs of their houses. How is this to be explained?

I venture to suggest, sir, that the whole position rests upon a misunderstanding. Some years before the war an American advertising genius invented the term *semi-ready-made* clothing. It was not bespoke, for mass-production principles were employed in manufacturing it. It was not ready-made, for the length of sleeve and trouser-leg was variable and might be adjusted to the purchaser's length of limb. Is it not possible that a similar classification might be adopted with much benefit for our domestic architecture?

Mr. H. B. Cresswell, in his inimitable yarn entitled "Thomas" describes how a progressive house-owner received from The Universal Stores house No. 2712 instead of No. 2721, which house she had ordered from the illustrated catalogue. This kind of house, evidently, would answer to the description "ready-made." The use of the word "design" in my advertisement suggests that another kind of house is there referred to. It is impossible to say, but I feel that "semi-ready-made" may be the correct description for this kind of house. Whether or no this be so, I am sure you will agree that the "bespoke" house is the peculiar business of the architect.

Is there not some way of making this, or a similar, classification, clear to the architectural clientele? I feel it would be a considerable help to purveyors of houses of all kinds. Have any of your readers any views as to a possible nomenclature? I have several times adopted the one used above in talking to clients, and I think, on the whole, that it has been illuminating. But it is far from ideal, and I should be immensely grateful for suggestions as to how it might be improved.

P. A. J. BINNS

LITERATURE

A HISTORY OF ENGLISH BRICKWORK

THE admirable photographic illustrations of brick-built structures in England which occupy nearly three hundred pages of Mr. Nathaniel Lloyd's treatise on *A History of English Brickwork* would suffice to give this monumental book a claim to the attention of architects. But the photographs are also most notably upheld, not only by the text, but by a series of measured drawings of details, so that it is possible to gather a general impression from one illustration, and a detailed statement of technical ways and means from another. The author is aware of the dual aspect of his subject, and makes it clear to his readers that, though the brick unit is the essential basis of brick design, it is not necessary to emphasize the individual brick in all cases. His quotation from Professor C. H. Reilly's description of Middle Temple entrance would settle this point, but the same feeling for the sum total of the architectural effect, as well as for the means by which it is produced, becomes apparent in the very telling titles to the various plates. Although his studies are historical, Mr. Lloyd's interests are not confined to the archæological side of his subject, and the beautiful chapel viaduct at Earls Colne, Essex, built in 1847, is illustrated as well as a great deal of work dating from earlier periods. Under this particular photograph of a modern example appear the words: "Well-proportioned arches and piers recalling the picturesque Roman aqueducts." In other cases the reader's attention is drawn to the qualities or the defects of the example illustrated.

The eccentric disposition of a staircase window, or the unsatisfactory sub-division of the walling masses by artificial breaks in the frontage are very properly commented upon. Sometimes the detail is well executed, but ill-arranged, as in the brick front to a house in St. Andrew's Street, Hertford, built in 1720, where, though the Ionic pilasters and capitals are cleverly carved in brick, the "use of the same order in three sizes on the same elevation is unsatisfactory, the smallest appearing the baby." Of the same front the author remarks: "The pilasters are without entasis and somewhat lanky." Such comments are both sound and useful. The imitative designer working in the style of a given period will appreciate the accentuation given to its peculiarities, while the student of a style of design less hampered by archæological restrictions will be glad to learn in what particulars a given piece of work impresses a competent critic as being either good or bad considered in its artistic or its structural aspects. The relation of brickwork to other materials, and its use in association with stone, stucco, and painted woodwork, is described in a separate chapter, and the bonding, jointing, and patterning of brickwork is also dealt with in detail with abundant cross-references to examples of known date.

Describing inlays and pavings of brick the author insists that "an essential feature of this work is the thick joint. Modern imitations of purpose moulded pieces made under pressure in steel dies and laid with a thin joint compare most unfavourably with the old work." The modern rage for mechanical neatness exacts a heavy toll in this respect, and it is difficult to make a client understand that he is getting superior colour-effects from the contrast of the hue of the mesh of wide mortar-joints with the colour of bricks themselves. Thin joints not only have a tendency to look dirty, but they emphasize any roughnesses or irregularities in the surface of the brick, and make them appear as faults, whereas wide joints give room to adjust slight inequalities and make them contribute an added interest to the texture of the whole. Five measured drawings of brick tesseræ from Rochester Cathedral illustrate the value of wide jointing. The white lines representing the mortar-joints show up as pleasant geometrical patterns on the black background which represents the bricks.

Fine lines, even if, in fact, they could be made to show up white, would not carry sufficiently well to appeal to the eye as a pattern, and, indeed, fine joints in a floor inevitably become grimy and merge into the tone value of the bricks. Wide joints, as the author points out, were necessary in early brickwork, because the hand-moulded and exceedingly well-burnt bricks shrunk unequally in firing, and bent and twisted in addition. A fine joint was impracticable with such hard and intractable material, since it was impossible to reduce each brick to a regular standard by rubbing. For this purpose special bricks were produced in later years of a texture sufficiently soft and friable to allow of their being rubbed down to an exact predetermined shape settled by measurement. Such exactly executed fine-jointed brickwork is still known as "gauged" work, and several examples are quoted of its use by Sir Christopher Wren and others. Gauged brickwork need not be of a temporary character, for though the bricks are purposely made to be soft under the cutting action of the scutch and the hacksaw, they may also be made practically indestructible by the weather, even in our sooty and moisture-laden atmosphere, if the clay from which they are formed is rich in sand, and the bricks are thoroughly well burnt.

In the opening chapter the debt of the English brick-builder to the Romans, and even to the Celts, is acknowledged, and several examples of the use, or re-use, of Roman tile-like bricks are illustrated. The beauty of the long, rich, red tile edges, surrounded by wide joints of pale-coloured mortar, was rarely equalled by the work of any succeeding period, and it is with something like regret that one has to endorse Mr. Lloyd's statement that these surfaces were intended to be covered with plaster. The Roman brick, as used by Romans, Byzantines, Saxons, Saracens, and Normans was really a constructional device for making a concrete wall stand without the use of shuttering, and every effort was made to economize the costly burnt clay, and to utilize the cheaper mass of lime and rubble. Joints ¾ in. to 1 in. in width are obviously much more than joints; the mortar concrete being, in fact, the predominant building material, and the brick a subordinate one designed to give it the power of holding together during the extremely lengthy process of consolidation and setting.

A great deal of information is given concerning the use of bricks during the Gothic period, and this "no man's land" of historical building construction is opened up and made accessible to the general reader, though the greater number of buildings dealt with are naturally those which have been erected between the latter part of the fifteenth century and the present day. A most fascinating chapter upon brick sizes and the laws and customs regulating the making of bricks follows with old accounts of the importation of bricks from Holland and the making of bricks in England by Flemish workers.

A chapter upon the prices of bricks, wages, and output brings the history of English brickwork up to date and into touch with the burning question of the hour, can English homes be built in brick? According to a table in which the bricklayers' wages are compared with the price of wheat per quarter, English bricklayers in 1923 were being paid at rates far in excess of those at any former period, but the author qualifies the apparently incontestable figures of his tabulated list by remarking: "It is obvious that wages did not follow fluctuations in the price of wheat, but the comparison is far from being a reliable one. For example, the hours worked now are less than two-thirds of what were worked in summer in the fifteenth century, and the artisan of that time did not enjoy our amenities of civilization in the form of public services, education, etc. Further, housing in the fifteenth century was so bad as not to be conceivable by us. The hut was not only without any sanitation, but was so deep in filth, so verminous, and so unlike anything we know, as not to be comparable with even the worst modern slum." One aspect of brickwork in England that might have received attention is the special craft of the oven and furnace builder. These bricklayers share with the countryman who constructs the domed tops of cesspools, the distinction of working habitually in vaulted forms. Some beautiful historical examples of vaulting are shown but the even more interesting vaults used in connection with modern high-temperature furnaces have been ignored.

WILLIAM HARVEY

A History of English Brickwork. By Nathaniel Lloyd, Officer of the Most Excellent Order of the British Empire. London: H. Greville Montgomery, 43 Essex Street, Strand, W.C.2. New York: William Helburn, Inc., 418 Madison Avenue. MCMXXV. Price £2 5s. net.

Brick newel stair with moulded brick handrail, in Essex Faulkbourne Hall (before 1494).
(*From* A History of English Brickwork.)

SOCIETIES AND INSTITUTIONS

R.I.B.A. Scholarships

The Board of Architectural Education of the R.I.B.A. offer for award in June, 1926, six maintenance scholarships for from one to three years each of a maximum value of £100 tenable from October 1. The scholarships are intended to enable promising students of either sex, whose parents or guardians have not the necessary means, to attend an approved course at one of the schools of architecture recognized for exemption from the R.I.B.A. examinations. Students who are already taking such a course would not be eligible to apply for a scholarship. The values of the scholarships up to the limit of £100 per annum will depend upon the financial circumstances of the parents or guardians of the candidates. Parents or guardians will be required to furnish full particulars, on the proper form, of their financial position. Full particulars of the scholarships, including the method of application and selection of candidates, etc., may be obtained on application to the Secretary, Board of Architectural Education, R.I.B.A., 9 Conduit Street, W.1, not later than May 1.

