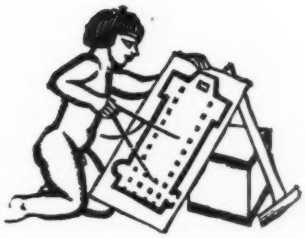
THE PASSING OF A PIONEER

CHANGES IN TOTTENHAM COURT ROAD

NEXT week demolition will begin of all that remains of Messrs. Heal's original shop in Tottenham Court Road. This façade was built by J. Morant Lockyer, a pupil of Sydney Smirke, during the period 1854-64, and shows the influence of the architect's Italian training superimposed on a vaguely Regency treatment. The shop is also of interest in that it was one of the first to make use of cast-iron columns and beams in its construction. Below is a view of the shop interior.

NEW ENTRANCE TO OLYMPIA

The new entrance hall to Olympia recently completed to the designs of Mr. Joseph Emberton. The hall is connected by covered ways to Hammersmith Road, the Underground Station, and to a new garage for 700 cars. The doors and balustrades are green and floors and ceiling pale buff.



THE ARCHITECTURAL UNDERGRADUATE

THE JOURNAL of last week outlined the two ways in which the Cambridge University School of Architecture could make a contribution to architectural knowledge which is not at present being supplied by any other school. In turning its energies in either of these directions the Cambridge School would have advantages accruing from its position which would render possible achievements of a very high merit.

For these reasons the JOURNAL believes that those responsible for the future of the school must eventually choose between concentration upon the study of historical development and research into the problems with which contemporary architecture now surrounds its practitioners.

But the existence of gaps in architectural knowledge and the special advantages which the Cambridge School would have in an attempt to fill them, cannot alone make certain the success of the school's future. There remain the questions of whether the staff, and the members of the school, are the right people and will have the right encouragement for such large ventures.

If the University decides that it is desirable for the school to make the attempt, it will presumably provide the encouragement; and it may equally be taken for granted that the University will not overlook the needs for both an inspiring director and a staff of exceptional ability. The factor which the University cannot so well control and which must eventually determine the school's success or failure, are the undergraduates who become members of the school. And in the discussions of the past year this paramount and prickly question seems to have received less attention than it might.

Since about 1923 the JOURNAL conjectures that the average number of members of the school has been about sixty. The Cambridge School is therefore small compared with other architectural schools, and almost minute compared with the giant schools of other faculties which surround it in Cambridge.

The first question which comes to mind, therefore, in considering the school's future is whether any ambitious results can be hoped for from a school so small. To this there seems to the world of architecture only one answer : the school must be closed, or it must be allowed to be ambitious. And the University decided in May that the school ought to be continued.

Of pessimism over smallness of numbers there exists a further refutal. It is not so long since the School of Medicine in Cambridge was small, poor and undistinguished. Today its prestige and size are so great that the latter quality at least is causing concern to the General Board.

Similarly, the present numbers of the School of Architecture need not be considered as hampering a distinguished future. But what of the ability of the individual members?

This is a much more serious matter. The undergraduate of Cambridge University may be said, without much over-simplification of the truth, to fall into one or other of three types. There are those who come to work very hard and who enjoy the other advantages of being at Cambridge at the same time; there are those who come to work moderately hard and also to enjoy the advantages; and there are those who desire to spend three years at Cambridge on the easiest possible intellectual terms.

In competing with the other faculties for its share of these differing types of undergraduate the School of Architecture has in the past been at a disadvantage. The undergraduate of first-class ability is not being unduly worldly-minded in wanting something to show for three years of hard work. A first-class honours degree at Cambridge will give him more than that : it will almost certainly provide for him an opening in some future career. The School of Architecture, offering only an ordinary degree, does not therefore provide much attraction for an undergraduate of ability who has not yet chosen a career.

And even should an able undergraduate decide that he wishes to adopt architecture as his profession, it is doubtful whether he could become a member of the School of Architecture during his years at Cambridge as things now are : for some colleges do not allow their members to read for an ordinary degree.

The cumulative effect of these drawbacks to the school's status has been very noticeable in the past. There have been too many members of the school who have regarded it merely as the means of staying in Cambridge for three years; and the standard required for a third class in the school's annual examinations has tended to encourage such an attitude of mind.

There may be much to be said for having one school in Cambridge where those undergraduates who want to work may do so, and those who do not, need not; but there appear also to be sufficiently good reasons why the University School of Architecture should not be selected for the purpose.

The appointment of a director of acknowledged ability and the formulation of the most ambitious schemes for three- or five-year study will have little effect if the school still fails to attract able members.

The provision of this attraction either by means of an honours degree, or by the introduction of a high examination standard by means of extra-mural examiners, would seem a most necessary preliminary to any high standards of achievement in the future.

The Architects' Journal
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NOTES & TOPICS

L.C.C. BYELAWS

THE proposed new byelaws have now been criticized by responsible bodies and dutiful individuals. Objections are being collated.

*

Many obvious criticisms will have been made by all interested parties—architects, civil and structural engineers, surveyors, builders. But there are some criticisms which can only be made authoritatively by architects, and I pray that they have been made.

*

For example, the clause which requires all opening windows to open up to a height of not less than 7 ft. from the floor, does a feeble nothing to ensure good ventilation, but fixes an arbitrary line which will quite unnecessarily restrict design.

*

Very few recent domestic buildings, with 6 ft. 6 in. doors designed to accord with human dimensions, and hardly any of the L.C.C. housing work, would comply with that proposed clause.

NON-SKID ROADS?

My note last week about the noise contribution of the new non-skid road surfaces brings me reminders of other shortcomings of this experiment.

*

The new surface, as witness any example in central London, harbours dust, dirt and decaying vegetation; rainwater collects deeply in the interstices and any car passing within some three feet of the pavement sends everybody scuttling for refuge.

*

The third more serious point is the rapid return to a slippery surface when once the non-skid quality starts to go. After several weeks, even months, of skid-free braking, the newly-acquired grip suddenly vanishes.

DESIGN AND THE STORE—

The latest D.I.A. "show" is on this week at Harrods. The exhibition consists, as did the last London show at Bowman's, of well-designed "things" chosen out of the ordinary stock of the store by a committee appointed by D.I.A.

*

Impressions of the present show are mixed. One has the feeling that Harrods does not itself think very much of the idea. It took sixteen minutes of resolute questioning to find somebody who knew where the exhibition was, and two lonely D.I.A. posters were all that prevented the public giving it the go-by once it got there.

*

And then one had a prior conception that the show was to be of things which ordinary intelligent people, with ordinary incomes, would wish to buy.

*

In the event, it wasn't. At least a small and upright bureau in masur birch (which looks like hard and polished nougat) was priced at £57. And to aspire to "the grace of the Regency enhanced by modern craftsmen" (lounge suite) one would have to be an architect to a joint-stock bank.

*

But there were compensations; the kitchen utensils, the ordinary carpet strips; the turned wood dishes and bowls; the fabrics; and some very good cane dining-room chairs, as well as other chairs, were worth the journey. In fact, in quiet corners there was a lot that people should look at.

*

Except—Oh—D.I.A. !—the garden furniture.

LEEDS LOOKS FORWARD

Leeds is continuing to do the building trades proud, according to the papers, on the large-minded scale which it has taught the country to expect from it.

*

In matters of municipal progress at any rate, the tag about "what Lancashire thinks . . . " might be better applied to Leeds. At present, it is contemplating the usual two millions or so of building work with all the usual absence of hesitation.

*

Architects particularly owe a debt to Leeds for the way in which it has decided to give the Mopin system a thorough trial in housing construction. There have been, of course, the usual rumours of difficulties encountered in the carrying out of the scheme for nine hundred or so flats. Whether these rumours are true or not, the architectural world certainly expected some to appear.

*

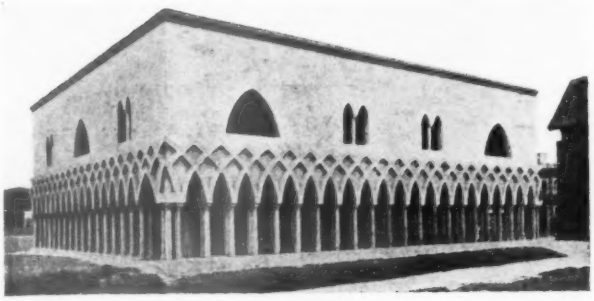
Despite its trial at Drancy, the system must have needed a multitude of modifications before it suited British flat plans and British byelaws.

*

Few cities would have had the courage to start so large and so new an undertaking. Leeds had that courage, and both the city and its architect, Mr. R. A. H. Livett, have gained great and permanent distinction from the huge work on which they are now engaged.

BANDITRY

Anxious as ever to unmask villainy, *John Bull* has been attacking the land owners who make vast profits out of housing schemes. Everybody knows well enough how the process works; the local council decides to build houses for workers, and instantly the only available land



The squash courts referred to in Astragal's note on this page.

is bought up by independent speculators and re-sold at a profit beyond the dreams of avarice.

*

One of the examples quoted is near Newcastle, where nearly £80,000 was asked for 101 acres of land which had previously been rated at less than £50 a year. Housing, apparently, gives urban values to agricultural land.

*

And the remedy? I cannot pretend to provide one. A tax on land values, or is this really so expensive to collect that the revenue almost vanishes? None the less, there will be no really cheap housing until agricultural land can be bought at an agricultural price.

UNHEALTHY SQUASH

The two illustrations on this page, from the autumn number of *Country Life*, are not, as one might be excused in supposing, of foreign mausoleums.

*

They are none other than photographs of very English squash courts. I am deeply shocked, for I always believed squash to be so essentially a clean, healthy English game.

*

And now that nasty Venetian influence creeps into squash architecture, and even Hollywood Tudor returns to the old country with a peculiarly Dutch streak in the hair.

OUT OF DATE

The lavatory basin (complete with h. and c.) has come to be so accepted a fitting that its design, from the purely utilitarian point of view, is seldom questioned. Yet it is very difficult to find a basin to meet the requirements of an exacting client—which are generally the requirements of everybody tomorrow.

A round of the showrooms reveals that in almost every case the soap dish is badly drained; some slope not at all, others slope so much that the soap more often than not is in the basin.

*

Taps generally are too near the back skirting, making cleaning difficult and the fixing of the taps below difficult enough for them generally to be left loose.

*

The basin section, too, is seldom designed to ensure a clean, noiseless, steady outflow of the used water. Some act sluggishly and leave dirt and scum behind, others funnel their waste away with much velocity and gurgling.

*

Two basins only seem designed to solve the problem completely; one sells at 27s., and the other at almost as many pounds.

*

And I'd better not say anything about the colours available.

ROAD AND RAIL

The current controversy between railway and road transport interests over the re-issue of a licence to a road transport company is of some interest to architects.

*

Most rail transport suffers from the disability of conveying goods only from one town to another town, not from factory to site.

*

There is, too, an odd belief that the rail is only good for heavy transport. But it is quite simple and safe for light goods when suitably packed in a factory to withstand the double journey to and from the goods stations.

*

Recent prices on a North London job make a pointed comparison. One price was for rough stone paving slabs sent from the quarry by rail, eventually delivered to the site and there sorted, cut to size and laid by the builder.

*

The second price was for exactly similar paving in the finished job, but the stones were cut to size at the quarry, packed into lorries, driven 150 miles direct to the site and there laid by the builder. Both prices were equal.

*

But when it comes to the time taken by rail from factory to site, I think perhaps I'd better say nothing at all. Anyway, most architects can say it for themselves.

TORQUAY

Torquay is to spend a vast sum on sea-front improvements. Many years ago such an announcement would have been greeted with cries of delight; nowadays we are not so sure.

*

Our larger sea-side towns fall naturally into two categories—the mainly-morbid-residential, like Eastbourne and the fishing-port-with-surrounding-modern-amenities, like Scarborough. The former usually find themselves on sites of little or no natural beauty—strange perversity of choice. The latter, originally sited on the choice of hardy men of the sea, have invariably a natural beauty.

*

Torquay has a little of both, and may quite easily lose both if its improvement money is not sympathetically and knowledgably spent. ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

CORONATION STANDS: L.C.C. ANNOUNCEMENT

The London County Council calls attention to the advisability of obtaining, as soon as possible, any consent desired for the erection of temporary stands on the coronation route. The erection of temporary stands on private forecourts will be permitted by the Council in approved cases, but no part of any such stands will be allowed to project over the public way.

Applications for external stands, constructed wholly of metal or partly of metal, partly of timber, will be dealt with by the Council under Sections 89 and 90 of the London Building Act, 1930. In the case of timber stands application for consent need only be made to the appropriate Metropolitan Borough Council under the provisions of Section 91 of the Act.

With regard to stands erected entirely within buildings, applicants should approach the district surveyor concerned for advice.

Applications for the Council's consent should be accompanied by drawings in duplicate together with the necessary fee, and should be addressed to the Superintending Architect, The County Hall, S.E.1.

CONFERENCE AT LA SARRAZ

Now that the English delegates have handed in their report to the Mars Group, it is possible to publish details of the Congress of C.I.R.P.A.C., which took place at La Sarraz from September 9 to 13.

Some forty architects met together to discuss the details of the general congress which is to take place in Paris in the summer of 1937. This conference will be opened by an address from Professor Gropius on "Human Scale in Town Planning," and will include discussions on a regional planning scheme, presented by Syrkus and the Polish group; a town-planning scheme for Barcelona, by Gatepac; the re-planning of a city quarter, by Le Corbusier and Jeanneret, who will present their most recent scheme for Nemours; and, finally, various legislative and financial proposals for the realization of these projects which will be put forward by the Swiss group. These items comprise the attempts at synthesis proposed by the Congress. In addition, the Dutch group will present a *résumé* of the analytical work which has taken up the efforts of the delegates at the previous conferences.

The discussions of this programme took place in the delightful grounds of the Château of La Sarraz. Besides the routine work of the Congress, there was an exhibition of photographs of recent work of modern architects in all countries, and an extremely interesting description of the formation of syndicates by the Catalan architects, given by Torres, of Barcelona. A considerable amount of business was got through, in spite of an almost complete disregard for the daily schedule of subjects for discussion, and there is no doubt that the Congress in Paris will be of the greatest interest to those who are fortunate enough to attend it.

The following members of Mars were present : Professor Gropius, Maxwell Fry, Godfrey Samuel, Moholy-Nagy, Hartland Thomas, Mr. and Mrs. Morton Shand, and Mr. and Mrs. Tatton Brown.

SCHOOLS AND THE CHILD

Mr. Oliver Stanley, President of the Board of Education, addressing a conference of teachers at Reading last week, emphasized three guiding principles which, he said, were fundamental to the Board's new policy. The first principle was that the child is not a bundle of faculties, but one organic whole. It followed from this principle that an education which might be good in itself ceased to be good if it became unbalanced.

In the light of these three principles, Mr. Stanley examined the Board's Circular 1444, so far as it dealt with elementary education, and the two pamphlets on Elementary and Nursery Buildings. "The first thing," he said, "that strikes one is the insistence on the separate stages of growth in the child's life and the insistence on appropriate buildings at each stage." Taking the infant and pre-school stage, the Board had urged local education authorities to make a survey of the needs of children under five. Generally speaking, variations in type would fall into two classes—nursery schools and nursery classes. "At that stage of growth, the main features are (1) the overwhelming importance of physical development and hygiene; and (2) the importance of play as a means to learning." The administrator's task at that stage was to provide conditions favourable to physical growth—light, sun and air, playgrounds, washing and lavatory accommodation, and adequate and suitable play material. The teacher's task was to make full use of the opportunities for hygiene training and to suggest cautiously the correct kind of play material at the correct time.

THE ARCHITECTS' DIARY

Friday, October 16

LONDON SOCIETY. *Miss E. Jeffries Davis on "The Story of Bloomsbury."* 5 *p.m.*

Tuesday, October 20

ARCHITECTURAL ASSOCIATION. *Annual Exhibition of Watercolours, Etchings and other Drawings by Members. Until November 6.*

Thursday, October 22

INSTITUTE OF STRUCTURAL ENGINEERS. *Brigadier H. N. North on "The Effect of Air Raids on Structures and the Design of Anti-Bomb and Anti-Gas Structures."* 6.30 *p.m.*

HOUSING CENTRE. *Opening by Sir Frederick Maurice of the "100 New Towns Exhibition."*

Tuesday, October 27

ARCHITECTURAL ASSOCIATION. *Presidential Address by Mr. L. H. Bucknell,* F.R.I.B.A. 8 *p.m.*

ARCHITECTURAL STUDENTS' ART EXHIBITION

The Students' Art Club of the Architectural Association School of Architecture has invited students of Schools of Architecture in the country to co-operate with them in holding an Exhibition of Sketchings and Paintings, to be held at the Architectural Association, from November 10 to 20.

Each school has been asked to submit a collection of work not exceeding nine in number. It is expected that besides the several London Schools the Exhibition will comprise work from the Birmingham School of Architecture; the R.W.A. School of Architecture, Bristol; Edinburgh College of Art; Leeds School of Architecture; the Universities of Liverpool, Manchester and Sheffield, and the Northern Architectural Association, Newcastle.

THE BRITISH COASTLINE

Government action to conserve the coast line of Great Britain and investigate the problem of its treatment was urged in a resolution passed last week at the annual conference of the Council for the Preservation of Rural England, at Torquay. Lord Crawford presided.

In a message to the conference, the Minister of Health stated that he had drawn the special attention of local authorities to the importance of entrusting the design of new houses to persons able to produce designs of architectural merit.

PRIZE FOR IMPROVING GLASGOW

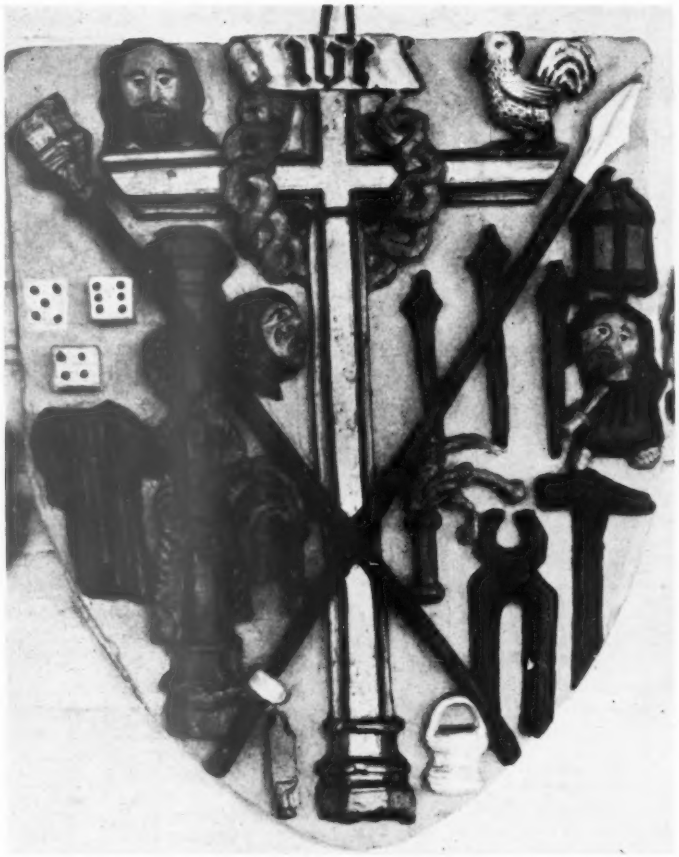
An anonymous citizen of Glasgow has instituted a fund to provide, every three years, a prize of £1,000 to the person who has done most in that time to beautify and otherwise improve the city. Associations representing the arts and professions will be invited to make nominations for the consideration of the selectors, who are to be a representative body of citizens. The final selections should provide a most interesting criterion of what representative members of a great city consider to be civic improvements.

ABERDEEN SATELLITE TOWN SCHEME

Plans for the development of a satellite town, with town hall, houses, churches, and cinemas on the estate of Kincorth, on the outskirts of Aberdeen, was discussed recently at a meeting of the city council committee dealing with the scheme.

Dr. Thomas Adams, who is acting as consultant in the scheme, considers the site a good one, which could be effectively planned.

Competitive designs for the lay-out of the



Soon after the fires at York Minster in 1829 and 1840, plaster copies were taken of the stone shields decorating the choir and nave, so that in the event of future fires destroying the originals, exact replicas could be made. The plaster copies are stored at the Minster building yard at the Deangate. Above is a photograph of one of the shields, the subject of which is the Passion.

ground are to be invited. This week it was decided that the first premium should be £500, and that £350 should be devoted to the next two or three designs in order of merit.

UNDERGROUND EXTENSION

London Transport announced last week that work will be begun before the end of the month on the first stage of the £9,000,000 East London Tube extension.

The full scheme provides for the extension of the Central London Tube from Liverpool Street Station to Newbury Park, Ilford. The first station will be at Bethnal Green. Mile End will be the next station. There will also be stations at George Green, Red House, and North Ilford.

NEW FLOOR FOR THE ALBERT HALL

The original timber exhibition flooring of the Royal Albert Hall has been scrapped and is to be replaced by a sprung floor. The floor is used for functions and exhibitions and is erected over the arena, bringing it to the level of the first tier of boxes. It has an area of 16,000 square feet, and covers 2,600 seats.

The existing timber floor was purchased 33 years ago at a cost of £577 and has been in constant use since it was first erected in June, 1904, on the occasion of the Victoria Hospital bazaar.

The new floor is all-steel with the exception of the top boards, which are of hardwood bound with steel. It can be either rigid or sprung and has taken over twelve months to design and construct.

The timber floor could be erected in 20-24 hours and the chief problem in designing the new floor was to arrange that it could be erected or demolished and stored away as quickly as possible.

GROWTH OF THE GREEN BELT

By next March some 30,000 acres of meadows, woods and commons around London will have been secured for the Green Belt. Over 18,000 acres have been secured or are about to be, the latest addition being 1,000 acres in Essex, near Purfleet. Belts in Bucks, Middlesex and Essex are to be considered in the next few weeks.

