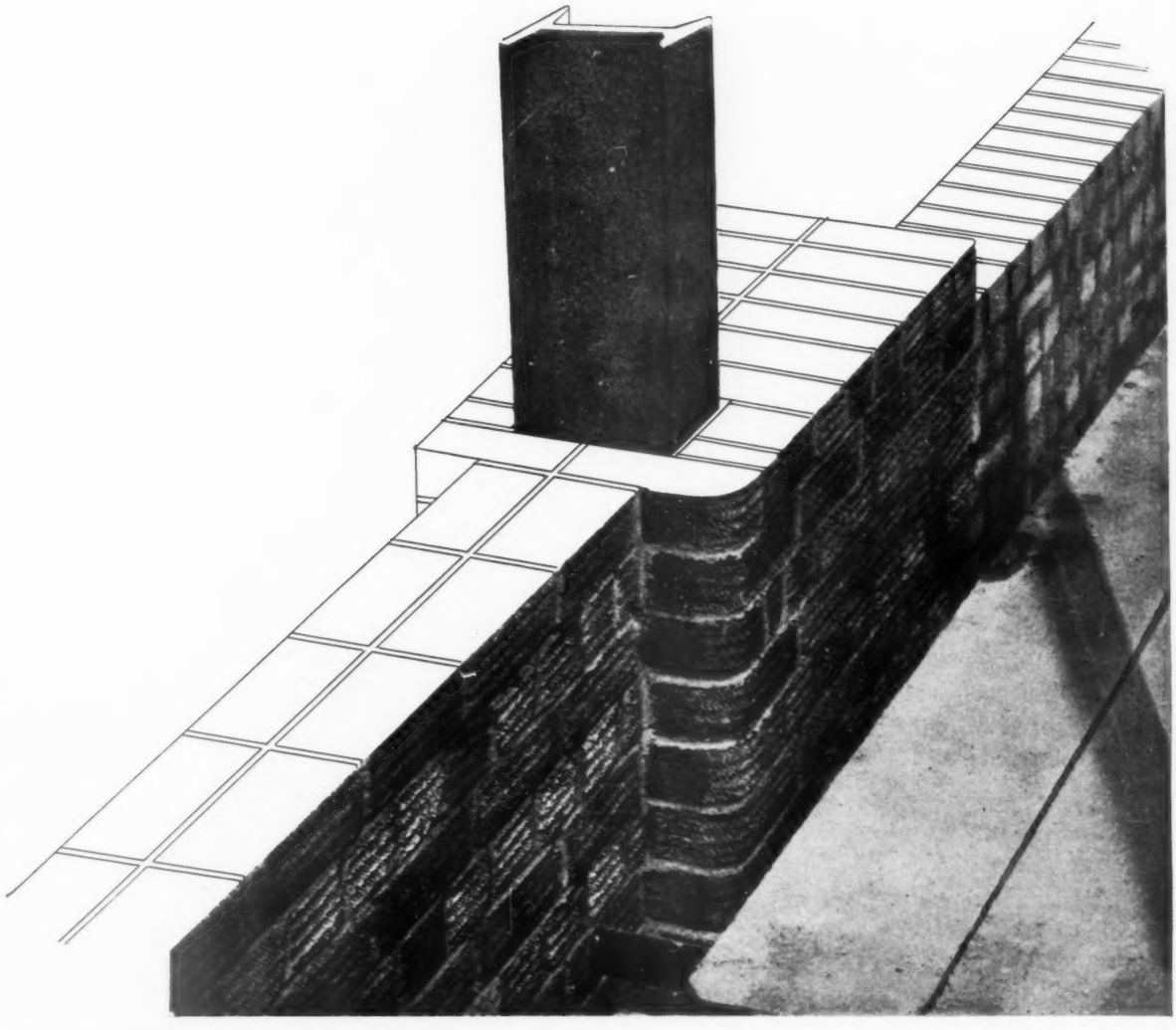

MODERN BUILDING means MODERN BRICKWORK

The big cinema organisations build economically but they build as an investment. They have a keen eye for values, but an equally watchful one for maintenance cost and ultimate life. This detail shows a piece of what has become practically standard cinema construction—a relatively light framé with solid brick walls and brick fire protection to the columns—and the bricks, both facings and commons, are Phorpres.

PHORPRES
(four lines pressed)

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

THURSDAY, SEPTEMBER 8, 1938 NUMBER 2277 : VOLUME 88

PRINCIPAL CONTENTS

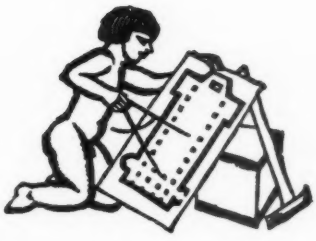
THE ERECTHEION CARYATIDS: 1

RESIDENTS of Highgate (and modern architectural pilgrims) have been surprised to see the casts of the Erectheion caryatid figures that now adorn the new Lubetkin and Tecton flats, adjoining the same architects' HIGHPOINT. *The figures (see overleaf) support the canopy over the main entrance, where verticals seemed called for that were differentiated from the columns supporting the whole weight of the building, and that at the same time provided a link between the geometry of the architecture and the natural forms of the garden. However, the use of classical figures must not be taken to mean that the architects favour a return to the use of period decoration. They may be considered as preliminary or trial pieces, as the figures are only temporary. They indicate the classical precedent and it is intended to replace them by modern work after a number of sculptors have produced designs for a modern solution to the same problem. The permanent figures will probably be chosen after an exhibition of various alternatives in model form.*

The original caryatids on the Erectheion were, of course, used in a similar manner, supporting the lightweight slab roof, and contrasting with the column treatment of the temple itself; further, they are an example of a sculptural unit standardized for mass production and therefore suitable for emulation today. A comparison may be made of Lubetkin and Tecton's use of caryatids at Highgate with that of the brothers Inwood on St. Pancras Church, shown above. In both cases the figures have been used with a comprehensive understanding of their decorative value, though the approach to that understanding has been by opposing routes. The caryatids are not, however, entirely similar. The aspirations of the Greek Revival demanded figures in a perfect reconstructed form; those at Highgate are cast from the mutilated specimen in the British Museum.

THE ERECTHEION CARYATIDS: 2

The caryatid casts used on the new Lubetkin and Tecton flats at Highgate; see note on the preceding page. When the photograph was taken the bases of the figures had not been completed.



THE BACKGROUND OF EDUCATION

THE space given in the Press to the discussions on education at the British Association meeting at Cambridge showed how widely educational processes are now being criticized and examined. The old simplicity of public and board school, technical training institution and university has gone. From the new nursery schools to Oxford educational institutions have become a battlefield for the established order, new theorists, the public and, where they are old enough, the students.

Only the broadest reason for the turmoil in the world of general education can be mentioned here. It is that education depends on educational systems, which tend to become conservative and, in time, to lag more and more behind the society they serve; until finally, with heart-burning and considerable confusion, reorganization is set in hand. Through such a confused reorganization education is now passing.

Apart from this general cause, the special difficulties of the present situation can only be understood more clearly by considering the primary intention of education and then applying it to a particular section of the educational system.

Education has been defined as the process by which a child is helped to prepare himself for adult life. In a perfect world each child might have his education specially designed for him; in this world, so far, this has proved usually impracticable. Instead, nearly all children are subjected to one or other of a few educational "systems," designed and run by experts.

When this end and these means are applied to the narrow field of architectural education, several dangers —some permanent, some of to-day—are at once obvious. The object of architectural education is technical training for a technique which is constantly changing in both smaller and wider aspects; the staff of a school for this purpose has no control over the general, and prior, education of their students—they must make the best of what they get; and the students, being adults, are strongly influenced by contemporary social and political developments, important or otherwise.

These factors—to-day, particularly, the last—always make the self-contained simplicity of a technical school far more apparent than real. It is easy, in theory, to establish a minimum "passing out" standard for a professional school, to divide progress towards this standard into five or ten stages, to collect staff, examiners and students and set the school going. It is not easy to keep it going.

Directly an architectural school is well established it becomes, most healthily, an object of attack. Professional methods change, technically and in attitude of mind, while the staff and system of any school at least tend to retain the outlook of a particular man or period. Students, always strongly influenced by the newest outlook (which may be better or worse) rarely think they are being well-trained. Practising architects never think young men are what they were; and since they cannot well blame the men they blame the schools.

Thus from the moment the first school is established there spreads out—through other schools, examiners, boards of education and prize juries—a constant tendency to go on doing what has been done; and this tendency is resisted by the profession as a whole rather by means of periodic measures of reform than continuous pressure.

At the moment the great question for architecture is whether the many discussions and experiments in education of the last year or so are caused by the need for, or the execution of, minor reforms; or by serious faults in the whole system of architectural education.

This is a question which must be looked at very broadly. One cannot, for example, dismiss social developments from the argument. Economic difficulties and political rivalries have unsettled everyone and all institutions, and it is ludicrous not to expect them to have unsettled very especially those between the ages of 17 and 23—when judgment may be hasty, but the passion for abstract justice is usually at its highest. The conflict of *Left* and *Right* has spread into absurd fields, and younger people here (normally, an invigorating *Left*) prefer self-imposed discipline and democratic decision. And they have only the fault of whole-heartedness if they do not see that, save where authority is tyrannical, democratic method wastes so much time that it is better saved for the really important.

Against this jumpy background, the student, the school and the profession are trying to get on terms with each other and three big developments which are increasingly affecting architecture and will continue to do so. These developments are the change of architect from individual and isolated artist to member of a group or public body working for private or public corporations; the transformation of construction from craftsmanship towards assembling factory-produced units; and the increasing public sympathy for large-scale undertakings in the fields of housing, trunk roads and territorial planning.

Next week the JOURNAL will attempt to review the effects which these developments have already had in architectural education and the problems which are still making the schools the centre of vigorous controversy.

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NOTES & TOPICS

RETRO ME, SATANE

THE Small House is to be the subject of the next R.I.B.A. Exhibition at Portland Place. And I have an unworthy feeling that this exciting event has been kept pretty quiet.

*

The only advance notices that have come my way have been in provincial papers ; no one I know has been asked if they have anything that they would like turned down by the selection committee.

*

Very well, let us turn nasty. Are the organizers going to have the COST, the final cost, appended to each scheme on show? If not, the Exhibition is not worth holding. If so, will the organizers please tell the lucky exhibitors that when they say cost, they mean cost.

*

Few architects can have escaped the experience of being confronted by a client with the cost of a job as published, and the extraordinary difficulty of hinting to that client that perhaps the architect concerned has just been a *tiny* bit unreliable in his figures. I am sure this form of rose-coloured recollection loses someone a lot of jobs in the long run.

THE OLD, OLD STORY

About a fortnight ago I found I wanted a junior assistant for a space of two or three months. Eighth-scale working drawings, and subsequent detailing, for two smallish new buildings was what needed doing—just the thing, one might think, to be reasonably interesting to an embryo architect of Intermediate standard, and aged 21-23.

*

Half a dozen candidates appeared, having experienced among them all the more obvious ways of becoming an architect which are available in Greater London. Two of them at least were both pleasant and intelligent, but the day and evening school drawings that they produced were —I measure my words—uniformly disgraceful.

Schools, as everyone should know by now, are intended to produce architects : they are not forcing-grounds for desirable junior assistants. And in teaching principles of a huge subject a neglect of some smaller practical details is unavoidable. But, in my view, the student must be given a stock, even if a small stock, of thoroughly understood practical knowledge before he can realize the conditions in which he will work.

*

This understanding of the simple details of building was precisely what my candidates had not got. Each had "working drawings" of a sort, usually half-inch plans, produced apparently under a master's supervision ; and at least five out of six of the drawings shouted the information that the draughtsman did not know in the least how a door surround was built up or what happens to a window head in section.

*

However many bigger and more essential things have to be taught to students, I am old-fashioned enough to hold that the drawings I saw should never have been allowed past the studio door.

HOW THE GOOD NEWS REACHED THE P.L.A.

There is one aspect of the progress of shipbuilding and competition which I am afraid has been rather ignored by our shipbuilders and owners, and that is the question of interior decoration and passenger accommodation. You may think this is a secondary consideration, but I am convinced that it is an important factor in the present popularity of foreign ships. Our attitude towards the interior decoration of ships has been on the whole deplorable. Our reputation has now been retrieved to some extent by the Orient Line in their two latest ships, the *Orion* and the *Orcades*, which are very fine examples of contemporary design and decoration ; they operate, like all Orient Line ships, from Tilbury. But these are still exceptions and the expert work of technicians is usually clothed by some furnishing firm in what the late Sir Lawrence Weaver called "the rag-bag of ancientry."

*

No, the quotation is not from an art critic who has no idea of what the public want. It is from an article in the Port of London Authority's *Journal* by Mr. Bassett—(Shades of my Youth) Lowke. What do you think of that?

*

The P.L.A. have not previously shown in their buildings any sympathy with contemporary design, but it is encouraging to read such a paragraph in a paper whose readers are closely concerned with ships and shipbuilding as a business.