The R.I.B.A. and Architectural Competitions

The Council of the R.I.B.A. desire to remind all architects who may be appointed to act as assessors that observance of the following points is vitally important for the satisfactory conduct of competitions: (1) While the R.I.B.A. are prepared to advise the assessor if necessary on the general regulations governing the conduct of competitions the assessor alone is responsible, (a) for the drafting and presentation of any particular set of conditions and instructions and replies to competitors; (b) that the general regulations are not infringed therein. (2) Inasmuch as assessors' awards will necessarily be final and binding on all parties, assessors must refrain from premiating any design—however high its architectural merit may be in their opinion—which contravenes any of the conditions and replies which they have themselves drawn up for observance by competitors, and thus avoid any ground for legitimate criticism of their awards after publication. (3) Accordingly, the value and importance of drafting conditions and replies to questions so as to leave the maximum latitude to competitors in the solution of the problem should not be overlooked.

All architects who take part in architectural competitions are reminded by the Council of the R.I.B.A. that participation in a competition is a definite acceptance of the principle that the award of the assessor is final and binding upon themselves as well as upon the promoters, and that any competitor who feels that he has real ground for dissatisfaction with an assessor's award should communicate with the secretary of the R.I.B.A. Further, all architects, whether competitors or otherwise, are reminded that discussion of correspondence in the public or professional Press which tends to criticism or disparagement of an assessor or award cannot alter the final and binding effect of that award, but may prejudice architects and the whole competition system in the opinion of the public, and is, therefore, highly undesirable.

It is becoming more and more common for architects' staffs to arrange social functions—dinners, dances, cricket matches, and such-like—for the benefit of members past and present. In old-established offices the number of assistants who have come and gone is often very considerable, and one of the chief objects of this kind of reunion is to regain contact with as many as possible of these. The Editor of THE ARCHITECTS' JOURNAL *will be happy to publish the dates of the more important of these functions in the list of arrangements which appears weekly at the foot of the "News and Topics." Particulars should be addressed to him at 9 Queen Anne's Gate, Westminster, S.W.1.*

The Glasgow Institute of Architects

Mr. J. E. Marsh, F.R.S., Fellow of Merton College, Oxford, lecturing before the Glasgow Institute of Architects on "The Problem of Stone Decay," emphasized the importance of keeping stone clean to secure its preservation. He pointed out that the use of an alkali, such as caustic soda, not only cleansed the stone, but prevented decay caused by microbic action and neutralized the effect of the acids in the air of large towns. It was suggested that the addition of such an alkali to mortar in modern buildings undergoing restoration would materially help in arresting the decay of the stone.

The Aberdeen Society of Architects

At the twenty-eighth annual general meeting of the Aberdeen Society of Architects Mr. J. B. Nicol was reappointed president. The other members of the Council of the Society for the ensuing year were elected as follows: Past president, Mr. R. G. Wilson, jun.; vice-president, Mr. Clement George; members, Messrs. W. L. Duncan, A. B. Gardner, W. E. Gauld, A. H. L. Mackinnon, H. Maclennan, D. S. M'Millan, R. L. Rollo, J. W. Walker, and G. Watt; secretary and treasurer, Mr. W. E. Levie, advocate. The Society is the Aberdeen Chapter of the Incorporation of Architects in Scotland, and Mr. R. G. Wilson, jun., past president, was elected to represent the Society on the Council of the Incorporation. The president of the Society also is, ex-officio, a member of the Council of the Incorporation.

South Wales Institute of Architects

The western branch of the South Wales Institute of Architects held its annual meeting at Swansea, when the following officers were elected: Chairman, Mr. C. Russell Peacock; hon. secretary, Mr. J. Herbert Jones; hon. treasurer, Mr. G. R. H. Rogers; hon. auditor, Mr. Ernest E. Morgan; committee, Messrs. C. S. Thomas, H. C. Portsmouth, O. S. Portsmouth, Sidney R. Crocker, D. F. Ingleton, G. L. Crocker, and C. W. Geddes. The following representatives were elected to serve on the Council of the South Wales Institute of Architects: Messrs. H. C. Portsmouth, J. Herbert Jones, C. Russell Peacock, O. S. Portsmouth, G. R. H. Rogers, S. R. Crocker, G. L. Crocker.

The Work of Sir Christopher Wren

Sir Banister Fletcher lectured at the Central School of Arts and Crafts, London, on the life and work of Sir Christopher Wren. An outline was first given of Wren's academic career at Oxford, and the way in which his architectural abilities grew out of astronomical and mathematical interests. Wren travelled extensively in France, so that his version of the Renaissance differed from the more strictly Italian types of Inigo Jones, who preceded him. He erected many houses throughout England of great stateliness and dignity, which formed the basis of Georgian domestic architecture, and some palaces as well, such as those at Kensington and Winchester, Chelsea Hospital being a well-known example of his more public architecture. Sir Christopher Wren will always be thought of, however, in connection with his City churches, fifty-three in number, which were ingeniously designed to fit awkward sites with simple yet noble façades.

ANNOUNCEMENTS

Mr. C. D. Allderidge, D.S.O., T.D., A.R.I.B.A., A.M.I.STRUCT.E., has moved his office to Imperial Chambers, Bowlalley Lane, Hull. Telephone Central 4649.

Mr. James D. Morton, P.A.S.I., has commenced practice as an architect and quantity surveyor at No. 3 Cable Street, Liverpool. Trade catalogues will be welcomed.

Mr. Gordon H. Griffiths, architect, has removed from Whitchurch to 21 Dumfries Place, Cardiff, at which address he would be glad to receive new trade catalogues.

Mr. Burnard Geen, M.INST.C.E., of 122 Victoria Street, Westminster, consulting engineer, wishes it to be known that he is not, and never has been, in any way, either directly or indirectly, connected with the Westminster Finance Co., Ltd., and that the references in the *Daily Mail* on March 5 and 6 to "Bernard Geen" as London secretary of that company do not refer to him.

COMPETITION CALENDAR

The following competitions are announced with the full approval of the R.I.B.A.

Wednesday, March 31. New offices for the West Bromwich Permanent Benefit Building Society. Open to practitioners within fifteen miles of Birmingham. Assessor, Mr. W. A. Harvey, F.R.I.B.A. Premiums, £100, £75, and £50. Particulars from Mr. J. Garbett, Secretary, 301 High Street, West Bromwich. Deposit £2 2s.

Thursday, April 1. Public Hall, Topsham. Premiums £50, £40, and £30 respectively. Assessor, Mr. Walter Cave, F.R.I.B.A.

Monday, May 10. Isolation Hospital for Infectious Diseases, Doncaster. Assessor, Mr. T. R. Milburn, F.R.I.B.A. Particulars from Mr. W. Bagshaw, Town Clerk. Deposit £1 1s.

Monday, May 31. Australian National War Memorial, Villers Bretonneux, France. Open to Australians. Particulars from High Commissioner's Office, Australia House, Strand. Deposit £2 2s.

The conditions of the following competition have been received by the R.I.B.A.

Monday, June 14. Dance Hall, Restaurant, Pavilion, and Shops at the Sea Beach, Aberdeen, for the Town Council. Assessor, the President of the Incorporation of Architects in Scotland. Particulars from Mr. A. B. Gardner, Town House, Aberdeen.

The conditions of the following competitions have not as yet been brought to the notice of the R.I.B.A.

No date. Conference Hall, for League of Nations, Geneva. 100,000 Swiss francs to be divided among architects submitting best plans.

No date. Manchester Town Hall Extension. Assessors, Mr. T. R. Milburn, F.R.I.B.A., Mr. Robert Atkinson, F.R.I.B.A., and Mr. Ralph Knott, F.R.I.B.A.

No date. Lay-out for new cemetery for Leicester City Council. Open to local practitioners. Premiums, £100, £50, and £25.

No date. Cenotaph for Liverpool, on the St. George's Hall Plateau. Particulars from Town Clerk.

No date. New Nurses' Home, Walsall. Premiums, £50 and £25. Particulars from the Walsall Board of Guardians.

No date. New interior design for Wagon-Lits. Premiums, 100,000 francs, 25,000 francs, 10,000 francs, and 5,000 francs. Particulars from La Compagnie des Wagons-Lits, 49 Rue de l'Arcade, Paris.

TRADE NOTES

Clarke and Leahy, Ltd., was registered as a private company on February 27, with a capital of £2,000 in £1 shares. Objects: To carry on the business of builders and contractors, decorators, dealers in stone, sand, lime, bricks, timber, hardware, and other building requisites, etc. The permanent directors are: J. H. G. Clarke, Sandal, Leney Park Road, Erith; W. J. Leahy, Royal Colonial Institute, Northumberland Avenue, W.C. Solicitors: Greenwood and Knocker, 1 Mitre Court Buildings, Temple, E.C.4. The registered office is at St. George's Works, North End, Erith, Kent.