WEST YORKSHIRE SOCIETY OF ARCHITECTS

The opinion was expressed by the Vicar of Leeds (Canon W. Thompson Elliott), in an address at St. Philip's Church, Osmondthorpe, Leeds, on Saturday last, October 10, that Church builders were beginning to see that a quasi-Gothic style was by no means necessary for a new church. Rather, the problem was one of attaining correct hearing and vision and general comfort for each member of the congregation, together with an external architectural form suitable for its position.

The occasion was the unveiling of the plaque on the external wall of the church to show that the R.I.B.A. had awarded the architect, Mr. F. L. Charlton, the triennial Medal and Diploma for a building of outstanding merit. The unveiling ceremony was performed by Mr. C. E. Fox, President of the West Yorkshire Society of Architects.

£100,000 IMPROVEMENT SCHEME AT TORQUAY

Torquay Town Council is to promote a Bill for a seafront improvement scheme estimated to cost at least £100,000. An underground park for 350 cars is to be made near the Pavilion, and the Fish Quay is to be extended. Three acres of the outer harbour will be taken in by the addition of 2,500 square feet to the 13,000 square feet of the Princess Gardens area. A new open-air swimming pool, costing £50,000, and a £15,000 band enclosure are proposed.

A theatre may also be built by a private syndicate.

INN SIGNS EXHIBITION

The Exhibition of Inn Signs which is to be held at the Building Centre, New Bond Street, next month, has met with a very successful amount of support. All parts of Britain are represented in the entries already made, which have reached the encouraging total of 250 actual signs, 80 photographs of signs which cannot be removed, and 70 sketch designs by various artists.

This result makes it probable that the substitution of individual signs for standardized trade marks in those inns owned by brewery companies would meet with general appreciation from the public.

SMOKE ABATEMENT CONFERENCE

The following papers will be amongst those read at the eighth annual conference of the National Smoke Abatement Society, which is now being held at the Science Museum at South Kensington :—

"The Solution of the Domestic Smoke Problem," by Margaret Fishenden ; to-day at 10.30 a.m. "Smoke, Light and Health," a discussion under the chairmanship of Sir George Newman; October 16, 10.30 a.m. "Public Health Administration and Smoke Abatement," by A. S. N. Macgregor; October 16, 2.30 p.m.

FLAT NURSERY

A children's day nursery is to be provided at Dolphin Court, S.W., on the top floor. The rooms will be under a qualified matron and a staff of nurses, and provision is to be made for accommodating at first 40, and finally 200, children.

SHEFFIELD UNIVERSITY EXTENSIONS

Extensions to the departments of architecture, medicine and geography are to be built at Sheffield University, which has launched an appeal for £250,000 for immediate needs. Another £200,000 is wanted for a new assembly hall, library accommodation and other buildings.

CHANGE OF ADDRESS

Mr. George Cheesman, P.A.S.I., Chartered Quantity Surveyor, has moved to new Offices at No. 8 Brunswick Place, North Street, Leeds, 2. Telephone : Leeds 27955.

LETTERS FROM READERS

The Cambridge School

SIR,—Your leading article in the last number of THE ARCHITECTS' JOURNAL is most desirable at this time of great uncertainty concerning the future prospects of this school.

For some of us Art masters in the Public Schools who consider that the teaching of Architecture, in its practical as well as its æsthetic sense, is of great importance in education, and for the few boys who select architecture as their profession, an efficient school, preferably at one of the older universities, is most desirable.

I myself have sent six pupils to the Cambridge University School of Architecture, I admit with some misgiving, but I considered that the advantages of the university environment made this decision in the choice of a school worth while. All of us now would like to see a director appointed in whom we could place complete confidence.

MARTIN A. BUCKMASTER

Competitions Open

OCTOBER 26.—Sending-in Day. Layout and individual design of a group of camp buildings for a holiday camp, in timber, for the Timber Development Association. Assessors: E. Guy Dawber, R.A., F.S.A., F.R.I.B.A., G. A. Jellicoe, F.R.I.B.A., G. Langley Taylor, F.R.I.B.A., and John Gloag. Premiums: £150, £50, £25 and three special mention awards of £10 each. Conditions may be obtained on application to The Timber Development Association, 69-73 Cannon Street, London, E.C.4.

OCTOBER 29.—Sending-in Day. Central Baths, Leeds. (Open to architects of British nationality.) Assessor: Kenneth M. B. Cross, F.R.I.B.A. Premiums: £350, £200 and £100. Conditions of the competition and instructions with a plan of the site can be obtained on application to Thos. Thornton, Town Clerk, at Room 57, Civic Hall, Leeds, 1. (Deposit £1 1s.)

OCTOBER 31.—Sending-in Day. Shops and offices, Newcastle-under-Lyme, for the Newcastle-under-Lyme Borough Council. (Open to architects of British nationality.) Assessor: Harry S. Fairhurst, F.R.I.B.A. Premiums: £300, £200 and £100. Conditions of the competition may be obtained from the Town Clerk, Town Clerk's Office, Newcastle-under-Lyme. (Deposit £2 2s.)

OCTOBER 31.—Sending-in Day. Council offices, Farnham, for the Farnham U.D.C. (Open to architects practising in the United Kingdom.) Assessor: E. Vincent Harris, A.R.A., F.R.I.B.A. Premiums: £250, £150 and £100. The last day for questions was August 31. Conditions of the competition may be obtained on application to A. A. Minns, Clerk of the Council, Council Offices, Farnham, Surrey. (Deposit £1 1s.)

OCTOBER 31.—Sending-in Day. New hospital at Llandudno, for the Committee of the Llandudno and District Hospital. (Open to registered architects of British nationality.) Assessor: R. Norman Mackellar, F.R.I.B.A. Premiums: £250, £150 and £75. The last day for questions was August 28. Conditions of the competition may be obtained on application to the Honorary Secretary, New Hospital Scheme, Town Hall, Llandudno. (Deposit £1 1s.)

NOVEMBER 7. — Sending-in Day. The four main railway companies (L.N.E.R., L.M.S., G.W.R. and Southern) invite British-born architects to submit in competition designs for Joint Receiving Offices. Assessors: L. H. Bucknell, C. Grasemann, W. H. Hamlyn, and Charles Holden. Premiums: £300, £125, £50 and £25. Last day for questions: September 17, 1936. Conditions of the competition may be obtained on application to W. H. Hamlyn (F.R.I.B.A.), Chief Architect, L.M.S. Railway, St. Pancras Chambers, London, N.W.1. Deposit £1 1s.

NOVEMBER 30.—Sending-in Day. New civic buildings, which include a town hall, municipal offices, law courts and police station, Newport (Mon.), for the Newport Corporation. (Open to architects of British nationality.) Assessors: E. Berry Webber, A.R.I.B.A., and C. F. Ward, F.R.I.B.A. Premiums: £750, £500, £300 and £200. The last day for questions was September 1. The conditions are obtainable from O. Treharne Morgan, Town Clerk, Town Hall, Newport (Mon.). (Deposit £2 2s.)

DECEMBER 31. — Sending-in Day. The Metropolitan Borough of Holborn invite architects to submit in open competition designs for new public baths, etc., to be erected in Broad Street and Endell Street. Assessor: Kenneth M. B. Cross. Premiums: £300, £200 and £100. Last day for questions was October 1, 1936. Conditions of the competition may be obtained on application to Lionel J. Walford, Town Clerk, Town Hall, High Holborn, London, W.C.1. Deposit £2 2s.

FEBRUARY 28, 1937. — Sending-in Day. Extension of St. Andrew's Cathedral, George Street, Sydney, for the Authority in the Diocese of Sydney of the Church of England. (Open to architects who are British subjects, and members of the Royal Australian Institute of Architects, the R.I.B.A., or the Allied and Associated Societies.) Assessors: His Grace the Archbishop of Sydney, Sir Giles Gilbert Scott, R.A., F.R.I.B.A., and Bertrand J. Waterhouse, F.R.I.B.A. Premiums: £500, £300 and £200. The last day for submitting designs (which must be forwarded direct to Sydney) is February 28, 1937. The last day for questions was August 11.

COMPETITIONS PENDING

This list omits the competitions for new technical colleges at Birmingham and Gloucester, both of which are reviewed on page 531 of this issue.

BELFAST: NEW WATER OFFICES

The Belfast City and District Water Commissioners are proposing to hold a competition for new office buildings and Mr. H. Austen Hall has been appointed to act as assessor. Conditions are not yet available.

DUNDEE: COLLEGE OF ART

The Dundee Institute of Art and Technology are to hold a competition for the Duncan of Jordanstone College of Art and Mr. J. R. Leathart has been appointed to act as assessor. Conditions are not yet available.

EDMONTON: NEW TOWN HALL BUILDINGS

The Edmonton Urban District Council are proposing to hold a competition for new Town Hall buildings, and Mr. E. Berry Webber has been appointed to act as assessor. No conditions are available yet.

HACKNEY: RECONSTRUCTION OF CENTRAL BATHS

The Hackney Borough Council are proposing to hold a competition for the reconstruction of the Central Baths, and Mr. Frederick J. Horth has been nominated to act as assessor. Conditions are not yet available.

LANCASHIRE: MENTAL HOSPITALS COMPETITION

EXTENSION OF TIME FOR APPLICATIONS

The Lancashire Mental Hospitals Board invite Chartered and/or Registered British and Irish architects to submit designs in competition for a new mental hospital for 1,000 patients, and a new institution for 2,000 mental defectives, proposed to be erected on a site at Lathom Park, near Ormskirk, Lancashire.

Assessors: Messrs. Charles E. Elcock, John Kirkland and Patrick L. Abercrombie. Premiums: £500, £400 and £300.

The time within which applications for a copy of the conditions and other particulars must be made to the Clerk to the Mental Hospitals Board, County Hall, Preston, has been extended to October 31, 1936.

Deposit: £3 3s.

LEAMINGTON SPA: NEW POLICE AND FIRE STATIONS

The Corporation of Leamington Spa are proposing to hold a competition for new police and fire stations, and Mr. R. Norman Mackellar has been appointed to act as assessor. The competition will be open to registered architects within the area of the Birmingham and Five Counties Architectural Association. Conditions are not yet available.

SOUTH SHIELDS: ASSEMBLY HALL AND LIBRARY

The South Shields Town Council propose to hold a competition for an assembly hall and library to be erected on a site at the rear of the Town Hall. Mr. Arthur J. Hope has been appointed to act as assessor. Conditions are not yet available.

THE KING'S HOUSE, BURHILL, SURREY

DESIGNED BY

C. BERESFORD MARSHALL

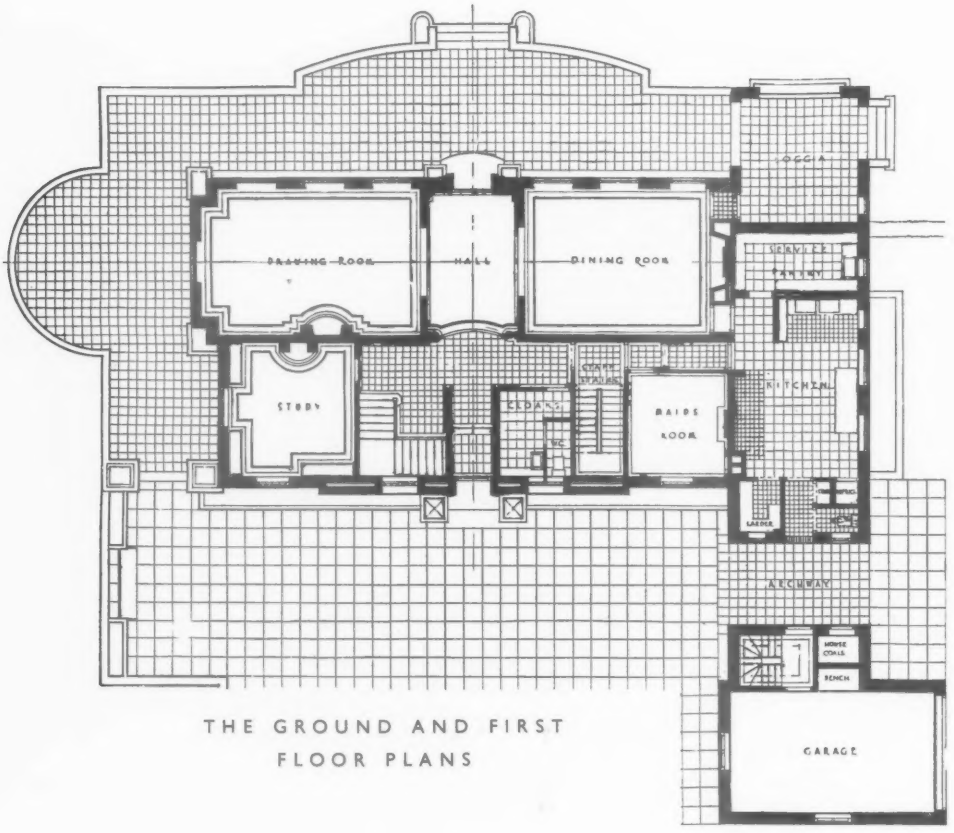
GENERAL PROBLEM—*The house, completely furnished and equipped, was presented to King George V as a Silver Jubilee gift from the Royal Warrant Holders' Association. The design was selected as the result of a competition, assessed by Sir Giles Gilbert Scott, R.A., in which a limited number of architects took part.*

A full-size replica of the house was built and exhibited at the Ideal Home Exhibition, at Olympia, last year. King George inspected the house at Olympia, but did not live to see it completed at Burhill. The possession of the house has now passed to our present King, to whom it has been formally handed over by the Association.

The house is British throughout in regard to design, materials, workmanship, furnishing and equipment, and includes the products of various parts of the Empire. The site was presented by Lord Iveagh.

The photographs show: above, a view from the north; right, the south front.

THE KING'S HOUSE, BURHILL, SURREY:



THE GROUND AND FIRST FLOOR PLANS

DESIGNED BY C. BERESFORD MARSHALL

INTERIOR FINISHES—*Entrance hall: floor, ivory coraline marble from Malta; walls finished with texture paint in a parchment tone; staircase, limed oak, with a balustrade of old steel, and beige-plum carpet.*

Hall: floor, Queensland walnut, On the walls are four incised figure panels by Miss Joy Line representing the aspects of the compass. Glazed doors lead from the hall to the garden terrace and glazed doors, sliding into the dividing walls, enable the drawing room, hall and dining room to be thrown into one room.

Drawing room: walnut floor with beige-plum carpet; walls and ceiling, ivory tone; window curtains, apple green; chair and settee coverings, amethyst; fireplace surround and kerb, Hopton-wood stone. The baby grand piano case with pedestal supports was designed by the architect; furniture, chestnut, yew tree and holly.

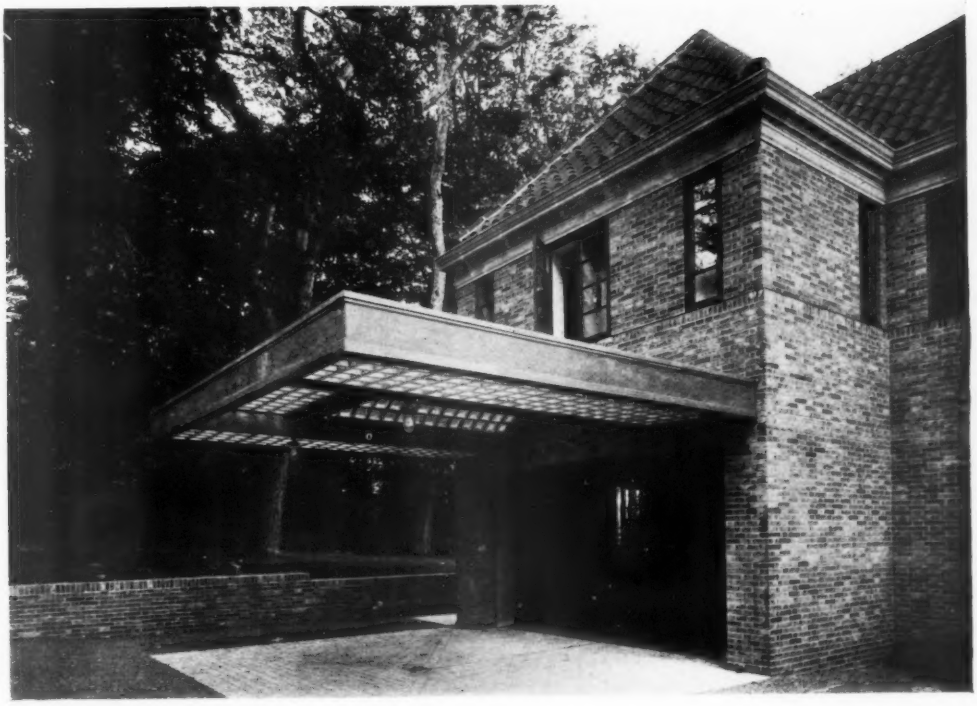
Dining room: walls lined with horizontal bands of Indian silver-grey wood; floor, Queensland walnut; carpet, Jubilee blue; window curtains and chair coverings, Jubilee blue with silver stars; furniture, burr ash, bordered with Indian silver-grey wood.

Kitchen: walls, lined with satin-finished stainless steel tiles; ceiling, opalized panels with stainless steel cover strips; floor, vitreous ceramic mosaic relieved by dark bands.

Study: walls lined with Canadian silkwood; floor, gurjun wood from the Andamans.

Principal bedroom: walls, peach tone, floor carpet, apple green; furniture, figured, weathered sycamore, with bands and handles of ivory.

Principal guest's bedroom: similar treatment to principal bedroom, but furniture of English walnut and Canadian maple.

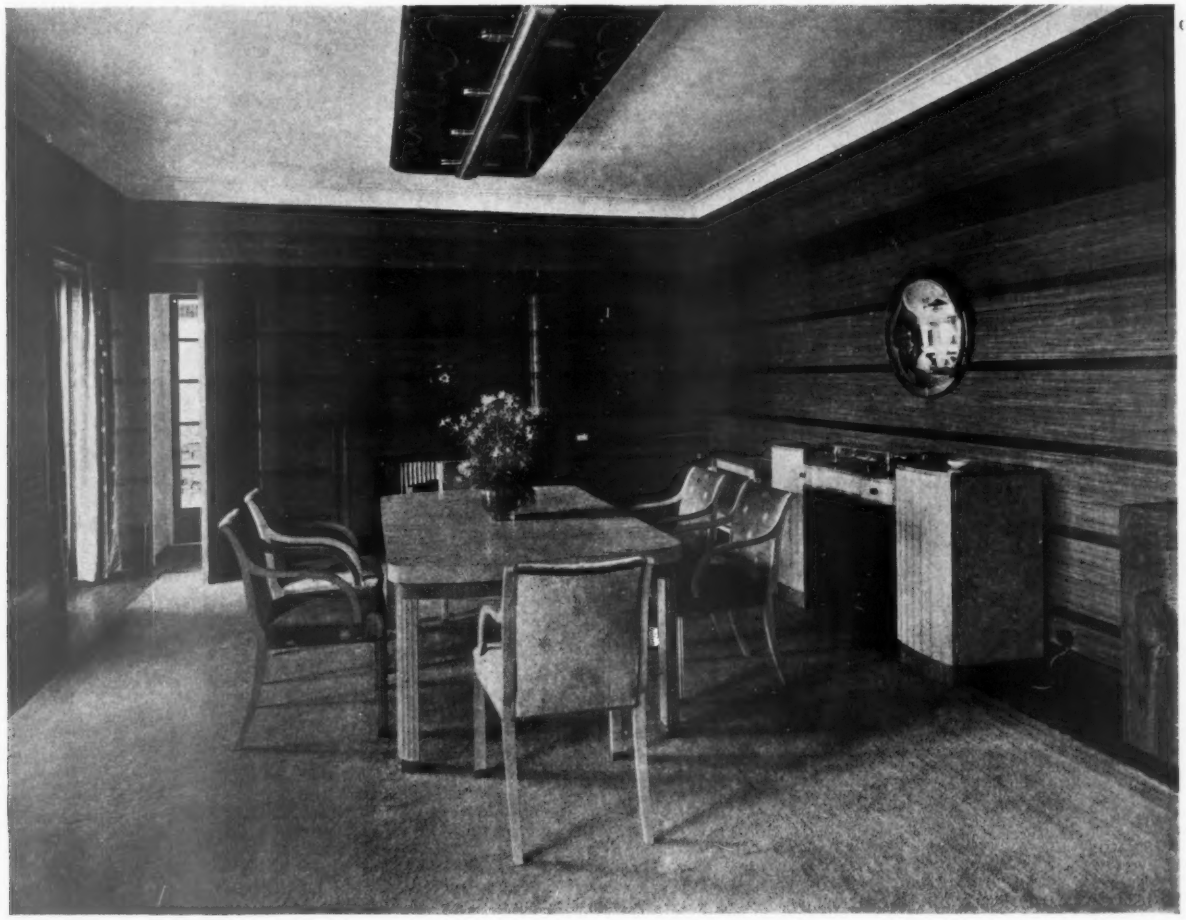


The photographs show: above, the entrance doorway, right, the hood, of glazed reinforced concrete, over the garage washing space.

THE KING'S HOUSE, BURHILL, SURREY:

The photographs show: top, the staircase hall; left, the guests' bathroom; above, the principal guest's bedroom.

DESIGNED BY C. BERESFORD MARSHALL



SERVICES—*In the kitchen there are two enamelled gas cookers, with self-lighting burners; stainless steel gas-heated warming cupboard and sinks; refrigerator and electric washing-up machine. Specially designed fittings are in the dressing room and bedrooms. The radio-gramophone in the drawing room is enclosed in a standard cabinet, cellulosed cream. The radio receiver in the principal bedroom is built in.*

For list of general and sub-contractors, see page 542.

The photographs show: above, the dining room; right, the kitchen.

