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ARCHITECTURAL UNITY

Unity of effect throughout an architectural group is no more identical with architectural uniformity than a garden is identical with a seed-bed; a harmony of diversity is present in good architecture and in pleasant gardens, but the difficulty is to bring many architects to create each his individual building in such a manner that it will be a fitting contribution to the beauty and dignity of the whole.

The attempt to produce architectural unity by insistence upon conformity with a pre-arranged scheme has been made; but such insistence has failed, and is likely to fail, for coercion uniformly applied must reduce all architects to the same dull mechanical level, and coercion applied capriciously involves the production of differences of dullness, not unity, as may be seen in some of the portions of London that have been lately rebuilt. Coercion might have resulted in a new Regent Street in accordance with Norman Shaw's design; but the rebellion of the prospective clients broke the spell that would have bound them and their architects to this particular form of servitude, and substituted another and more fashionable form of slavery. Without control of any sort, we might have had a continuation of the chaos of Piccadilly Circus with its "Scots' Cinema" of whirling and dazzling advertisements, which would have been brighter, and, strange to say, more imbued with unity of a kind, because imbued with individuality working upon a common theme, publicity, to a common purpose, profit.

It must be the aspiration of any great town planner to turn into channels of sound art all the vivacity and fun which express themselves with such wasteful riot at the Circus, and to encourage his fellow-architects to design permanent buildings with all the individuality and the gaiety of these vulgar advertisers, and yet, like them, to produce, as if spontaneously, a sense of co-operation, of sequence, rhythm, and unity.

The inspiration to be derived from the study of ancient examples of architectural unity has been rightly insisted upon by professors of town planning, but direct imitation of ancient or foreign buildings can only result in the production of worse confusion.

It is only by working in accordance with the needs of our own people, and the conditions of our own land and climate, that genuine unity can be produced spontaneously on a basis of sincerity.

The way in which sincerity and vitality are to be brought into the service of good art as freely as they are at present engaged in the creation of nonsensical advertisements is first to make it plain that they are needed, and then to open a way for intelligent co-operation. Architecture regulated by the strait-waistcoat of a cut-and-dried scheme has no power to accept the variety that makes for unity. Variety in such a scheme is a mistake, a blemish, just as Norman Shaw's contribution to the architecture of the Quadrant has been made to look like a coarse patch, a woollen darn on an artificial silk stocking. The textures are incompatible, and the result irritation to anyone possessed of sensitive feelings. For this coercion of the approved scheme should be substituted a method of co-operative design in which each individual architect learns to understand and to sympathize with the aims of the architects who will design other buildings which may be seen in the same group as his own.

Two things which now tend to the creation of this sympathy are the publication of photographs and working drawings of contemporary work, and the operation of the building by-laws to which all must submit. The enlargement of the scope of the by-laws to include the consideration of artistic as well as structural aspects of design has been suggested; but the feat of adjudicating upon all qualities of buildings from preliminary plans submitted for approval would probably be beyond the scope of the ordinary district council and its surveyor. Even if district councils were established in the position of art censors, their control would be in the nature of coercion, which has the defects already pointed out.

A method by which each architect submitting a design might be brought to see it in relation to its surroundings, and to feel what his neighbours and other architects thought of it in time for amendment, would be insistence upon the public exhibition of faithfully-coloured models before the plans were passed for erection. The ground covered by each district would be represented by a correctly contoured base-plate in an annex of the council offices, and on this the architect would be invited to place the scale-model of his proposed building. If his model were approved it would remain as part of the setting, which other architects would have to accept as a condition of their future designs. If unsatisfactory he would withdraw it. The judges would be architects and householders from other districts, who had designed or owned approved houses; but the experience of trying out the new design as part of the group design in model form would have an immediate influence in favour of unity in architecture.

NEWS AND TOPICS

EVERYONE is, or ought to be, grateful for wayside gardens (even the limousine motorist); and now that dust has been abolished and the number of passers-by has been enormously increased, the owner of a garden on the highway should feel it his duty as a good citizen to make as gay a show as he possibly can. Here and there they do play up very gallantly—as in the Surrey village of Clandon, where a proper individual pride, aided no doubt by a vigorous local opinion, seems to ensure that each cottage garden shall every summer be a riot of flowers, not rare, but beautiful. In some districts the soil is ungrateful to the gardener; in many more smoke and industrial fumes affect the young plants even more adversely than they do young children. In these areas it is less disheartening to keep a nursery school than a nursery garden. There are, however, wide stretches of the country where conditions are entirely favourable to gardening, which yet seem to breed no gardeners—much of Wales being in that category. In a land where fuchsias, hydrangeas, azaleas, and rhododendrons generally grow and luxuriate for the mere planting, and where daffodils "go wild," one would think that the idlest cottager would take the small amount of trouble involved in heeling in a few plants, thereafter merely watching them grow. In Wales, a garden means a patch of potatoes and black-currant bushes, flowers being regarded as an amiable eccentricity, though perhaps a little worldly.

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In certain parts the awarding of prizes for roadside gardens has mitigated the dour tradition, whilst on certain estates the free provision of shrubs and flowers to all who will plant and tend them has had a marked effect on the amenity of their immediate neighbourhood. It is suggested that in every large garden—indeed, in every garden that boasts a "paid hand"—a small part should be set aside as a reserve from which the owner could distribute suitable plants to his less fortunate neighbours. At no appreciable cost to anyone, hundreds of seedlings, cuttings, and surplus "dividings" could thus be made available for the general adornment of a whole parish, and there must surely be many garden owners who would rejoice to see flowers even outside their own preserves—probably many more than one might imagine from the little that is at present done about it.

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Architects may well give some attention to the question of planning prisons, for after reading through the account in Hansard of the recent debate on this subject, it seems to be clear that before long a good deal of money will have to be spent in this country on building modern prisons. Owing to the transformation in the present system of the control and treatment of prisoners, it is obvious that existing buildings are in many cases entirely out of date. They need replanning, if opportunity is to be given to the psychologists, pathologists, and others to study each individual case. Good work in this respect is now being carried on at Wandsworth, but in many of the older prisons each convict is a number, treated according to one pattern, and watched continuously by an officer who stands at the centre of an hexagonal building. Those prisons that have recently been closed are for the most part structurally unsuitable, and a beginning is being made in improving conditions by substituting electric light for gas. The fact, however, that only this year is gas being done away with in Broadmoor Criminal Lunatic Asylum shows how backward are our British prison establishments.

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Last year there was a remarkable spread of municipal zoning in the United States. During 1927 twenty-three States passed laws, designed to protect owners in the use of land, and to promote the welfare of their cities by dividing them into different districts, by which the height or bulk of building, the area of the lot to be covered and their uses might be regulated. Zoning is henceforth to be carried out under the police power of these States, and therefore "must be reasonable and impartial, and based on the health, safety, morals, and general welfare of the community." Altogether zoning laws have been enacted up to the present time by forty-five American States, ranging from New Mexico and South Dakota to West Virginia and New Jersey.

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The architectural conscience of the ancient city of Chester has begun to prick. The ratepayers and the City Council know that there is prestige and money in the antiquity and quaintness of the buildings that cover and adjoin the Rows. They also realize that modern timber-framed buildings have a happy knack of coming into the picture. Mr. John Douglas set an extraordinarily high standard forty years ago, and although no one has since reached that standard, there have been many praiseworthy attempts. One of the best of recent efforts is the District Bank by Mr. Francis Jones. This month there came before the City Council plans, prepared by the architectural department of a multiple shop, for a new building adjoining the East Gate. The Improvement Committee had, on the advice of the City Surveyor, already given provisional approval, and I am told that working drawings had been made and tenders obtained. The ground floor of the façade was plate-glass surmounted by a huge advertisement. Above were two floors of stone with some rather elaborate windows; between the windows was half-timber work. The whole was finished with a deep-stepped pediment in stone.

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Mr. Philip Lawson, an architect, one of the City Councillors, pointed out to an astonished Council that the façade combined three scales and a somewhat confused medley of motifs and was generally unworthy of the City. The chairman of the Improvements Committee tried to smooth matters over by stating that the plans must be passed as they were strictly in accordance with the by-laws. And that is that. But the Council very rightly attaches great importance to Mr. Lawson's opinion. Many a worried aldermanic eye will watch the new building rising.

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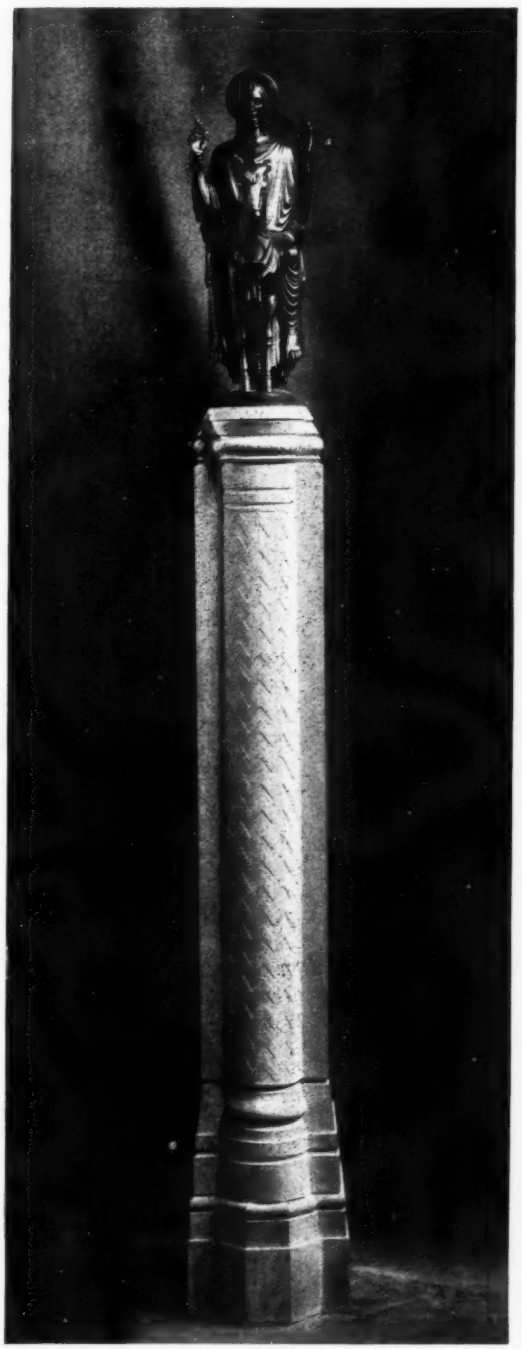
One of the difficulties which beset sculpture is its setting. One of the reasons of its alleged unpopularity is that people don't buy it because they don't know where to put it or how

to place it. It occurs to me that a good deal of this is got over by Alfred Hardiman with his beautiful "Entry into Jerusalem" at the Royal Academy. It is essentially a piece of ornament; the figure of Jesus riding on an ass is treated decoratively, and the bronze group is set upon a tall stone pillar with mouldings and a slight cut pattern. The height brings the figure to eye-level, the pillar gives it dignity, and the work as a whole declares for an easy settlement of the question of location; it can go anywhere; in any room; in any church. Its very simplicity resolves all difficulties. The sculptors who complain of the troubles of placing their statuettes should take example by this piece, and with some such setting render location obvious.



"The Entry into Jerusalem." Bronze group. By Alfred Hardiman. [Royal Academy Exhibition.]

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When asked what he mixed his paints with to produce his astonishing effects, Sir Joshua Reynolds answered, "Brains!" To judge from my own experiments (writes a correspondent), one would guess that the British paint manufacturers' answer to the same question would be "mud." The quality is superb; it is the stock colours that are so lamentable. If merely for protection, let us use the undoctored basic lead colour—the battleship-grey of the Navy; but if we go to all the trouble of having "fancy shades," presumably for delight, it seems a pity that so few of them should be in any way delightful. Perhaps the manufacturers have exhausted their ingenuity in inventing the pretty names for their colours, which are certainly as engaging as those of a nurseryman's catalogue; but it is a pity they cannot give a little of their attention to their actual pigments and put upon the market colours that are really gay and acceptable. Our favourite colour is, of course, that strange and lugubrious plummy-purply-red that reminds one of dried blood. So unanimous are we in our preference that it might well be taken for our national colour, corresponding to the valiant orange paint of Ulster, which, on carts and barn-doors, provides the only visible gaiety in that dolorous province. On many country estates no other paint is used, even on the window sashes of the mansion house itself. The effect is wonderfully dispiriting. In the matter of white paint, we have no nicety or discretion; white is white, and that's that. France and Sweden, particularly, know well that there are at least a dozen shades of "white," ranging from ash grey to pale putty; and they use them with propriety and telling effect. Besides the "whites," blue and green are, perhaps, the most welcome out-of-door colours; and it is exceedingly hard to find even tolerably acceptable shades of these ready made. Most paint makers will, however, try hard, if not always successfully, to match a pattern.

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The way to get real brilliance is, of course, to apply your finishing coat of colour over a dead white undercoating. Seeing that the appearance of most buildings is so greatly affected by the colour of their exterior wood and iron work, no apology is offered for this digression. It is a commonplace that many squalid-looking little houses, built of mean or unpleasant coloured materials, can be transformed out of all knowing at a trifling cost by colour-washing. The whites, pinks, and yellows have for ages been universal favourites for this purpose, and look well in almost any setting, especially in combination. If lime-wash be used as the basis, colouring matter can be added *au choix*, and the cost of beauty-doctoring by this means is trifling. Some years ago I submitted (writes my correspondent) a collection of whitewash recipes to the Department of Scientific Industrial Research for testing and report. The experiments and tests then made placed the following at the head of the list for durability and protective qualities: "Place 1 bushel good fresh lime in a barrel with 20 lb. beef tallow; slake with hot water and cover with sackcloth to keep in steam. When the lime is slaked, the tallow will have disappeared, having formed a chemical compound with the lime. Dry colours may be added to produce any tint desired."

ASTRAGAL

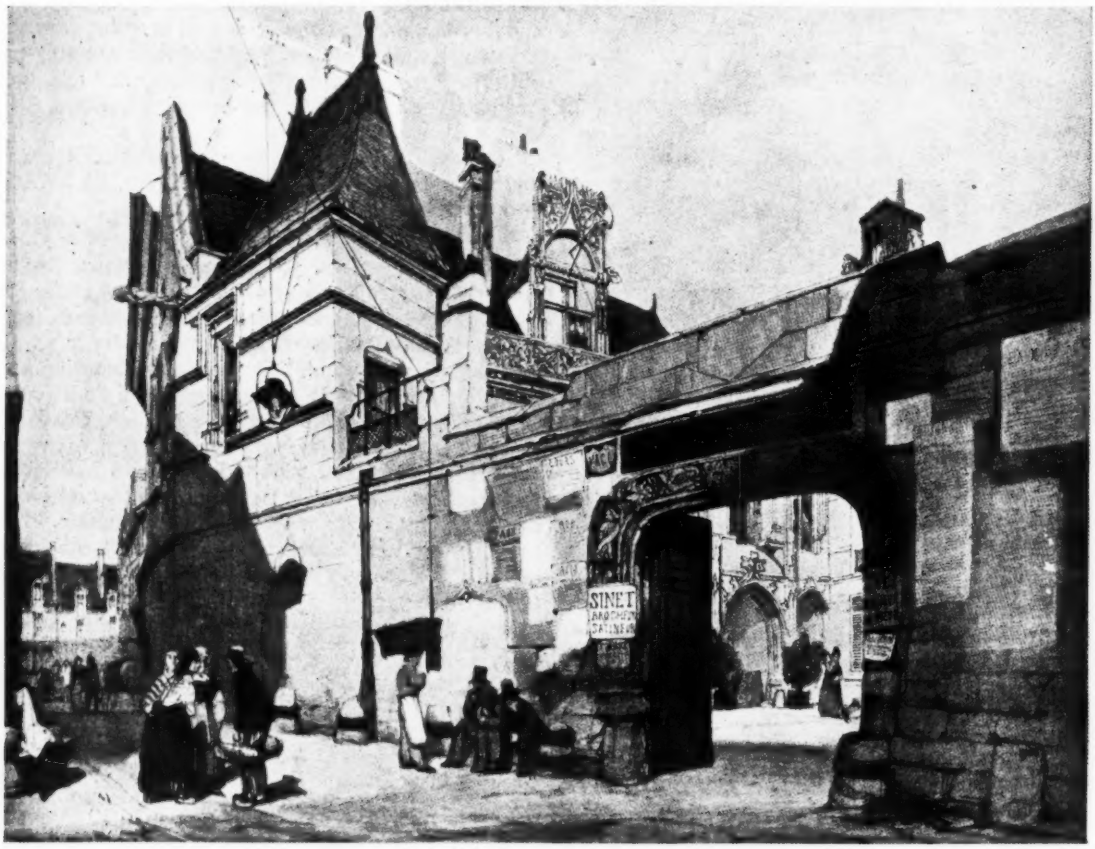
MR. BOYS ON THE CONTINENT

[BY HAROLD TOMLINSON]

LITHOGRAPHY, the youngest member of the family of the graphic arts, has suffered more from misuse than any of its relations. Indeed, it is no exaggeration to say that during the greater part of the century and a-half which has elapsed since its discovery by Senefelder, it has been regarded with mistrust and suspicion. The commercial possibilities which it offered in cheap reproduction were recognized immediately, and the flood of incompetent and meretricious prints which were produced in consequence alienated from it the sympathies of both art patron and artist. Yet lithography, with the peculiar inherent qualities which it possesses, is capable of producing works of art which are as beautiful as those in other media, and at the present day it is coming into its own again.

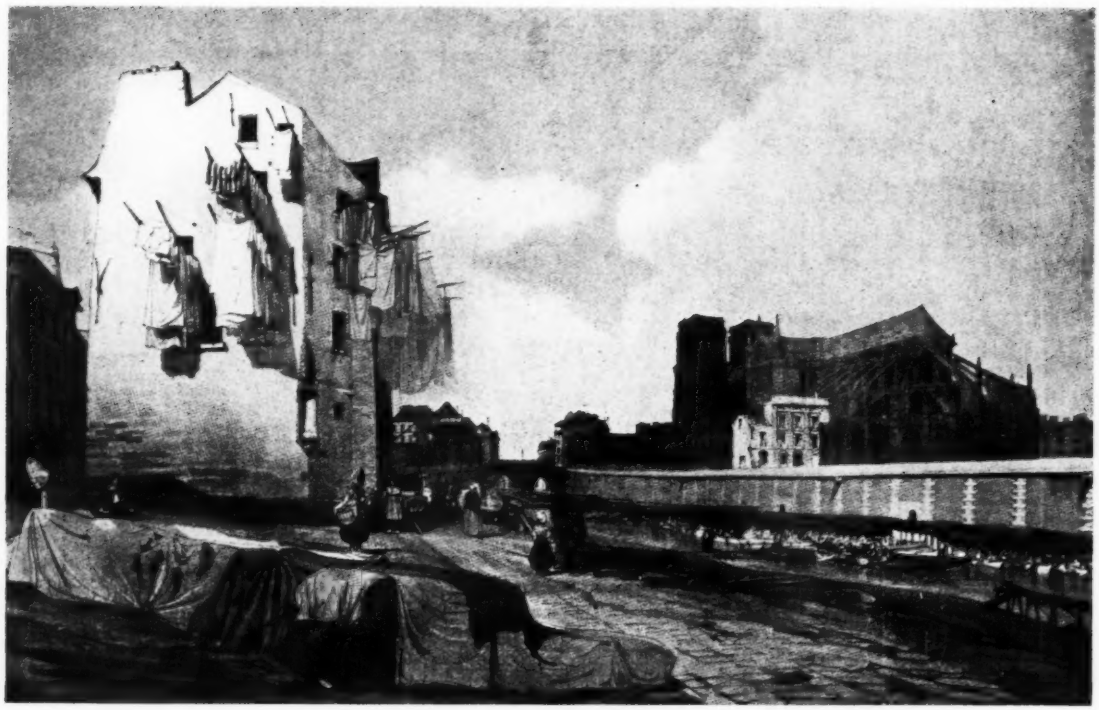
When Whistler made the acquaintance of the process in the l... seventies, he perceived that here lay not only a new field for expression, but also one which was in no way inferior to those of etching or dry-point, in which he had already established his competence. The success of lithography is largely dependent on the skill of the printer, and Whistler's volatile temperament was responsible for an unequal output, but his best prints were accepted as works of art, and as such were they judged. Since Whistler's day, Nicholson, Ricketts, Shannon, Brangwyn, and others have succeeded in elevating the art to the position which it had occupied in its early days; and the Germans and Austrians, quick to perceive the opportunity, have thought it worth while to employ artists of recognized merit in order to produce prints which, though they can be purchased for a small amount, are worthy of consideration by the most fastidious.