One of the most interesting features at the Ideal Home Exhibition is the plasterless house. This was designed by Mr. Dennis, of Blackpool, architect, who was responsible for the Dennis-Wild type of house. The interior walls are formed with a special type of block which dispenses with the necessity of plastering the face, and the ceilings are of ¼ in. "Essex" board. The Argar Construction Company, of Hyde, are responsible for a new cast-iron type of house, which is finished in rough-cast. The interior lining is of "Essex" board, which, owing to its non-conductivity, is of special use for this purpose. "Essex" board is manufactured by Thames Board Mills, Ltd., of Purfleet, Essex.

The thirty-first anniversary of Messrs. E. Pollard & Co., Ltd., was celebrated by a dinner and dance at the Great Central Hotel, London. Two hundred and fifty members of the staff and many business friends attended. Mr. Pollard occupied the chair, and was supported by the directors of the company, Messrs. H. E. Pollard, B. T. Andrew, A. C. Caldicott, M. J. Larkin, A. A. Walford, and F. W. Elsbury. In proposing the staff the chairman complimented them upon their splendid team-work during the past year.

In domestic heating practice the popularity of the single unit capable of supplying all the heat necessary for cooking, central heating, and domestic hot-water supply is now fully recognized, and where small installations are concerned new units which may afford an economical solution of this problem are always welcomed. The Huygen "Anglian" kitchen stove, recently introduced by Messrs. Huygen and Wessel, of Amersfoort, Holland, and 245 Oxford Street, London, W.1, is constructed throughout of steel plate, and since it requires no special setting of brickwork it can be placed independently at any spot where there is access to a chimney. In this stove the hot-plate and the oven are independent of the hot-water supply, so that any demand on either of these services in no way affects the other. When hot water only is required both the hot-plate and the oven can be kept comparatively cold by controlling the path of the flames throughout the self-contained flues; and, on the other hand, when cooking or baking is to be done, the flames can be directed under the hot-plate and round the oven with but little alteration in the temperature of the water. The "Anglian" stove is made in five sizes, with capacities ranging from 20,000 to 128,000 British thermal units per hour, the three larger sizes being fitted with summer and winter grates.

THE PLAZA THEATRE

The general contractors for the Plaza Theatre, illustrated on pages 417 to 424, were Messrs. Arthur Vigor, Ltd., who were also responsible for the excavation and foundations. The sub-contractors were as follows: Thomas Faldo & Co., damp-courses and asphalt; E. F. and A. T. Bradford, concrete blocks and stairtreads; Ham-Hill and Doulting Stone Co., stone and stonework; Moreland Hayne & Co., structural steel; Carter & Co., tiles; Chater & Co., glass and patent glazing; Acme Flooring Co., wood-block flooring; Marbello, Ltd., patent flooring; General Electric Co., Ltd., house and stage lighting; Sturtevant Engineering Co., Ltd., vacuum cleaning plant; Metropolitan Vickers Electrical Co., Ltd., generators; Young, Austin and Young, central heating, boilers, and ventilation; Tredegar's, Ltd., electric wiring and electric light fixtures; A. Grant and Sons, plumbing; John Bolding, sanitary fittings; Thos. Elsley, Ltd., door and window furniture; Helliwell & Co., casements; Allenson, Ltd., fireproof doors and joinery; Light Steelworks, Ltd., iron staircases; H. and F. Badcock, and G. Jackson and Sons, plaster, decorative plaster, and woodwork and artificial stone; Comyn Ching and Starkie Gardner, Ltd., metalwork; M. and R. Moore, marble; Manu-Marble Co., tiling; Waring and Gillow, Ltd., textile office fittings and wall coverings; Pollard & Co., shop fittings; Comyn Ching, cloakroom fittings; Etchells, Congdon and Muir, lifts; Prince's Electrical Clocks, Ltd., clocks; Borough Electric Signs and Franco Sign, Ltd., signs. Frank Burkitt made and fixed the fireproof curtain for the auditorium (the opening of which is the largest yet made), made and installed the automatic steel shutters in the two projection chambers, and installed their "Vulcan" system for the opening of the casements for stage ventilation.

The clerk of works was Mr. Alister C. MacDonald.

CORRIGENDA

On pages 384 and 385 of our last issue, by a slip of the pen the top illustrations were described as being of the old Vaudeville Theatre. They were, really, illustrations of the *new* Vaudeville, and it was the bottom illustrations which were of the old theatre. The architect, Mr. Robert Atkinson, has much ground for complaint!

In our issue for February 10, pages 250 and 251, we illustrated a block of new offices and works in Withy Grove, Manchester, by Mr. A. Rangeley. In that issue we stated that the building was for Messrs. E. Hulton & Co., but we are now informed that it is the property of the Allied Newspapers, Ltd.

THE WEEK'S BUILDING NEWS

Housing at Bridgwater

One hundred houses are to be built by the Bridgwater Corporation.

Chorley Housing

At Chorley 76 houses are to be erected by the Corporation.

£13,000 for City Subways

A sum of nearly £13,000 is to be spent on the construction of City street subways.

A Nurses' Home for Accrington

A new nurses' home is to be erected at Accrington at a cost of £12,000.

Flats for Lambeth

Flats are to be erected on the site of the old Lambeth workhouse, Prince's Road.

A New Housing Site for Doncaster

The Doncaster Town Council has selected a site upon which to erect seventy houses.

Housing at Otley

The Otley Urban District Council proposes to erect 134 more houses.

Southend's New Hospital

A new hospital is to be built at Southend, at a cost of £100,000.

A New School for Ilford

A new secondary school is to be built at Ilford.

Housing at Hull

The Hull Corporation is to build 500 houses upon various sites.

Housing at Market Harborough

The Market Harborough Urban District Council has resolved to erect thirty-six non-parlour houses.

A Proposed Exhibition Hall for Salford

A proposal is afoot in Salford to erect an extensive exhibition hall on part of the well-known cattle market site.

The Polytechnic Extension Scheme

The Regent Street Polytechnic has launched an appeal for £150,000 for a new scheme of extension.

A New School for Sheffield

A new elementary school, costing £55,000, it to be built on the Manor estate, Intake, Sheffield.

L.C.C. Expenditure on Housing

The L.C.C. is committed to future capital expenditure of more than £15,000,000 in respect of housing schemes.

Housing at Bournemouth

Plans for new houses and flats to the number of about seventy have been approved at Bournemouth.

Housing at Nottingham

The Housing Committee of the Nottingham Corporation is going to erect 883 houses on the Lenton Abbey estate.

A New Tube for Manchester

The construction of a tube railway is under discussion at Manchester. The probable cost would be over £4,000,000.

A Cathedral Suggested for Guildford

The Guildford Corporation suggests that a site in London Road should be used for the erection of a cathedral.

Nantwich Housing Scheme

The Nantwich District Council is applying for a loan of £22,756 for a housing scheme on the Council's own estate.

Housing at Southampton

The Southampton Corporation proposes to build 1,200 houses on the Burgess Road site and 354 on the Shirley Warren site.

Proposed Housing Scheme for Watford

A scheme for the erection of twenty-two tenant purchase houses on the Harebreaks estate is to be prepared at Watford.

A War Office Purchase

The War Office propose to purchase Deptford Cattle Market for a sum of £387,000.

More Houses for Bromley

The Bromley Housing Committee has decided to proceed with the erection of a further thirty-six houses.

More Houses for Atherstone

Up to date, plans for approximately 150 houses have been approved by the Atherstone Rural District Council.

Dewsbury Sewage Works

The Ravensthorpe sewage works are to be reconstructed by the Dewsbury Corporation at a cost of £70,000.

School Enlargements at Merioneth

The Merioneth Education Committee has decided to enlarge county schools at Barmouth and Blaenau at a cost of £10,000.

Housing at Rotherham

The Rotherham Town Council is applying to the Ministry of Health for sanction to a loan of £30,420 for the erection of 72 houses on the Eastdene site.

A New Secondary School for Cheshire

The Cheshire Education Committee has decided to erect a secondary school at Bebington. The cost is estimated at £68,500.

Housing at Weybridge

The Urban District Council has approved of plans for the erection of 100 houses on the old Palace Garden site. Messrs. Kenyon and De Soissons are the architects.

A Secondary School for Worcester

The Worcester City Council has decided to erect a secondary school for girls on the Thames House site, Barbourne, at an estimated cost of £40,000.

New Houses for Hereford

The Hereford City Council has resolved to replace a number of uninhabitable houses by new dwellings at an approximate cost of £75,000.

A Farnborough Scheme Approved

The Ministry of Health has agreed to the Farnborough Urban District Council's scheme for the erection of a further fifty houses.

Three Housing Schemes for Bath

Three big housing schemes have been placed before the Bath Housing Committee, including a £100,000 scheme at the Dolemeads.

Further Housing Schemes for Shrewsbury

The Shrewsbury Town Council has decided to apply for sanction to borrow a loan of £21,450 for building fifty more houses on the Racecourse estate.

Housing at Kiveton

The Kiveton Rural District Council has decided to borrow £21,000 for the erection of forty-eight houses at Dinnington and for various roads and sewers.

Mining Institute for Wombwell

The Education Committee of the West Riding County Council has decided to spend £28,000 in erecting a Mining and Technical Institute at Wombwell.