NORTHFIELDS SCHOOL, DUNSTABLE:

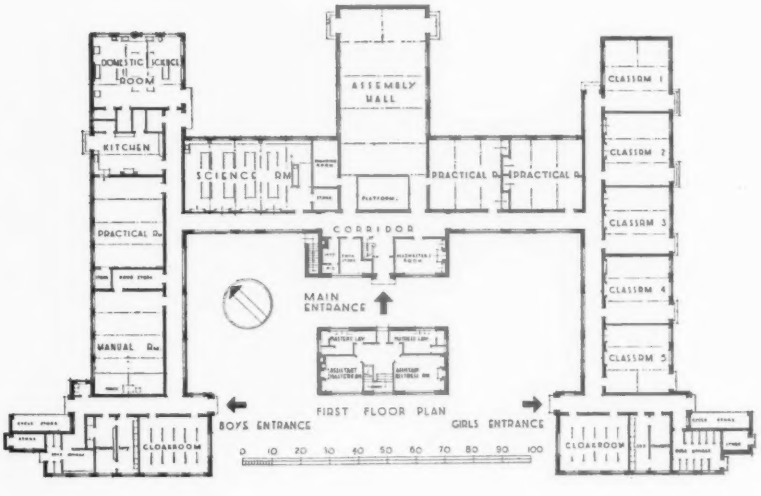
GENERAL PROBLEM—*A central elementary school, to accommodate 360 scholars, boys and girls. It has been built by the Bedfordshire County Council, who are carrying out a new scheme to provide central elementary schools in various parts of the county for children from 11 to 14 years of age.*

SITE—*Adjacent to a new housing scheme, from which leads the only approach road to the school. The main entrance is placed on the road axis. The site is about 10 acres in extent and provides, in accordance with the policy of the Council, ample facilities for exercise and games round the school.*

CONSTRUCTION—*Brick walls, faced externally with rustic flettons, with flush joints. The pitched roofs are covered with boarding, felt and pantiles. The flat roofs over the corridors are of hollow-tile concrete, finished with asphalt. Windows are of steel.*

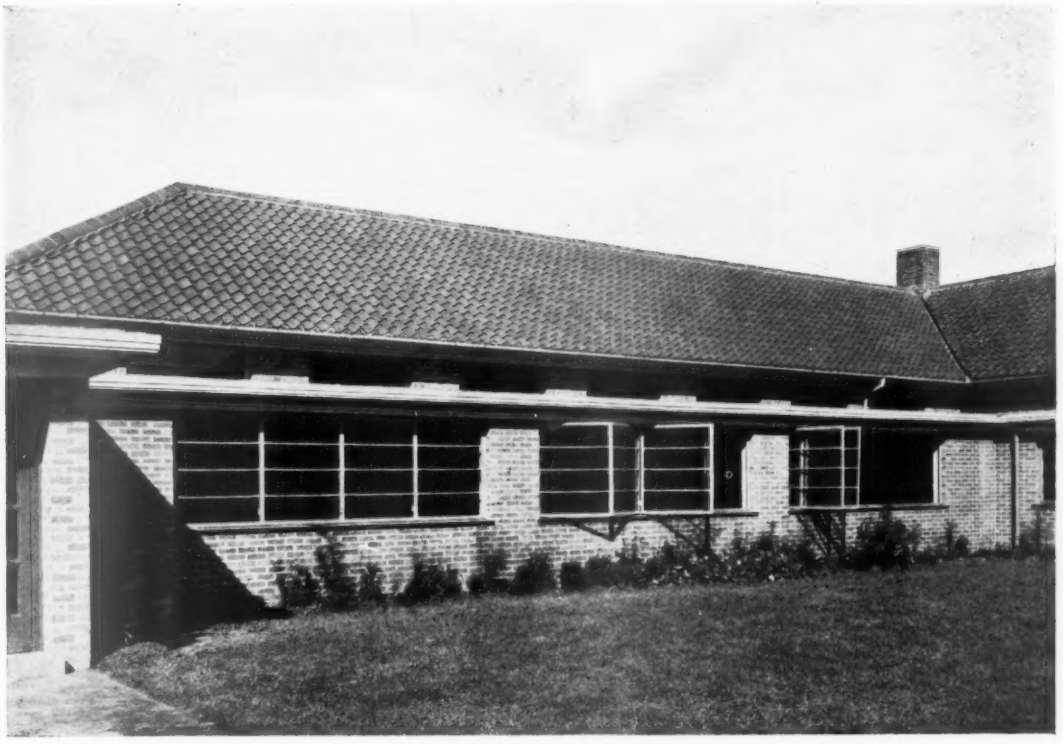
INTERNAL FINISHES—*The staff room walls are plastered and all other walls are finished in sand lime bricks, pointed with a cream-coloured mortar. In the kitchen and domestic science rooms the dados are white tiles, in all other rooms polished cement. Floors are: corridors, etc., granolithic; class rooms and hall, oak wood blocks; kitchen, cloak rooms, quarry tiles. All joinery is stained green.*

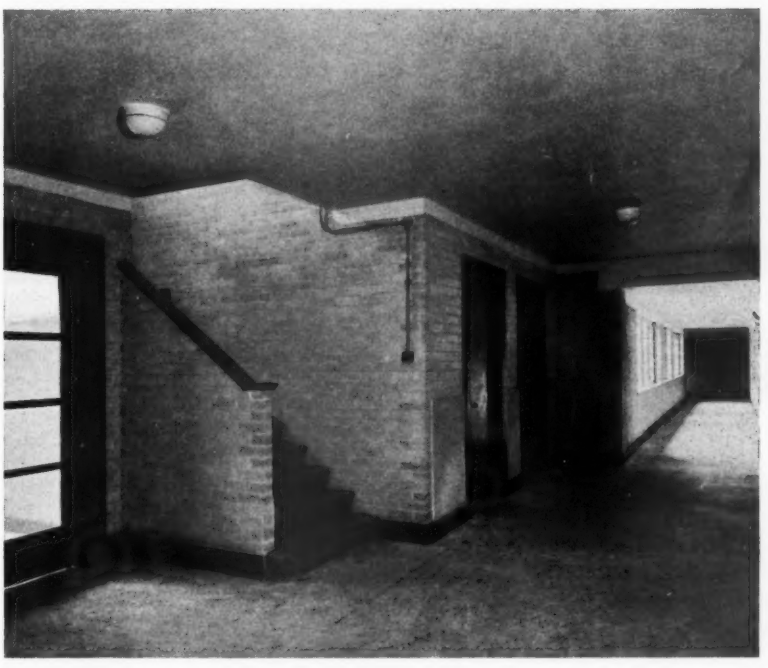
The photograph is of the entrance front, taken through the windows of the south-east corridor.



PLANS OF THE GROUND AND FIRST FLOORS

DESIGNED BY OSWALD P. MILNE





SERVICES—*There are coal fires in the staff rooms, the remainder of the school being heated by hot-water pipes and radiators. Heating and hot water is supplied from boilers in the basement heating chamber.*

COST—*Approximately 11d. per ft. cube, including tarmac playgrounds, fencing, etc.*

The photograph above is of the north-west corridor. All the corridors have sliding windows. The photograph on the right is of the main entrance corridor.

NORTHFIELDS SCHOOL, DUNSTABLE

DESIGNED BY

OSWALD P. MILNE

The photographs show : top, the assembly hall ; centre, the shop for metal and wood working : left, the cookery room, which contains coal, gas and electric fires.

For list of general and sub-contractors see page 542.

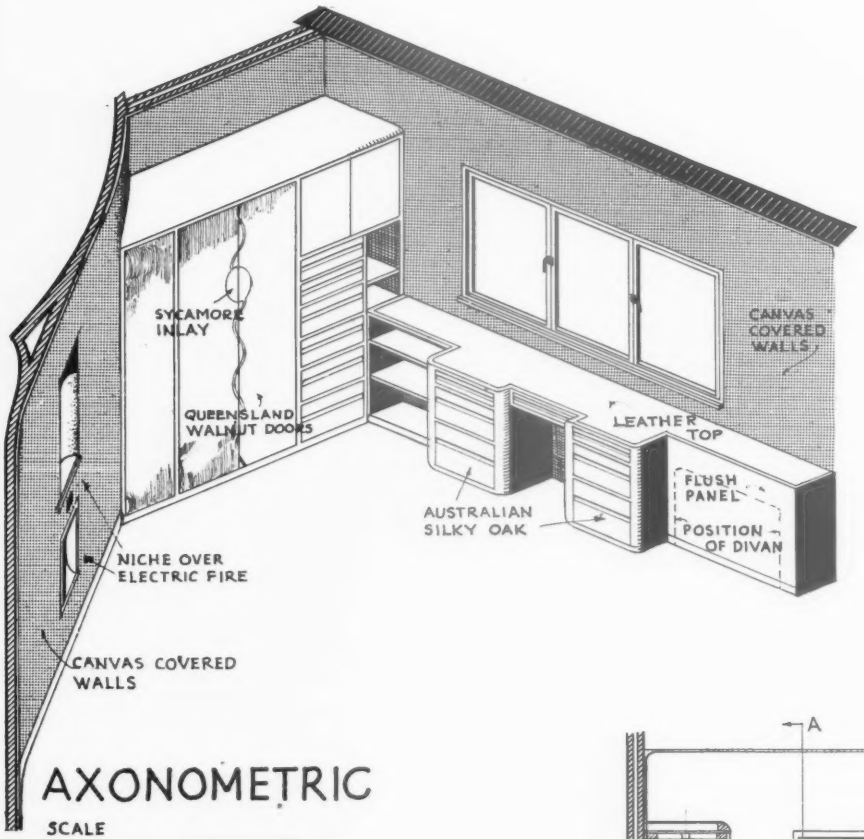
WORKING DETAILS : 507

DRESSING ROOM FITTINGS • HOUSE AT STANMORE • RUSSELL PAGE & G. A. JELLICOE

The photograph shows built-in dressing room fittings in Australian silky oak and Queensland walnut. Details and an axonometric are given overleaf.

WORKING DETAILS : 508

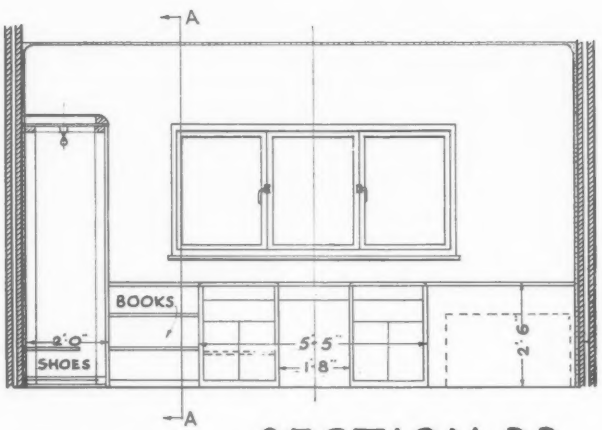
DRESSING ROOM FITTINGS • HOUSE AT STANMORE • RUSSELL PAGE & G. A. JELLICOE



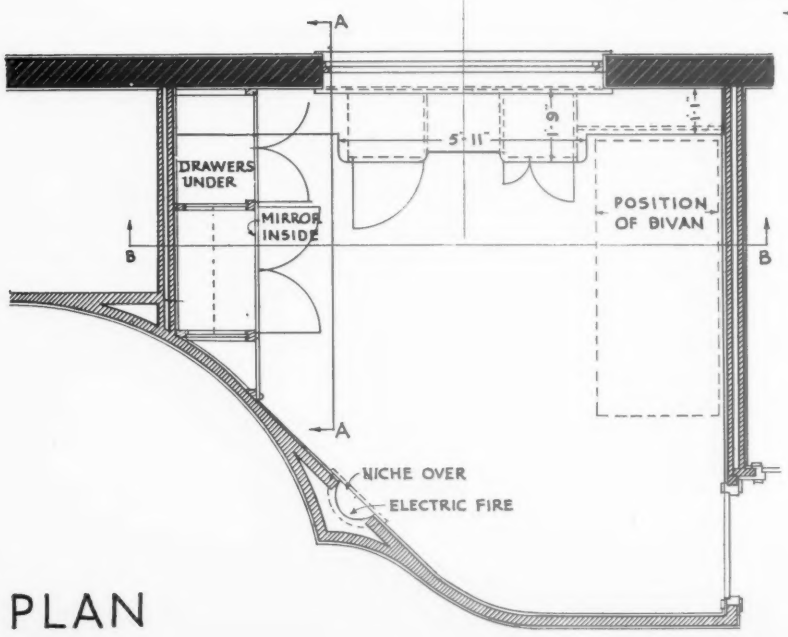
AXONOMETRIC

SCALE

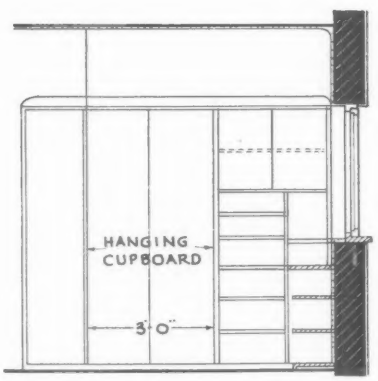
1 0 1 2 3 4 5 FEET



SECTION BB



PLAN



SECTION AA

FILING REFERENCE:

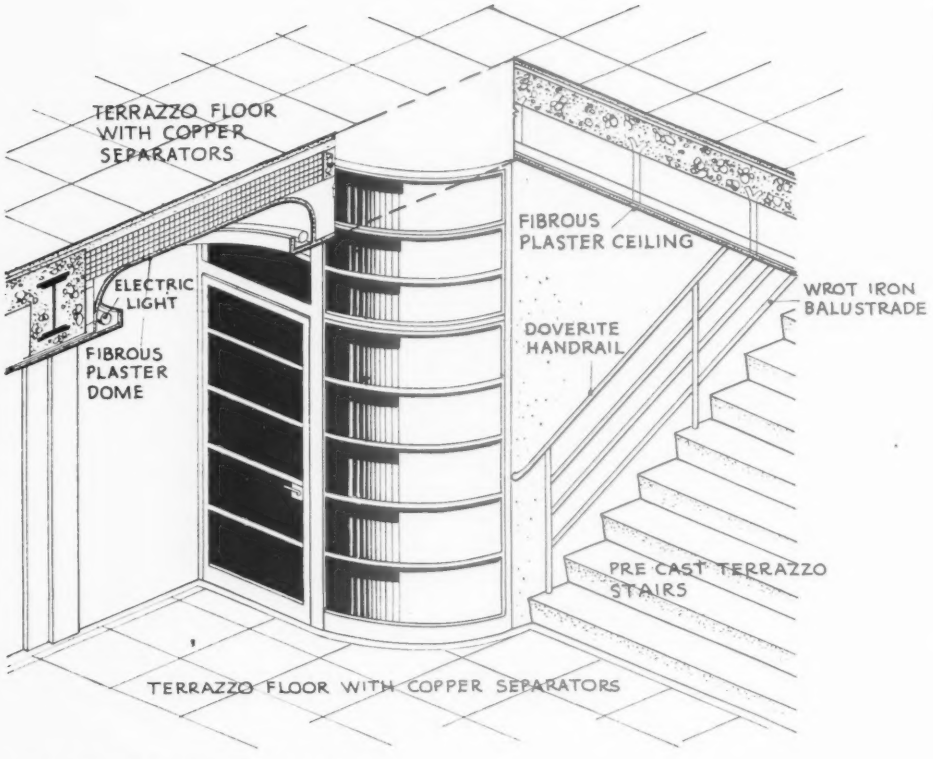
WORKING DETAILS : 509

PORTER'S BOX AND LIGHT DOMES • OFFICE BUILDING • MESSRS. HENRY TANNER

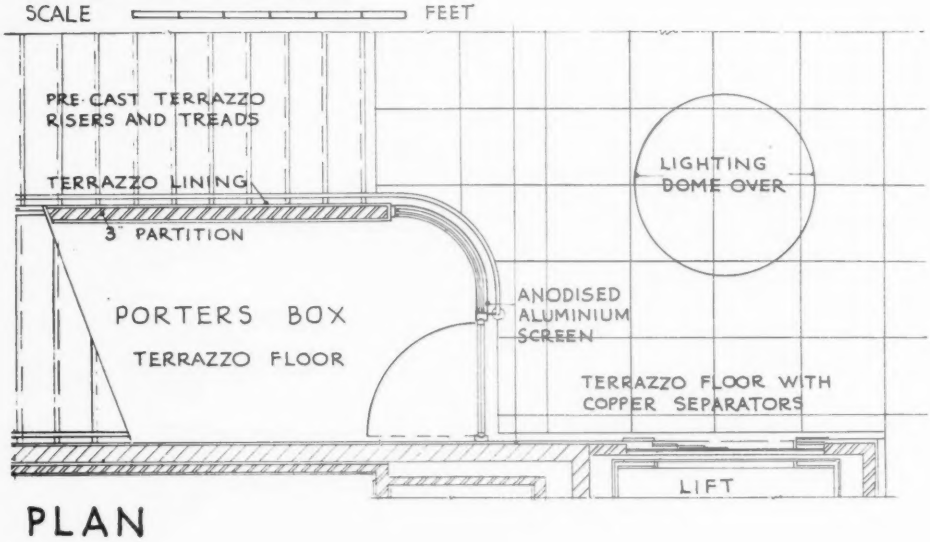
These photographs show a porter's box and electric light domes, of which details are given overleaf.
The steel sections are covered in anodised aluminium ; the same sections being used for the screen at the top of the stairs seen in the left-hand illustration.

WORKING DETAILS : 510

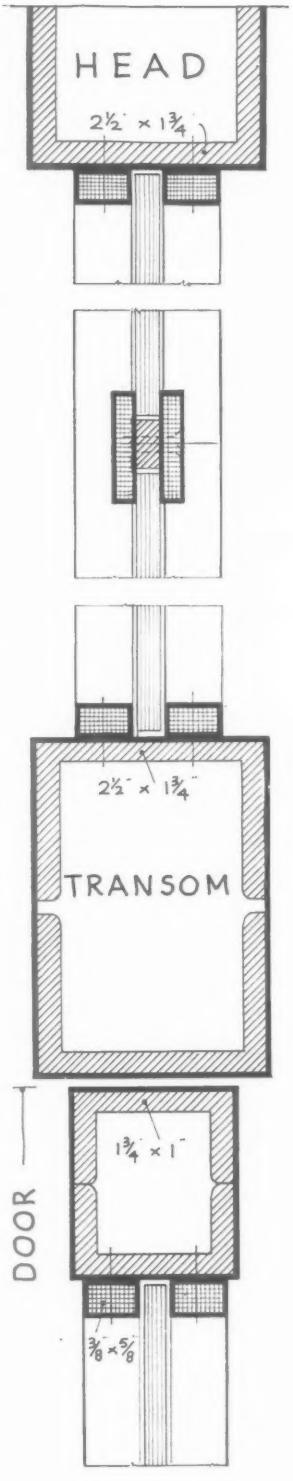
PORTER'S BOX AND LIGHT DOMES • OFFICE BUILDING • MESSRS. HENRY TANNER

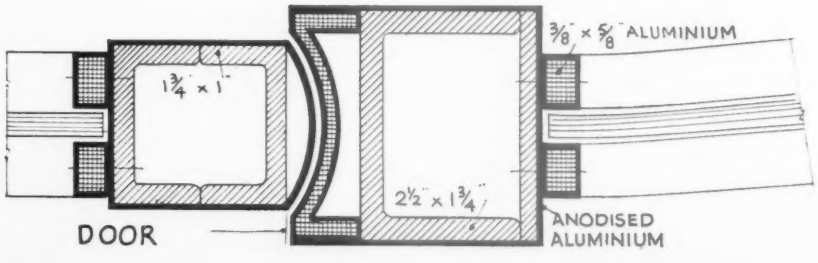


AXONOMETRIC



PLAN





DETAILS OF SCREEN

SCALE OF INCHES

1 0 1 2

TWO TECHNICAL COLLEGES

THE CONDITIONS REVIEWED

BIRMINGHAM TECHNICAL COLLEGE

PROBLEM : Technical College, Commercial College and College of Art and Crafts.
PROMOTERS : The Corporation of the City of Birmingham.
ASSESSOR : Mr. James R. Adamson (of the firm of Bradshaw, Gass and Hope).
PREMIUMS : £750, £500, and £250.
COST : Not exceeding £560,000 for the portion to be built as a result of this competition.
SENDING-IN DAY : March 12, 1937.
QUESTIONS : October 19, 1936.

GLOUCESTER TECHNICAL COLLEGE

PROBLEM : Technical College and Junior Technical School.
PROMOTERS : County Borough of Gloucester and the Gloucester Education Committee.
ASSESSOR : Henry V. Ashley.
PREMIUMS : £350, £250, and £150.
COST : Not exceeding £85,000.
SENDING-IN DAY : December 15, 1936.
QUESTIONS : September 26, 1936.