*

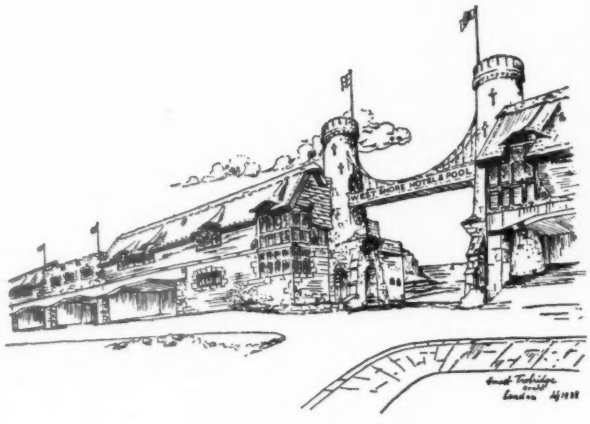
And, thinking of transport and design, I have received from Mr. Cyril Carter a letter drawing my attention to the new Southern Railway rolling stock.

*

I have travelled in their new coaches and agree with him that they are an immense improvement. Clean, bright colours and none of those nasty bulbous streamline shapes of which other railway companies are so fond—I really don't know why people bother to go first class in trains like these. The only added luxury seems to be a bit of marquetry and an antimacassar. Mr. Carter has only one criticism with which I entirely agree. In both classes the seats are soft enough, but in neither are they properly shaped for comfortable sleep.

*

It would be interesting to learn whether this excellent effort is due to the influence of the new Chairman of the



Southern, Mr. Holland Martin, who happens also to be President of the Architecture Club.

*

It would be nice anyway, as Mr. Carter says, to think so.

HOTEL

My illustration this week is of a proposed £200,000 hotel in North Wales for which extensive facilities for bomb-proof shelters are being considered, and which, I am informed, can be very easily converted into a modern base hospital.

*

NATIONAL THEATRE

Although the National Theatre site remains as bare as it was on the day in April when G. B. Shaw was handed the symbolic sod and twig, provisional plans are, I understand, almost complete. Before being adopted, they will be submitted to technical advisers for criticism, and the architects will be televised explaining a scale model.

*

According to a newspaper report, the architecture will be " English traditional style, probably concrete with stone facing, to avoid a contrast with neighbouring buildings." These, it will be remembered, are the striped red and white Victoria and Albert, the striped yellow and blue Natural History Museum, and the dun-coloured flank of the Geological Museum.

NINE BELLS AGAIN

Messrs. Dagliesh and Pullen want me to make it clear that they are not setting up as naval architects. Or, in other words, that as the designers of Marine Court, St. Leonard's, they were not responsible for any subsequent supermarine effects of the kind that I illustrated last week.

*

" s.s. Marine Court " is a publicity idea for brochures, menus and whatnot. If you catch the boat-train down to St. Leonard's you won't find any funnels on top of the building. Now is that all straight ?

OAK AND LEAD

I said last week that I did not know why workmen should wear gas masks while repairing a lead-covered oak roof. I am now better informed.

*

Mr. J. B. Johnston, of the Building Centre, tells me that lead in contact with damp oak under suitable conditions is changed into carbonate of lead (white lead), which in powder form gets into the air. Messrs. Spackman and Son, of Bath, say much the same thing :—

*

We have had considerable experience of this matter, the explanation of which is that oak contains tannic acid, and, where the lead roofing is laid direct on the oak boarding, the acid acts upon the oak, and converts it into a white powder known to plumbers as " sugar of lead " on account of its sweetness. When workmen are relaying such roofs, or doing work in the roofs which causes vibration of the roof boarding, this white powder is disturbed and floats about in the air, causing the workmen constantly to lick their lips, and causing lead poisoning. We have frequently been told by workmen doing this sort of work that they have to take " a dose of jollop " when they get home, to pass off the effects of the lead they have swallowed.

*

We have seen lead roofing that, when held up to the light, looked like a piece of fretwork, so badly had it been eaten away.

*

I am very grateful. Although, like the child that will keep asking *why*, I now want to know what " jollop " is.

HIP BATHE

I have been hearing, from someone who should know, that the best people are now having their baths made to measure. The latest scheme is to have this hitherto rather straight-laced appurtenance built at an angle in order to give more shoulder-play.

*

Alternatively, I suppose, if it is not shoulder-play that is wanted, you can have baths made bottle-shaped . . .

TARIFF COME-BACK

Current agitation about the dumping (or should one say subsidized export ?) of small cars into this country reminds me of the old story about a Continental firm which was caught with heavy stocks and was delivering thousands of feet of glass in London at less than the cost of packing and freight.

*

Or at any rate they did, until some bright City gentlemen bought all available supplies, sent it straight back to the country of origin without even unloading it, paid the import duty, and then undersold the manufacturer in his own country with his own product.

*

Improbable perhaps, but it might possibly be done. And if it is not true, it ought to be.

FOILED

The sad news that M. le Corbusier had been cut about by a motor boat when swimming in the sea was only noticed by one British daily—and the real excitement was obviously that the accident " was witnessed by many English visitors."

*

Everyone will be glad to know that the master is making a good recovery. Having said that, all that remains is to pay humble tribute to the cross-heading under which the *Architect and Building News* announced the accident. It was : " The Machine Turns Nasty."

*

I would like to have thought of that.

ARCHITECTURE COMES TO THE DAILY MIRROR

(*From " Our Live Letterbox "*)

Mr. T. K. L., of Leatherhead, writes :—Who designed the Epsom fire station? That's got you chaps!

Answer : Pite, Son and Fairweather. Now retract.

*

Useful book, the " New Sights of London " ?

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

THE ARCHITECTS' DIARY

Thursday, September 8

LONDON SOCIETY. *Visit to Cement Marketing Company's Works, Greenhithe. Depart from Portland House, Tothill Street, Westminster, 1.30 p.m. Return to Westminster, 7.15 p.m.*

Saturday, September 10

BUILDING SURVEYORS' ASSOCIATION. *Quarterly General Meeting. At the R.I.B.A., 66 Portland Place, W.1. 2.15 p.m.*

Friday, September 16

BUILDING EXHIBITION. *At Olympia. To be opened by Sir Philip Sassoon at 4 p.m. Until October 1.*

Thursday, September 22

INSTITUTE OF HOUSING. *At Norwich. Sixth Annual General Meeting and Conference. Until September 24.*

Friday, September 23

BUILDING EXHIBITION. *Olympia. Ball in aid of the Architects' Benevolent Society. 7.30 p.m.*

Friday, September 30

ARCHITECTS' REGISTRATION COUNCIL. *At 68 Portland Place, W.1. 26th Ordinary Meeting.*

DUNBRIK FIREPLACE COMPETITION

Following are extracts from the report of the assessors (Messrs. Howard Robertson, G. A. Jellicoe and Brian O'Rorke) of the Dunbrik Fireplace competition: Thirty-eight competitors submitted designs and, generally speaking, these were of high quality. Most of the designs can be considered as practical in execution, but many competitors have failed to grasp the possibilities of using the plasticity of the Dunbrik methods of production as compared with the ordinary clay brickwork. In making the award, the assessors had in mind good design, adaptability to present day requirements, and suitability to Dunbrik processes, not forgetting the stipulation of the conditions in respect of initial economy and simplicity of delivery and erection. The assessors remark the absence of traditional design, but regret the submission of several schemes which could more appropriately be executed in some such material as faience. The standard of presentation and draughtsmanship reaches a satisfactory level. The award is as follows :—

First Premium £50—No. 38.—Messrs. E. W. Edwards and F. Winward, A.R.I.B.A., Civic Centre, Southampton.

Second Premium £25—No. 26.—Mrs. A. M. Osborne, Interior Decorator, 11 Lansdowne Terrace, London, W.C.1.

Third Premium £10—No. 1.—Mr. H. E. Burton, Student, R.I.B.A., 211 Galton Road, Warley Woods, Smethwick.

Honourable Mentions :—

No. 13.—Mr. F. W. Griffiths, A.R.I.B.A., 1 Woodlands Drive, Glasgow, C.4.

No. 27.—Messrs. P. J. Westwood and Son, 14 Buckingham Street, Adelphi, London, W.C.2.

No. 34.—Mr. J. P. Kenna, 3 Troy Road, Upper Norwood, London, S.E.19.

In respect of the premiated designs, the assessors make the following comments : No. 38 shows imagination and character in each problem. The designs exploit the possibilities of Dunbrik, but the author might have gone still further in this regard, *e.g.*, in Design No. 2. Design No. 4 might prove impracticable as a continuation fireplace and dressing table, but might be considered as having possibilities as a fireplace combined with a full length mirror and glass shelf. Design No. 5 is a non-traditional design having adaptability to many situations. No. 26 : Less imaginative in conception than the winner, and not all the designs were uniformly successful. Designs Nos. 3, 4 and 5 have character, and No. 2 also, although this design requires further study. No. 1 has not fully exploited the character of Dunbrik, and the designs would be almost equally appropriate in ordinary brickwork. The success of these designs would largely depend on the appropriate choice of Dunbrik colours.

Progress photograph of the new Carshalton Hospital, Surrey. The architects are Saxon, Snell and Phillips.

RURAL HOUSING EXHIBITS

Designs entered for the competition organized by the Timber Development Association for cottages for agricultural workers, the results of which were announced recently, are to be exhibited at the Building Centre, New Bond Street, W.1, from September 20 until October 15. This exhibition will almost coincide with the Building Exhibition, Olympia, in which there is also to be an exhibit, organized by the Housing Centre, dealing with rural housing. A slum cottage which, at the time of going to press is still occupied, is to be demolished and transported to Olympia to be shown in contrast with a modern timber cottage with accommodation as approved by the Ministry of Health.

AID FOR THE A.B.S.—TOMBOLA AT OLYMPIA

Among the efforts which are being made to help the funds of the Architects' Benevolent Society, Mr. H. G. Montgomery is holding a Tombola at Olympia during the Building Exhibition, from September 16 to October 1.

An appeal is made to assist this scheme by contributing gifts, such as etchings, drawings, sketches, and paintings (framed) ; pieces of old china, glass or ivory, and general *objets d'art*. *Not* photographs. The more valuable the gift, the greater will be the number of tickets sold. These will be priced at one guinea each, every purchaser being guaranteed a prize.

All who can help are asked to send their gifts, (giving, if possible, an approximate idea of their value), to the Secretary, A.B.S., 66 Portland Place, London, W.1, *not later than September 10.*

No charges of any kind will be deducted, Mr. Montgomery having kindly undertaken to defray all expenses.

All enquiries relating to the Tombola should be made to the Secretary, A.B.S., 66 Portland Place, London, W.1. (Welbeck 5721.)

OBITUARY

The death has occurred at his home at Huddersfield, of Mr. Douglas Hall, head of the firm of Messrs. J. H. Hall and Son, architects, Exchange Buildings, Market Street, Huddersfield, which was founded by his father. Mr. Hall specialised in housing, and had done much work for the Baildon and also the Kirkheaton Urban District Councils, amongst other public bodies. For some years he was a teacher of building construction at Brighouse Technical College. He was fifty-eight.

PROFESSIONAL ANNOUNCEMENT

Mr. Austen St. Barbe Harrison, F.R.I.B.A., M.T.P.I., Mr. T. S. Barnes, A.R.I.B.A., A.A. DIP., and Mr. R. P. S. Hubbard, B.ARCH., A.R.I.B.A., have entered into partnership, and will practise in the name

of Harrison, Barnes and Hubbard, at 3 Southampton Street, London, W.C.1. Telephone Holborn 7922.

SMALL HOUSE COMPETITION

An exhibition of designs submitted for the competition for 20 houses on the Kingston By-pass road, promoted by Messrs. Wates, Ltd., is being held at the firm's head office, 1258–60 London Road, Norbury, S.W.16, until Saturday, September 10, and is open to the public between 9.30 a.m. and 12 noon and between 2 p.m. and 5.30 p.m., except on the Saturday, when the exhibition will be closed at noon.

DESIGN IN THE MODERN HOME

Until September 21, an exhibition of the work of students in London Polytechnics, Technical and Trade Schools is on show in the booking hall of Charing Cross Underground Station, by courtesy of the London Passenger Transport Board.

The exhibition is being staged by the London County Council to show what is being done to train its students in modern home-making, and the exhibits, all of which have been actually made or produced by London students, illustrate this training in such varied arts and crafts as masonry, bricklaying, plasterwork, plumbing, electrical installation, painting and decoration, joinery, cabinet making, upholstery, metalwork, bookbinding, fabrics, pictures, leatherwork, pottery, plastic products and toymaking.

The exhibition is open to the public each weekday from 10 a.m. to 8 p.m. Admission is free.

G.W.R. GESTURE

In readiness for the autumn and winter evenings, the Great Western Railway have 21 sets of lantern slides available for loan, free of charge, to clubs, literary societies, schools, etc. The sets contain material for a lecture lasting an hour or more and cover the territory served by the Great Western Railway. There are slides dealing with Devon, Cornwall, Somerset, the Channel Islands, North and South Wales and the Cambrian Coast, the Wye Valley, the Shakespeare Country, the Malvern Hills and the Cotswold Country, Oxford and the Thames Valley.

A new set, "Bath," has just been added to the series, and deals not only with the beauties of the city, but also with some of the varieties of spa treatment available there. Lecture notes accompany each set of slides, which are sent carriage free. Applications for sets required should be addressed to the Superintendent of the Line, Paddington Station, London, W.2, at least a fortnight before the slides are required.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

THE ANNUAL REPORT OF THE FOREST PRODUCTS RESEARCH BOARD

The revolutionary introduction of new materials in recent years has altered the whole outlook of the timber industry. Wood has, so to speak, been put "on its mettle." New uses have to be found for it and, by more careful selection and by proper treatment, it has had to be made to fulfil its former duties more effectively. A complete understanding of its nature and behaviour is necessary before it can be used to the best advantage.

