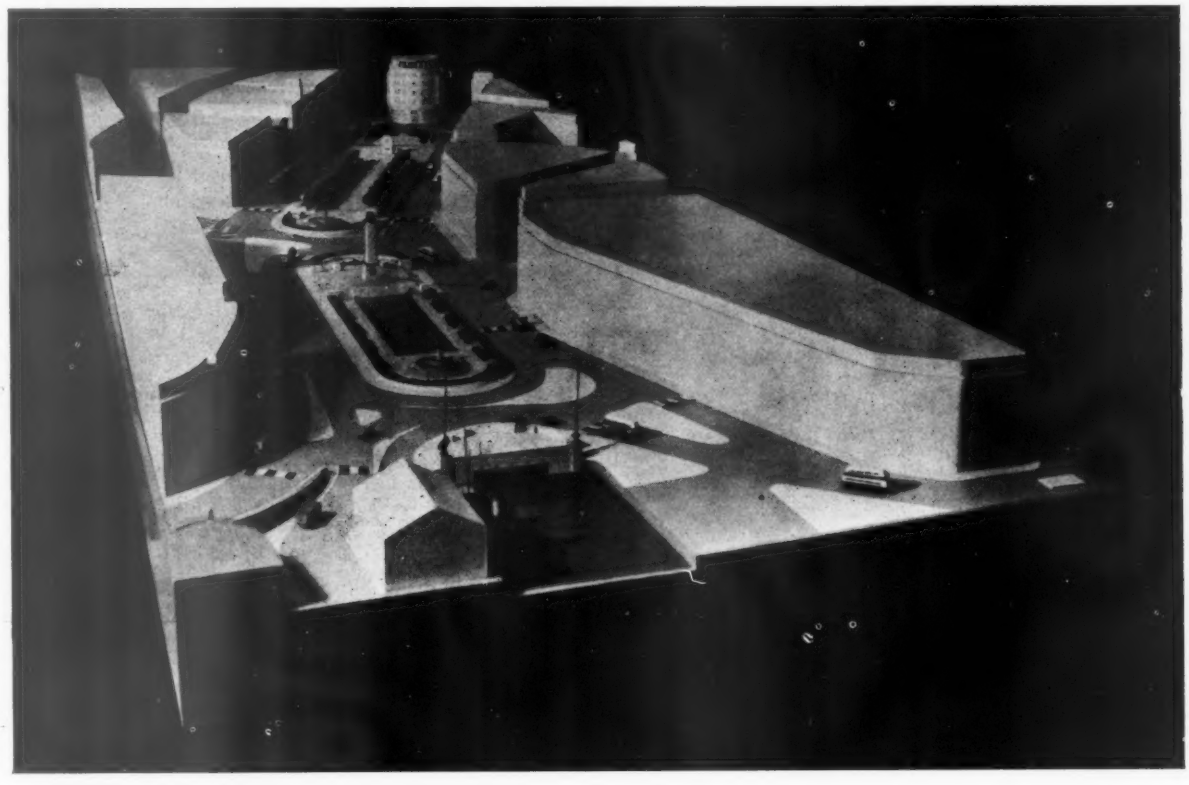
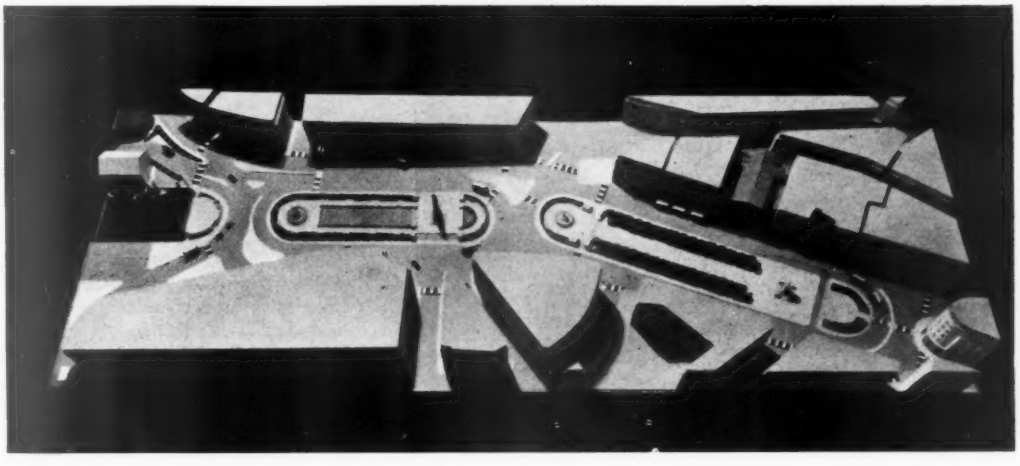
BRISTOL'S NEW CIVIC CENTRE



THE final proposals of the local Society of Architects for the reconstruction of Bristol's Tramway Centre have been published and now await approval by the City Council. The members of the voluntary panel are: Messrs. G. D. Gordon Hake, J. Ralph Edwards, R. S. Redwood, Eustace H. Britton, C. J. Dening, Sir George Oakley and W. J. Stenner, who have been working on the scheme since last September.

The estimated cost of the new layout is £102,830. One island covers the area at present occupied by the existing gardens from Burke's statue to the War Memorial. The second island covers the main position of the site at present occupied by the tramcar terminus on the centre and extends towards the docks over the Floating Harbour, which will be isolated from the docks by the construction of a new Eastern Road.

Two views of the model prepared to illustrate the scheme are reproduced.



SPOT THE BLOCK PLAN

The illustration on the left is of the Charminar at Hyderabad. Architects with nothing better to do for five minutes may care to spend them in deciding whether the building reproduced above is also the Charminar ; and, if they think it is, in drawing the block plan of the building and of the adjoining streets for sixty yards on either side.

The Charminar, or four towers, stands in the centre of the city of Hyderabad, facing the points of the compass with four main streets radiating from it. Entirely of granite, with towers 184 feet in height, it was built in 1591 by the Sultan Mohammad Quli—no one quite knows why. Above the arches are three suites of rooms, each formerly being devoted to a science, the whole building being a college attached to a mosque.

EXPERIMENT

FACED with the catalogue of some new and comparatively untried material, ensnared by suave copy-writing and lavish illustrations, what is the architect to do next? Every year a multitude of new materials and methods of construction appear on the building market, and every year a percentage of them disappear again after a history of failure, leaving behind a handful of discredited architects and disgruntled clients.

Building is a traditional craft, and any builder worthy of the name can put up a stable and weatherproof structure with no more instructions than can be got on an eighth-scale plan. Living in a scientific age, the architect sees other industries finding new things to do and new ways of doing the old things: is he to shut his eyes to what is going on around him or should he venture bravely out and experiment whenever he can? Most architects, we believe, would prefer to be mildly adventurous, but we believe, too, that not very many clients would fancy the idea of paying for it.

Why does any client go to an architect and what does he demand from him? For good planning and for æsthetic reasons admittedly, but also for a stable and weatherproof structure that will be soundly built and need a minimum of money spent on its upkeep. Not every client demands, like the authorities of London University, a useful life of some hundreds of years, but commercial firms need a minimum of upkeep costs, and are generally prepared to spend a good deal of money in order to get it, while the small house owner expects to spend a little on painting and nothing at all on structural repairs. Go to either of these clients and explain that an untried but probably quite satisfactory material is to be used on their job and they will both, in all probability, say that they prefer something that is known to be perfectly reliable even if the result may not be quite so good.

The doubtful materials, however, fall easily into two broad classes, the wall and floor finishes, and odd items of equipment whose failure means little in the way of cost, and the structural or weather-proofing materials whose failure may prove extremely costly and also involve the client in a lot of consequential damage and inconvenience. In the first group the decision need not be a difficult one. The client may be so taken with an unusual finish that he is quite prepared to foot the bill in the event of a failure and, as a second line of defence, it is quite within the architect's power to try out from time to time a new type of floor covering in his own office or his private house.

With structural materials the problem is more serious, for the client is probably not very interested and there are few experiments which the architect can carry out independently. Guarantees may sound impressive but they do not generally involve more than the supply of new materials, and only rarely is the client himself not compelled to pay for the cost of fixing. Still more important is the question of consequential damage. We know of no firm prepared to make itself responsible under this latter heading, nor can we regard such a state of affairs as surprising if we consider the possibilities of, for example, a roofing failure, with its consequent effect on decorations, possibly valuable pictures, the client's own health, or the nuisance value of lengthy repairs.

When we consider the legal responsibilities of the architect towards his client we cannot be surprised that new structural ventures are accepted so slowly in the building industry. In London or in most large provincial towns it is nearly always possible to get some sort of independent advice from other architects or visit a building where the product in question has been used, but in the small town the architect must make up his own mind without any outside help, and his decision is made no easier by the knowledge that his builder is not likely to be sympathetic towards any departure from current practice.

While we can suggest no golden rules for arriving at a reliable decision, we would put forward one or two questions which architects might well ask themselves. Is it the product of a manufacturer with a name for reliability, or one who has made a success with other products of the same type? While no manufacturer is infallible, there are a number who have been specializing in the same type of product for a good many years, and it may be assumed that they will not risk their reputations unless they have satisfied themselves, by test, that their new product will do all that they claim for it. And if this seems unfair to a new firm which may or may not have something of real value to sell, it is worth remembering that the Building Research Station exists for the purpose of investigating manufacturers' claims and reporting on them in an unbiased way. Artificial weathering tests have been developed in recent years to a degree of trustworthiness which allows little doubt to be felt about results, and the Building Research Station cannot be accused of showing any unreasonable optimism; rather the reverse. So next time you feel a doubt — remember the B.R.S.

The Architects' Journal
Westminster, S.W.1
Telephones: Whitehall
9212-7
Telegrams
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London

NOTES & TOPICS

AMENITY'S MARTYR

SLOWLY but surely the Darwall fund is growing.

*

If, when I set out to raise the monstrous sum of £20 in 5s. contributions from fellow architects, I deluded myself into thinking there would be a shoal of P.O.'s next day, it was but a moment's weakness. Instinct, I had written, told me that there were at least 80 readers of these notes who would be glad to send a dollar. Instinct also whispered (but I didn't write that) that 80 per cent. of those dollars would remain unsent.

*

One gentleman sent an article. I didn't want that.

*

Yet an obstinate trickle comes through—from the most unexpected quarters. I seem to have touched particularly the hearts of women.

*

One lady writes: "I regret I have no connection with the architectural world apart from reading the JOURNAL every week" (5s. enclosed). And here is another letter. I have no means of knowing whether it is genuine, but guarantee it isn't a frame-up by the Art Department.

"Sorry can't give you 65×5s.* or even the 5s. you ask for. Am only a poor little office woman trying to buy a good-looking cottage in a still good-looking district, so send you 2s. 6d., and wish you more power to your elbow."

*

Dear reader, put away your hanky. We want your money, not your sympathy. Thank you, M. J. A. Your letter and half-dollar have lent us strength to bear this letter from Mr. John Gloag:—

Dear Sir,

The invitation issued by "Astragal" to readers of the JOURNAL, to help raise £20 to reimburse Mr. Richard Mansel Darwall will not receive any support from me, nor, I imagine, from anybody who realizes that the difference between civilization and barbarism is respect for law and order.

The disrespect for law and order which disfigures so many countries to-day, including the other great English-speaking democracy, is the first step towards two appalling evils, tyranny and anarchy. Everybody gets irritated with ugly, stupid and squalid things; but it is the peculiar genius of the English to be able to command from people who give their time and their energy with great generosity an immense amount of voluntary work which is specifically concerned with curing, curbing or preventing the lapses of commerce. Impersonal anger can be a fine propellant for protests that lead to reforms; but when it spends itself in violence it is as uncreative and as ultimately futile as hate.—JOHN GLOAG.

* Request at that time was for 65 five-shillingses.

*

Comment seems superfluous, and anyway Mr. Gloag's fans will make their own comments. After basking—for not too long—in his rhetoric, the only thing I gather (but I gather that quite plainly), is that Mr. Gloag is not going to send five shillings. For those who *are*, this is the cause. It is a bad one. A Kentish gentleman whose name (unbeknown to him) heads this appeal was motoring through Sussex when he came upon a poster advertising a new housing estate to be developed on the top of the Downs.

*

"Angered," says the local paper, "by what he believed would be a desecration of one of the loveliest places in England, he stopped, picked up a stick, slashed at the poster, and stuck the stick through it in several places." A horrified lime-burner by the name of W. Wallstead watched him do it.

*

For this assault the Kentish gentleman was made to pay, and the poster, described by the police as "the work of an artist," was exhibited in the court where he was fined. It depicted "broad unspoiled downland in the foreground of which were clusters of suburban villas." This is the first case of its kind in England, and it has cost its central figure about £20. It seems to me that there are probably 79 other people besides myself who share Mr. Darwall's feelings about the countryside, and would be prepared to share his expenses. We cannot countenance the knocking down of hoardings, which are other people's property, but we can sympathize with the motives that led him to break the law.

*

If there is an architect left who reads this column (is there, I begin to wonder) and if he burns with any of the fire which consumed Mr. Darwall on this frightful occasion, and if he has 5s. and will send it to me, I will send it to Mr. Darwall. Half the money is already in. I want about 45 five-shillingses more.

OBITUARY

It is some years now since I met Sydney Kitson and I can only confirm that it is difficult to assess the great work which he did for the R.I.B.A. as its Honorary Secretary.

*

His knowledge of men and affairs was sometimes hidden under his genial and even frivolous manner, but it was there nevertheless and served him well in his practice. I once heard him make a charming speech at an R.I.B.A. dinner in the provinces, when he quoted *Tristram Shandy*, Hazlitt and *Mr. Jorrocks* in the space of a few minutes without once seeming forced or unnatural. Everyone now knows that Sydney Kitson was a leading expert on John Sell Cotman, but few know that it was only in recent years, when illness came on him, that he took up the study of Cotman as an occupation for his hours of enforced idleness. Many people in many parts of the country will mourn him—especially his own profession.

CORKS

The Editor, not having a butler himself, has passed on to me the missive which reached him this week in the

envelope which, being free from snobbery, he has extravagantly reproduced on this page.

*

It seems that there is an opportunity for my butler to make a small fortune for himself by sending *my* champagne and brandy corks to a Cork Market in Balham. It is assumed, rather unwarrantably I feel, that the corks are the perquisite of "below stairs." When I throw one of my well known parties to the profession the returns will be colossal, since Ayala 1926 and Mumm's Cordon Rouge fetch as much as sixpence and sevenpence per cork. Ayala 1917 on the other hand drops rather mysteriously to a penny—it is, after all, not such a very bad wine.

SIR BRUMWELL THOMAS

It is a long time since we had an architectural law-suit of the first order and those who enjoy them can therefore look forward with interest to Brumwell Thomas *v.* the Hammersmith Council, if, as now appears likely, it comes into court. Abandoned work is an issue that touches most of us sooner or later and a little "case law" may prove useful.

WHAT ABOUT SOME CO-OPERATION ?

My remarks about the British Pavilion at Paris concluded, I think, with the observation that, well as much of the display is done, it is disconcerting to find almost everything done slightly better by some other nation.

*

Now exhibition display is legitimately an architect's job (though it is most akin to the non-professionalized art of window-dressing) ; and I was reminded of our architects' comparative lack of knowledge and experience of this technique when I went last Friday to the annual show of students' work at the Royal College of Art.

*

It came about like this. The Design School have their own separate show in the Imperial Institute : a remarkably fine show of work whose general level of taste and vitality far exceeds that at Paris or elsewhere—it is quite time our manufacturers discovered some of the students the Design School at the College is now turning out. The show has been displayed—the display, as it ought to be, being part of the exhibition—by the students themselves working under the supervision of Edward Bawden, the member of the Design School staff to whom, from what I can judge, the recent revival in intelligent design is largely due.

*

It is brilliantly done, with plenty of imagination ; but here is my point. In the same College is an Architecture School. And, as I have said, our architects are badly in need of experience of display design. So what more suitable than a little co-operation between the different parts of the College, calling in the architecture students to look after the design and construction of the stands, screens, show-cases and the rest, instead of leaving it to the (as it happened, brilliant) activity of the Design School Staff in its spare time ?

*

Apart from the question of experience of display technique, surely any opportunity that offers itself to architectural students to control the actual erection of something they have helped to design should be seized upon.

*

But is the Architecture School at the Royal College of Art encouraged to co-operate ? Not it. It is busy on a *dream village* and must not be disturbed.

ANSWERS TO QUESTIONS

Strong feelings about competitions have this week crossed the Border—the villain is the Kirkcaldy competition.

*

Grievances are : (1) that Conditions were issued about May 17 and competitors were then led to assume that the main entrance to the building must be from Whytescauseway ; in fact, there was no clue whatever to there being access to the site from other sides.

*

Answers to Questions reached competitors on July 13 —and what a tale comes down from the Highlands. Save for one small side the site now becomes an island and, far more, the main entrance is moved from Whytescauseway to Wemyssfield (which previously had looked very like adjoining owners' land).

*

Scotland admits that the sending-in date has been extended by a month—but what Scotland wants to know is who is going to pay for eight weeks' entirely wasted work.

COMPETITION PENDING

A note in last week's JOURNAL about an old friend, the proposed town hall at Newcastle-upon-Tyne, has, I hear, caused an architectural flutter. I am not surprised.

*

It was stated under News (quoting from the *Newcastle Daily Journal*) that the Special (New Town Hall) Committee had reported to the City Council that the R.I.B.A. had suggested the appointment of an Assessor (presumably for an open Competition) at a fee of £2 per £100 of the estimated cost of the building, and premiums of £750, £500 and £300.

*

It is the Assessor whom the Special Committee seem determined to reward well. If the proposed building costs the half million which the premiums hint at, this lucky and no doubt eminent gentleman will net £10,000.

*

But some things *are* too good to be true, and either the *Newcastle Journal* or the Special Committee have made the mistake of a "0" too many or too few. The R.I.B.A. scale of fees for Assessors is not 2 per cent. but one-fifth of 1 per cent. So Newcastle has saved £9,000 on its town hall already.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

NEW BUILDING BYELAWS

A new series of model byelaws for the regulation of building was issued last Wednesday by Sir Kingsley Wood, the Minister of Health. Local authorities are reminded that the Public Health Act, 1936, which comes into force on October 1 next, effects certain changes in the law under which building byelaws are made, and that all existing building byelaws in all parts of the country automatically lapse on July 31, 1939.

The new series of model building byelaws has been prepared in the light of the new powers contained in the Act, and the opportunity has been taken to make other important changes.

The scope of the new model byelaws is wider than that of the existing model series. The new model also contains a list of "short-lived" materials, the use of which is subject to special restrictions under the Public Health Act, 1936. The new model is more specific and scientific than the existing series in its treatment of materials in general. The required standards of bricks, cement and other constructional materials are laid down in detail, and reference is made to the British Standard Specification for a material, where such a standard exists.

The adoption of the new byelaws should mean the enforcement of a better standard in both materials and construction, combined with flexibility in design and in the use of modern methods.

The new model is intended to replace the existing three series known as Urban, Rural and Intermediate. The communication from the Ministry also refers to those local authorities which have at present no building byelaws. The exercise of certain powers under the Act of 1936 depends on the existence of byelaws and these local authorities are therefore being urged to make byelaws as soon as possible, either on the lines of the new model, or if desired, of an interim character.

THE ARCHITECTS' DIARY

Friday-Saturday, July 16-31
ARCHITECTURAL ASSOCIATION. *Exhibition of work by the students of the School of Architecture.*

Saturday, July 17-31
ROYAL COLLEGE OF ART. *Annual Art Exhibition by the Students.*

Friday, July 23
LONDON SOCIETY. *Annual River Trip by motor launch from Westminster Pier. 6.15 p.m.*

BUILDING IN BERKELEY SQUARE

Work on the new office block in Berkeley Square is to begin almost at once, and it is expected that the building, which will be a reinforced concrete frame structure, will be finished by September of next year. On the east side of the square, the building, to be called Berkeley Square House, will have a site area of 80,500 square feet, and Bruton Mews, which now has a zig-zag course from the lower end of Bruton Street to the bottom of Hay Hill, will be diverted, and will emerge into Berkeley Square, cutting off the block from the three houses at the end of the square not included in the scheme. The building has been designed to give the maximum natural light to all offices, but to have no enclosed courts; there will be 11 floors, with further floors in the 145-ft. tower. Up to the first floor the block will be faced with natural Portland stone, and above that with peach-coloured brick. The design allows for 50 ft. to 60 ft. of recessed pavement at the entrance to allow cars to draw up, and there is to be an underground garage accommodating 150 to 200 cars with an approach by ramps from South Bruton Mews. The architects are Messrs. Gordon Jeeves and Hector O. Hamilton, and the general contractors are Sir Robert McAlpine and Sons.

HOUSING PROGRESS

During June local authorities declared clearance areas comprising 4,747 houses, representing the displacement of 16,173 persons, as compared with 5,133 houses and a displacement of 21,531 persons in May.

The Orders submitted during June covered 5,209 houses and the displacement of 19,270 persons, as compared with 4,427 houses and the displacement of 19,666 persons in May.

The Orders confirmed during June covered 5,067 houses and 21,932 persons as compared with 2,791 houses and 9,902 persons in May. The total number of houses in confirmed Orders is now 146,805, involving the displacement of 629,056 persons.

The latest rehousing figures available are those for May. At the end of that month there were 61,954 houses under construction as compared with 60,326 at the end of April and 58,908 at the end of March. 5,904 houses were completed during May as compared with 6,269 during April and 6,257 during March. The great majority of these houses are being provided for rehousing persons displaced in connection with slum clearance schemes.

New houses approved during June numbered 8,135 as compared with 6,361 in May and 7,605 in April.

STUDENTS AT THE R.I.B.A.

A party of 80 members of the Northern Architectural Students' Association met at the R.I.B.A. on Saturday afternoon, July 10, before leaving for Paris on a fortnight's visit the same evening. The party were met by Mr. Hubert Lidbetter, F.R.I.B.A., Vice-chairman of the Board of Architectural Education, and Mr. Everard Haynes, Secretary to the Board. They were entertained to tea at the R.I.B.A. and shown over the building.

LIVERPOOL HOSPITAL AMALGAMATION

A scheme for the amalgamation of the voluntary hospitals in Liverpool has been approved by a Select Committee of the House of Commons, which considered the Liverpool United Hospitals Bill. Sir Charles MacAndrew presided.

Mr. R. H. Armstrong, chairman of the Associated Voluntary Hospitals Board, the promoters of the Bill, said the cost of a new hospital with 1,000 beds in public wards would be about £1,000,000. If funds permitted they hoped to provide 100 to 150 beds, but the expense of those beds would probably be at least 50 per cent. more than the cost of public beds.

THE WELSH SCHOOL OF ARCHITECTURE

The following awards have been made as a result of the Sessional Examinations at the Welsh School of Architecture at the Technical College, Cardiff. Professor L. B. Budden, M.A., F.R.I.B.A., and Mr. W. B. Edwards, M.A., B.ARCH., F.R.I.B.A., are the external examiners.

Fifth Examination for the Diploma awarded at the end of the five years' full-time course, exempting from the R.I.B.A. Final Examination :—

Armstrong, D. J. : Diploma, with distinction in Thesis ;
Jenkins, D. T. : Diploma, with distinction in Thesis ;
Owen, D. B. : Diploma.

Mr. A. B. Lacy, who has been awarded the annual travelling scholarship of the Leeds School of Architecture.

Ravelston Garden, one of several blocks of flats at Craigleith, Edinburgh, by Neil and Hurd. The perspective was exhibited at the Royal Scottish Academy.

Thomas, N. P. : Diploma, with distinction in Design and Working Drawings ;
Wall, L. W. D. : Diploma, with distinction in Thesis and Working Drawings.

Third Examination for the Certificate awarded at the end of the three years' full-time course, exempting from the R.I.B.A. Intermediate Examination :—

Treatt, Miss J. B. Armstrong, D. J.
Gwilliam, D. Williams, T. C.

THE POLYTECHNIC SCHOOL OF ARCHITECTURE

An exhibition of work by students of the Polytechnic School of Architecture was opened by the Marquess of Aberdeen last Monday at the Building Centre.

MORE BUILDING CENTRE DIRECTORS

The personnel of the Board of Directors of the Building Centre has been recently added to and now consists of the following : Maurice E. Webb, D.S.O., M.C., F.R.I.B.A. (Chairman) ; Robert Atkinson, F.R.I.B.A. ; Leonard H. Bentall ; L. H. Bucknell, F.R.I.B.A. ; George Burt ; R. R. Costain ; Sir E. Guy Dawber, R.A., F.R.I.B.A. ; Louis de Soissons, S.A.D.G., F.R.I.B.A. ; J. M. Easton, F.R.I.B.A. ; Sidney Gluckstein, F.I.O.B. ; Vincent Gluckstein, F.I.O.B. ; Gerald Hill ; R. T. James, A.M.I.C.E., ETC. ; Ian Jeffcott, F.F.A.S. ; N. C. Macnamara ; T. E. Scott, F.R.I.B.A. ; G. Grey Wornum, F.R.I.B.A. ; F. R. Yerbury, HON.A.R.I.B.A. (Managing Director).

A.A. PRIZEGIVING

The A.A.'s annual prizegiving took place last Friday, when, after an address by the Earl of Bessborough, the prizes were presented by the Countess of Bessborough. A vote of thanks was proposed by Mr. H. S. Goodhart-Rendel and seconded by Mr. E. A. A. Rowse. A list of prize-winners is given below :—

Leverhulme Scholarship (value £1,000) : R. H. Evans.