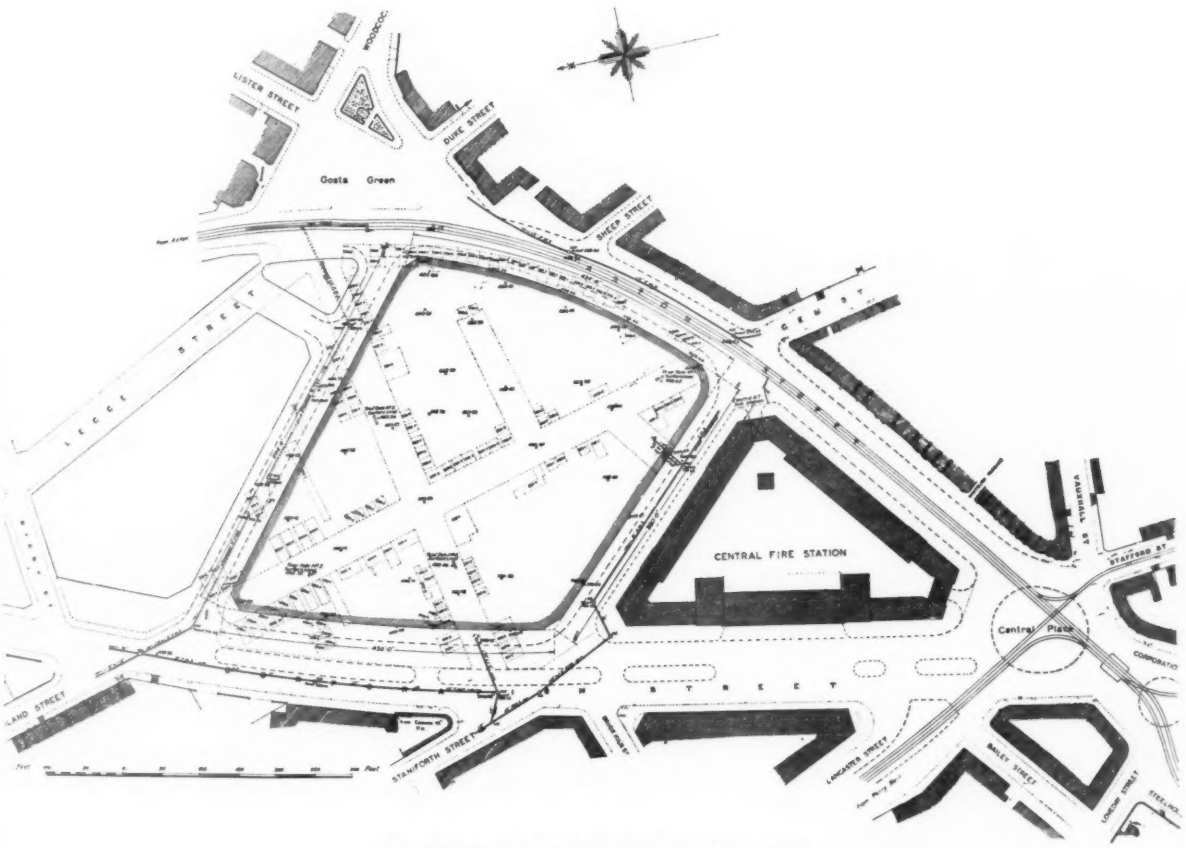
THE idea of central technical colleges, independent of universities, is gaining ground as the technics of our civilization become more involved. The planning of these, with their specialized, constantly changing requirements, is a highly complicated problem, and it is encouraging to find two great corporations, those of Birmingham and Gloucester, organizing competitions for new technical colleges within their city limits.

The Birmingham scheme combines three colleges : a Central Technical College for 2,700 men, 400 women ; a Commercial College for 480 men, 120 women ; a College of Art and Crafts for 380 men, 40 women. "Art and Crafts" includes a school of architecture, the linking of which to the technical college brings us nearer to the Bauhaus idea. The estimate is not to exceed £560,000, not including future extensions to be arranged for in the plan.

The site is four-sided and irregular, with an area of 4·35 acres. The building is to front on to an extension of Corporation Street, a broad traffic way which is one of very few examples of nineteenth-century foresight in planning. Just how the technical college is to be related to the civic centre, how linked to Birmingham's future city plan, is not clear from the conditions. This is unfortunate, for a building which serves one of the city's most vital needs, the need for technical efficiency, should be an important element in the city plan. It is conceivable that the Birmingham Central Technical College will one day hold as central a position and as high a reputation in Great Britain as does the Massachusetts Institute of Technology in the United States. Is Birmingham's Technical College eventually to have a more open setting? Is it to be related to a future city plan? The answers to these questions should have important bearing on a conscientious competitor's design.

* * * *

Some of the Notes for Competitors in the Birmingham Competition should be considered before competing: (1) The Corporation have in mind that the three sections of the scheme, viz. : the Central Technical College, the Commercial College and the College of Art and Crafts, should each form a separate entity, though they need not necessarily be self-contained buildings, and that, for administrative and other purposes, adequate communication should be arranged between the three sections and between them and the rooms provided for common use.



The Site Plan of the Birmingham Competition

P

(2) Separate entrances (from streets or quadrangles) are required for each of the three colleges, one of which might form the main approach for the public to the Assembly Hall.

(3) The main height of the building adjoining the street should not exceed 100 feet above street level, but parts, if stepped or set back from the street frontages, may be somewhat higher than this figure, nor would the 100 feet limit preclude special features if restricted in area.

(4) The widths of rooms are not rigidly prescribed, but it is suggested that to accommodate the numbers required, and to permit of satisfactory sight of the blackboard, classrooms of about 26 feet in width, drawing offices of about 31 feet in width, and art teaching rooms of at least 27 feet in width would be satisfactory. It should be noted that art teaching rooms 27 feet wide would require a height of 15 feet 6 inches clear from floor to ceiling, to provide adequate lighting. An unobstructed corridor should be at least 7 feet wide, but any width beyond this should be determined in accordance with the requirements of planning and traffic.

(5) Separate cloakrooms for each college are also required; these should be planned upon a basis providing space for one locker per student at maximum attendance time, and must provide for both sexes. Such cloakroom accommodation would be conveniently and effectively provided if distributed on the various floors and not concentrated on one floor.

* * * *

The Gloucester competition is on a considerably smaller scale. There is to be a Technical College for 500 men, 300 women, and a Junior Technical School, built at a later date, for 300 boys, 150 girls. The total cost, £85,000.

The site fronts on to Brunswick Road, almost opposite St. Michael's Square. The preservation of a Roman wall, below ground, is good reason for setting the building well back from the road. The area of the site is nearly the same as the Birmingham one, so with Gloucester's smaller scheme a comparatively diffused plan is possible, even though the building is limited to two storeys. The Birmingham scheme, with a 100-ft. limit, will involve a more concentrated plan with considerable vertical organization.

Birmingham emphasizes the need for adequate prevention of sound transmission, and suggests that interior dividing walls should be independent of the main structure. The cinema will be used more and more in technical and other colleges, and Birmingham demands provision for this form of instruction in every assembly hall. In the Gloucester conditions, however, cinema projection is not specifically mentioned.

"The elevations should be restrained and expressive of the important purpose of the building and free from over-elaboration. The suggestion of materials for the elevations is left to competitors, but economy and suitability to purpose and surroundings should be guiding factors." This from the Birmingham conditions. Gloucester leaves the design to the competitor, but suggests that it should be "dignified and restrained," relying on "good proportion and fenestration rather than elaboration of detail. . . . Externally the buildings should be faced with a suitable facing brick and with stone dressings." Use of the word "fenestration," mention of brick with stone dressings, sounds suspiciously like the Georgian vogue which has thwarted some of the best instincts of our recent schools and colleges. But possibly the brightest competitors will see a way to get around this hazard.

On the other hand, there is sensibly a specific ban on using reinforced concrete. Apart from sound transmission difficulties, this type of building is certainly too rigid and unadaptable for school purposes, and the warning will save reinforced concrete enthusiasts much wasted time.

* * * *

These two competitions are decidedly important. The conditions are admirably drawn up and should give minimum annoyance to assessors and competitors maximum standardization in the presentation of drawings. The promoters deserve a full response resulting, as in the successful Folkestone and Luton competitions, in designs which strike boldly along the paths laid down by the new educational technique.

Site Plan of Gloucester Competition

DRAWINGS REQUIRED

BIRMINGHAM

(1) Block plan, 1/500.

(2) Plans of each floor, and four elevations to 1/16th scale. Sections sufficient to illustrate the design; one section must pass through the main assembly hall.

(3) Detail of a portion of the exterior of the building and of a portion of the interior of the main assembly hall, ½ in. scale.

Drawings to be made in black ink or pencil on white paper and must be mounted on stiff cards or "Beaver" or other similar boards (not stretchers).

The elevations are to be drawn in line without colour or projected shadows; window and door openings may be washed in with grey colour.

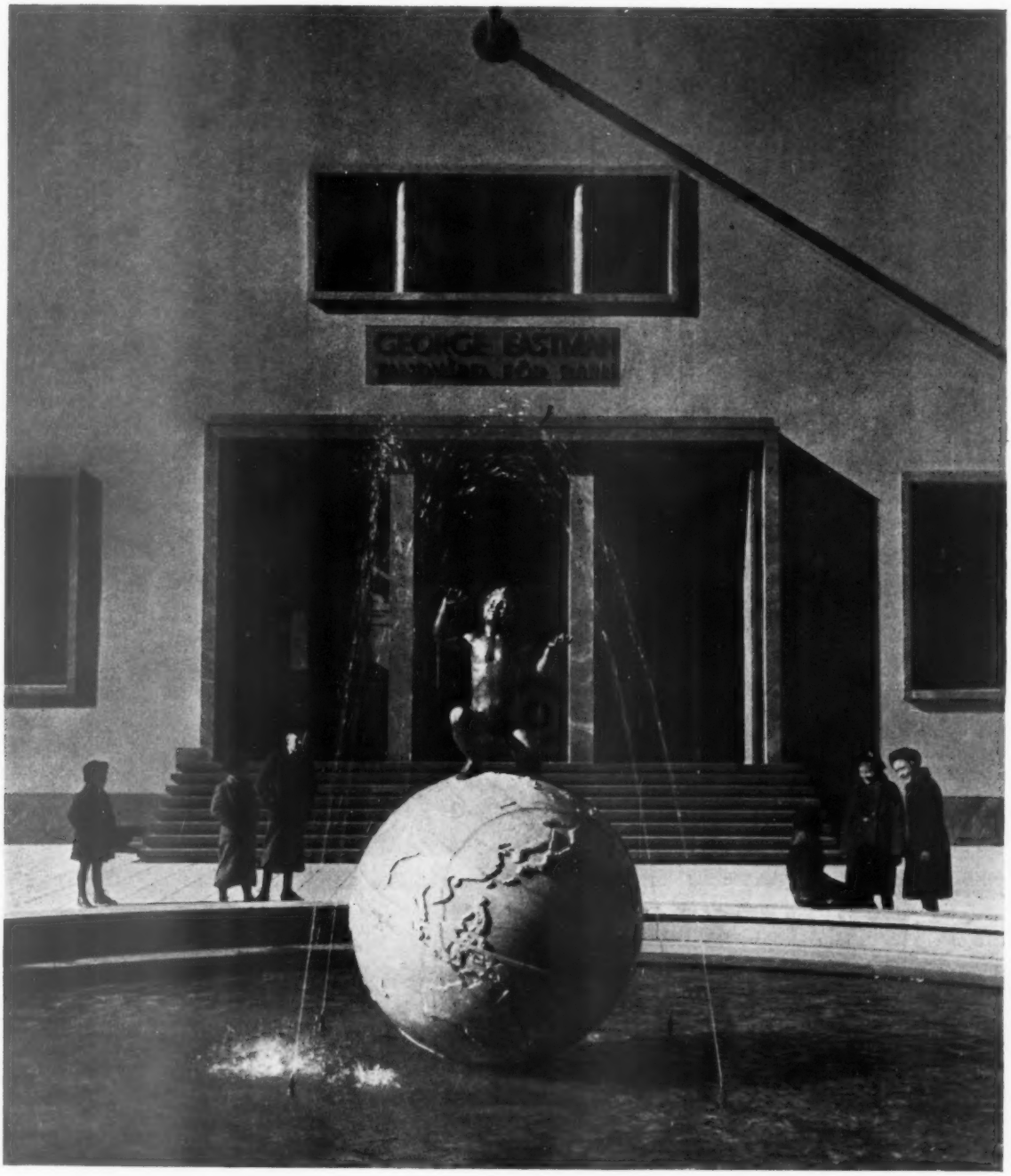
GLOUCESTER

(1) A block plan drawn to a scale of 1/500, indicating first the proposed buildings on the site, second the general lay-out of the approaches, roads, paths, planting, etc., and third, the boundary walls and gates, etc.

(2) Plans of each floor of the buildings. Four elevations of the Technical College and two elevations of the Junior Technical School. Sections of both buildings as may be required fully to illustrate the design. All to 1/16th scale.

(3) Half-inch detail plan, elevation and section of a typical portion of the front to Brunswick Road.

EASTMAN DENTAL CLINIC, STOCKHOLM



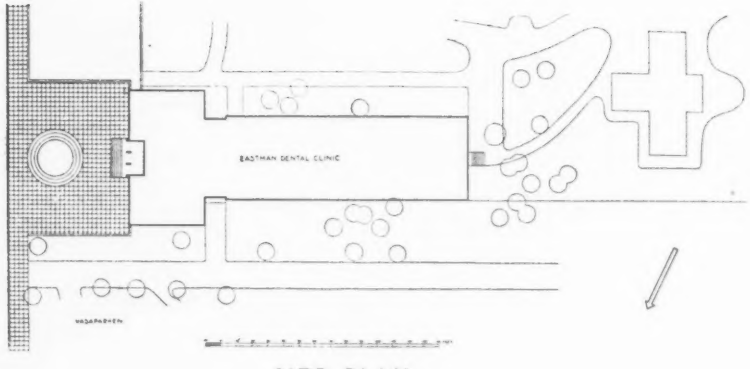
DESIGNED BY

WALDEMAR

JOHANSON

The late George Eastman, of the Eastman Kodak Co., like many other prominent American industrialists, was a philanthropist of broad vision. He established, by means of liberal grants, dental clinics in Rochester, U.S.A., London, Rome, Brussels and Paris, and before his death gave to the City of Stockholm $1,000,000 for the building and equipping of a dental clinic on a site provided by the City. A system of dental clinics was operating in the elementary schools of Stockholm before the Eastman Clinic was founded. On its establishment, whilst taking over the dental care of the children attending several schools in the neighbourhood, it became the senior clinic to which orthodontic, prosthetic, surgical, and more complicated cases were referred. In addition it is a training hospital for dental nurses, and directs a certain amount of post-graduate work for dental students. Above is a view of the forecourt; the globe of the fountain is in buff Swedish marble.

EASTMAN DENTAL CLINIC, STOCKHOLM



SITE PLAN

SITE—*The City of Stockholm granted the clinic an open site in the grounds of the Sabbatsberg Hospital.*

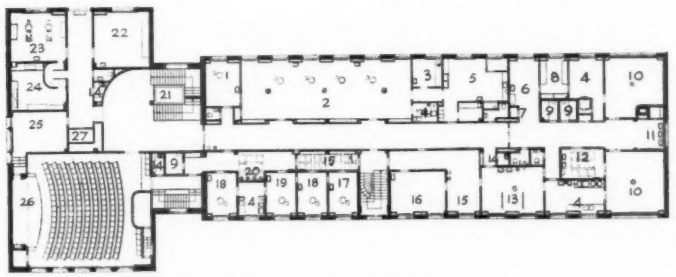
The proximity of the main hospital, as well as being an advantage from a medical point of view, also makes possible the operation of food and laundry services from the general hospital.

The site falls from East to West, and was largely made-up ground which necessitated pile foundations to the building. Above is a view of the main entrance front to the East; the plinth, portico and terrace walls are faced with veined Swedish gneiss, external walls generally having a buff-coloured cement rendering.

DESIGNED BY WALDEMAR JOHANSON

KEY TO FIRST FLOOR PLAN

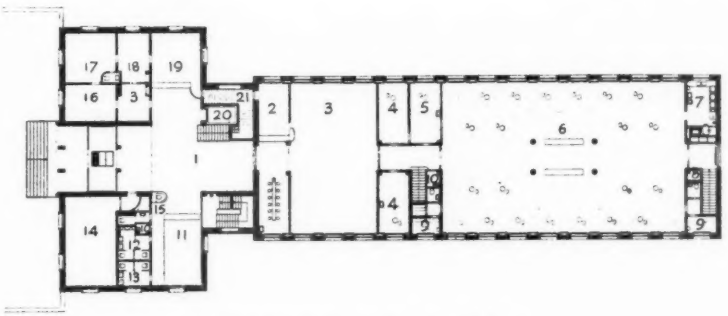
1 : Department chief
2 : Orthodontia
3 : Plaster room
4 : Sterilizing room
5 : Laboratory
6 : Nurses' Station
7 : Telephone
8 : Stores
9 : Rest room
10 : Operating room
11 : Scrub up
12 : Anæsthetic room
13 : Examining room
14 : Janitor
15 : Waiting room
16 : Physicians' room
17 : Treatment
18 : Injection
19 : Extraction
20 : Rinsing
21 : Lift
22 : Photo-room
23 : X-ray room
24 : Dark room
25 : Ante-room
26 : Lecture room
27 : Film stores



FIRST FLOOR PLAN

KEY TO GROUND FLOOR PLAN

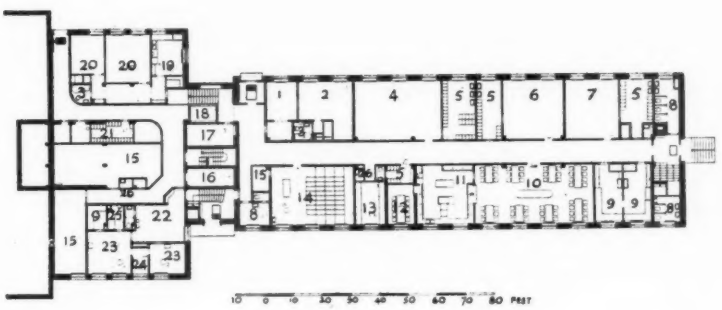
1 : Entrance hall
2 : Control desk
3 : Waiting room
4 : Examination room
5 : Department chief
6 : Treatment room
7 : Sterilizing room
8 : Telephone
9 : Rest room
10 : Janitor
11 : Cloak room
12 : Boys' toilet
13 : Girls' toilet
14 : Library and board room
15 : Switch
16 : Social service
17 : Director
18 : Secretary
19 : Business office
20 : Lift
21 : Files



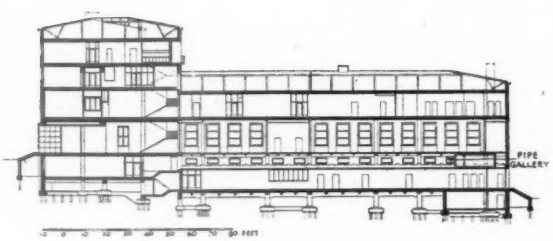
GROUND FLOOR PLAN

KEY TO LOWER GROUND FLOOR PLAN

1 : Office
2 : Matron
3 : Bath
4 : Nurses' and students' rest room
5 : Lockers
6 : Female rest room
7 : Male rest room
8 : Toilet
9 : Laboratory
10 : Dining room
11 : Serving room
12 : Maids' dining room
13 : Linen
14 : Class room
15 : Stores
16 : Workshop
17 : Lift motor
18 : Lift
19 : Kitchen
20 : Room
21 : Coat room
22 : Waiting room, adults
23 : Treatment
24 : Sterilizing
25 : Rest room
26 : Janitor



LOWER GROUND FLOOR PLAN



LONGITUDINAL SECTION

Mr. Eastman's deed of gift stipulated that the building and equipment should conform as nearly as possible to that of the Rochester Dental Dispensary. The main feature of the plan is the large hall for dental treatment. In Rochester, and in London and Rome, this had been placed on the top floor of the building, where top lighting could be provided. As this department is by far the most used of all the departments of the clinic, however, it was considered desirable to have it on the ground floor. Here, as in operating theatres, the need of artificial light for the work is becoming increasingly recognized, and the absence of top lighting was therefore not considered to be a serious drawback.

EASTMAN DENTAL CLINIC, STOCKHOLM

The Plan may be sub-divided into the following departments :—

1 : Tooth filling
2 : Orthodontia
3 : X-ray and dental surgery
4 : Policlinic for adults
5 : Clinic for diseases of ear, nose and throat.

The main feature of the plan is the large hall for dental treatment designed to take 38 dental units, and placed for ease of access on the Ground Floor. Underneath the dental hall and adjoining room is a pipe gallery for services.

CONSTRUCTION—*Generally, the foundations rest on piles driven down to solid rock. The building is a steel-framed structure with brick walls. The partitions are double slabs of light-weight bricks separated by a sound insulator. Pipes and ducts are mostly chased into the outer walls.*

ELEVATIONAL TREATMENT—*As the East was the most important frontage, additional dignity was obtained by making this elevation—the crosshead of the T plan—two stories higher than the rest of the building. The plinth, terrace walls and portico are faced with veined Swedish gneiss.*

INTERIORS—*The interiors are light and bright, and a sense of openness is obtained by using glass partitions. For instance, from the Entrance Hall a long vista is obtained the full length of the building.*

The waiting room has been decorated by Einar Forseth with panels painted on canvas in oil and distemper. The subjects are drawn from fairy-stories and from tales of discovery and adventure.

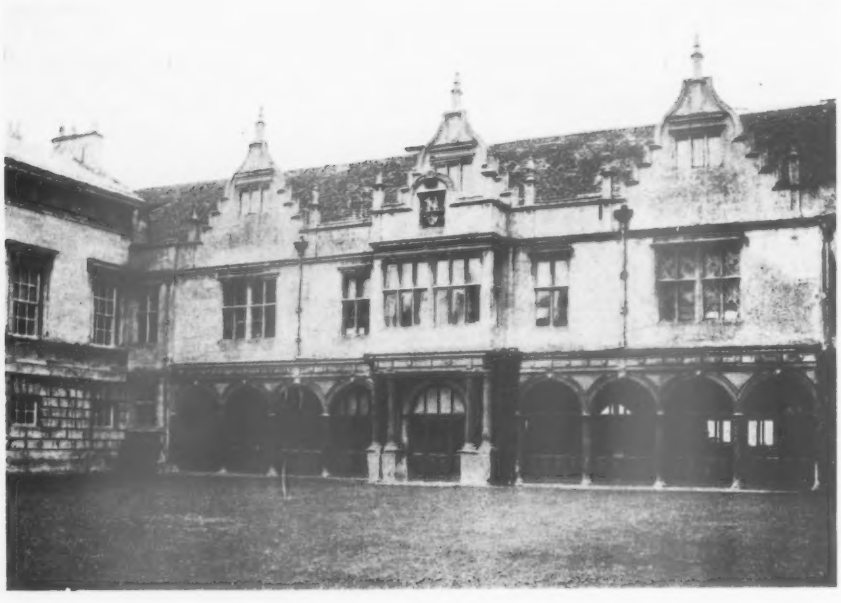
COST—

	£
Constructional work	*70,800*
Heating system and sanitary fixtures	*15,300*
Electrical installation and lift	*5,000*
General plumbing	*3,600*
Forecourt, fence, roads, levelling and plantations	*5,200*
Decoration	*3,000*
Furniture and equipment	*25,800*
Total cost of building and equipment	*£128,700*

DESIGNED BY WALDEMAR JOHANSON

In the part facing the park are the waiting room and the hall for dental treatment. Four columns in the middle of the latter, covered with stainless steel, carry the floor above ; the hall is designed for 38 dental units, but only 20 have so far been installed. In addition, there are three examination rooms. To eliminate as far as possible the resonance usual in large halls, special steps have been taken to absorb the sound by covering the ceiling with absorbent acoustic tiles. Apart from making the room quiet, this also prevents sound from the dental treatment hall penetrating the glass doors to the waiting room.