It was for this purpose that the Forest Products Research Laboratory was founded at Princes Risborough by the Department of Scientific and Industrial Research. The immense usefulness to industry of the laboratory, a usefulness which increases yearly, is brought out in the Report of the Forest Products Research Board for the year 1937, which has been issued by the Department of Scientific and Industrial Research. (H.M. Stationery Office ; price 2s. net.)

The memorial bust recently unveiled in Crathie Church to the late King George V. The sculptor was Sir William Reid Dick, R.A., the setting being designed by A. Marshall Mackenzie and Son.

No fewer than 522 enquiries on seasoning and bending problems alone were dealt with during the course of the year, of which nearly 90 per cent. were from trade sources asking for advice and assistance on the equipment for drying timber and the methods employed. The experiments, which were carried out as a result of these enquiries, show a wide variety and included those on the behaviour of aircraft panels subjected to changing atmospheric conditions, built-up table legs under varying room conditions, the moisture content of special plywoods and laminated boards which are now being used in rapidly increasing quantities, and the relative behaviour of various timbers for use in motor car construction.

An interesting case submitted to the Laboratory concerned broken timber from the hatch cover of a foundered ship, the purpose of the tests being to investigate the strength of the timber and the adequacy of the design.

There has been a marked increase in the number of enquiries on the subject of charcoal and charcoal manufacture involving a study of the technique of making charcoal and of the new portable steel retorts. A number of enquiries also related to the use of wood and charcoal as a fuel for gasozenes, the name given to lorries and motor cars designed to run on the gas produced from solid fuel. Such vehicles carry their own producer plant, as it is called, and the possibility of using wood or charcoal in the producer is being carefully considered.

Such inquiries, and the experiments which their answers entail, are over and above the normal research work which is carried out by a staff of 139, including engineers, physicists, chemists, biologists, entomologists, etc.

The Report provides an account by the Director of Research, Mr. W. A. Robertson, of the research work in progress or completed during the year.

Reference is made to the success of the summer school held at the Laboratory, now an annual event, which is attended by architects, surveyors, and others engaged in the timber trade and in industries using timber. The school has proved so popular that last year it was necessary, on account of limitations of accommodation, to refuse 25 per cent. of the applications received.

The Laboratory is in close touch with the various countries which comprise the British Empire, most of which export timber in large quantities to the Home Country ; forest officers from these countries attend for individual courses of instruction and a close contact is maintained with the Dominions and Colonies.

Over 200 new species have been added to the collection of timbers, bringing the total number of different timbers to 4,065. The recent acquisitions have come principally from the Federated Malay States, Tanganyika Territory, British East Africa and the Cameroons.

In addition to a general survey of the current research, the report, in its 83 pages, gives an amount of valuable technical data. The following is a brief summary of some of the subjects dealt with.

Seasoning of timber

The amount of moisture in timber, the method of controlling this and of measuring it accounted for a considerable amount of the research carried out. Special attention to seasoning is necessary for timber which is to be used for interior woodwork in centrally-heated buildings, and it is a well known fact that house joinery is considerably affected by the shrinkage of joists and other woodwork, all of which must be correctly seasoned to give satisfactory results.

In co-operation with H.M. Office of Works, an investigation was carried out to discover the moisture content conditions in the new Sheriff Court at Edinburgh and, at the request of the National Gallery authorities, tests were made to ascertain the average moisture content condition of timber in the Gallery and the seasonal variations which occur during the year. It was found that the average amount of moisture was 11½ per cent. and that it fluctuated within the limits of 2 per cent. either way. In view of the particular functions of this building, these figures are of considerable interest. The investigation indicates the desirability of carrying out further work in other buildings of a similar character.

The fundamental research work on seasoning requires to be read, as it can be in the report, to be appreciated and for the results to be understood and applied. One or two points, of more general interest, may be mentioned. For example, it has been known for some time that timbers such as oak and beech can be darkened by steaming at 212° F. As it is not always practicable to employ so high a temperature, experiments have been conducted to discover the effect of steaming at lower temperatures.

The results with beech have proved very satisfactory, steaming at 176° F. producing the same effect in 48 hours as it does in 24 hours at 212° F. The report adds that: "For oak the additional time required is so great as to make the process uneconomical and this wood should therefore be steamed at 212° F. to give the desired result."

A method of testing the moisture-resisting qualities of paints on wood has been developed and consists of exposing pairs of matched panels of beech to standard humidity changes. One of the panels is painted and the other is left uncoated, and the efficiency of the coating is assessed by comparing the moisture content changes in the treated and untreated panels. With gloss oil paint, the efficiencies for 7, 14 and 28 day periods were found to be 85, 75 and 60 per cent. with one coat and 95, 92 and 86 per cent. with two applications. Other kinds of paint were also tested.

The Laboratory has developed an improved type of seasoning kiln which should be of great benefit to the industry. The question of the materials which could be suitably employed had an important bearing on the design. It was found, for example, according to the report, that bituminous paints are excellent for the brickwork and for much of the metal work, but that it flakes rapidly when applied to the heating pipes. For the latter purpose, the greatest success has been obtained by using an undercoat of aluminium paint and following this with a paraffin-soluble anti-rust composition.

Preserving Railway Sleepers

An examination of the 4,400 railway sleepers laid in the tracks of the four main railway companies in 1935 was carried out during the year under view. As would be expected, no decay was present in any of the sleepers and the examination was mainly confined to an observation of the extent of splitting. The amount of splitting varied very considerably but, although hot sunshine has a considerable influence, there was no significant difference between the splitting of timbers laid in a cutting and those on an embankment. The report states: "Splitting was less pronounced in sleepers laid with the heart face up than in those with the heart face down, and a pronounced reduction of the defect was produced by incising." By means of incising, the splitting in Baltic redwood can be reduced from 17 to 1 per cent., and in home-grown Douglas fir from 9 to 1 per cent. It would also appear that the home-grown timbers, both Scots pine and Douglas fir, owing to their more knotty character, are less prone to splitting than the Baltic redwood. The incised Douglas fir sleepers were in particularly good condition.

Egg-box Testing

A special machine, designed to imitate the rough usage to which packages are subjected in transport, has provided a wealth of information for those who send large quantities of merchandise by road or by rail. The machine, rather like a large drum in which the packages are thrown about, has proved to be so useful that the Laboratory has undertaken the testing of containers other than those made of wood. Comparisons with observations made under service conditions show that the handling by the machine is even more severe than would be experienced in practice.

A prolonged and valuable series of experiments resulted in a new form of container for eggs, which has now been adopted by the Ministry of Agriculture and Fisheries for the transport of National Mark eggs. In the laboratory tests, the number of damaged eggs was reduced by 75 per cent. Tests with the new containers on rail journeys from London to Penzance, Manchester and Birmingham and by road from London to Penzance and Southampton showed on the average a reduction of approximately 60 per cent. in the number of casualties.

The whole investigation involved the testing of approximately 900 boxes and the examination of more than 200,000 eggs, of which about 6,000 were broken during the tests.

The improvement in the design of the container has been entirely in the form of the interior fillers, and provided that these are supported so as to resist breakdown and provided also that the clearance between the fillers and the walls of the containers is reduced to a minimum so that the fillers cannot shift in the container, the eggs are amply protected independently of the outer container which is required to function only as a taut skin holding the fillers together.

Woodworking and Bending

The manipulation of wood and the tools required for shaping it have been given a good deal of attention and the results, given in the report, should be of use to joiners and others. During the research on the bending properties of wood some 40 different species of Empire-grown timbers were tested and of these only a very few possessed reasonably good bending properties and none was as good as some of the home-grown species such as beech and ash.

From full-scale bending tests on home-grown ash it appears that fast grown, comparatively light material of about five annual rings per inch, taken from the butt end of a tree, was in general the most suitable for bending. A moderately high temperature drying treatment was found to be detrimental in that it both discoloured the wood and impaired its general bending properties, rendering it more difficult to bend and more prone to fail in compression. Trees grown on badly drained soil had bending qualities inferior to those grown on well-drained soil. The report points out that it is not generally realized that most woods can be bent across the grain as readily as, and in most cases even more readily than, along the grain.

Death-watch Beetle and Incense in Churches.

For some time now a war has been waged on the death-watch beetle and the other insects injurious to wood. During the year under review much valuable new information has come to light. An investigation into the reputed freedom from attack by the death-watch beetle of churches using incense does nothing to confirm the belief.

The laboratory tests consisted of exposing the beetles in a closed vessel to fumes of far greater concentration than would be encountered in practice; the beetles were not killed nor were they prevented from laying eggs. On the other hand, eggs submitted to such treatment did not hatch and, of those laid on samples previously exposed to incense fumes, the percentage hatching was less than of those laid on untreated wood. The report goes on to say: "Although very high concentrations may therefore have an effect upon the eggs of the death-watch beetle, it is most unlikely that incense as used in churches is of practical importance in preventing damage by this insect. It is much more probable that the reputed freedom from death-watch beetle attacks of churches which use incense is correlated with the kinds of timber present, their age, and condition with reference to the presence of fungal decay." The biological, entomological and chemical studies in connection with this beetle, commenced some years ago, are being vigorously pursued with a view to determining the part played by fungal decay and the moisture content of the timber. The results have an important bearing on the occurrence of the beetle in buildings and offer a partial explanation of the cessation of attack in structural timbers before their complete disintegration has been brought about by the feeding of the larvæ.

Another insect to which considerable attention has been given is the Lyctus powder-post beetle. The main line of research here has been to investigate methods by which the timber can be depleted of its starch and thereby render it immune from attack.

Work on wood-destroying and staining fungi, and in particular dry-rot, has brought out much valuable new information, and it is of interest to note that use has been made of the cinematograph camera in these and other researches.

Light reflection from wood

Much of the work of the Forest Products Research Laboratory is of interest only to the expert, the timber grower or dealer, the architect, and the builder, although there is a little here and there which concerns the layman directly.

The increasing use of wood as a decoration for the walls of rooms lends interest to the study of the reflection of light from wood surfaces. The correct placing of the wood in relation to the direction of the illumination is essential if the best results are to be obtained.

When a hand plane is used to smooth wood, it exposes not only the surface left by the track of the plane-iron, but also the backs of those wood cells which have been cut open. These cells act like concave mirrors and will reflect the light quite differently from the rest of the surface.

The decorative value of wood panels depends partly on colour, partly on "finish," and partly on the "figure" of the grain. The prominent figure on oak, for example, which appears on the radially cut surface, is due to the presence of ray cells which lie at right angles to the general direction of the grain.

It is interesting to note that in a panelled room the grain of the panels is usually vertical, which is the orientation giving maximum general illumination in a room lit by windows in the walls. If the grain were horizontal or if the illumination came from the ceiling, the walls would appear darker except at particular points. When a transparent polish is used to fill the grain, the reflected light becomes more concentrated in one direction, and for other angles of view the wood appears darker in tone even when illuminated across the grain.

Plywoods and veneers

Great strides have been made in recent years in the more economical use of wood products, including compressed and impregnated woods, and combinations of wood veneers with metal, asbestos, fabric, and bakelite.

The Forest Products Research Laboratory has been surveying the subject and contacts have been made with the firms interested in their manufacture and use in order to determine the problems encountered and the research necessary for their solution.

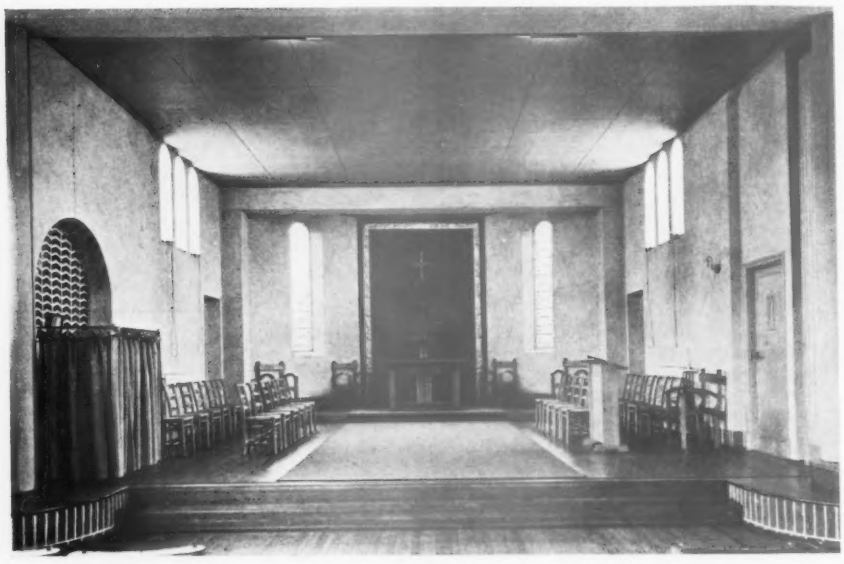
FREE CHURCH, PERIVALE PARK

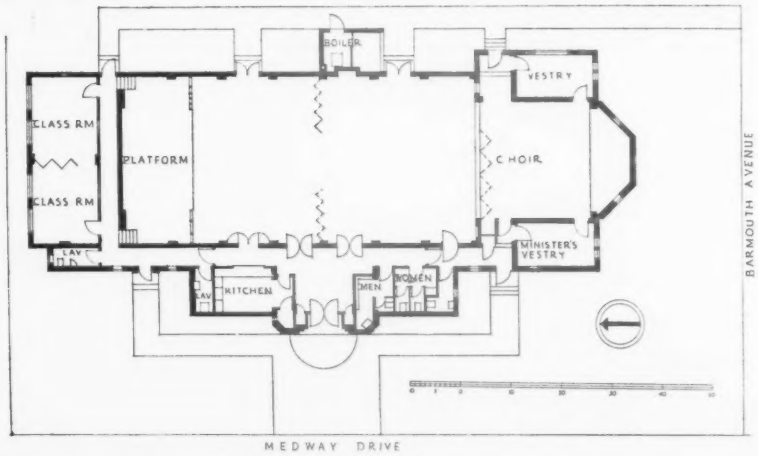
DESIGNED BY JOHN P. BLAKE

GENERAL—*The building is required to serve the purposes of a church (both of a minimum size, and opened up to the maximum capacity), a Sunday school, social hall and private day school. Accommodation was required approximately as follows: As a small church, for 60 persons; as an enlarged church, 300; as a social hall, for 250; Sunday school, 400; junior day school, 70.*

Above, a general view of the church, showing the west entrance front. Right, a detail of the west entrance.