To revisualize the railway station of ten years ago is to appreciate the improvement which has been made in the lithographic poster. Even stations, in which architecture is present only as a negative quantity, have been invested with a cheerfulness which is an efficient antidote to ugliness, and the sensitive may find pleasure in the tedium of even the longest junctional interval. The lithographic renaissance derives from the work of the artists mentioned above; but the excellent topographical posters which make evident the beauties of our own country and the Continent owe an obvious debt to the prints of Thomas Shotter Boys. Who but he is responsible for the interest with which the skilfully placed human figures invest the scene, and the



Hotel Cluny, Paris. [*From* Picturesque Architecture in Paris, by Thomas Shotter Boys.]

South Porch of Chartres Cathedral. [*From* Picturesque Architecture in Paris, by Thomas Shotter Boys.]



Notre Dame from the Quai St. Bernard, Paris. [*From* Picturesque Architecture in Paris, by Thomas Shotter Boys.]

delicate colour foil which the clothes of the inhabitants of York or Antwerp provide for the background of their picturesque architectural glories?

It would be impertinence, indeed, to attempt an appreciation here, which has already been adequately accomplished by Mr. Chancellor, the able editor of both of the recently-published volumes which reproduce Boys's prints. In the introduction to *Picturesque Architecture in Paris, Ghent, Rouen, etc.*, Mr. Chancellor ventures "to add the hope that this volume will achieve the popularity which it would be false modesty on my part to pretend that the *London Views* has not secured." He need have no fear after we have digested the content of this inverted sentence—its inclusion appears superfluous—for no more notable collection of facsimile reproductions in colour has been achieved for some considerable time.

The letterpress which accompanies the prints gives evidence of considerable research, the editor wisely realizing that notes which accompanied the Boys prints when first published would be of little interest today; but more than this, one may readily perceive that the whole undertaking has been the outcome of a loving care, which is rarely lavished on works of this kind.

The plates themselves are examples of colour printing of a quality which must surely silence those critics who see in the reproduction of masterpieces by colour printing insult to the originals. Reduction in size was necessary, but apart from this the realism is little short of startling. When Mr. Chancellor wrote his article on Boys in *The Architectural Review*, he expressed regret that an additional series of both the London and Paris views had not been published, and with this all will agree, for Boys succeeded in portraying vividly the pictorial and architectural glories of scenes which have since been changed almost beyond recognition. Samuel Prout, consummately as he rendered architecture, failed to invest his work with the intimate qualities which make the Boys prints so valuable, not only as records of scenes, but of manners and modes of life of other times. In *Picturesque Architecture in Paris*, etc., the same vivid illusion of translation into the part that characterizes the *London Views* is experienced. Of the larger architectural masses which form the background of the Continental studies much may yet be seen; but how different is the foreground! The cabriolet in the Rouen print seems much more in harmony with its surroundings than would a modern vehicle; but it is evidently regarded with just as much wariness by the pedestrian, and the dog barking at its wheels gives life and movement to the scene, which serve but to give the architecture its proper setting. The original publishers' notice states that Boys "aimed at the presentation of the appearance of different media suited to the subjects." For example, the view of the "Abbaye St. Amand, Rouen, is intended to present the appearance of a crayon sketch heightened with colour; that of Ste. Chapelle, Paris, a sepia drawing, with touches of colour . . . . This, at first sight, would appear to be fatal to success; but the spirit rather than the letter has been preserved, and one cannot but feel that architectural draughtsmen of today might do well to return to the more honest and attractive methods of presentation which Boys employed. Unfortunately, this mode of architectural delineation died with Boys, and has yet to be revived. We have recently seen a modest revival of *colour* lithography in this country applied to purely pictorial representation; may we yet hope that architecture, too, may be similarly favoured.

Picturesque Architecture in Paris, Ghent, Antwerp, Rouen, etc. Drawn from Nature on Stone by Thomas Shotter Boys, 1839. With an introduction by E. Beresford Chancellor, M.A. (OXON.), F.S.A. London: The Architectural Press. £3.

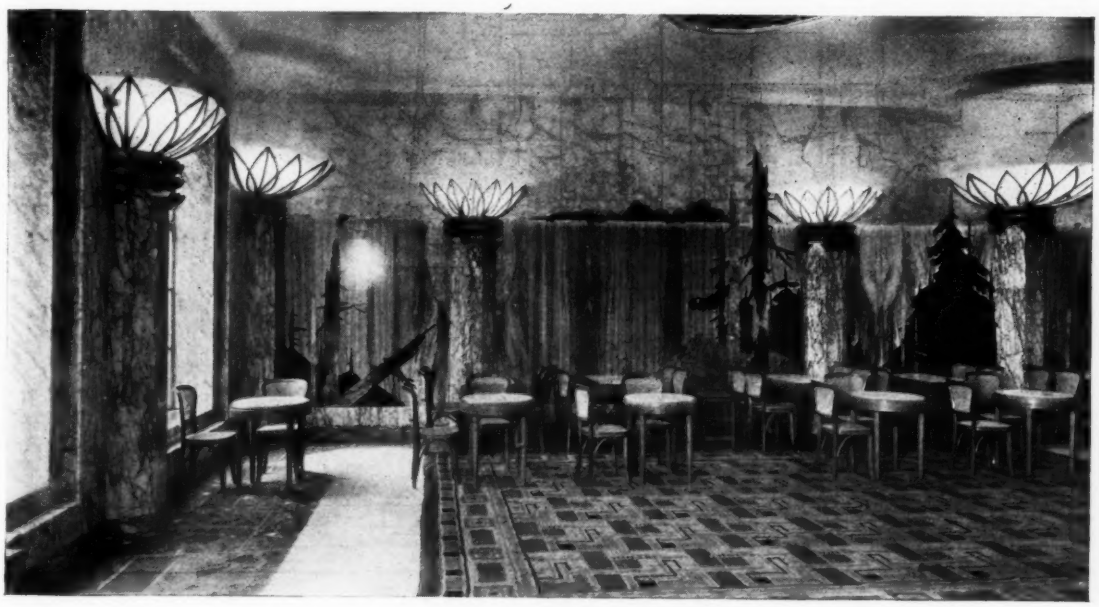
THE NEW LYONS' CORNER HOUSE

[BY L. F. EDWARDS]

I HAVE not yet visited the new Madame Tussaud's, so I do not know if a niche has been reserved for "Nippy" in the Nation's Hall of Fame. But "Nippy" has certainly become a public character, and her fanes are increasing mightily in size and number throughout the country. The latest and most luxurious of these is the new Oxford Street Corner House, at the junction of Oxford Street and Tottenham Court Road, once the site of the Oxford Music Hall, and before that the scene of many previous haunts of riotous enjoyment, back to the time of the old "Boar and Castle" hostelry and posting house, in 1620. The entertainment provided by Messrs. Lyons will, no doubt, be less roisterous, and will, I fear, cause a break in the Oxford tradition. Nevertheless, the somewhat ostentatious luxury and enormous size of the halls of the Oxford Street Corner House are as representative of present-day London as the brass railings and opulent barmaids were of the Victorian era, perhaps one may already say the Victorian tradition. This transformation has been effected in an incredibly short space of time. On July 19, 1926, the demolition of the old Oxford Music Hall was commenced, and on Thursday, May 3, 1928, the new corner house was opened to the public, somewhat less than twenty-one months. This, considering the size of the buildings involved and the congestion around the site, must constitute an architectural record.

The first problem encountered by the architects was in connection with the foundations. As the corner house is of a much greater mass than any of its predecessors, the normal foundation on the ballast bed was found to be insufficient. This ballast bed rests on the blue clay strata on which London is built; and here forms a large basin into which the water from the high ground around Hampstead finds its way before passing over a ridge into the Thames. The clay here is from two hundred to three hundred feet deep, and between its levels are the chalk beds from which London draws its supplies of artesian well water. The foundations, therefore, were driven through the ballast bed to find a firm basis on the clay below, thereon coming into contact with the water lying on the top of this clay bed. The whole area of the foundations had therefore to be enclosed in a watertight asphalt tank before continuing. The foundations themselves are on reinforced concrete bases four feet thick and calculated to give a bearing pressure on the clay of three tons per foot super, two hundred yards of concrete being put in for this purpose. An interesting feature in the excavations was the number of old shallow wells which were found on the site and which had to be stopped up. The main drainage is to the L.C.C. main sewer which runs along the farther side of Oxford Street, fifty-seven feet below the surface, and had to be reached by a tunnel across the street. The site is historically interesting also as it has been for some hundreds of years the boundary of three borough councils, and, during the excavations, boundary plates were found dating back to 1700.

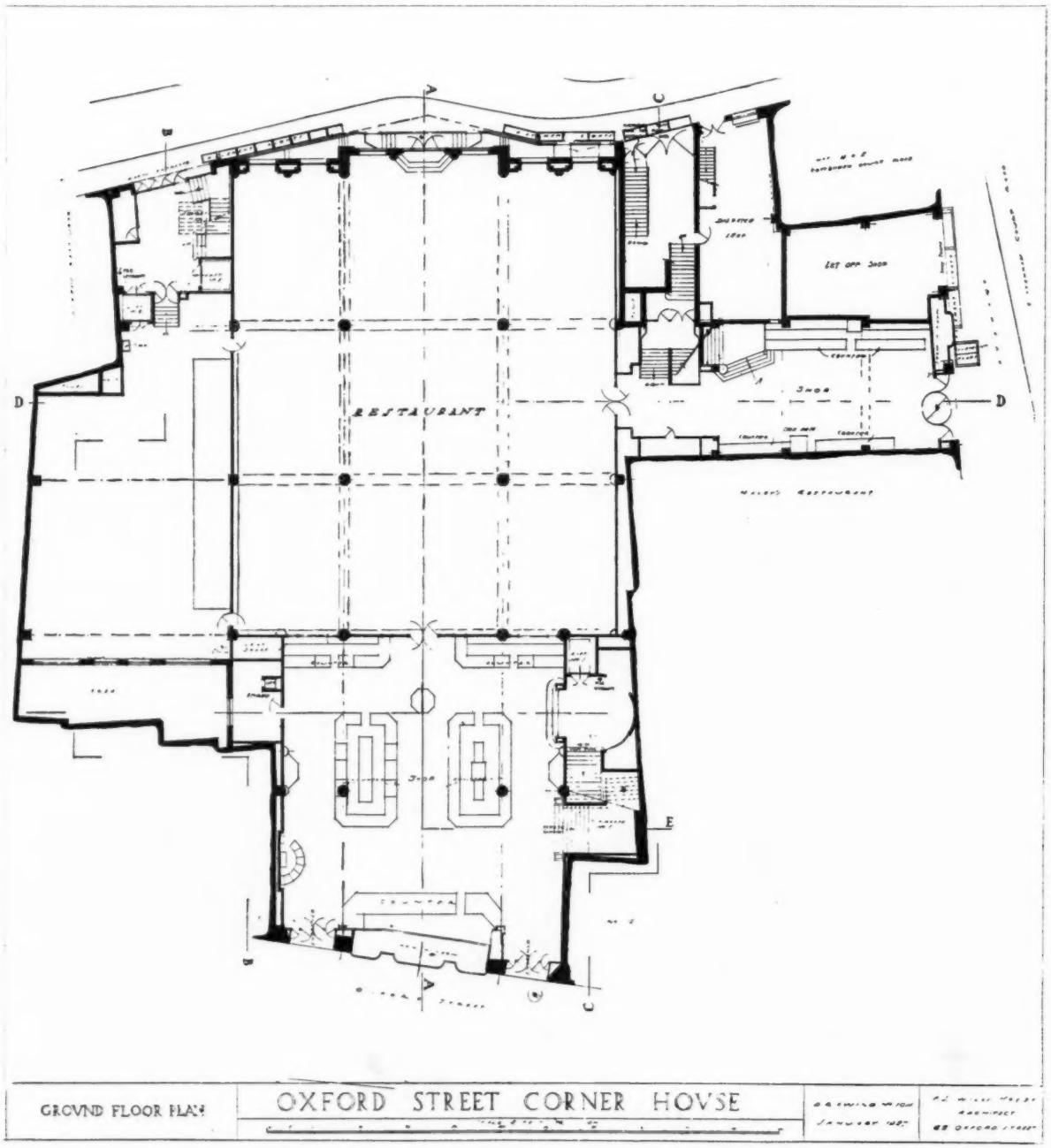
The two principal points of interest which the new corner house shows over its predecessors are the improved servicing of the restaurant floors, and the design of the marble decorations. The lessons in servicing the restaurant floors, gained from experience in the other large Lyons' concerns, have here been realized and put into practice, and it may well be said that this building represents the latest development of catering "behind the scenes." Continuous supply



Lyons' Corner House, Oxford Street, London.
By F. J. Wills. Part of the first-floor restaurant.

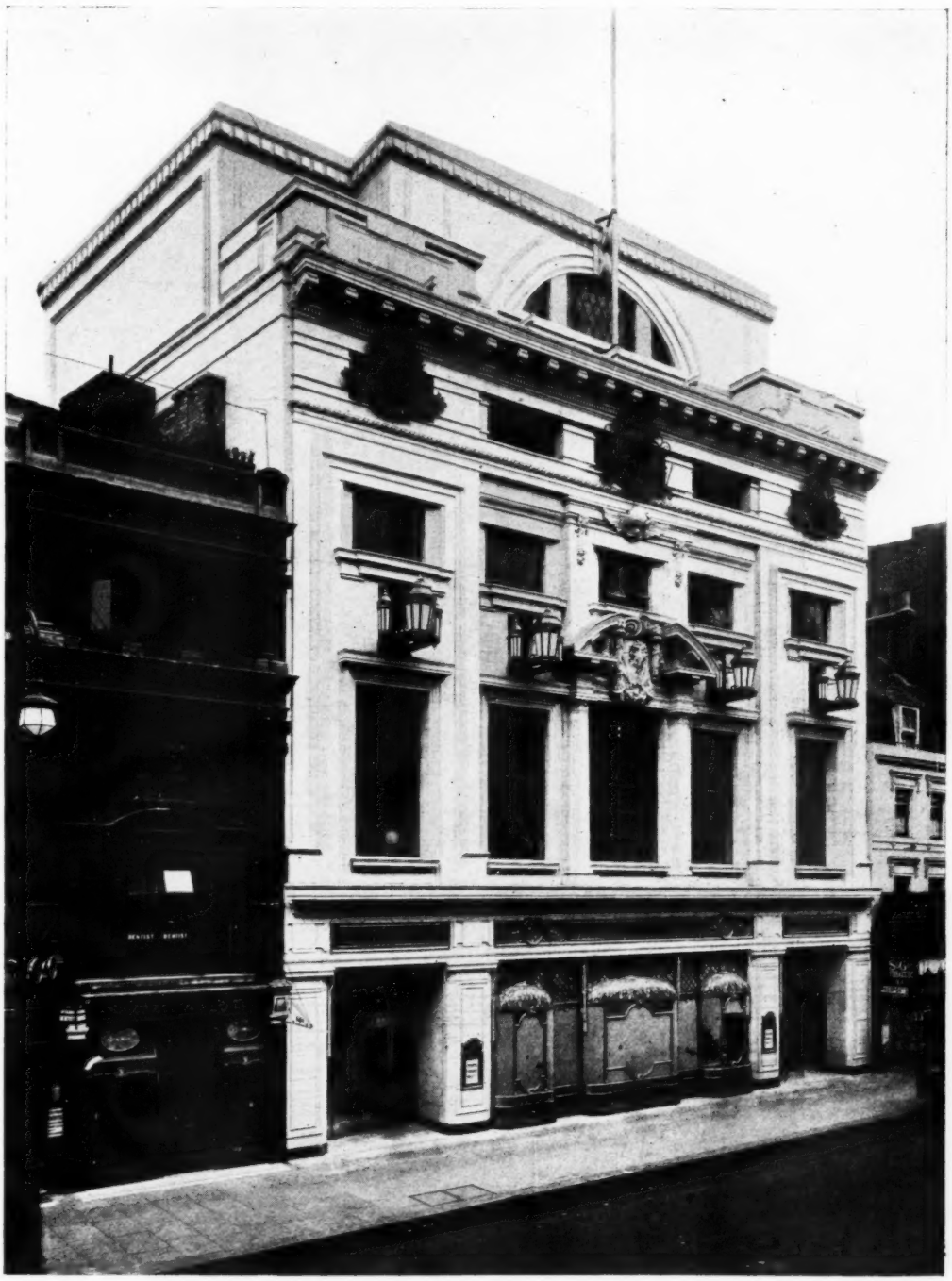
elevators take the food to the various floors, and the china and cutlery to the washing and drying room. These lifts also serve the large wine cellars in the basement. There are three of these elevators for carrying "Nippy's" trays to the central wash-up. From the washing machines the china passes on to a drying machine of very high temperature. The drying machine revolves around a central motor, at a speed exactly calculated to allow the china to be dried before reaching the service elevators again, in the far corner of the room, where it is once again passed into use. A striking point about the central wash-up room is the absence of any heat fumes or unpleasant smells. This is accounted for by the fact that the room is fitted with an enormous suction duct, which, in fact, forms a double ceiling and is connected with the ventilating machinery on the roof. This ventilating system also controls the temperature of the kitchens, and regularly washes the air of the large restaurant halls. It is capable of dealing with 272,000 cubic feet of air per minute.

In the service room are vast "make ready" hot buffets, in which portions of the various dishes on the menu are

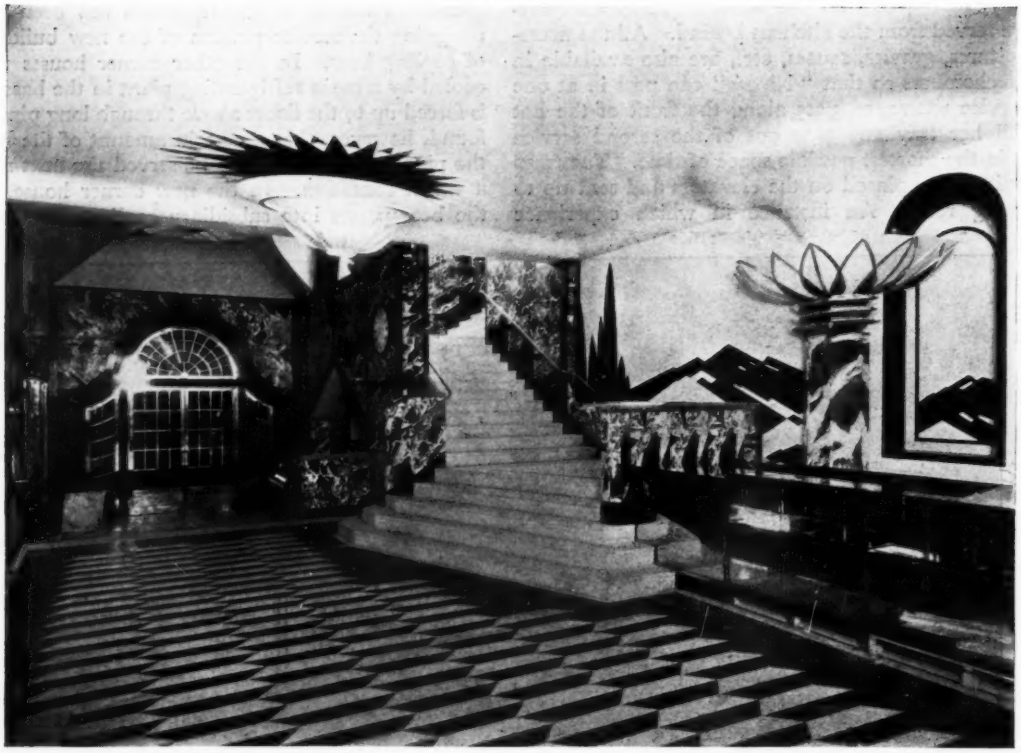


Lyons' Corner House, Oxford Street, London.
By F. J. Wills. Ground-floor plan.

kept ready, piping hot, for the service. These compartments are served from the kitchens behind. All the necessary garnitures, gravies, sauces, etc., are also available in these hot chambers so that "Nippy" can pass in at one of the service entrances, pass along the front of the hot buffet, fill her tray and pass out of the second service entrance in the shortest possible space of time. The trays of dirty dishes are placed on the elevators and sent up to the washing room. An instance in which experience gained in the other corner houses has been utilized in designing the service portion of the new building is that of cooling beer. In the other corner houses the beer is cooled by a main refrigerating plant in the basement, and is forced up to the floors above through long pipes. It was found, however, that a certain amount of the beer left in the pipes overnight had to be served the next morning in a warm condition. In the new corner house, therefore, the beer passes into subsidiary cooling cabinets on each

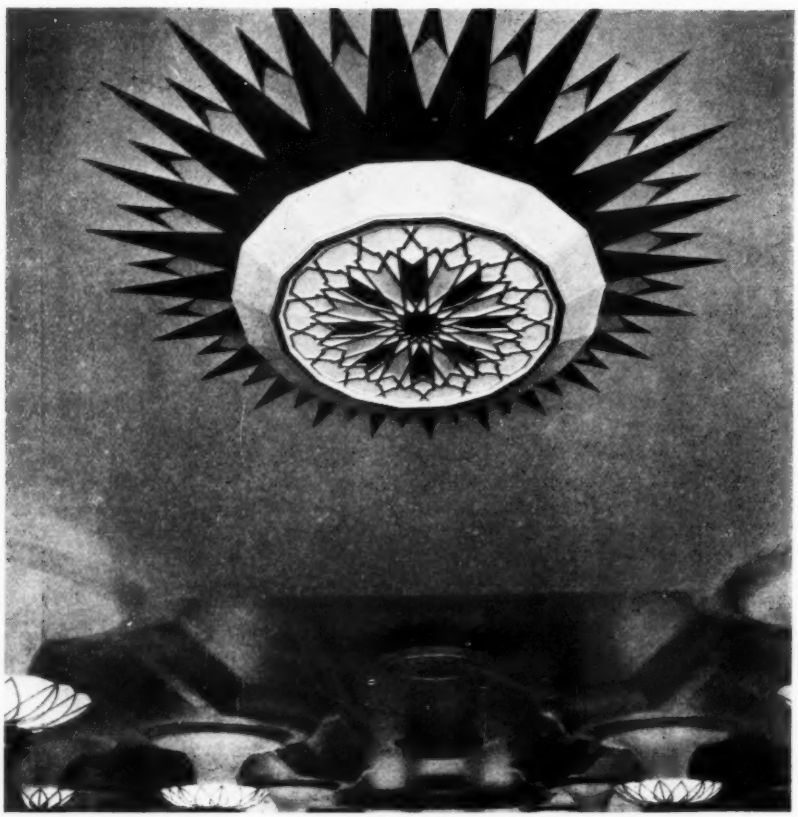


Lyons' Corner House, Oxford Street, London.
By F. J. Wills. The Oxford Street façade.