Renewal of Leverhulme Scholarships : W. A. S. Doig, G. Robson, G. E. Magnay, D. Duncan.

The Minter Open Entrance Scholarship (value £75 12s.) : J. Carmichael Gibson (Charterhouse).

The Sir Walter Lawrence Open Entrance Scholarship (value £75 12s.) : R. A. Orton (Charterhouse).

Renewal of Annual Scholarships (value £75 12s.) : T. W. Atkinson, R. S. W. Smith, J. Wheeler, R. V. Crowe.

Renewal of Annual Scholarships (value £37 16s.) : P. I. D. Tetley, H. Scarth.

A.A. Measured Drawings Prize : First prize £12, J. R. B. S. Penoyre ; second price £8, divided between A. J. Murray and M. Taute.

A.A. Essay Prize (value £10 10s.) : G. S. Inglefield.

Alec Stanhope Forbes Prize (for the best colour work during the session. Value £5) : T. Verity (R.I.B.A. Ralph Knott Memorial Scholar).

Wall-paper Manufacturers' Scholarship Renewals (value £50 each) : J. S. Hirst, N. Perry.

Medal presented annually by the Société des Architectes Diplômés par le Gouvernement, Paris, to the best Diploma student of the Session : R. K. Rutherford (Holloway and R.I.B.A. Henry Jarvis Scholar).

Royal West of England Academy School of Architecture (affiliated to the A.A.). Prize in Design (value £5 5s.) : G. Wills.

First Year Prizes

Howard Colls Travelling Studentship (value £15 15s.) : H. E. H. Cleminson.
Second Prize (value £5 5s.) : D. H. Claye.
Honourable Mentions : Miss M. J. Griffiths, P. F. Bedford, B. Martin.
Draughtsmanship Prize (£1 1s.) : P. F. Bedford.

Second Year Prizes

A.A. Travelling Studentship (value £26 5s.) : G. Robson (Leverhulme Scholar).
Second Prize (value £10 10s.) : divided between P. H. Braddock and J. M. Maxwell.
Honourable Mentions : O. F. C. Carey, J. W. A. Cubitt, Miss C. M. Hamp, R. B. Holland, P. I. D. Tetley (Open Entrance Scholar).
Draughtsmanship Prize (£1 1s.) : G. Robson.

Third Year Prizes

Holloway Scholarship, tenable for two years (value £250) : S. G. Kadleigh (Open Scholar).
A.A. Travelling Studentship (value £31 10s.) : J. R. B. S. Penoyre.
Third Prize (value £10 10s.) : M. Ryan.
Honourable Mentions : G. A. S. Richardson, M. Taute, J. N. G. Bruce, J. P. Tingay.
Draughtsmanship Prize (£1 1s.) : J. R. B. S. Penoyre.

Fourth Year Prizes

Year Prize (value £10 10s.) : P. L. Cocke.
Honourable Mentions : J. C. de C. Henderson ("Builder" Scholar), A. W. Nicol, P. M. Thornton.
R.I.B.A. Henry Jarvis Scholarship for Construction (value £50) : A. W. Nicol.
Honourable Mention for Henry Jarvis Scholarship : R. R. Fairbairn.
Draughtsmanship Prize (£1 1s.) : P. L. Cocke.

Fifth Year Prizes

A.A. Travelling Studentship (value £50) : R. K. Rutherford (Holloway and R.I.B.A. Henry Jarvis Scholar).
Henry Florence Travelling Studentship (value £50) : D. W. Pye (Open Entrance Scholar).
Third Prize (value £10 10s.) : G. H. Ineson.
Honourable Mentions : Miss D. F. Boyd, A. G. Brighton, F. W. Cousins, Miss K. M. Greenwell, G. H. Ineson, W. G. Maddison, J. S. Neish, R. P. Quennell, J. C. Ratcliff, Miss A. R. Rowntree, Miss P. M. Spencer, D. S. Soutar, N. Summers, T. Verity.
Draughtsmanship Prize (£1 1s.) : R. K. Rutherford.

The following are eligible for the Honours Diploma after the necessary period of office experience : Miss D. F. Boyd, F. W. Cousins, G. H. Ineson, J. S. Neish, D. W. Pye, J. C. Ratcliff, R. K. Rutherford, D. S. Soutar, T. Verity.

London Master Plasterers' Association

CAMBRIDGE CREMATORIUM COMPETITION

The Assessor, Mr. H. S. Goodhart-Rendel, has made the following awards in the Competition for a Crematorium in Fen Ditton Lane, Cambridge :*

1st Premium £100 : Mesdames Aiton and Scott, AA.R.I.B.A., 12 Hans Crescent, S.W.1.

2nd Premium £60 : Mr. A. G. Shoosmith, A.R.I.B.A., 7 Gower Street, W.C.1.

3rd Premium £40 : Mr. Rolf Hellberg, A.R.I.B.A., 13 Queen Victoria Street, Coventry.

** Subject to official approval and confirmation by the Council.*

Travelling Studentship (value £25) : D. W. Pye.

First Mentions

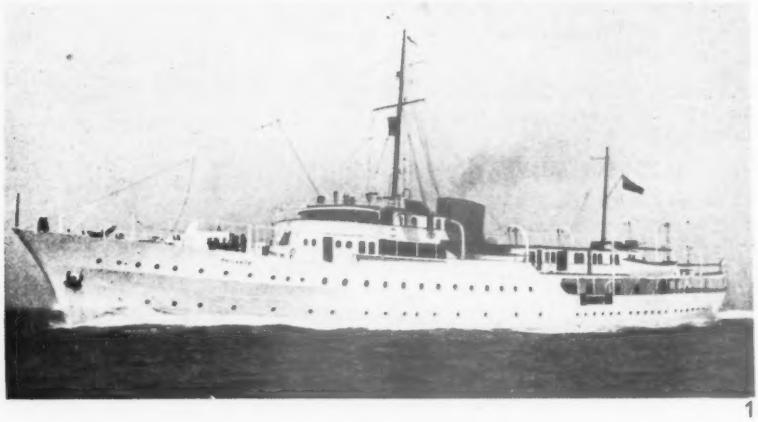
Unit 1 : J. C. Whitaker, T. A. Bird.
Unit 8 : S. G. Kadleigh, G. A. S. Richardson.
Unit 9 : divided between R. H. Hammett, G. M. Koigen, and J. R. B. S. Penoyre ; divided between A. J. Murray and M. Taute.
Unit 10 : J. R. B. S. Penoyre.
Unit 11 : A. N. Sturt.
Unit 14 : D. W. Pye ; divided between S. Mohilever, Miss B. M. Beatty, Mrs. A. H. Tatton Brown, and G. S. Inglefield.

THE GOVERNMENT PAVILION AT GLASGOW

The Department of Overseas Trade announces that arrangements are proceeding for the erection of the United Kingdom Government pavilion at the Empire Exhibition, to be held in Bellahouston Park in Glasgow from May to October next year.

Mr. Herbert J. Rowse has been appointed architect for the pavilion, and is now engaged in the preparation of plans. The building will be placed on the west side of the park, on the main avenue connecting the north and south sections of the exhibition, and opposite a spur of high ground which juts out near the centre of the park.

THIS ARSHETECTURE



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[Illustrations and captions from "The Yachting World."]

M.Y. PHILANTE, 1,611 tons

1 : Built by Camper and Nicholsons, Ltd., at Southampton, for Mr. T. O. M. Sopwith, Philante is the largest full-powered yacht owned by a British yachtsman.

Philante is 263 ft. overall, 240 ft. on the waterline, and 38 ft. in breadth. Two 1,500 h.p. M.A.N. diesels drive her at just over 17 knots. She is now in American waters, acting as tender to Mr. Sopwith's America's Cup Challenger, Endeavour II.

3

2 : The main stairway is of noble proportions, and is well lighted.

3 : Solid comfort is the keynote of the smoking-room.

EXHIBITIONS

[BY D. COSENS]

Many influences, Byzantine, Oriental, and Impressionist have left their mark on Matisse's work, but although they are all to some degree apparent in the collection of his latest paintings (those of 1936 and 1937) which is being shown by Messrs. Rosenberg and Helft, the final result is Matisse alone.

His paintings are arabesques in which models, flowers, or backgrounds are of equal value, and seen with equal impersonality. They are studies in linear rhythm and colour harmony, as unemotional and detached as the patterns on a wallpaper. And the astonishing thing is that, using flat washes of colour and no modelling, he is able to give solidity by superb modifications of line, and space through colour relationships. It all looks so simple, so deceptively easy, this flat painting that achieves depth without effort and harmony through strange and dissonant colour appositions. Few painters combine the assurance gained by a lifetime of experiment with such freshness and vitality.

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Agnew's Exhibition of Works by Contemporary British Artists is interesting and one in which most people will find much to enjoy. It ignores, purposely, many trends in modern painting, but nearly all the work shown is very good. Of the sculpture Frank Dobson's is by far the best ; he is a sculptor who is perhaps nearly always at his happiest in modelling rather than carving, and his "Sun Bathers" and "Project" are some of the loveliest things in the exhibition.

Sickert's "Shuttered Sunlight" and "The Bar," both of which are magnificent, give, as all great painting does, that suggestion of what lies outside the picture.

Of the rest, Duncan Grant's decorative panel on the stairs, Claude Roger's "Glasses," Keith Baynes' "Circus Horse," both of Ivon Hitchens' paintings and both of Adrian Daintrey's, Frances Hodgkins' "Green Jug and Jade Sea," and Alan Walton's "Sailing at Bawdsey" are outstanding.

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Mr. Suddaby has done it again and again and again. Separately each of his paintings at the Redfern Gallery would be charming to live with, some of them (No. 34, "Flowers in a Window," for example) are extremely good, and each shows the talent of a young painter whose work I have always admired and considered as marked out for genuine success. But seen all together these paintings hint at an acceptance of the transient success that can be so easily gained by sticking to a good formula and abandoning any further search. Most painters do undoubtedly develop a very individual style in spite of tireless experiment, but no painter of Mr. Suddaby's vision and capability should be content to admit that yet. He should still be trying to please himself, not us.

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Henri Matisse : Rosenberg and Helft, 38 Bruton Street : Until July 31.

Works by Contemporary British Artists : Agnew's, 43 Old Bond Street : Until July 31.

Recent Water-colours by Rowland Suddaby : Redfern Gallery, 20 Cork Street : Until July 31.

MANCHESTER CITY POLICE HEADQUARTERS

GENERAL PROBLEM—*New police headquarters for the City of Manchester with, in addition, accommodation for Section "A" Division. The whole of the building, fittings, furniture and decorative schemes were designed in the city architect's department. The majority of the offices face the courtyard, which gives better light than the street frontages and is quieter.*

CONSTRUCTION—*Main walls are brick. The South Street elevation is faced with Portland stone, and the other elevations are in bricks of a golden-brown shade. Internal partitions are of plaster slabs. The floors of the basement and lower ground floor are solid reinforced concrete; all the other floors and the flat roofs are hollow tile and concrete. Windows are heavy section steel.*

The windows of the principal rooms facing South Street are provided with double glazing to exclude street noises.

INTERNAL FINISHES—*The floor and the walls of the main entrance hall are in Hoptonwood stone. Other floors are: offices, Rhodesian teak or Burma teak blocks; corridors, cork tiles; "A" Division parade room, coloured asphalt; laboratories and police surgeon's room, wood composition blocks; lavatories, terrazzo tiles. The chief constable's office is panelled in silver greywood, and the remainder of the principal rooms have dado panelling in oak. The dado on the main staircase is in imitation Hoptonwood stone; that in "A" Division parade room is in faience; and that in the committee room is in laurel wood. The walls of the offices and the corridors are covered with hydrolized hydraulic lime, finished with synthetic paint on the dados and water paint above. Lavatory walls are tiled.*

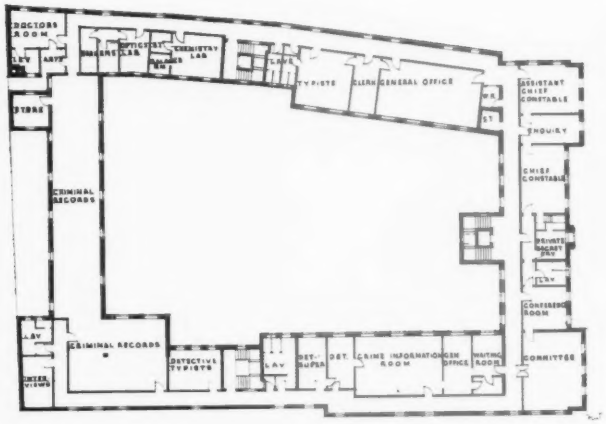
The photographs show: right, the entrance front, facing South Street; below, looking down into the courtyard.

DESIGNED BY

G. NOEL HILL,

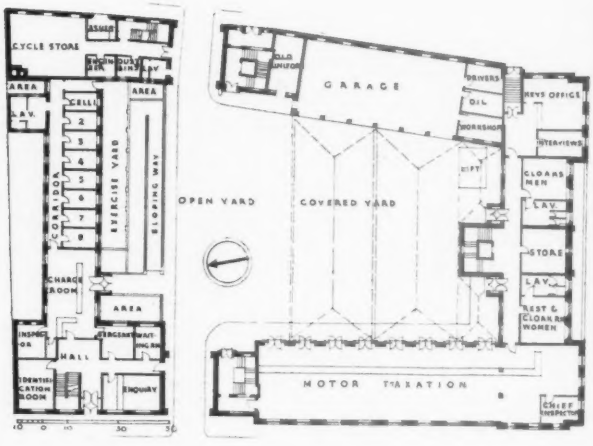
CITY ARCHITECT

MANCHESTER CITY POLICE HEADQUARTERS



FIRST FLOOR PLAN

UPPER GROUND FLOOR PLAN



LOWER GROUND FLOOR PLAN

FURNITURE AND FITTINGS—*The chemical laboratory, with balance room and store, and an optical laboratory, with two dark rooms, are equipped for criminal investigation. The optical laboratory is a general optical workshop, and may be used as a photographic studio. Equipment is being provided for the enlargement, projection and the minute examination of crime exhibits on a screen. Provision is made for finger-print records and for the examination of finger prints. The crime information room contains wireless equipment, connected with the aerial masts. In order that radio service will not be interrupted, radio interference suppression devices are fitted to all the electrical apparatus and motors. The principal rooms have wood furniture to match the panelling; and the offices have steel furniture and fittings.*

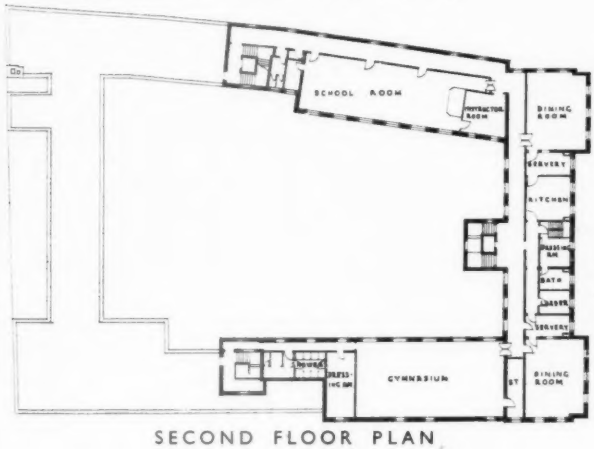
The photograph is of the internal courtyard.

DESIGNED BY G. NOEL HILL, CITY ARCHITECT

SERVICES—*The more special services include a hydraulic direct-action ram type platform lift for the transport of heavy street barriers between the yard and basement store, and a hydraulic car lift, of the direct action ram type in the covered yard, instead of a repair pit, and capable of raising a vehicle weighing 3 tons. Adjoining the garage is a five-gallon electrically-operated petrol pump, connected to a 500-gallon underground tank. The telephone switchboard is in a room at the top of the building, but in emergency it can be transferred to the basement.*

COST—*First contract, substructure, £13,000; second contract, superstructure, £74,500; furniture, £13,000. Total, £100,500. The photographs show: above, the gymnasium; right, a dining room.*

For list of general and sub-contractors see page 167.



SECOND FLOOR PLAN

LETTERS FROM READERS

Salaried Architects

A. W. BARR, Secretary, A.A.S.T.A.

DEAR SIR,—Your leading article of the 8th July on "Salaries" and the publicity given in your correspondence columns to the interests of salaried architects are both excellent in bringing these questions to the fore. The A.A.S.T.A. does not believe that architects and architectural assistants are more lethargic or apathetic than any other profession. We agree, however, that the whole profession is bitten with the bug of individualism, that it does not fully realize the social changes that have taken place since the War. The small private office which you stress is an important factor in keeping down the incomes of salaried men is, however much one may regret it, becoming an uneconomic unit. Students, leaving school in ignorance of this, face life with a quite unrealistic outlook. They do not realize the difficulties the small private architect is up against. While it is necessary, however, as you seem to suggest for the small-private-office section of the profession to re-organize itself the assistant should not allow the problems of this section to force down his standard of living. This individualism which does not see the necessity for organization is based on bias in education and lack of knowledge of the true facts. The need for facts on the changed constitution of the profession to-day, the size of offices and the proportion of assistants to private and official architects makes all the more urgent the question recently mooted in the JOURNAL of a Census. I am able to reveal that the A.A.S.T.A. is endeavouring to obtain the co-operation of all other bodies in the profession on this problem.

The second problem raised by you, the difficulties in the way of the adoption of a "proper" scale of salaries is, we believe, not insuperable. The basic scale of the A.A.S.T.A. upon which we are at the moment negotiating on behalf of several staffs and have already secured increases for others, is based on the principle that up to a certain age a young man, who is ordinarily competent, should be ensured a certain minimum standard of living, at which he can support himself with suitable regard to his education, his professional status and obligations. Above the minimum salary figures necessary to ensure this a man should receive a higher figure according to his particular duties.

The A.A.S.T.A. minima are :—

Age	Minimum (Provinces)	Minimum (London)
21 years ..	£3	£3 10s.
22 ,, ..	£3 10s.	£4
23 ,, ..	£4	£4 10s.
24 ,, ..	£4 10s.	£5
25 ,, ..	£5	£5 10s.

Above the age of 25 years we consider certain minimum figures should be fixed according to responsibility undertaken and work done. The A.A.S.T.A. minima are :—

	Min. (Prov.) A year	Min. (Lon.) A year
Assistants over 25 years normally working under supervision and without special responsibility ..	£250	£286
First-Class Assistants normally undertaking special responsibility or work which places a man on a higher grade than other assistants in an office	£350	£375
Senior Assistants, normally supervising major work, administering contracts and/or in charge of staff	£450	£475

Between these grades, we consider, regular increments should be given.

In very large offices, of course, there will be further special grades according to the size and type of organization. In smaller offices there may be only two or three assistants, but as the size of office increases a man corresponding to the first-class assistant grade will be required.

The above scale has been revised this year in accordance with a survey of salaries of members of the Association. In our opinion it is a reasonable and a practicable scale.

It is of the utmost importance as your correspondent "Chartered Architect" suggests that every assistant who is a member of the R.I.B.A. should take an active interest in the work of its Council and Committees. In 1925 the A.A.S.T.A. achieved representation on the Council of the R.I.B.A. and appointed the first salaried assistant ever to sit on the R.I.B.A. Council. In 1929 directly as a result of A.A.S.T.A. initiative the R.I.B.A. set up its Salaried Members' Committee. For many years we have been trying to induce the R.I.B.A. to adopt a scale of minimum salaries for its assistant members, to place alongside its scale of fees for private architects.

During the coming Session the A.A.S.T.A. intends through its members on the various committees of the R.I.B.A. to draw increasing attention to the economic structure and needs of the profession, to the question of salaries, to the status of assistants in local government offices and to the burden of evening school education. The R.I.B.A. is the oldest and most powerful body in the profession and can be made to reflect the needs and desires of the majority of its members. Organization for this end runs parallel with organization for improved conditions of salaried assistants generally, and the day when the salaried architects' union will be a power in the land.

A. W. BARR,
Secretary, A.A.S.T.A.

The Hackney Competition

JOHN PHILLIPS and HARRY GIBBERD

SIR,—We are interested to see that the Assessors' Award and the exhibition of designs at the Town Hall, have been followed by criticism in some of the architectural papers, including a rather unedifying editorial in the ARCHITECTS' JOURNAL (July 8 issue).

The letters contain much that is a matter of opinion, and, whilst healthy criticism is appreciated, the point remains that the issue should be taken as a question of 'parti' and should be viewed broadly—details and minor adjustments are bound to be made in a large and complicated scheme of this nature, which is actually in the preliminary stage.

The assessor has no doubt made his selection out of the many schemes submitted—in the same broad way.

JOHN PHILLIPS.
HARRY GIBBERD.

Epstein's Sculpture

ALAN L. LUKE

SIR,—It is not often I can find fault with "Astragal's" Notes and Topics, but in the last issue of the JOURNAL appears a reference to Epstein's figures on the old British Medical Association building in the Strand.

Should anyone visit the offices of the High Commissioner for New Zealand to view for the last time these noteworthy pieces of sculpture, he would be disappointed and perhaps gain the impression that the High Commissioner had performed his act of wholesale destruction already.

But the High Commissioner for New Zealand is *not* responsible ! The building is occupied by the *High Commissioner for Southern Rhodesia*, and apparently it is he who has ordered the removal of Epstein's figures.

ALAN L. LUKE.

[*A number of anonymous letters have been recently received by the* JOURNAL. *While correspondents are at liberty to use a pseudonym, it must be emphasized that all letters intended for publication must be accompanied by the name and address of their authors.*—Ed. A.J.]

THE NUMBER OF FLATS IN LONDON

AN APPROXIMATE SURVEY

By PHILIP H. MASSEY, B.SC. (ECON.), F.R.ECON.S.

HOW many flats are there in London? This is a question which has been asked innumerable times in the last ten years by the general public, by property owners and architects. And since no one knew the answer—despite its very great importance—the most fanciful computations have been made and the most exaggerated totals quite widely believed. In the following survey, based on statistics placed at its disposal by a great property company, the JOURNAL *makes an attempt to answer the question.*

This attempt has naturally called at once for arbitrary definitions of terms. First, what is a flat? For the main purpose of this survey it is assumed to be a "middle-class" self-contained flat in a building specially built as a flat block. Second, what is London? The principal results given here are for the L.C.C. area only, but general statistics for Greater London are also included.

The JOURNAL *has been able to state how many such flats are in existence with, it believes, considerable accuracy. It also publishes the number of families now in London which may be assumed to be able to afford to live in a special-built flat of average rental. But calculations from these two totals of the flat market, still unexhausted in London, are still faced with a serious obstacle. No one knows how many thoroughly satisfactory middle-class converted flats exist; and finding this out is at the moment beyond the resources of any private organization.*

THE erection of blocks of middle-class flats in the central and outlying portions of London is a subject of the greatest architectural and sociological importance on which statistical information is notably lacking. The Census, which anyway is only a decennial event, makes no distinction between flats and other dwellings, nor between middle-class and working-class flats; and it is quite obvious that the Census, which is an exact statistical record, could not advance into fields within which exactness is impossible. The questions "What is a flat?" and "What is a 'middle-class' flat?" are not answerable in precise terms. Nevertheless, most people, given a set of properties to examine, could apportion the majority of them with a fair degree of certainty, and doubts and disagreements would arise only in regard to certain marginal examples.

In view of the importance of the matter it is perhaps surprising that no statistical study of the subject, "London Flats," has been attempted previously, so far as the writer is aware.

The material which appears below under the headings "Artisan Flats" and "Middle-Class Flats" is derived from an enquiry carried out privately by Mr. T. J. Cullen, Managing Director of London County Freehold and Leasehold Properties, Ltd. This material has not previously been published, and, indeed, was not compiled with a view to publication. My acknowledgments are due to Mr. Cullen for putting it at my disposal for the purpose of publication and comment in this JOURNAL.

Before proceeding to a summary and consideration of this material, however, it will be useful to examine certain points relating to dwellings as a whole in the London area during the last half-century.

Introductory Statistics

The 1931 Census Report gives the figures for "structurally separate dwellings" in the L.C.C. area and in Greater London as a whole. A "structurally separate dwelling" was defined for the Census of 1931 in the following terms:

> "A structurally separate dwelling has been defined for the Census as any room or set of rooms, intended or used for habitation, having separate access either to the street or to a common landing or staircase. Thus each flat in a block of flats is a separate unit; a private house which has not been structurally subdivided is similarly a single unit whether occupied by one family or by several families. But where a private house has been subdivided into maisonnettes or portions, each having its front door opening on to the street or on to a common landing or staircase to which visitors have access, then each such portion is treated as a separate unit."

The number of dwellings in the L.C.C. area in 1935 is also available, being calculated by the L.C.C. from statistics supplied by the Metropolitan Borough Councils. The definition used for the Census in 1931 also applies here, so the figures given below for 1931 and 1935 are comparable.

In 1891 the concept of the "structurally separate dwelling" had not been brought into use; the instruction to the Census enumerators was that they should consider every building that was separated from the next adjoining building by an unbroken party wall, and such only, to be a separate *house*. The Report observed, however, that there was very good reason for believing that this instruction was not universally observed, and that often a block of buildings, consisting according to the definition of several distinct houses, was treated as a single house, while on the other hand portions of one and the same house, held as different tenements, were often counted as separate houses.