FREE CHURCH, PERIVALE PARK:





PLAN

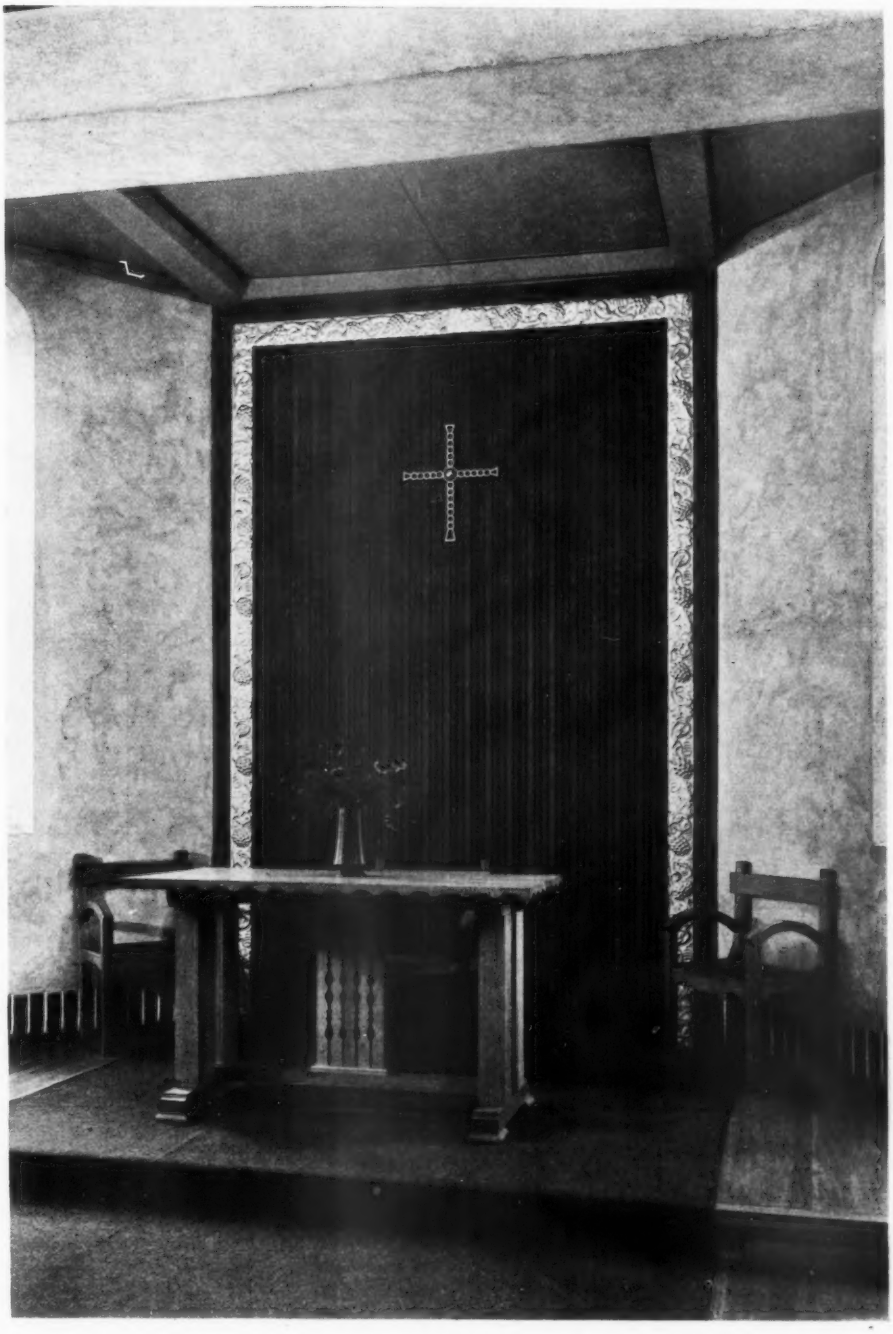
PLAN—*The plan embodies no special features with the exception of the folding partitions cutting off the choir and dividing in two the main body of the church.*

EXTERNAL FINISHES—*Multi-coloured rustic facings with a reconstructed stone gable and parapet copings. The pitched roof to the main body of the building is covered in broken-colour pantiles, that to the west entrance tower being surfaced in copper.*

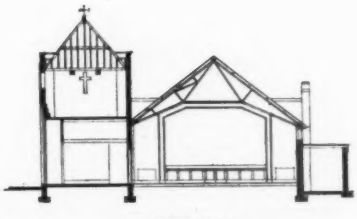
INTERNAL FINISHES — *Internally, walls are plastered and left with a natural finish. The ceilings are covered with a patent board, distempered blue and finishing at the wall line with a gilded slip.*

Above, a view from the platform end looking towards the altar. Ceiling-high folding partitions may be drawn across at the steps, forming a small church in the choir to hold 60 persons. Left, a view from the choir looking towards the platform.

DESIGNED BY JOHN P. BLAKE



Above, a detail view of the communion table. Surrounded by natural finish plaster to the walls, the communion table is backed by a single panel design in linenfold, enclosed in a floral plaster border. The linenfold panel is finished in a dark blue, the border being in silver. The contractors were Melsom and Rosier. For list of sub-contractors see page 412.



SECTION

RESEARCH LABORATORIES, OHIO:

GENERAL — *Since the American Rolling Mill Co. is much interested in the development of sheet steel for building purposes it is only natural that their research laboratories should make free use of this material. Although porcelain enamelled sheet steel has been widely used in America for shop fronts and small single storey buildings such as petrol stations and bungalows, this laboratory is, so far as is known, the first job of any size where it has been used with such wholeheartedness.*

PLAN—*Apart from the offices, which occupy two outside walls of the building, the main problem here was to provide adequate lighting for a series of freely-planned research laboratories, test rooms for all purposes, storage, and a certain amount of processing work involving the use of light machinery. A column spacing of 30 ft. gives the necessary freedom and the north lights do not throw any shadows as they are supported by bent and shop-welded beams which make it unnecessary to employ exposed trusses.*

CONSTRUCTION—*The building has a welded steel frame with straightforward reinforced concrete foundations and the main interest lies in the structure and finishes of the panel walls, which are faced externally with enamelled sheet steel and internally with similar sheets faced with plywood. On a line level with the window cills, horizontal hot-rolled square metal tubes are welded to the steel frame, a similar tube being welded on a level with the top of the glass block. Further square tubes are then welded on vertically from foundation to roof level, thus forming a rectangular grid all over the outside of the frame. To this grid are bolted galvanized steel panels with a 3-in. flange facing inwards, the tray-like unit thus formed being filled in with rock wool as an insulation.*

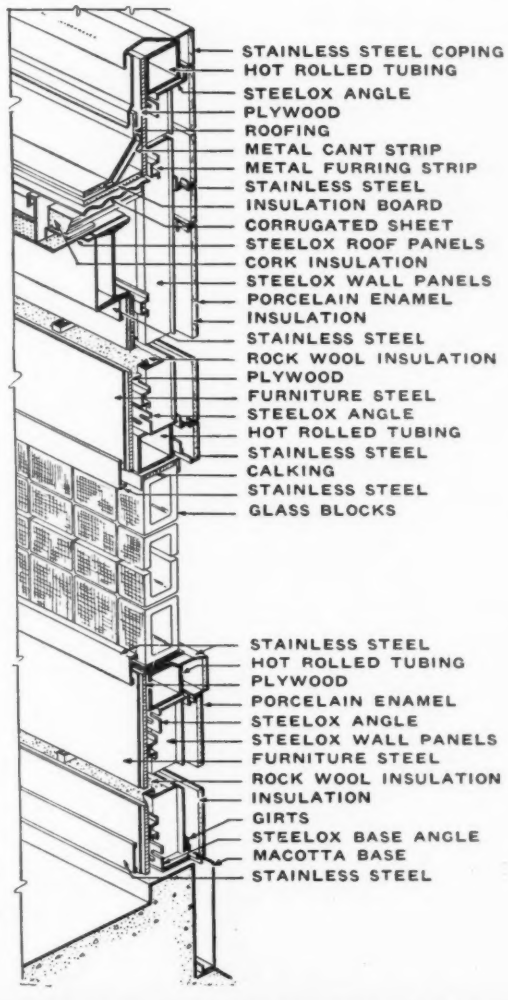
EXTERNAL WALL FINISHES—*The external wall finish consists of porcelain enamelled steel sheets with a stainless steel moulding at cornice level and at intermediate points such as cills and window heads. The sheets are held in position by hooked metal strips of the type shown in the detail section. These support the sheets and at the same time provide a self-flashing joint; for the vertical joints a 1½-in. lap is found enough to keep out the weather, and it also allows for expansion and contraction.*

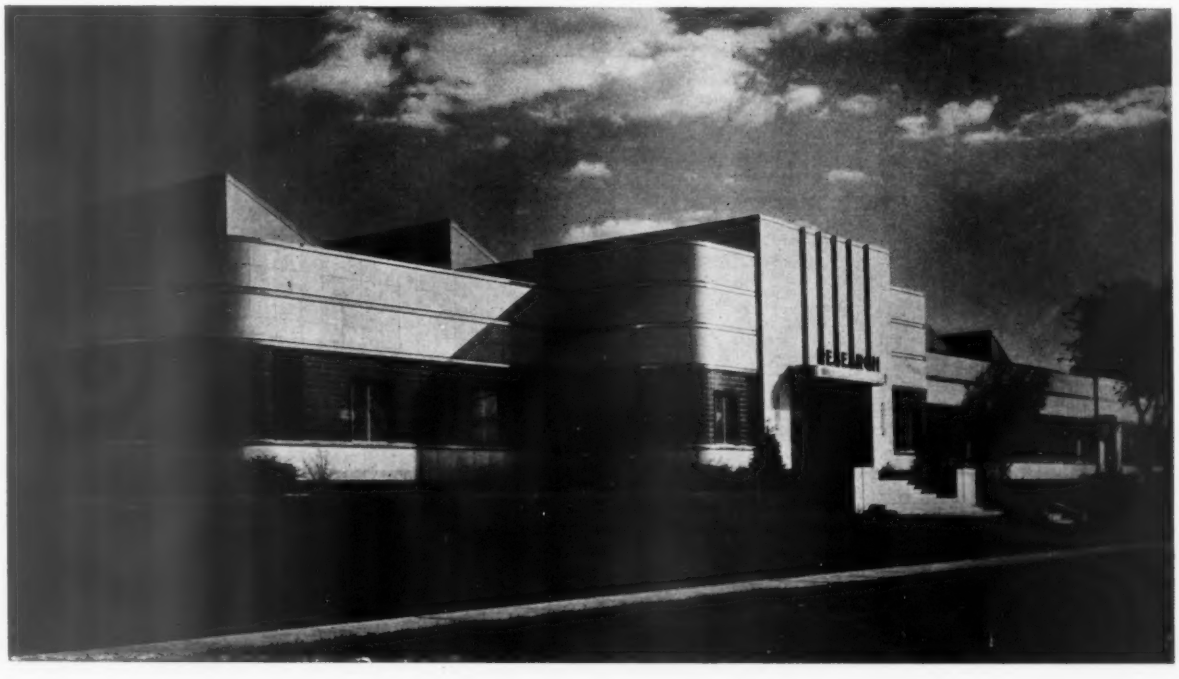
Above, a detail view of the main entrance.