Housing at Glasgow

Forty-two houses at Kilberry Street, Glasgow, and 180 at Calder Street, Govanhill, are to be erected by the Glasgow Corporation.

More Houses for Newton Abbot

The Newton Abbot Urban District Council has obtained sanction to borrow £55,049 for the purpose of building houses at the Broadlands estate.

Housing at Poole

The Poole Building and Housing Committee proposes to build sixty houses on the site fronting Pound Lane, at an estimated cost of £32,334.

A Gift to Middlesex Hospital

Mr. S. A. Courtauld has presented a sum of £30,000 to the Middlesex Hospital Medical School for the erection of an institute of bio-chemistry.

Municipal Buildings for Braintree

The Braintree Urban District Council has approved of a site for the erection of a new Town Hall and offices, in a position in the present Market Place.

READERS' QUERIES

A Spring Floor for Dancing

K. writes : " Can you tell me how to construct a spring floor for a hall intended upon occasions to be used for dancing ? The floor measures about 70 ft. by 40 ft. It is supported by walls at the sides and ends, and by cast-iron pillars, at about 11½ ft. centres, in two rows, each parallel to, and 13 ft. from, the side walls."

The height of the cast-iron columns is not stated. Presumably they are high enough to need lateral support at their tops, and this should be provided by means of girders along and across the hall, even if the floor springs are arranged one on top of each column. If the springs are also placed at intermediate points along the length of these girders they must be calculated to take a concentrated live load under each spring. Springs are placed under the central parts of the floor only, and are replaced at its edges by steel pivots supported upon steel base plates and stone templates in pockets in the surrounding walls. The method of laying the floor is to support a light steel girder with its ends resting on two springs, or upon one spring and one pivot, as the case may be. Above the girder, the floor is constructed with wooden joists in short lengths, spanning from girder to girder. If long continuous joists are used, wood of a specially elastic nature is required, though the joists, if short, are arranged with their ends slightly overlapping one another, so that they obtain a good bearing on the girders. The boarding is laid with a sub-floor of battens, either laid close together or at short intervals, and over these the hard-wood upper surface is formed of grooved and tongued or secret-jointed battens nailed to those forming the sub-floor. The upper floor is made with long lengths of stuff $\frac{1}{16}$ in. or $\frac{7}{8}$ in. in thickness if the battens below are not laid close, but if a parquet effect is desired the sub-floor is made substantial and continuous, and the upper floor surface may then be formed of thinner and shorter material, To obtain a well-balanced action and avoid lateral racking of the girders, each floor spring is arranged in the form of a pair of springs acting upon a common base-plate and, at their tops, upon cast-iron or steel shoes carrying the ends of the girders. Various forms of spring and spring floor have been patented, and as care must be exercised that the rights of patentees are not infringed, most spring dancing floors are laid by specialist firms. In any case, the strength of the spring must be adjusted to the weight and vibration it is expected to bear, and this makes experience particularly valuable in the design of spring floors. W. H.

The Editor welcomes readers' inquiries on all matters connected with architectural practice. No charge is made for the expert service which is here placed at their disposal. The only thing we ask is that diagrams should be clearly and legibly drawn out and lettered in black ink. As the date of publication of the reply cannot be guaranteed, arrangements have been made for replies to be posted to correspondents as soon as they are ready. Those who wish to avail themselves of this special service should enclose a stamped envelope.—Ed. A.J.

Plans and Specifications

R. E. writes : " Can a client legally demand the specification and plans prepared by an architect who has obtained tenders, but has relinquished further interest in the matter owing to the client acting on his own initiative in procuring revised tenders ? The client requests copies of plans and specifications prior to payment of account rendered."

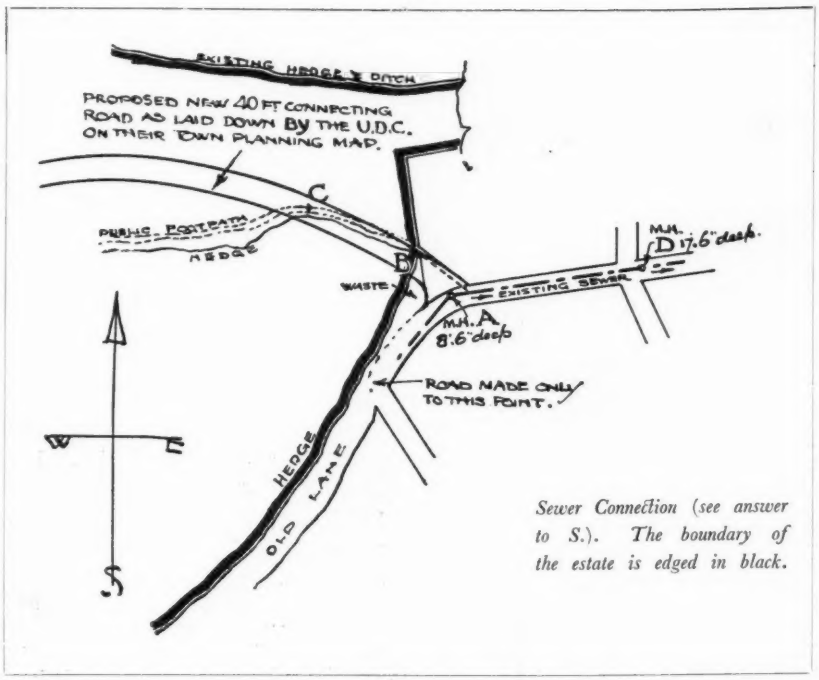
The client's rights depend somewhat on the bargain made when he first gave his instructions, but his request is not unreasonable. I suggest that on payment of the usual fees for their preparation he shall receive a copy. T.

Sewer Connection

S. writes : " I am laying out an estate of some fifty acres, and the rapid fall of the land from the W. and S.W. necessitates that the whole of the drainage must be taken to the E. end. The new road, shown on the accompanying map, will be constructed on the lines of one laid down as a connecting road by the local authority on its town-planning maps, and down this road will have to be brought the whole of the soil and S.W. drainage. The lowest part on this road is at C. A soil sewer at present exists, with a manhole at A only 8 ft. 6 in. deep, and another at D, 17 ft. 6 in. deep. The distance from A to D is about 310 ft., and the road falls sharply towards D. The ground levels are as follows : A and C 20.50 above an assumed datum, ground to the N. of C is level and a few inches lower. At B 31.21, showing sharp rise, from manhole cover at A 39.74, a rise of over 19 ft. in 250 ft. The level on manhole cover D is 25.17. The natural point of entry of the new sewer would be about 50 ft. below manhole A. Assuming the new sewer at point C to be 6 ft. deep, then, at the point in the existing road 50 ft. below manhole A (the highest point) it would be about 24 ft. 6 in. deep, allowing a fall from C of 1 in 300. At this same fall the sewer would enter manhole D 4 ft. 6 in. above its invert. Is the local authority, which has an existing sewer within 100 ft. of the boundary of the estate (the detail distance does not exceed 80 ft.), obliged to provide an outlet for the new sewer, either by deepening its present sewer, or otherwise, and at its own expense ? The intervening space between the estate boundary at B and the existing road does not come into the question, as the council can deal with this under its town-planning powers. If it were possible to find another outlet for the new sewer by sacrificing a considerable amount of valuable land available for building, could the council compel the owner to give up his land for this purpose, and suffer loss, instead of providing an outlet in the existing road ? "

I am of opinion that the local authority cannot be compelled to relay its sewer to a greater depth than it is at present, and that the onus of providing drainage for his own land is upon the landowner.

F. S. I.



Sewer Connection (see answer to S.). The boundary of the estate is edged in black.