To the right is a view of the main administration room, and on the opposite page a detail of the waiting room.



Apethorpe : The east side of the principal court. From "The Old Halls and Manor-Houses of Northamptonshire."

LITERATURE

NORTHAMPTONSHIRE'S HOUSES

[*BY D. COSENS*]

The Old Halls and Manor-Houses of Northamptonshire. By J. Alfred Gotch. London : Batsford. Price 21s.

ALTHOUGH Northamptonshire can hold its own with any county in England for beautiful old houses, I have often thought that it is very unexplored and very little known to the average man, even in these days, when little of England escapes the motorist and the hiker. This may be largely due to its position. It is not a county that is an objective in itself, except to those who live there, for it has no sea-coast and none of the open moors and downs that attract holiday-makers. The main arteries to the industrial midlands and to the north cut through at either end, but those who take them are seldom tempted to linger. So, although the Great North Road skirts Peterborough and passes through Stamford, few pause to look at the splendours of Burghley, and Peterborough remains, rather undeservedly, one of the less enthusiastically sought-out cathedrals. Fewer still have even heard of Kirby on the Leicestershire border, designed by John Thorpe and later modernized by Inigo Jones, though it is perhaps, even in disintegration, the most beautiful Elizabethan manor-house in England.

In his new book Mr. Gotch has made a survey of many of the old halls and manor-houses of Northamptonshire. Each house is splendidly illustrated, and the history of its building and the lives of each of its successive owners is outlined. In the introduction he traces the slow changes that began, with the increasing security of the times, somewhere about the end of the fifteenth century—when the castle and the fortified manor-house, with its narrow windows and restricted plan, gradually began to open out in the sun of Elizabethan prosperity and under the classic influences of the seventeenth and eighteenth centuries.

In many of the older houses, of which Apethorpe, Burghley, and Rockingham are perhaps the best examples, this development can be seen in all its stages, the old work overlaid with the new, as each generation altered and improved in the fashion of the day. Others, such as Althorp and Boughton, are magnificent examples of the late seventeenth century. And, on a smaller and more homely scale, there are throughout the county such houses as the Haycock Inn at Wansford, and the charming Jacobean manor-house of Glinton.

With the exception of Kirby and Lyveden, the houses illustrated by Mr. Gotch are all inhabited and they are therefore, with one or two exceptions, inaccessible. Many are set so far back from the road as to be, to all intents and purposes, invisible, except to the most hardened trespasser. And incidentally, why does it need so much more courage to walk openly up the drive and have a good stare, than it does to trespass shamefully, facing innumerable hedges ?

The Old Halls and Manor-Houses of Northamptonshire does a great deal to remedy this state of affairs. If one cannot see the houses one can see the admirable illustrations. If one can manage a furtive glance in passing, and is still inquisitive, one can read their history—not the history of the guide-book, but a very readable story of the ambitions that prompted their building and enlargement.

STEELWORK DESIGN

Structural Steelwork for Building and Architectural Students. By Trefor J. Reynolds and Lewis E. Kent. London : The English Universities Press, Ltd. Price 12s. 6d.

CONSIDERING the importance of the subject there are surprisingly few British text-books dealing with the design of structural steelwork. One reason for this is that almost the only important printed regulations governing this design (those of the L.C.C.) have for years been obsolete, in so far as they set any standard of economical construction. For regulations and codes have now succeeded design. However eminent an engineer may be, and however much study he may have given to a problem, he must bow to the ruling that "the stress in the member shall not exceed. . . ." Text-books, to be of practical value, must therefore be

Boughton House : From " The Old Halls and Manor-Houses of Northamptonshire."

written round these regulations and when alterations are expected weekly, authors and publishers rightly hang back.

This book uses the L.C.C. Code of Practice as its standard and in their preface the authors express the hope that, in course of time, this code will become a part of the L.C.C. bye-laws. This hope is based partly on the suggestions of the Advisory Committee on the Amendment of the London Building Act: but, as readers of the JOURNAL are aware, the L.C.C. have ignored this recommendation and are trying to introduce more onerous regulations. One of the minor tragedies of this, if it ever comes to pass, is that many of the tables in this book will lose much of their usefulness.

It will not of course affect the general theory of structural design which takes up most of the book and which is set out in an extremely clear way and with a minimum of mathematics. The title of the book (and this is rare) correctly sets out its standard and scope. Starting with the elementary conceptions of stress and strain the authors collect together the necessary theory of structural design and show how it may be used to design rivets, beams, columns and other structural members. At the end detailed calculations and drawings are given for a warehouse building.

The price is reasonable, the illustrations and general arrangement are good and the book should satisfy a real need among architectural and other students.

Apart from the chapter on welded steelwork, which is not up to the standard of the rest of the book and could well have been left out, the only serious criticism which the writer has to make is that he could not find which of the several column formulæ in the text had been used in the tables of safe loads on columns.

W. E. J. B.

LATEST DAYS OF POMPEII

Pompeii. By R. C. Carrington. Oxford : Humphrey Milford, The Clarendon Press. Price 10s. 6d. net.

THE despised and triumphant Christian who, about the day when Vesuvius smothered Pompeii, wrote boldly on a wall SODOMA GOMORA for future ages to know his opinion of the justice of the catastrophe that had fallen upon his town, would not have suspected the value of the place to our studies eighteen hundred years later. We know enough about Pompeii to realize that he may have been subject to some bias. It is possible, indeed, so successful have been the spade and the intelligence of the diligent excavator, to tell more about the life of the town, one of those somewhat above the average as sizes went in ancient Italy, than about many others whose life continued.

Mr. Carrington, who has already made valuable contributions to the study of ancient Italian domestic architecture, here brings together the product of current research on Pompeii into convenient compass for the general reader. He adds a notably good series of photographs, grouped at the end of the book, and his house and town plans are excellent. His examination of the houses is thorough, revealing, and adequate. Beyond that, he pays attention to the influence of building materials as they developed in architectural possibility. Of the town-planning of Pompeii there is still room for study. Mr. Carrington, without going into unsupported speculation, indicates the chief theories about the second settlement, and concludes that much more work with the spade will have to be done before a final decision is possible as to the people who were

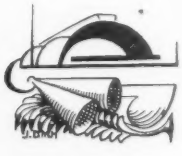
responsible for the formal, and very logical, layout of the new town in or about the fifth century B.C. This is perhaps the most interesting question left about Pompeii. And in the answering of it the spade will prove itself more than a spade, indeed a lively extension of man's inquiring mind.

A.

YORK MINSTER

York Minster and Neighbouring Abbeys and Churches. By Gordon Home. London: J. M. Dent and Sons. Price 2s. 6d. net.

MR. GORDON HOME has added to the admirable series of popular handbooks that he edits a worthy and thoroughly detailed one on York Minster. Not a stone seems to have escaped his careful scrutiny. But he looks at the stones, as is very right in such a volume, from the point of view that makes them interesting because of their associations with the men who set them up or whom they sheltered, rather than in themselves. The result is a book that shows the Minster fully as part of history. Five chapters are devoted to the Minster; a further five shorter chapters deal with St. Mary's Abbey, with some of the old ecclesiastical buildings of York, with the city's mediæval churches, with Rievaulx and Byland Abbeys, and with other churches of the district. A.



PUBLICATIONS RECEIVED

Builders' Estimates and Pricing Data. By Henry A. Mackmin. London: Chapman and Hall. Price 12s. 6d.

Practical Hints on the Installation of Heating Apparatus. By E. G. Blake. London: Technical Press, Ltd. Price 2s. 6d.

How to Buy Timber. By R. R. Rivers. London: Sir Isaac Pitman and Sons, Ltd. Price 3s. 6d.

Road Making and Road Using. By T. Salkield, M.INST.C.E., F.R.SAN.INST. London: Sir Isaac Pitman and Sons, Ltd. Price 7s. 6d.

The Lesson of Japanese Architecture. By Jiro Harada. London: The Studio Publications. Price £1 10s.

Three Hundred Years of French Architecture: 1494–1794. By Sir Reginald Blomfield, R.A., F.S.A. London: Alexander Maclehose & Co. Price 7s. 6d.

IN THAT CONTINGENCY

The following abstracts of enquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each enquiry, and are not necessarily suitable for general application to all similar problems. [Crown Copyright Reserved.]

Dry Rot in Wood Floor Laid over Concrete

¶ *AN enquirer desired the opinion of the Building Research Station upon the risk of dry rot attacking an oak boarded floor finish, laid over a solid cement floor on 2 × 1 untreated deal battens. It was stated that the floor was a solid one, but that it was nearly 3 ft. above general ground level, and in an adjoining room in which the concrete was still exposed, this was seen to be quite dry and dusty even after periods of considerable rain.*

It is considered that the conditions in the floor as described would be conducive to dry rot. The degree of risk in this particular case would appear to depend largely on the condition of the concrete bed. If, as is suggested, the concrete is not liable to become wet, the battens may remain sound for a considerable time. It should be pointed out, however, that dryness of concrete freely exposed to the air is not a safe guide to the condition of similar material which is sealed by a wooden floor, and no assurance could be given that dry rot would not at some time develop.

The only satisfactory procedure would therefore be to lift the present flooring and battens, lay a continuous covering of bitumen at least $\frac{1}{8}$ in. thick, and relay the boarding on pressure-creosoted battens. A thin surface film of bitumen paint or tar is useless. If the floor is a small one it would probably be possible to lay these battens in the form of a frame which would not require fixing to the sub-floor, and this would eliminate the necessity of puncturing the bitumen covering.

Failure of Flue Linings and Brickwork

¶ *AN architect reported that several cases of the deterioration of flue linings and brickwork had been brought to his notice. The flues in question were stated to serve the slow combustion type of stove.*

Information was sought regarding the cause, and possible methods of obviating the trouble.

The deterioration of brick flues is not an uncommon occurrence if they are connected to stoves of the slow combustion type, and the attention of the Building Research Station has been drawn to trouble of this nature very frequently in recent years.

The difficulty arises when flues are not sufficiently warm to prevent the condensation of moisture. When this occurs the flue gases, together with the condensed moisture, form acids on the walls of the flue lining, and these penetrate and attack the mortar.

A diminution of the risk of condensation might be achieved by the provision of heat insulation to the flue lining. This might be effected by the substitution of diatomaceous bricks for standard bricks on the inside $4\frac{1}{2}$ ins. of the flue walls. It is doubtful, however, whether this would eliminate all possibility of danger, and the most effective way of dealing with the case in question, and with new buildings where the use of slow combustion stoves is anticipated, would be to provide an impervious acid-resisting flue lining, such as glazed stoneware drain or flue pipes. The pipes should be fixed with the sockets upwards.

As all condensed moisture will tend to collect at the bottom of the flue, a small chamber containing a receptacle might be formed at its base, below the entry of the boiler flue, and an access door should be provided for the periodic removal of any liquid products of combustion.

Injury to Brickwork by Mason Bees

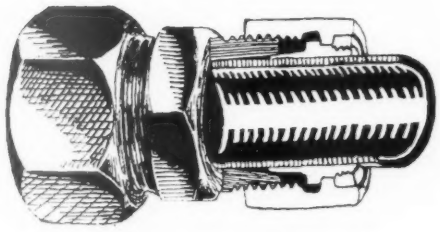
¶ *ARCHITECTS asked for advice as to the repair of peculiar injuries to the brickwork of a seventeenth-century building. It was reported that the whole exterior surface was pitted, both in the brick and the lime mortar joints, with deep holes only an inch or two apart, and about $\frac{1}{8}$ in. to $\frac{3}{16}$ in. in diameter. The holes varied in depth from $\frac{1}{2}$ in. to $1\frac{1}{2}$ ins. Many of the holes contained insect deposits some of which, together with samples of the brick and lime, were sent for inspection.*

After consultation with the Department of Entomology, Natural History Museum, the following reply was given:—

It appears that the damage described is caused by a species of wild solitary bees which bore and nest in holes in the walls of buildings. These insects are known as "Mason bees," and, while their boring powers are not great, they are able to bore holes in very soft stone, brick or mortar.

The sample of insect substance submitted consisted of a single insect cocoon, containing a dead parasite, but this appeared to be the parasite of some moth larva, which had merely entered the hole to pupate.

The only method of preventing the damage would be to render the whole face of the building, and this course would probably be unacceptable for æsthetic reasons. It is appreciated the enquirer would probably like to apply some colourless surface hardening treatment that would not disfigure the building, but after careful consideration it is not possible to recommend a process of this sort. The brickwork and mortar must be very soft, or the insects could not penetrate them. The use of a surface hardening treatment would involve the risk of the hardened skin flaking off, which would be more disfiguring than the present trouble. It will be better to let things take their course, deferring as long as possible the application of a radical treatment such as rendering.



TRADE NOTES

[EDITED BY PHILIP SCHOLBERG]

A New Joint for Copper Services

THE headpiece to these notes shows a new type of cone joint which seems to me to have several advantages over the usual type, in that the cone, instead of being loose, is locked in the nut by a manipulated cone ring. It is, therefore, impossible for the cone to be lost (and who has not seen a collection of coneless and temporarily useless joints left over at the end of the job?), and the joint also positively "unmakes" itself if alterations become necessary at a later date.

•

In use the joint is about as simple as it possibly can be: no belling of the tube is necessary, the tubes themselves need not be cut dead to length, and need only be slipped into the joint and the nut tightened up. Prices are low (3s. 6d. for ½-inch tees, 2s. 8d. for elbows), subject to the usual discounts. The trade name is Villa.

A Reinforced Roofing Sheet

Durasteel is a corrugated roofing sheet so constructed that the strength of the steel core is considerably increased by its protective covering. The steel is treated with bitumen, and then keyed by a special process to an asbestos and cement covering. The sealing of the sheet under high pressure results in a smooth and permanent finish which resists corrosion.

•

Durasteel is available in standard and heavy grades, the natural colour being light grey, but a full range of finishes in various shades of red, blue, green and yellow can be supplied.

F. R. S. Y.

A Cure for Leaky Cisterns

Nearly everybody is only too familiar with the ordinary ball valve, which works well enough when it is new, but which all too soon loses its original efficiency, leading to drips from warning-pipes and possibly ruined ceilings. Apart from leaky washers, which are easily enough replaced, the trouble usually starts in the ball itself, where the solder in the seam sets up electrolytic action, leading to pinholes and leakages into the ball, with a consequent rise in water level. The usual remedy is to bend the arm, a primitive makeshift which would disgrace the stupidest labourer, and which can at best give only a temporary improvement.

•

A new cup-type of float has now been evolved: named the Ever-float, it is made of a spun copper sheet, thereby eliminating all solder. This float is held in position by an expandable copper band, the open ends of which fit into the slotted cheeks of a brass stud which screws on to the end of the arm. By means of a bolt with a butterfly head, passing through the band ends and the stud, the band can be eased and tightened so that the float can be fixed at any height to give the desired water level, thereby overcoming the old arm-bending difficulty.

•

The float and adjustable band, which can be easily applied to any existing cistern, cost 5s. The device, incidentally, is patented.

Addresses

Ford Cone Joints, Ltd., Tyburn Road, Birmingham.

Durasteel Roofs, Ltd., Oldfield Lane, Greenford, Middlesex.

Tremens Ever-Float Co., 16 Great Dover Street, S.E.1.

CATALOGUES REQUIRED

Mr. Norman Wheatley, A.R.I.B.A., who has been appointed architect to the Elementary Education Committee, King's Lynn, will be glad to receive trade catalogues at the Education Office, King's Lynn.

Manufacturers' Items

Messrs. Craig's Ventilators, Ltd., 21 Bothwell Street, Glasgow, have been awarded the Society's Official Medal at the Royal Lancashire Show, 1936, for the Craig System of Ventilation.

•

Owing to an increase in the firm's business, and to effect a closer link between the production and the sales units, Messrs. Tubelight Sales, Ltd., have moved to 24 Euston Buildings, George Street, Euston Road, N.W.1. Telephone Euston 1403/4.

•

An independent company, entitled Stelcon (Industrial Floors), Ltd., has just been formed for the sale in Great Britain and overseas of Stelcon anchor steel plates and Stelcon steel clad flags, which for the past ten years have been handled by Langley London Ltd., of 161 Borough High Street, London, S.E.1. The new company comes into being immediately and its address is Cliffords Inn, London, E.C.4. Telephone: Holborn 2916. Mr. F. A. Langley and Mr. T. Kilburn are directors of the company, and the staff has been recruited from Langley London Ltd., thus ensuring proper continuity of the business.

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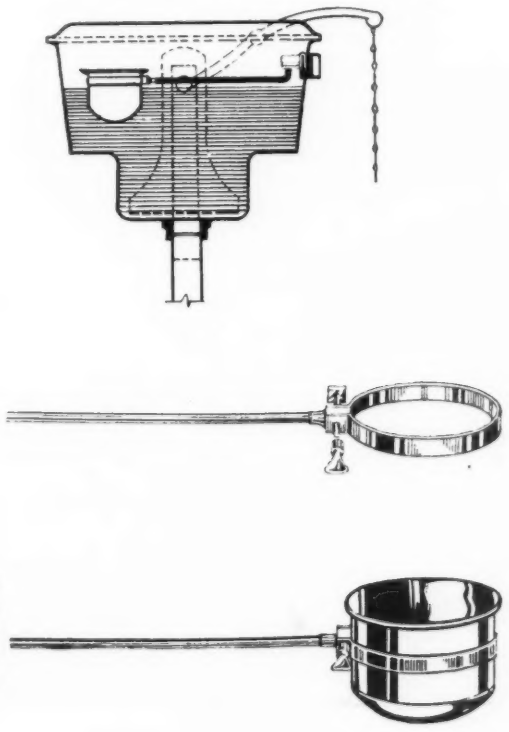
Finmar, Ltd., have been awarded a certificate by the Institute of Hygiene. So far as we know, this is the first time such a certificate has been awarded for furniture design.



Sketches showing the general arrangement of the Tremens Ever-float: above, the float fitted in a typical cistern; below, two details of the float and the adjustable holding strip.

LAW REPORTS

APPEAL UNDER THE HOUSING ACTS

Lordon (Hammersmith) Housing Order.—Application by Land Development, Ltd. and the Shepherd's Bush Exhibition, Ltd. King's Bench Division. Before Mr. Justice Swift

THIS appeal raised a question as to the conduct of an inspector of the Minister of Health at a public inquiry, the appellants, Land Development, Ltd., and Shepherd's Bush Exhibition, Ltd., alleging that the inspector at a public inquiry failed to comply with the Housing Act, 1925-30, in that he refused to hear a statement on behalf of the objectors.

Mr. Walter Monckton, K.C., for the appellants, said the appeal was from an order made by the London County Council, and confirmed by the Minister of Health, for the compulsory acquisition of some 50 acres of land for housing purposes at the White City at Shepherd's Bush. The Minister, through an inspector, held a public inquiry, and his clients were represented, and their main contention was that the site was ideal for exhibition purposes and that in the national interest it was desirable that it should be continued for exhibition purposes. His clients put before the inspector the manner in which the land had been used practically till the end of the war, but when they proposed to give details as to its future suggested use, objection was raised, and in the end the inspector would not hear any further statements on that point. It was true that the site had been offered for sale through agents, but he submitted that that did not rule out the preparation of schemes by the appellants as to the use of the site in the future. The inspector could have summoned witnesses if he had so desired. His contention for the appellants was that the inspector should have heard the full statement offered by his clients and should have reported the matter to the Minister, so that he could know and consider what his clients' objections were. It was in the national interest that the site should remain in its present form.

The Solicitor-General, Sir Terence O'Connor, K.C., for the Minister, contended that the inspector, in his conduct of the public enquiry, did nothing that was contrary to natural justice. The inquiry was fairly and properly conducted. The representative of the appellants stated that he was calling no evidence, and in view of this his statement as to the intentions of his clients as to the future use of the premises became irrelevant. Under these circumstances the Solicitor-General contended that there was nothing for him to answer, and he asked his lordship to dismiss the appeal.

His lordship dismissed the appeal, holding that the public inquiry by the inspector was a perfectly proper one, that there was nothing of which the appellants could complain, and further, that their interests were in no way prejudiced by what had been done.

His lordship said the appellants contended that at the inquiry the inspector had acted contrary to natural justice in ruling that a statement unsupported by evidence could not be given, that that vitiated the whole inquiry and prevented the confirmation of the order being valid. He came to the conclusion, after hearing the arguments, that he could not say that that had been the case. He laid down no principle of law as to what an inspector should or should not hear when he held a public inquiry, but in the case before him he could see nothing in what the inspector did, which he could say was wrong. In his view there had been a perfectly proper inquiry, and he did not think there was anything of which the appellants could complain, or say was wrong. He dismissed the appeal with costs.

A lighting standard installed at Ryhope Colliery Pithead Baths by Messrs. Hailwood & Ackroyd.