Lyons' Corner House, Oxford Street, London. By F. J. Wills. Above, the entrance hall. Below, the staircase.

Lyons' Corner House, Oxford Street, London. By F. J. Wills. Above, the sales counters. Below, staircase and lifts on the ground floor.



Lyons' Corner House, Oxford Street, London. By F. J. Wills. Above, part of first-floor restaurant. Below, detail of ceiling, first-floor restaurant.

Lyons' Corner House, Oxford Street, London.
By F. J. Wills. The ladies' lavatory.

of the floors, so that it can be served to each customer at the correct temperature.

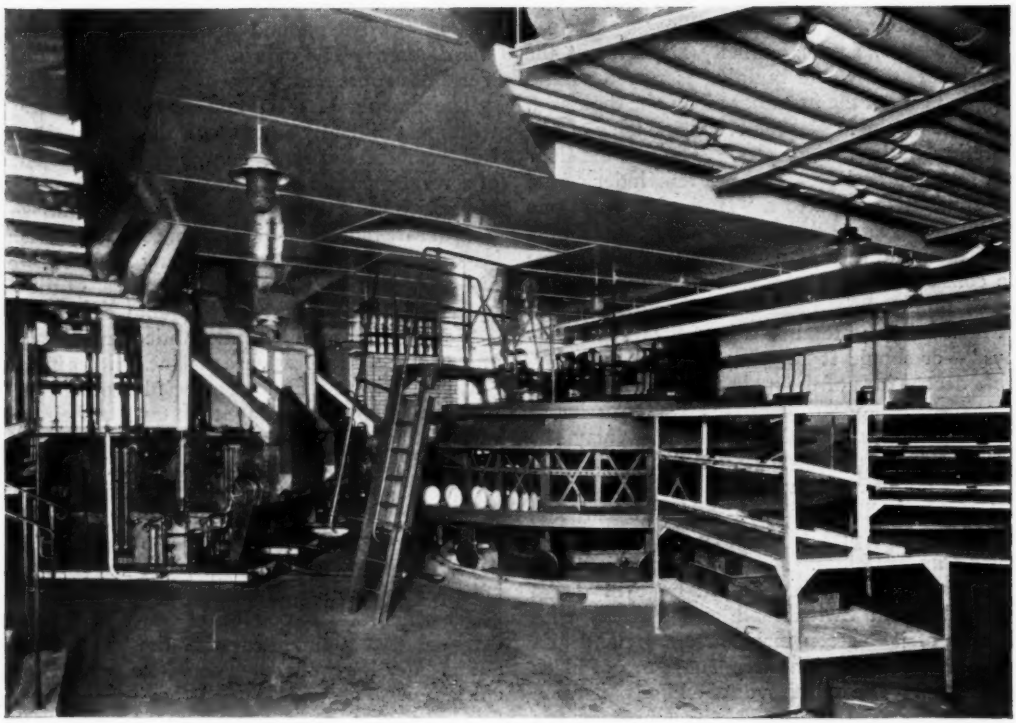
According to Messrs. Lyons Publicity Department the seating capacity of the whole building is two thousand five hundred, and that of the first floor alone one thousand. This is believed to be the largest figure for one floor of any place of refreshment in the Empire. The ground-floor café seats six hundred and fifty, and the remainder of the ground-floor space is devoted to a "Hall of Shops," one part facing Oxford Street, and the other Tottenham Court Road. Two thousand two hundred tons of steel were used in the construction, five thousand tons of concrete, one and a-half million bricks and over five hundred and fifty tons of marble. The total staff is 780, of which 260 are "Nippys"—or should it be "Nippies"?

The marble decorations of the main halls are a remarkable feature. Instead of decorating in mosaic, the designer, Mr. Oliver P. Bernard, decided to attempt to inlay the marble in huge blocks, and so literally to paint marble landscapes. The number of varieties of marble used and the countries of the world from which they were extracted make an imposing list, and the resultant decoration is at once striking and original. Around the ground-floor café is a waterfall motif worked out in huge blocks of Cippolina marble from Switzerland and Greece, with foreground rocks of jade-green marble from Ireland and Numidian red from Africa. The tree-trunks are of black and gold from Siena. The hall above has a huge panorama of lake and mountain worked out in vari-coloured marble and representing, possibly, the reverse view of this fantastic marble countryside, before the falls are reached. Here the lake is of Greek Cippolina, with Swiss Cippolina for the more distant stretches. The mountain in the middle distance is a two-ton block of multicoloured Greek Skyros and in the background another mountain is of Italian *fleur-de-pêche*. The cypress trees and foliage are of Tinos Verte des Alpes and Verte Antico from Greece and Italy.

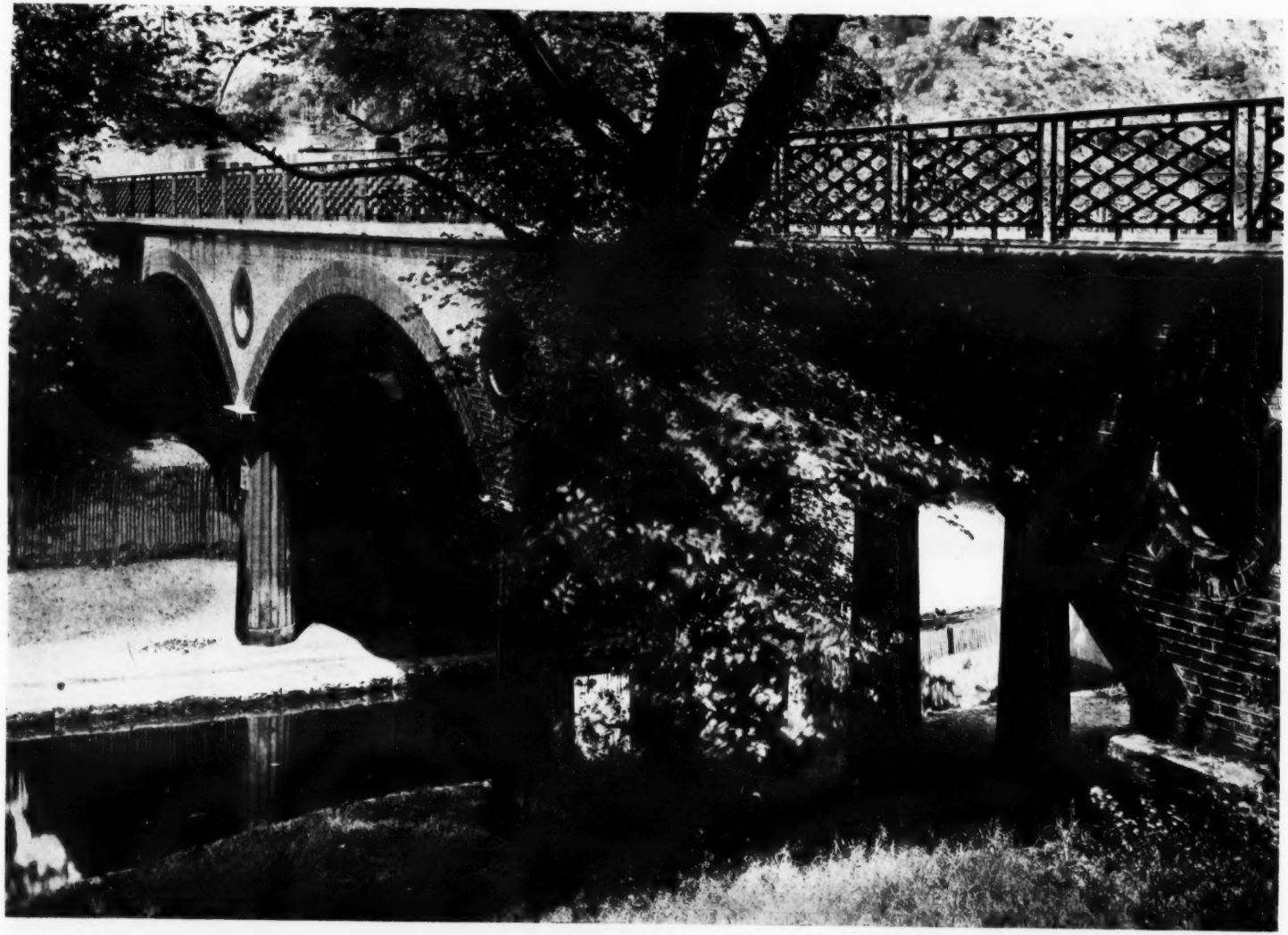
The making of these marble landscapes was attended with great difficulty and not a little of what the newspapers call "commercial romance." Although the entire output of several quarries was booked by Mr. Jas. S. Stubbs of Messrs. John Stubbs and Sons, Ltd., the shortage of several rare marbles more than once made the scheme seem impossible of conclusion and many heart-burnings, cables and hurried trips to the marble quarries of the earth were necessary before the required quota could be made up. The staircases are of Grande Antico and Betolgi statuary, and, to my mind at least, are the finest pieces in the building, having many fine and unexpected moments.

Messrs. Lyons have caught the taste of their public—that vast public that patronizes their vast establishments—and it is certain that the Oxford Street Corner House will set a high standard in popular restaurant equipment and decoration for some time to come.

The boiler-house contains two Yarrow water-tube boilers, each equipped with Yarrow oil burners. Each boiler evaporates 15,000 lbs. of water per hour, and is so designed that a superheater of the Yarrow type can be added later if required. The whole plant is of the most efficient and up-to-date type, having tubular airheaters fitted to further cool the flue gases. An outstanding feature of the design is the special arrangement of double casings round the furnace, air circulating between the casings so that the life of the brickwork is prolonged and the efficiency increased.



Lyons' Corner House, Oxford Street, London. By F. J. Wills. Above, the service. Below, the dish-drying plant.



ENGLISH PRECEDENT

17 *The bridge over Regent's Canal, near the outer circle road on the north side of Regent's Park, was designed by Nash and reconstructed about 1874. It is a pleasing and satisfactory work in Portland stone and brick, which, though obviously not designed for very heavy traffic, looks adequate and substantial, while the iron balustrade furnishes yet another instance of what can be done, at not extravagant expenditure, by designing suitably to the material.*—[NATHANIEL LLOYD.]

CARRERAS'S NEW TOBACCO FACTORY: ii

[BY C. W. BOX]

In our last issue we discussed the general lines upon which this building has been considered and evolved, including the various processes in the manufacture of tobacco and cigarettes, for which special provision has been made in drawing up this scheme.

We may now proceed to discuss the actual constructive methods employed, and give an outline of the various auxiliary trades to be introduced, all of which will be dealt with in full detail later in the series.

As has already been noted, the building will be composed entirely of reinforced concrete work, and as far as the actual structure is concerned will be entirely monolithic.

The excavation of the site presented very little difficulty, considering the enormous quantity of soil to be moved, i.e. about 53,000 cub. yds.

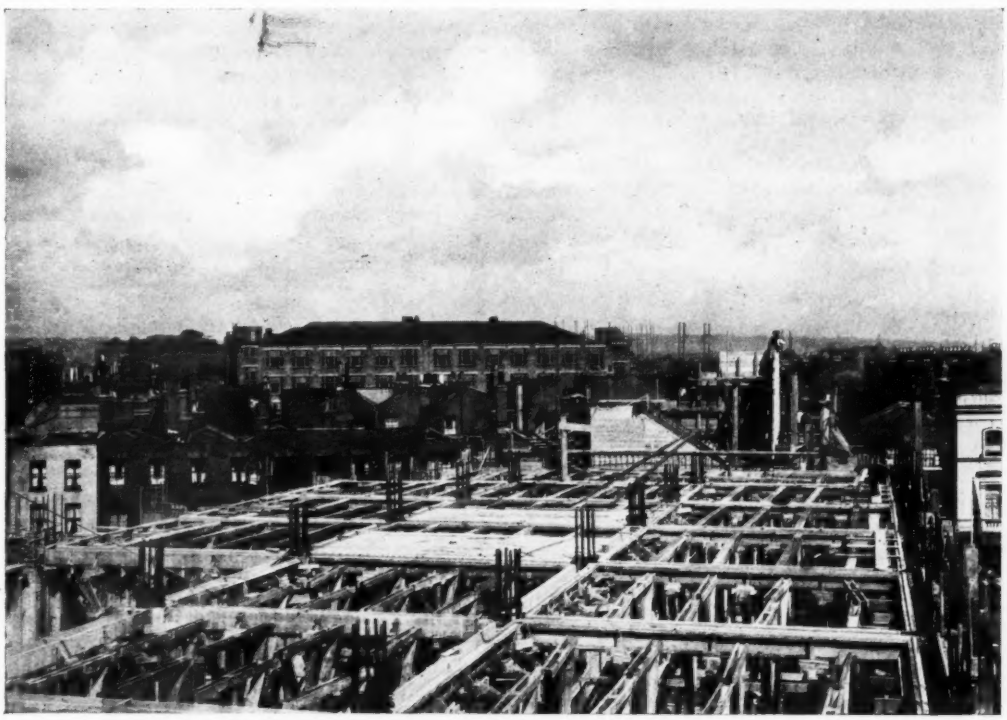
A steam digger was employed in this connection for getting out the area for the basement, while for general trench work and stanchion base, excavations were carried out by hand. The soil excavated was raised by steam derrick and loaded into transport wagons and the whole moved to tip. The soil generally consisted of yellow London clay, and, fortunately, very little labour in pumping and baling has been necessary. The foundation obtained is considered to be quite a satisfactory one, and carries a load of 2 tons to the square foot.

The main drainage was all put in prior to the foundations of the building. The principal drains of the system average from 12 in. to 6 in. in diameter, and are of iron. The largest drain runs between the vaults direct into Hampstead Road. In order to accommodate the fall of these drains in a satisfactory manner, it has, however, been found necessary to vary the depths of the front wall foundations from 5 ft. 6 in. below the basement floor level to 12 ft. 6 in. below same, in order to allow for the necessary fall of the drain, and for this reason the front area was constructed at a lower level than the basement floor. For the sake of economy in form work and to make for speedy setting of the concrete, Ciment Fondu has been used in the mixture of which the retaining walls are constructed. This cement is of a particularly rapid-hardening type, and is also of such a waterproof character that it has been thought unnecessary to introduce a vertical dampcourse.

As will have doubtless been realized when reading our previous comments on this subject, the constructional methods employed throughout the building are entirely trabeated, the spans between columns only varying between 17 and 18 ft., the longitudinal spans being the shorter and the transverse the longer.

The walls vary in thickness from 1 ft. 6 in. for the external piers to intervening panel thicknesses of 9 in., while division walls generally are 8 in. thick. The width of the main piers is 5 ft. for the main portions of the building, and 5 ft. 3 in. on the wings.

The columns generally are octagonal in form, and are all reinforced on the principle of vertical rods and spiral binding steel, as designed by Messrs. Considere, Ltd. The type of shuttering employed is easily capable of being many times reused. It is all specially wrought, and is connected at every 3 ft. of height by iron straps, tightened up by means of nuts and bolts. The form work employed for beams generally is of the usual type. The floors are formed of large panels of 17 ft. by 18 ft., carried on beams over the spans of this length as mentioned above.



Carreras's new factory, Camden Town. By M. E. and O. H. Collins.
Floors divided into monolithic panels, with columns supporting the main ribs.

With a view to meeting the requirements of alternating climatic and temperature conditions, the building is being erected in three separate sections.

Each of these sections will be connected only by the bearing of the ends of the beams from one section on to brackets and corbels cast to the adjoining section. The expansion joints thus formed are actually a necessity, the building being of unusual length.

As might be expected, the quantity of concrete and reinforcement required for this work is unusually great; well over 20,000 cub. yds. of concrete will be used, and nearly 3,000 tons of steel rods.

The detail of floor and column reinforcement will be explained thoroughly in a future article, when detail drawings will be illustrated in conjunction with the written matter published. For the floors rapid-hardening cement is also being used; the general proportion of concrete for the work is 1:1½:3; for the columns, however, a mixture of 1:1:2 is adopted. Mass concrete in foundations is 1 to 8, and the Ciment Fondu is used for retaining walls, etc., in the proportion of 1:2:4.

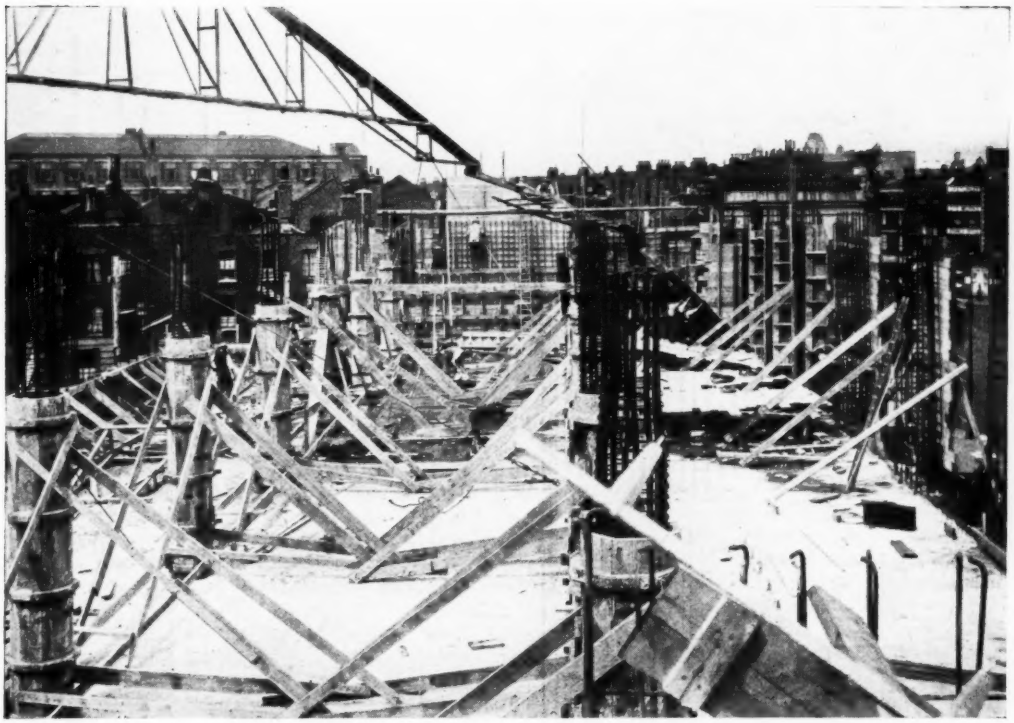
The general method of distributing the concrete to the various portions of the premises where it will be required is by distributing towers and runway troughs. There are three such towers: one in the south area, one in the centre area, and one in the north area. Each of these towers has an effective radius for the pouring of concrete of 98 ft. The concrete is, of course, mixed at the bottom, conveyed to the elevators, which are situated in each tower, and from this level is carried to the full height of the building, and the chutes can, without difficulty, be raised or lowered as required. By means of these towers it is possible to distribute and place in position about 300 to 400 cub. yds. of concrete a day.