RATES OF WAGES

			I	II
			s. d.	s. d.
A	ABERDARE	S. Wales & M.	1 8	1 3½
A₁	Abergavenny	Do.	1 7½	1 2½
B	Abingdon ..	S. Counties	1 6	1 1½
A	Accrington	N.W.Counties	1 8	1 3½
A₃	Addlestone	S. Counties	1 6½	1 2
A	Adlington ..	N.W.Counties	1 8	1 3½
A	Airdrie ..	Scotland	*1 8	1 3½
C₁	Aldeburgh	E. Counties	1 4	1 0½
A	Altrincham	N.W.Counties	1 8	1 3½
B₃	Appleby ..	N.W. Counties	1 4½	1 0½
A	Ashton-under-Lyne	N.W.Counties	1 8	1 3½
A₃	Atherstone	Mid. Counties	1 6½	1 2
B₃	Aylesbury ..	S. Counties	1 4½	1 0½
B	BATH ..	S.W.Counties	1 6	1 1½
B₃	Banbury ..	S. Counties	1 4½	1 0½
B₂	Bangor ..	N.W. Counties	1 5	1 1
A	BarnardCastle	N.E. Coast	1 8	1 3½
A	Barnsley ..	Yorkshire	1 8	1 3½
B₁	Barnstaple	S.W. Counties	1 5½	1 1½
A	Barrow ..	N.W.Counties	1 8	1 3½
A	Barry ..	S. Wales & M.	1 8	1 3½
B₃	Basingstoke	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 8	1 3½
B	Bedford ..	E. Counties	1 6	1 1½
A₂	Berwick-on-Tweed	N.E. Coast	1 7	1 2½
A₃	Bewdley ..	Mid.Counties	1 6½	1 2
B₃	Bicester ..	Mid. Counties	1 4½	1 0½
A	Birkenhead	N.W.Counties	†1 9	1 3½
A	Birmingham	Mid. Counties	1 8	1 3½
A	Bishop Auckland	N.E. Coast	1 8	1 3½
A	Blackburn	N.W.Counties	1 8	1 3½
A	Blackpool	N.W.Counties	1 8	1 3½
A	Blyth ..	N.E. Coast	1 8	1 3½
B₃	Bognor ..	S. Counties	1 4½	1 0½
A	Bolton ..	N.W.Counties	1 8	1 3½
A₃	Boston ..	Mid. Counties	1 6½	1 2
B₁	Bournemouth	S. Counties	1 6	1 1½
A	Bradford ..	Yorkshire	1 8	1 3½
A₃	Brentwood	E. Counties	1 6½	1 2
A	Bridgend ..	S. Wales & M.	1 8	1 3½
B₂	Bridgwater	S.W. Counties	1 5	1 1
A₁	Bridlington	Yorkshire	1 7½	1 2½
A	Brighouse ..	Yorkshire	1 8	1 3½
B₁	Brighton ..	S. Counties	1 6	1 1½
A	Bristol ..	S.W. Counties	1 8	1 3½
B₃	Brixham ..	S.W. Counties	1 4½	1 0½
A₃	Bromsgrove	Mid. Counties	1 6½	1 2
C	Bromyard ..	Mid. Counties	1 4	1 0½
A	Burnley ..	N.W.Counties	1 8	1 3½
A	Burslem ..	Mid. Counties	1 8	1 3½
A₂	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury ..	N.W.Counties	1 8	1 3½
A₃	Buxton ..	N.W.Counties	1 6½	1 2
B	CAMBRIDGE	E. Counties	1 6	1 1½
B₃	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff ..	S. Wales & M.	1 8	1 3½
A	Carlisle ..	N.W.Counties	1 8	1 3½
B	Carmarthen	S. Wales & M.	1 6	1 1½
B₂	Carnarvon ..	N.W.Counties	1 5	1 1
A₁	Carnforth ..	N.W. Counties	1 7½	1 2½
A	Castleford ..	Yorkshire	1 8	1 3½
B₁	Chatham ..	S. Counties	1 5½	1 1½
B₁	Chelmsford	E. Counties	1 5½	1 1½
B	Cheltenham	S.W. Counties	1 6	1 1½
A	Chester ..	N.W.Counties	1 8	1 3½
A	Chesterfield	Mid. Counties	‡1 8	1 3½
B₃	Chichester ..	S. Counties	1 4½	1 0½
A	Chorley ..	N.W.Counties	1 8	1 3½
B₂	Cirencester	S. Counties	1 5	1 1
A	Clitheroe ..	N.W.Counties	1 8	1 3½
A	Clydebank	Scotland	1 8	1 3½
A	Coalville ..	Mid. Counties	1 8	1 3½
B₁	Colchester ..	E. Counties	1 5½	1 1½
A	Colne ..	N.W.Counties	1 8	1 3½
B₁	Colwyn Bay	N.W.Counties	1 5½	1 1½
A	Consett ..	N.E. Coast	1 8	1 3½
B₁	Conway ..	N.W. Counties	1 5½	1 1½
A	Coventry ..	Mid. Counties	1 8	1 3½
A₂	Crewe	N.W.Counties	1 6½	1 2
A₃	Cumberland	.....	1 6½	1 2
A	DARLINGTON	N.E. Coast	1 8	1 3½
A	Darwen ..	N.W.Counties	1 8	1 3½
B₃	Deal ..	S. Counties	1 4½	1 0½
B₁	Denbigh ..	N.W.Counties	1 5½	1 1½
A	Derby ..	Mid. Counties	1 8	1 3½
A	Dewsbury ..	Yorkshire	1 8	1 3½
B	Didcot ..	S. Counties	1 6	1 1½
A	Doncaster ..	Yorkshire	1 8	1 3½
C₁	Dorchester	S.W.Counties	1 4	1 0½
A₃	Driffield ..	Yorks	1 6½	1 2
A₃	Droitwich ..	Mid. Counties	1 6½	1 2
A₂	Dudley ..	Mid. Counties	1 7	1 2½
A	Dundee ..	Scotland	1 8	1 3½
A	Durham ..	N.E. Coast	1 8	1 3½
B₁	EASTBOURNE	S. Counties	1 6	1 1½
A	Ebbw Vale	S. Wales & M.	1 8	1 3½
A	Edinburgh	Scotland	1 8	1 3½
A	E Glamorganshire & Mon. Valley	S. Wales & M.	1 8	1 3½
B	Exeter ..	S.W. Counties	§1 7	1 2½
B₃	Exmouth ..	S.W. Counties	1 5	1 1
B	FELIXSTOWE	E. Counties	1 6	1 1½
A₃	Filey ..	Yorks	1 6½	1 2
A	Fleetwood ..	N.W.Counties	1 8	1 3½
B₃	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham ..	N.W.Counties	1 8	1 3½
B₃	Frome ..	S.W.Counties	1 4½	1 0½
A	GATESHEAD	N.E. Coast	1 8	1 3½
B₁	Gillingham	S. Counties	1 5½	1 1½
B	Gloucester ..	S.W.Counties	1 6	1 1½
A₂	Goole ..	Yorkshire	1 7	1 2½
B₁	Gosport ..	S. Counties	1 5½	1 1½
A₃	Grantham ..	Mid. Counties	1 6½	1 2
A₂	Gravesend ..	S. Counties	1 7	1 2½
A	Greenock ..	Scotland	*1 8	1 3½
A	Grimsby ..	Yorkshire	1 8	1 3½
B₁	Guildford ..	S. Counties	1 5½	1 1½
A	HALIFAX ..	Yorkshire	1 8	1 3½
A₁	Hanley ..	Mid. Counties	1 7½	1 2½
A	Harrogate ..	Yorkshire	1 8	1 3½
A	Hartlepools	N.E. Coast	1 8	1 3½
B₂	Harwich ..	E. Counties	1 5	1 1
B₃	Hastings ..	S. Counties	1 4½	1 0½
B₁	Hatfield ..	S. Counties	1 5½	1 1½
B	Hereford ..	S.W.Counties	1 6	1 1½
B	Hertford ..	E. Counties	1 5½	1 1½
A₁	Heysham ..	N.W.Counties	1 7½	1 2½
A	Howden ..	N.E. Coast	1 8	1 3½
A	Huddersfield	Yorkshire	1 8	1 3½
A	Hull ..	Yorkshire	1 8	1 3½