BUILDINGS ILLUSTRATED

THE KING'S HOUSE (pages 519–523). General contractors: John Mowlem, Ltd. Among the sub-contractors are the following: Newalls Insulation Co., asbestos; Limmer and Trinidad Lake Asphalte Co., asphalt; G. and T. Earle and the Cement Marketing Co., Ltd., ballast, cement and sand; Doulton & Co., Ltd., owners' bathroom; Leeds Fireclay Co., Ltd., guests' bathroom; George Jennings, Ltd., servants' bathroom; The Glazed Floor Tile Manufacturers, tiles; Edward Johns & Co., Ltd., "Armitage Ware" sanitary ware; Carron Company, baths and basins; Ideal Boilers and Radiators, central heating and panel radiators; Beeston Boiler Co., Ltd., domestic hot water boilers; Gas Light and Coke Co., Ltd., gas storage heater; London Brick Co. and Forders, Ltd., Yorkshire Brick Co., Ltd., and Claygate Brickfields, Ltd., bricks; Cork Insulation Co., cork; Mayfair Spraying and Decorating Co., John Line and Sons, Ltd., Paripan, Ltd., and A. Sanderson and Sons, Ltd., decoration and paint; Sage & Co., Ltd., and Crittalls, Ltd., doors; Comyn, Ching & Co., Ltd., vacuum door springs; Edison Swan & Co., Ltd., and Duncan Watson, Ltd., electrical equipment; Carron Company, Ltd., Bratt Colbran & Co., Ltd., and Leeds Fireclay Co., Ltd., fires and fireplaces; Doulton & Co., Ltd., flower boxes; Hamptons, Ltd., Harrods, Ltd., Gill and Reigate, furniture; Parkinson Stove Co., gas cooker; Davis Stove Co., Ltd., gas hot-closet; Alfred Goslett, Ltd., glass windows; British Vitrolite Co., Ltd., glass mirror table; Peerless Kitchen Cabinets, Ltd., kitchen and utensils; John Stubbs, Ltd., marble; William Mallinson, Ltd., panelling; Electrolux, Ltd., refrigerators; Colas Products, Ltd., approach roads; Redferns Rubber Works, Ltd., rubber; Thomas Crapper & Co., sanitary fittings; Newall's Insulation Co., soundproofing materials; Benham and Sons, Ltd., stainless steel sink and drainer; Braby & Co., Ltd., stainless steel door frames; Dent and Hellyer, Ltd., water system; British Plaster Board Co., Ltd., wallboard; Compactom, Ltd., Compactom fitment scheme in the dressing and principal bedroom; Williams Sanders & Co., (Wednesbury) Ltd., ironclad switchgear and fuse gear; Bramah, locks; The Gramophone Co., Ltd., gramophone and radio.

NORTHFIELDS CENTRAL SCHOOL, DUNSTABLE (pages 524-526). General contractors: Fleet and Roberts. Sub-contractors include Caxton Floors, Ltd., hollow tile floors; British Reinforced Concrete, Ltd., fabric reinforcement; Williams and Williams, Ltd., metal windows; Permanite, Ltd., patent roofing; R. Grant and Son, steelwork; Comyn, Ching & Co., Ltd., ironmongery and cloakroom fittings; London Brick Co. and Forders, Ltd., external facing bricks; William Freer, Ltd., heating system; Shoolbred Electrical Co., Ltd., lighting installation; Henry Hartley & Co., Ltd., Horsley, Smith & Co., Ltd., wood block flooring; Doulton & Co., Ltd., sanitary fittings; W. N. Froy and Sons, fire places; Educational Supply Association, Ltd., blackboards; Smith and Wellstood, Ltd., cooking range; Synclocks, Ltd., electric clock; Alldays and Onions, Ltd., forge, bellows, etc.; Davis Gas Stove Co., Ltd., gas cookers.

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICT (15 Miles Radius)

POPLAR. *Extensions.* Poplar B.C. Works Committee has approved plans by the borough engineer to extend the existing garage in Glaucus Street and to establish a machine-shop and messroom. The garage extension will be a steel-framed structure providing a floor space free from columns. The exits of the garage are in Glaucus Street and the entrance in River Street, where two electrically-driven petrol pumps will enable the vehicles to be fuelled before garaging. An office stores, boiler-house, conveniences and clothes lockers for the men will be provided. The mechanical equipment consists of a 7-ton hydraulic hoist and a 2-ton runway hoist. The garage, shop and messroom will be heated by means of low-pressure hot-water unit heaters, which include fans, and which, in conjunction with wall openings, may be operated as ventilators. The machine-shop will be situated on the site of the existing two flats and will have two repair pits and a 2-ton runway hoist. The messroom will be immediately over the machine-shop, access being obtained from either outside or inside the garage. Provision will be made for seating 80 men, thus providing for any working in the district in addition to the garage and public cleansing staff. Proper facilities for the cooking of food and heating of meals will be provided and also hot and cold water for washing. The estimated cost of the scheme is £18,720.

POPLAR. *Extensions, etc.* Plans passed by Poplar B.C. : Store extensions, Chrisp Street, and Woollett Street, Messrs. F. W. Woolworth & Co., Ltd.; addition to Rose and Crown, Devons Road, Mr. Samuel A. S. Yeo; alterations, Beehive, Robinhood Lane, Mr. F. M. Kirby; offices, Leamouth Road Bridge Haulage and Wharfage Co.; works extensions, Bedford Street, Commercial Properties, Ltd.

POPLAR. *Town Hall.* Poplar B.C. has accepted the following tenders for the new town hall : Messrs. Matthew T. Shaw & Co., Ltd., £19,896 3s. 6d. for structural steelwork, and Messrs. Diespeker & Co., Ltd., £12,962 13s. 9d. for hollow tile floors and miscellaneous concrete.

POPLAR. *Housing Scheme.* Poplar B.C. has accepted the tender of Messrs. Kleine Co., Ltd., £6,052 15s. 2d., for hollow tile flooring at Harrow Lane and Poplar High Street housing scheme.

RUISLIP. *Hotel extensions.* Mr. Aubrey Bidwell is the architect in connection with the proposed extension of the Orchard Hotel. Provision is to be made for a restaurant, dance hall, cloak-rooms, and four brick garages, with living quarters over.

ST. PANCRAS. *Housing Estate.* St. Pancras B.C. has approved plans for the development of a housing estate in Leighton Road.

ST. PANCRAS. *Plans.* Plans passed by St. Pancras B.C. : Rebuilding of the Bricklayers' Arms, Gresse Street; parish hall and girls' hostel, Arlington Road.

ST. PANCRAS. *Working Class Dwellings.* St. Pancras B.C. recommends the tender of Messrs. M. J. Gleeson, Ltd., £34,918, for the erection of 55 working-class dwellings in Carlow Street.

WIMBLEDON. *Flats.* Mr. S. Derwent is to erect a block of six flats in Raymond Road, Wimbledon.

WIMBLEDON. *Extensions.* Wimbledon Corporation has passed plans submitted on behalf of Messrs. Connolly Bros. for extensions to Wandle Mill.

WOOLWICH. *Housing Estate.* Woolwich B.C. is to develop a housing estate south of Horncastle Road, Lee.

SOUTH-EASTERN COUNTIES

BRIGHTON. *Flats.* Plans passed by Brighton Corporation : Block of four flats and bungalow, The Ridgeway, Woodingdean, Mr. Wm. Victor Martin; house, Hertford Road, Mr. James Morley; alterations and additions, Marlborough Street, Messrs. Johnson Bros. (B'ton), Ltd.; block of four flats, Longridge Avenue, Rottingdean, Mr. W. W. Broadbridge; house, Roedean Crescent, Ovingdean, Mr. Harold Frank Penty; bungalow, Downsway, Rottingdean, Mr. Reginald Tracy; two houses, Dale Crescent, Withdean, Patcham, Mr. Geo. S. C. Swiney; two houses, Warren Rise, Rottingdean, Mr. Richard Leslie Funnell; six houses, Peacock Lane, Patcham, Mr. Samuel Owen; bungalow, Bevendean Avenue, Rottingdean, Messrs. Swinger and Bowley; house, Ditchling Road, Patcham, Mr. John B. Over; four houses, Overhill Drive, Patcham, Mr. Fredk. John Wellman; 18 houses, Valley Road, Downs Estate, Woodingdean, Mr. Louis Sweetman; alterations and additions, Bond Street, Messrs. Paul Panto & Co., Ltd.; extension, Lewes Road, the Brighton Equitable Co-operative Society, Ltd.; block of four and six flats, Stanmer Park Road, Messrs. Wallis and Paris; bungalow, Knoyle Road, Mr. Fredk. Henry Simkin; house, Harrington Villas, Messrs. Ateo Homes, Ltd.; house, Elms Lea Avenue, Patcham, Mr. Clarence Wm. Henry Bradley; two houses, Upper Bevendean Avenue, Falmer, Mr. Leslie F. Montague Williams; house, Ainsworth Avenue, Ovingdean, Mr. Geo. Smith; bungalow, Crescent Drive, Rottingdean, Mrs. Florence Warner; bungalow, Balsdean Road, Rottingdean, Mr. John Wilfred Roberts; house, Withdean Crescent, Patcham, Messrs. Arthur Martin (Brighton), Ltd.; 60 houses, Dale Crescent, Patcham, Mr. Wm. H. Clark; alterations and additions to bank, High Street, Rottingdean, Lloyds Bank, Ltd.; 20 bungalows, Rottingdean Vale Estate, Falmer Road, Mr. Harry Easter Painter and Ada Painter; house, Chichester Drive, Rottingdean, Mr. Harry Reeve; house, Chichester Drive, Rottingdean, Capt. Walter George Bagnall; four houses, Dale Crescent, Patcham, Mr. Wm. H. Clark; two bungalows, Greenfield Crescent, Patcham, Mr. A. J. Kensett; house, Tongdean Lane, Patcham, Mr. Geo. Lowe Baker; bungalow, Crescent Drive, Rottingdean, Mr. Ernest Bertram Luck; house, Longhill Road, Ovingdean, Mr. Wm. Ernest Wilkins; four houses and two bungalows, Wick estate, Rottingdean, Messrs. Coastal Estates, Ltd.; additions, Brighton College, Eastern Road, Council of Brighton College; stores with offices, Mount Street, Mr. Frank Gerald White; house, Falmer Road, Rottingdean, Mr. Arthur Staines Waymouth; reconstruction of glasshouse and shop, Bristol Nurseries, Bristol Gardens, Mr. Harry Anscombe; alterations and additions, Upper Rock Gardens, Mr. Harry Richard Chantry; four houses, Upper Bevendean Avenue, Falmer, Mr. Leslie F. Montague Williams.

SOUTH-WESTERN COUNTIES

SWINDON. *Houses.* Plans passed by Swindon Corporation : Four houses, Cheny Manor Road, Messrs. Pope Bros.; assembling room and cloakroom, factory, Newcastle Street, Mr. H. R. Fisher; 12 houses, Langford Grove, Mr. A. J. Colborne; house, Moredon Road, Mr. L. A. Grigg; classroom, High School, Bath Road, Mr. F. G. Perry; extensions, Regent Street, Mr. A. E. Batzer; five shops and flats, Victoria Road, Messrs. R. J. Beswick and Sons; nine houses, Rodbourne Green, Mr. T. Burrington; 12 houses, Marlborough Road, Messrs. E. H. Bradley and Sons; 52 houses, Walcot Road and Shipton Grove, Mr. A. J. Colborne; house, Croft Road, Mr. M. Clark; 65 houses, Birch Street estate, Sir John Brown and Mr. A. E. Henson; new premises, Regent Street, Messrs. R. J. Beswick and Son ; bungalow, Church Walk, Mr. L. A. Grigg.

NORTH-WESTERN COUNTIES

CHESTER. *Houses.* Plans passed by Chester Corporation : 24 houses, Broadway, Blacon, Messrs. T. B. Gorst and Sons; alteration, Northgate Street, Messrs. Milling and Johnson, Ltd.; alterations, Curzon Park, Mr. Vincent Williams; extension, Forest Street, the Chester Co-operative Society, Ltd.; church, Upper Northgate, for church authorities; two houses, Throstle's Nest, Blacon, Mr. T. Marshall; alteration at the Music Hall, Northgate Street, the Provincial Cinematograph Theatres, Ltd.; alterations, Blossoms Hotel, Foregate Street; reconstruction, Eastgate Street, Messrs. Montague Burton, Ltd.; shop and storeroom, Pepper Street, the Anchor Motor Co., Ltd.; two houses, Brook Lane, Newton, Mr. Jones.

CHESTER. *New gate, etc.* Chester Corporation has accepted the tender of Messrs. H. A. Clegg and Sons for the construction of the new gate at the Newgate and the repair of the City Walls for the sum of £6,625.

CHESTER. *Council School.* Chester Education Committee has approved plans by the city surveyor of the proposed new council school in Newton, at a cost of £23,538.

MORECAMBE. *Cinema.* Morecambe Corporation has had a tentative application from Mr. Graham relating to a proposal to erect a cinema at the junction of Heysham Road and Longlands Crescent, and decided so far as this site is concerned Mr. Graham's proposal be disapproved, and that the borough surveyor be instructed to communicate with him on the lines indicated.

MORECAMBE. *Houses.* Plans passed by the Morecambe Corporation : 11 houses, Dallam Avenue, Messrs. H. Hillman and Sons; alterations, Euston Road, Messrs. Fleming Reid Co.; bungalow and 28 houses, Lowlands Road, Mr. A. Whitehead; four houses, Chatsworth Road, Mr. W. H. Wilson; eight houses, Russell Drive and Essex Drive, Messrs. Edmondson Bros. (Morecambe), Ltd.; four houses, Wilson Grove, Messrs. Wilson Bros.; alterations, Euston Road, Messrs. Odeon Morecambe, Ltd.; two bungalows, Buckingham Road, Mr. S. G. Oldham; four houses, Regent Park Grove, Mr. M. Naylor; layout, Clark Estate, Broadway, Messrs. Harrison and Moor; six houses, Schola Green Lane, Messrs. G. Clark (Heysham), Ltd.; rebuilding of Bath Hotel, Bath Street, Messrs. Boddington's Breweries, Ltd.; eight houses, Lahom Avenue, Lune Building Co.; bungalow, Sunnyfield Avenue, Mr. R. W. Jackson; two houses, Burlington Avenue and Scawfell Avenue, Messrs. Bell and Isaacs; ten houses and site for house, Brandreth Drive, Mr. H. Hollinshead; eight houses, Acre Moss Lane and Osborn Road, and two houses, Albany Road, Messrs. Lambert and Atkinson; extensions and 22 houses, Bateman Road, Messrs. Coates and Flaxington; ten houses, Grantwood Estate, Mr. J. H. Atkinson; house, White House Estate, Mr. G. W. Herbert; four houses, Walton Avenue Estate, Mr. E. F. Ladell; two houses and shops, Heysham Road, Strawberry Gardens, Ltd.; eight houses, Eardley Road and Hesketh Road, Messrs. Vickers and Thornton; house, Broadway, Mr. J. Wild; house, The Cliffs, and 28 houses, Draycombe Drive Estate, Messrs. Swithenbank and Ladell; flats, Elder Grove, Mr. W. Smith; two bungalows, Buckingham Road, Mr. S. G. Oldham.

NORTHERN COUNTIES

WARRINGTON. *Houses, etc.* Plans passed by Warrington Corporation : Four houses, Rydal Avenue, for Messrs. Woosey and Walton; office extensions, Sixpenny Walk, for Messrs. Rylands, Ltd.; shop, Poacher's Lane, for Messrs. J. A. and A. Walker; 34 houses, Capesthorne Road, for Messrs. Tomlinson and Norbury; works extensions, Howley, for Messrs. J. Chadwick and Sons, Ltd.; six houses, Greeba Avenue, for Mr. A. Cannell; rebuilding factory, Norman Street, for Alliance Box Co., Ltd.; 66 houses, Nook Lane, for Messrs. Curbishley Bros.; house, Marina Drive, for Mr. F. Hill; alterations, Hop Pole Hotel, Horsemarket Street, for Messrs. Greenall, Whitley & Co., Ltd.; shop, Sankey Street, for Mr. B. R. Symes.