The designers of the premises have settled (in conjunction with the specialist engineers employed) all the requirements of electric light, heating, etc., so all runs of ducts for pipes, and all lighting point positions were decided and executed before any concrete was cast. The electric main cables are situated in the Hampstead Road. Provision is being made for a high-tension cable carried to a transforming room.

Many hundreds of motors have to be supplied with power, the building well lighted, and in addition the Carrier plant, hot-air plant, and flood lighting. In the basement there will be situated (as well as the intake chamber containing the transformer just mentioned) a main distribution room, where the current consumed will be divided into the necessary number of main circuits leading to the several parts of the premises. From this room a large duct, 8 ft. wide by 2 ft. deep, in which the cables are placed, leads to a position against the east and west sides of the lavatory blocks.

From this point it is carried up to the various floor levels in a special chase and branches off to supply light and power. The power is taken from the generating station direct.

Carreras's new factory, Camden Town. By M. E. and O. H. Collins. Troughs pouring concrete received from tower. There are three towers, each with a radius of 98 ft.



Teak covers will be provided to all chases throughout the building.

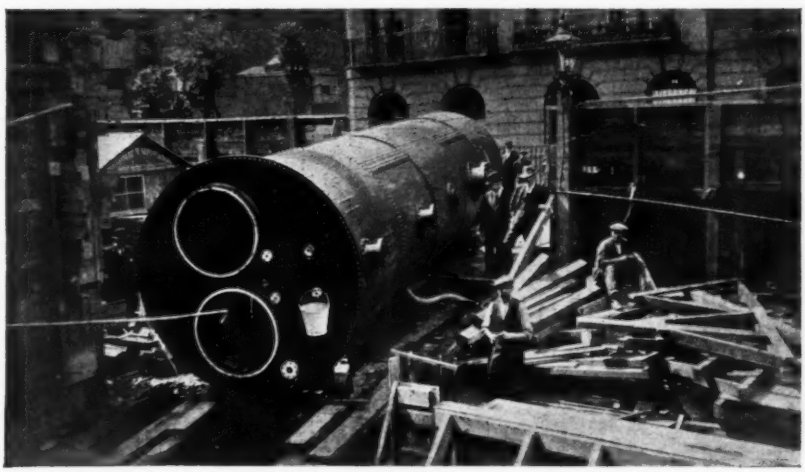
The ventilation and heating will be very carefully dealt with, more particularly with regard to the changing and variation of air, both with regard to humidity and temperature, and this portion of the work will be done on the Carrier system. A separate article will deal solely with this portion of the work. A general idea, however, of the method employed is this: the basement, first, second, third, and fourth floors are ventilated by means of trunking hung at ceiling level. The main ducts are situated below the basement slab concrete, and vary from 72 in. by 30 in. down to 12 in. by 6 in., thence branch ducts are taken to columns for distribution.

The boiler-house is situated at the ground-floor level. There are three Lancashire boilers run on oil fuel, and one Cornish boiler.

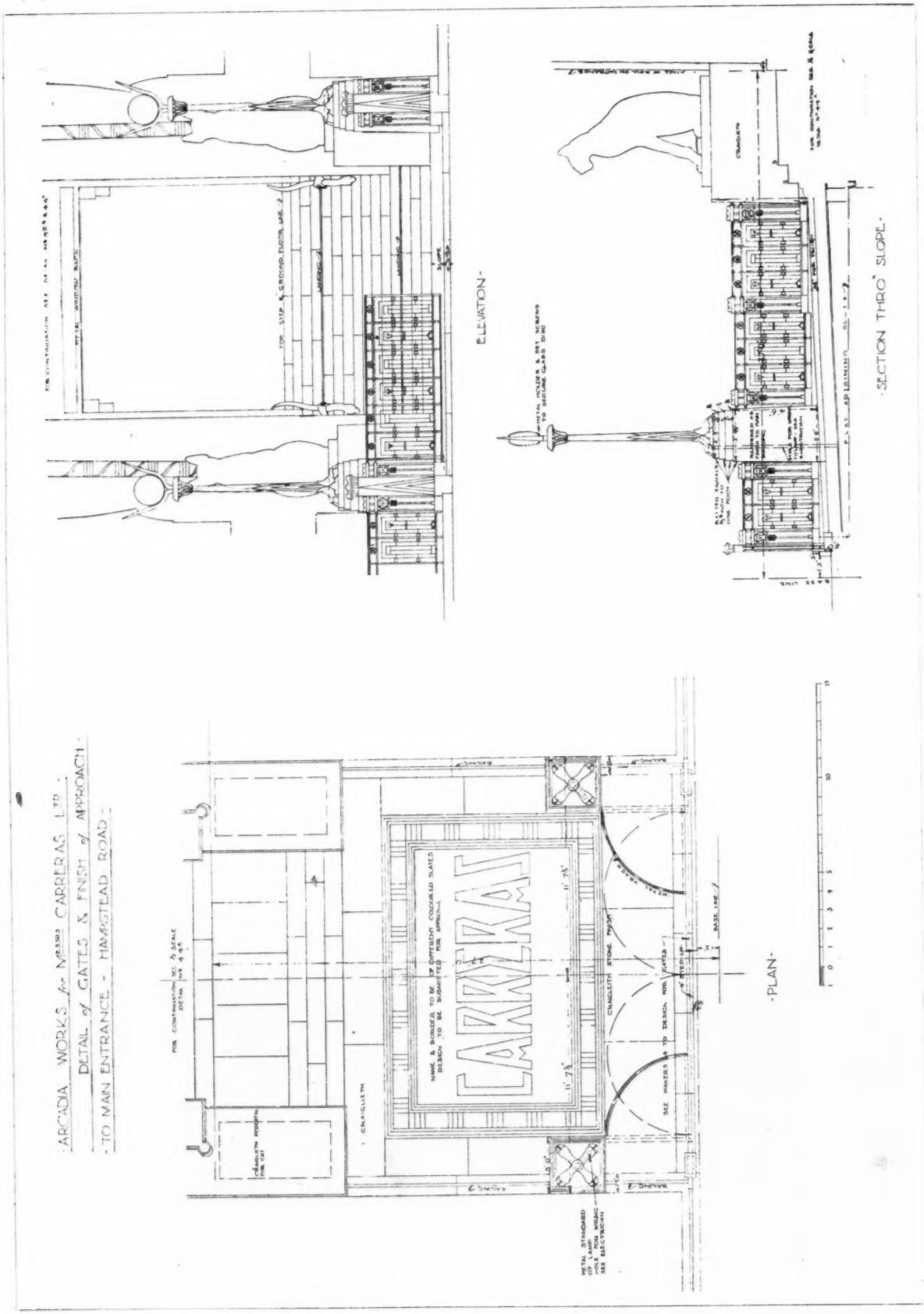
The tank-rooms are constructed in concrete, one at the north of the boiler-house and one at the south. The chimney to the boiler-house is constructed of reinforced concrete and is 125 ft. high, having a combustion chamber at bottom of 10 ft. by 10 ft. The external diameter at base is 15 ft. square, and at the top 8 ft. 6 in. square.

This chimney is lined with patent firebrick lining, giving a circular flue of 5 ft. 6 in. dimension. This lining is supplied by the Staunton Fireclay Company, the lining being jointed with joggle joints and ribs riding on the concrete, which allow for contraction and expansion of the flue; the average thickness the lining being 4½ in. all the way up to within 15 ft. of the top.

The windows are specially-made metal windows. Those to the front of the building will be supplied by Messrs. Henry Hope and Sons, while Messrs. Crittalls will be supplying all the windows to the other portions of the premises.



Carreras's new factory, Camden Town. By M. E. and O. H. Collins. Above, shuttering to columns. Below, the arrival of the first boiler.



Carreras's new factory, Camden Town. By M. E. and O. H. Collins.
Detail of gates and finish of approach to main entrance, Hampstead Road.

To revert to the general construction, it should be noted that all staircases, in addition to the remainder of the building, will be constructed *in situ*. There will be two main staircases at the front of the building, and three on the west elevation. The floors generally throughout will be covered with 1¼ in. maple floor, fixed to 2 in. by 2 in. fillets. The latter will be creosoted under pressure and there will be air space between floor and concrete, connected to air vents in window aprons.

The internal finishings generally where plastered are in decorative plasterwork by Turpin. The outside finish generally, already mentioned in the previous article (with the exception of those portions of the main front which are treated in a highly decorative manner in the Egyptian style by Messrs. Art Pavements, Ltd.), will be treated in plain Atlas White cement. The internal areas will also be treated in Atlas White cement, but in this case the cement will be mixed with white marble chippings instead of sand, as under these conditions this finish does not stain and is highly reflective in nature.

The method of fixing the work supplied by The Art Pavements is highly interesting. All this work will be precast, and, as each section will weigh as much as 7 tons, the difficulty of fixing these safely into position was a matter for much consideration. Messrs. Considere and Messrs. The Art Pavements, however, have collaborated on the matter, with the result that the reinforced columns and piers have been shaped in such a manner to suit the case, and also have projecting steel rods in the back of the precast section of the decorative work. When this work has been put into position, a ¾ in. rod is passed down through the loop and the whole of the cavity is filled with similar concrete; 6 in. of concrete is allowed for the applied work.

[*To be continued*]

Carreras's new factory, Camden Town. By M. E. and O. H. Collins.
Detail of gates and finish of approach to main entrance, Hampstead Road.

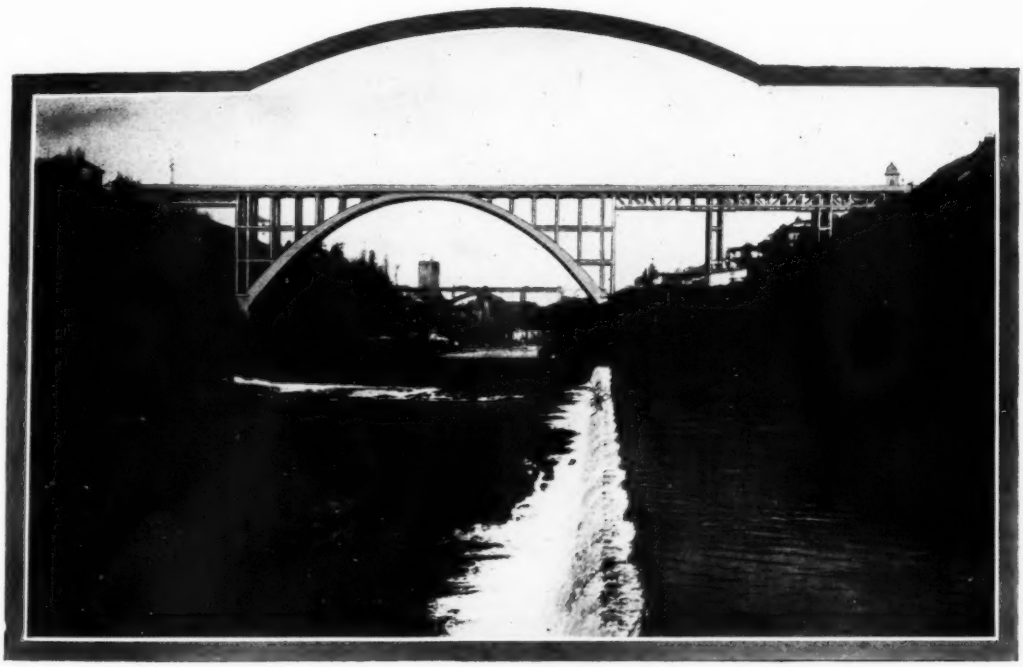
LITERATURE

CONCRETE BRIDGES

THERE is much talk of bridges these days. In London alone Waterloo Bridge is being fought over, Charing Cross discussed, and Lambeth is in process of birth. All over the country hundreds of new bridges are being provided for arterial roads or replacing old ones unable to bear the stresses of modern traffic; almost every county possesses its band of ancient bridge defenders. Therefore the issuing of a book on reinforced concrete bridges by the British Portland Cement Association is very well timed. Like so many similar semi-trade publications it consists of numerous illustrations, with a series of short articles by authorities; but it has the distinction of being better produced than most and filled with a choice mixture of good perspectives as well as photographs. There is likewise more meat in the articles than is generally found in similar publications.

Sir Reginald Blomfield leads off with a short, ably-written, article on the "Use of Reinforced Concrete in Bridges." It is pleasing to find so eminent an authority pleading for a true expression of reinforced concrete and condemning at once the practice of adding architectural trimmings to an engineer's design. He says: "The one thing that, in my opinion, is to be wholly avoided is ambitious ornament borrowed from architecture practised under different conditions and with different aims." Sir Henry Tanner follows with a description of Caversham Bridge, and then the engineer's point of view is ably put by Dr. Oscar Faber. He points out that improvements in the technique of construction are making possible much greater spans than hitherto considered feasible. Two of his own designs are reproduced—one, a small bridge, and one with a span of 800 ft. He rather apologizes for the absence of architectural treatment on the latter, and states that "only the bald engineering necessities have been catered for." It is sincerely to be hoped, if this bridge is to be built, that nothing in the way of ornamentation will be attempted. The "bald engineering necessities" have produced a surprisingly beautiful bridge.

It seems that there are four ways of getting a bridge designed. The two most commonly used — and the worst — are, first, to



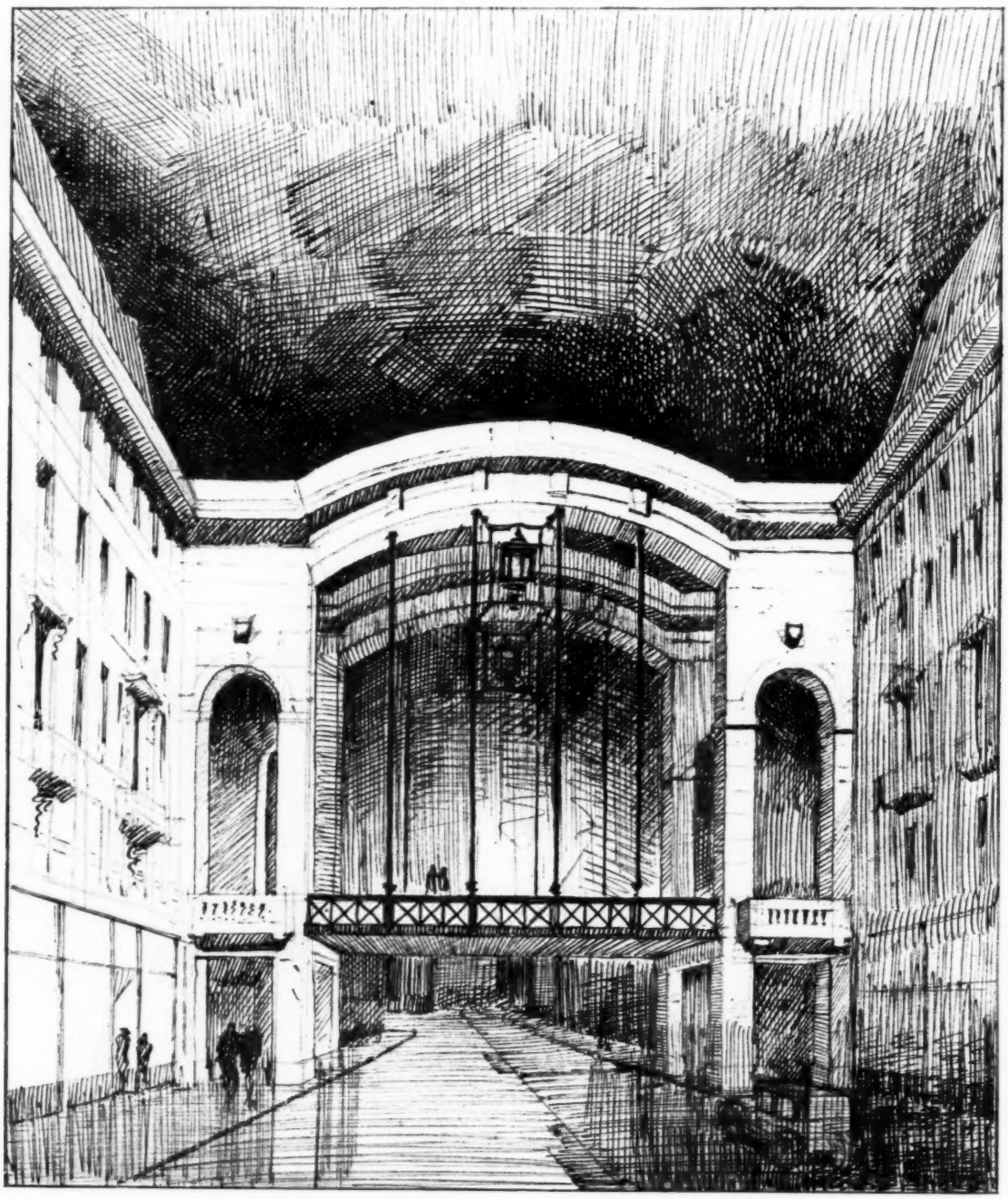
Bridge across the River Adda. [*From* Concrete Bridges.]

commission an engineer to design the bridge and employ an architect to add trimmings, and, secondly, to allow the engineer to add the trimmings himself. The third way is to let an architect design the bridge *ab initio* and tell the engineer to construct it as well as he can. This, given the right architect who realizes fully the principal engineering requirements, is the best way.

The fourth way, and by no means the worst, is to let the engineer do the whole job and forbid him absolutely to go beyond his "bald engineering necessities." Purely logical structure is much more often pleasing to the eye than ugly; if engineers fully realized this they would put themselves in an uncommonly strong position.

To return to the book. Mr. H. V. Lanchester contributes an analysis of the design elements in bridges and discusses the double-decked span; Mr. W. L. Scott deals with large reinforced concrete ones. The remainder of the book is taken up with a catholic selection of examples gathered from different parts of the world. Considering the designs from a national point of view reveals the fact that the English nations are particularly prone to the vice of defacing fine structures with inappropriate detail, while the Swiss, German, and French sections show some fine and inspiring designs. They seem to realize more than we do that austerity is not necessarily synonymous with ugliness. The new Border bridge at Berwick-on-Tweed will undoubtedly rank among the finest bridges of the world. ERIC L. BIRD

Concrete Bridges. British Portland Cement Association, Ltd. Price 21s.



A suggestion for a suspension road-bridge. [*From* Concrete Bridges.]

LAW REPORTS

ALLEGED BREACH OF COVENANT

Cannon Brewery Co., Ltd. v. *Signal Press, Ltd., and others*

This was an action by the plaintiffs, of St. John Street, Clerkenwell, London, against the defendants to recover possession of No. 170 St. John Street, Clerkenwell, on the ground of breach of a covenant contained in a sub-lease to keep the premises in good and substantial repair.

Mr. Cartwright Sharp argued the case for the plaintiffs and Mr. C. L. Henderson for the defendants.

A schedule of dilapidations to repair was served on defendants in January 1927.

The defendants relied on two points: 1: that the yearly payments of the rent by them to the plaintiffs instead of to the original lessee created an implied yearly tenancy, so that they were not bound by the covenant to repair contained in the underlease; and 2: that there had been no valid service of notice of dilapidations.