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

			I	II
			s. d.	s. d.
A	ILKLEY ..	Yorkshire	1 8	1 3½
A	Immingham	Mid Counties	1 8	1 3½
B	Ipswich ..	E. Counties	1 6	1 1½
C₁	Isle of Wight	S. Counties	1 4	1 0½
A	JARROW ..	N.E. Coast	1 8	1 3½
A	KEIGHLEY	Yorkshire	1 8	1 3½
B₂	Kendal ..	N.W. Counties	1 5	1 1
B₂	Keswick ..	N.W.Counties	1 5	1 1
B	Kettering ..	Mid. Counties	1 6	1 1½
A₃	Kidderminster	Mid. Counties	1 6½	1 2
B₂	King's Lynn	E. Counties	1 5	1 1
A₁	LANCASTER	N.W.Counties	1 7½	1 2
A₃	Leamington	Mid. Counties	1 6½	1 2½
A	Leeds ..	Yorkshire	1 8	1 3½
A	Leek ..	Mid. Counties	1 8	1 3½
A	Leicester ..	Mid. Counties	1 8	1 3½
A	Leigh ..	N.W. Counties	1 8	1 3½
B₃	Lewes ..	S. Counties	1 4½	1 0½
A₃	Lichfield ..	Mid. Counties	1 6½	1 2
A	Lincoln ..	Mid. Counties	1 8	1 3½
A	Liverpool ..	N.W.Counties	†1 9	1 3½
B	Llandudno	N.W.Counties	1 6	1 1½
A	Llanelly ..	S. Wales & M.	1 8	1 3½
	London (12 miles radius)		1 9½	1 4½
	Do. (12–15 miles radius)		1 9	1 4
A	Long Eaton	Mid. Counties	1 8	1 3½
A	Loughborough	Mid. Counties	1 8	1 3½
B	Luton ..	E. Counties	1 6	1 1½
A	Lytham ..	N.W. Counties	1 8	1 3½
A₁	MACCLESFIELD	N.W.Counties	1 7½	1 2½
B	Maidstone ..	S. Counties	1 5½	1 1½
A₃	Malvern ..	Mid. Counties	1 6½	1 2
A	Manchester	N.W.Counties	1 8	1 3½
A	Mansfield ..	Mid. Counties	1 8	1 3½
B₃	Margate ..	S. Counties	1 4½	1 0½
A₃	Matlock ..	Mid. Counties	1 6½	1 2
A	Merthyr ..	S. Wales & M.	1 8	1 3½
A	Middlesbrough	N.E. Coast	1 8	1 3½
A₃	Middlewich	N.W. Counties	1 6½	1 2
A	Monmouth	S. Wales & M.	1 8	1 3½
	S. and E. Glamorganshire			
A₁	Morecambe	N.W. Counties	1 7½	1 2½
A₃	NANTWICH	N.W.Counties	1 6½	1 2
A	Neath ..	S. Wales & M.	1 8	1 3½
A	Nelson ..	N.W. Counties	1 8	1 3½
A	Newcastle ..	N.E.Coast	1 8	1 3½
A	Newport ..	S. Wales & M.	1 8	1 3½
A	Normanton	Yorkshire	1 8	1 3½
A₂	Northampton	Mid. Counties	1 7	1 2½
A	North Staffs.	Mid. Counties	1 8	1 3½
A	North Shields	N.E. Coast	1 8	1 3½
B	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 8	1 3½
A	Nuneaton ..	Mid. Counties	1 8	1 3½
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W.Counties	1 8	1 3½
A₃	Oswestry ..	Mid. Counties	1 6½	1 2
B	Oxford ..	S. Counties	1 6	1 1½
A	PAISLEY ..	Scotland	*1 8	1 3½
C	Pembroke	S. Wales & M.	1 4½	1 0½
A	Perth ..	Scotland	*‡ 8	1 3
A₃	Peterborough	Mid. Counties	1 6½	1 2
A	Plymouth	S.W. Counties	¶1 8	1 3½
A	Pontefract ..	Yorkshire	1 8	1 3½
A	Pontypridd	S. Wales & M.	1 8	1 3½
B	Portsmouth	S. Counties	1 6	1 1½
A	Preston ..	N.W.Counties	1 8	1 3½
A	QUEENSFERRY	N.W.Counties	1 8	1 3½
B	READING ..	S. Counties	1 6	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A₃	Retford ..	Mid. Counties	1 6½	1 2
A	Rhondda Valley	S. Wales & M.	1 8	1 3½
A₃	Ripon ..	Yorkshire	1 6½	1 2
A	Rochdale ..	N.W.Counties	1 8	1 3½
B	Rochester ..	S. Counties	1 5½	1 1½
A₁	Ruabon ..	N.W.Counties	1 7½	1 2½
A₂	Rugby ..	Mid. Counties	1 8	1 3½
A₃	Rugeley ..	Mid. Counties	1 6½	1 2
A	Runcorn ..	N.W. Counties	1 8	1 3½
A₃	ST. ALBANS	E. Counties	1 6½	1 2
A	St. Helens ..	N.W.Counties	1 8	1 3½
A₁	Scarborough	Yorkshire	1 7½	1 2½
A	Scunthorpe	Mid. Counties	1 8	1 3½
A	Sheffield ..	Yorkshire	1 8	1 3½
A	Shipley ..	Yorkshire	1 8	1 3½
A	Shrewsbury	Mid. Counties	1 6½	1 2
A₂	Skipton ..	Yorkshire	1 7	1 2½
B	Slough ..	S. Counties	1 5½	1 1½
A₂	Solihull ..	Mid. Counties	1 7	1 2½
B	South'pton	E. Counties	1 6	1 1½
B₁	Southend-on-Sea	E. Counties	1 5½	1 1½
A	Southport ..	N.W.Counties	1 8	1 3½
A	S. Shields ..	N.E. Coast	1 8	1 3½
A₂	Stafford ..	Mid. Counties	1 7	1 2½
A	Stockport	N.W.Counties	1 8	1 3½
A	Stockton-on Tees	N.E. Coast	1 8	1 3½
A	Stoke-on-Trent	Mid. Counties	1 8	1 3½
B	Stroud ..	S.W.Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 8	1 3½
A	Swansea ..	S. Wales & M.	1 8	1 3½
B	Swindon ..	S.W. Counties	1 6	1 1½
A₁	TAMWORTH	N.W.Counties	1 7½	1 2½
B₁	Taunton ..	S.W. Counties	1 5½	1 1½
A	Teeside Dist.	N.E. Counties	1 8	1 3½
A	Todmorden	Yorkshire	1 8	1 3½
A₂	Torquay ..	S.W.Counties	1 7	1 2½
B₁	Tunbridge Wells	S. Counties	1 4½	1 1½
A	Tunstall ..	Mid. Counties	1 8	1 3½
A	Tyne District	N.E. Coast	1 8	1 3½
A	WAKEFIELD	Yorkshire	1 8	1 3½
A₂	Walsall ..	Mid. Counties	1 7	1 2½
A	Warrington	N.W.Counties	1 8	1 3½
A₃	Warwick ..	Mid. Counties	1 6½	1 2
B	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 8	1 3½
B	Weston-S-Mare	S.W. Counties	1 6	1 1½
A₃	Whitby ..	Yorkshire	1 6½	1 2
A	Widnes ..	N.W.Counties	1 8	1 3½
A	Wigan ..	N.W.Counties	1 8	1 3½
B₂	Winchester	S. Counties	1 5	1 1
B	Windsor ..	S. Counties	1 6	1 1½
A	Wolverhampton	Mid. Counties	1 8	1 3½
A₃	Worcester ..	Mid. Counties	1 6½	1 2
A	Worksop ..	Yorkshire	1 8	1 3½
A₁	Wrexham ..	N.W. Counties	1 7½	1 2½
B	Wycombe ..	S. Counties	1 6	1 1½
B₁	YARMOUTH	E. Counties	1 5½	1 1½
B₂	Yeovil ..	S.W. Counties	1 5	1 1
A	York ..	Yorkshire	1 8	1 3½

* Plasterers, 1s. 9d.
† Carpenters and Painters, 1s. 8½d.
‡ Plumbers, 1s. 9d.
§ Painters, 1s. 6d.
‖ Carpenters and Plasterers, 1s. 8½d.
¶ Painters, 1s. 7d.

PRICES CURRENT

EXCAVATOR AND CONCRETOR

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

	£	s.	d.
Broken brick or stone, 2 in., per yd.	£0	10	0
Thames ballast, per yd.	0	13	0
Pit gravel, per yd.	0	18	0
Pit sand, per yd.	0	14	6
Washed sand	0	16	6
Screened ballast or gravel, add 10 per cent. per yd.			
Clinker, breeze, etc., prices according to locality.			
Portland cement, per ton	£2	19	0
Lias lime, per ton	2	5	0
Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.			
Transport hire per day:			
Cart and horse £1 3 0 *Trailer*	£0	15	0
3-ton motor lorry 3 15 0 *Steam roller*	4	5	0
Steam lorry, 5-ton 4 0 0 *Water cart*	1	5	0
EXCAVATING and throwing out in ordinary earth not exceeding 6 ft. deep, basis price, per yd. cube	0	3	0
Exceeding 6 ft., but under 12 ft., add 30 per cent.			
In stiff clay, add 30 per cent.			
In underpinning, add 100 per cent.			
In rock, including blasting, add 225 per cent.			
If basketed out, add 80 per cent. to 150 per cent.			
Headings, including timbering, add 400 per cent.			
RETURN, fill, and ram, ordinary earth, per yd.	£0	2	4
SPREAD and level, including wheeling, per yd.	0	2	4
PLANKING, per ft. sup.	0	0	5
DO. over 10 ft. deep, add for each 5 ft. depth 30 per cent.			
HARDCORE, 2 in. ring, filled and rammed, 4 in. thick, per yd. sup.	£0	2	1
DO. 6 in. thick, per yd. sup.	0	2	10
PUDDLING, per yd. cube	1	10	0
CEMENT CONCRETE, 4-2-1, per yd. cube	2	3	0
DO. 6-2-1, per yd. cube.	1	18	0
DO. in upper floors, add 15 per cent.			
DO. in reinforced-concrete work, add 20 per cent.			
DO. in underpinning, add 60 per cent.			
LIAS LIME CONCRETE, per yd. cube	£1	16	0
BREEZE CONCRETE, per yd. cube	1	7	0
DO. in lintols, etc., per ft. cube	0	1	6

DRAINER

LABOURER, 1s. 4½d. *per hour;* TIMBERMAN, 1s. 6d. *per hour;* BRICKLAYER, 1s. 9½d. *per hour;* PLUMBER, 1s. 9½d. *per hour;* WATCHMAN, 7s. 6d. *per shift.*

	£	s.	d.
Stoneware pipes, tested quality, 4 in., per yd.	£0	1	3
DO. 6 *in., per yd.*	0	2	8
DO. 9 *in., per yd.*	0	3	6
Cast-iron pipes, coated, 9 ft. lengths, 4 in., per yd.	0	6	9
DO. 6 *in., per yd.*	0	9	2
Portland cement and sand, see "Excavator" above.			
Lead for caulking, per cwt.	£2	5	6
Gaskin, per lb.	0	0	5½
STONEWARE DRAINS, jointed in cement, tested pipes, 4 in., per ft.	0	4	3
DO. 6 in., per ft.	0	5	0
DO. 9 in., per ft.	0	7	9
CAST-IRON DRAINS, jointed in lead, 4 in., per ft.	0	9	0
DO. 6 in., per ft.	0	11	0

Note.—These prices include digging and filling for normal depths, and are average prices.
Fittings in Stoneware and Iron according to type. *See* Trade Lists.