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. d.	II s. d.
A_1	ABERDARE ...	S. Wales & M.	1 5½	1 1½
A	Aberdeen ...	Scotland	1 6½	1 2
A_1	Abergavenny ...	S. Wales & M.	1 6	1 1½
A_2	Abingdon ...	S. Counties	1 5	1 0½
A	Accrington ...	N.W. Counties	1 6½	1 2
A_2	Addlestone ...	S. Counties	1 5	1 0½
A	Adlington ...	N.W. Counties	1 6½	1 2
A	Airdrie ...	Scotland	*1 6½	1 2
C	Aldeburgh ...	E. Counties	1 2½	11
A	Altrincham ...	N.W. Counties	1 6½	1 2
B_2	Appleby ...	N.W. Counties	1 3	11¼
A	Ashton-under-Lyne	N.W. Counties	1 6½	1 2
B_1	Aylesbury ...	S. Counties	1 4	1 0
B_1	BANBURY ...	S. Counties	1 4	1 0
B_1	Bangor ...	N.W. Counties	1 4	1 0
A_2	Barnard Castle	N.E. Coast	1 5	1 0½
A	Barnsley ...	Yorkshire	1 6½	1 2
B	Barnstaple ...	S.W. Counties	1 4½	1 0½
A	Barrow ...	N.W. Counties	1 6½	1 2
A	Barry	S. Wales & M.	1 6½	1 2
B_1	Basingstoke ...	S.W. Counties	1 4	1 0
A_2	Bath	S.W. Counties	1 5½	1 1¼
A	Batley ...	Yorkshire	1 6½	1 2
A_2	Bedford ...	E. Counties	1 5½	1 1¼
A_2	Berwick-on-Tweed	N.E. Coast	1 5½	1 1¼
A_2	Bewdley ...	Mid. Counties	1 5½	1 1¼
B_2	Bicester ...	S. Counties	1 3	11½
	Birkenhead ...	N.W. Counties	*1 7½	1 2½
A	Birmingham ...	Mid. Counties	1 6½	1 2
A_1	Bishop Auckland	N.E. Coast	1 6	1 1½
A	Blackburn ...	N.W. Counties	1 6½	1 2
A	Blackpool ...	N.W. Counties	1 6½	1 2
A	Blyth	N.E. Coast	1 6½	1 2
B_1	Bognor ...	S. Counties	1 4	1 0
A	Bolton ...	N.W. Counties	1 6½	1 2
A_3	Boston ...	Mid. Counties	1 5	1 0½
A_2	Bournemouth...	S. Counties	1 5½	1 1¼
B_2	Bovey Tracey	S.W. Counties	1 3½	11½
A	Bradford ...	Yorkshire	1 6½	1 2
A_1	Brentwood ...	E. Counties	1 6	1 1½
A	Bridgend ...	S. Wales & M.	1 6½	1 2
B	Bridgwater ...	S.W. Counties	1 4½	1 0½
A_1	Bridlington ...	Yorkshire	1 6	1 1½
A	Brighouse ...	Yorkshire	1 6½	1 2
A_2	Brighton ...	S. Counties	1 5½	1 1¼
A	Bristol ...	S.W. Counties	1 6½	1 2
B	Brixham ...	S.W. Counties	1 3½	11½
A	Bromsgrove ...	Mid. Counties	1 5½	1 1¼
B	Bromyard ...	Mid. Counties	1 3	11¼
A	Burnley ...	N.W. Counties	1 6½	1 2
A	Burslem ...	Mid. Counties	1 6½	1 2
A	Burton-on-Trent	Mid. Counties	1 6½	1 2
A	Bury	N.W. Counties	1 6½	1 2
A	Buxton ...	N.W. Counties	1 6	1 1½
A_1	CAMBRIDGE...	E. Counties	1 6	1 1½
B_1	Canterbury ...	S. Counties	1 4	1 0
A	Cardiff ...	S. Wales & M.	1 6½	1 2
A	Carlisle ...	N.W. Counties	1 6½	1 2
B	Carmarthen ...	S. Wales & M.	1 4½	1 0½
B	Carnarvon ...	N.W. Counties	1 4½	1 0½
A	Carnforth ...	N.W. Counties	1 6½	1 2
A	Castleford ...	Yorkshire	1 6½	1 2
A_3	Chatham ...	S. Counties	1 5	1 0½
A	Chelmsford ...	E. Counties	1 5	1 0½
A	Cheltenham ...	S.W. Counties	1 5	1 0½
A	Chester ...	N.W. Counties	1 6½	1 2
A	Chesterfield ...	Mid. Counties	1 6½	1 2
B_1	Chichester ...	S. Counties	1 4	1 0
A	Chorley ...	N.W. Counties	1 6½	1 2
B_1	Cirencester ...	S. Counties	1 4	1 0
A	Clitheroe ...	N.W. Counties	1 6½	1 2
A	Clydebank ...	Scotland	1 6½	1 2
A	Coalville ...	Mid. Counties	1 6½	1 2
A_2	Colchester ...	E. Counties	1 5½	1 1¼
A	Colne	N.W. Counties	1 6	1 1½
A_2	Colwyn Bay ...	N.W. Counties	1 5½	1 1¼
A_1	Consett ...	N.E. Coast	1 6	1 1½
A_2	Conway ...	N.W. Counties	1 5½	1 1¼
A	Coventry ...	Mid. Counties	1 6½	1 2
A_2	Crewe	N.W. Counties	1 5½	1 1¼
A	Cumberland ...	N.W. Counties	1 5	1 0¾
A	DARLINGTON	N.E. Coast	1 6½	1 2
A	Darwen ...	N.W. Counties	1 6½	1 2
B	Deal	S. Counties	1 4	1 0
A_2	Denbigh ...	N.W. Counties	1 5	1 0¾
A	Derby	Mid. Counties	1 6½	1 2
A	Dewsbury ...	Yorkshire	1 6½	1 2
B	Didcot ...	S. Counties	1 4½	1 0½
A	Doncaster ...	Yorkshire	1 6½	1 2
B_1	Dorchester ...	S.W. Counties	1 4	1 0
A	Driffield ...	Yorkshire	1 5	1 0¾
A_2	Droitwich ...	Mid. Counties	1 5½	1 1¼
A	Dudley ...	Mid. Counties	1 6½	1 2
A_2	Dumfries ...	Scotland	1 6	1 1½
A	Dundee ...	Scotland	1 6½	1 2
A	Durham ...	N.E. Coast	1 6½	1 2
A_2	EASTBOURNE	S. Counties	1 5½	1 1¼
A_1	Ebbw Vale ...	S. Wales & M.	1 6	1 1½
A	Edinburgh ...	Scotland	1 6½	1 2
A_2	Exeter ...	S.W. Counties	*1 5½	1 1¼
B	Exmouth ...	S.W. Counties	1 4½	1 0½
A_3	FELIXSTOWE	E. Counties	1 5	1 0¾
A	Filey	Yorkshire	1 5	1 0¾
A	Fleetwood ...	N.W. Counties	1 6½	1 2
B_1	Folkestone ...	S. Counties	1 4	1 0
A	Frodsham ...	N.W. Counties	1 6½	1 2
B_2	Frome ...	S.W. Counties	1 3½	11¾
A	GATESHEAD	N.E. Coast	1 6½	1 2
B	Gillingham ...	S. Counties	1 4½	1 0½
A_1	Glamorganshire, Rhondda Valley District	S. Wales & M.	1 6	1 1½
A	Glasgow ...	Scotland	1 7	1 2½
A_2	Gloucester ...	S.W. Counties	1 5½	1 1¼
A_2	Goole	Yorkshire	1 5½	1 1¼
A_2	Gosport ...	S. Counties	1 5½	1 1¼
A_3	Grantham ...	Mid. Counties	1 5	1 0¾
A_1	Gravesend ...	S. Counties	1 6	1 1½
A	Greenock ...	Scotland	*1 6½	1 2
A	Grimsby ...	Mid. Counties	1 6½	1 2
B	Guildford ...	S. Counties	1 4½	1 0½
A	HALIFAX ...	Yorkshire	1 6½	1 2
A	Hanley ...	Mid. Counties	1 6½	1 2
A	Harrogate ...	Yorkshire	1 6½	1 2
A	Hartlepools ...	N.E. Coast	1 6½	1 2
B	Harwich ...	E. Counties	1 4½	1 0½
B_1	Hastings ...	S. Counties	1 4	1 0
A_2	Hatfield ...	S. Counties	1 5½	1 1½
B	Hereford ...	S.W. Counties	1 4½	1 0½
A_2	Hertford ...	E. Counties	1 5½	1 1½
A	Heysham ...	N.W. Counties	1 6½	1 2
A	Howden ...	N.E. Coast	1 6½	1 2
A	Huddersfield ...	Yorkshire	1 6½	1 2
A	Hull	Yorkshire	1 6½	1 2
A	ILKLEY ...	Yorkshire	1 6½	1 2
A	Immingham ...	Mid. Counties	1 6½	1 2
A_2	Ipswich ...	E. Counties	1 5½	1 1¼
B_2	Isle of Wight ...	S. Counties	1 4½	1 0½
A	JARROW ...	N.E. Coast	1 6½	1 2
A	KEIGHLEY ...	Yorkshire	1 6½	1 2
A_3	Kendal ...	N.W. Counties	1 5	1 0¾
A_3	Keswick ...	N.W. Counties	1 5	1 0¾
A_1	Kettering ...	Mid. Counties	1 6	1 1½
A_2	Kidderminster	Mid. Counties	1 5½	1 1¼
B_1	King's Lynn ...	E. Counties	1 4	1 0
A	LANCASTER ...	N.W. Counties	1 6½	1 2
A_1	Leamington ...	Mid. Counties	1 6	1 1½
A	Leeds	Yorkshire	1 6½	1 2
A	Leek	Mid. Counties	1 6½	1 2
A	Leicester ...	Mid. Counties	1 6½	1 2
A	Leigh	N.W. Counties	1 6½	1 2
B	Lewes	S. Counties	1 3	11¼
A_2	Lichfield ...	Mid. Counties	1 5½	1 1¼
A	Lincoln ...	Mid. Counties	1 6½	1 2
	Liverpool ...	N.W. Counties	*1 8	1 3
A_2	Llandudno ...	N.W. Counties	1 5½	1 1¼
A	Llanelly ...	S. Wales & M.	1 6½	1 2
	London (12-miles radius)		1 8	1 3
	Do. (12-15 miles radius)		1 7½	1 2¾
A	Long Eaton ...	Mid. Counties	1 6½	1 2
A	Loughborough	Mid. Counties	1 6½	1 2
A_1	Luton	E. Counties	1 6	1 1½
B_1	Lytham ...	N.W. Counties	1 6½	1 2
A_1	MACCLESFIELD	N.W. Counties	1 6	1 1½
A_3	Maidstone ...	S. Counties	1 5	1 0¾
A_3	Malvern ...	Mid. Counties	1 5	1 0¾
A	Manchester ...	N.W. Counties	1 6½	1 2
A	Mansfield ...	Mid. Counties	1 6½	1 2
B_1	Margate ...	S. Counties	1 4	1 0
A	Matlock ...	Mid. Counties	1 5	1 0¾
A_1	Merthyr ...	S. Wales & M.	1 6	1 1½
A	Middlesbrough	N.E. Coast	1 6½	1 2
A_2	Middlewich ...	N.W. Counties	1 5½	1 1¼
B_2	Minehead ...	S.W. Counties	1 3½	11¾
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 3½	11¾
A	Morecambe ...	N.W. Counties	1 6½	1 2
A_2	NANTWICH ...	N.W. Counties	1 5½	1 1¼
A	Neath	S. Wales & M.	1 6½	1 2
A	Nelson ...	N.W. Counties	1 6½	1 2
A	Newcastle ...	N.E. Coast	1 6½	1 2
A	Newport ...	S. Wales & M.	1 6½	1 2
A	Normanton ...	Yorkshire	1 6½	1 2
A	Northampton...	Mid. Counties	1 6½	1 2
A	North Shields...	N.E. Coast	1 6½	1 2
A	North Staffs ...	Mid. Counties	1 6½	1 2
A_1	Norwich ...	E. Counties	1 6	1 1½
A	Nottingham ...	Mid. Counties	1 6½	1 2
A	Nuneaton ...	Mid. Counties	1 6½	1 2
A	OAKHAM ...	Mid. Counties	1 5	1 0¾
A	Oldham ...	N.W. Counties	1 6½	1 2
A_3	Oswestry ...	N.W. Counties	1 5	1 0¾
A_1	Oxford ...	S. Counties	1 6	1 1½
A	PAISLEY ...	Scotland	*1 6½	1 2½
B_3	Pembroke ...	S. Wales & M.	1 3	11
A	Perth	Scotland	*1 6½	1 2
A_1	Peterborough	E. Counties	1 6	1 1½
A	Plymouth ...	S.W. Counties	*1 6½	1 2
A	Pontefract ...	Yorkshire	1 6½	1 2
A_1	Pontypridd ...	S. Wales & M.	1 6	1 1½
A_2	Portsmouth ...	S. Counties	1 5½	1 1¼
A	Preston ...	N.W. Counties	1 6½	1 2
A	QUEENSFERRY	N.W. Counties	1 6½	1 2
A_2	READING ...	S. Counties	1 5½	1 1¼
B	Reigate ...	S. Counties	1 4½	1 0½
A	Retford ...	Mid. Counties	1 5	1 0¾
A_1	Rhondda Valley	S. Wales & M.	1 6	1 1½
A	Ripon	Yorkshire	1 5	1 0¾
A	Rochdale ...	N.W. Counties	1 6½	1 2
B	Rochester ...	S. Counties	1 4½	1 0½
A_1	Ruabon ...	N.W. Counties	1 6	1 1½
A	Rugby ...	Mid. Counties	1 6½	1 2
A_2	Rugeley ...	Mid. Counties	1 5½	1 1¼
A	Runcorn ...	N.W. Counties	1 6½	1 2
A_1	ST. ALBANS ...	E. Counties	1 6	1 1½
A	St. Helens ...	N.W. Counties	1 6½	1 2
B_2	Salisbury ...	S.W. Counties	1 3½	11¾
A_1	Scarborough ...	Yorkshire	1 6	1 1½
A	Scunthorpe ...	Mid. Counties	1 6½	1 2
A	Sheffield ...	Yorkshire	1 6½	1 2
A	Shipley ...	Yorkshire	1 6½	1 2
A_2	Shrewsbury ...	Mid. Counties	1 5½	1 1¼
A_2	Skipton ...	Yorkshire	1 5½	1 1¼
A_2	Slough ...	S. Counties	1 5½	1 1¼
A_1	Solihull ...	Mid. Counties	1 6	1 1½
A_2	Southampton	S. Counties	1 5½	1 1¼
A_1	Southend-on-Sea	E. Counties	1 6	1 1½
A	Southport ...	N.W. Counties	1 6½	1 2
A	S. Shields ...	N.E. Coast	1 6½	1 2
A_1	Stafford ...	Mid. Counties	1 6	1 1½
A	Stirling ...	Scotland	1 7	1 2½
A	Stockport ...	N.W. Counties	1 6½	1 2
A	Stockton-on-Tees	N.E. Coast	1 6½	1 2
A	Stoke-on-Trent	Mid. Counties	1 6½	1 2
B	Stroud ...	S.W. Counties	1 4½	1 0½
A	Sunderland ...	N.E. Coast	1 6½	1 2
A	Swansea ...	S. Wales & M.	1 6½	1 2
A	Swindon ...	S.W. Counties	1 5	1 0¾
A_1	TAMWORTH ...	N.W. Counties	1 6	1 1½
B	Taunton ...	S.W. Counties	1 4½	1 0½
A	Teeside Dist. ...	N.E. Counties	1 6½	1 2
A_3	Teignmouth ...	S.W. Coast	1 5½	1 1¼
A	Todmorden ...	Yorkshire	1 6½	1 2
A_1	Torquay ...	S.W. Counties	1 6	1 1½
B_2	Truro	S.W. Counties	1 3½	11¼
A_3	Tunbridge Wells	S. Counties	1 5	1 0¾
A	Tunstall ...	Mid. Counties	1 6½	1 2
A	Tyne District	N.E. Coast	1 6½	1 2
A	WAKEFIELD	Yorkshire	1 6½	1 2
A	Walsall ...	Mid. Counties	1 6½	1 2
A	Warrington ...	N.W. Counties	1 6½	1 2
A_1	Warwick ...	Mid. Counties	1 6	1 1½
A_1	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 6½	1 2
A_2	Weston-s.-Mare	W. Counties	1 5½	1 1¼
A	Whitby ...	Yorkshire	1 5½	1 1¼
A	Widnes ...	N.W. Counties	1 6½	1 2
A	Wigan ...	N.W. Counties	1 6½	1 2
B	Winchester ...	S. Counties	1 4½	1 0½
A_2	Windsor ...	S. Counties	1 5½	1 0¾
A	Wolverhampton	Mid. Counties	1 6½	1 2
A_2	Worcester ...	Mid. Counties	1 5½	1 1¼
A_3	Worksop ...	Yorkshire	1 5	1 0¾
A_1	Wrexham ...	N.W. Counties	1 6	1 1½
A	Wycombe ...	S. Counties	1 5	1 0¾
B	YARMOUTH ...	E. Counties	1 4½	1 0½
B	Yeovil ...	S.W. Counties	1 4½	1 0½
A	York	Yorkshire	1 6½	1 2

* 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.

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	8
Carpenter	,,	1	8
Joiner	,,	1	8
Machinist	,,	1	8
Mason (Banker)	,,	1	8
,, (Fixer)	,,	1	9
Plumber	,,	1	8
Painter	,,	1	7
Paperhanger	,,	1	7
Glazier	,,	1	7
Slater	,,	1	8
Scaffolder	,,	1	4
Timberman	,,	1	4
Navvy	,,	1	3
General Labourer	,,	1	3
Lorryman	,,	1	5½
Crane Driver	,,	1	7
Watchman	per week	2	10

MATERIALS

EXCAVATOR AND CONCRETOR

		£	s.	d.
Grey Stone Lime	per ton	2	2	0
Blue Lias Lime	,,	1	18	6
Hydrated Lime	,,	3	0	9
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
¾" 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.	1	6	2	6
Bends	each	5	0	10	6
Inspection bends	,,	9	0	15	0
Single junctions	,,	8	9	18	0
Double junctions	,,	13	6	30	0
Lead Wool	lb.		6		—
Gaskin	,,		5		—

BRICKLAYER

		£	s.	d.
Fletton	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

The following d/d F.O.R. at Nine Elms :		s.	d.
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	lb.		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, ⅝"	Sq.		18	6
,, ¾"	,,	1	1	6
,, 1"	,,	1	2	0
,, 1¼"	,,	1	5	0
,, 1½"	,,	1	10	0
Deal matchings, ⅝"	,,		14	0
,, ¾"	,,		15	6
,, 1"	,,	1	4	0
Rough boarding, ¾"	,,		16	0
,, 1"	,,		18	0
,, 1½"	,,	1	6	0

Plywood, per ft. sup.

Thickness	¼"			½"			¾"			1"		
Qualities	A	B	BB	A	B	BB	A	B	BB	A	B	BB
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
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	2½	–	4	3½	–	5	4½	–
Gaboon Mahogany	4	3½	–	5	4½	–	7	6½	–	8	7	–
Figured Oak	6½	5	–	7½	5½	–	10	8	–	1/-	9	–

												d.
Scotch glue											lb.	8

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"	½"	1"	1¼"	2"
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"–23¾" 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	5/5	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	65	Galvanized gas	52½
Water	61½	,, water	47½
Steam	57½	,, steam	42½

	FITTINGS.		
Gas	57½	Galvanized gas	47½
Water	52½	,, water	42½
Steam	47½	,, steam	37½

		s.	d.
Rolled steel joists cut to length	cwt.	12	9
Mild steel reinforcing rods, ⅜"	,,	10	6
,, ,, ½"	,,	10	3
,, ,, ⅝"	,,	10	0

SMITH AND FOUNDER—*continued*

		s.	d.
Mild steel reinforcing rods, ¾"	cwt.	9	6
,, ,, ⅞"	,,	9	6
,, ,, 1"	,,	9	6
,, ,, 1¼"	,,	9	6
,, ,, 1½"	,,	9	6

		¾" s.	d.	4" 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.	26	3	
,, drawn pipes	,,	25	9	
,, soil pipe	,,	28	9	
,, scrap	,,	16	9	
Solder, plumbers'	lb.		9½	
,, fine do.	,,	1	0	
Copper, sheet	,,		8½	
,, tubes	,,		11	

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, 21 oz., squares n/e 2 ft. s.	F.S.				2½
,, ,, 26 oz. ,, ,,	,,				3
Flemish, Arctic, Figures (white)*	,,				7
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
⅛" rough cast; rolled plate	,,				5½
¼" wired cast; wired rolled	,,				9½
¼" Georgian wired cast	,,				11
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 ⅛" and ¼"	,,			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	8	6
Linseed oil	gall.		2	3
Boiled oil	,,		2	9
Turpentine	,,		4	1½
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 6	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.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

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
,, raising on old walls	,,	2 0 0
,, underpinning	,,	5 10 0½
Fair Face and pointing internally	F.S.	1¼
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
¾″ 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	,,	6 0 0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	,,	3 0 0
Do., all 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	,,	6 6
,, ,, trusses	,,	7 6
,, ,, partitions	,,	8 6
¾″ deal sawn boarding and fixing to joists	Sqr.	1 14 6
1″ ,, ,, ,, ,, ,,	,,	1 17 6
1½″ ,, ,, ,, ,, ,,	,,	2 3 0
¾″ × 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
1¼″ 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
1¼″ 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, 1¼″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ⅜″ 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.	16 6
Riveted plate or compound girders, and hoisting and fixing in position	,,	1 0 6
Do., stanchions with riveted caps and bases and do.	,,	19 0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete	,,	17 6
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 0 3
Do. in flashings	,,	2 3 9
Do. in covering to turrets	,,	2 9 3
Do. in soakers	,,	1 14 9
Labour to welted edge	F.R.	3½
Open copper nailing	,,	3
Close ,, ,,	,,	4

		½″ s. d.	¾″ s. d.	1″ s. d.	1¼″ s. d.	2″ s. d.	4″ s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	,,	—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	,,	6½	8	9	11	1 0	—
Boiler screws and unions	,,	3 3	3 9	5 0	8 0	—	—
Lead traps	,,	—	—	—	6 3	8 9	—
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 render on walls	,,	1 2½
Render, float 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	,,	1¼
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 0
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 0
Hanging ordinary paper from	,,	2

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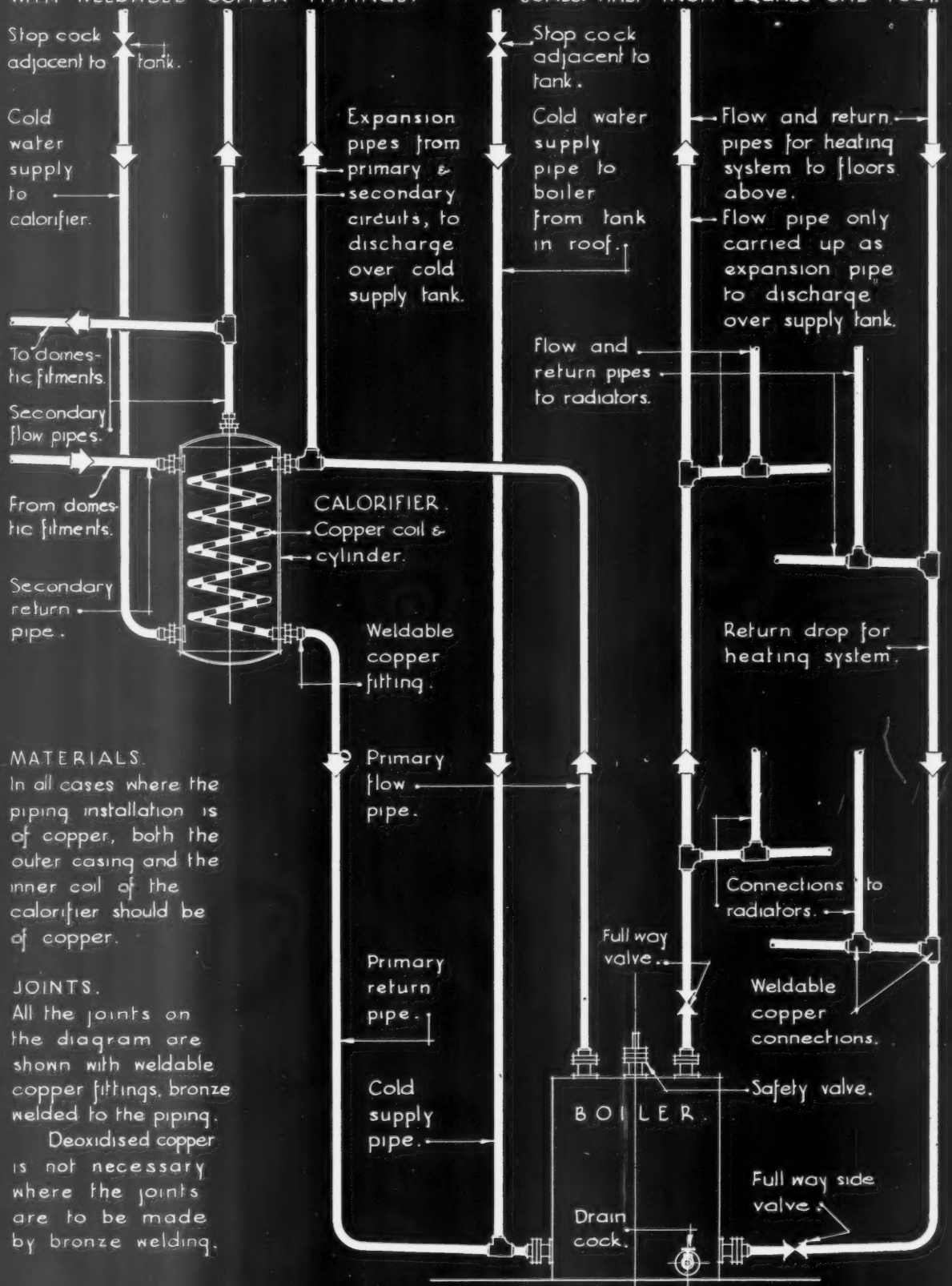
DIAGRAM OF HOT WATER SUPPLY AND HEATING SYSTEM IN COPPER PIPING WITH WELDABLE COPPER FITTINGS. SCALE: HALF INCH EQUALS ONE FOOT.



MATERIALS.
In all cases where the piping installation is of copper, both the outer casing and the inner coil of the calorifier should be of copper.

JOINTS.
All the joints on the diagram are shown with weldable copper fittings, bronze welded to the piping.

Deoxidised copper is not necessary where the joints are to be made by bronze welding.

Information from W. L. Kilburn, M.I.W.E., R.P.. Issued by The British Oxygen Co. Ltd..

INFORMATION SHEET : PLUMBING IN WELDED COPPER PIPING N°2.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Erica & Bayne.

INFORMATION SHEET • 418 • PLUMBING IN WELDED COPPER PIPE

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INFORMATION SHEET

• 418 •

PLUMBING IN WELDED COPPER PIPE

Subject : Hot Water and Heating Installations.

General :

Sheet No. 413 showed the application of welded joints in copper pipe to waste and supply services, and this shows their application to a heating and hot-water installation in an ordinary house.

The details of the various types of joint have been set out on previous sheets issued by the Company.

The Joints :

In the sheet all connections to the boiler are shown made with flanged weldable fittings, and all other joints made with the normal type of weldable fitting, bronze welded.