His lordship, in giving judgment, said plaintiffs had said they served the notice of dilapidations, which was a condition precedent to this action as required by section 146 of the Law of Property Act, 1925. The defendants contended that no valid notice had been served. The notice, which was addressed to John B. Lemaitre, the original lessee of the premises, was, in fact, taken by a clerk of the plaintiffs' solicitors on January 14, 1927, and handed to a forewoman on the premises. What service was good service of such a notice? His lordship referred to sections 146 and 196 of the Law of Property Act, 1925, and said that counsel for the defendants had argued that the notice must be physically affixed to the building or left on the building, and that it was not sufficient that it should be left with any person, other than the lessee, unless he was specifically authorized by the lessee to accept service. In his view the expression " left for him " in sub-section 3 of section 196 included the case of a notice which was left with some person on the premises if there were reasonable grounds for supposing that that person would pass it on to the lessee if possible. On the facts of this case he was satisfied that the notice was left for the lessee, and " left for him " on the premises. With regard to the tenancy question, he came to the conclusion that the defendants paid the rent because they had covenanted with the original lessees. Defendants were not assignees, but under-lessees and therefore he found for the plaintiffs for possession, with costs.

ALLEGED BREACHES OF COVENANT

Myers v. *Old School. King's Bench Divisional Court. Before Justices Salter and Talbot*

This appeal, from Sir Francis Newbolt, one of the official referees, concerned the leases of seventeen houses at Albert Road, Tottenham, the plaintiff, as freeholder, claiming possession on the ground of breaches of covenant to repair in the leases. The decision was in favour of the plaintiff, and defendant appealed.

Serjeant Sullivan, K.C., for defendant, said in 1924 his client acquired the lessee's interest in the houses, which were divided into upper and lower floors, as separate rateable hereditaments, and were let to separate sets of weekly tenants of a very poor class. On December 3, 1926, the plaintiff wrote to the defendant representing that he was the owner of the ground interest and complaining of the condition of the houses. The plaintiff was the ground landlord. On January 10, 1927, the plaintiff served his notice of forfeiture under section 146 of the Law of Property Act, 1925, for breach of covenant. It was a three months' notice, and was in respect of all the premises, and contained schedules of dilapidations in respect of each of the houses. There were about two thousand items on the schedules, which involved, among other things, the taking off and replacement of the roofs of houses on one side of a street in the months of January, February, March, and a part of April. All the houses were occupied by tenants who could not be disturbed under the Rent Restrictions Act. The action was brought on the expiration of the three months given by the notice, and judgment was given for the plaintiff; but relief was granted to the defendant on the terms that the repairs must be done to the satisfaction of a surveyor, and that all the costs of the action and mesne profits, as well as two guineas damages, should be paid by the defendant. The point in that appeal was whether three months was a reasonable notice in which to do all the repairs concerned in the case. Counsel contended that there was no evidence to prove that a reasonable time had elapsed to do the work on seventeen houses, and plaintiff must prove a reasonable time had elapsed before he brought his action.

Mr. Holman Gregory, K.C., for the respondent, upheld the decision of the official referee and contended that appellant was not entitled to say he would only employ one contractor, who would take nine months to do the work.

The Court allowed the appeal, holding that the claim for possession failed. The question of rent and damage would go to a referee for consideration and decision.

Mr. Justice Salter, in his judgment, said the position was that they were concerned in that case with seventeen separate leases for seventeen houses. The substantial question for decision was whether between the service of the notice and the issue of the writ a reasonable time had elapsed to enable defendant to remedy the repairs. The houses were let in floors or rooms to poor people. They were occupied from the roof to the cellar by a great number of poor people—men, women, and children. In considering the question whether a reasonable time had elapsed regard must be had to all the circumstances. The period allowed was three months and three days. The nature of the case, the admitted facts, and the expert evidence showed conclusively that the plaintiff had not allowed a reasonable time to elapse before action.

Mr. Justice Talbot concurred.

RIGHT OF WAY TO FLATS

Linton and another v. *Newcastle Corporation. King's Bench Division. Before the Lord Chief Justice and Justices Avory and Shearman*

An important issue was raised in this appeal by Mr. T. Linton and Mr. George Moffat, against a decision of the Recorder of Newcastle declaring that the appellants were not persons aggrieved by a decision of the Corporation to close an entrance to certain flats of Halls Court in that town.

Mr. Montgomery, K.C., for the appellants, stated that his clients owned certain premises in Halls Court, while the Corporation bought a part of the place for the enlargement of the markets. The Corporation had resolved to stop up one of the entrances to Halls Court called the north archway, because it was, in their opinion, unnecessary. Appellants strongly objected, and appealed on the ground that they were aggrieved because a valuable right of way had disappeared. The Corporation, however, retorted that appellants were not aggrieved because they had ample right of access through the south archway near which their premises stood.

In reply to Mr. Justice Avory, counsel said a member of the public was aggrieved even though he did not use the whole of the highway the user of which he was deprived by the stopping up.

Mr. Conway, K.C., for the Corporation, said if the appellants' premises did not abut on the highway, then the question of their being aggrieved was merely a question of fact for the decision of the Recorder, who had found against them.

The Court allowed the appeal and set aside the order of the Corporation, remitting the case to Quarter Sessions with an intimation that the judgment there would be set aside, and the judgment of the Divisional Court substituted, allowing the appeal with costs. The Court refused the Corporation leave to appeal.

The Lord Chief Justice, in giving judgment, said the Recorder asked the Court three questions: 1: whether the appellants were persons aggrieved; 2: if so, whether they were entitled to any relief; 3: and whether it was a condition precedent to the stopping up of the highway or a portion of it that the Corporation should

come to an agreement with the owners of land or premises abutting on the highway in question. It seemed reasonably clear that the Corporation could stop up a highway. The Court was of opinion, however, that the section was clearly indivisible, and the Corporation could not stop up a highway or portion of it unless they first of all agreed with the owners and lessees of buildings and land abutting on that highway. It had also been argued that any agreement to be made did not affect people whose property did not abut on that part of the highway that was to be closed, but the section did not say that at all. His lordship thought the learned Recorder was wrong in his decision on all those points. An agreement between the Corporation and the owners of property was a condition precedent to the closing of the highway, and the Corporation were not entitled to close that highway or a portion of it until that agreement was arrived at. Consequently, as that course had not been taken, the appellants were persons aggrieved, and they were entitled to relief. They had appealed against the order of the Corporation of July 22, 1927, closing a portion of Halls Court, and they were now entitled to have their appeal allowed and the order of the Corporation set aside.

Justices Avory and Shearman agreed.

COMPETITION CALENDAR

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

July 14. The Lewisham Borough Council invite architects of British birth and nationality to submit designs in competition for the Town Hall, shops, and offices, proposed to be erected on the site of the east side of, and adjoining the present, Town Hall buildings. Assessor: Mr. Winton Newman, F.R.I.B.A. Premiums: £350, £250, £150. Particulars from the Town Clerk, Town Hall, Lewisham, S.E.6.

July 30. New Town Hall in West Marlands, for the County Borough Council of Southampton. Assessor: Mr. H. Austen Hall, F.R.I.B.A. Premiums: £500, £300, £150. Total cost not to exceed £385,000. Particulars from the Town Clerk, Municipal Offices, Southampton.

September 1. The Council of the R.I.B.A. have accepted an offer from the directors of the Gloster Aircraft Co., Ltd., and Messrs. H. H. Martyn & Co., Ltd., to give a prize for the best imaginative scheme for a London aircraft terminus suitable to the supposed requirements of air traffic fifteen years hence. The competition is open to Associates, elected Students, or registered Probationers of the R.I.B.A. below the age of thirty years on September 1. The competition will be in two stages. From the preliminary competition ten competitors will be selected for the final, and each will be paid £5 for his expenses. The closing date for the final is January 10. There will be two prizes in the final, a first prize of £125 and a second prize of £25. The following have consented to form the jury to award the prizes: Sir Sefton Brancker, K.C.B., Mr. C. Cowles-Voysey, Mr. E. Vincent Harris, Sir Edwin Lutyens, R.A., Major R. Mayo (consulting engineer, Imperial Airways, Ltd.), Mr. T. S. Tait, Mr. Maurice E. Webb, Mr. G. E. Woods-Humphery (general manager, Imperial Airways, Ltd.). Particulars may be obtained free on application at the R.I.B.A.

September 5. School at Rickmansworth to accommodate 400 senior girls, for the governors of Royal Masonic Institution for Girls. Assessor: Mr. H. V. Ashley, F.R.I.B.A. Premiums: £750, £500, £400, £300 and £200. Particulars from Mr. M. Beachcroft, 31 Great Queen Street, W.C.2. Deposit £2 2s.

September 29. The British Portland Cement Association, Ltd., is offering awards for the best concrete houses erected during the current year. These awards are offered for work that has been actually designed and constructed. The prize awards will be as follows: To architects, 1st prize, £100; 2nd prize, £50; to builders, to the builder of the house awarded the 1st prize, £50; 2nd prize, £25. Assessor: Mr. E. Guy Dawber, A.R.A. Any concrete house or bungalow, the contract price of which is from £500 to £2,000, designed and erected in Great Britain under the supervision of an architect, is eligible. Houses must conform to the following requirements: 1: Only cement of British manufacture shall have been specified and used, with the exception of white cement which only may be used for obtaining special effects; 2: Concrete must be used for the roof of houses where a flat roof is called for. The covering for other types of roof must be pre-cast concrete tiles except where extra expense is entailed by the employment of this latter form of covering. The actual construction must be completed by the end of 1928 in order that the prizes may be awarded early in 1929. Further particulars from The British Portland Cement Association, Ltd., 20 Dartmouth Street, London, S.W.1.

THE NEW LYONS' CORNER HOUSE

Following are the names of the contractors and some of the sub-contractors for the new Lyons' Corner House, Oxford Street, London, illustrated on pages 751 to 758. General contractors, Construction and Engineering Dept. of J. Lyons & Co., Ltd.; John Stubbs and Sons, marble work; Dorman Long & Co., steel construction; H. Cullum & Co., Ltd., hollow floors; F. Sage & Co., Ltd., entrance doors, lift and service doors, window enclosures, and certain counters; E. Pollard & Co., Ltd., internal screens and entrance doors to cafés from staircase, and certain counters; Samuel Haskins and Bros., Ltd., various counters and cash desks; Cashmore Art Workers, ornamental front windows and menu frames; the Birmingham Guild, Ltd., Staybrite hand-railing and capping, also grilles; the Leeds Fireclay Co., Ltd., faience work; Dent and Hellyer, Ltd., and Leeds Fireclay Co., Ltd., sanitary fittings; the Wilfley Flooring Co., Ltd., flooring; Docker Bros., Ltd., Unduroleum floor behind counters; Crittall Manufacturing Co., Ltd., window sashes; G. Jackson and Son, Ltd., decorative plasterwork; Carter & Co., Ltd., terrazzo flooring; Hollis Bros., Ltd., dance floor; W. and R. Leggott, Ltd., patent fittings and fixings for lavatories; F. A. Norris & Co., iron laylights; Tonks, Ltd., cloakroom fittings; London Brick Co. and Forders, Ltd., bricks; the Dorking Brick Co., Ltd., facing bricks; the Middleton Fireclay Co., Ltd., white glazed bricks; Doulton & Co., Ltd., glazed sinks; Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt; W. and C. Pantin, elevators and subveyors; Sturtevant Engineering Co., Ltd., vacuum cleaning plant; Waygood-Otis, Ltd., passenger and service lifts; York Shipley, Ltd., and Frigidaire, Ltd., refrigeration plant; Yarrow & Co., Ltd., boiler equipment; Estler Bros., clothes lockers; Farrow and Jackson, Ltd., cellar equipment; Mather and Platt, Ltd., hydrant and fire appliance service; Le Bas Tube Co., steam mains, etc.; Carrier Engineering Co., Ltd., ventilation; Comyn Ching & Co., radiator covers; Express Lift Co., Ltd., goods lifts; Thomas Firth and Sons, Ltd., "Staybrite" metal; General Electric Co., Ltd., lighting fittings; Fyffe & Co., Ltd., and James H. Lamont & Co., Ltd., copper-pipe fittings; Broughton Copper Co., Ltd., copper tube.

NEW INVENTIONS

[These particulars of new inventions are specially compiled for THE ARCHITECTS' JOURNAL, by permission of the Controller of H.M. Stationery Office, by our own patent expert. All inquiries concerning inventions, patents, and specifications should be addressed to the Editor, 9 Queen Anne's Gate, Westminster, S.W.1. For copies of the full specifications here enumerated, readers should apply to the Patent Office, 25 Southampton Buildings, London, W.C.2. The price is 1s. each.]

LATEST PATENT APPLICATIONS

12939. Cameron, J. Drawing-boards, &c. May 9.
13229. Garvey, R. E. Heating systems. May 4.
12975. Shaw, H. S. Hele. Chimneys. May 2.
13026. Smith, W. E., and Smith & Co. (London, E.), Ltd., J. Collapsible structures. May 3.
12863. Tester, A. L. Transome bars for metal windows. May 2.

SPECIFICATIONS PUBLISHED

289495. British Steel Piling Co., Ltd., and Hiley, A. Construction of concrete piles.
272479. Thompson, J. A. Concrete.
272944. Rings, J. Lighting of multi-floor buildings.
289696. Liese, P. Glass bricks for walls, floors, pavement lights, and the like.
289713. McDonald, J. Stairs.

ABSTRACT PUBLISHED

287374. McDonald, J., 12 Old Dalmarnock Road, Glasgow. Roofs; ceilings.

TRADE NOTES

Last year, of the two lifts installed in the new grand stand at Epsom, one was the S.M.S. lift for the King's personal use, and the other for the use of the Ladies' Jockey Club. Those who went to the last Epsom meeting, however, were delighted to find that three S.M.S. lifts had been installed for general use, and those who had seats on the grand stand were able to get to their places without the ordeal of climbing the large number of stairs. All the lifts are fitted with the same type of control gear as that fitted to His Majesty's lift. By means of this life refinement, which is named Truelevel, the lifts stop quite level with the alighting floor, thus avoiding the danger of stumbles. S.M.S. lifts are made by Messrs. Smith, Major and Stevens, Ltd.

According to *Healthy Windows*, published by the Vita Glass Marketing Board, Aldwych House, W.C.2, the new Vita Glass has already been installed by fifteen big hotels; twelve horticulturists, including Kew Gardens and the Royal Botanical Gardens, Edinburgh; by seventeen owners of birds and animals, including the London Zoo and the Dublin Zoo; and in thirty-two schools, thirty-four offices and factories, and no fewer than sixty-five important hospitals from Manchuria to Putney. The Prince of Wales, Mr. Lloyd George, the Duchess of Leeds, Lord Balfour of Burleigh, and Lord Hugh Cecil are amongst its private patrons. The brochure under review indicates simply and cogently why this discovery by a former Fellow of Trinity College, Cambridge, has had so swift and widespread a success.

Those interested in wood preservatives, and who are not, should investigate the claims made for Wolman Salts (registered trade mark " Præsto "). This preservative has been in use on the Continent for over twenty years, and also for many years in America, where it is said to be accepted as a standard preservative, but it is only recently that it has become available in this country and the British Empire. The preservative is claimed effectively to prevent dry-rot and attack from insects of all sorts; to be fire-retardant; and to have no corrosive effect upon metal fastenings or nails. It may be painted over, varnished or stained after treatment. The treatment of timber may be either carried out by the vacuum and pressure process or in an open tank, and the salts are mixed for almost all purposes in a 2 per cent. solution with water. A special form of powder to be mixed with water in a 4 per cent. solution is also available for painting on timber already installed. Professor Percy Groom, M.A. (Cantab. et Oxon.), D.SC., F.R.S., the authority on timber preservation, has reported very fully on Wolman Salts, and copies of this report, we understand, may be obtained from the British Wood Impregnating Co., Ltd., 30 Norfolk Street, Strand, W.C.2.

At a meeting of the south-eastern district of the Institution of Municipal and County Engineers, held at Malden on May 12, the B.R.C. film was shown. This interesting film shows the following concrete surfaced roads reinforced with B.R.C. fabric, which have all been constructed five or more years: Lower Bristol Road, Bath; New King Street, Deptford; road in Southampton Docks for the Southern Railway Co.; Jurgens Ltd., Works Road, Purfleet; Grange Road West, Middlesbrough; Water Street, Aberavon; Plymouth; Goole Backways; Canmore Street, Dunfermline; " Portway," Bristol-Avonmouth Road; East-West Road, Reigate, for the Surrey C.C.; Glenboig Road, Airdrie, for the Lanarkshire C.C.; Coastal Road, Rhyl, for the Flintshire C.C.; Works Road, Hooton, for Messrs. Gum Tragasol, Ltd.; Bridgwater-Taunton Main Road, for the Somerset C.C.; Totnes-Paignton Main Road, for the Devon C.C.; Southsea Promenade, Portsmouth.

Portland cement was invented just over 100 years ago by a Leeds bricklayer, Joseph Aspdin, and improvements in its quality have been steadily maintained. One of the most remarkable improvements has been the introduction of " rapid-hardening " cement, and it is now claimed possible to get the same standard of strength in one day as the British Standard Specification demands in one month. " Rapid-hardening " cements are claimed to be more economical in use in many forms of work, especially in reinforced concrete work, as it is possible to remove the timbering or moulds in a much shorter space of time; and in road-construction work, as it is possible to put traffic back on the newly-laid road in a much shorter space of time. One of the latest brands to come on the market is " OKayecrete," manufactured in Warwickshire from the famous blue lias limestone by Messrs. Kaye & Co., Ltd., Southam Works, near Rugby, whose works were established as far back as 1854. " OKaycrete " is claimed to develop enormous strength at very early dates.

The joinery manufactured by skilled craftsmen in the British workshops of Boulton and Paul at Norwich is the subject of a new catalogue just issued. The catalogue opens with illustrations of the joinery shops, machine-shop, and dispatch bay, which give a greater impression than words can convey of the amount of joinery being regularly manufactured in the Boulton and Paul workshops. They will also tend to give some idea of the facilities available which enable joinery to be made quickly and thoroughly under ideal working conditions. In the illustrations it is impossible to see the quality of material, but it is hardly necessary to stress that point here—the Boulton and Paul standard of workmanship is too well known for emphasis. The firm strongly recommend customers to buy stock joinery when possible, as this joinery undergoes an additional period of seasoning after machining and before glueing up. Time does not usually permit this extra attention when joinery has to be specially made. Special joinery, ordered in small quantities, cannot be made as cheaply as stock joinery manufactured by mass production. Stock joinery can also be dispatched immediately the order is received. In certain cases it is impossible for standardized work to fulfil particular requirements. To meet these needs the firm employ an experienced staff of draughtsmen. The joinery illustrated in the catalogue covers a large range.

DEPTFORD'S PUBLIC BATHS

On page 704 of our issue for May 16 it was stated that Messrs. Wylie and Lochhead carried out the water supply for the new public baths at Deptford. This, we are informed, is not correct. The water supply from the company's main to the large cold water storage tank was carried out by Messrs. Z. D. Berry and Sons, of Westminster, who also supplied and erected the cast-iron cold water tank, and carried out all the services from same. In fact, the whole of the engineering work was carried out by Messrs. Berry and Sons.

HOUSING AT HULL

The National Radiator Co., Ltd., have sent us the following communication: "We notice in the editorial on page 617 of your issue for May 2, you refer to an announcement by the Hull Corporation of a decision to build 2,600 houses fitted with specially designed stoves for solid smokeless fuel; but would point out that we consider this is rather misleading, as it implies that none of the houses in question exist except on paper. As a matter of fact, over 2,000 of the houses which have already been erected are equipped with the Ideal Cookanheat and Ideal Radiators to which reference is made, while more than a thousand others now under construction will be similarly equipped. In these houses the Ideal Cookanheat supplies full cooking and hot-water supply facilities, as well as warmth for two or three radiators respectively in other rooms, with little or no greater fuel consumption than an ordinary kitchen range."

ANNOUNCEMENTS

The short courses of lectures to be given during the summer at the Manchester Municipal College of Technology will include electrical engineering, municipal and sanitary engineering, and building. The classes will begin on June 11 and 12, and will continue until July 24.

THE WEEK'S BUILDING NEWS

The Durham County Education Committee has decided to arrange the proposed new elementary school at SEAHAM HARBOUR as a single department.

*

The Durham County Education Committee has purchased a site at WHITBURN for the erection of an elementary school.

*

The Durham County Education Committee has purchased a site for the proposed new secondary school at CROOK.

*

The DARLINGTON Education Committee has prepared plans for the enlargement of the North Road Council School.