The basic statistics are best set out in tabular form:—

1891	
Number of inhabited houses in Greater London, 1891 Census ..	789,408
Number of inhabited houses in L.C.C. area, 1891 Census	548,315
Number of inhabited houses in the Outer Ring in 1891, therefore ..	241,093
1931	
Number of structurally separate dwellings in Greater London, 1931 Census	1,588,806
Number of structurally separate dwellings in L.C.C. area, 1931 Census	748,930
Number of structurally separate dwellings in the Outer Ring in 1931, therefore	839,876
1891–1935	
Number of houses (inhabited and uninhabited) in L.C.C. area, 1891 Census	588,301
Number of dwellings in L.C.C. area in 1935	768,569

Owing to the differences in definition, the statistics for 1931 and 1935 cannot be compared with those for 1891. The above figures serve, however, to illustrate the position as between the L.C.C. area and the Outer Ring at the two census dates.

Unfortunately, the total number of houses, inhabited and uninhabited, in Greater London in 1891 is not shown in the Census Report for that year. The number inhabited, as shown above, was 789,408. It can be seen that the number of uninhabited houses in the *L.C.C.* area was 39,986; it would seem reasonable to assume that the number of uninhabited houses in the Outer Ring bore about the same proportion to the number of inhabited houses as was the case for the *L.C.C.* area. Assuming, then, 20,000 uninhabited houses in the Outer Ring, the total number of houses in Greater London can be taken as 850,000 in

1891, and the number in the Outer Ring (*i.e.* the part of Greater London not within the L.C.C. area) as 260,000.

We have, then, for 1891, approximately—

590,000 *houses* in the L.C.C. area
260,000 in the Outer Ring

850,000 in Greater London as a whole.

By 1931 the position had become—

750,000 *dwellings* in the L.C.C. area
840,000 in the Outer Ring

1,590,000 in Greater London as a whole.

By 1935 the number of dwellings in the L.C.C. area had increased by another 20,000. Comparative figures for the Outer Ring and Greater London are unfortunately not available. It is, of course, a matter of common knowledge that the number of dwellings outside the L.C.C. area has been increasing rapidly since 1931.

Incomes

For the purpose of evaluating the material relating to middle-class flats which follows it is necessary not only to have a picture of the increase in the number of dwellings in the London area, but also a rough idea at least of the incomes of the inhabitants.

According to the investigations made by the London Press Exchange and published in *The Home Market* there were in 1934 approximately 1,174,400 families living in the L.C.C. area. In 52,900 of these the chief income earner had an income of £10 per week or more, in 352,300 the chief income earner had between £4 and £10 per week, and in the remaining 769,200 the chief income earner received less than some £4 per week. The percentages of families in these three categories were respectively 4.5, 30.0, 65.5. For the Greater London area as a whole the proportions of families in both the top and bottom categories are somewhat higher and the proportion in the £4 to £10 group is rather lower. The corresponding percentages appear to be roughly 5.5, 27.5, 67.0.

In considering the proportion of dwellings which are "middle-class flats" it will be important to bear in mind that only in about one family in twenty has the chief income earner an income exceeding £10 per week, while in two families out of three the chief income earner receives less than £4 per week.

* * *

[N.B.—*At this point we come to the material for which I am indebted to Mr. Cullen. I am responsible only for its arrangement and selection for the present purpose and for the introductory and concluding comments.*—P.H.M.]

Artisan Flats

As a side-line to the main enquiry respecting what may be called middle-class flats an enquiry was made as to working-class flats in the L.C.C. area belonging to companies, trusts, etc., and to the L.C.C. The method used was that of direct enquiry from bodies known to own a large number of working-class flats and the result is shown in the following table :—

Peabody Trust	7,194
Improved Industrial Dwellings Co.	5,785
Metropolitan Housing Corporation	4,700
Guinness Trust	3,682
Artizans & General Dwellings Co.	2,300
East End Dwellings Co.	2,179
Sutton Trust	2,168
Samuel Lewis Trust	2,120
London Labourers Dwellings Socy.	2,014
Metropolitan Industrial Dwellings Co.	1,221
National Dwellings Society ..	676
Wharncliffe Dwellings Co. ..	540
	34,579
London County Council	22,909
Total of above	57,488

It should be noted that this figure does not by any means represent the total of working-class flats within the L.C.C. area ; flats belonging to the Metropolitan Borough Councils, and to housing associations, etc., are not included in the above table, and there may be other omissions.

Middle-Class Flats

In regard to middle-class flats the source of information worked upon was the Post Office London Directory—for 1937 and 1932.

The entries in the 1937 Directory were examined, multiple addresses noted* and the total numbers of flats under the respective addresses listed in alphabetical order of streets through the whole L.C.C. area. The same method was then followed with the 1932 Directory. In each case converted properties were excluded so far as possible except where conversion had amounted almost to rebuilding.

The statistics were arranged according to the initial letters of streets. This method was convenient as following directly from the method of collection, but it does not provide an immediately helpful view of the location of the flats. A rearrangement of the statistics by boroughs or by postal districts,† or, better, the construction of a map illustrating the location of the flats by means of coloured squares sized proportionately to the numbers of flats in each block, would be necessary in order that we should be able to see the situation in some sort of whole. In the construction of such a map the opportunity should be taken to preserve the distinction between the 1931 and 1936 flats by using two colours ; the location of the flats should be related to principal business centres, main roads, railway and underground stations and bus routes and so forth. This indication of how the material might be presented is in no way to be regarded as a criticism of the material in its present form. Such an arrangement would in any case have been a necessary stage in the preparation of a survey of the type envisaged.

The summary shows the situation in 1931 and 1936 as follows :—

Total number of flats in 1936, approximately	37,000
Total number of flats in 1931, approximately	26,000
Increase, 1931–36, approximately	11,000

The total number of middle-class flats will probably appear surprisingly low, as may the increase in the number of such flats between 1931 and 1936, even when it is remembered that the statistics relate to the L.C.C. area only. There appear to be two explanations. In the first place, blocks of middle-class flats of the better sort probably appear to contain, on a casual view, very many more individual dwellings than in fact they do contain ; in the second place (and this probably applies in greater degree to the newer properties) they seem to tend to be erected in conspicuous positions. This tendency, if it is a tendency, would be brought out by using the statistics for the construction of a flat-map of the type suggested. It seems fairly clear, at all events, that there must be about twice as many working-class flats as there are middle-class flats in the L.C.C. area.

But although all the figures relating to middle-class flats may be lower than is generally imagined the *proportionate increase* during the last few years indicates the great importance of recent developments in metropolitan middle-class housing.

The full tables from which the above totals were compiled are too lengthy to reproduce. The following list of properties containing 100 or more flats has been compiled from these full tables. (N.B. In some cases different names are given to parts of what is in reality a single block ; this reduces the apparent number of large properties because the figures under the respective heads have not been added together.) Following the layout of the original tables, the initial letters of the streets in

* The Post Office London Directory gives details regarding separate occupations in the case of what may be called middle-class, but not for what may be called artisan or working-class, flats.

† The postal districts in which the respective blocks are situated are given in the lists as at present compiled, but the *arrangement of lists* is by initial letters of streets, as stated in the text.

Existing Blocks of 100 Flats and Over

		Total Number of Flats (1936)	Old Flats (1931)	New Flats (1931–36)
A.	Abbey Road Mansions, N.W.8	153	153	—
	20 Abbey Road, N.W.8 ..	153	—	153
	29 Abercorn Place, N.W.8	159	—	159
	Oakwood Court, W.14 ..	231	231	—
	Larkhall Estate, S.W.8 ..	308	308	—
	Cholmley Gardens, N.W.3	156	156	—
	Ashley Gardens, S.W.1 ..	227	227	—
B.	Beaufort Mansions, S.W.3	128	128	—
	Bedford Court Mansions, W.C.1	142	142	—
	Hillfield Court, N.W.3 ..	114	—	114
	Gilling Court, N.W.3 ..	104	—	104
	Holmefield Court, N.W.3 ..	104	—	104
	Berkeley Court, W.1 ..	130	130	—
	Lansdowne House, W.1 ..	113	—	113
	Bickenhall Mansions, W.1	149	149	—
	St. James' Court, S.W.1 ..	319	319	—
	Fountain Court, S.W.1 ..	175	—	175
	Bishops Mansions, S.W.6 ..	148	148	—
C.	St. Ermins, S.W.1	150	150	—
	Chiltern Court, N.W.1 ..	198	198	—
	Woodlands Mansions, S.W.4	105	—	105
	Clarence Gate Gardens, N.W.1	199	199	—
	Clifton Court, N.W.8 ..	131	131	—
	Coleherne Court, S.W.5 ..	212	212	—
	Castellain Mansions, W.9 ..	175	175	—
D.	Delaware Mansions, W.9	123	123	—
E.	Biddulph Mansions, W.9 ..	137	137	—
	Elmhurst Mansions, S.W.4	180	180	—
F.	Eyre Court, N.W.8 ..	127	127	—
	North End House, W.14 ..	153	153	—
	The Drive Mansions, S.W.6	105	105	—
	Ridgmount Gardens, W.C.1	127	127	—
G.	Dorset House, N.W.3 ..	183	—	183
	Ivor Court, W.1	153	—	153
	Leith Mansions, W.9 ..	104	104	—
	20 Grosvenor Square, W.1	102	—	102
	Grove End House, N.W.8	140	140	—
	Scott Ellis Gardens, N.W.8	344	344	—
H.	Grove Hall Court, N.W.8	204	—	204
	Kings Court, W.6	192	—	192
I.	Iverna Court, W.8. ..	112	112	—
J.	Queen Alexandra Mansions, W.C.1	181	181	—
K.				
L.	Langford Court, N.W.8 ..	126	—	126
	The Woodlands, S.W.9 ..	105	—	105
	Latymer Court, W.6 ..	362	—	362
	Lauderdale Mansions, W.9	272	272	—
	Parliament Hill Mansions, N.W.5	100	100	—
	Kenilworth Court, S.W.15	146	146	—
	Albert Palace Mansions, S.W.11	154	154	—
M.	Clive Court, W.9	142	142	—
	Makepeace Mansions, N.6	270	270	—
	Hyde Park Mansions, N.W.1	113	113	—
	Montagu Mansions, W.1 ..	103	103	—
	Morshead Mansions, W.9	104	104	—
N.	North Gate, N.W.8 ..	120	102	18
	West Kensington Court, W.14	150	—	150
O.	Holly Lodge Mansions, N.6	408	408	—
P.	Rossmore Court, N.W.1 ..	132	—	132
	Elm Park Mansions, S.W.10	189	189	—
	Peters Court, W.2	214	—	214
	15 Portman Square, W.1 ..	109	—	109
	Overstrand Mansions, S.W.11	106	106	—
	York Mansions, S.W.11 ..	100	100	—
	Manor Fields, S.W.15 ..	207	—	207
	Greenhill, N.W.3	138	—	138
Q.	Queens Court, W.2 ..	154	154	—
	Princes Court, W.2 ..	127	—	127
	Ralph Court, W.2 ..	144	—	144
	Taymount Court, S.E.23 ..	100	100	—
	Queen Anne's Mansions, S.W.1	105	105	—
	Hanger Hill Flats, W.3 ..	252	—	252
R.	Rivermead Court, S.W.6 ..	211	211	—
S.	St. Mary Abbotts Court, W.14	112	66	46
	St. Mary's Mansions, W.2	119	119	—
	Sloane Avenue Mansions, S.W.3	194	—	194
	Nell Gwynn House, S.W.3	430	—	430
	Mayfair Court, W.1 ..	105	105	—
	Sutton Court, W.4 ..	150	150	—
	Watchfield, W.4	174	—	174
	Swan Court, S.W.3 ..	144	—	144
T.	Broadwalk Court, W.8 ..	100	—	100
U.	Dudley Court, W.1 ..	106	—	106
	Bryanston Court, W.1 ..	118	118	—
	Ormonde Court, S.W.15 ..	117	—	117
	Endsleigh Court, W.C.1 ..	178	—	178
V.	Vicarage Court, W.8 ..	105	—	105
W.	Whitehall Court, S.W.1 ..	104	104	—
	Cranmer Court, S.W.3 ..	240	—	240
	Loraine Mansions, N.7 ..	112	112	—
	Wymering Mansions, W.9	200	200	—
XYZ.				

which the properties are situated are indicated.*

Conclusion

It appears, therefore, that of the middle-class flat properties existing within the L.C.C. area in 1936 only 90 contained more than 100 flats; that 54 of these properties existed in 1931, and that 36 were erected during 1931–36. It will be noted that among properties of 100 flats or more the ratio of new properties appears to be somewhat higher than among flats as a whole —36 out of 90 as against 11,000 out of 37,000. In view of the necessarily approximate nature of the material and of the arbitrary rule which had to be made as to the exclusion of large properties bearing several names (and thus reducing their apparent size), it is doubtful whether it would be valid to conclude that properties have tended in recent years to include a larger number of separate flats.

These considerations, and indeed the whole story of this survey, point to the need for further work in this field. As has already been indicated, the construction of an appropriate map to illustrate the results of the present survey in a more effective manner is under consideration, as is the possibility of conducting a similar piece of research work for the part of Greater London outside the L.C.C. area. Meanwhile it seemed that the above results were in themselves of sufficient importance to be worth presenting in printed form at the earliest opportunity.

* In a few cases the initial letter of the name of the property has determined the head under which it has been included. Figures of numbers of flats are subject to slight margin of error.

APPOINTMENT

Mr. C. C. Shaw, B.ARCH. (L'POOL) A.R.I.B.A., has been appointed borough architect of Barking, the Architectural Department being now separated from the Borough Engineer's Department.

ARCHITECTURAL STUDENTS' VISIT TO ITALY

A party of about 14 members of the Welsh School of Architecture left Cardiff on Sunday, July 18, for a vacational tour in Italy of about a fortnight's duration.

The places visited will include Milan, Florence, Rome and Venice.

With the party will be Mr. C. L. Matthew, A.R.I.B.A., Mr. D. M. Jones, B.ARCH., A.R.I.B.A., and Mr. Lewis John, M.A., B.ARCH., A.R.I.B.A., the latter having made the arrangements for the tour and being in charge of the party.

TOWN AND COUNTRY PLANNING SCHOOL

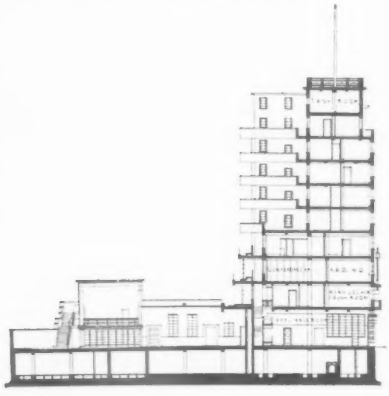
The Town and Country Planning Summer School will be held at Ashburne Hall, Manchester, from September 3 to 10. Full details are obtainable from the Hon. Secretary of the Town and Country Planning Summer School, "Ravenscroft," Witney, Oxon.

D

LONDON FIRE BRIGADE HEADQUARTERS:

GENERAL—*The new headquarters, on the Albert Embankment, Lambeth, and facing the river, serve as the central and administrative centre for the whole of London. The buildings also include a fire station for land appliances, a river fire station, a training school and workshops. In the reception hall is a memorial to the men of the Brigade who have lost their lives on duty. This is the work of Gilbert Bayes, and was presented by Lloyd's underwriters. The principal building is steel framed and faced above a stone base with greyish yellow bricks. G. Weald, F.R.I.B.A., of the L.C.C. Architects' Department, was in charge of the work. The building was opened yesterday by the King, accompanied by the Queen.*

The photographs show: above, the west front to Albert Embankment; left, a detail of the same front.

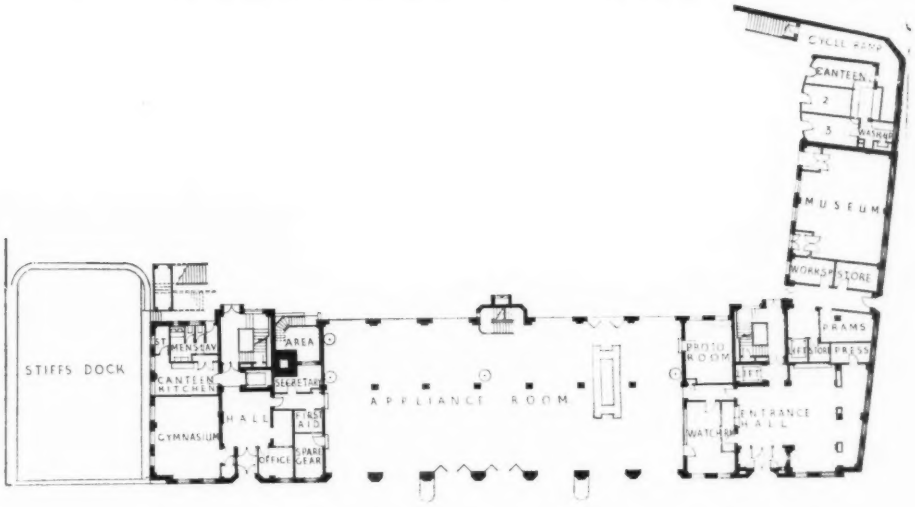


SECTION

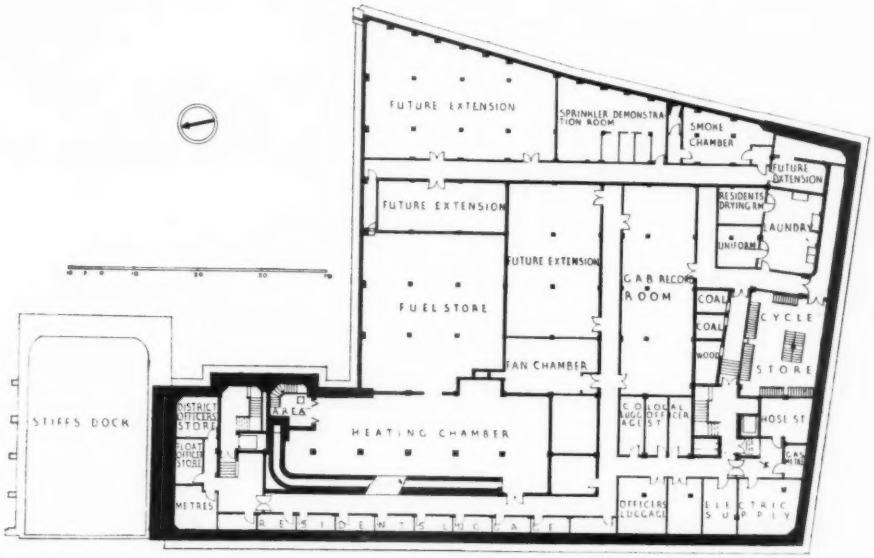
BY E. P. WHEELER, ARCHITECT TO THE L.C.C.

PLAN—*From the fourth to the eighth floors of the principal building, flats are provided for the chief and other senior officers of the Brigade. The smallest flats, those for the station officers, comprise two sitting rooms, three bedrooms, a kitchen and a bathroom. Each suite opens on to a balcony at the rear. On the drill ground are a bandstand and a drill and hose tower 100 ft. high.*

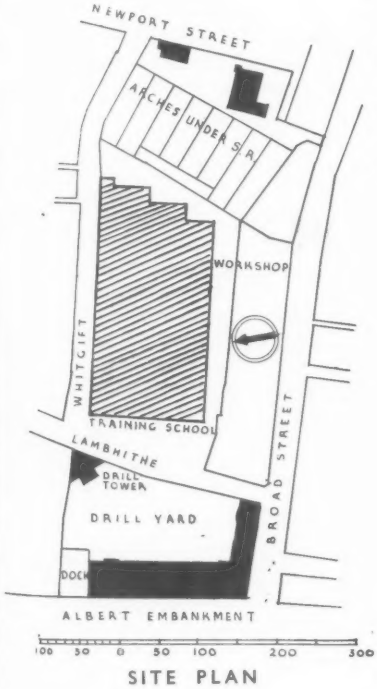
In the secondary range of buildings are the training school, with lecture hall fitted for cinematograph exhibitions, mess and locker rooms, offices, and flats for a superintendent, two district officers and three station officers; and a squash rackets court.



GROUND FLOOR PLAN

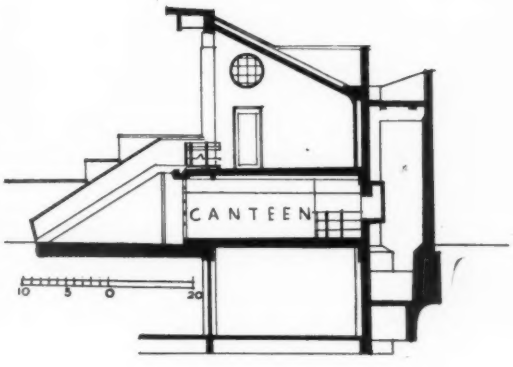


BASEMENT PLAN



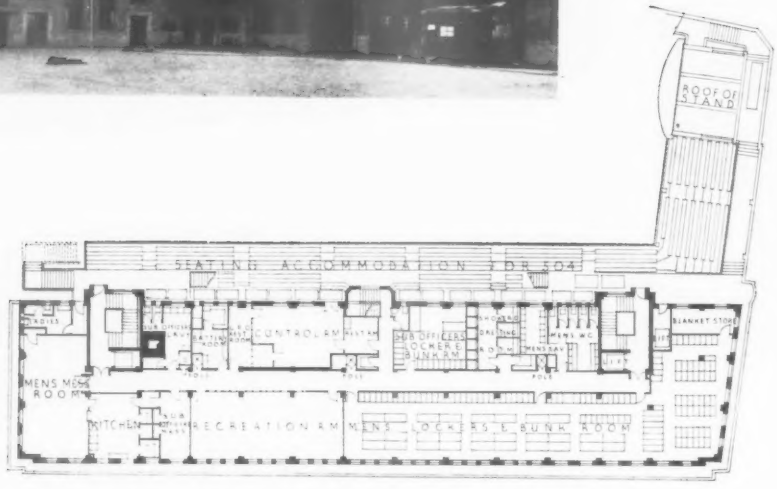
SITE PLAN

SECTION THROUGH BANDSTAND AND CANTEEN



LONDON FIRE BRIGADE HEADQUARTERS

BY E. P. WHEELER, ARCHITECT TO THE L. C. C.



FIRST FLOOR PLAN

EQUIPMENT—*There are visual indicators in all quarters of the fire-fighting staff. These show the particular appliances that are being sent out in answer to a call, so that only the officers and men attached to those particular appliances need descend to the appliance room. Four sliding poles lead from the first floor into the appliance room.*

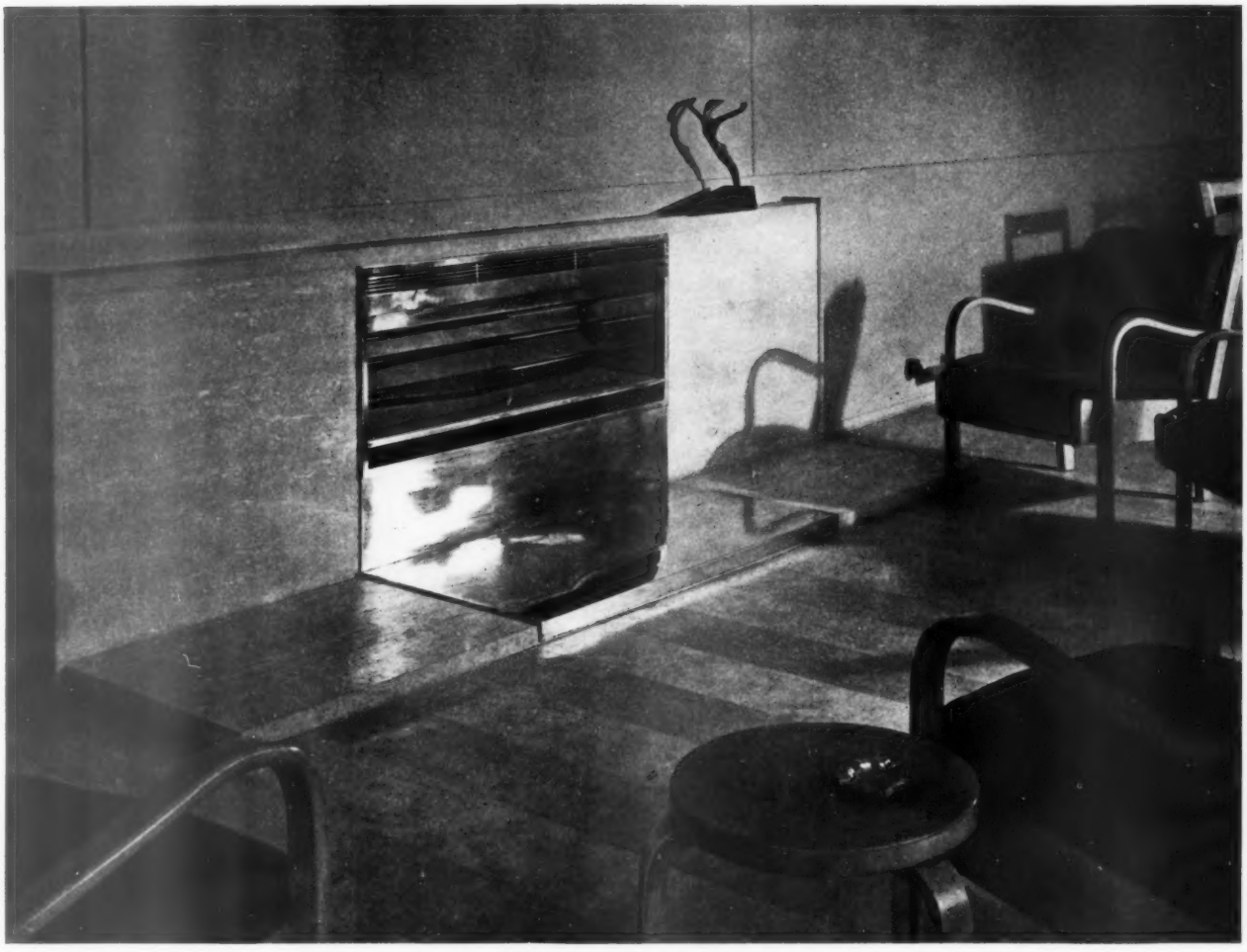
COST—*The total cost of the buildings was £291,000, including equipment. This also includes the cost of the works on the river front for the fire float service, which has moved to the headquarters from Battersea Bridge.*

The photographs show : above, part of the east front overlooking the drill yard and showing the bandstand ; right, detail of cantilevers to rear balconies.