DESIGNED BY HAROLD GOETZ

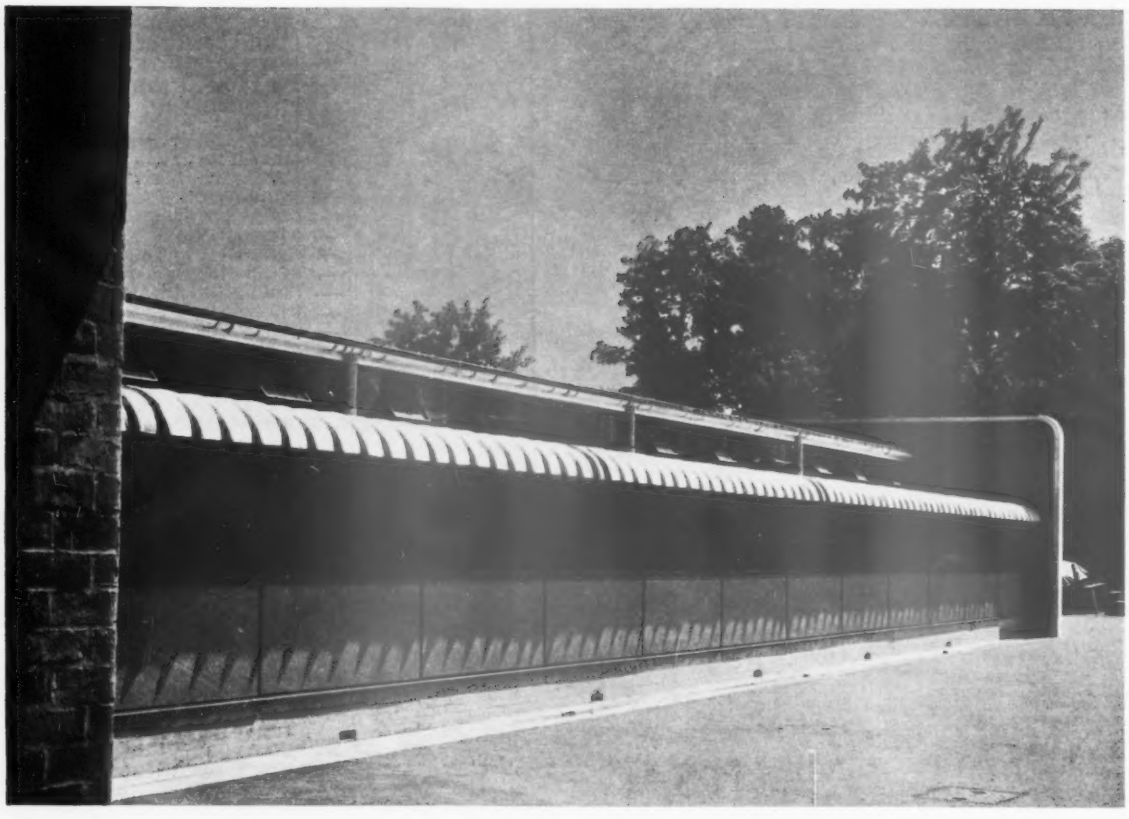
INTERNAL WALL FINISHES — *The in-turned flanges of the steel wall panels are used to support 1-in. square hollow metal furring strips, and to these are screwed painted steel sheets lined with plywood. Ceilings are in sheet steel, insulated with 1 in. of cork, the roof covering being gravelled asphalt on a base of corrugated iron sheet.*

Right, a typical wall section showing the method of construction—from the "Architectural Forum." Below, a general view of the front elevation.

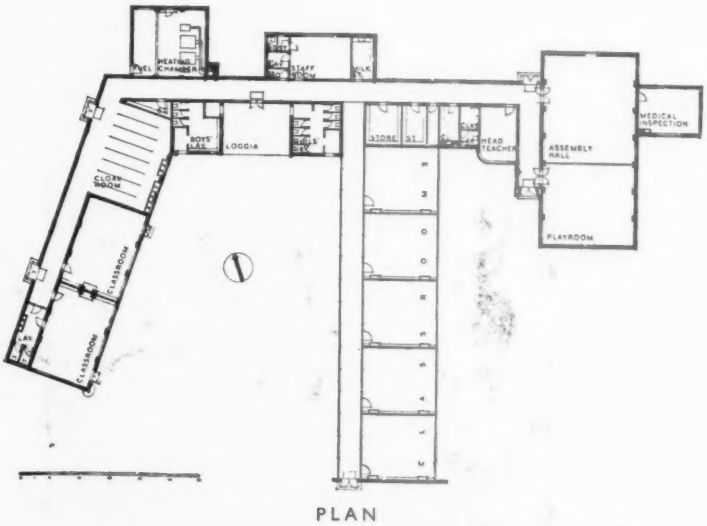




INFANTS' SCHOOL, SHOREHAM:



PLAN — *General planning provides for the fullest use of the site, which is rather cramped. Ease of access to the lavatories from the playgrounds was necessary, while two special classrooms have been provided for younger children having their own separate lavatory unit.* **CONSTRUCTION** — *Assembly halls, special classrooms, staff rooms and all ancillary accommodation are built of brick with external cavity walls and flat roofs. Classroom wings are of light steel framed construction of special design, giving large areas of glass to two sides of the classrooms, with glass enclosed corridors, also of light steel framed construction. Classrooms and corridors are composed of standard units to facilitate alteration to internal arrangements without disturbance to the external fabric. All internal partitions are non-structural in character. The sectional nature of the buildings also permits of dismantling with a higher percentage of salvaged material. Walls and ceilings are lined with fibre board. Floors are of Columbian pine boarding, and hardened red asphalt, with granolithic paving to the corridors, cloakrooms, offices and stores.*



PLAN

Above, an external view of the corridor serving the main classroom wing. The design permits of maximum lighting and cross-ventilation.

DESIGNED BY C. G. STILLMAN

INTERNAL FINISHES AND EQUIPMENT — *Internal decoration and finish has been kept as simple as possible, with wall surfaces of flat painted plaster or fibre board as dictated by acoustical or hygienic needs. All ceilings are lined with fibre board. W.c.s, cloakrooms and stores are in fair faced brickwork, flat painted. The lower surfaces of lavatories are in a patent glazed finish. Wherever practicable, built-in furniture and fittings have been provided, such as cupboards and wall blackboards in the classrooms, and cupboards and benches to special rooms.*

HEATING — *Low pressure hot water heating. Hot water supply to all lavatory basins is from an independent boiler. Electric lighting, electric clock points, radio points, are installed in all classrooms and special rooms, controlled from a master set.*

Above, a view looking along the main classroom wing. Maximum lighting and a maximum number of windows to open were required.

The general contractors were the Anglo-Scottish Construction Co. For list of sub-contractors see page 412.

LITERATURE

THE UNSENTIMENTAL VOLE

The English Landscape. Sir William Beach Thomas. Country Life, Ltd. 10s. 6d.

EVERY Englishman is said to be at heart a countryman. The flower-boxes in Stepney and Belgravia, the plot of ground which inevitably surrounds every suburban villa bear witness to the fact that he is envious of, rather than bewildered by, the peasant.

Equally significant is "The Countryman's Corner," which is a now familiar and doubtless popular feature of the daily press. You know the sort of thing — "feather-footed through the plashy glen passes the questing vole" You will no doubt recognize the quotation from Mr. Boot of "The Beast."

Sir William Beach Thomas writes the rustic column for *The Observer*, but this book is not a collection of reprinted articles, nor is it cast in the familar mould of the well-known describers like H. V. Morton. There have been too many of these nostalgic pilgrimages lately, with their glowing word-pictures and *Times* photographs. Sir William is more enterprising than this.

The book is divided into chapters as England herself is divided—the Downs and the Fens, the shires and the lakes, the park and the seaboard. The landscape is logically analysed in terms of the soil which lies beneath it and the social and agricultural history which has formed it. For the English scene, with its curious combination of miniature scale and heavy proportion, is comparatively young and largely man-made.

There is a welcome absence of woolly rapturing, but I rather enjoyed the bit where the author records "the conversion of an urban Goth into an ardent preserver of rural England" brought about apparently by looking at "Chequers."

It is, however, a compact, rather dull, comparatively unsentimental interpretation of a theme which though tiresomely familiar at times, can never become completely written out. There is a charming dust cover (by Barnett Freedman?) and many excellent and unfamiliar photographs. H. C.

THE NEW GUIDE BOOK

New Sights of London. By Hugh Casson, with Foreword by John Gloag. Westminster; London Transport, 6d.

THE number of people who have actually seen and can quote examples of good modern architecture

is very, very small, and the fault may not be entirely theirs as they probably do not know where to look for these examples. Architects know the new buildings—know their photographic images, that is, because in nine cases out of ten, except for a vague idea of their localities, we are not acquainted with the buildings themselves, and it is with some surprise that we come across recent examples of architecture with which the pages of the JOURNAL and other magazines have already made us familiar, when motoring through some district new to us.

London Transport—in front, as usual—have now produced a very good booklet compiled by Hugh Casson. Some 700 recent outstanding buildings that are to be found within 30 miles of the Adelphi have been listed alphabetically in their several groups, together with their addresses, the nearest Underground station, and the names of the architects, a short discussion of whose problems prefaces each group. Thirteen photographs and 64 most pleasant sketch elevations are also included. This vade-mecum should be a *sine qua non* to all students of architecture, and it is to be hoped that it will be brought up to date at least annually. In a later edition perhaps a map of the area covered might be included, indicating the approximate positions of the buildings listed, when the booklet should be part of the furnishings of every car. But perhaps that is asking too much for 6d.

G. B. H.

THE STYLES AGAIN

The Styles of English Architecture: Part I. The Middle Ages; Part II. Tudor and Renaissance. By Arthur Stratton, F.S.A., F.R.I.B.A. 3rd edition. Batsford. Price 2s. 6d. each.

THESE two small books are published as companions to a series of 25 large beautifully drawn black and white wall diagrams, dealing with each particular period of English architecture up to the end of the eighteenth century. They show typical building types and details of door, window ornament, and so on.

The wall diagrams are reproduced in the books and form its main interest. The text amounts to a description of the diagrams, and gives therefore the characteristics of the various styles. Apart from the drawings, which are full page size, there are small sketches of details interspersed amongst the text.

The books are intended for schools, and any child who has digested them will be fully equipped to recognize the features of English architecture up to the nineteenth century. Armed with mental pictures of the author's charming drawings of strap work, oriels and labels, he cannot help but spot them in actual buildings.

Purely within the scope of the titles, *The Styles of English Architecture* are excellent little books. But whether it would not be wiser to teach children why and how the architecture came about is another matter.

The books have 34 pages each, size $5\frac{3}{8}$ in. by $8\frac{3}{8}$ in., and at 2s. 6d. each with stiff covers they are moderately cheap.

F. G.

LETTERS FROM READERS

Training in Schools

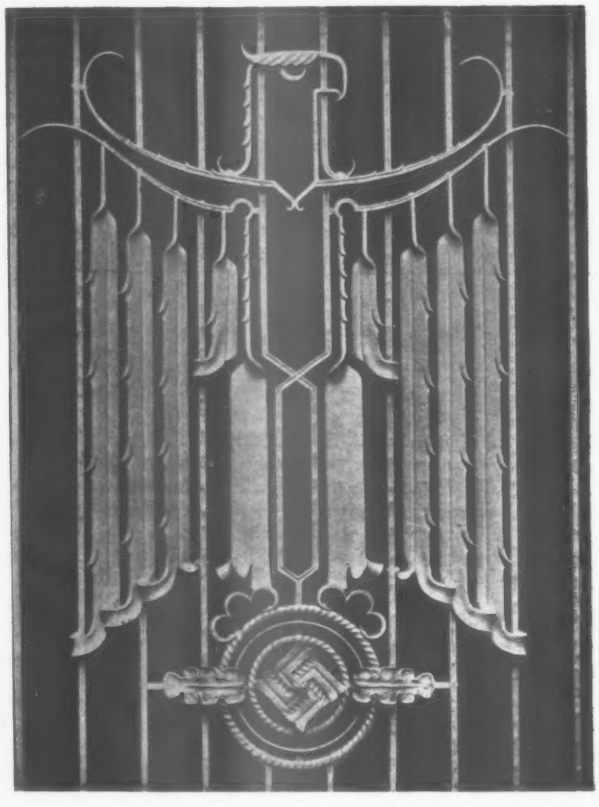
SIR,—The letter which Astragal received from a student seems to indicate a still unsatisfactory state in architectural education. Cases similar to, but perhaps not quite so bad as this, are unfortunately only too typical of architectural schools, both evening and full-time. Academic education is long and expensive, and to be worth while it must be of the highest possible standard.

Of the thirteen schools in this country which grant exemption from the R.I.B.A. final examination, only three can be described as really progressive, and even after the valuable training which they undoubtedly give, considerable office experience is necessary before an assistant can receive a reasonable salary.

It is not surprising that many students are "unable or unwilling" to attend schools of architecture. By hard work in an office from the start of their career, they not only learn to become efficient assistants much earlier than the school-trained man, but start to earn a salary after a year or two's work. The correspondence schools provide a rapid and apparently satisfactory method for getting through examinations. Many assistants so trained obtain good jobs in well-known offices.

In the long run a theoretical training at a good school is probably the best. For the office-trained man some such training would also be of great benefit—though if of the type described in Astragal's letter it would lead to nothing but disappointment. As far as possible the Board of Education should try to bring the standard of all schools up to that of the best. Speaking from experience, the writer is always hearing from students a tale of discouragement and dissatisfaction rather than of enthusiasm.

E. W. BRIERLEY



An example of Modern German smith's work, by August Kotthomm, of Cologne.

WORKING DETAILS : 681

LIGHTING • STORRAN GALLERY, ALBANY COURTYARD, W.1 • E. KNOLLYS & F. COOMBS

These galleries have been re-modelled in an old building for exhibition purposes. Top light was available, but is admitted indirectly as shown in the photograph on the right, with a false ceiling covering the centre part of the room. Roof lights are glazed with heat-insulating, light-diffusing glass, and this, in combination with carefully adjusted reflecting surfaces, produces a perfectly even distribution of light on the walls, irrespective of weather conditions.

Light fittings are concealed along the sides of the false ceiling, and at night, by the combination of various coloured lights, the effect of daylight has been obtained. Walls are canvas covered, and the floor close carpeted. Details are shown overleaf.