*

The CHESHIRE County Council has asked a joint-committee to consider the question of the necessity or otherwise for the provision of additional mental hospital accommodation.

*

The Durham County Education Committee has decided to erect a school at BILLINGHAM for 432 pupils, at an estimated cost of £12,094, by direct labour.

*

The WAKEFIELD Corporation has selected land for sale to the trustees of the Primitive Methodist Church on the Snapethorpe estate for the purpose of erecting a church.

*

The Durham County Education Committee has arranged to erect by direct labour a school at BRANDON colliery for 1,064 pupils, at an estimated cost of £22,499.

*

Plans passed by the GRAVESEND Corporation: Four houses, Milton Avenue, for Messrs. Robert Hopkins and Sons; five houses, Ridgeway Avenue, for Messrs. W. E. and H. E. Thomas, Ltd.; ward block, Gravesend Hospital, for the trustees; eleven houses, Woodfield Avenue, for Mr. J. R. Pettman.

*

In his annual report, Mr. John G. Bennett, borough architect of GRAVESEND, says the programme for 1928 for which works are proceeding or plans have been prepared or are in a state of preparation include: Ward blocks at sanatorium, additions to electricity sub-station at Rosherville, the Gordon School, offices for the electricity undertaking, 182 houses, shops with living accommodation, and tenement dwellings.

*

Plans passed by the WAKEFIELD Corporation: Four houses, Dewsbury Road, for Mr. J. Caton; additions, Avondale Street, for Mr. A. Crossland; two houses, Batley Road, for Messrs. Kay and Lunan; two houses, Horbury Road, for Mr. C. M. Wainwright; twenty houses, Milnthorpe Lane, for Mr. W. H. Watson.

The Durham County Education Committee has arranged for a new school at USWORTH colliery for 776 pupils, at an estimated cost of £17,640, to be erected by direct labour.

*

The GLASGOW Corporation Housing Committee has empowered the housing director to select a site for the remaining 302 houses to be erected by Messrs. Cowiesons, Ltd., under their contract for the erection of 500 houses.

*

Plans passed by the GLASGOW Corporation: Six bungalows, Crookston Road, for Messrs. Lauder and Shaw; extensions, 99 Murano Street, for Messrs. Chance Bros. & Co., Ltd.; addition to factory, 91 James Street, Bridgeton, for Messrs. Frank Burnet and Boston, architects, on behalf of Messrs. Andrew Ritchie and Son; building, Bothwell Street, for the trustees of the Scottish Legal Assurance Society.

*

The governors of the Girls' Grammar School, WATFORD, have prepared a scheme for extensions at a total cost of £26,500.

*

Plans passed by the DOUGLAS (I.O.M.) Corporation: Alterations, 53 Buck's Road, for Mr. Westhead; alterations and additions, St. Andrew's Hall, Finch Road, for the trustees; additions to premises, Sartfell Road, for Mr. H. Kinley; pavilion, Duke's Road, for Mr. W. Keig.

*

At the last meeting of the DOUGLAS (I.O.M.) Corporation Housing Committee, Mr. J. E. Teare, the architect, was instructed to submit particulars with respect to the number of tenements which could be erected at Thornhill. Mr. J. E. Teare submitted sketch plan of suggested layout of flats on land adjoining Peel Road and Pulrose Road, and he was instructed to report further with respect to a site on the South Quay, suggested for tenement dwellings.

*

The Herts Education Committee has asked the county surveyor to prepare plans, in conjunction with the chief education officer, for the erection of an elementary school at LONDON COLNEY.

*

Plan passed by the TRURO Corporation: Alterations to premises, St. Nicholas Street, for Messrs. Criddle and Smith.

*

The WARRINGTON Corporation has obtained sanction to borrow £50,000 for further housing advances.

*

The Congregational Church authorities have purchased from the L.C.C. a site in Osborne Square, BECONTREE, for the erection of a church.

Plans passed by the BERMONDSEY B.C.: Warehouse, Stoney Lane, for Messrs. Anning and Cobb; additions, 170-172 Tower Bridge Road, for Messrs. R. Fawsitt and Sons; balconies, Wilson's Wharf, Peacock Alley, for the proprietors of Hay's Wharf, Ltd.

*

Plans passed by the WOKING U.D.C.: Two houses, Goldsworth Road, for Mr. L. S. Hart; additions to skating rink, Walton Road, for Mr. A. Pitcher; extension of school-room, etc., Broadway, Knaphill, for Knaphill Wesleyan Church; alterations and additions, 10 Guildford Road, for Messrs. Hudson Bros.; extension to timber shed and new sawmill, Chertsey Road, for Messrs. Spanton.

*

Plans passed at STREATHAM: Sixteen houses, Valleyfield Road and Springwell Road, for Mr. C. J. Blackmore; flats and garages, Hillside Road, for Mr. T. G. Jackson; pavilion, United Dairies Sports Ground, Valley Road, for Messrs. W. Harbrow, Ltd.; fifty houses, Streatham Garden Village estate, for Mr. F. Dean; fourteen houses, Abbotswood Road, for Mr. A. Soden; four houses, Valleyfield Road, for Mr. F. J. Barrett; pavilion, Conyers Road, for Messrs. Wates, Ltd.

*

Plans passed at CLAPHAM: Shops, site of 135-7 Larkhall Lane, for Messrs. Edwin Evans and Sons; alterations, Social Club, 78 Gaudon Road, for Mr. C. G. White; maisonettes, site of 104 and 106 Edgeley Road, for Messrs. A. H. Saunders and Son.

*

Plans passed at BALHAM: Additions, factory, 45 Nightingale Lane, for Messrs. G. Parker and Sons, Ltd.; workshop, 30 Oldridge Road, for Messrs. Buckoke and Sons; alterations, Balham Hotel, Chestnut Grove, for Messrs. Davis Bennet & Co.

*

Plans passed by WANDSWORTH B.C.: Van-building works, Riverside Road, for Mr. H. Kent; six houses, Sutherland Grove, Southfield, for Messrs. Grainger and Apsthorpe; alterations, wharf, Point Pleasant, for Messrs. Cory Bros. & Co., Ltd.; additions, laundry, Brathway Road, Southfield, for Penguin Laundries, Ltd.; factory and offices, Merton Road, for Messrs. W. Lawrence and Son, Ltd.

*

Plans passed at PUTNEY: Concrete rowing tank, Putney Embankment, for Messrs. J. Mowlem & Co., Ltd.; alterations and additions, kennel and store buildings, Roehampton Club, for Messrs. Newborn and Smith.

*

The NEWCASTLE Education Committee is acquiring a site in Wharrier Street, Walker, for the erection of an elementary school.

The HACKNEY B.C. is seeking sanction for a loan of £20,000 for further housing advances.

*

Messrs. Holdrons have in view proposals for extensions at their premises in Rye Lane, PECKHAM.

*

Plans passed by the SMETHWICK Corporation: Eight houses, Woodlands Road, for Mr. J. Reece; twelve houses, Woodlands Road, for Messrs. W. C. Stevens, Ltd.; four houses, Woodlands Road, for Mr. F. V. Arter; extension to laundry, Laundry Road, for Mr. J. H. Bayliss; additions, Caledonian Corks Social Club, Bearwood Road, for the club; new galleries for boxing shows at Market Premises, Windmill Lane, for Lloyds Estates and Markets, Ltd.; new crate-making shop, Halfords Lane, for Messrs. Henry Hope and Sons, Ltd.; extension to works, Dartmouth Road, for the Birmingham Aluminium Casting Co., Ltd.

*

Plans passed by the BRADFORD Corporation: Two houses, Highfield Road, for Mr. T. Feather; eight houses, Albion Road and Fourlands Road, for Mr. A. Robinson; two houses, Cyprus Drive, for Mr. J. E. Keighley; two houses, Pullan Avenue, for Mr. A. Sutcliffe; seven houses, Great Horton Road, for Mr. C. Chambers; four houses, Victoria Avenue and Victoria Drive, for Mr. A. Dickinson; four houses, Norman Avenue, for Mr. J. H. Smith; twelve houses, Briarwood Drive, for Messrs. R. J. Patchett, Ltd.; seven houses, Wrose Road, for Messrs. Taylor and Nicholson; four houses, Kingston Grove, for Mr. A. Robinson; two bungalows, King's Road, for Mr. F. Dalby; two bungalows, Poplar Grove, for Mr. J. Robertshaw; four houses, Beacon Road, for Messrs. J. and H. Dalby; four houses, Poplar Road, for Mr. T. E. Bairstow; four houses, Wrose Road, for Mr. H. Scott; three houses, Poplar Road, for Messrs. Shepherd Bros. and Brown; eight houses, Moore Avenue, for Messrs. Briggs and Hellewell; eight houses, Victoria Avenue, for Mr. A. Dickinson; four houses, St. Leonard's Grove, for Messrs. F. P. Leach and Sons; four houses, Leamington Drive, for Mr. R. Dickinson; and four houses, Thorn Lane, for Mr. B. Swailes.

*

The GLASGOW Corporation Housing Committee, after hearing a report by the city chamberlain as to the estimated financial requirements for housing purposes during the ensuing year, has decided to make application to the Scottish Board of Health to obtain further borrowing powers of £2,100,000.

*

The Board of Education has passed the plans of Mr. T. H. B. Scott, architect, for the erection of a Catholic school at Bow Lane, NORTH FINCHLEY.

*

The COLCHESTER Corporation is considering the possibilities of a site in Osborne Street for the erection of a swimming bath.

The COLCHESTER Education Committee is to erect an elementary school at Lexden, and designs are shortly to be obtained.

*

Plans passed by the POPLAR B.C.: Flats, Priory Street, for Mr. J. S. Broadbent; building, Buchanan's Wharf, Emmett Street, for Mr. C. Dunch.

*

Plans passed by the FINCHLEY U.D.C.: Nine garages, Grove Road, for Mr. H. Rawles; six garages, Ridgeway, for Messrs. Burdett and May; two houses, Ridgeway, for Messrs. Burdett and May; seven garges, Albert Place, for Mr. E. P. Hopkins; fourteen garages, Great North Road, for Mr. W. S. Down; cricket pavilion, Gruneisen Road, for the Finchley Municipal Officers' Cricket Club; twenty-three garages, Limes Avenue, King Edward Garage; two houses, Mether Street, for Messrs. Barrett & Co.; two flats and garages, Regent's Park Road, for Mrs. Warner.

*

The Baptish Church of Scotland has obtained a site at the corner of the Boulevard and Knightswood Road, Knightswood, GLASGOW, for the erection of a church.

*

The GLASGOW Education Committee has acquired a site in Springfield Road for the erection of an elementary school.

*

Plans passed by the COLCHESTER Corporation: Eight houses, Ipswich Road, for Mr. E. Mower; four houses, St. John's Road, Parson's Heath, for Mr. E. J. Mower; two houses, Old Heath Road, for Mr. C. Fisher; house and shop, Boxted Road, for Mr. F. Harvey; two houses, Audley Road, for Mr. W. H. S. Smith; showrooms and workshops, 85 East Hill, for Messrs. F. G. Smith (Motors), Ltd., for Mr. A. Douglas Robinson; lock-up garages, Lexden Road, for Messrs. W. Chambers and Sons, Ltd.; workshop, 45 Pownall Crescent, for Mr. E. M. Hotchkiss.

*

Reconstruction works are to be carried out by Mr. C. T. Armstrong, A.R.I.B.A., at 12-26 Osnaburgh Street, ST. PANCRAS.

*

Mr. Ernest H. Abbott, F.R.I.B.A., is to carry out reconstruction work at 58-60 Whitfield Street, ST. PANCRAS.

*

Plans passed by the HORNSEY Corporation: Twenty garages, Harringay Park, for Mr. J. H. Gray; alterations and additions, 10 High Street, Highgate, for Messrs. Kentish and Son; alterations, "Hope and Anchor" public-house, Tottenham Lane, for Messrs. Watney, Combe, Reid & Co., Ltd.; extension of "The Green Man" garage, Muswell Hill, for Mr. E. Carpenter; alterations, 184 Stroud Green Road, for Messrs. Freeman, Hardy and Willis, Ltd.; garage and petrol station, Turnpike Lane, for Mr. W. J. Lewcock; Y.M.C.A. Institute, Tottenham Lane, for Mr. H. Baily.

Plans passed by the CHORLEY Corporation: Control chamber, King Street sub-station, for the Lancashire Electric Power Co; headquarters, Library Street, for St. John Ambulance.

*

Plans passed by the GUILDFORD Corporation: New roadway, Woodbridge estate, for Messrs. Triggs Turner and A. W. Gibbens; two houses, Boxgrove Avenue, for Messrs. R. Wood and Son; two houses, Beckingham Road, for Mr. W. J. Piner; alterations and additions, head master's house, Archbishop Abbot's School, for the governors; two houses, Beckingham Road, for Mr. W. R. Stirling; alterations, North Street and Market Street, for Messrs. H. and W. A. Gammon; four cottages, Dunsdon Avenue, for Mr. A. Gostelow.

*

At a meeting of the GUILDFORD Corporation the town clerk submitted a letter from Messrs. Norris and Shattock forwarding alternative sketch elevations of the proposed muniment room, etc., adjoining the museum. The Corporation approved the sketch showing a treatment in Tudor style.

*

Plans passed by the WESTMINSTER City Council: Buildings between 27 and 33 Knightsbridge for Mr. Paul de Artime; additions, 17 Hertford Street, for Mr. E. Hand.

*

Plans passed by the STOKE NEWINGTON B.C.: Garages, rear of 18 Fairholt Road, for Mr. W. A. Lewis; five houses, Green Lane, for Mr. S. A. S. Yeo; buildings, 72 Woodberry Grove, for Mr. S. Hunt.

*

The STOKE-ON-TRENT Corporation has passed plans submitted by the Chatterley Whitfield Collieries, Ltd., for the layout of a part of their estate at Chell Green.

*

The GUILDFORD Corporation has now decided upon the acquisition of Messrs. May and Jacobs' premises in High Street for municipal offices for about £19,000. The question of the adaptation of the premises as municipal offices and for other purposes is to be considered at a special meeting.

*

The Hampshire Education Committee is to erect a practical instruction centre at Queen's Road, FARNBOROUGH.

*

The Hampshire Education Committee is to erect an elementary school for 250 children at SALISBURY.

*

Plans passed at WANDSWORTH: Factory buildings, The Baulk, for Messrs. W. H. Woodroffe and Son; factory, The Baulk, for Mr. R. Sharp; flats, Merton Road, for Messrs. George Elkington & Co.

*

Plan passed at NORWOOD: Twelve houses, Cheviot Road and Roxburgh Road, for Mr. William Wilmot, Ltd.