For list of general and sub-contractors see page 166.

WORKING DETAILS : 571

FIREPLACE • LONDON GLIDING CLUB, DUNSTABLE • CHRISTOPHER NICHOLSON



The fireplace is in the lounge. The surround and the floor slab in front of it are in slabs of travertine marble, and the electric fire itself in stainless steel. The fire has been designed so that the elements are concealed behind the uppermost plate, making it possible to dispense with any kind of guard rail without danger. Behind the fireplace the wall finish is of standard size sheets of insulating-board. A wind indicator will later decorate the wall-space over the fireplace.

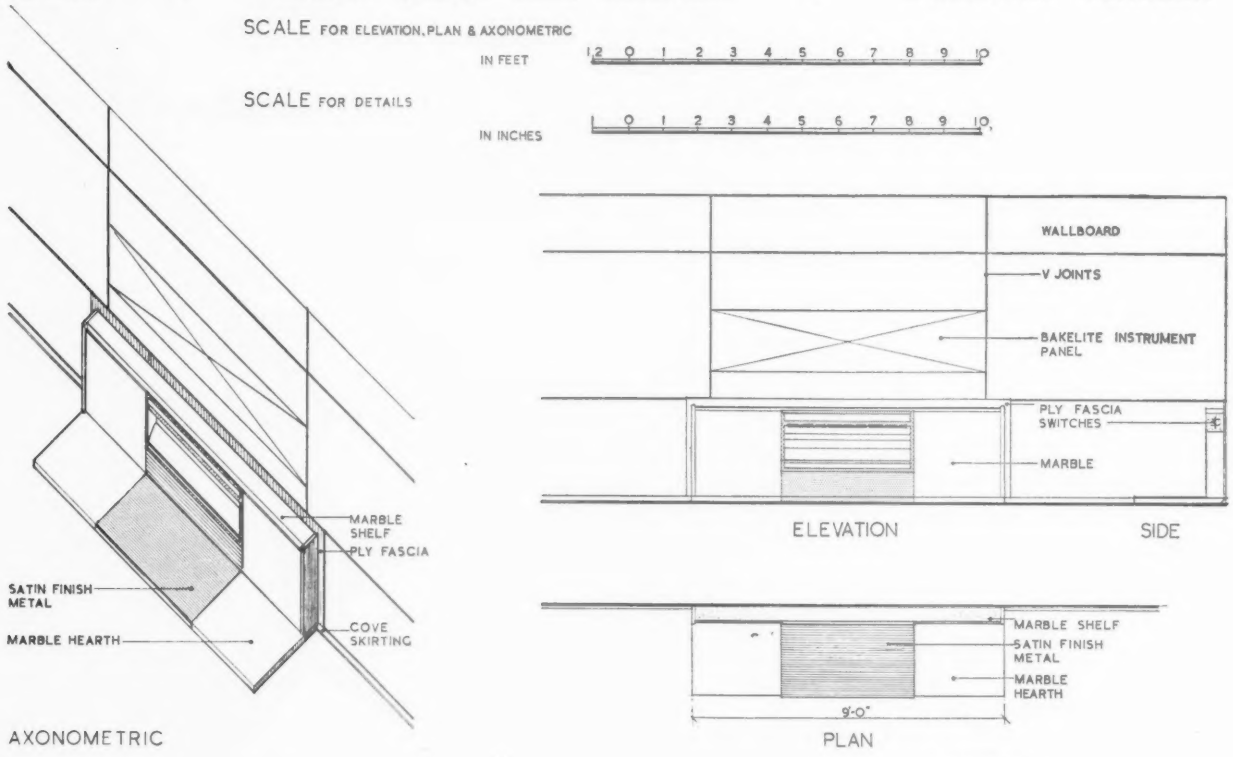
Details are shown overleaf.

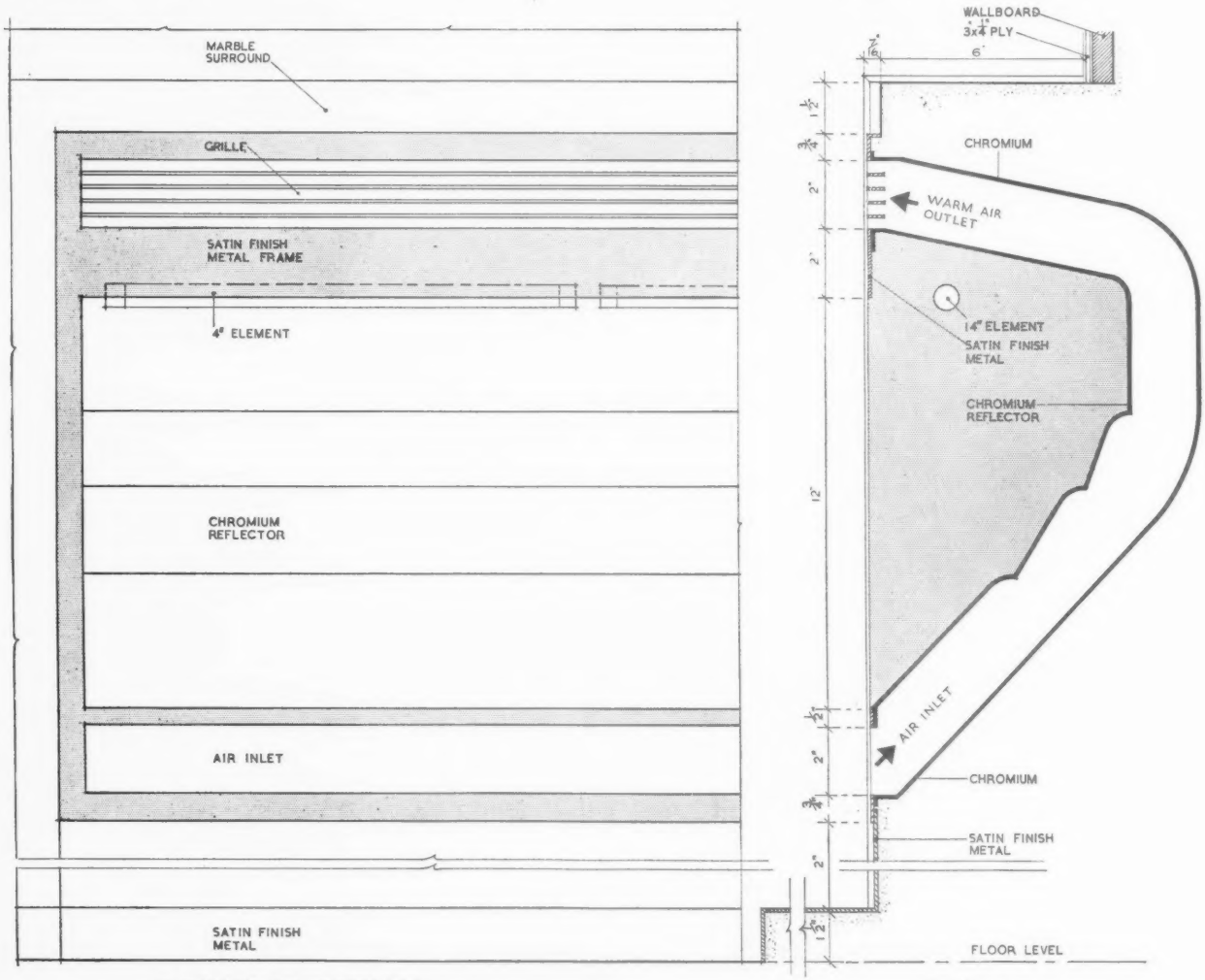
WORKING DETAILS : 572

FIREPLACE • LONDON GLIDING CLUB, DUNSTABLE • CHRISTOPHER NICHOLSON

SCALE FOR ELEVATION, PLAN & AXONOMETRIC IN FEET

SCALE FOR DETAILS IN INCHES





Axonometric and details of the fireplace illustrated overleaf.

FILING REFERENCE:

WORKING DETAILS : 573

WALL TREATMENT • GEOGRAPHY SCHOOL, CAMBRIDGE • STANLEY HALL & EASTON & ROBERTSON

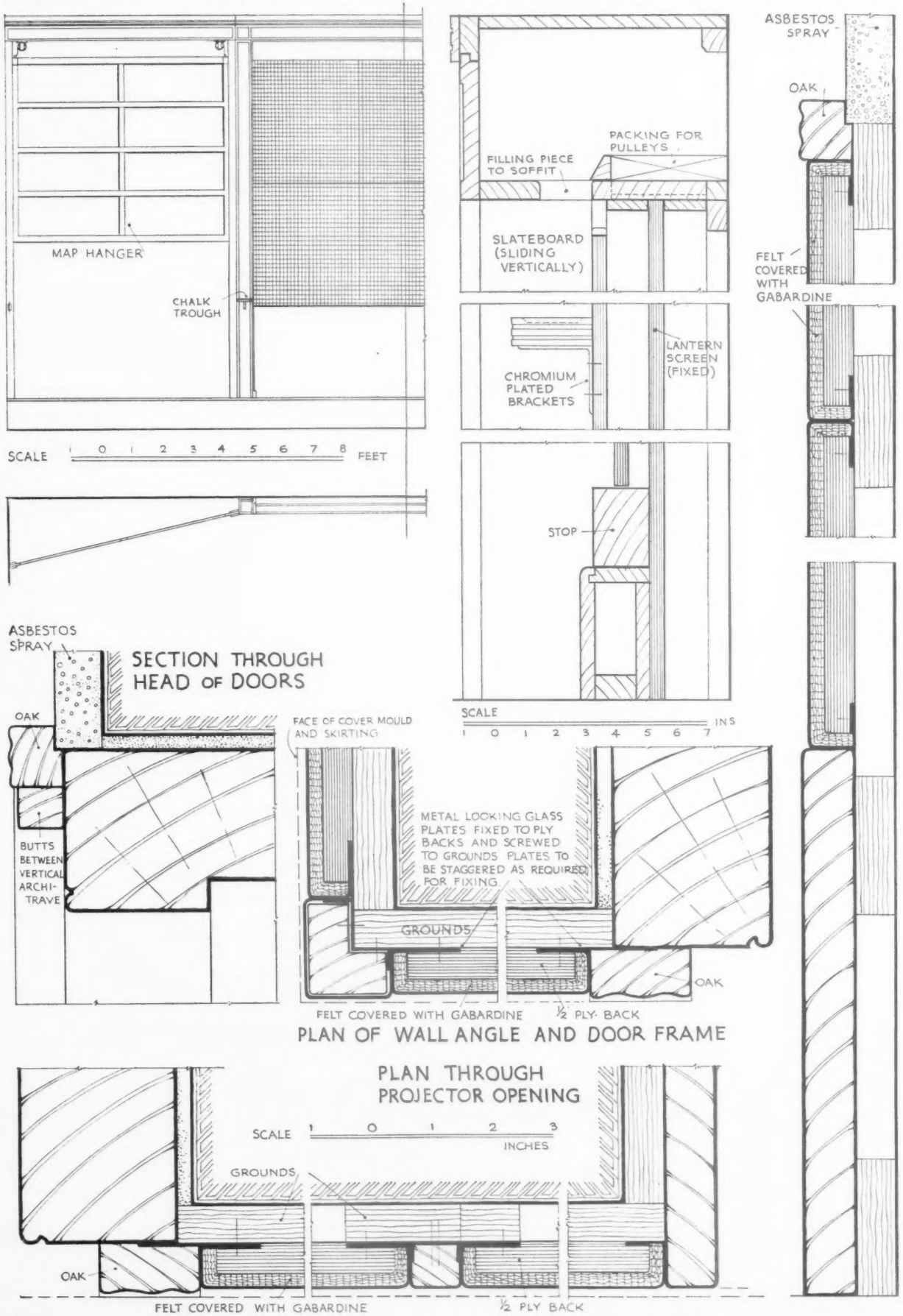
In the lecture rooms acoustical absorption has been obtained by the use of sprayed asbestos on the ceilings and by covering the back walls with felt. The felt is stretched on wood frames and covered with rep of a deep blue colour.

In the centre of the end wall is a slate board sliding vertically in wood channels, behind which is a fixed lantern screen. On each side of the board are map hangers, set at an angle to the wall.

Details are shown overleaf.

WORKING DETAILS : 574

WALL TREATMENT • GEOGRAPHY SCHOOL, CAMBRIDGE • STANLEY HALL & EASTON & ROBERTSON



Details of the wall treatment illustrated overleaf

The Architects' Journal Library of Planned Information

INFORMATION SHEET

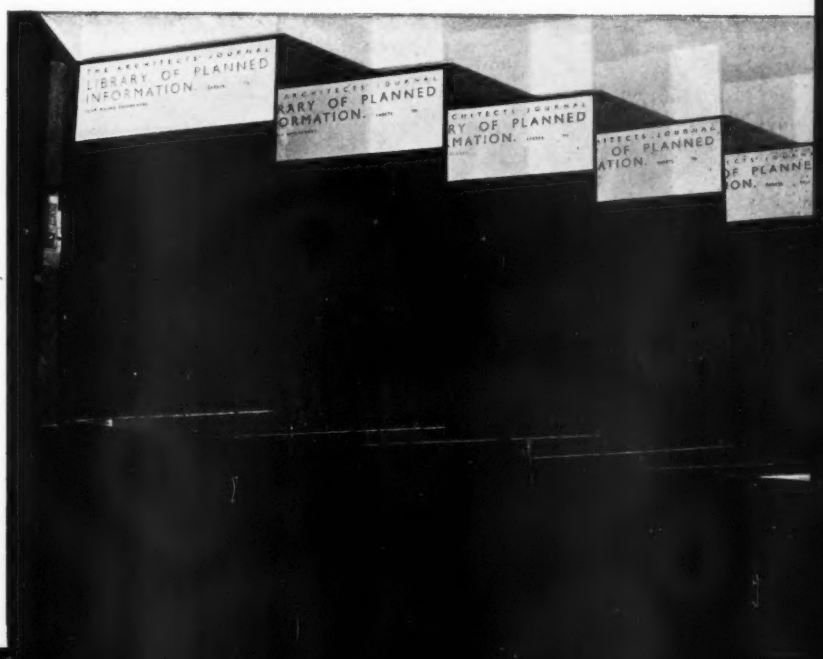
SUPPLEMENT

SHEETS IN THIS ISSUE

538 Petroleum Storage

539 Linoleum

540 Plumbing



Sheets Issued since Index :

501 : Aluminium
502 : Fixing Blocks
503 : Approximate Estimating—XII
504 : Aluminium
505 : Aluminium
506 : Approximate Estimating—XIII
507 : Plumbing : Jointing of Copper Pipe
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524 : Kitchen Equipment
525 : Metal Reinforced Asbestos Cement
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527 : Asbestos-Cement Corrugated Sheets
528 : Cycle Parks
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534 : Insulation of Buildings
535 : The Equipment of Buildings
536 : Asbestos-Cement Ventilators
537 : Slate Window Cills, etc.

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672. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

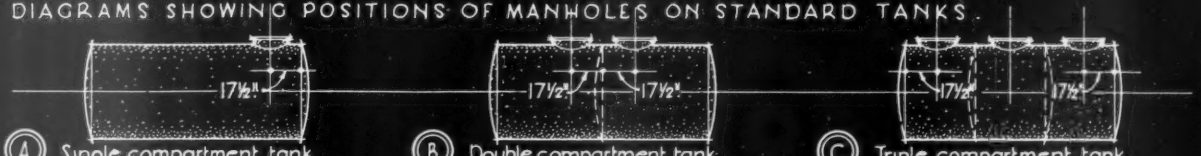
WELDED STORAGE TANKS FOR PETROL AND OIL:

WELDING AND TESTING: All storage tanks are electrically welded in--side and outside, and are tested and gauged for capacity.

GAUGE RODS: Calibrated gauge rods are supplied with standard tanks, and may be ordered with any special tanks.

PLACING IN POSITION: When placed in position, the tanks must be absolute--ly level, or the calibrating rods will not register correctly in use.

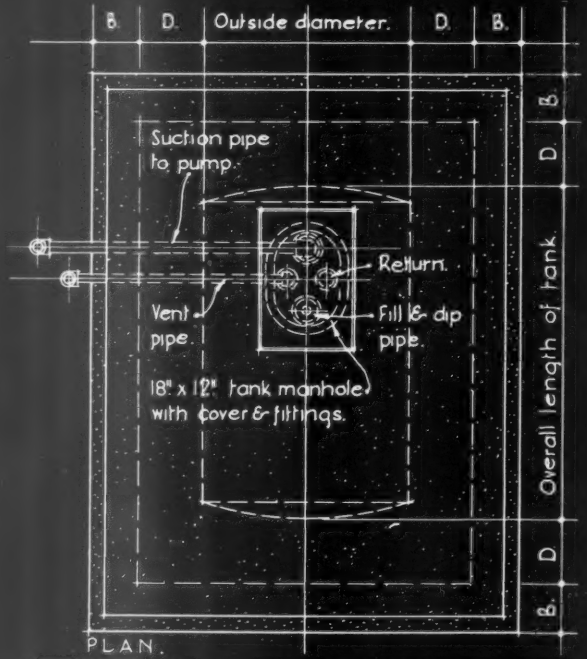
DIAGRAMS SHOWING POSITIONS OF MANHOLES ON STANDARD TANKS.



(A) Single compartment tank. (B) Double compartment tank. (C) Triple compartment tank.

TYPICAL DETAILS OF A STORAGE TANK IN A MASONRY VAULT. Scale: 3/8" to 1'0"

CROSS SECTION. LONGITUDINAL SECTION.



PLAN.

DIMENSIONS: The dimensions shown assume average conditions. If the subsoil is soft and wet, or if heavy traffic is to be carried over the top, modification is necessary. Dimensions of tanks are overall. The ends are cambered at the rate of 1" per 1'0" of diameter.

TABLE OF DIMENSIONS.

Capacity Gallons.	Outside diameter.	Overall length.	Dimensions of masonry vault. A.	B.	C.	D.	E.
100.	2'-9¼"	3'-0"	6"	9"	6"	12"	5"
150.	2'-9¼"	4'-4½"	6"	9"	6"	12"	5"
200.	3'-3¼"	4'-3½"	6"	9"	6"	12"	5"
250.	3'-3¼"	5'-3½"	6"	9"	6"	12"	5"
300.	3'-6½"	5'-4"	6"	9"	6"	12"	5"
350.	3'-6½"	6'-2½"	6"	9"	6"	12"	5"
400.	3'-6½"	7'-1"	6"	9"	6"	12"	5"
450.	3'-6½"	7'-11"	6"	9"	6"	12"	5"
500.	3'-3½"	10'-2"	6"	9"	6"	12"	5"
500.	4'-6¾"	5'-6"	6"	9"	6"	12"	5"
550.	4'-6¾"	6'-0"	6"	9"	6"	12"	5"
600.	4'-6¾"	6'-6"	6"	9"	6"	12"	5"
700.	4'-6¾"	7'-6½"	6"	9"	6"	12"	5"
800.	4'-6¾"	8'-6½"	6"	9"	6"	12"	5"
900.	4'-6¾"	9'-6½"	6"	9"	6"	12"	5"
1000.	4'-6¾"	10'-6½"	6"	9"	6"	12"	5"
1250.	5'-0½"	10'-9½"	9"	12"	9"	12"	6"
1500.	5'-0½"	12'-10½"	9"	12"	9"	12"	6"
1800.	6'-6¼"	9'-4"	9"	12"	9"	12"	6"
2000.	6'-6¼"	10'-4"	9"	12"	9"	12"	6"
2500.	6'-6¼"	12'-8½"	9"	12"	9"	12"	6"
3000.	7'-0¾"	13'-1½"	9"	12"	12"	12"	8"
3500.	7'-7¾"	13'-1½"	9"	12"	12"	12"	8"
4000.	8'-1¾"	13'-3"	9"	12"	12"	12"	8"
4500.	8'-7¾"	13'-4"	9"	12"	12"	12"	8"
5000.	9'-0¼"	13'-8"	9"	12"	12"	12"	8"
6000.	9'-0¼"	16'-2½"	9"	12"	12"	12"	8"
8000.	9'-0¼"	21'-4½"	9"	12"	12"	12"	8"

Information from Robert Jenkins & Co. Ltd.

INFORMATION SHEET: STEEL TANKS FOR THE STORAGE OF PETROLEUM:
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Oscar A. Bayne.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 538 •

PETROLEUM STORAGE

Product : Welded Steel Storage Tanks for Petrol and Oil

General :

These tanks are specially designed for the storage of petrol and oil and are made in a number of standard sizes as shown overleaf. Tanks may be obtained in this cylindrical shape in capacities up to 12,500 gallons and divided into any number of compartments as required.

Construction :

The tanks are all electrically welded inside and outside, and before leaving the works each tank is tested to withstand 10 lbs. per square inch of air pressure and is gauged for capacity.

Test certificates are supplied with each tank.

Fittings :

Standard tanks are supplied with calibrated gauge rods and these may be obtained for any special tanks.

As shown on the detail overleaf, tanks are fitted with oval manholes ; unbreakable, steel chequer plate ground manhole covers with frames are obtainable.

The oval tank covers can be bushed to suit any specified make of petrol pump.

The position of the manholes in the tanks may be varied from the standard positions shown overleaf, to suit a purchaser's requirements.

Placing in Position :

Great care should be taken when the tanks are being placed in position to see that both ends are absolutely level as checked by a spirit level. Should the tank be in the least out of level, the dip stick or calibrating rod, which is provided with the tank, will not register accurately in use.

Prices :

These prices are for standard horizontal tanks with ends dished and are for $\frac{3}{16}$-inch or $\frac{1}{4}$-inch plate.

Internal pipe fittings are supplied as an extra on request.

Tanks may be sand-blast cleaned at a nominal extra charge.

If in stock, tanks will be dispatched the same day as the order is received.

Single Compartment Tanks

Capacity in Gallons	Thickness	
	$\frac{3}{16}$-inch	$\frac{1}{4}$-inch
	£ s. d.	£ s. d.
300	12 5 6	13 10 0
500	14 4 0	16 0 0
600	16 9 6	19 0 0
1,000	21 7 0	24 10 0
1,250	—	28 0 0
1,500	—	31 10 0
2,000	—	39 0 0
3,000	—	51 0 0

Double Compartment Tanks

Capacity in Gallons	Thickness	
	$\frac{3}{16}$-inch	$\frac{1}{4}$-inch
	£ s. d.	£ s. d.
500	20 17 0	23 0 0
600	23 2 6	26 0 0
1,000	28 7 0	31 15 0
1,250	—	35 5 0
1,500	—	38 15 0
2,000	—	46 5 0
3,000	—	59 0 0

Building-in the Tanks :

Overleaf is shown the method of building tanks into a concrete chamber. The top of the chamber is generally kept level with the ground but may be sunk lower and the manhole built up to ground level. The drawing assumes average conditions and if heavy traffic is to be carried over the top of the tank, the chamber must be strengthened accordingly. If the soil is damp or soft, the thickness of the concrete should be increased and precautions taken to assure that the chamber is waterproof.

When the tanks are to be used for the storage of petroleum spirit as defined in the Petroleum (Consolidation) Act, 1928, a licence under that Act is necessary to cover the keeping of the spirit. Application for a licence should be made to the appropriate local authority.

The following are extracts from a summary of Regulations issued by the London County Council. The extracts indicate the principal conditions imposed by that authority in connection with petroleum spirit storage, but each case is considered on its merits and additional conditions are imposed where necessary.

Petroleum storage should be in one of the following methods :—

(*a*) In a strong steel or iron tank sunk in the ground and encased in fine concrete of approved thickness (in no case less than 9 ins.) at an approved position in the open air. As an alternative to embedding the tank in concrete, it may be sunk in a chamber slightly larger than the tank, constructed entirely of fine concrete or with walls of 9-in. brickwork faced with cement and with a concrete floor not less than 9 ins. in thickness : all spaces in the chamber not occupied by the tank to be filled up either with puddled clay or dry sand. In all cases, the tank with the exception of the manhole must be covered with concrete. The concrete over the tank or that part of the tank containing the manhole and pipe connections should be raised 4 ins. above the surrounding ground level. Where vehicular traffic passes over the tank or over pipe-lines, the concrete must be adequately reinforced. All pipes connected to a storage tank with the exception of the ventilating pipe should be carried down to within 2 ins. of the bottom of the tank ; such pipes to contain no holes unless the holes are protected with fine wire gauze in an approved manner. (*It is necessary that adequate facilities should be afforded for the examination of the concrete, tank and fittings, and also for the testing of the tank and fittings for soundness.*)

(*b*) In approved vessels in a brick store with concrete roof and locked iron door, at an approved position in the open air, the lower part of the store so constructed as to form a well capable of receiving at least 75 per cent. of the quantity of Petroleum Spirit or Petroleum Mixture authorised to be kept in the store. The well must not be more than two feet deep, and the floor area of the store should be arranged accordingly. The store must be ventilated sufficiently, at high and low levels, and the ventilating openings must be protected by strong copper gauze, mesh about 28 to the linear inch (see *diagram on page 5*).