WORKING DETAILS : 682

LIGHTING • STORRAN GALLERY, ALBANY COURTYARD, W.1 • E. KNOLLYS & F. COOMBS

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SCALE OF DETAIL

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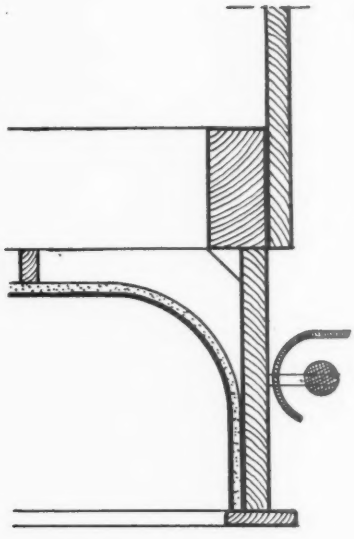
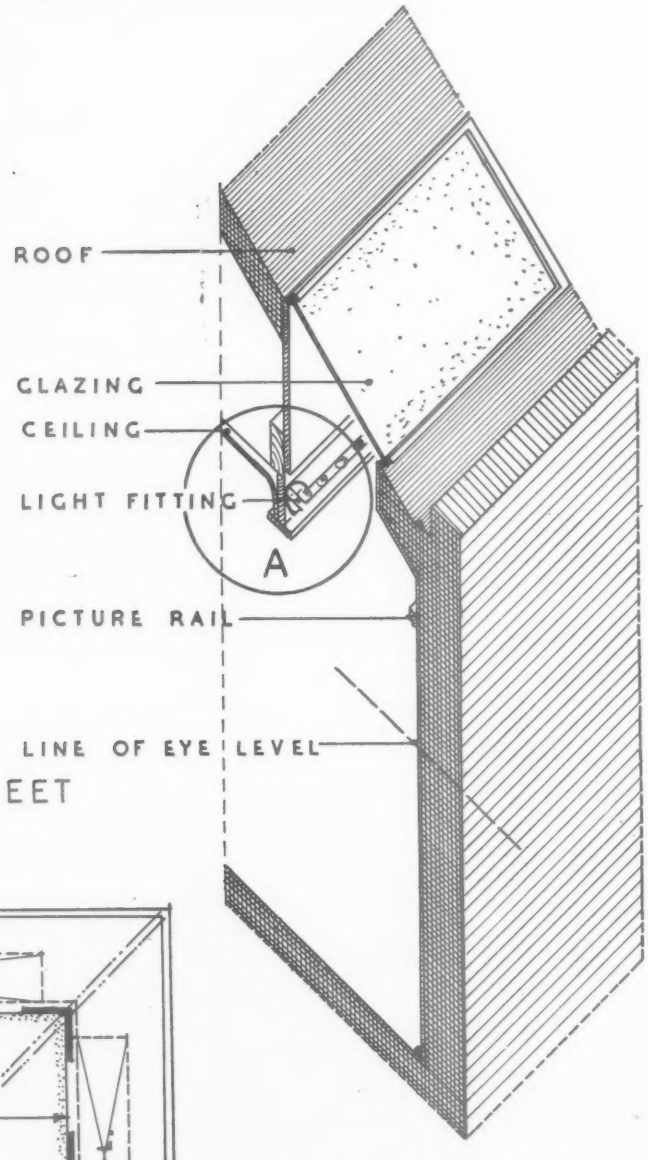


DETAIL AT "A"
SECTION THRO' LIGHT FITTING



AXONOMETRIC
SHOWING LIGHTING ARRANGEMENT

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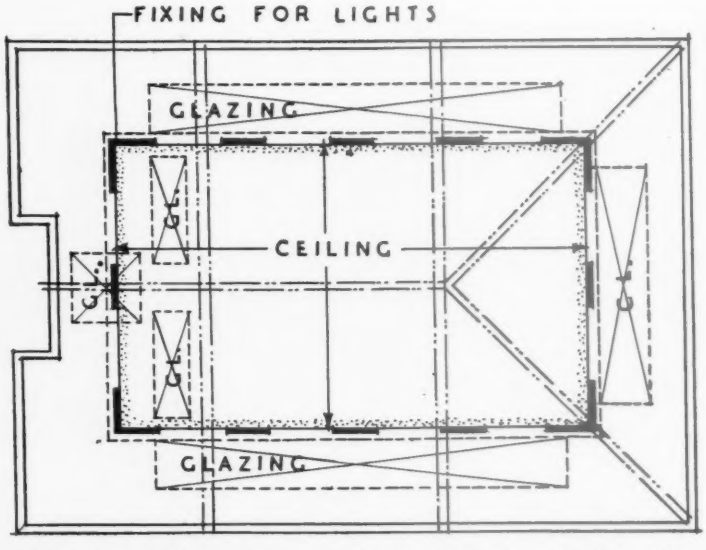
SCALE OF KEY PLAN



KEY PLAN OF CEILING & ROOF

The Architects' Journal Library of Planned Information

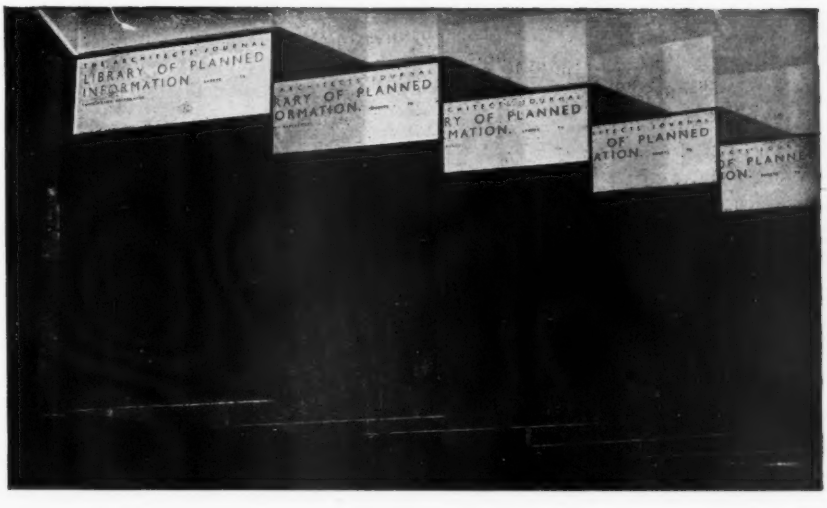
INFORMATION SHEET

SUPPLEMENT

SHEETS IN THIS ISSUE

659 Equipment

660 Asbestos-Cement Decorated Sheets



In order that readers may preserve their Information Sheets, specially designed loose-leaf binders are available similar to those here illustrated. The covers are of stiff board bound in "Rexine" with patent binding clip. Price 2s. 6d. each post free.

Sheets issued since Index :

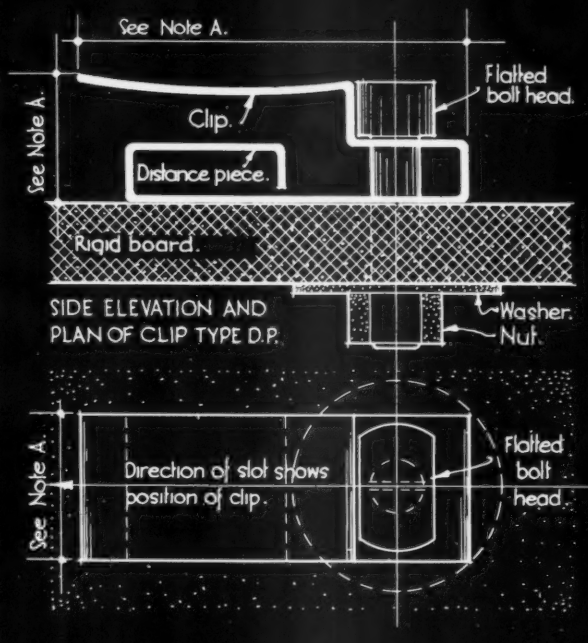
601 : Sanitary Equipment
602 : Enamel Paints
603 : Hot Water Boilers—III
604 : Gas Cookers
605 : Insulation and Protection of Buildings
606 : Heating Equipment
607 : The Equipment of Buildings
608 : Water Heating
609 : Fireplaces
610 : Weatherings—I
611 : Fire Protection and Insulation
612 : Glass Masonry
613 : Roofing
614 : Central Heating
615 : Heating : Open Fires
616 : External Renderings
617 : Kitchen Equipment
618 : Roof and Pavement Lights
619 : Glass Walls, Windows, Screens, and Partitions
620 : Weatherings—II
621 : Sanitary Equipment
622 : The Insulation of Boiler Bases
623 : Brickwork
624 : Metal Trim
625 : Kitchen Equipment
626 : Weatherings—III
627 : Sound Insulation
628 : Fireclay Sinks
629 : Plumbing
630 : Central Heating
631 : Kitchen Equipment
632 : Doors and Door Gear
633 : Sanitary Equipment
634 : Weatherings—IV
635 : Kitchen Equipment
636 : Doors and Door Gear
637 : Electrical Equipment, Lighting
638 : Elementary Schools—VII
639 : Electrical Equipment, Lighting
640 : Roofing
641 : Sliding Gear
642 : Glazing
643 : Glazing
644 : Elementary Schools—VIII
645 : Metal Curtain Rails
646 : Plumbing
647 : Veneers
648 : U.S.A. Plumbing—V
649 : U.S.A. Plumbing—VI
650 : Ventilation of Factories and Workshops—I
651 : School Cloakrooms (Boys)
652 : U.S.A. Plumbing—VII
653 : Plumbing
654 : U.S.A. Plumbing—VIII
655 : School Cloakrooms (Girls)
656 : Ventilation of Factories and Workshops—II
657 : Floor Construction
658 : Partitions

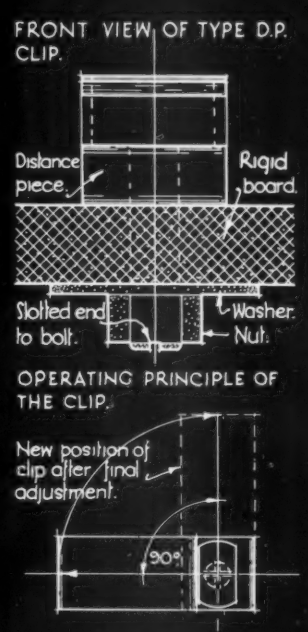
826. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

THE·INKLEY·PATENT FRICTION CLIP.

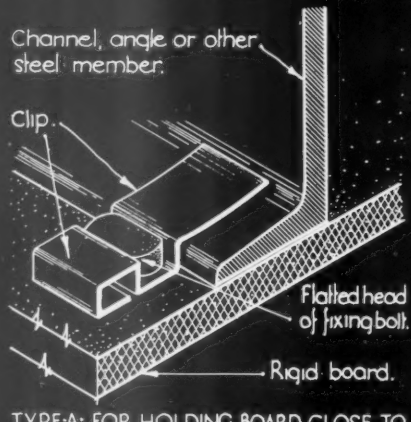
This is a metal clip for fixing rigid sheet materials to steel framing without requiring access to the back of the work and without in situ drilling or other fitting work.
The clip is designed for fixing interior linings to roofs, walls and partitions and special variations of the clip may be used for fixing false ceilings and casings of all kinds.

Note A. Dimensions shown can be varied to suit requirements.

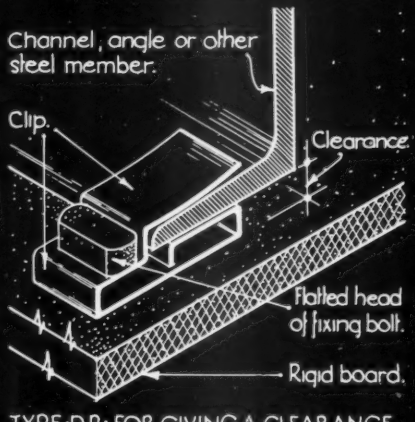




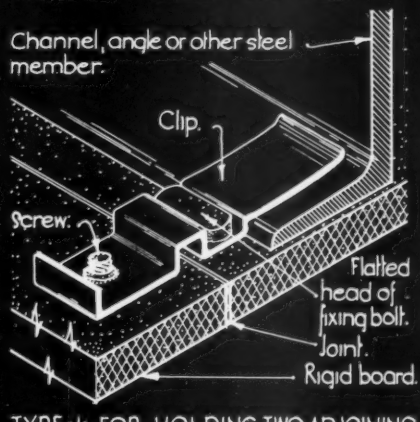
HALF FULL SIZE ISOMETRIC SKETCHES OF THREE TYPES OF FRICTION CLIP:



TYPE·A· FOR HOLDING BOARD CLOSE TO FACE OF STEEL FRAMING.

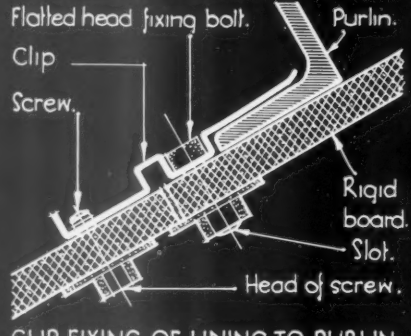


TYPE·D·P· FOR GIVING A CLEARANCE BETWEEN BACK OF BOARD & FACE OF FRAMING.