RATES OF WAGES

			I s. d.	II s. d.
A	ABERDARE	S. Wales & M.	1 7½	1 2½
A	Abergavenny	S. Wales & M.	1 7	1 2½
B	Abingdon ..	S. Counties	1 5½	1 1½
A	Accrington	N.W. Counties	1 7½	1 2½
A	Addlestone	S. Counties	1 6	1 1½
A	Adlington ..	N.W. Counties	1 7½	1 2½
A	Airdrie ..	Scotland	*1 7½	1 2½
C	Aldeburgh	E. Counties	1 3	11½
A	Altrincham	N.W. Counties	1 7½	1 2½
B	Appleby ..	N.W. Counties	1 4	1 0
A	Ashton-under-Lyne	N.W. Counties	1 7½	1 2½
A	Atherstone	Mid. Counties	1 6	1 1½
B	Aylesbury ..	S. Counties	1 4	1 0
B	BANBURY	S. Counties	1 4	1 0
B	Bangor ..	N.W. Counties	1 4½	1 0½
A	Barnard Castle	N.E. Coast	1 7½	1 2½
A	Barnsley ..	Yorkshire	1 7½	1 2½
B	Barnstaple	S.W. Counties	1 5	1 0½
A	Barrow ..	N.W. Counties	1 7½	1 2½
A	Barry ..	S. Wales & M.	1 7½	1 2½
B	Basingstoke	S.W. Counties	1 4	1 0
B	Bath ..	S.W. Counties	1 5½	1 1½
A	Batley ..	Yorkshire	1 7½	1 2½
B	Bedford ..	E. Counties	1 5½	1 1½
A	Berwick-on-Tweed	N.E. Coast	1 6½	1 2
A	Bewdley ..	Mid. Counties	1 6½	1 2
B	Bicester ..	Mid. Counties	1 4	1 0
A	Birkenhead	N.W. Counties	*1 7½	1 2½
A	Birmingham	Mid. Counties	1 7½	1 2½
A	Bishop Auckland	N.E. Coast	1 7½	1 2½
A	Blackburn	N.W. Counties	1 7½	1 2½
A	Blackpool	N.W. Counties	1 7½	1 2½
A	Blyth ..	N.E. Coast	1 7½	1 2½
B	Bognor ..	S. Counties	1 4	1 0
A	Bolton ..	N.W. Counties	1 7½	1 2½
A	Boston ..	Mid. Counties	1 6	1 1½
B	Bournemouth	S. Counties	1 5	1 0½
B	Bovey Tracey	S.W. Counties	1 4½	1 0½
A	Bradford ..	Yorkshire	1 7½	1 2½
A	Brentwood	E. Counties	1 6½	1 2
A	Bridgend ..	S. Wales & M.	1 7½	1 2½
B	Bridgwater	S.W. Counties	1 4½	1 0½
A	Bridlington	Yorkshire	1 7	1 2½
A	Brighouse	Yorkshire	1 7½	1 2½
B	Brighton ..	S. Counties	1 5	1 0½
A	Bristol ..	S.W. Counties	1 7½	1 2½
B	Brixham ..	S.W. Counties	1 4	1 0
A	Bromsgrove	Mid. Counties	1 6½	1 2
C	Bromyard ..	Mid. Counties	1 3½	11½
A	Burnley ..	N.W. Counties	1 7½	1 2½
A	Bursiem ..	Mid. Counties	1 7½	1 2½
A	Burton-on-Trent	Mid. Counties	1 6½	1 2
A	Bury ..	N.W. Counties	1 7½	1 2½
A	Buxton ..	N.W. Counties	1 7	1 2½
B	CAMBRIDGE	E. Counties	1 5½	1 1½
B	Canterbury	S. Counties	1 4	1 0
A	Cardiff ..	S. Wales & M.	1 7½	1 2½
A	Carlisle ..	N.W. Counties	1 7½	1 2½
B	Carmarthen	S. Wales & M.	1 5½	1 1½
B	Carnarvon	N.W. Counties	1 4½	1 0½
A	Carnforth ..	N.W. Counties	1 7	1 2½
A	Castleford	Yorkshire	1 7½	1 2½
B	Chatham ..	S. Counties	1 5	1 0½
B	Chelmsford	E. Counties	1 5	1 0½
A	Cheltenham	S.W. Counties	1 6	1 1½
A	Chester ..	N.W. Counties	1 7½	1 2½
A	Chesterfield	Mid. Counties	*1 7½	1 2½
B	Chichester	S. Counties	1 4	1 0
A	Chorley ..	N.W. Counties	1 7½	1 2½
B	Cirencester	S. Counties	1 4½	1 0½
A	Clitheroe ..	N.W. Counties	1 7½	1 2½
A	Clydebank	Scotland	1 7½	1 2½
A	Coalville ..	Mid. Counties	1 7½	1 2½
B	Colchester ..	E. Counties	1 5	1 0½
A	Colne ..	N.W. Counties	1 7½	1 2½
A	Colwyn Bay	N.W. Counties	1 6	1 1½
A	Consett ..	N.E. Coast	1 7½	1 2½
A	Conway ..	N.W. Counties	1 6	1 1½
A	Coventry ..	Mid. Counties	1 7½	1 2½
A	Crewe ..	N.W. Counties	1 6	1 1½
A	Cumberland	.....	1 6	1 1½
A	DARLINGTON	N.E. Coast	1 7½	1 2½
A	Darwen ..	N.W. Counties	1 7½	1 2½
B	Deal ..	S. Counties	1 4	1 0
A	Denbigh ..	N.W. Counties	1 6	1 1½
A	Derby ..	Mid. Counties	1 7½	1 2½
A	Dewsbury ..	Yorkshire	1 7½	1 2½
B	Didcot ..	S. Counties	1 5½	1 1½
A	Doncaster	Yorkshire	1 7½	1 2½
C	Dorchester	S.W. Counties	1 3	11½
A	Driffield ..	Yorks	1 6	1 1½
A	Droitwich ..	Mid. Counties	1 6	1 1½
A	Dudley ..	Mid. Counties	1 7	1 2½
A	Dundee ..	Scotland	1 7½	1 2½
A	Durham ..	N.E. Coast	1 7½	1 2½
B	EASTBOURNE	S. Counties	1 5	1 0½
A	Ebbw Vale	S. Wales & M.	1 7½	1 2½
A	Edinburgh	Scotland	1 7½	1 2½
A	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 7½	1 2½
B	Exeter ..	S.W. Counties	*1 5½	1 1½
B	Exmouth ..	S.W. Counties	1 4½	1 0½
B	FELIXSTOWE	E. Counties	1 5½	1 1½
A	Filey ..	Yorks	1 6	1 1½
A	Fleetwood ..	N.W. Counties	1 7½	1 2½
B	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham ..	N.W. Counties	1 7½	1 2½
B	Frome ..	S.W. Counties	1 4	1 0
A	GATESHEAD	N.E. Coast	1 7½	1 2½
B	Gillingham	S. Counties	1 5	1 0½
A	Gloucester	S.W. Counties	1 6	1 1½
A	Goole ..	Yorkshire	1 6½	1 2
B	Gosport ..	S. Counties	1 5½	1 1½
A	Grantham	Mid. Counties	1 6	1 1½
A	Gravesend	S. Counties	1 7	1 2½
A	Greenock ..	Scotland	*1 7½	1 2½
A	Grimsby ..	Yorkshire	1 7½	1 2½
B	Guildford ..	S. Counties	1 5	1 0½
A	HALIFAX ..	Yorkshire	1 7½	1 2½
A	Hanley ..	Mid. Counties	1 7½	1 2½
A	Harrogate	Yorkshire	1 7½	1 2½
A	Hartlepools	N.E. Coast	1 7½	1 2½
B	Harwich ..	E. Counties	1 4½	1 0½
B	Hastings ..	S. Counties	1 4	1 0
B	Hatfield ..	S. Counties	1 5	1 0½
B	Hereford ..	S. W. Counties	1 5½	1 1½
B	Hertford ..	E. Counties	1 5½	1 1½
A	Heysham ..	N.W. Counties	1 7	1 2½
A	Howden ..	N.E. Coast	1 7½	1 2½
A	Huddersfield	Yorkshire	1 7½	1 2½
A	Hull ..	Yorkshire	1 7½	1 2½
A	ILKLEY ..	Yorkshire	1 7½	1 2½
A	Immingham	Mid. Counties	1 7½	1 2½
B	Ipswich ..	E. Counties	1 5½	1 1½
C	Isle of Wight	S. Counties	1 3	11½
A	JARROW ..	N.E. Coast	1 7½	1 2½
A	KEIGHLEY	Yorkshire	1 7½	1 2½
B	Kendal ..	N.W. Counties	1 5	1 0½
B	Keswick ..	N.W. Counties	1 5	1 0½
A	Kettering ..	Mid. Counties	1 6	1 1½
A	Kiddermin-ster	Mid. Counties	1 6½	1 2
B	King's Lynn	E. Counties	1 4½	1 0½
A	LANCASTER	N.W. Counties	1 7½	1 2½
A	Leamington	Mid. Counties	1 6½	1 2
A	Leeds ..	Yorkshire	1 7½	1 2½
A	Leek ..	Mid. Counties	1 7½	1 2½
A	Leicester ..	Mid. Counties	1 7½	1 2½
A	Leigh ..	N.W. Counties	1 7½	1 2½
B	Lewes ..	S. Counties	1 4	1 0
A	Lichfield ..	Mid. Counties	1 6	1 1½
A	Lincoln ..	Mid. Counties	1 7½	1 2½
A	Liverpool ..	N.W. Counties	*1 10	1 4½
A	Llandudno	N.W. Counties	1 6	1 1½
A	Llanelly ..	S. Wales & M.	1 7½	1 2½
	London (12 miles radius)		1 9	1 4
	Do. (12-15 miles radius)		1 8½	1 3½
A	Long Eaton	Mid. Counties	1 7½	1 2½
A	Lough-borough	Mid. Counties	1 7½	1 2½
B	Luton ..	E. Counties	1 5½	1 1½
A	Lytham ..	N.W. Counties	1 7½	1 2½
A	MACCLES-FIELD	N.W. Counties	1 7	1 2½
B	Maidstone	S. Counties	1 5½	1 1½
A	Malvern ..	Mid. Counties	1 6	1 1½
A	Manchester	N.W. Counties	1 7½	1 2½
A	Mansfield ..	Mid. Counties	1 7½	1 2½
B	Margate ..	S. Counties	1 4	1 0
A	Matlock ..	Mid. Counties	1 6	1 1½
A	Merthyr ..	S. Wales & M.	1 7½	1 2½
A	Middles-brough	N.E. Coast	1 7½	1 2½
A	Middlewich	N.W. Counties	1 6	1 1½
B	Minehead ..	S.W. Counties	1 4½	1 0½
A	Monmouth	S. Wales & M.	1 7½	1 2½
A	S. and E. Glamorganshire			
A	Morecambe	N.W. Counties	1 7	1 2½
A	NANTWICH	N.W. Counties	1 6	1 1½
A	Neath ..	S. Wales & M.	1 7½	1 2½
A	Nelson ..	N.W. Counties	1 7½	1 2½
A	Newcastle ..	N.E. Coast	1 7½	1 2½
A	Newport ..	S. Wales & M.	1 7½	1 2½
A	Normanton	Yorkshire	1 7½	1 2½
A	Northampton	Mid. Counties	1 7	1 2½
A	North Staffs.	Mid. Counties	1 7½	1 2½
A	North Shields	N.E. Coast	1 7½	1 2½
A	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 7½	1 2½
A	Nuneaton ..	Mid. Counties	1 7½	1 2½
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W. Counties	1 7½	1 2½
A	Oswestry ..	Mid. Counties	1 6	1 1½
B	Oxford ..	S. Counties	1 5½	1 1½
A	PAISLEY ..	Scotland	*1 7½	1 2½
C	Pembroke	S. Wales & M.	1 3½	11½
A	Perth ..	Scotland	*1 7½	1 2½
A	Peterborough	Mid. Counties	1 6	1 1½
A	Plymouth	S.W. Counties	*1 7½	1 2½
A	Pontefract	Yorkshire	1 7½	1 2½
A	Pontypridd	S. Wales & M.	1 7½	1 2½
B	Portsmouth	S. Counties	1 5½	1 1½
A	Preston ..	N.W. Counties	1 7½	1 2½
A	QUEENSFERRY	N.W. Counties	1 7½	1 2
B	READING ..	S. Counties	1 5½	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A	Retford ..	Mid. Counties	1 6	1 1½
A	Rhondda Valley	S. Wales & M.	1 7½	1 2½
A	Ripon ..	Yorkshire	1 6	1 1½
A	Rochdale ..	N.W. Counties	1 7½	1 2½
B	Rochester	S. Counties	1 5½	1 1½
A	Ruabon ..	N.W. Counties	1 7	1 2½
A	Rugby ..	Mid. Counties	1 6½	1 2
A	Rugeley ..	Mid. Counties	1 6	1 1½
A	Runcorn ..	N.W. Counties	1 7½	1 2½
A	ST. ALBANS	E. Counties	1 6	1 1½
A	St. Helens	N.W. Counties	1 7½	1 2½
B	Salisbury	S.W. Counties	1 4	1 0
A	Scarborough	Yorkshire	1 7	1 2½
A	Scunthorpe	Mid. Counties	1 7½	1 2½
A	Sheffield ..	Yorkshire	1 7½	1 2½
A	Shipley ..	Yorkshire	1 7½	1 2½
A	Shrewsbury	Mid. Counties	1 6	1 1½
A	Skipton ..	Yorkshire	1 6½	1 2
B	Slough ..	S. Counties	1 5½	1 1½
A	Solihull ..	Mid. Counties	1 6½	1 2
A	South'pton	S. Counties	1 6	1 1½
B	Southend-on-Sea	E. Counties	1 5	1 0½
A	Southport ..	N.W. Counties	1 7½	1 2½
A	S. Shields ..	N.E. Coast	1 7½	1 2½
A	Stafford ..	Mid. Counties	1 6½	1 2
A	Stockport ..	N.W. Counties	1 7½	1 2½
A	Stockton-on-Tees	N.E. Coast	1 7½	1 2½
A	Stoke-on-Trent	Mid. Counties	1 7½	1 2½
B	Stroud ..	S.W. Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 7½	1 2½
A	Swadlincote	Mid. Counties	1 7½	1 2½
A	Swansea ..	S. Wales & M.	1 7½	1 2½
B	Swindon ..	S.W. Counties	1 5½	1 1½
A	TAMWORTH	N.W. Counties	1 7	1 2½
B	Taunton ..	S.W. Counties	1 5	1 0½
A	Teeside Dist.	N.E. Counties	1 7½	1 2½
B	Teignmouth	S.W. Coast	1 5½	1 1½
A	Todmorden	Yorkshire	1 7½	1 2½
A	Torquay ..	S.W. Counties	1 6½	1 2
C	Truro ..	S.W. Counties	1 3½	11½
B	Tunbridge Wells	S. Counties	1 5	1 0½
A	Tunstall ..	Mid. Counties	1 7½	1 2½
A	Tyne District	N.E. Coast	1 7½	1 2½
A	WAKEFIELD	Yorkshire	1 7½	1 2½
A	Walsall ..	Mid. Counties	1 7	1 2½
A	Warrington	N.W. Counties	1 7½	1 2½
A	Warwick ..	Mid. Counties	1 6½	1 2
A	Welling-borough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 7½	1 2½
B	Weston-s-Mare	S.W. Counties	1 5½	1 1½
A	Whitby ..	Yorkshire	1 6½	1 2
A	Widnes ..	N.W. Counties	1 7½	1 2½
A	Wigan ..	N.W. Counties	1 7½	1 2½
B	Winchester	S. Counties	1 4½	1 0½
B	Windsor ..	S. Counties	1 5½	1 1½
A	Wolver-hampton	Mid. Counties	1 7½	1 2½
A	Worcester ..	Mid. Counties	1 6	1 1½
A	Worksop ..	Yorkshire	1 6	1 1½
A	Wrexham ..	N.W. Counties	1 7	1 2½
B	Wycombe ..	S. Counties	1 5½	1 1½
B	YARMOUTH	E. Counties	1 5	1 0½
B	Yeovil ..	S.W. Counties	1 4½	1 0½
A	York ..	Yorkshire	1 7½	1 2

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.

* In these areas the rates of wages for certain trades (usually Painters and Plasterers) vary slightly from those given. The rates for each trade in any given area will be sent on request.

PRICES CURRENT

EXCAVATOR AND CONCRETOR

EXCAVATOR, 1s. 4d. *per hour*; LABOURER, 1s. 4d. *per hour*; NAVVY 1s. 4d. *per hour*; TIMBERMAN, 1s. 5½d. *per hour*; SCAFFOLDER, 1s. 5d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

*

	£	s.	d.
Broken brick or stone, 2 in., per yd.	0	11	6
Thames ballast, per yd.	0	11	0
Pit gravel, per yd.	0	18	0
Pit sand, per yd.	0	14	6
Washed sand	0	15	0

Screened ballast or gravel, add 10 per cent. per yd.
Clinker, breeze, etc., prices according to locality.

Portland cement, per ton	2	15	0
Lias lime, per ton	2	10	0

Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.

Transport hire per day:						
Cart and horse	£1	3	0	*Trailer*	£0	15	0
3-ton motor lorry	3	15	0	*Steam roller*	4	5	0
Steam lorry, 5-ton	4	0	0	*Water cart*	1	5	0

*

EXCAVATING and throwing out in ordinary earth not exceeding 6 ft. deep, basis price, per yd. cube	0	3	0

Exceeding 6 ft., but under 12 ft., add 30 per cent.
In stiff clay, add 30 per cent.
In underpinning, add 100 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.

RETURN, fill, and ram, ordinary earth, per yd.	£0	1	6
SPREAD and level, including wheeling, per yd.	0	1	6
FILLING into carts and carting away to a shoot or deposit, per yd. cube	0	10	6
TRIMMING earth to slopes, per yd. sup.	0	0	6
HACKING up old grano. or similar paving, per yd. sup.	0	1	3
PLANKING to excavations, per ft. sup.	0	0	5
DO. over 10 ft. deep, add for each 5 ft. in depth, 30 per cent.			
If left in, add to above prices, per ft. cube	0	2	0
HARDCORE, 2 in. ring, filled and rammed, 4 in. thick, per yd. sup.	0	2	1
DO. 6 in. thick; per yd. sup.	0	2	10
PUDDLING, per yd. cube	1	10	0
CEMENT CONCRETE, 4-2-1, per yd. cube	2	3	0
DO. 6-2-1, per yd. cube	1	18	0

DO. in upper floors, add 15 per cent.
DO. in reinforced-concrete work, add 20 per cent.
DO. in underpinning, add 60 per cent.

LIAS-LIME CONCRETE, per yd. cube	£1	16	0
BREEZE CONCRETE, per yd. cube	1	7	0
DO. in lintels, etc., per ft. cube	0	1	6
CEMENT concrete 4 2–1 in lintels packed around reinforcement, per ft. cube	0	3	9
FINE concrete benching to bottom of manholes, per ft. cube	0	2	6
FINISHING surface of concrete spade face, per yd. sup.	0	0	9

DRAINER

LABOURER, 1s. 4d. *per hour*; TIMBERMAN, 1s. 5½d. *per hour*; BRICKLAYER, 1s. 9d. *per hour*; PLUMBER, 1s. 9d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

*

Stoneware pipes, tested quality, 4 in., per ft.	£0	0	10
DO. 6 in., *per ft.*	0	1	3
DO. 9 in., *per ft.*	0	2	3
Cast-iron pipes, coated, 9 ft. lengths, 4 in., per yd.	0	5	6
DO. 6 in., *per yd.*	0	8	6
Portland cement and sand, see "Excavator" above.			
Leadwool per cwt.	£2	0	0
Gaskin, per lb.	0	0	4½

*

STONEWARE DRAINS, jointed in cement, tested pipes, 4 in., per ft.	0	4	3
DO. 6 in., per ft.	0	5	0
DO. 9 in., per ft.	0	7	9
CAST-IRON DRAINS, jointed in lead, 4 in., per ft.	0	8	0
DO. 6 in., per ft.	0	10	0

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

BRICKLAYER

BRICKLAYER, 1s. 9d. *per hour*; LABOURER, 1s. 4d. *per hour*; SCAFFOLDER, 1s. 5d. *per hour.*

*

London stocks, per M.	£4	15	0
Flettons, per M.	3	0	0
Staffordshire blue, per M.	9	10	0
Firebricks, 2½ in., per M.	11	3	0
Glazed salt, white, and ivory stretchers, per M.	24	10	0
DO. *headers, per M.*	24	0	0
Colours, extra, per M.	5	10	0
Seconds, less, per M.	1	0	0

Cement and sand, see "Excavator" above.

Lime, grey stone, per ton	2	17	0
Mixed lime mortar, per yd.	1	6	0
Damp course, in rolls of 4½ in., per roll	0	2	6
DO. 9 *in. per roll*	0	4	9
DO. 14 *in. per roll*	0	7	6
DO. 18 *in. per roll*	0	9	6

BRICKWORK in stone lime mortar, Flettons or equal, per rod	£33	0	0
DO. in cement do., per rod	36	0	0

DO. in stocks, add 25 per cent. per rod.
DO. in blues, add 100 per cent. per rod.
DO. circular on plan, add 12½ per cent. per rod.
DO. in backing to masonry, add 12½ per cent. per rod.
DO. in raising on old walls, etc., add 12½ per cent. per rod.
DO. in underpinning, add 20 per cent. per rod.

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

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

MASON

MASON, 1s. 9d. *per hour*; DO. *fixer*, 1s. 10d. *per hour*; LABOURER, 1s. 4d. *per hour*; SCAFFOLDER, 1s. 5d. *per hour.*

*

Portland Stone:			
Whitbed, per ft. cube	£0	4	6
Basebed, per ft. cube	0	4	7
Bath stone, per ft. cube	0	3	0

Usual trade extras for large blocks.

York paving, av. 2½ in., per yd. super	0	6	6
York templates sawn, per ft. cube	0	6	9
Slate shelves, rubbed, 1 in., per ft. sup.	0	2	6

Cement and sand, see "Excavator," etc., above.

*

HOISTING and setting stone, per ft. cube	£0	2	2

DO. for every 10 ft. above 30 ft. add 15 per cent.

PLAIN face Portland basis, per ft. sup.	£0	2	8
DO. circular, per ft. sup.	0	4	0
SUNK FACE, per ft. sup.	0	3	9
DO. circular, per ft. sup.	0	4	10
JOINTS, arch, per ft. sup.	0	2	6
DO. sunk, per ft. sup.	0	2	7
DO. DO. circular, per ft. sup.	0	4	6
CIRCULAR-CIRCULAR work, per ft. sup.	1	2	0
PLAIN MOULDING, straight, per inch of girth, per ft. run	0	1	1
DO. circular, do., per ft. run	0	1	4

HALF SAWING, per ft. sup.	£0	1	0

Add to the foregoing prices, if in York stone, 35 per cent.
DO. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
DO. for Chilmark, 5 per cent.

SETTING 1 in. slate shelving in cement, per ft. sup.	£0	0	6
RUBBED round nosing to do., per ft. lin.	0	0	6
YORK STEPS, rubbed T. & R., ft. cub. fixed	1	9	0
YORK SILLS, W. & T., ft. cub. fixed	1	13	0
ARTIFICIAL stone paving, 2 in. thick, per ft. sup.	0	1	6
DO. 2½ in. thick, per ft. sup.	0	1	9

SLATER AND TILER

SLATER, 1s. 9d. *per hour*; TILER, 1s. 9d. *per hour*; SCAFFOLDER, 1s. 5d. *per hour*; LABOURER, 1s. 4d. *per hour.*
N.B.—Tiling is often executed as piecework.

*

Slates, 1st quality, per 1,200:	£	s.	d.
Portmadoc Ladies	14	0	0
Countess	27	0	0
Duchess	32	0	0

Old Delabole	*Med. Grey*	*Med. Green*
24 in. × 12 in.	£42 11 3	£45 1 0
20 in. × 10 in.	31 4 3	33 0 6
16 in. × 10 in.	20 18 0	22 4 9
14 in. × 8 in.	12 1 0	12 16 3

Green Randoms per ton	8	3	9
Grey-green do., per ton	7	3	9
Green peggies, 12 in. to 8 in. long, per ton	6	3	9
In 4-ton truck loads, delivered Nine Elms station.			
Clips, lead, per lb.	£0	0	6
Clips, copper, per lb.	0	2	0
Nails, compo, per cwt.	1	6	0
Nails, copper, per lb.	0	1	10

Cement and sand, see "Excavator," etc., above.