BRICKLAYER

BRICKLAYER, 1s. 9½d. *per hour;* LABOURER, 1s. 4½d. *per hour;* SCAFFOLDER, 1s. 5½d. *per hour.*

	£	s.	d.
London stocks, per M.	£4	7	0
Flettons, per M.	3	6	0
Staffordshire blue, per M.	9	12	0
Firebricks, 2½ in., per M.	11	3	0
Glazed salt, white, and ivory stretchers, per M.	22	0	0
DO. *headers, per M.*	21	10	0
Colours, extra, per M.	£5	10	0
Seconds, less, per M.	1	0	0
Cement and sand, see "Excavator" above.			
Lime, grey stone, per ton	£2	12	0
Mixed lime mortar, per yd.	1	6	0
Damp course, in rolls of 4½ in., per roll	0	2	6
DO. 9 *in. per roll*	0	4	9
DO. 14 *in. per roll.*	0	7	6
DO. 18 *in. per roll*	0	9	6
BRICKWORK in stone lime mortar, Flettons or equal, per rod	33	0	0
DO. in cement do., per rod	36	0	0
DO. in stocks, add 25 per cent. per rod.			
DO. in blues, add 100 per cent. per rod.			
DO. circular on plan, add 12½ per cent. per rod.			
FACINGS, FAIR, per ft. sup. extra	£0	0	2
DO. Red Rubbers, gauged and set in putty, per ft. extra	0	4	6
DO. salt, white or ivory glazed, per ft. sup. extra	0	5	6
TUCK POINTING, per ft. sup. extra	0	0	10
WEATHER POINTING, per ft. sup. extra	0	0	3
GRANOLITHIC PAVING, 1 in., per yd. sup.	0	5	0
DO. 1½ in., per yd. sup.	0	6	0
DO. 2 in., per yd. sup.	0	7	0
BITUMINOUS DAMP COURSE, ex rolls, per ft. sup.	0	0	
ASPHALT (MASTIC) DAMP COURSE, ½ in., per yd. sup.	0	8	0
DO. vertical, per yd. sup.	0	11	0
SLATE DAMP COURSE, per ft. sup.	0	0	10
ASPHALT ROOFING (MASTIC) in two thicknesses, ¾ in., per yd	0	8	6
DO. SKIRTING, 6 in.	0	0	11
BREEZE PARTITION BLOCKS, set in Cement, 1½ in. per yd. sup.	0	5	3
DO. DO. 3 in.	0	6	6

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

MASON

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

	£	s.	d.
Portland Stone:			
Whitbed, per ft. cube	£0	4	4
Basebed, per ft. cube	0	4	7
Bath stone, per ft. cube	0	2	9½
Usual trade extras for large blocks.			
York paving, ac. 2½ in., per yd. super.	0	6	6
York templates sawn, per ft. cube	0	6	9
Slate shelves, rubbed, 1 in., per ft. sup.	0	2	6
Cement and sand, see "Excavator," etc., above.			
HOISTING and setting stone, per ft. cube	£0	2	2
DO. for every 10 ft. above 30 ft., add 15 per cent.			
PLAIN face Portland basis, per ft. sup.	£0	2	8
DO. circular, per ft. sup.	0	4	0
SUNK FACE, per ft. sup.	0	3	9
DO. circular, per ft. sup.	0	4	10
JOINTS, arch, per ft. sup.	0	2	6
DO. sunk, per ft. sup.	0	2	7
DO. DO. circular, per ft. sup.	0	4	6
CIRCULAR-CIRCULAR work, per ft. sup.	1	2	0
PLAIN MOULDING, straight, per inch of girth, per ft. run	0	1	1
DO. circular, do. per ft. run	0	1	4
HALF SAWING, per ft. sup.	£0	1	0
Add to the foregoing prices if in York stone 35 per cent.			
DO. Mansfield, 12½ per cent.			
Deduct for Bath, 33⅓ per cent.			
DO. for Chilmark, 5 per cent.			
SETTING 1 in. slate shelving in cement, per ft. sup.	£0	0	6
RUBBED round nosing to do., per ft. lin.	0	0	6
YORK STEPS, rubbed T. & R., ft. cub. fixed	1	9	0
YORK SILLS, W. & T., ft. cub. fixed.	1	13	0

SLATER AND TILER

SLATER, 1s. 9½d. *per hour;* TILER, 1s. 9½d. *per hour;* SCAFFOLDER, 1s. 5½d. *per hour;* LABOURER, 1s. 4½d. *per hour.*

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

	£	s.	d.
Slates, 1st quality, per M:			
Portmadoc Ladies	£14	0	0
Countess	27	0	0
Duchess	32	0	0
Clips, lead, per lb.	0	0	4
Clips, copper, per lb.	0	2	0
Nails, compo, per cwt.	1	6	0
Nails, copper, per lb.	0	1	10
Cement and sand, see EXCAVATOR, *etc., above.*			
Hand-made tiles, per M.	£5	18	0
Machine-made tiles, per M.	5	8	0
Westmorland slates, large, per ton	9	0	0
DO. *Peggies, per ton*	7	5	0
SLATING, 3 in. gauge, compo nails, Portmadoc or equal:			
Ladies, per square	£4	0	0
Countess, per square	4	5	0
Duchess, per square	4	10	0
WESTMORLAND, in diminishing courses, per square	6	5	0
CORNISH DO., per square	6	3	0
Add, if vertical, per square approx.	0	13	0
Add, if with copper nails, per square approx.	0	2	6
Double course at eaves, per ft. approx.	0	1	0
TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square	5	6	0
DO., machine-made DO., per square	4	17	0
Vertical Tiling, including pointing, add 18s. 0d. per square.			
FIXING lead soakers, per dozen	£0	0	10
STRIPPING old slates and stacking for re-use, and clearing away surplus and rubbish, per square	0	10	0
LABOUR only in laying slates, but including nails, per square	1	0	0

See "Sundries for Asbestos Tiling."

CARPENTER AND JOINER

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

	£	s.	d.
Timber, average prices at Docks, London Standard. Scandinavian, etc. (equal to 2nds):			
7×3, per std.	£23	0	0
11×4, per std.	33	0	0
Memel or Equal. Slightly less than foregoing.			
Flooring, P.E., 1-in., per sq.	£1	5	0
DO. *T. and G., 1 in., per sq.*	1	5	0
Planed Boards, 1 in.×11 in., per std.	33	0	0
Wainscot oak, per ft. sup. of 1 in.	0	2	0
Mahogany, per ft. sup. of 1 in.	0	2	0
DO. *Cuba, per ft. sup. of 1 in.*	0	3	0
Teak, per ft. sup. of 1 in.	0	3	0
DO., *ft. cube*	0	15	0
FIR fixed in wall plates, lintels, sleepers, etc., per ft. cube	0	5	9
DO. framed in floors, roofs, etc., per ft. cube	0	6	3
DO., framed in trusses, etc., including ironwork, per ft. cube	0	7	3
PITCH PINE, add 33⅓ per cent.			
FIXING only boarding in floors, roofs, etc., per sq.	0	13	6
SARKING FELT laid, 1-ply, per yd.	0	1	6
DO., 3-ply, per yd.	0	1	9
CENTERING for concrete, etc., including horsing and striking, per sq.	3	10	0
SLATE BATTENING, per sq.	0	18	6

PRICES CURRENT; *continued.*

CARPENTER AND JOINER; *continued.*

DEAL GUTTER BOARD, 1 in., on firring, per sq	£3	6	0
MOULDED CASEMENTS, 1¼ in., in 4 sqs., glazing beads and hung, per ft. sup.	0	3	0
DO., DO., 2 in., per ft. sup.	0	3	3
DEAL cased frames, oak sills, 2 in. d.h. sashes, brass-faced pulleys, etc., per ft. sup.	0	4	0
DOORS, 4 pan. sq. b.s., 2 in., per ft. sup.	0	3	6
DO., DO., DO., 1¼ in., per ft. sup.	0	3	0
DO., DO., moulded b.s., 2 in., per ft. sup.	0	3	9
DO., DO., DO., 1¼ in., per ft. sup.	0	3	3
If in oak multiply 6 times.			
If in mahogany multiply 6 times.			
If in teak multiply 7 times.			
WOOD BLOCK FLOORING, standard blocks, laid in mastic herringbone :			
Deal, 1 in., per yd. sup., average	0	10	0
DO., 1¼ in., per yd., sup., average	0	12	0
DO., DO., 1¼ in. maple blocks	0	15	0
STAIRCASE WORK, DEAL :			
1 in. riser, 1¼ in. tread, fixed, per ft. sup.	0	3	6
2 in. deal strings, fixed, per ft. sup.	0	3	9