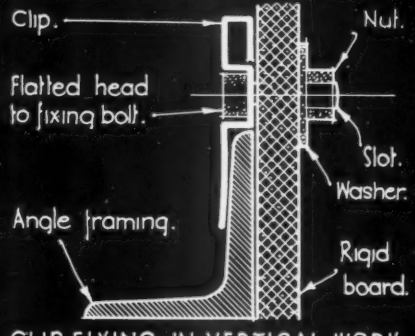


TYPE·J· FOR HOLDING TWO ADJOINING BOARDS WITH ONE CLIP.

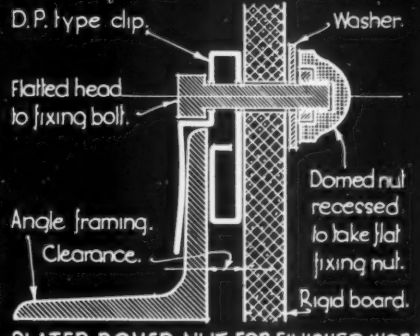
HALF FULL SIZE DETAILS SHOWING TYPICAL APPLICATION OF CLIP:



CLIP FIXING OF LINING TO PURLIN.



CLIP FIXING IN VERTICAL WORK.



PLATED DOMED NUT FOR FINISHED WORK.

Information from the Tentest Fibre Board Co. Ltd.

INFORMATION SHEET: CLIP FIXINGS FOR RIGID SHEET MATERIALS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Edna A. Boyne.

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 659 •

EQUIPMENT

Product : The Inkley Patent Friction Clip
(Provisional Patent No. 11543)

General :

This metal clip has been developed to attach rigid sheets or panelling materials to steel framing without requiring access to the back of the work or in situ drilling or fitting during the course of erection, and to allow for the sheets or panels to be easily removed and replaced without damage. Suitable materials for use with this clip are plasterboards, asbestos cement sheets, plywood, hardboards or rigid decorative sheet materials of all kinds. When a finish is required to the work a plated domed nut can be supplied, but for general purposes a small hexagonal nut and washer project beyond the face of the work.

Description of Clip :

The clip is made from light gauge steel strip, bent to required shape, to grip the supporting angle. The bolt is slotted on its threaded end and is held in position with a standard nut and washer. The bolt head is shaped to fit the clip so that when the bolt is turned the clip will rotate with the bolt. When assembled the slot lies in line with the clip, and thus always indicates its true direction. Each part of the clip is rust-proofed.

Method of Fixing :

The sheets to be fixed are cut to size and drilled to take the supporting bolts. The clips are then assembled on the sheets at right angles to their permanent position with the nuts hand tight whilst the sheets are still on the bench. The sheets are then positioned and each clip turned 90° to engage the flange of supporting frame, by means of a screw-driver inserted in the slot in the end of the bolt. The nuts are then tightened up and the fixing is complete.

Types :

The three standard types of clip are :—

Clip "*A.*"—A clip designed to hold the sheet material close to the face of the steel framing.

Clip "*D.P.*"—A clip designed to give a clearance between the back of the sheet material and the face of the steel framing as may be rendered necessary by the presence of hook-bolts or other protruding members.

Clip "*J.*"—A clip designed to hold two boards where they abut. This clip holds the boards close to the face of the steel framing and when complete the finished appearance is of a nut and washer and a screw head and washer.

Uses :

The clips are primarily designed for fixing interior linings to roofs, walls and partitions where light steel framing forms the main structure. The clips and special variations of them are also used for fixing false ceilings hung from floors above, and casings of all kinds.

Manufacturer : The Tentest Fibre Board Company, Ltd.
(Specialised Construction Department)

Address : Astor House, Aldwych, London, W.C.2

Telephone : Holborn 8018

532. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

·TURNALL· ASBESTOS-CEMENT DECORATED BUILDING SHEETS :

¼" thick asbestos-cement sheets finished with a permanent, hard and non-brittle coloured surfacing.

DIAGRAM OF WALL BATTEN SPACING FOR STIPPLE-GLAZE AND PLAIN WHITE SHEETS.

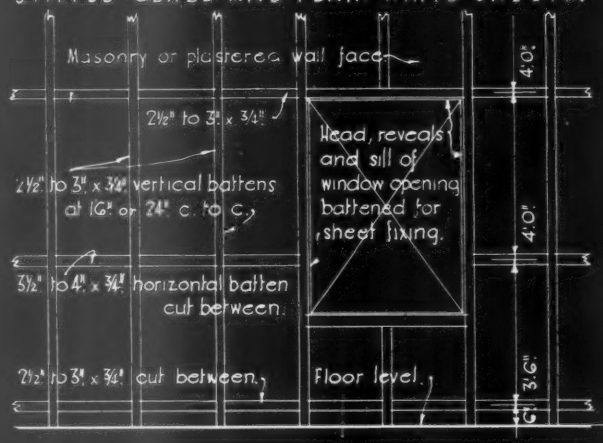
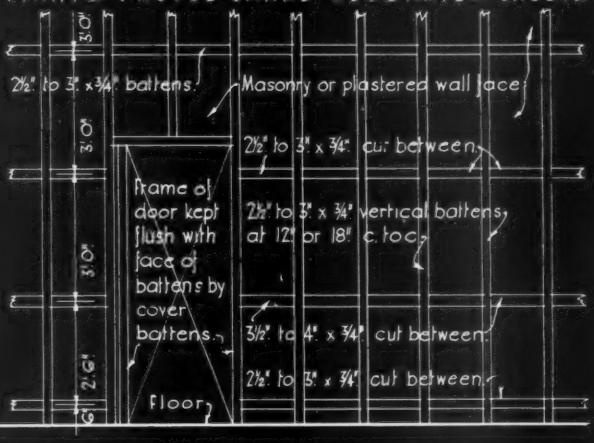
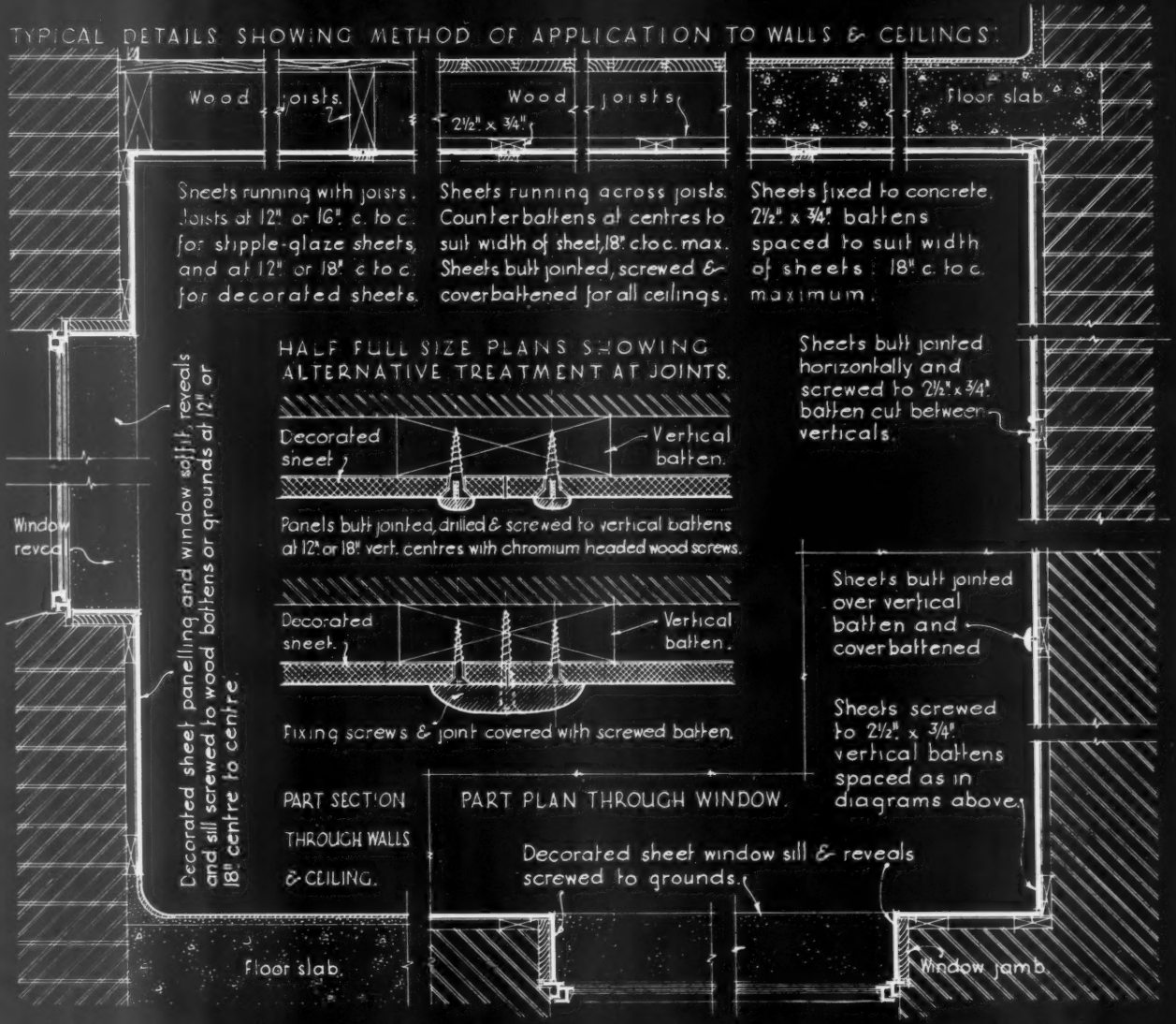


DIAGRAM OF WALL BATTEN SPACING FOR FIXING PASTEL SHADE DECORATED SHEETS.



TYPICAL DETAILS SHOWING METHOD OF APPLICATION TO WALLS & CEILINGS:



Information from Turners Asbestos Cement Co, branch of Turner & Newall Ltd.

INFORMATION SHEET: ASBESTOS-CEMENT DECORATED SHEETS:
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

INFORMATION SHEET • 660 • ASBESTOS-CEMENT DECORATED SHEETS

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 660 •

ASBESTOS-CEMENT DECORATED SHEETS

General :

On the face of this Sheet are given various details for the application of Turnall asbestos-cement decorated sheets. Typical wall-batten spacing diagrams are shown for both the stipple glaze and plain white decorated sheets, and also for the pastel shade decorated sheets.

These three types of decorative sheet are composed of specially prepared Poilite asbestos-cement, finished on one side with a permanent highly-glazed coloured surfacing. They are suitable for interior use only.

Properties :

The sheets are not affected by damp, rot or vermin, and will withstand a variation of temperatures with comparative freedom from condensation. The surfacing will not crack, craze, flake or discolour under normal conditions. None of the various finishes available is receptive to dust or dirt, nor requires any maintenance subsequent to erection of the sheet.

Cutting :

Sheets can be cut to size and shape with a carpenters' saw, or scribed on the glazed side with the broken end of a hack-saw blade held in a pad-saw handle, after which they can be broken across a straight edge.

Angles :

Internal angles are generally lapped and butted. External angles may be similarly treated if the exposed edge is coloured. Edge colouring may be done on the site, or it is undertaken by the manufacturers at slight extra cost.

Alternatively, hardwood quadrants or semi-circular beads may be spiked to external angles, as shown on Sheet 475, dealing with asbestos-cement glazed panels.

Sizes and Weights :

Marbled-glaze, stipple-glaze and plain white sheets are made in two standard sizes, 8 ft. by 4 ft. and 4 ft. by 4 ft., thickness being approximately $\frac{1}{4}$ in. Pastel shade decorated sheets are available in standard sizes of 8 ft. by 4 ft., 6 ft. by 3 ft., and 6 ft. by 2 ft., thickness as before. The weight of all sheeting is approximately 2 lb. per square foot.

Standard size sheets are also made for bath panelling up to 6 ft. by 2 ft. for front panels, and up to 3 ft. by 2 ft. for side panels, cut to size and with edges coloured to tone or contrast with the colour of the sheets.

A number of standard size splash-backs for lavatory basins, etc., are also stocked, widths being 22 in., 25 in. or 27 in., and height 18 in. The countersunk holes for fixing screws are ready drilled.

If necessary, bath panels, splash-backs, etc., may be supplied cut to any special size and shape.

Uses :

In addition to wall and ceiling linings, suitable qualities of decorated sheet are available for gas and electric fire surrounds, and also for shop fitments, display cabinets and shelving, refrigerator, incubator and cupboard linings, cold storage rooms, pantries, or cooking recesses, wall backings to radiators, anthracite stoves, table tops, counter tops, etc.

Fixing and Jointing :

As shown in the typical details, decorated sheets are fixed to wood supports. For ordinary wall lining, vertical battens are plugged to the walls at centres to suit the width of the sheets, and these are butt jointed over the battens and countersunk screwed at 12 in. to 18 in. vertical centres up both edges. Battens should be fixed behind all horizontal edges.

Where plaster walls already exist, wall plugs should be inserted and battens erected in the same way, either channelling-out the plaster or applying the battens over the plastered surface.

For all types of sheeting, the butt-joints may be left exposed and the fixing screws provided with chromium-plated heads screwed in. Cover battens may be of wood, metal, or asbestos-cement moulded or plain, wide enough to cover the fixing screws, and screwed or nailed through the joint in the sheeting as indicated.

Whenever it is necessary to fix through the panels themselves, these should be carefully drilled and countersunk for the wood screws.