(*c*) In approved vessels in a strong iron locker fixed at an approved position in the open air. (This method of keeping is allowed only in the case of small quantities.)

In cases where the foregoing methods of storage cannot be adopted, the Council may grant licences under special conditions, provided the method of storage and precautions for safety proposed are considered satisfactory.

In connection with bulk storages at garages, attention is drawn to the following Regulation of the Council :—

(*a*) In any case in which Petroleum Spirit is stored in sunk tanks at garages in the County of London, the tanks shall, save in exceptional circumstances, be situated either in an open yard of adequate size or in an open space separated by fire-resisting partitions from the remainder of the premises, such open space being sufficiently large to contain easily a tank waggon when Petroleum is being unloaded therefrom into a storage tank, and be so situated or so protected by surrounding walls as not to expose adjoining property to risk of danger from fire.

(*b*) Save in exceptional circumstances, any filling point shall be not less than 20 feet from any opening on to a public highway.

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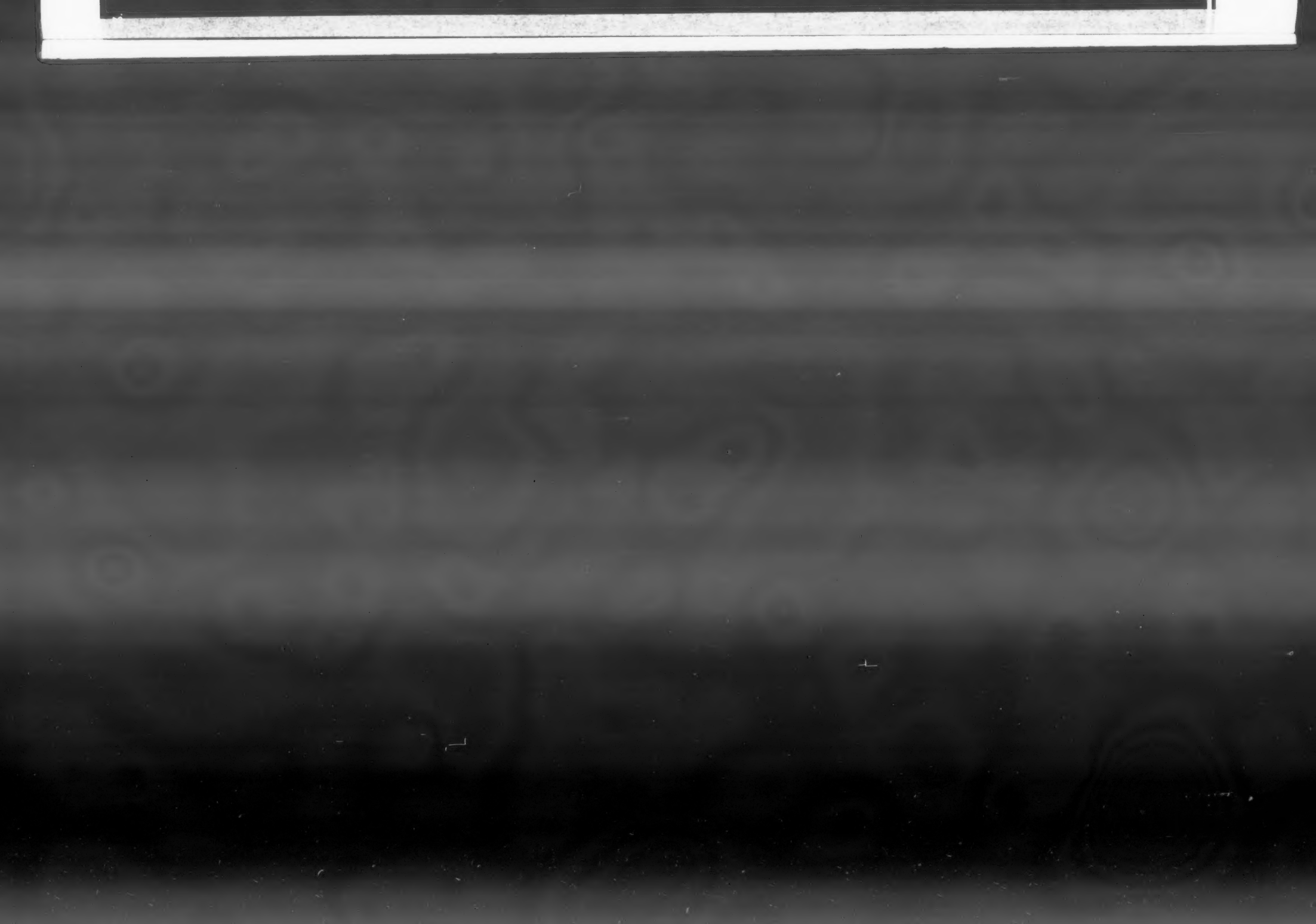

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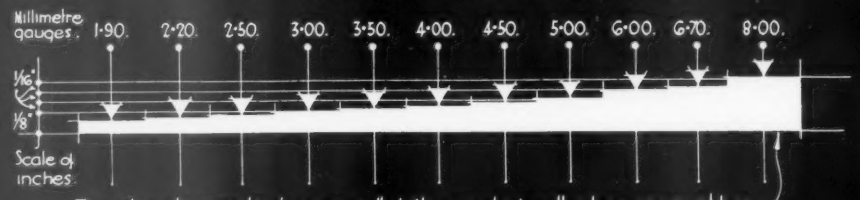
FULL SIZE DIAGRAMS OF STANDARD GAUGES OF LINOLEUM :

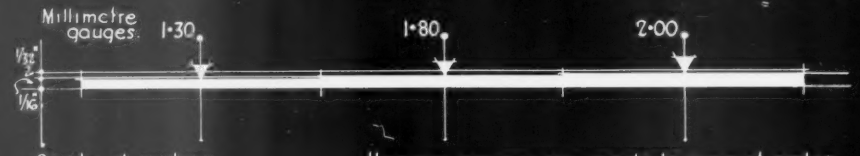
Customary width 6' 0", in rolls of 75 to 90'. For range of colours see notes overleaf.

(A) PLAIN LINOLEUM. (i.e. linoleum of single integral colour.)



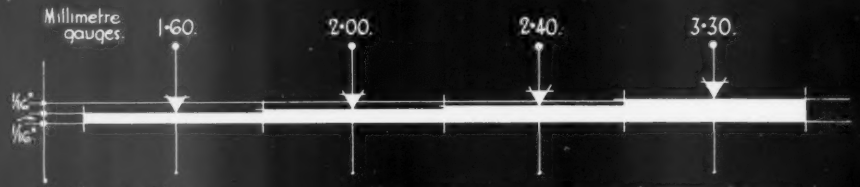
The jute or hessian backing is usually left unpainted on the heavier qualities.

(B.) PRINTED LINOLEUM. (i.e. plain linoleum which is then paint printed on the surface in various designs.)



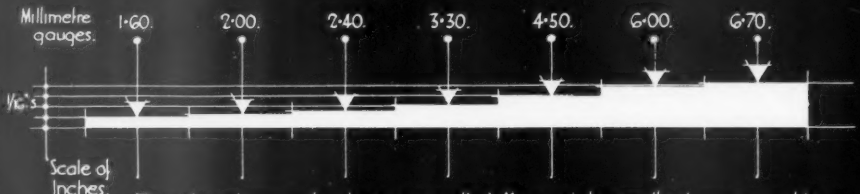
Heavier gauges are made to special order.

(C) INLAID LINOLEUM. (i.e. pattern formed by solid inlaying.)



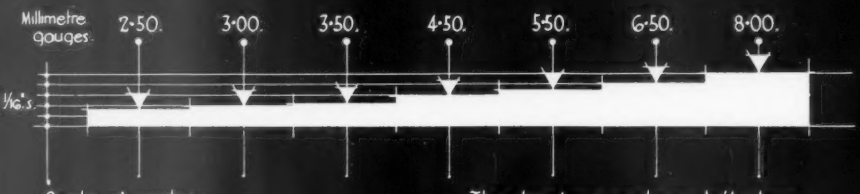
Heavier gauges are made to special order.

(D.) GRANITE, JASPE, MOIRE, & MARBLE LINOLEUM. (i.e. pigments blended during manufacture.)



The jute or hessian backing is usually left unpainted on the heavier qualities.

(E) CORK CARPET. (i.e. largely composed of granulated cork.)



The backing is always left plain.

DESCRIPTION & PROPERTIES.

(1.) COMPOSITION.

All linoleum is manufactured from cork which is thoroughly ground and then mixed at a high temperature with oxidised linseed oil, together with colouring pigments, & for some qualities, wood flour. Linoleum is dried or seasoned in heated chambers for two to six weeks according to thickness.

(2.) BACKING.

For all gauges the plastic mass, whilst in the green or unseasoned state, is applied to Jute or Hessian backing under pressure. The backing is usually painted. On the heavier qualities of linoleum, where the backing is likely to be detached before laying, the painting is dispensed with, the Hessian being left plain. In the case of cork carpets the backing is always left plain.

(3.) FIRE RESISTANCE.

Linoleum does not support combustion, and is more resistant to applied heat than most other covering types of floor and wall material.

(4.) METHOD OF LAYING.

(a) Cements & pastes.

There are numerous cements, pastes & other adhesives available, and it is important that the correct type should be specified for each type of floor and sub-floor.

(b) Seams.

It is recommended that only waterproof cements should be used for seams, etc., where water is likely to penetrate.

(c.) Deadening felts.

Ordinary dry builders' felt can be used, particularly on wooden floors. Bituminised felt is useful if there is any tendency to dampness. Cork underlay is available for sound-deadening purposes.

(5.) LAYING ON VARIOUS SURFACES.

For details of the application of linoleum to various types of sub-floor, see future Information Sheet, "Linoleum No 2 : Application"

For notes on the uses of various types of linoleum, see reverse side hereof.

Information from the Linoleum & Floorcloth Manufacturers' Association.

INFORMATION SHEET : LINOLEUM. No 1 : GAUGES & DATA.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Olca. A. Bayne.

THE ARCHITECT'S JOURNAL
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INFORMATION SHEET

• 539 •

LINOLEUM

General :

This is the first of a series of Sheets dealing with linoleum for floor coverings and other purposes, and sets out diagrammatically the standard range of thicknesses in which the various types of linoleum are obtainable. The gauge of linoleum is usually given in millimetres, but for architectural convenience, the more common fractional inch equivalents are also indicated. It will be noticed that both printed and inlaid linoleums are obtainable in heavier gauges than the nominal maximum thicknesses given.

Types and Uses :

(a) *Plain linoleum* is manufactured in thicknesses ranging from 1.90 mm. to 8 mm., and apart from its general use in the piece, the heavier gauges are capable of an infinite variety of pattern when cut into tiles, strips, etc., and built up in position to any desired design.

The heavier gauges of this material are mainly used for public buildings, hospitals, institutions, offices, etc., and the lighter gauges for places where the wear is less strenuous, such as domestic work generally.

Standard colours available include brown, dark brown, light green, dark green, light blue, dark blue, terracotta, crimson, brick, white, black, grey, and biscuit.

(b) *Printed linoleum* consists of a surface print on a base of plain linoleum, and is produced in a very wide range of patterns. This type of floor finish is commonly used for domestic purposes when expense is an important consideration. Standard gauges are 1.30 mm., 1.80 mm. and 2 mm.

(c) *Inlaid linoleums* are made by inlaying a variety of colours either solid or granular, plain or variegated, to form the desired pattern, which goes right through to the backing. The individual components of the pattern are frequently die-cut, laid in position, and then keyed to the backing under pressure.

Standard gauges are 1.60 mm., 2 mm., 2.40 mm. and 3.30 mm., and all qualities are suitable for use in shops, theatres, private houses, hotels, for floors, or any other position where decorative effect is desired. The heavier gauges are used in situations liable to most wear. The thinner gauges are also suitable for domestic purposes.

(d) *Granite, jaspe, moire, and marble linoleums* are formed by the blending of a variety of coloured linoleum mixtures during the manufacturing process. The finished multi-coloured material is produced in rolls in gauges of 1.60 mm. to 6.70 mm. From the heavier gauges of these linoleums, also, designs can be cut out and built up in position if required.

The variety of colourings obtainable makes this type of linoleum particularly suitable for schemes of decoration where no set design is desired.

(e) *Cork carpet* is a resilient floor covering with a softer tread than ordinary linoleum, being largely composed of granulated cork. It is chiefly used in situations where quietness is desirable, as in churches, hospitals, libraries, cinemas, etc. A form of cork carpet is also frequently used as an underlay beneath linoleum. Standard gauges range between 2.50 and 8 mm. Standard colours available include brown, blue, green, red.

Other Uses :

In addition to its use as a floor covering and for decorative purposes, linoleum is commonly used for table, counter and bar tops, rail and motor carriage work, classroom blackboards, desk tops, cuts for printing purposes, etc.

Application and Maintenance :

For typical laying and maintenance specifications and details showing application of linoleum to various surfaces, see future Information Sheets of this series.

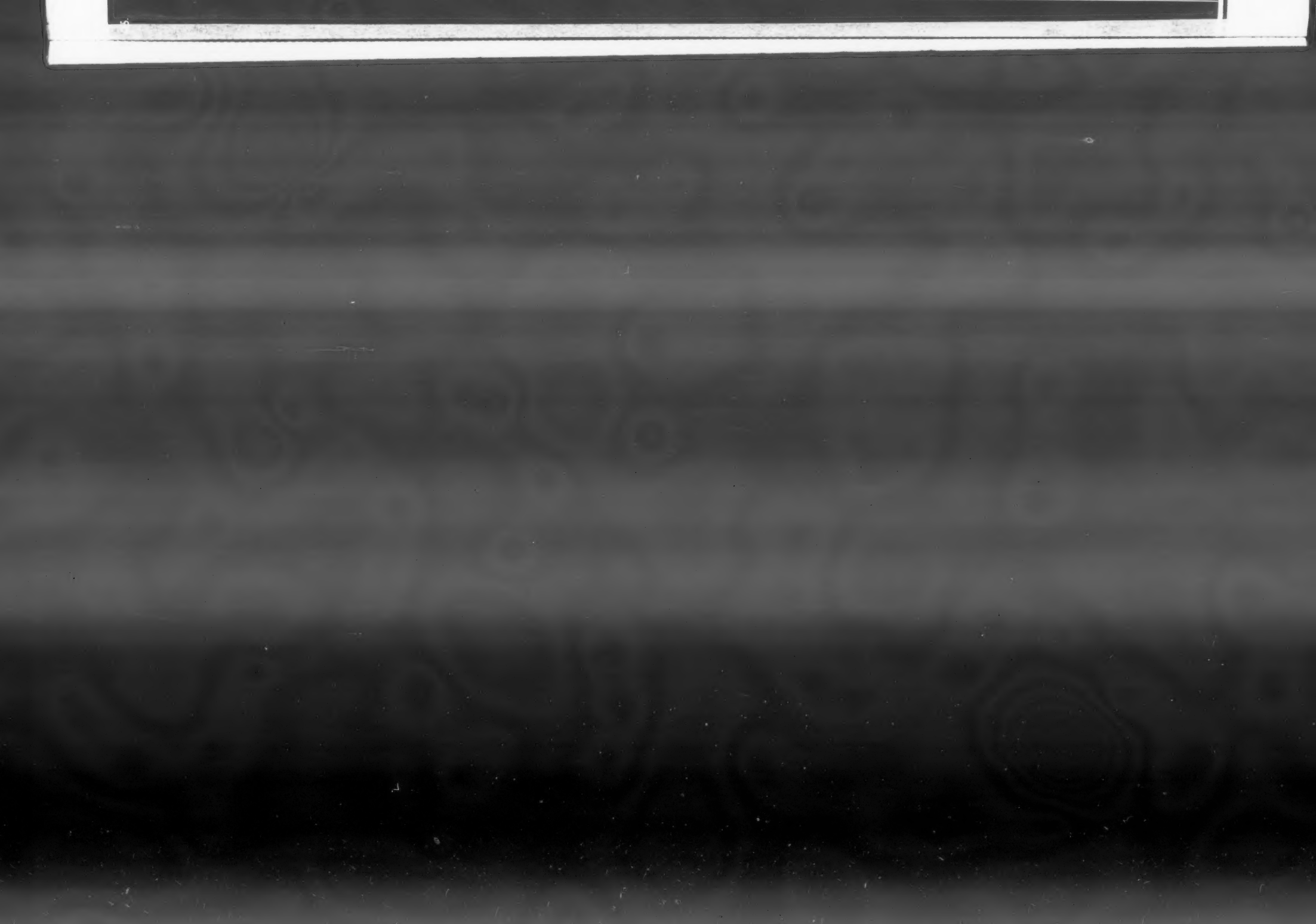
Cost :

The cost of the various types of linoleum described depends upon the gauge and colourings, treatment of the back, etc.

Compiled from Information supplied by :
The Linoleum and Floorcloth Manufacturers' Association

Address : Broadway Buildings, Westminster, S.W.1

Telephone : Whitehall 8544/5



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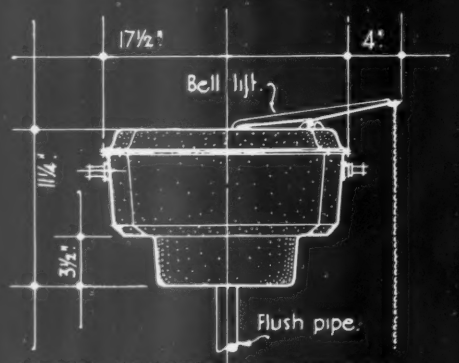
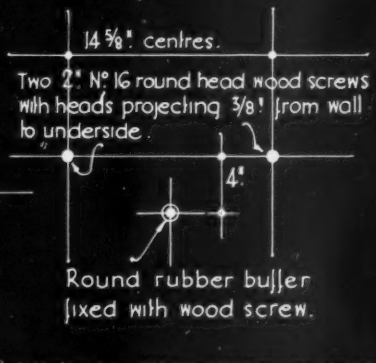
DETAILS OF THE ·A.B.M· PARSALL· CAST IRON HIGH LEVEL W.C. FLUSHING CISTERN.

showing operating principles and the embodiment of the various M.O.H. standards for W.W.P.'s.



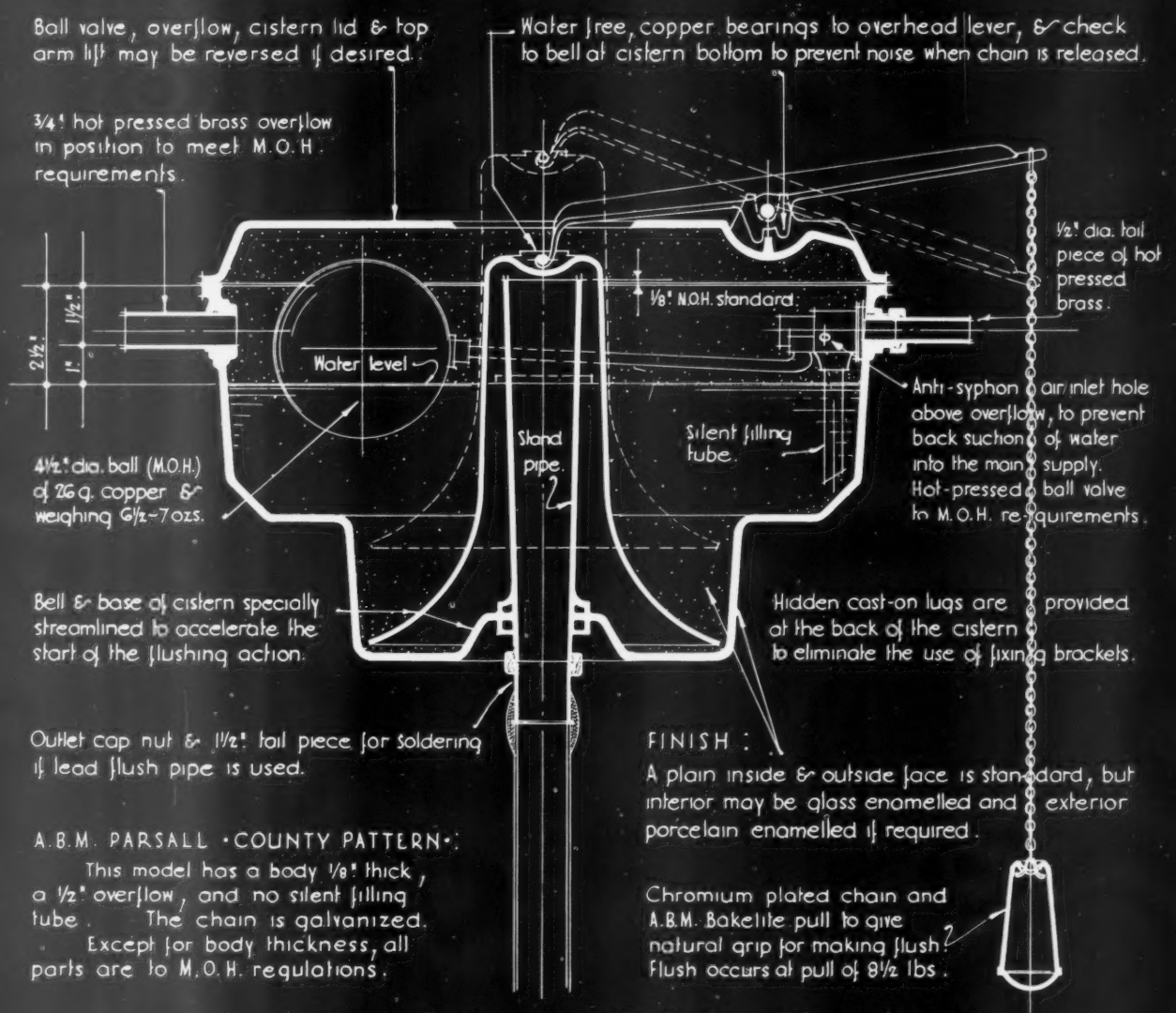
FRONT ELEVATION OF CISTERN.

PLAN WITH TOP COVER REMOVED.



TYPICAL WALL FIXING DIAGRAM.

¼ F.S. TYPICAL LONGITUDINAL SECTION OF THE ·REGULATION· TYPE CISTERN. (full 3/16" body)
The stand pipe projects ⅛" over the top level of the cistern of all models to M.O.H. regulations.



FINISH :
A plain inside & outside face is standard, but interior may be glass enamelled and exterior porcelain enamelled if required.

Chromium plated chain and A.B.M. Bakelite pull to give natural grip for making flush. Flush occurs at pull of 8½ lbs.

A.B.M. PARSALL ·COUNTY PATTERN·:
This model has a body ⅛" thick, a ½" overflow, and no silent filling tube. The chain is galvanized.
Except for body thickness, all parts are to M.O.H. regulations.

Information from Associated Builders Merchants Limited.

INFORMATION SHEET : HIGH LEVEL FLUSHING CISTERNS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 · Grace A. Bayne.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 540 •

PLUMBING

Product : High Level Water Waste Preventers

General :

On this Sheet are shown the construction and operating principles of the A.B.M. high-level W.C. flushing cisterns. Both grades of cistern, viz., Parsall Regulation and Parsall County pattern are designed in strict accordance with the Ministry of Health Standards (or J.C.S.W.R.) for flushing cisterns, and in addition incorporate several functional improvements, resulting from the manufacturer's experimental work.

Operation :

Although flushing action is dependent upon ordinary syphonage over the stand pipe, the lapse of time between the pull and the flush has been shortened by the special streamline of the bell and cistern bottom. The top arm is designed to give a direct vertical lift to the bell, and works entirely on copper bearings, which prevent the rusting to which iron to iron bearings are susceptible in damp situations. Both these copper bearings are free from possible contact with water. The design of the cistern enables the use of a straight ball arm instead of the generally ineffective curved arm.

Ball Valves :

The fitting of the correct type of ball valve to suit water supply conditions is an important consideration with all flushing cisterns. A.B.M. Parsall cisterns are provided with hot pressed ball valves to M.O.H. (or J.C.S.W.R.) requirements, complete with back nut, union and leather washer. The following tables are given as a guide to the type of valve recommended to ensure that cisterns will fill and the water be completely shut off within two minutes.

It should be noted that as a safeguard against possible back suction of the cistern water into the main supply Parsall series are all fitted with a valve incorporating a special anti-syphon system of air inlets.

For Flushing Cisterns Fed by Storage Cistern

Height of Fall	*Ball Valve to be Used*
If the water line of the flushing cistern is 20 ft. or less below water line of storage cistern.	Use A.B.M. Fullway Valve (Marked F.W.) orifice $\frac{3}{8}$-in.
If between 20 ft. and 40 ft.	Use A.B.M. Low Pressure Valve (Marked L.P.) orifice $\frac{5}{16}$-in.
If between 40 ft. and 100 ft.	Use A.B.M. High Pressure Valve (Marked H.P.) orifice $\frac{3}{16}$-in.
If over 100 ft.	Use A.B.M. Extra High Pressure (Marked X.H.P.) orifice $\frac{1}{8}$-in.