PLUMBER

PLUMBER, 1*s.* 9½*d. per hour;* MATE OR LABOURER, 1*s.* 4½*d. per hour.*

Lead, milled sheet, per cwt.	£2	5	6
DO. *drawn pipes, per cwt.*	2	7	0
DO. *soil pipe, per cwt.*	2	9	0
DO. *scrap, per cwt.*	1	4	0
Copper, sheet, per lb.	0	1	3
Solder, plumber's, per lb.	0	1	2
DO. *fine, per lb.*	0	1	6
Cast-iron pipes, etc. :			
L.C.C. soil, 3 in., per yd.	0	4	2
DO. *4 in. per yd.*	0	5	1
R.W.P., 2½ in., per yd.	0	1	10
DO. *3 in., per yd.*	0	2	2
DO. *4 in., per yd.*	0	3	0
Gutter, 4 in. H.R., per yd.	0	1	10
DO. *4 in. O.G., per yd.*	0	2	0
MILLED LEAD and labour in gutters, flashings, etc.	3	12	6
LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft.	0	2	1
DO., ¾ in., per ft.	0	2	5
DO. 1 in., per ft.	0	3	3
DO. 1¼ in., per ft.	0	4	6
LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft.	0	6	0
DO. 3 in., per ft.	0	7	0
DO. 4 in., per ft.	0	9	9
CAST-IRON R.W. PIPE, at 24 lb. per length, jointed in red lead, 2½ in., per ft.	0	2	3
DO. 3 in., per ft.	0	2	8
DO. 4 in., per ft.	0	3	0
CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft.	0	2	7
DO. O.G. 4 in., per ft.	0	2	10
CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft.	0	7	0
DO. 3 in., per ft.	0	6	0
Fixing only :			
W.C. PANS and all joints, P. or S., and including joints to water waste preventers, each	2	5	0
BATHS only, with all joints	1	18	0
LAVATORY BASINS only, with all joints, on brackets, each	1	10	0

PLASTERER

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

Chalk lime, per ton	£2	12	6
Hair, per cwt.	0	18	0
Sand and cement see EXCAVATOR, *etc., above.*			
Lime putty, per cwt.	£0	2	8
Hair mortar, per yd.	1	7	0
Fine stuff, per yd.	1	14	0
Sawn laths, per bdl.	0	2	4
Keene's cement, per ton	5	15	0
Sirapite, per ton	3	10	0
DO. *fine, per ton*	3	18	0
Plaster, per ton	3	0	0
DO. *per ton*	3	12	6
DO. *fine per ton*	5	12	0
Thistle plaster, per ton	£3	9	0
Lath nails per lb.	0	0	4
LATHING with sawn laths, per yd.	0	1	7
METAL LATHING, per yd.	0	2	3
FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock, ¾ in., per yd	0	2	4
DO. vertical, per yd.	0	2	7
RENDER, on brickwork, 1 to 3, per yd.	0	2	7
RENDER in Portland and set in fine stuff, per yd.	0	3	3
RENDER, float, and set, trowelled, per yd.	0	2	9
RENDER and set in Sirapite, per yd.	0	2	5
DO. in Thistle plaster, per yd.	0	2	5
EXTRA, if on but not including lathing, any of foregoing, per yd.	0	0	5
EXTRA, if on ceilings, per yd.	0	0	5
ANGLES, rounded Keene's on Portland, per ft. lin.	0	0	6
PLAIN CORNICES, in plaster, per inch girth, including dubbing out, etc., per ft. lin.	0	0	5
WHITE glazed tiling set in Portland and jointed in Parian, per yd., from	1	11	6
FIBROUS PLASTER SLABS, per yd.	0	1	10

GLAZIER

GLAZIER, 1*s.* 8½*d. per hour.*

Glass : 4ths in crates :			
Clear, 21 oz.	£0	0	5
DO. 26 oz.	0	0	6
Cathedral white, per ft.	0	0	5½
Polished plate, British ¼ in., up to 2 ft. sup.	0	2	5
DO. *3ft. sup.*	0	3	2
DO. *7 ft. sup.*	0	3	9
DO. *25 ft. sup.*	0	4	3
DO. *100 ft. sup.*	0	5	1
Rough plate, ¼ in.	0	0	5½
DO. *¼ in., per ft.*	0	0	6
Linseed oil putty, per cwt.	0	16	0
GLAZING in putty, clear sheet, 21 oz.	0	0	10
DO. 26 oz.	0	0	11
GLAZING in beads, 21 oz., per ft.	0	1	0
DO. 26 oz., per ft.	0	1	3
Small sizes slightly less (under 3 ft. sup.).			
Patent glazing in rough plate, normal span 1*s.* 5*d.* to 2*s.* per ft.			
LEAD LIGHTS, plain, med. sqs. 21 oz., usual domestic sizes, fixed, and up, per ft. sup.	£0	3	6
Glazing only, polished plate, 6½*d.* to 8*d.* per ft., according to size.			

DECORATOR

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

Genuine white lead, per cwt.	£3	5	0
Linseed oil, raw, per gall.	0	4	0
DO., *boiled, per gall.*	0	4	3
Turpentine, per gall.	0	6	6
Liquid driers, per gall.	0	9	6
Knotting, per gall.	1	5	0
Distemper, washable, in ordinary colours, per cwt., and up	2	0	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4
Single gold leaf (transferable), per book	0	1	10
Varnish copal, per gall. and up	0	18	0
DO., *flat, per gall.*	1	2	0
DO., *paper, per gall.*	1	0	0
French polish, per gall.	0	19	0
Ready mixed paints, per gall. and up	0	10	6
LIME WHITING, per yd. sup.	0	0	3
WASH, stop, and whiten, per yd. sup.	0	0	6
DO., and 2 coats distemper with proprietary distemper, per yd. sup.	0	0	9
KNOT, stop, and prime, per yd. sup.	0	0	7
PLAIN PAINTING, including mouldings, and on plaster or joinery, 1st coat, per yd. sup.	0	0	10
DO., subsequent coate, per yd. sup.	0	0	9
DO., enamel coat, per yd. sup.	0	1	2½
BRUSH-GRAIN, and 2 coats varnish, per yd. sup.	0	3	8
FIGURED DO., DO., per yd. sup.	£0	5	6
FRENCH POLISHING, per ft. sup.	0	1	2
STRIPPING old paper and preparing, per piece	0	1	7
HANGING PAPER, ordinary, per piece	0	1	10
DO., fine, per piece, and upwards	4	0	2
VARNISHING PAPER, 1 coat, per piece	0	9	0
CANVAS, strained and fixed, per yd. sup.	0	3	0
VARNISHING, hard oak, 1st coat, yd. sup.	0	1	2
DO., each subsequent coat, per yd. sup.	0	0	11

SMITH

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

Mild steel in British standard sections, per ton	£12	10	0
Sheet steel :			
Flat sheets, black, per ton	19	0	0
Do., Galvd., per ton	23	0	0
Corrugated sheets, galvd., per ton	23	0	0
Driving screws, galvd., per grs.	0	1	10
Washers, galvd., per grs.	0	1	1
Bolts and nuts, per cwt. and up	1	18	0
MILD STEEL in trusses, etc., erected, per ton	27	0	0
DO., in small sections as reinforcement, per ton	17	0	0
DO., in compounds, per ton	18	0	0
DO., in bar or rod reinforcement, per ton	20	10	0
WROT. IRON in chimney bars, etc., including building in, per cwt.	2	0	0
DO., in light railings and balusters, per cwt.	2	5	0
FIXING only corrugated sheeting, including washers and driving screws, per yd.	0	2	0

SUNDRIES

Fibre or wood pulp boardings, according to quality and quantity. The measured work price is on the same basis . . . per ft. sup.	£0	0	2½
FIBRE BOARDINGS, fixed on, but not including studs or grounds, per ft. sup.	0	0	6
Plaster board, per yd. sup. . from	0	1	7
PLASTER BOARD, fixed as last, per yd. sup. . . . from	0	2	8
Asbestos sheeting, $\frac{5}{32}$ in., grey flat, per yd. sup.	0	2	3
DO., *corrugated, per yd. sup.*	0	3	3
ASBESTOS SHEETING, fixed as last, flat, per yd. sup.	0	4	0
DO., corrugated, per yd. sup.	0	5	0
ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey	2	15	0
DO., red	3	0	0
Asbestos cement slates or tiles, $\frac{5}{32}$ in. punched per M. grey	17	0	0
DO., *red*	19	0	0
ASBESTOS COMPOSITION FLOORING : Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0	7	0
DO., ½ in. thick, suitable for domestic work, unpolished, per yd.	0	6	6
Metal casements for wood frames, domestic sizes, per ft. sup.	0	1	6
DO., *in metal frames, per ft. sup.*	0	1	9
HANGING only metal casement in, but not including wood frames, each	0	2	10
BUILDING in metal casement frames, per ft. sup.	0	0	7
Waterproofing compounds for cement. Add about 75 per cent. to 100 per cent. to the cost of cement used.			
Plywood			
3 m/m alder, per ft. sup.	0	0	2
4½ m/m amer. white, per ft. sup.	0	0	3½
⅜ m/m figured ash, per ft. sup.	0	0	5
4½ m/m 3rd quality, composite birch, per ft. sup.	0	0	1½