Hand-made tiles, per M.	£5	18	0
Machine-made tiles, per M.	5	8	0
Westmorland slates, large, per ton	9	0	0
DO. *Peggies, per ton*	7	5	0

*

SLATING, 3 in. lap, compo nails, Portmadoc or equal:

Ladies, per square	£4	0	0
Countess, per square	4	5	0
Duchess, per square	4	10	0
WESTMORLAND, in diminishing courses, per square	6	5	0
CORNISH DO., per square	6	3	0
Add, if vertical, per square approx.	0	13	0
Add, if with copper nails, per square approx.	0	2	6
Double course at eaves, per ft. approx.	0	1	0

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

	Med. Grey	Med. Green
24 in. × 12 in.	£5 0 0	£5 2 0
20 in. × 10 in.	5 5 0	5 10 0
16 in. × 10 in.	4 15 0	5 1 0
14 in. × 8 in.	4 10 0	4 15 0

Green randoms	6	7	0
Grey-green do.	5	9	0
Green peggies, 12 in. to 8 in. long	4	17	0
TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square	5	6	0
DO., machine-made do., per square	4	17	0

Vertical Tiling, including pointing, add 18*s.* 0*d.* 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. 9d. *per hour*; JOINER, 1s. 9d. *per hour*; LABOURER, 1s. 4d. *per hour.*

*

Timber, average prices at Docks, London Standard Scandinavian, etc. (equal to 2nds):

7 × 3, per std.	£21	0	0
11 × 4, per std.	33	0	0

Memel or Equal. Slightly less than foregoing.			
Flooring, P.E., 1 in., per sq.	£1	2	6
DO. *T. and G., 1 in., per sq.*	1	2	6
Planed boards, 1 in. × 11 in., per std.	30	0	0
Wainscot oak, per ft. sup. of 1 in.	0	1	4
Mahogany, Honduras, per ft. sup. of 1 in.	0	1	3
DO. *Cuba, per ft. sup. of 1 in.*	0	2	3
DO., *African, per ft. sup.*	0	1	0
Teak, per ft. sup. of 1 in.	0	1	3
DO., *ft. cube*	0	12	6

*

FIR fixed in wall plates, lintels, sleepers, etc., per ft. cube	0	5	6
DO. framed in floors, roofs, etc., per ft. cube	0	6	6
DO. framed in trusses, etc., including ironwork, per ft. cube	0	7	6
PITCH PINE, add 33⅓ per cent.			
FIXING only boarding in floors, roofs, etc., per sq.	0	13	6
SARKING FELT laid, 1-ply, per yd.	0	1	6
DO. 3-ply, per yd.	0	1	9
CENTERING for concrete, etc., including horsing and striking, per sq.	2	10	0
TURNING pieces to flat or segmental soffits, 4½ in. wide, per ft. run	0	0	4½
DO. 9 in. wide and over per ft. sup.	0	1	2

continued overleaf

CARPENTER AND JOINER: *continued.*

SHUTTERING to face of concrete, per square	£1	10	0
DO. in narrow widths to beams, etc., per ft. sup.	0	0	6
USE and waste of timbers, allow 25 per cent. of above prices.			
SLATE BATTENING, per sq.	£0	12	6
DEAL boarding to flats, 1 in. thick and firrings to falls, per square	2	10	0
STOUT feather-edged tilting fillet to eaves, per ft. run	0	0	6
FEATHER-edged springer to trimmer arches, per ft. run	0	0	4
STOUT herringbone strutting (joists measured in), per ft. run	0	0	6
SOUND boarding, ⅞ in. thick and fillets nailed to sides of joists (joists measured over), per square	2	0	0
RUBEROID or similar quality roofing, one-ply, per yd. sup.	0	2	3
DO., two-ply, per yd. sup.	0	2	6
DO., three-ply, per yd. sup.	0	3	0
TONGUED and grooved flooring, 1¼ in. thick, laid complete with splayed headings, per square	2	5	0
DEAL skirting torus, moulded 1¼ in. thick, including grounds and backings, per ft. sup.	0	1	0
TONGUED and mitred angles to do.	0	0	6
WOOD block flooring standard blocks laid herringbone in mastic :			
Deal 1 in. thick, per yd. sup.	0	10	0
DO. 1¼ in. thick, per yd. sup.	0	12	0
Maple 1¼ in. thick, per yd. sup.	0	15	0
DEAL moulded sashes, 1¾ in. with moulded bars in small squares, per ft. sup.	0	2	6
DO. 2 in. do., per ft. sup.	0	2	9
DEAL cased frames, oak sills and 2 in. moulded sashes, brass-faced pulleys and iron weights, per ft. sup.	0	4	6
MOULDED horns, extra each	0	0	3
DOORS, 4-panel square both sides, 1¾ in. thick, per ft. sup.	0	2	6
DO. moulded both sides per ft. sup.	0	2	9
DO. 2 in. thick, square both sides, per ft. sup.	0	2	9
DO. moulded both sides, per ft. sup.	0	3	0
DO. in 3 panels, moulded both sides, upper panel with diminished stiles with moulded bars for glass, per ft. sup.	0	3	6
If in oak, mahogany or teak, multiply 3 times.			
DEAL frames, 4 in. × 3 in., rebated and beaded, per ft. cube	£0	15	0
Add for extra labours, per ft. run	0	0	1
STAIRCASE work :			
DEAL treads 1¼ in. and risers 1 in., tongued and grooved including fir carriages, per ft. sup.	0	2	6
DEAL wall strings, 1¼ in. thick, moulded, per ft. run	0	2	6
If ramped, per ft. run	0	5	0
SHORT ramps, extra each	0	7	6
ENDS of treads and risers housed to strings, each	0	1	0
2 in. deal mopstick handrail fixed to brackets, per ft. run	0	1	6
4½ in. × 3 in. oak fully moulded handrail, per ft. run	0	5	6
1¼ in. square deal bar balusters, framed in, per ft. run	0	0	6
FITTINGS :			
SHELVES and bearers, 1 in., cross-tongued, per ft. sup.	0	1	6
1¼ in. beaded cupboard fronts, moulded and square, per ft. sup.	0	2	9
TEAK grooved draining boards, 1¼ in. thick and bedding, per ft. sup.	0	4	6
IRONMONGERY :			
Fixing only (including providing screws) :			
To DEAL—			
Hinges to sashes, per pair	0	1	2
Do. to doors, per pair	0	1	7
Barrel bolts, 9 in., iron, each	0	1	0
Sash fasteners, each	0	1	0
Rim locks, each	0	1	9
Mortice locks, each	0	4	0

SMITH

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

*

Mild Steel in British standard sections, per ton	£12	10	0
Sheet Steel :			
Flat sheets, black, per ton	17	0	0
DO., *galvd., per ton*	19	0	0
Corrugated sheets, galvd., per ton	18	10	0
Driving screws, galvd., per grs.	0	1	10
Washers, galvd., per grs.	0	1	1
Bolts and nuts per cwt. and up	1	18	0

*

MILD STEEL in trusses, etc., erected, per ton	25	10	0
DO., in small sections as reinforcement, per ton	16	10	0
DO., in compounds, per ton	17	0	0
DO., in bar or rod reinforcement, per ton	20	0	0
WROT-IRON in chimney bars, etc., including building in, per cwt.	2	0	0
DO., in light railings and balusters, per cwt.	2	5	0
FIXING only corrugated sheeting, including washers and driving screws, per yd.	0	2	0

PLUMBER

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

*

Lead, milled sheet, per cwt.	£1	9	0
DO. *drawn pipes, per cwt.*	1	10	0
DO. *soil pipe, per cwt.*	1	12	0
DO. *scrap, per cwt.*	1	0	0
Copper, sheet, per lb.	0	1	3
Solder, plumber's, per lb.	0	1	3
DO. *fine, per lb.*	0	1	9
Cast-iron pipes, etc. :			
L.C.C. soil, 3 in., per yd.	0	4	0
DO. *4 in. per yd.*	0	4	9½
R.W.P., 2½ in., per yd.	0	2	2
DO. *3 in., per yd.*	0	2	7
DO. *4 in., per yd.*	0	3	6½
Gutter, 4 in. H.R., per yd.	0	1	6½
DO. *4 in. O.G., per yd.*	0	1	10½

*

MILLED LEAD and labour in gutters, flashings, etc. per cwt.	3	2	6
LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft.	0	2	0
DO. ¾ in., per ft.	0	2	3
DO. 1 in., per ft.	0	3	0
DO. 1¼ in., per ft.	0	4	0
LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft.	0	6	0
DO. 3 in., per ft.	0	7	0
DO. 4 in., per ft.	0	9	9
WIPED soldered joint, ½ in., each	0	2	6
DO. ¾ in., each	0	3	2
DO. 1 in., each	0	3	8
BRASS screw-down stop cock and two soldered joints, ½ in., each	0	11	0
DO. ¾ in., each	0	13	6
CAST-IRON rainwater pipe, jointed in red lead, 2½ in., per ft. run.	0	1	7
DO. 3 in., per ft. run	0	2	0
DO. 4 in., per ft. run	0	2	10
CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft.	0	2	0
DO. O.G., 4 in., per ft.	0	2	3
CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft.	0	4	6
DO. 3 in., per ft.	0	3	6
Fixing only :			
W.C. PANS and all joints, P. or S., and including joints to water waste preventers, each	2	5	0
BATHS, with all joints	1	3	6
LAVATORY BASINS only, with all joints, on brackets, each	1	10	

PLASTERER

PLASTERER, 1*s.* 9½*d. per hour (plus allowances in London only) ;* LABOURER, 1*s.* 4*d. per hour.*

*

Chalk lime, per ton	£2	17	0
Hair, per cwt.	2	0	0
Sand and cement see "Excavator," etc., above.			
Lime putty, per cwt.	£0	2	9
Hair mortar, per yd.	1	7	0
Fine stuff, per yd.	1	14	0
Sawn laths, per bdl.	0	2	5
Keene's cement, per ton	5	15	0
Sirapite, per ton	3	10	0
DO. *fine, per ton*	3	18	0
Plaster, per ton	3	0	0
DO. *per ton*	3	12	6
DO. *fine, per ton*	5	12	0
Thistle plaster, per ton	3	9	0
Lath nails, per lb.	0	0	4

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LATHING with sawn laths, per yd.	0	1	7
METAL LATHING, per yd.	0	2	3
FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock, 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	3
WHITE glazed tiling set in Portland and jointed in Parian, per yd., from	1	11	6
FIBROUS PLASTER SLABS, per yd.	0	1	10

GLAZIER

GLAZIER, 1*s.* 8*d. per hour.*

*

Glass : 4ths in crates :			
Clear, 21 oz.	£0	0	4½
DO. *26 oz.*	0	0	5
Cathedral white, per ft.	0	0	7½
Polished plate, British ⅛ in., up to 2 ft. sup. per ft.	0	1	2
DO. *4 ft. sup.* "	0	2	3
DO. *6 ft. sup.* "	0	2	6
DO. *20 ft. sup.* "	0	3	1
DO. *45 ft. sup.* "	0	3	3
DO. *65 ft. sup.* "	0	3	5
DO. *100 ft. sup.* "	0	3	10
Rough plate, ⅛ in., per ft.	0	0	6½
DO. *¼ in. per ft.*	0	0	6½
Linseed oil putty, per cwt.	0	15	0

*

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

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

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

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

PAINTER AND PAPERHANGER

PAINTER, 1*s.* 8*d. per hour ;* LABOURER, 1*s.* 4*d. per hour ;* FRENCH POLISHER, 1*s.* 9*d. per hour ;* PAPERHANGER, 1*s.* 8*d. per hour.*

*

Genuine white lead, per cwt.	£2	7	6
Linseed oil, raw, per gall.	0	3	6
DO., *boiled, per gall.*	0	3	8
Turpentine, per gall.	0	4	0
Liquid driers, per gall.	0	8	6
Knotting, per gall.	0	18	0
Distemper, washable, in ordinary colours, per cwt., and up	2	5	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4½
Single gold leaf (transferable), per book	0	2	0
Varnish, copal, per gall. and up	0	12	6
DO., *flat, per gall.*	1	2	0
DO., *paper, per gall.*	0	16	0
French polish, per gall.	0	17	6
Ready mixed paints, per gall. and up	0	15	0

*

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

SUNDRIES

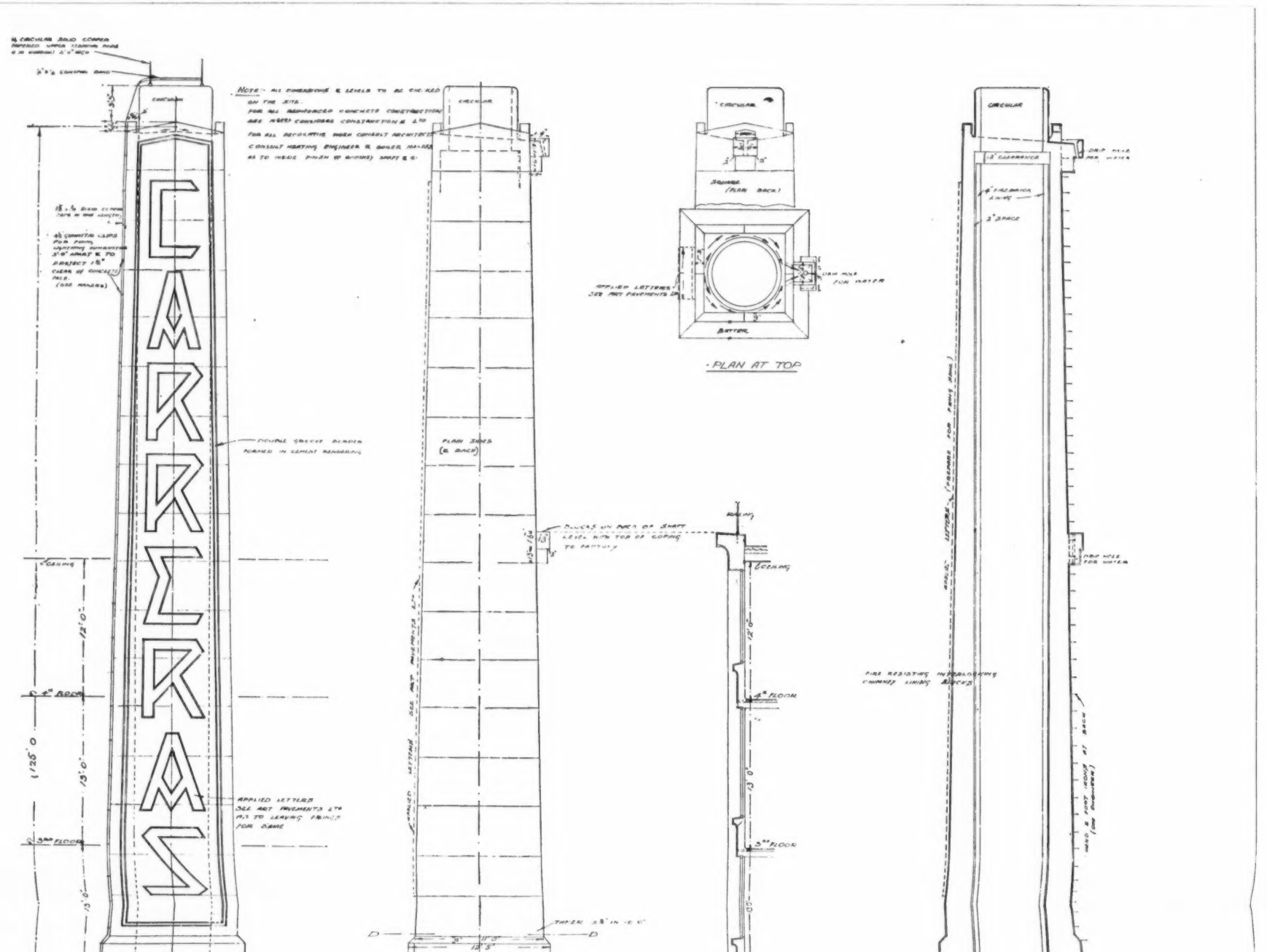
Fibre or wood pulp boardings, according to quality and quantity.
The measured work price is on the same basis . . . per ft. sup. £0 0 2½

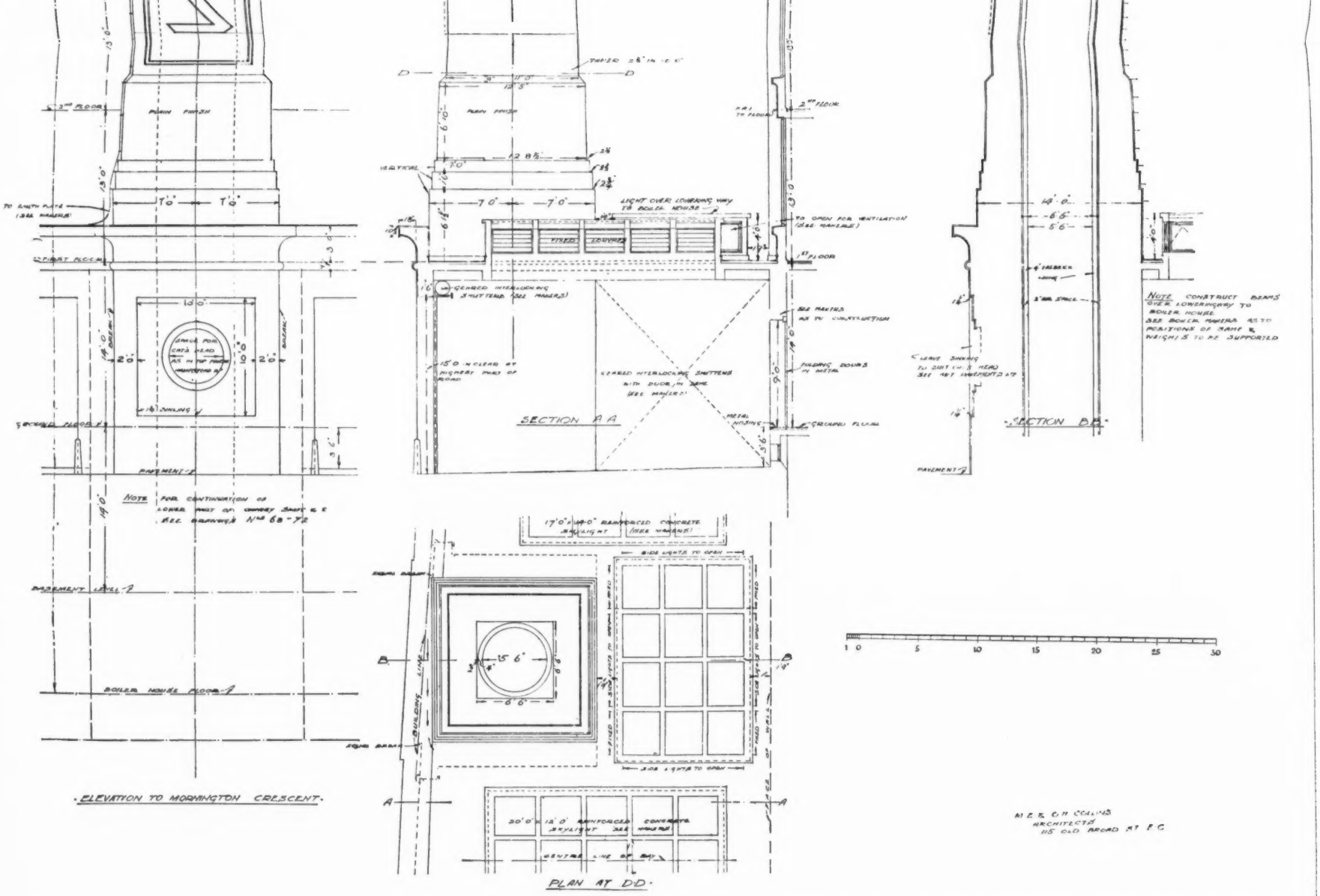
FIBRE BOARDINGS, including cutting and waste, fixed on, but not including studs or grounds per ft. sup. . . . from 3*d.* to	0	0	6
Plaster board, per yd. sup. . from	0	1	7
PLASTER BOARD, fixed as last, per yd. sup. . . . . from	0	2	8
Asbestos sheeting, ⅛ in., grey flat, per yd. sup.	0	2	3
DO., *corrugated, 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, ⅛ in. punched per M. grey	16	0	0
DO., *red*	18	0	0
ASBESTOS COMPOSITION FLOORING : Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0	7	0
DO., ½ in. thick, suitable for domestic work, unpolished, per yd.	0	6	6
Metal casements for wood frames, domestic sizes, per ft. sup.	0	1	6
DO., *in metal frames, per ft. sup.*	0	1	9
HANGING only metal casement in, but not including wood frames, each	0	2	10
BUILDING in metal casement frames, per ft. sup.	0	0	7

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

PLYWOOD, per ft. sup.

Thickness	⅛ in.			¼ in.			⅜ in.			½ in.		
Qualities ..	AA. d.	A. d.	B. d.	AA. d.	A. d.	B. d.	AA. d.	A. d.	B. d.	AA. d.	A. d.	B. d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4	9½	7½	—	1 0½	10	—
Figured Oak 1 side	8½	7	—	10	8	—	11½	—	—	1 6	—	—
Plain Oak 1 side	6½	6	—	7½	7	—	9½	—	—	1 0	—	—
Oregon Pine	5	4	—	5½	5	—	6	—	—	—	—	—


CLARKS
CIRCULAR
SQUARE (PLAN BACK)
PLAN AT TOP
PLAN SHEET (E. BACK)
CEILING
4" FLOOR
3" FLOOR
12'0"
13'0"
125'0"
APPLIED LETTERS SEE ART WORKMENTS
DRIP HOLE FOR WATER
3" CLEARANCE
4" FIRE BRICK LINING
3" SPACE
FIRE RESISTING INSULATING CHIMNEY LINING BRICKS



CARRERAS'S NEW FACTORY, CAMDEN TOWN, LONDON. BY M. E. AND O. H. COLLINS. DETAILS OF THE CHIMNEY SHAFT IN MORNINGTON CRESCENT. [*See article on page 761.*]