For Flushing Cisterns Fed Direct from Main

Pressure in Main	*Ball Valve to be Used*
If main pressure is 9 lbs. per square inch or less ...	Use A.B.M. Fullway Valve (Marked F.W.) orifice $\frac{3}{8}$-in.
If between 9 and 17 lbs.	Use A.B.M. Low Pressure Valve (Marked L.P.) orifice $\frac{5}{16}$-in.
If between 17 and 44 lbs.	Use A.B.M. High Pressure Valve (Marked H.P.) orifice $\frac{3}{16}$-in.
If over 44 lbs.	Use A.B.M. Extra High Pressure (Marked X.H.P.) orifice $\frac{1}{8}$-in.

Cistern Fixing :

All cisterns are provided with hidden cast-on fixing lugs at the back, for direct hanging to screws on the wall. Brackets are thereby eliminated.

Capacity :

County J.C.S.W.R. pattern W.W.P.'s are obtainable in 2-gallon flushing capacity, and the Regulation type in 2- and 3-gallon capacity.

General Specification :

County pattern, standard, fitted with cap only for use with galvanized steel flush pipe.

Standard Extras :

Tail pipe for soldering to lead flush pipe.

Fullway or low pressure M.O.H. ball valve in place of full $\frac{1}{2}$-in. M.O.H. high pressure ball valve.

Regulation pattern, 2-gallon and 3-gallon.

Standard Extras :

Fullway or low pressure M.O.H. ball valve in place of high pressure.

Glass enamelling inside.

Glass enamelling inside and porcelain enamelling outside.

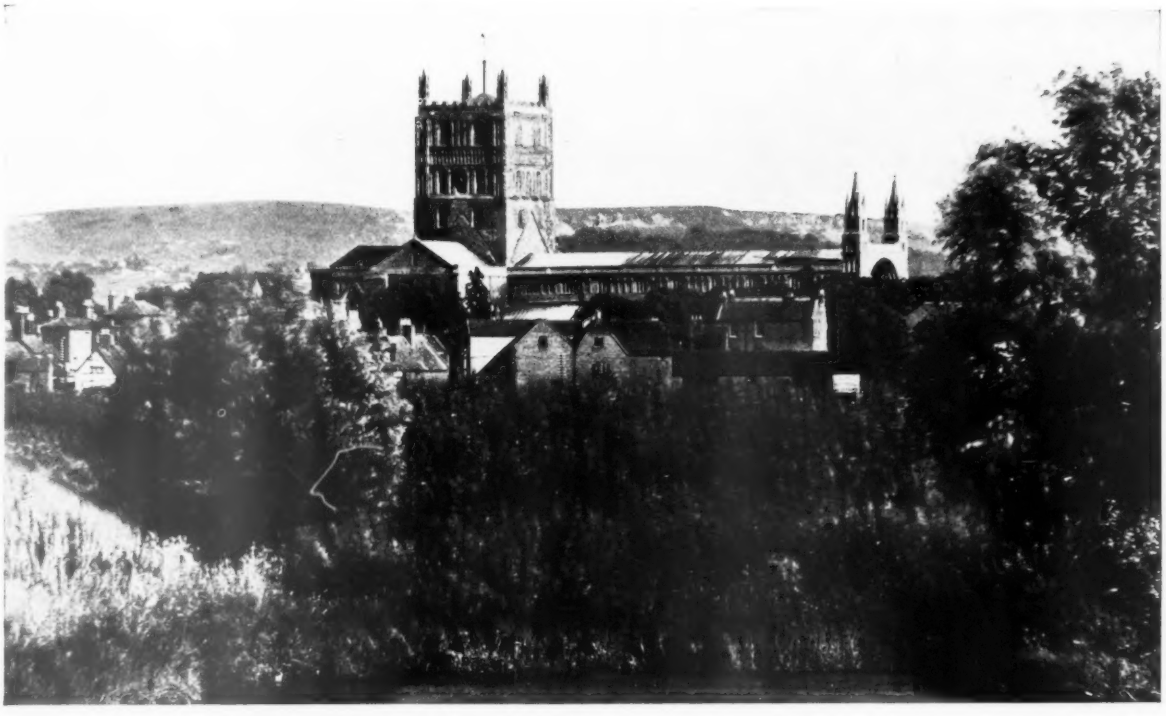
Prices:

These cisterns being of highly standardized manufacture, the price is lower than the general run of high level water waste preventers.

Information from : Associated Builders Merchants, Limited

Address : Peters Hill, Upper Thames Street, London, E.C.4

Telephone : Waterloo 6014. Extension 24



Tewkesbury Abbey. From "England's Greater Churches."

LITERATURE

CHRISTOPHER WREN

[*BY D. COSENS*]

Wren. By Geoffrey Webb. London: Duckworth. Price 2s.

WITHIN the somewhat limited scope of the "Great Lives" series Mr. Geoffrey Webb has achieved a remarkably complete outline of Wren and his work. Writing for the ordinary reader rather than the architect or historian, for the reader who knows little of the seventeenth century and nothing of Wren beyond the fact that he was a great architect, he gives a scholarly and extremely interesting account of the Wren who was also a mathematician, a professor of astronomy, and a founder of the Royal Society; who was above all a scientist, and who became an architect almost by accident; who lived against the background of Oxford during the civil war, and the London of the Restoration.

In the seventeenth century science as we know it today was freeing itself from the superstition of the middle ages and from its preoccupation with alchemy. In this age of wide, rather than specialized scientific interests, of Harvey, Pascal, Galileo and Newton, Christopher Wren played no small part.

The only son of a cultured family, with strong church influence and academic connections, and already "a youth of prodigious inventive wit," it is hardly surprising to find that he went to Oxford at the very early age that was then customary. There for twenty years he devoted himself to mathematics and science. Then in 1662, already of great repute in Oxford, he was asked to make a design for the Sheldonian. This was his first authentic work as an architect, and it is at this point that Wren the designer begins to emerge from Wren the man of science. From then onwards his architectural work ran parallel to his professorship, his wide scientific interests, and his work for the Royal Society, until in 1670 with his appointment as Surveyor General, his architectural career developed so rapidly that it overshadowed, though it never totally eclipsed, all his other activities.

Much has been said, in view of present-day traffic problems, of Wren's scheme for replanning London after the Fire. That his plan was highly considered at the time is certain. Evelyn, who had also produced a plan ("but Dr. Wren had got the start of me") says "truly there was never a more glorious Phoenix upon Earth, if it do at last emerge out of these cinders, and as the designe is layd." But as Mr. Webb points out, its value can easily be exaggerated. It was in fact impracticable to rebuild London disregarding water-conduits, drains, existing foundations and existing property rights without considerable delay. Tens of thousands of people were homeless, the situation was urgent and the plans, which were in themselves a *tour de force*, had to give way to the necessity of rebuilding in the quickest possible manner. It is easy to compare this, London's one real chance of replanning, with Haussman's work in Paris later, but the comparison is hardly just, for the one was a comparatively leisurely piece of reconstruction in a prosperous city, while the other was the instant rehousing of almost the entire population—a feat which, if it was to be carried out as Wren conceived it, called for an absolute power which Charles II by no means possessed.

At the age of 84 Wren resigned his surveyorship at Greenwich Hospital to Vanbrugh, while still keeping in touch with the office with which he had been so long connected. But shortly afterwards he was deprived altogether of his position as Surveyor General, largely through the influence of the Duchess of Munster, the most politically important of George I's mistresses, and a lady to whom he (Wren) had written protesting against the addition of a balustrade round the upper part of St. Paul's, saying, "Ladies think nothing well without an edging." Benson, a favourite at court, succeeded him. Resenting the

injustice the old man wrote with some dignity from his house at Hampton Court. Here he lived for the last five years of his life, applying himself again to mathematical problems.

Wren expressed both the scientific viewpoint of his time and his own outlook when he said " Mathematical Demonstrations being built upon the impregnable foundations of Geometry and Arithmetick are the only Truths that can sink into the Mind of Man, void of all Uncertainty ; and all other Discourses participate more or less of Truth, according as their Subjects are more or less capable of Mathematical Demonstration." It was this exact approach to the problems of architecture quite as much as any genius in design that has given us St. Paul's and the freest development in this country of Renaissance building.

THIRTY-NINE CHURCHES

England's Greater Churches. A Pictorial Survey with an Introduction by C. B. Nicolson. Batsford : 3s. 6d.

IN England, there are today over forty cathedrals ; of these, practically all of antique and architectural note — some twenty-five — together with a dozen abbeys, figure here in close upon a hundred illustrations. Without exception the photographs are exquisite in themselves and exquisitely reproduced. They must be the pick of the output of the well-known camera-artists to whom they are accredited.

So high is the standard of production and so fine the definition that the pages give the illusion of being much larger than they really are ($8\frac{1}{2}$ ins. by $6\frac{1}{2}$ ins.). There are no snail's-eye views or other " stunts " and even those taken from the air retain normal perspective.

This is primarily a picture-book for the general reader, but it will have its attraction and use for the professional architect, for it is put together with a cunning hand. The plan is in general chronological, spanning the five centuries from the Benedictine St. Albans and Winchester to Wren's St. Paul's, and the treatment piecemeal, yet not so as to debar effective side-by-side comparisons, such as between Hereford transept and Salisbury nave, Lincoln chapter-house and Ely " quire," or the vaulting of Sherborne and Tewkesbury Abbeys.

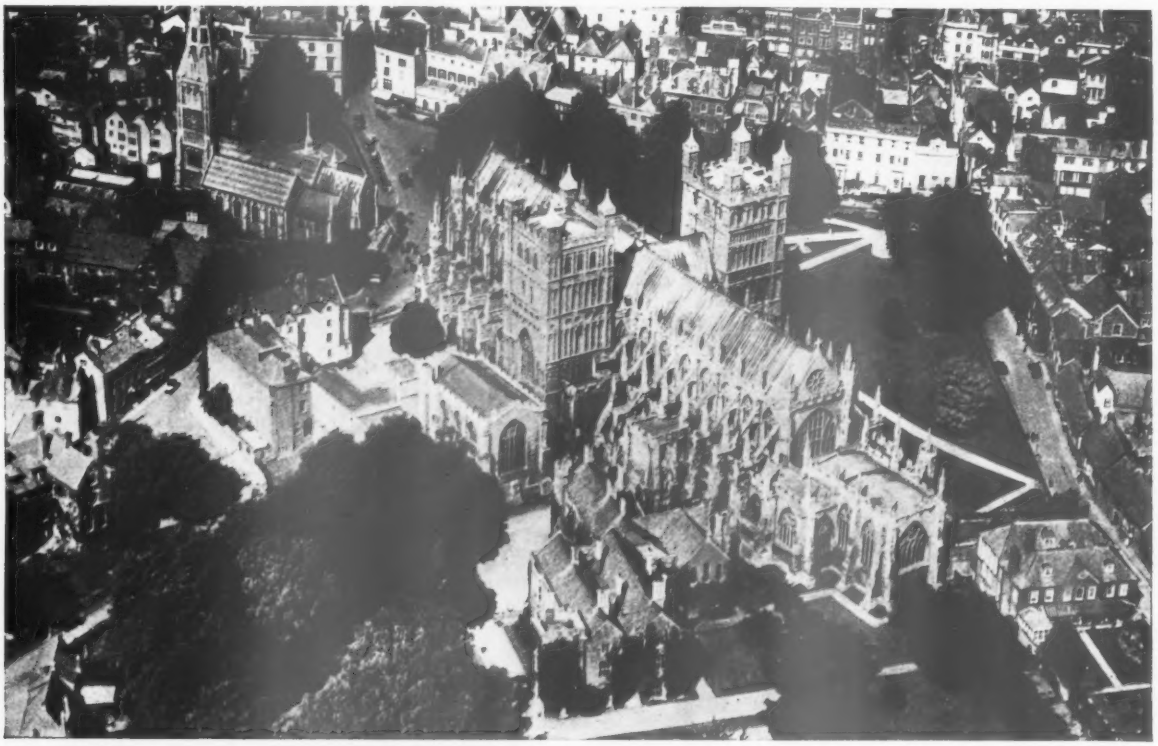
Well may Mr. Nicolson conjecture that works like these will be cherished " after the passing of much of the steel and concrete construction of our own age." The labour devoted to their building is measurable not in months but in centuries—for which reason, incidentally,

> only . . . a handful . . . express with any degree of unified consistency the building ideals of a single age, as Durham . . . those of the twelfth century, Lincoln and Salisbury . . . of the thirteenth, and Exeter of the fourteenth. To find a true expression of Perpendicular, the last and most enduring phase of national Gothic, one must indeed turn to the parish churches, or to the great chapels of St. George at Windsor and King's College at Cambridge.

This validity of construction is to be thanked that England's loss after the Reformation, was not more serious than it was. At that cataclysm such of the eleventh- and twelfth-century churches as combined with their monastic provenance the functions of episcopal seats happily survived relatively unimpaired ; as did some others that became the seats of new bishoprics. Some again were acquired by their boroughs (though not always before decay had set in) for parochial use ;

> but the churches of the sterner Orders, such as the Cistercians, who had deliberately established themselves in remote and lonely localities, fared badly, as the ruins of such great fabrics as Fountains, Rievaulx and Byland testify.

The running commentary upon the photographic views draws attention to those leading features calculated to intrigue the layman with an intelligent interest in architecture. A little of clarity has perhaps been sacrificed in order to make the panels of typescript play a definite part in the decorative effect of the layout. An index would have been an asset. H. F.



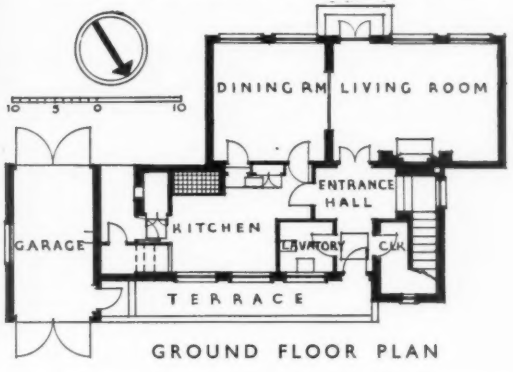
Exeter Cathedral. From " England's Greater Churches."

HOUSE AT CHALFONT ST. GILES, BUCKS

DESIGNED BY H. J. FRANKLIN

GENERAL—*House built by the architect for his own occupation, and planned for future enlargement.*
CONSTRUCTION—*Exterior walls are 9½-in. brick rendered with white cement and 11-in. finished with brown facing bricks. Roofs are wood joists, boarded, covered with three layers of felt and finished with asphalt. Internal walls are 4½-in. and 9-in. brick. Steel windows are painted cream and blue, the cills being tiled cream. The floor to the terrace at the front entrance is marble mosaic and cement, inlaid with brass reliefs.*
INTERNAL FINISH—*Walls are plastered. Floors are: living-rooms, hall and landing, 2-in. maple strip floors; bedrooms: polished pitch pine; kitchen and cloaks, cream tiles. Internal cills are in cream tiles, also the cooker recess. Doors are walnut and alder. The carved plaster reliefs in the living-rooms and in own bedroom were designed and executed by Dennis Dunlop and the architect. The painted wall decorations in the bathroom are by the architect.*

Above, the garden front; left, the entrance front.



GROUND FLOOR PLAN

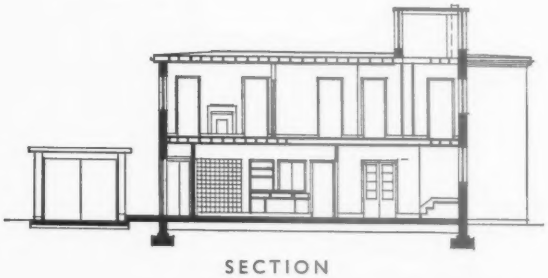
HOUSE AT CHALFONT ST. GILES, BUCKS

SERVICES—*Heating of the hall, staircase and landing is by radiators from a domestic boiler. Hot water is also obtained from the boiler; auxiliary hot water and heating from electrical immersion heaters. There are coal fires with removable electric fires in all rooms, except in the dining-room and own bedroom which have electric fires.*

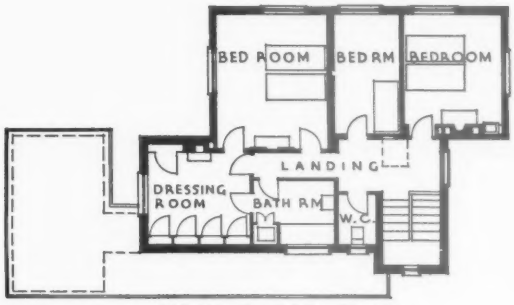
CONTRACT PRICE—*£1,600.*

Above, the living-room ; right, looking from the living-room into the dining-room.

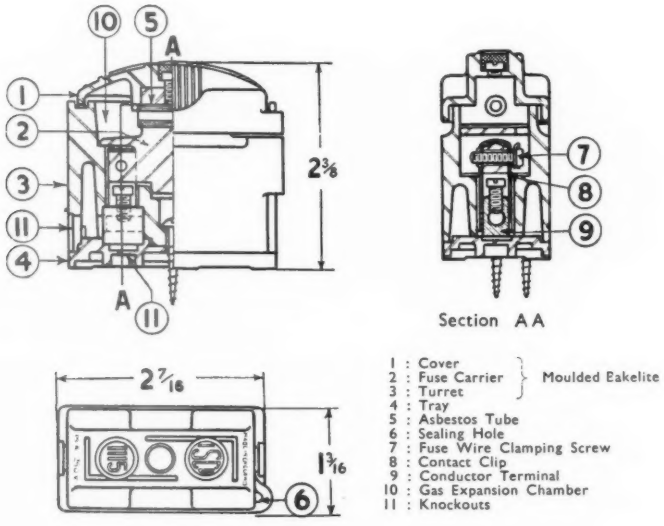
DESIGNED BY H. J. FRANKLIN



SECTION



FIRST FLOOR PLAN



TRADE NOTES

[*EDITED BY PHILIP SCHOLBERG*]

Methods of Timber Preservation

NOW that the naturally durable timbers such as oak, larch, yew and sweet chestnut have almost disappeared from most British estates, the less durable woods—spruce, elm and Scots pine—are taking their place as fencing materials with the grave disadvantage that they need replacement, if used as posts, every six or eight years. Proper preservative treatment, however, will lengthen their life three or four times at no great cost once the appropriate plant is installed, and here, I think, the British Wood Preserving Association have performed a very useful service by issuing a revised and up-to-date edition of their pamphlet,* which discusses the various methods of treating timber with preservative and gives some idea of the cost of installation.

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Of the various methods put forward, brush application, owing to the small depth of penetration, is dismissed as unsuitable for external work in contact with the ground, though it is good enough for rails if two coats are given. Much the same disadvantages apply to cold steeping, where most species of timber must remain in the tank for two or three weeks to give anything more than skin-deep absorption. The best method of all is, of course, the pressure tank process, worked either on the full cell or the Rueping empty cell process, as the time taken is short and it is easy to determine how much preservative has been taken up by the wood. The cost of the necessary plant is high, £200 to £400, this figure not including installation costs, as against the £120 to £160 of a horizontal open-tank plant.

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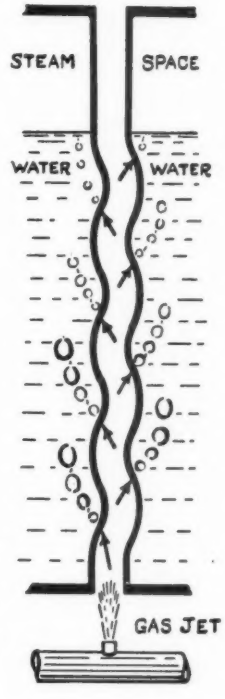
The simplest and most economical method for small estates seems to be the vertical butt-treatment drum, for the cost is low, (about £1, plus the cost of a few bricks for a rough open fireplace and a short length of chimney). Simple hot steeping seems to be giving way to the hot-and-cold steeping process where the timber is immersed for about one hour in preservative at 200° F. and then allowed to cool down, the absorption of preservative taking place during the cooling period. This method gives an absorption of about 7½ lb. of creosote to the cubic foot of timber, and this figure compares very favourably with the amount absorbed during the pressure process and, provided the depth of penetration is fairly uniform, may be taken as giving a life of thirty years or more under ordinary conditions of service.

* *The Preservative Treatment of Estate and Farm Timber.* By R. C. B. Gardner. The British Wood Preserving Association, 48 Dover Street, W.1. Price 6d.



The Sinuflo gas-fired boiler tube. (See note on this page.)

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Besides dealing fully with the creosoting techniques, some notes are also given on the various water-soluble preservative salts and on solvent-type preservatives in general.

Furniture from the Distressed Areas

Brynmawr and Clydach Valley Industries, who have started off in a depressed area in South Wales, are taking local unemployed, training them and producing, amongst other things, furniture in oak, walnut, sycamore and cedar. And they pay not less than union wage-rates to men and boys who would otherwise probably never have a job at all. All of which may or may not be beside the real point, which is that they make good sound furniture at fairly reasonable prices, not ultra cheap, by any means, but with none of the hundred guinea stuff in quartered, blistered, cross-handed, ebonized, limed, waney-edged Ruritanian exotico which some of our snob shops sell to a few really exclusive people whose taste has been trained into liking what they're given as long as it hasn't been given to anybody else.

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From the design point of view one cannot give quite whole-hearted admiration, for although many of the designs, particularly the tables and dining-room chairs, are very simple and straightforward, it is possible to detect an occasional whiff of the "artist-craftsman," a person who seems to me to be out of place in an organization of this kind, which should, I think, concentrate on the simple stuff and rely on sound workmanship without fussing over art. And the workmanship is there, for I have seen some of the work they did for Messrs. Pite, Son and Fairweather at the new Sully Tuberculosis Hospital, and very sound and well-made it was too. Private buyers are supplied direct from the factory, and there are no charges made for carriage. (*Brynmawr and Clydach Valley Industries, Limited, Gwalia Works, Brynmawr, South Wales.*)

Gas-Fired Boilers

Cochran & Co., of Annan, who have been making their well-known vertical boiler for a good many years, have now produced a Cochran-Kirke gas-fired boiler which, owing to the shape of the boiler tubes, they have named the Sinuflo. It is readily admitted that straight tubes do not scrub the gases as thoroughly as they might, and this new Sinuflo tube seems to be an improvement, for it can be kept short (and the overall height of the boiler is therefore reduced), while the curves in the tube project the gases from one side to the other, so that the extra degree of scrubbing should give extra efficiency. The diagram on the left shows how it is arranged.

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And, while one is on the subject of boiler efficiencies, the manufacturers take a very reasonable view of what may be expected in actual service, pointing out that under perfect conditions it is possible to get 85 per

cent., but suggesting that users should not count on anything higher than 76 per cent., and should probably be content with 72 per cent. as a really safe figure. The boilers are made in a range of eighteen sizes from 136,000 to 6¼ million B.T.U.'s per hour, the dimensions varying from 1 ft. 6 ins. by 5 ft. 3 ins. to 9 ft. by 8 ft. All the usual thermostats, flue dampers and safety controls are provided. (*Cochran & Co.*, 35 *Victoria Street, S.W.*1, *and at Annan, Scotland.*)

Fuses for Small Jobs . . .

Henleys have just introduced a new Iscos single-pole, 15-amp. cut-out for use in small houses and flats. It is of the all-insulated type in Bakelite and is quite simple to fix and, a point of interest to supply engineers, when arranged for back connection it is impossible to obtain current by fraud. The general arrangement is shown in the sections on page 165, from which it will be seen that the fuse wire and gas expansion chambers are isolated from the conductor terminals, thus making certain that no arc can be maintained between the contacts when the fuse wire volatilises, a fact which is borne out in the National Physical Laboratory's test report, where one of the cut outs was subjected to the B.S.S. overload load test of 1,500 amps. and survived it quite happily.

. . . and Relays

The same firm have also modified their Sharborn relays, which may be more adequately described as electrically-operated Q.M.B. switches, and which are used for the remote control of such things as street lighting, display signs or heating. The relays are of robust construction, can be mounted horizontally or vertically, and there is no A.C. hum or radio interference, while, as the operating coils are dead save during the moment of operation, current consumption is negligible. (*W. T. Henley's Telegraph Works Co., Ltd., Holborn Viaduct, London, E.C.*1.)

Manufacturers' Items

Combustions, Ltd., and Clyde Fuel Systems, Ltd., have decided to join forces in London and the South of England. In future these two firms of combustion engineers will operate from one address, 37 Walbrook, London, E.C.4. The oil-burning equipments and mechanical coal stokers manufactured by the two firms will now be marketed jointly.

All enquiries for Clyde burners or coal stokers, "Rotamisor" and "Automestic" oil firing equipment, and "Thermokol" coal stokers should in future be addressed to Combustions, Ltd. This arrangement does not affect the Clyde business in Scotland, Ireland and the North of England, which will still be conducted from 136 Wellington Street, Glasgow, C.2.

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Callender's Cable and Construction Company have just issued a new booklet showing the uses to which cable of their manufacture has recently been put. Nothing seems to come amiss to them, be it 33,000-volt cables in power stations, smaller voltages in aeroplanes or the navy, or simple wiring in Sir Edwin Lutyens's Drum Inn at Cockington.

The Cement and Concrete Association have just issued a well-produced booklet on cement renderings, which not only gives large photographs (about 8 ins. by 8 ins.) of a dozen different types of surface texture, but also several pages of useful notes on exactly what a rendering should and should not be if it is to stay put and not craze. There is also some memoranda on covering capacities for different strengths of mix; these are reproduced in the table below.