It should be noted that the system could, if desired, have all joints, and connections to tail pieces, bronze welded by the belled cup method.

Expansion :

Expansion and contraction must be given consideration in any such installation whatever the metal of the piping used.

In copper work, lengths of pipe only a few feet long with a change of direction at the end of the straight do not need any special provision for expansion.

All branches connecting pipe runs to fittings should, however, be arranged with a slight bend in the branch to allow for slight movement.

Expansion joints, loops or coils should be provided in all main horizontal pipe runs of exceptional length between fixed points.

Fixing of Pipes :

There are numerous devices and methods of fixing copper pipes, but two factors particularly should always be taken into account in selecting the method to be used.

(*a*) Free movement.

All fixing devices should permit a certain amount of movement in the direction of the length of the pipe.

Large main pipes are often fixed on roller brackets, but this is not necessary on the smaller diameter branch pipes. For these it is sufficient that the pipe should not be rigidly held ; the movement to be expected in the pipe will be small, perhaps almost imperceptible.

(*b*) Distance from the wall.

All pipes should be held at least 1 in. clear of the wall, floor or ceiling, to assist in retarding condensation and to allow space for welding round the back of the pipe.

Previous Sheets :

Sheets already published are :

No.	225	Details of joints.
	234	,, ,,
	243	,, ,,
	251	,, ,,
	259	Weldable fittings
	268	,, ,,
	321	,, ,,
	413	,, ,,

Issued by The British Oxygen Co., Ltd.
Address : Thames House, Millbank, S.W.1
Telephone : Victoria 9225.

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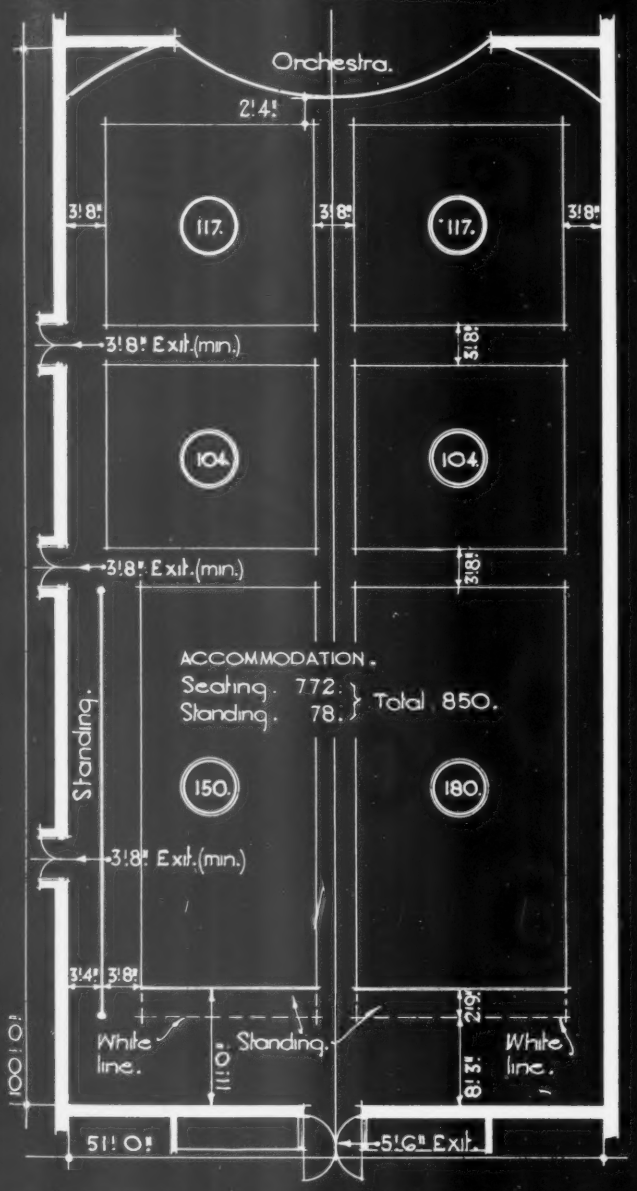
SEATING AND GANGWAY REQUIREMENTS AND RECOMMENDATIONS :

PLAN OF SEATING FOR A CLOSELY SEATED AUDIENCE IN A CLASS 'A' TYPE OF BUILDING :



REAR GANGWAY : 11'0" is shown of which 8'3" is required. 2'9" is used as standing room marked by a white line .
SIDE GANGWAY : 7'0" is available of which 3'8" is required. A railed off standing space 3'4" wide is provided, and has its own exit .

CLASS-A-BUILDINGS : Fire-resisting construction throughout.
CLASS-B-BUILDINGS : Ordinary construction, that is usually of brick or stone with wood joists, floors and roofs .
CLASS-C-BUILDINGS : Exterior walls of wood, however roofed & whether or not lined with fire-resistive materials . Buildings with raised ground floor on open supports leaving joists exposed. Buildings having thatched roofs. Tents or similar structures .

DIAGRAMS SHOWING WIDTH OF SEATWAYS FOR FIXED & TIP-UP SEATS :

FIXED SEATS : 10" min. between back of one seat and the foremost portion of the seat, arm or frame behind.
TIP-UP SEATS : 12" min, & as above but with seat raised .
In new buildings seatway should in no case be less than 12".

FIXING OF SEATS :

When premises are regularly used all seats should be securely fixed to the floor, and when not regularly used and accommodation exceeds 400, seats adjoining front, back, or cross gangways, and exits, should be securely fixed to the floor. Chairs if provided should be battened together in minimum lengths of 4, and maximum lengths of 12, wherever accommodation exceeds 200.
NOTE : The above seatway requirements & recommendations will not apply to boxes of 8 persons max. accommodation.

GANGWAYS :

Gangways should be placed so that the centre line of no seat shall be 12'0" maximum from a gangway, measured along the line of seating, or where the seatway exceeds 15" should be 15'0".

In new buildings gangways should be 3'8" min. width, & in existing buildings 3'4" min. width; except where front space is not used as a gangway, should be 2'4" wide, or where the gangway at rear of seating is dispensed with if all gangways lead direct to exitways of equal or greater width . In all other cases the rear gangway should be of a width equivalent to the total width of all gangways discharging into it, less one half of the total width of all exits leading from it, subject to the minimum widths of gangways for new and existing buildings .

DISTANCE TO EXITS FROM GANGWAYS :

Class 'A' Building, Construction :	70'0"	maximum.
Class 'B' " " :	60'0"	"
Class 'C' " " :	40'0"	"

STANDING IN AND OBSTRUCTION TO GANGWAYS :

Standing in a rear gangway should be permitted only within the floor space indicated by a white line, so positioned that the clear space behind may be kept clear as a gangway.

The standing room adjoining side gangways should be railed off and should have exits independent of all others .
NOTE : A railed off area in the back gangway would be an objection, as it might hinder free movement of those who in a later stage of clearing would probably fill the whole of this area .

Extract from the 'Manual of Safety Requirements in Theatres & other Places of Public Entertainment' (Home Office). 1934.

INFORMATION SHEET : PLANNING DATA : PLACES OF PUBLIC ENTERTAINMENT. 3.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

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INFORMATION SHEET

• 419 •

PLACES OF PUBLIC ENTERTAINMENT—III

Subject : Seating and Gangways.

The diagrams and notes given on this sheet are based upon recommendations issued by the Home Office and contained in the " Manual of Safety Requirements in Theatres and other places of Public Entertainment."

It should be understood that the Manual indicates the measures which experience has shown to be necessary to provide adequate safety under varying conditions. The minimum requirements given in the Manual and summarized here are recommendations only, and must be read in conjunction with the byelaws and regulations of the Local Authorities. The following explanatory extracts are quoted from the Manual :

The internal layout and furnishing should admit of a steady and uninterrupted flow of people to the street safely. Panic, involving loss of both courage and presence of mind, leading possibly to a struggle for the exit doors, is not likely to arise as long as the flow towards the exits is unchecked, but one person falling over an unsecured chair or tripping on an unexpected step may bring down others, and within a very short space of time there may be a mass of struggling humanity fighting to escape and blocking the exits.

Seating :

Not only does a single chair fall over much more readily than a number of chairs battened together, but a single chair can be easily pushed out of alignment and thus cause an obstruction in the passageway between seats.

In many older buildings with fixed seats only 10 ins. is allowed between the front of the seat and the back of the seat in front. It is suggested that in new buildings this dimension should never be less than 12 inches, and, where the use of temporary seating such as battened chairs allows spacing to be anything desired, it is strongly advised that at least 12 inches be allowed.

Fixing of Seats :

22.—(*a*) In any portion of the premises which is regularly used for a closely seated audience all seats shall be securely fixed to the floor.

(*b*) In premises not intended to be regularly so used—

(i) Chairs, if provided, shall be battened together in lengths of not less than four nor more than twelve chairs wherever more than 200 persons are to be accommodated ; and

(ii) where more than 400 persons are to be accommodated the chairs or seats adjoining front, back, or cross gangways, and chairs or seats adjoining exits, shall be securely fixed to the floor.

(*c*) Requirement 22 (*a*) and Condition 22 (*b*) shall not apply to boxes accommodating not more than eight persons.

23. There shall in all cases be an unobstructed seatway or space at least 10 ins. in depth in the case of fixed seats and 12 ins. in depth (measured with the seat raised) in the case of tip-up seats, measured between perpendiculars, between the back of one seat and the foremost portion of the seat, arm or frame behind. In new buildings the seatway shall in no case be less than 12 ins.

Gangways :

As there is a tendency on the part of audiences to move out of a building by the route by which they have entered, and as the entrance is usually from the rear of the seating, it is important that ample room for movement should be provided in the gangway in rear of the seating.

Distance from Seats to Gangways :

24. Gangways shall be provided intersecting the seating in such manner that the centre-line of a seat shall be more than 12 ft. from a gangway, measured along the line of seating, or, where the seatway measured as set out in Condition 23 exceeds 15 ins., 15 ft.

Width of Gangways :

25.—(*a*) Gangways shall have a width in new buildings of at least 44 ins. and in existing buildings of at least 40 ins., except as provided in Requirements 25 (*b*) and 25 (*c*).

(*b*) Where the space in front of the seating does not serve as a gangway it shall be of the width of at least 28 ins. ; where it does serve as a gangway it shall be of the width laid down in Requirement 25 (*a*).

(*c*) A gangway in rear of the seating may be dispensed with if all the gangways referred to in Requirement 24 lead direct to exitways of equal or greater width. In all other cases the rear gangway shall be of a width equivalent to the total width of all gangways discharging into it, less one half of the total width of all exits leading from it, subject to the minimum laid down in Requirement 25 (*a*).

Distance to Exits from Gangways :

The fixing of a limit of distance to be travelled from any part of a gangway to the nearest exit ensures that exits shall be reasonably well distributed in relation to the seating and the general layout of the building. In one case which came under review it was found that this regulation could be complied with by a rearrangement of the blocks of seats, an alteration which did not reduce the seating capacity of the building at all, but made things much safer for everyone.

26. The line of travel from any part of any gangway to the nearest exit from the auditorium shall not exceed 70 ft. in buildings of Class "A" construction, 60 ft. in buildings of Class " B " construction, and 40 ft. in buildings of Class " C " construction.

Standing In and Obstruction of Gangways :

Some of the larger cities prohibit standing entirely and there is much to be said for this policy. Standing is, however, allowed in many places, and there is no doubt that if the continuous performance which is common is rendered under conditions which are suggested below, the danger should not be great. Persons standing in areas adjoining side gangways will have their own exits and in moving thereto they will not clash in any way with others moving from the seating. Those in the back gangway will be fairly near the exits and should be clear before persons from the seated area begin to enter the back gangway in any numbers. The suggested white line on the floor indicating areas in which standing may be allowed so long as such area does not encroach on the required width of the back gangway, seems better than the usual practice of a notice stating how many persons are allowed to stand in a particular area, because an inspecting officer can see at once if the regulation is being complied with or not. A railed-off area in a back gangway would be open to objection, as it might hinder free movement of those who in a later stage of the clearing would probably fill the whole of this area.

Obstruction of Gangways :

27. No chairs, seats or other obstructions shall be placed or allowed to remain in any gangway.

28. Standing shall only be permitted—

(i) In a rear gangway, within a portion of the floor space indicated by a white line so positioned that a clear space of the width required by Requirement 25 (*c*) shall at all times be kept clear as a gangway ; and (ii) in an area adjoining a side gangway (i.e. a gangway at the side of the auditorium between which and the adjacent wall there is no seating), on the side thereof remote from the seating, such area being railed off from the gangway in such a way that a clear space of the width required by Requirement 25 (*a*), shall at all times be kept clear as a gangway. Exits shall be provided from this standing space to the outside of the building independent of and additional to exits from other parts of the auditorium.

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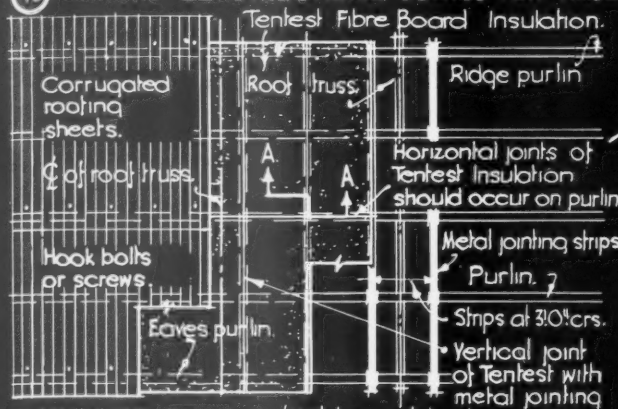
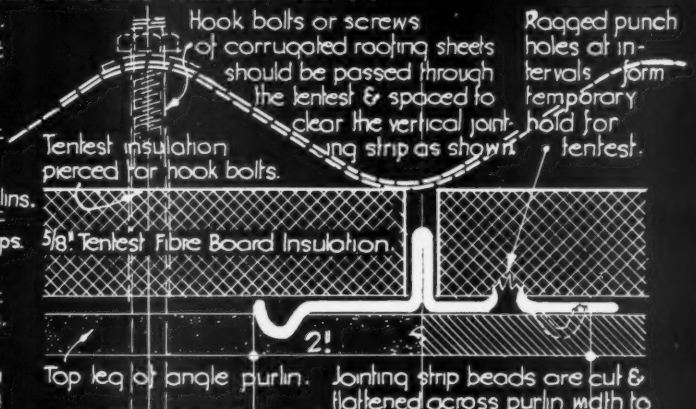
APPLICATION OF STANDARD TENTEST FIBRE BOARD INSULATION WITHOUT WOOD BATTENS :

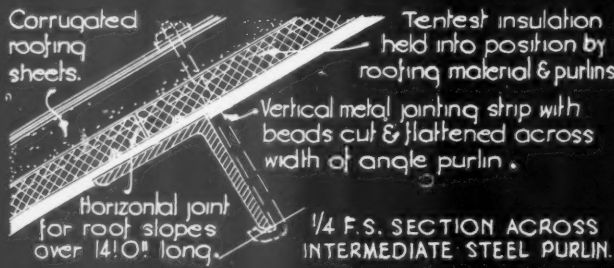
(A) TYPICAL CONSTRUCTIONAL DETAILS FOR TIMBER OR STEEL TRUSSED ROOFS .



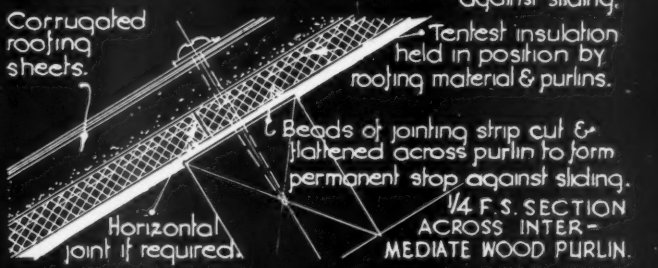
PLAN OF ROOF SLOPE. (Not to scale.)



FULL SIZE SECTION A-A



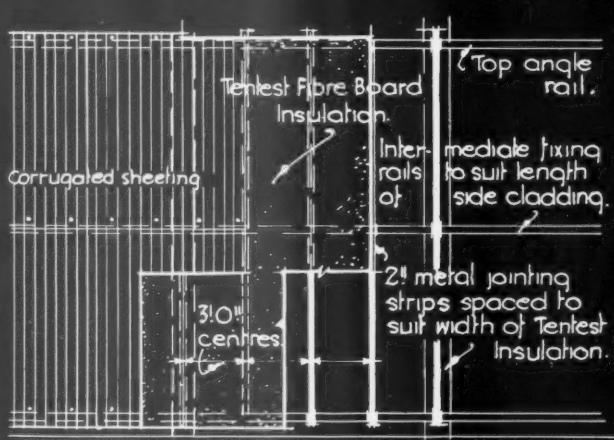
1/4 F.S. SECTION ACROSS INTERMEDIATE STEEL PURLIN.



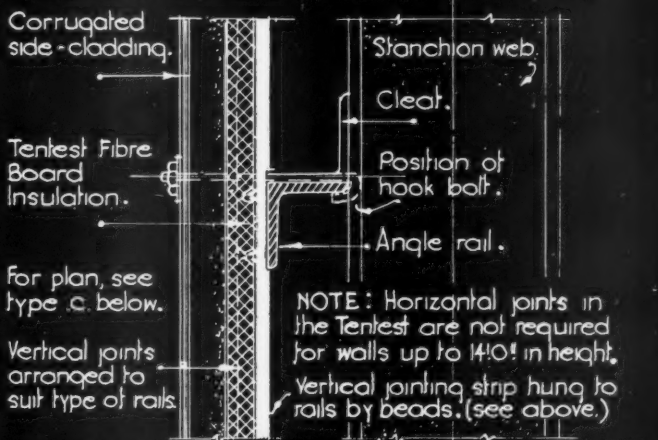
1/4 F.S. SECTION ACROSS INTERMEDIATE WOOD PURLIN.

(B) TYPICAL CONSTRUCTION FOR TIMBER OR STEEL FRAMED WALLS :

NOTE : In timber construction the nails & posts are arranged as shown below for steelwork .

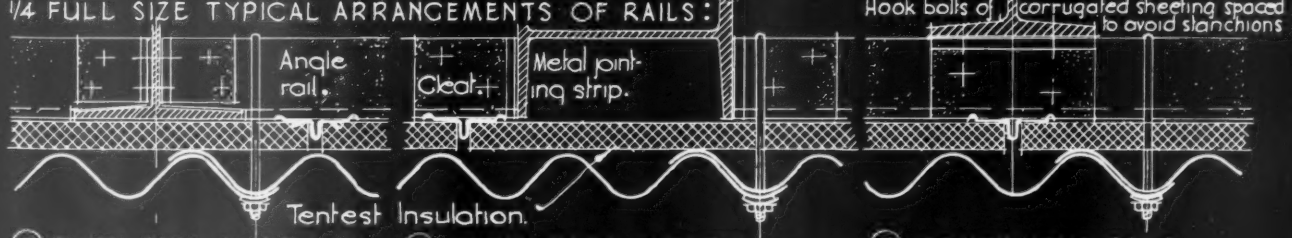


TYPICAL ELEVATION OF STEEL FRAMED WALL. (Not to scale.)



1/4 F.S. TYPICAL SECTION ACROSS FIXING RAIL. (Steel)

1/4 FULL SIZE TYPICAL ARRANGEMENTS OF RAILS :



(a) FLUSH RAILS CLEATED TO WEB OF STANCHION.

(b) FLUSH RAILS CLEATED TO FLANGES.

(c) CONTINUOUS RAILS CLEATED TO FLANGE .

Information from The Tentest Fibre Board Co. Ltd.

INFORMATION SHEET : THE TENTEST METAL JOINTING BATTEN :

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

• 420 •

TENTEST METAL COVER STRIP

Tentest insulation to steel frame buildings.

General:

The object of the metal cover strip is to provide a less costly method of insulating steel frame buildings and the like without battening, and at the same time give an internal and external finish in one operation.

The Tentest insulation is sandwiched between the purlins or rails, the outer roof or casing being held in position by the standard hook bolts fixing the casing, which pass through holes in the Tentest, as shown.

The cover strip is tee-shaped with cupped edges at the top of the T to prevent damage in handling. This cupping is flattened out to seat on top of each purlin and the square edge of the cupping forms a stop which prevents the cover strip from slipping during erection. When positioned, the cover strip provides the necessary additional support to complete the structure.

Method of erection:

The strip is laid from ridge to eaves with the tail of the T upwards and the flattened portions fitted over each purlin. A row of Tentest sheets is then laid with their long edges butting the tail of the T, care being taken that ends of each sheet lie along a purlin for support. Further metal cover strips are then fitted under the loose edges of the sheets and these form a first support for the next row of sheets. The Tentest is lightly tapped so that the sharp spikes in the cover strip prevent movement during completion of the fixing.

Roof or casing:

Before further sheets are laid, the outer casing is laid over the Tentest already positioned, and holes are then pierced to take the hook bolts, which can then be fixed in the usual manner.

Note:

At the beginning, care should be taken that the holes for the hook bolts come clear of the metal cover strip.

During periods when work is stopped the exposed insulation should be protected.

Comparative values of uninsulated and Tentest insulated roofs and walls :—

	Finish	Thermal Conductivity
Corrugated iron on studs or steel frame ...	None	1·50
" " " ...	$\frac{5}{8}$" Tentest	0·31
Corrugated Asbestos Cement	No Lining	1·40
" "	$\frac{3}{16}$" asbestos cement lining	0·59
" "	$\frac{5}{8}$" Tentest	0·31
Corrugated Protected Metal	No Lining	0·75
" "	$\frac{5}{8}$" Tentest	0·26

Further particulars on the value and savings by the use of insulation will be sent on request.

Manufacturers : The Tentest Fibre Board Co., Ltd.
Address : Astor House, Aldwych, W.C.2.
Telephone : Holborn 8018