Covering Capacities—Cement.—The table below gives the approximate area covered by 1 cwt. bag of cement in various mixes; no allowance being made for openings, waste, etc. :—

Mixture		*Thickness of Mortar Coat*				
Parts by Volume		⅛ in.	⅜ in.	½ in.	¾ in.	1 in.
Cement	Sand	Sq. ft.	Sq. ft.	Sq. ft.	Sq. ft.	Sq. ft.
1	1½	100	68	50	34	25
1	2	121	81	61	40	30
1	2½	142	94	71	47	35
1	3	162	109	81	54	41

Covering Capacities—Sand.—The table below gives approximate area covered by 1 cubic yard of sand in various mixes :—

Mixture		*Thickness of Mortar Coat*				
Parts by Volume		¼ in.	⅜ in.	½ in.	¾ in.	1 in.
Cement	Sand	Sq. ft.	Sq. ft.	Sq. ft.	Sq. ft.	Sq. ft.
1	1½	1,506	1,004	753	502	376
1	2	1,362	908	681	454	340
1	2½	1,280	854	640	427	320
1	3	1,220	813	610	406	305

Approximate area covered by 1 ton of combined cement and aggregate applied as a rendering ¼ in. thick = 90 sq. yd.

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Under the title of "A Century of Progress," Messrs. Richards Tiles have issued a 32-page booklet describing very clearly, and with numerous illustrations, how their tiles are made, and giving some details of the history of the firm, which was started by Mr. Edward Corn in 1837 at Burslem.

A short quotation from the book will give some idea of the way in which the subject is treated.

"The body of a glazed tile consists of one or more kinds of clay, usually with an admixture of certain other substances. Taking for particular examination the standard white body used in over 90 per cent. of our glazed tiles, we find that it is composed of two kinds of clay—china clay and ball clay—in conjunction with two other materials, flint and Cornish stone. China clay is clay in its purest form—the 'kaolin' of the Chinese. It gets its English name from the country where it was used—and the beautiful ware of the same name made—a thousand years before either china clay or the art of china manufacture was known to our Western civilization. The principal source of supply is Cornwall, where it is found in great abundance. Ball clay, which comes chiefly from the shires of Devon and Dorset, differs from China clay in that it contains certain organic impurities—impurities, however, of a kind very valuable to the potter—not found in the latter. Flint is found in large quantities in certain chalk beds, chiefly in Southern England, and on many of our beaches, notably those of the English Channel. For Cornish stone, a form of granite partially decomposed through thousands of years of exposure to the elements, we are indebted to the county from which it takes its name."

Copies of the booklet may be obtained free of charge from Richards Tiles at Tunstall, Stoke-on-Trent.

THE BUILDINGS ILLUSTRATED

NEW FIRE BRIGADE HEADQUARTERS, ALBERT EMBANKMENT (pages 146–148). The main contractors were : C. Isler & Co., Ltd., trial borings; Walter Lawrence and Son, Ltd., excavation works; Sir Lindsay Parkinson & Co., Ltd., river station, pier, etc.; Gee, Walker and Slater, Ltd., raft foundations—front block; Dawnays, Ltd., steel framework—front block; Higgs and Hill, Ltd., superstructure—front block and drill tower, and raft foundations—rear block; Gee, Walker and Slater, Ltd., superstructure—rear block; W. G. Cannon and Sons, Ltd., heating and ventilations and hot water—front block; Hope's Heating and Lighting, Ltd., heating and ventilation—rear block; Bower Engineering Works (Electrical and General), Ltd., electric wiring and fittings—front and rear blocks; Pickerings, Ltd., lifts—front block. Sub-contractors for Front Block : Crittall Manufacturing Co., Ltd., steel casements; Lenscrete, Ltd., pavement lights; Thames Bank Iron Co., cleaning door and soot door; H. and C. Davis & Co., Ltd., spiral staircase; Carron Company, sanitary fittings; The Xelite Co., Ltd., cement glaze; Nash and Hull, Ltd., letter box and fire bell; Fletcher Russell & Co., Ltd., gas coppers; Marbello and Durus, Ltd., terrazzo; F. T. Cash, lamp standards; Manu-Marble Co., artificial marble; Thomas Try, Ltd., opening apparatus; Carter & Co. (London), Ltd., and W. B. Simpson and Sons, Ltd., tile paving; Inlaid Ruboleum Tile Co., Ltd., Ruboleum; Roberts Adlard & Co., Ltd., wall tiling; Vigers Brothers, flooring; Constructors, Ltd., cycle racks; Cox & Co., tip-up seats; Walter MacFarlane & Co., Ltd., rainwater heads; John Every, manhole covers; The Incinerator Co., Ltd., incinerator; James Clark and Sons, Ltd., mirrors; Ham Baker & Co., Ltd., hydrants; Cellulin Flooring Co., cork carpet; Stewarts and Lloyds, Ltd., flagstaff; Comyn Ching & Co., locks; Higgs and Hill, Ltd., ornamental grilles; Carron Company, fireplace interiors; Nicholls and Clarke, Ltd., coal plates; Cooper Wettern & Co., Ltd., granite; South Western Stone Co., Ltd., Portland stone; General Asphalte Co., Ltd., asphalt; Dent and Hellyer, plumbing, rainwater goods; Tangyes, Ltd., motor-vehicles lift. Sub-contractors for Rear Block : Crittall Manufacturing Co., Ltd., steel casements; Le Grand Sutcliff and Gell, Ltd., deep lift well tank; A. Goldstein & Co. (Glass Merchants), Ltd., patent glazing and lantern lights; Lenscrete, Ltd., concrete pavement-lights; Mather and Platt, Ltd., sprinkler installation; Higgs and Hill, Ltd., ornamental grilles; The Xelite Co., Ltd., cement glazing; Camden Tile and Mosaic Co., Ltd., wall tiling; Wm. E. Farrer, Ltd., sanitary fittings; Carron Company, gas coppers; Hope's Heating and Lighting, Ltd., heating; General Asphalte Co., Ltd., asphalt; C. W. Courtney, Portland stone; H. and C. Davis & Co., Ltd., wrought ironwork; Albert Turner (Builders' Merchants), Ltd., asbestos sheeting. Sub-contractors for River Station and Pier, etc. : Harland and Wolff, adaptation of Charing Cross fire-brigade pontoon; Frederick Braby & Co., Ltd., deck houses; Trevor

Construction Co., Ltd., reinforced concrete and general engineering works; Samuel Williams, pre-cast piles; Covington and Son, Ltd., dredging; G. Tate and Son, pile driving. General (suppliers for all purposes—not new headquarters only): F. Reddaway & Co., Ltd., and McGregor & Co., Ltd., hose; S. Dixon and Sons, Ltd., J. H. Taylor and Son, Ltd., and J. Blakeborough and Sons, Ltd., equipment; Merryweather and Sons, Ltd., and J. Morris and Sons, Ltd., equipment and appliances; Dennis Brothers, Ltd., and Leyland Motor Co., Ltd., appliances; P. W. Palmer, ironwork and York stone; C. and T. Painters, Ltd., painting; George Mansell, lettering; Le Grand Sutcliffe and Gell, deep lift well tank; Clark Hunt & Co., Ltd., fireplace interiors; V. Ransden, tile paving; W. Knight & Co. York stone; R. I. W. Protective Products Co., Ltd., dump-resisting composition and plaster board; Stent Precast Concrete Ltd., precast piles; Riley Stoker Co., automatic stokers.

CITY POLICE HEADQUARTERS, MANCHESTER (pages 139–142). Bolton and Hayes, Ltd., general contractors, substructure. J. Gerrard and Sons, Ltd., general contractors, superstructure. Sub-contractors: Redpath, Brown & Co., Ltd., and Edward Wood & Co., Ltd., structural steel; Wm. Thornton and Son, Ltd., Portland stonework; Stuart's Granolithic Co., Ltd., and Trent Concrete, Ltd., reconstructed stone; Buckley Junction Metallic Brick Co., Ltd., facing bricks; The Farnley Iron Co. (Fireclay Works), Ltd., salt glazed facing bricks; Sneyd Collieries, Ltd., white glazed facing bricks; R. H. Lord and Son, asphalt to basements; Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt roofs; Bolton and Hayes, Ltd., reinforced concrete floors; Young, Austen and Young, Ltd., heating and hot water supply; Williams and Williams, metal windows; J. Gerrard and Sons, Ltd., Burma teak, oak, and red deal flooring; Acme Flooring and Paving Co., Rhodesian teak flooring; Granwood Flooring Co., Ltd., Granwood flooring; A. Quiligotti & Co., terrazzo flooring; Mundet Cork Products, Ltd., cork flooring; J. Gerrard and Sons, Ltd., wall panelling; Birke and Higham, plastering; Shaw's Glazed Brick Co., Ltd., faience; G. F. Salmon and Son, wall and floor tiling; James Gibbons, Ltd., cell fittings; Etchells, Congdon and Muir, Ltd., electric passenger lift; John Shaw and Sons, Ltd., hydraulic passenger and barrier lifts; James Chapman and Sons, Ltd., hydraulic car lift; Hopton-Wood Stone Firms, Ltd., Hopton-Wood stone; Musgraves (Liverpool), Ltd., sanitary fittings; H. C. Taylor & Co., electric lighting; General Electric Co., Ltd., emergency lighting equipment; Synchronome Co., Ltd., electric clocks; Ascog, Ltd., electric light fittings; Best and Lloyd, Ltd., bronze lamp standards; Laminated Wood Products, Ltd., flush doors; Williams, Gamon & Co. (Kaleyards), Ltd., patent glazing; F. Brown and Son, slating; Luxfer, Ltd., pavement lights; Milner's Safe Co., Ltd., strong room doors; Saunders and Taylor, Ltd., ventilating; Humphries, Jackson and Ambler, Ltd., wrought iron gates, balustrades, etc.; John Booth and Sons (Bolton), Ltd., folding steel doors; G. Brady & Co., Ltd., steel roller shutters; Brookes & Co. (1925), Ltd., wrought-iron ladders and steel masts; Doodson and Bain, Ltd., wrought-iron entrance gates and bronze grilles; Laidlaw and Thomson, Ltd., ironmongery; The William Rose Hose Co., Ltd., fire protection appliances; Deansgate Decorating Co., Ltd., painting and decorating; Dictograph Telephones, Ltd., internal telephone installation; Constructors, Ltd., steel furniture; Simpoles, Ltd., steel furniture; William Higgin, Ltd., and Simpoles, Ltd., wood furniture; T. M. Gardiner, Ltd., gymnastic apparatus; J. Gerrard and Sons, Ltd., laboratory fittings; William Higgin Ltd., school desks and chairs; Manchester Corporation Gas Department, cooking apparatus and refrigerator.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICT (15 miles radius)

BARKING. *Houses, etc.* Plans passed by Barking Corporation: Electricity sub-station, Alfred's Way, Scoffin and Willmot, Ltd.; eight shops, Longbridge Road, Allworth Shops, Ltd.; extension to factory, Alfred's Way, Manor Joinery Works, Ltd.; Houses, Manor Estate, Leftley Bros., Ltd.

ILFORD. *Flats, etc.* Plans passed by Ilford Corporation: 23 bungalows, Tolworth Gardens, P. G. Ashton and Sons; 18 houses, Abbottswood Gardens, Clayhall Park Estates, Ltd.; eight houses, Walden Way and Chalgrove Crescent, Mr. G. F. Siegerts; 10 houses, Marlborough Drive, Mr. L. E. Ansell; offices, laboratory and factory, Ley Street, Mr. E. E. Williams, Barclays Bank premises, Eastern Avenue, Mr. H. R. Ross; 22 shops with 14 offices, nine maisonnettes and showrooms over, Cranbrook Road, Mr. J. Aldridge; 16 shops and 24 flats over, Fullwell Cross, Mr. G. Coles.

ILFORD. *School enlargements.* Ilford Education Committee is to enlarge Woodlands School at a cost of £3,297.

ILFORD. *Enlargement of depôt.* Ilford Corporation is to enlarge the depôt at an estimated cost of £3,000.

KENSINGTON. *Flats.* Kensington B.C. is acquiring large houses in St. Charles Square and elsewhere for conversion into flats for the relief of overcrowding.

LAMBETH. *Housing.* The L.C.C. is to clear various small areas in Lambeth and provide re-housing at a cost of £32,300.

MARYLEBONE. *Flats, etc.* Plans submitted to Marylebone B.C.: Shops and offices, Baker Street, J. Stanley Beard and Bennett; shops flats and public house, Henry Street and Bridgeman Street, Mr. L. de Soissons; consulting rooms and flats, Bentinck Street, Mr. G. Collinson; block of flats with basement garage, Hall Road, Western Heritable Investment Co., Ltd.

ST. PANCRAS. *Branch Library.* St. Pancras B.C. is to secure a site for a branch public library in the southern part of the borough.

ST. PANCRAS. *Child Welfare Centre.* St. Pancras B.C. has obtained sanction to borrow £6,800 for the erection of a maternity and child welfare centre in Raglan Street.

ST. PANCRAS. *Flats.* The St. Pancras B.C. is to erect 94 flats on the Camden Park Road site to plans prepared by Mr. Albert J. Thomas, architect, at a cost of £80,345.

ST. PANCRAS. *Factory, etc.* Plans passed by St. Pancras B.C.: Factory, 12–26 Mount Pleasant and 2 Gough Street; block of flats and shops, 86–90 Cleveland Street; rebuilding 1–6 Hargrave Place.

SHOREDITCH. *Tenements.* Shoreditch B.C. is to erect 10 tenements in Teale Street at a cost of £8,000.

TOTTENHAM. *Factory, etc.* Plans passed by the Tottenham Corporation: Factory, Selby Road, for Mr. T. Stanton; factory and six flats, Northumberland Park, for Mr. J. W. Roles; factory extension, Fountayne Road, for Messrs. J. Dickinson & Co., Ltd.

WOOLWICH. *Housing.* The L.C.C. is to develop an estate in Barnfield Road, Woolwich, at a cost of £263,000. Provision is made for the erection of 420 flats and two children's playgrounds.

SOUTH WESTERN COUNTIES

PLYMOUTH. *Houses, etc.* Plans passed by the Plymouth Corporation: 52 houses, The Revel Estate, Compton Park Road, Mr. M. Solomon; 13 houses, Clynton, Mr. J. Rendle.

PLYMOUTH. *The Cinema, etc.* The Plymouth Corporation has had plans by Sound Movement Cinemas, Ltd., for the erection of a cinema, dance hall, shop and car park in Wolesley Road, and referred it to the City Surveyor to negotiate an improved elevation.

TORQUAY. *Flats.* Mr. G. W. Hands has prepared a scheme for the erection of flats in Torwood Gardens Road, Torquay.

EASTERN COUNTIES

BRENTWOOD. *Hospital Modernization.* The L.C.C. is to modernize another of the patients' blocks at High Wood Hospital, Brentwood, at a cost of £2,385.

CHELMSFORD. *Houses, etc.* Plans passed by the Chelmsford Corporation: 16 houses, Millfield Estate, Waterhouse Lane, Mr. F. Panther; 10 houses, Hillside Grove, Mr. J. R. Dowst; store, Baddow Road, J. Sadd and Sons; eight houses, Moulsham Drive, Mr. W. J. Aldred; 38 houses and eight shops with flats over, Broomfield Road, Patching Hall Estate, Mr. A. J. Wells.

CHELMSFORD. *Houses.* The Chelmsford Corporation is to erect 36 houses on the Widford Estate.

CHELMSFORD. *School.* The Board of Education has approved the proposal for the new Church of England School for about 350 junior and infant children at Guy Harlings, Chelmsford.

GRAVESEND. *Open-air Bath.* The Gravesend Corporation has obtained sanction to proceed with the scheme for the provision of an open-air bath in the Ordnance recreation ground at a cost of £23,864.

YARMOUTH. *Slipper Baths.* The Yarmouth Corporation has approved a revised scheme for slipper baths on the Hall Quay, at a cost of £1,880.

YARMOUTH. *Houses.* The Yarmouth Corporation is to erect 21 houses at Bell's Marsh, 18 at Marsh Road and 22 at Gordon Road.

YARMOUTH. *Schools.* The Yarmouth Education Committee is to erect a junior mixed school with classroom accommodation for 300 children, an assembly hall and facilities for possible extension, at the junction of Caister Road and Jellicoe Road, at an estimated cost of £10,000, and provide an assembly hall for the Alderman Swindell infants' school, at an estimated cost of £2,000.

YARMOUTH. *Swimming Pool, etc.* The Yarmouth Corporation is considering various sites suggested for the erection of public baths and indoor swimming pool.

MIDLAND COUNTIES

CHESTERFIELD. *Houses.* Plans passed by the Chesterfield Corporation: 14 houses off Brockwell Lane and 12 houses Hucknall Avenue, for Mr. F. Longden.

KETTERING. *School extensions.* Kettering Education Committee has approved plans for extensions at the Avondale School, at a cost of £6,714.

MANSFIELD. *Playing Fields.* Mansfield Corporation has approved plans by the Borough Surveyor for playing fields comprising about 30 acres of land near the Berry Hill Water Tower. The scheme makes provision for a cycling track and seven football pitches at an approximate cost of £8,000.

NORTHAMPTON. *Houses, etc.* Plans passed by the Northampton Corporation: Ten houses, Bushland Road, A. Glenn and Sons, Ltd.; printing works, "Waterways," Bedford Road, Creative Printers, Ltd.; church and parochial hall, Mayfield Road, the Rector and Parochial Church Council of Abington; seven houses, Rothersthorpe Road, Mr. R. H. Hewins; 23 houses, Malcolm Drive, Chowns, Ltd.

NORTHAMPTON. *Houses.* Plans passed by Northampton R.D.C.: Four houses, Wellingborough Road, Weston Favell, for Messrs. Chowns, Ltd.; eight houses, Bushland Road, for Messrs. A. Glenn and Sons, Ltd.

NORTHANTS. *School Gymnasium.* The Northants Education Committee is to provide a hall-gymnasium at Brackley County High School for Girls, at a cost of £5,700.

RATES OF WAGES

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

			I. s.	I. d.	II. s.	II. d.
A	ABERDARE ...	S. Wales & M.	1	7	1	2½
A	Aberdeen ...	Scotland	1	7	1	2½
A_1	Abergavenny ...	S. Wales & M.	1	6½	1	2
A_2	Abingdon ...	S. Counties	1	5½	1	1½
A	Accrington ...	N.W. Counties	1	7	1	2½
A_2	Addlestone ...	S. Counties	1	6	1	1½
A	Adlington ...	N.W. Counties	1	7	1	2½
A	Airdrie ...	Scotland	*1	7	1	2½
C	Aldeburgh ...	E. Counties	1	3	0	11½
A	Altrincham ...	N.W. Counties	1	7	1	2½
B_2	Appleby ...	N.W. Counties	1	3½	0	11½
A	Ashton-under-Lyne	N.W. Counties	1	7	1	2½
B	Aylesbury ...	S. Counties	1	5	1	0½
B	BANBURY ...	S. Counties	1	5	1	0½
B_1	Bangor ...	N.W. Counties	1	4½	1	0½
A_2	Barnard Castle	N.E. Coast	1	5½	1	1½
A	Barnsley ...	Yorkshire	1	7	1	2½
B	Barnstaple ...	S.W. Counties	1	5	1	0½
A	Barrow ...	N.W. Counties	1	7	1	2½
A	Barry ...	S. Wales & M.	1	7	1	2½
B	Basingstoke ...	S.W. Counties	1	5	1	0½
A_2	Bath	S.W. Counties	1	6	1	1½
A	Batley ...	Yorkshire	1	7	1	2½
A_2	Bedford ...	E. Counties	1	6	1	1½
A_2	Berwick-on-Tweed	N.E. Coast	1	6	1	1½
A_2	Bewdley ...	Mid. Counties	1	6	1	1½
B	Bicester ...	S. Counties	1	5	1	0½
	Birkenhead ...	N.W. Counties	*1	8	1	3
A	Birmingham ...	Mid. Counties	1	7	1	2½
A_1	Bishop Auckland	N.E. Coast	1	6½	1	2
A	Blackburn ...	N.W. Counties	1	7	1	2½
A	Blackpool ...	N.W. Counties	1	7	1	2½
A	Blyth	N.E. Coast	1	7	1	2½
B	Bognor ...	S. Counties	1	5	1	0½
A	Bolton ...	N.W. Counties	1	7	1	2½
A_2	Boston ...	Mid. Counties	1	5½	1	1½
A_2	Bournemouth...	S. Counties	1	6	1	1½
B_2	Bovey Tracey	S.W. Counties	1	4	1	0
A	Bradford ...	Yorkshire	1	7	1	2½
A_1	Brentwood ...	E. Counties	1	6½	1	2
A	Bridgend ...	S. Wales & M.	1	7	1	2½
B	Bridgwater ...	S.W. Counties	1	5	1	0½
A_1	Bridlington ...	Yorkshire	1	6½	1	2
A	Brighouse ...	Yorkshire	1	7	1	2½
A	Brighton ...	S. Counties	1	6	1	1½
A	Bristol ...	S.W. Counties	1	7	1	2½
B	Brixham ...	S.W. Counties	1	5	1	0½
A	Bromsgrove ...	Mid. Counties	1	7	1	2½
B	Bromyard ...	Mid. Counties	1	5	1	0½
A	Burnley ...	N.W. Counties	1	7	1	2½
A	Burslem ...	Mid. Counties	1	7	1	2½
A	Burton-on-Trent	Mid. Counties	1	7	1	2½
A	Bury	N.W. Counties	1	7	1	2½
A_1	Buxton ...	N.W. Counties	1	6½	1	2
A_1	CAMBRIDGE	E. Counties	1	6½	1	2
B_1	Canterbury ...	S. Counties	1	4½	1	0½
A	Cardiff ...	S. Wales & M.	1	7	1	2½
A	Carlisle ...	N.W. Counties	1	7	1	2½
B	Carmarthen ...	S. Wales & M.	1	5	1	0½
B	Carnarvon ...	N.W. Counties	1	5	1	0½
A_1	Carnforth ...	N.W. Counties	1	7	1	2½
A	Castleford ...	Yorkshire	1	7	1	2½
A_2	Chatham ...	S. Counties	1	5½	1	1½
A_2	Chelmsford ...	E. Counties	1	5½	1	1½
A_2	Cheltenham ...	S.W. Counties	1	5½	1	1½
A	Chester ...	N.W. Counties	1	7	1	2½
A	Chesterfield ...	Mid. Counties	1	7	1	2½
B	Chichester ...	S. Counties	1	5	1	0½
A	Chorley ...	N.W. Counties	1	7	1	2½
B_1	Cirencester ...	S. Counties	1	4½	1	0½
A	Clitheroe ...	N.W. Counties	1	7	1	2½
A	Clydebank ...	Scotland	1	7	1	2½
A	Coalville ...	Mid. Counties	1	7	1	2½
A_2	Colchester ...	E. Counties	1	6	1	1½
A_1	Colne	N.W. Counties	1	6½	1	2
A_2	Colwyn Bay ...	N.W. Counties	1	6	1	1½
A_1	Consett ...	N.E. Coast	1	6½	1	2
A_2	Conway ...	N.W. Counties	1	6	1	1½
A	Coventry ...	Mid. Counties	1	7	1	2½
A_2	Crewe	N.W. Counties	1	6	1	1½
A_2	Cumberland ...	N.W. Counties	1	5½	1	1½
A	DARLINGTON	N.E. Coast	1	7	1	2½
A	Darwen ...	N.W. Counties	1	7	1	2½
B_1	Deal	S. Counties	1	4½	1	0½
A_2	Denbigh ...	N.W. Counties	1	5½	1	1½
A	Derby	Mid. Counties	1	7	1	2½
A	Dewsbury ...	Yorkshire	1	7	1	2½
B	Didcot ...	S. Counties	1	5	1	0½
A	Doncaster ...	Yorkshire	1	7	1	2½
B_1	Dorchester ...	S.W. Counties	1	4½	1	0½
A_2	Driffield ...	Yorkshire	1	5½	1	1½
A_2	Droitwich ...	Mid. Counties	1	6	1	1½
A	Dudley ...	Mid. Counties	1	7	1	2½
A_1	Dumfries ...	Scotland	1	6	1	1½
A	Dundee ...	Scotland	1	7	1	2½
A	Durham ...	N.E. Coast	1	7	1	2½
A_2	EASTBOURNE	S. Counties	1	6	1	1½
A_1	Ebbw Vale ...	S. Wales & M.	1	6½	1	2
A	Edinburgh ...	Scotland	1	7	1	2½
A_2	Exeter ...	S.W. Counties	*1	6	1	1½
B	Exmouth ...	S.W. Counties	1	5	1	0½
A_2	FELIXSTOWE	E. Counties	1	5½	1	1½
A_2	Filey	Yorkshire	1	5½	1	1½
A	Fleetwood ...	N.W. Counties	1	7	1	2½
B_1	Folkestone ...	S. Counties	1	4½	1	0½
A	Frodsham ...	N.W. Counties	1	7	1	2
B_2	Frome ...	S.W. Counties	1	4	1	0
A	GATESHEAD	N.E. Coast	1	7	1	2½
B	Gillingham ...	S. Counties	1	5	1	0½
A_1	Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1	6½	1	2
A	Glasgow ...	Scotland	1	7	1	2½
A_2	Gloucester ...	S.W. Counties	1	6	1	1½
A_2	Goole	Yorkshire	1	6	1	1½
A_2	Gosport ...	S. Counties	1	6	1	1½
A_2	Grantham ..	Mid. Counties	1	5½	1	1
A_1	Gravesend ...	S. Counties	1	6½	1	2
A	Greenock ...	Scotland	*1	7	1	2
A	Grimsby ...	Mid. Counties	1	7	1	2
B	Guildford ...	S. Counties	1	5	1	0
A	HALIFAX ...	Yorkshire	1	7	1	2½
A	Hanley ...	Mid. Counties	1	7	1	2½
A	Harrogate ...	Yorkshire	1	7	1	2½
A	Hartlepools ...	N.E. Coast	1	7	1	2½
B	Harwich ...	E. Counties	1	5	1	0½
B	Hastings ...	S. Counties	1	5	1	0½
A_2	Hatfield ...	S. Counties	1	6	1	1½
B	Hereford ...	S.W. Counties	1	5	1	0½
A_2	Hertford ...	E. Counties	1	6	1	1½
A	Heysham ...	N.W. Counties	1	7	1	2½
A	Howden ...	N.E. Coast	1	7	1	2½
A	Huddersfield ...	Yorkshire	1	7	1	2½
A	Hull	Yorkshire	1	7	1	2½
A	ILKLEY ...	Yorkshire	1	7	1	2½
A	Immingham ...	Mid. Counties	1	7	1	2½
A_2	Ipswich ...	E. Counties	1	6	1	1½
B_2	Isle of Wight ...	S. Counties	1	4	1	0
A	JARROW ...	N.E. Coast	1	7	1	2½
A	KEIGHLEY ...	Yorkshire	1	7	1	2½
A_2	Kendal ...	N.W. Counties	1	5½	1	1½
A_2	Keswick ...	N.W. Counties	1	5½	1	1½
A_1	Kettering ...	Mid. Counties	1	6½	1	2
A_2	Kidderminster	Mid. Counties	1	6	1	1½
B_1	King's Lynn ...	E. Counties	1	4½	1	0½
A	LANCASTER ...	N.W. Counties	1	7	1	2½
A_1	Leamington ...	Mid. Counties	1	6½	1	2
A	Leeds	Yorkshire	1	7	1	2½
A	Leek	Mid. Counties	1	7	1	2½
A	Leicester ...	Mid. Counties	1	7	1	2½
A	Leigh	N.W. Counties	1	7	1	2½
B	Lewes	S. Counties	1	5	1	0½
A_2	Lichfield ...	Mid. Counties	1	6	1	1½
A	Lincoln ...	Mid. Counties	1	7	1	2½
	Liverpool ...	N.W. Counties	*1	8½	1	3½
A_2	Llandudno ...	N.W. Counties	1	6	1	1½
A	Llanelly ...	S. Wales & M.	1	7	1	2½
	London (12-miles radius)		1	8½	1	3½
	Do. (12-15 miles radius)		1	8	1	3
A	Long Eaton ...	Mid. Counties	1	7	1	2½
A	Loughborough	Mid. Counties	1	7	1	2½
A_1	Luton	E. Counties	1	6½	1	2
A	Lytham ...	N.W. Counties	1	7	1	2½
A_1	MACCLESFIELD	N.W. Counties	1	6½	1	2
A_2	Maldstone ...	S. Counties	1	5½	1	1½
A_2	Malvern ...	Mid. Counties	1	5½	1	1½
A	Manchester ...	N.W. Counties	1	7	1	2½
A	Mansfield ...	Mid. Counties	1	7	1	2½
B_1	Margate ...	S. Counties	1	4½	1	0½
A_2	Matlock ...	Mid. Counties	1	5½	1	1½
A_1	Merthyr ...	S. Wales & M.	1	6½	1	2
A	Middlesbrough	N.E. Coast	1	7	1	2½
A_2	Middlewich ...	N.W. Counties	1	6	1	1½
B_2	Minehead ...	S.W. Counties	1	4	1	0
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1	4	1	0
A	Morecambe ...	N.W. Counties	1	7	1	2½
A_2	NANTWICH ...	N.W. Counties	1	6	1	1½
A	Neath	S. Wales & M.	1	7	1	2½
A	Nelson ...	N.W. Counties	1	7	1	2½
A	Newcastle ...	N.E. Coast	1	7	1	2½
A	Newport ...	S. Wales & M.	1	7	1	2½
A	Normanton ...	Yorkshire	1	7	1	2½
A	Northampton	Mid. Counties	1	7	1	2½
A	North Shields...	N.E. Coast	1	7	1	2½
A	North Staffs ...	Mid. Counties	1	7	1	2½
A_1	Norwich ...	E. Counties	1	6½	1	2
A	Nottingham ...	Mid. Counties	1	7	1	2½
A	Nuneaton ...	Mid. Counties	1	7	1	2½
A_2	OAKHAM ...	Mid. Counties	1	5½	1	1½
A	Oldham ...	N.W. Counties	1	7	1	2½
A_2	Oswestry ...	N.W. Counties	1	5½	1	1½
A_1	Oxford ...	S. Counties	1	6½	1	2
A	PAISLEY ...	Scotland	*1	7	1	2
B_2	Pembroke ...	S. Wales & M.	1	3½	0	11½
A	Perth	Scotland	*1	7	1	2½
A	Peterborough....	E. Counties	1	6½	1	[illegible]
A	Plymouth ...	S.W. Counties	*1	7	1	2½
A	Pontefract ...	Yorkshire	1	7	1	2½
A_1	Pontypridd ...	S. Wales & M.	1	6½	1	2
A_2	Portsmouth ...	S. Counties	1	6	1	1½
A	Preston ...	N.W. Counties	1	7	1	2½
A	QUEENSFERRY	N.W. Counties	1	7	1	2½
A_2	READING ...	S. Counties	1	6½	1	2
B	Reigate ...	S. Counties	1	5½	1	1½
A_2	Retford ...	Mid. Counties	1	5½	1	1½
A_1	Rhondda Valley	S. Wales & M.	1	6½	1	2
A_2	Ripon	Yorkshire	1	5½	1	1½
A	Rochdale ...	N.W. Counties	1	7	1	2½
B	Rochester ...	S. Counties	1	5	1	0½
A_1	Ruabon ...	N.W. Counties	1	6½	1	2
A	Rugby ...	Mid. Counties	1	7	1	2½
A_2	Rugeley ...	Mid. Counties	1	6	1	1½
A	Runcorn ...	N.W. Counties	1	7	1	2½
A_1	ST. ALBANS ...	E. Counties	1	6½	1	2
A	St. Helens ...	N.W. Counties	1	7	1	2½
B_2	Salisbury ...	S.W. Counties	1	3½	0	11½
A_1	Scarborough ...	Yorkshire	1	6½	1	2
A	Scunthorpe ...	Mid. Counties	1	7	1	2½
A	Sheffield ...	Yorkshire	1	7	1	2½
A	Shipley ...	Yorkshire	1	7	1	2½
A_2	Shrewsbury ...	Mid. Counties	1	6	1	1½
A_2	Skipton ...	Yorkshire	1	6	1	1½
A_2	Slough ...	S. Counties	1	6	1	1½
A_1	Solihull ...	Mid. Counties	1	6½	1	2
A_2	Southampton...	S. Counties	1	6	1	1½
A_1	Southend-on-Sea	E. Counties	1	6½	1	2
A	Southport ...	N.W. Counties	1	7	1	2½
A	S. Shields ...	N.E. Coast	1	7	1	2½
A	Stafford ...	Mid. Counties	1	6½	1	2
A_2	Stirling ...	Scotland	1	7½	1	2½
A	Stockport ...	N.W. Counties	1	7	1	2½
A	Stockton-on-Tees	N.E. Coast	1	7	1	2½
A	Stoke-on-Trent	Mid. Counties	1	7	1	2½
B	Stroud ...	S.W. Counties	1	5	1	0½
A	Sunderland ...	N.E. Coast	1	7	1	2½
A	Swansea ...	S. Wales & M.	1	7	1	2½
A_2	Swindon ...	S.W. Counties	1	5½	1	1½
A_1	TAMWORTH ...	N.W. Counties	1	6½	1	2
B	Taunton ...	S.W. Counties	1	5	1	0½
A	Teesside Dist....	N.E. Counties	1	7	1	2½
A_2	Teignmouth ...	S.W. Coast	1	6	1	1½
A	Todmorden ...	Yorkshire	1	7	1	2½
A_1	Torquay ...	S.W. Counties	1	6½	1	2
B_2	Truro	S.W. Counties	1	4	1	0
A_2	Tunbridge Wells	S. Counties	1	5½	1	1½
A	Tunstall ...	Mid. Counties	1	7	1	2½
A	Tyne District....	N.E. Coast	1	7	1	2½
A	WAKEFIELD	Yorkshire	1	7	1	2½
A	Walsall ...	Mid. Counties	1	7	1	2½
A	Warrington ...	N.W. Counties	1	7	1	2½
A_1	Warwick ...	Mid. Counties	1	6½	1	2
A_1	Wellingborough	Mid. Counties	1	6½	1	[illegible]
A	West Bromwich	Mid. Counties	1	7	1	2½
A_2	Weston-s.-Mare	S.W. Counties	1	6	1	1½
A_2	Whitby ...	Yorkshire	1	[illegible]	1	1½
A	Widnes ...	N.W. Counties	1	7	1	2½
A	Wigan ...	N.W. Counties	1	7	1	2½
B	Winchester ...	S. Counties	1	5	1	0½
A_2	Windsor ...	S. Counties	1	6	1	1½
A	Wolverhampton	Mid. Counties	1	7	1	2½
A_2	Worcester ...	Mid. Counties	1	6	1	1½
A_2	Worksop ...	Yorkshire	1	5½	1	1½
A_1	Wrexham ...	N.W. Counties	1	6½	1	2
A_2	Wycombe ...	S. Counties	1	5½	1	1½
B	YARMOUTH ...	E. Counties	1	5	1	0½
B	Yeovil ...	S.W. Counties	1	5	1	0½
A	York	Yorkshire	1	7	1	2½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request. The rates of wages have been revised consequent upon the increase in wages which came into operation on February 1, together with all revisions following authorized annual regradings.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. 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. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 8½
Carpenter . . . . . ,,	1 8½
Joiner . . . . . ,,	1 8½
Machinist . . . . . ,,	1 9½
Mason (Banker) . . . . . ,,	1 8½
,, (Fixer) . . . . . ,,	1 9½
Plumber . . . . . ,,	1 8½
Painter . . . . . ,,	1 7½
Paperhanger . . . . . ,,	1 7½
Glazier . . . . . ,,	1 8½
Slater . . . . . ,,	1 8½
Scaffolder . . . . . ,,	1 4½
Timberman . . . . . ,,	1 4½
Navvy . . . . . ,,	1 3½
General Labourer . . . . . ,,	1 3½
Lorryman . . . . . ,,	1 6½
Crane Driver . . . . . ,,	1 7½
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 18 6
Hydrated Lime . . . . . ,,	2 5 0
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . . ,,	1 19 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 5 0
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 6
¾" Crushed Ballast . . . . . ,,	7 0
Building Sand . . . . . ,,	7 6
Washed Sand . . . . . ,,	8 6
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . . per F.R.	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . . ,,	3 6	5 3
Rest Bends . . . ,,	4 3	6 3
Single Junctions . . ,,	3 6	5 3
Double . . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¼" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . . ,,	6 9	8 9
Interceptors . . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	2 3	3 8
Bends . . . . each	6 4	13 1
Inspection bends . . ,,	11 5	14 4
Single junctions . . ,,	11 2	22 10
Double junctions . . ,,	17 2	30 9
Lead Wool . . . . lb.	6	—
Gaskin . . . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 12 0
Grooved do. . . . . ,,	2 14 0
Phorpres bricks . . . . ,,	2 15 0
,, Cellular bricks . . ,,	2 15 0
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 14 0
,, Wirecuts . . ,,	7 12 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
,, Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 7½
Bath stone . . . . ,,	2 10
York stone . . . . ,,	6 6
,, ,, Sawn templates . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station:

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey . per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,, ,,	4 5 0
Best hand-made do. . . ,, ,,	4 17 6
Hips and valleys . . . each	9
,, hand-made . . . ,,	9½
Nails, compo . . . . ,,	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	£ s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . Sq.	18 6
,, 1" . . ,,	1 1 6
,, 1¼" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
,, 1¾" . . ,,	1 10 0
Deal matchings, ¾" . . ,,	14 0
,, ¾" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding, ¾" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1¼" . . ,,	1 6 0

Plywood, per ft. sup.:

Thickness	⅛" d.			¼" d.			⅜" d.			½" d.		
Qualities	A	B	BB	A	B	BB	A	B	BB	A	B	BB
Birch 60 × 48	4	2½	2	5	3	2½	7	5	4	8	6	5
Cheap Alder .	–	2	1½	–	3½	2	–	–	–	–	–	–
Oregon Pine .	–	2½	–	3	2¾	–	4	3½	–	5	4½	–
Gaboon Mahogany	4	3½	–	5	4½	–	7	6½	–	8	7	–
Figured Oak .	6½	5	–	7½	5¾	–	10	8	–	1/–	9	–

Scotch glue . . . . . lb 8d

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"
Tubes 2'–14' long per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"–23" long . each	10	1/1	1/11	2/8	4/9
,, 3"–11½" long . ,,	7	9	1/3	1/8	3/–
Long screws, 12"–23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3" M–½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts	TUBES Per cent.		Per cent.
Gas . . .	66⅔	Galvanized gas .	56⅔
Water . . .	61⅔	,, water .	51⅔
Steam . . .	58⅔	,, steam .	46⅔
	FITTINGS		
Gas . . .	57½	Galvanized gas .	48½
Water . . .	53½	,, water .	46½
Steam . . .	48½	,, steam .	41½

	s. d.
Rolled steel joists cut to length . . cwt.	15 6
Mild steel reinforcing rods, ¾" . . . ,,	16 0
,, ,, ,, ½" . . . ,,	15 9
,, ,, ,, ⅜" . . . ,,	15 3

SMITH AND FOUNDER—*continued*

	s. d.
Mild steel reinforcing rods, ¼" . . . cwt.	15 3
,, ,, ,, ⅜" . . . ,,	15 3
,, ,, ,, ½" . . . ,,	15 3
,, ,, ,, ¾" . . . ,,	15 3
,, ,, ,, 1" . . . ,,	15 3
,, ,, ,, 1¼" . . . ,,	15 3
,, ,, ,, 1½" . . . ,,	15 3
,, ,, ,, 1¾" . . . ,,	15 3
,, ,, ,, 2" . . . ,,	15 3

	3" s. d.	4" s. d.	6" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R.	8		10
Shoes . . . . each	2 0	3 0	
Anti-splash shoes . . ,,	4 6	8 0	
Boots . . . . ,,	3 0	4 0	
Bends . . . . ,,	2 7	3 9	
,, with access door . ,,	—	6 3	
Heads . . . . ,,	4 0	5 0	
Swan-necks up to 9" offsets . ,,	3 9	6 0	
Plinth bends, 4½" to 6" . ,,	3 9	5 3	
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5		6
Stop ends . . . . each	6		6
Angles . . . . ,,	1 7		1 11
Obtuse angles . . . ,,	2 0		2 6
Outlets . . . . ,,	1 9		2 3

PLUMBER

	s. d.
Lead, milled sheets . . . cwt.	33 6
,, drawn pipes . . . ,,	33 0
,, soil pipes . . . ,,	36 0
,, scrap . . . . ,,	21 0
Solder, plumbers' . . . lb.	1 1½
,, fine do. . . . ,,	1 4
Copper, sheet . . . ,,	1 0½
,, tubes . . . ,,	1 2½

L.C.C. soil and waste pipes:	3" s. d.	4" s. d.	6" s. d.
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 0 0
Plaster, coarse . . . ,,	2 15 0
,, fine . . . ,,	4 7 6
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Gothite plaster . . . ,,	3 6 0
Pioneer plaster . . . ,,	3 6 0
Thistle plaster . . . ,,	3 6 0
Sand, washed . . . Y.C.	11 6
Hair . . . . . lb.	6
Laths, sawn . . . . bundle	2 4
,, rent . . . . ,,	3 9
Lath nails . . . . lb.	3

GLAZIER

	s. d.	s. d.
Sheet glass, 24 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,	,,	3½
Flemish, Arctic, Figures (white)* .	,,	7½
Blazoned glasses . . .	,,	2 6
Reeded: Cross Reeded . .	,,	11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite	,,	6
Crown sheet glass (n/e 12" × 10") .	,,	2 0
Flashed opals (white and coloured) .	,, 1 0 and	2 0
¼" rough cast; rolled plate . .	,,	6
¼" wired cast; wired rolled . .	,,	10½
¼" Georgian wired cast . . .	,,	11½
¼" Polished plate, n/e 1 ft. . .	,, †10 to	‡1 1
,, ,, 2 . . ,,	†1 2 ,,	‡1 4
,, ,, 4 . . ,,	†2 3 ,,	‡2 6
,, ,, 8 . . ,,	†2 9 ,,	‡3 2
,, ,, 20 . . ,,	†3 1 ,,	‡3 9
,, ,, 45 . . ,,	†3 3 ,,	‡4 0
,, ,, 100 . . ,,	†4 0 ,,	‡4 10
Vita glass, sheet, n/e 1 ft. . . ,,		1 0
,, ,, 2 ft. . . ,,		1 3
,, ,, over 2 ft. . . ,,		1 9
,, ,, plate, n/e 1 ft. . . ,,		1 6
,, ,, 2 ft. . . ,,		3 0
,, ,, 5 ft. . . ,,		4 0
,, ,, 7 ft. . . ,,		5 0
,, ,, 15 ft. . . ,,		6 0
,, ,, over 15 ft. . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and	3 6
,, rough cast ¼" and ½" . ,,		8½ ,, 1 0
Putty, linseed oil . . . lb.		3

* *Colours, 1d. F.S. extra.*
† *Ordinary glazing quality.* ‡ *Selected glazing quality*

PAINTER

	£ s. d.
White lead in 1-cwt. casks . . cwt.	2 17 9
Linseed oil . . . . gall.	3 2
Boiled oil . . . . ,,	3 5
Turpentine . . . . ,,	3 9
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12″ deep and cart away	Y.S.	2 9
,, to reduce levels n/e 5′ 0″ deep and cart away	Y.C.	8 6
,, to form basement n/e 5′ 0″ and cart away	,,	9 0
,, ,, 10′ 0″ deep and cart away	,,	9 6
,, ,, 15′ 0″ deep and cart away	,,	10 0
If in stiff clay	add ,,	6
If in underpinning	,,	4 0
Planking and strutting to sides of excavation	F.S.	1 0
,, ,, to pier holes	,,	5
,, ,, to trenches	,,	5
,, ,, extra, only if left in	,,	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6–1)	,,	1 6 0
,, ,, (4–2–1)	,,	1 12 6
,, ,, underpinning	,,	1 16 0
Finishing surface of concrete, space face	Y.S.	7

DRAINLAYER		4″ s. d.	6″ s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 [illegible]	2 3
Extra, only for bends	Each	2 8	3 9
,, junctions	,,	3 9	4 6
Gullies and gratings	,,	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	5 9	8 3
Extra, only for bends (cast iron)	Each	12 3	18 4

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	26 10 0
,, ,, in cement	,,	27 12 6
,, Stocks in cement	,,	34 0 0
,, Blues in cement	,,	50 0 0
Extra only for circular on plan	,,	2 0 0
,, backing to masonry	,,	1 10 0
,, rising on old walls	,,	2 0 0
,, underpinning	,,	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	,,	8
,, ,, ,, red brick facings and pointing	,,	11
,, ,, ,, blue brick facings and pointing	,,	1 4
,, ,, ,, glazed brick facings and pointing	,,	3 6
Tuck pointing	,,	7½
Weather pointing in cement	,,	3
Slate dampcourse	,,	10
Vertical dampcourse	,,	1 1

ASPHALTER		s. d.
½″ Horizontal dampcourse	Y.S.	4 9
½″ Vertical dampcourse	,,	7 9
½″ paving or flat	,,	6 3
1″ paving or flat	,,	7 6
1″ × 6″ skirting	F.R.	1 0
Angle fillet	,,	2½
Rounded angle	,,	2½
Cesspools	Each	5 6

MASON		£ s. d.
Portland stone, including all labour, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	,,	13 6
Artificial stone and do.	,,	13 0
York stone templates, fixed complete	,,	10 6
,, thresholds	,,	13 6
,, sills	,,	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal to a 3″ lap, and fixing with compo nails, 20″ × 10″	Sqr.	3 10 0
Do., 18″ × 9″	,,	3 7 0
Do., 24″ × 12″	,,	3 17 0
Westmorland slating, laid with diminished courses	,,	[illegible] 0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	,,	3 0 0
Do., as last, but of machine-made tiles	,,	2 16 0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey)	,,	2 16 0
,, ,, ,, ,, ,, ,, ,, (green)	,,	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 2 6
Shuttering to sides and soffits of beams	F.S.	7
,, to stanchions	,,	7
,, to staircases	,,	1 6
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	,,	4 6
,, ,, roofs	,,	[illegible] 6
,, ,, trusses	,,	7 6
,, ,, partitions	,,	8 6
½″ deal sawn boarding and fixing to joists	Sqr.	1 14 6
1″ ,, ,, ,, ,, ,,	,,	1 17 6
1½″ ,, ,, ,, ,, ,,	,,	2 3 0
1½″ × 2″ fir battening for Countess slating	,,	9 6
Do., for 4″ gauge tiling	,,	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
,, ,, ,, 2 ,,	,,	2 9
,, ,, ,, 3 ,,	,,	3 3
Stout herringbone strutting to 9″ joists	F.R.	10½
1″ deal gutter boards and bearers	F.S.	1 2
1½″ ,, ,, ,, ,, ,,	,,	1 6
2″ deal wrought rounded roll	F.R.	8
1″ deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1½″ do.	,,	2 10 0
1½″ do.	,,	2 17 0
1″ deal moulded skirting fixed on, and including grounds plugged to wall	F.S.	1 6
1½″ do.	,,	1 9

CARPENTER AND JOINER—*continued*		s. d.
1½″ deal moulded sashes of average size	F.S.	1 9½
2″ ,, ,, ,, ,, ,,	,,	1 11½
1½″ deal cased frames double hung, of 6″ × 3″ oak sills, 1½″ pulley stiles, 1½″ heads, 1″ inside and outside linings, ½″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3 7
2″ ,, ,, ,, ,, ,,	,,	3 10
Extra only for moulded horns	Each	6
1½″ deal four-panel square, both sides, door	F.S.	2 0
2″ ,, ,, ,, ,, ,,	,,	2 8
1½″ ,, but moulded both sides	,,	2 4
2″ ,, ,, ,, ,, ,,	,,	3 0
4″ × 3″ deal, rebated and moulded frames	F.R.	1 0
4½″ × 3½″ ,, ,, ,, ,,	,,	1 4
1½″ deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2 6
1½″ deal moulded wall strings	,,	2 1
1½″ ,, ,, outer strings	,,	2 4
Ends of treads and risers housed to string	Each	1 9
3″ × 2″ deal moulded handrail	F.R.	1 3
1″ × 1″ deal balusters and housing each end	Each	2 0
1½″ × 1½″ ,, ,, ,, ,,	,,	2 9
3″ × 3″ deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	,,	6 0

SMITH AND FOUNDER		s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	18 6
Riveted plate or compound girders, and hoisting and fixing in position	,,	1 3 0
Do., stanchions with riveted caps and bases and do.	,,	1 2 0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete	,,	1 2 0
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	2 4 0
Do. in flashings	,,	2 7 6
Do. in covering to turrets	,,	2 13 0
Do. in soakers	,,	1 18 9
Labour to welted edge	F.R.	3½
Open copper nailing	,,	3
Close ,, ,,	,,	4

Lead service pipe and		½″ s. d.	¾″ s. d.	1″ s. d.	1¼″ s. d.	2″ s. d.	4″ s. d.
fixing with pipe hooks	F.R.	1 2	1 4	1 8½	2 7	3 6	—
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	7 3
Extra, only to bends	Each	—	—	—	—	2 3	7 6
Do. to stop ends	,,	6½	8	9	11	1 0	—
Boiler screws and unions		3 3	3 9	5 0	8 0	—	—
Lead traps		—	—	—	8 0	11 6	—
Screw down bib valves	,,	6 9	9 6	11 0	—	—	—
Do. stop cocks	,,	7 0	9 6	12 6	—	—	—

		s. d.
4″ cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	,,	1 6
Do. outlets	,,	2 9
4″ dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	,,	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	,,	2 9
Lathing/with sawn laths to ceilings	,,	1 3
½″ screeding in Portland cement and sand or tiling, wood block floor, etc.	,,	1 5
Do. vertical	,,	1 7
Rough under on walls	,,	1 2½
Render, refloat and set in lime and hair	,,	1 9
Render and set in Sirapite	,,	1 11
Render backing in cement and sand, and set in Keene's cement	,,	2 9
Extra, only if on lathing	,,	4
Keene's cement angle and arris	F.R.	6
Arris	,,	1½
Rounded angle, small	,,	3
Plain cornices in plaster, including dubbing out, per 1″ girth	,,	1½
1″ granolithic pavings	Y.S.	3 6
1½″ ,, ,, ,,	,,	4 6
6″ × 6″ white glazed wall tiling and fixing on prepared screed	,,	17 6
9″ × 3″ ,, ,, ,, ,,	,,	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	6½
26 oz. do. and do.	,,	7½
Flemish, Arctic Figured (white) and glazing with putty	,,	1 1
Cathedral glass and do.	,,	1 2
Glazing only, British polished plate	,,	7
Extra, only if in beds	,,	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	,,	9
Do. with washable distemper	,,	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	,,	3 3
Do. on woodwork	,,	3 6
Do. on steelwork	,,	3 9
Do. and brush grain and twice varnish	,,	5 6
Stain and twice varnish woodwork	,,	1 11
Stain and wax polish woodwork	,,	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 9
Hanging ordinary paper	from ,,	2 9