Colours and Patterns :

a. *Stipple-glaze and Marbled-glaze Sheets.*—A large variety of stipple and marbled glaze finishes is available, in brown, grey, yellow, green, blue or pink. Sheets may be heavily or lightly stippled, in one or two colours. Marbled finishes have base colours of black, grey, brown, green, blue, pink, etc. Eggshell finishes are made in close or open mottled blue, yellow, green, pink and orange.

b. *Pastel shade Decorated Sheets.*—These sheets are obtainable in ivory, pink, primrose, pale blue, pale green and shaded green or primrose.

Accessories :

Half-oval shaped wood cover strips, $1\frac{1}{4}$ in. by $\frac{5}{16}$ in. in 6 ft. lengths, are supplied cellulosed to match the sheets.

Rounded-edged wood dado mouldings, $1\frac{7}{8}$ in. by $\frac{13}{16}$ in., in 6 ft. lengths, are also available, cellulosed as above and rebated $\frac{1}{2}$ in. by $\frac{1}{4}$ in. along the lower back edge for the sheeting.

Three-quarter inch, quarter round cellulosed wood beading is made for covering internal angles, etc.

Countersunk fixing screws with detachable chromium heads are supplied in four sizes—$\frac{3}{4}$ in., 1 in., $1\frac{1}{4}$ in. by 8's gauge, and $1\frac{1}{2}$ in. by 10's gauge.

Cleaning :

The glazed surface of decorated sheets may be kept clean by the occasional application of a damp cloth. If necessary, soapy water may be used, but care should be taken to avoid the use of abrasive cleaners.

Manufacturers : Turners Asbestos Cement Co. Branch of Turner and Newall Ltd.

Address : (Central Office and Works) : Trafford Park, Manchester, 17

Telephone : Trafford Park 2181

London Office : Asbestos House, Southwark Street, S.E.1

Telephone : Waterloo 4041

The Church of St. Wenceslas, Prague, by Josef Gocar. The use of reinforced concrete trusses (see section) allows the nave to be free from columns.—[From the "Architectural Record."]

PERIODICALS

AUGUST ANTHOLOGY

AMERICA

Architectural Forum

(Monthly, $1·00. 135 East 42nd Street, New York)

AUGUST. The work and the organization of Albert Kahn Incorporated, a firm which has built over 800 million dollars' worth of factories and industrial buildings and employs a staff of about 400, including 175 designers and draughtsmen and 40 secretaries, the office being organized as a factory for factory design; five premiated and four mentioned designs in the competition for an art centre for Wheaton College; won by Bennett and Hornbostel, with Gropius and Breuer placed second. Various comparatively small jobs.

Architectural Record

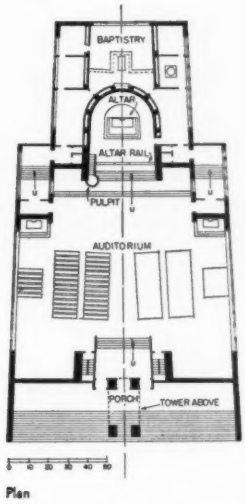
(Monthly, $1·00. 115 West 40th Street, New York)

August. The Inwood Club at Atlantic Beach, by Olive Tjaden; the Church of St. Wenceslas, Prague, by Josef Gocar, a job in which a concrete truss is used instead of piers in the nave; a fur shop with repairing and storage departments on two further floors, by Dubin and Dubin; the Design Trends section deals with residential entrances; Building Types shows unit plans for hospital wards, operating theatres, kitchens, sterilizing rooms and nurses' rooms, and a selection of different hospital types is illustrated.

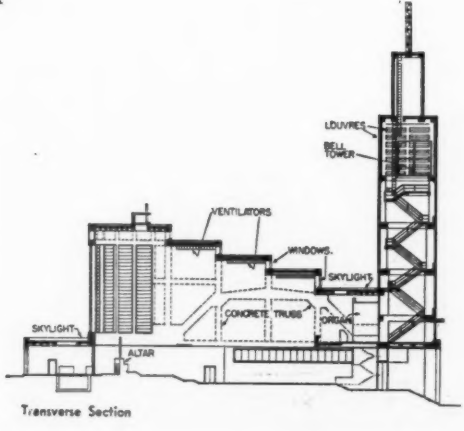
Pencil Points

(Monthly, 50 cents. 330 West 42nd Street, New York)

August. The office organization and the executed work of William Wilson Wurster, a comparatively young man who designs in a gentlemanly way but who, unlike many of his counterparts in this country, modifies his style to the site and/or client. He also makes a point of taking his complete staff to see the job after the client has moved in. Professor Talbot Hamlin writes of houses

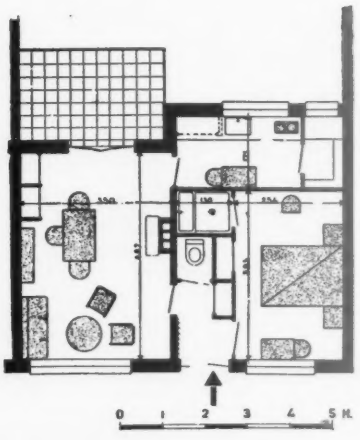


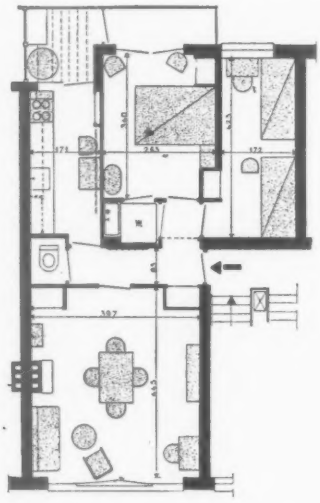
Plan

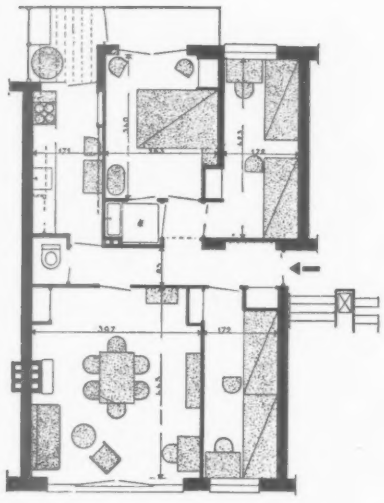


Transverse Section

E







A working-class housing block in Amsterdam by Merkelbach and Karsten. The type plans show flat units for couples with four, two and no children. A general view is shown at the bottom of the page. [*From "La Technique des Travaux."*]

as places to live in, and has several pertinent remarks to make about the unnecessary regimentation caused by too much built-in furniture.

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FRANCE

La Technique des Travaux

(Monthly, 10 frs. 54 Rue de Clichy, Paris 9e)

August. A large school at Puteaux by the brothers Niermans, fully illustrated and described; working-class flats in Amsterdam by Merkelbach and Karsten, a four-storey job with lifts and three flat unit plans; bicycles, etc., on the ground floor; covered tennis and other courts in Denmark; the Bonneville hydraulic power station on the Columbia river.

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GERMANY

Baukunst und Städtebau

(Monthly, 1 m. 90. Bauwelt Verlag, Charlottenstrasse 6, Berlin, S.W.68)

August. Three country houses in North Germany by Hermann Lahme, well-handled traditional design; the headquarters of the voluntary fire brigade of Jena, by Gunther Häck; the school of the Italian Royal Aeronautical Society in Florence, by Raffaello Fagnoni; two re-modelled town hall restaurants, one at Stendal, the other at Augsburg.

Baumeister

(Monthly, 3 m. Georg Callwey, Finkenstrasse 2, Munich)

August. The work of A. Akos, a large country house for the head of a firm of heating and ventilating engineers; a bank in Schongau—good detail drawings and photographs; two small country houses near Stuttgart, by Max Durr; a large house and garden in Hamburg, by F. R. Ostermeyer; a new Italian railway station at Trento, by R. Mazzoni; measured drawings of the jobs illustrated.

Bauwelt

(Weekly, 90 pf. Bauwelt Verlag, Charlottenstrasse 6, Berlin, S.W.68)

August 4. Building regulations for fireproof floors; a continuation of the articles illustrating the work of Gustav Gsaenger, mostly private houses, well illustrated but not quite enough plans.

August 11. Further building regulations; the results of two competitions for street buildings, one a newspaper kiosk and the other a combined loudspeaker and clock.

August 18. A high school in Rottweil, by Gerhard Graubner and Richard Kesseler; competition notes.

August 25. Recent industrial buildings; a lorry factory for Hansa-Lloyd-Goliath, by Rudolf Lodders; extensions to the Mannesmann Tube Works, by Hans Vath; offices for the I.G. Dye Trust, by Karl Graf and Weber-Flum.

Deutsche Bauzeitung

(Weekly, 3 m. 40 per month. Beuthstrasse 6–8, Berlin, S.W.19)

August 3. The result of a competition for a new Town Hall at Kreuzberg, won by Bruno Grimmek.

August 10. Comparative housing block plans, an article by Helmut Hille.

August 17. Recent town-planning and buildings in Brandenburg; recent developments in contractors' plant and machinery.

August 24. New building materials and equipment shown at the Leipzig Fair; timber construction under the four-year plan—an article by C. Kersten dealing mainly with large span trusses; heating and ventilating of cinemas and theatres.

Buildings Supplement. Country houses, by Herbert Sprotte; an open-air restaurant at Ulzen; brick sculpture in North Germany, an article by Hans Henniger; two factories in Württemberg, by Richard Bareiss; country houses in Austria by various architects; the railway station built in Rome for the recent reception of the Führer.

Innen Dekoration

(Monthly, 2 m. 50. Alexander Koch, Neckarstrasse 121, Stuttgart)

August. Eight pages of interiors from the new 16,000-ton Dutch motor ship *Boissevain*; recent dining- and bed-room furniture from the Deutsche Werkstatten; interiors from this year's *Daily Mail* Ideal Home Exhibition.

A school in Rottweil by Graubner and Kesseler. [*From "Bauwelt."*]

Moderne Bauformen

(Monthly, 3 m. Julius Hoffmann, Stuttgart)

August. Open-air baths on the Lake of Geneva, by Marc Piccard ; the Oslo Fjord Strandbad, by Eyvind Moestue and Ole Lind Schistad ; thermal baths in Poland ; an open and a covered bath in Madrid ; a swimming stadium with dressing-rooms at Cologne, by Otto Bongartz ; notes on the design of covered baths for use in summer and winter ; English furniture of today, as shown by Fortnum and Mason.

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HOLLAND

Bouwkundig Weekblad Architectura

(Weekly, 15 florins per annum. Weteringshans 102, Amsterdam)

August 6. Notes on the 1939 New York World's Fair ; a post-office building at Utrecht, by J. Crouwel ; the national museum at Copenhagen ; factory and research buildings at Velsen, by A. H. Van Rood.

August 20. Recent Roman Catholic churches.

de 8 en opbouw

(Fortnightly, 30 cents. Amstel 22, Amsterdam C)

August 6. A review of the Road Congress held in Holland in June.

August 20. Tree planting in the streets of Amsterdam, many typical road sections showing the position of the trees in relation to the roads and footpaths.

ITALY

Casa Bella

(Monthly, 15 lire. Viale Beatrice d'Este 7, Milan)

July. Further schemes for small country hotels by various architects ; a scheme for new housing blocks in Milan ; the nineteenth Milan Fair.

August. A tuberculosis clinic at Alessandria by I. Gardella and L. Martini ; two houses by Ludwig Kozma.

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SWITZERLAND

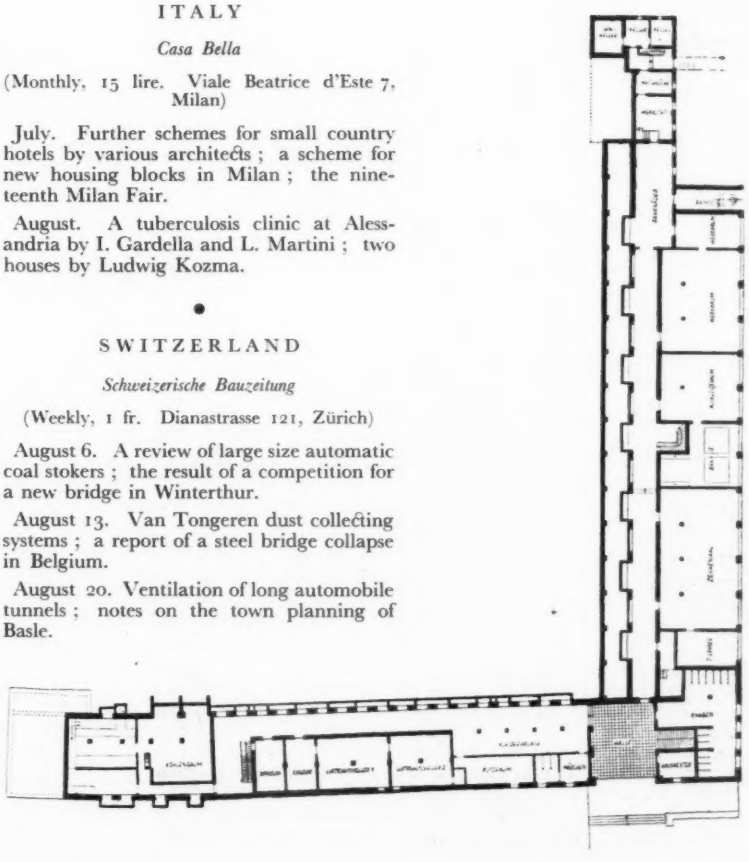
Schweizerische Bauzeitung

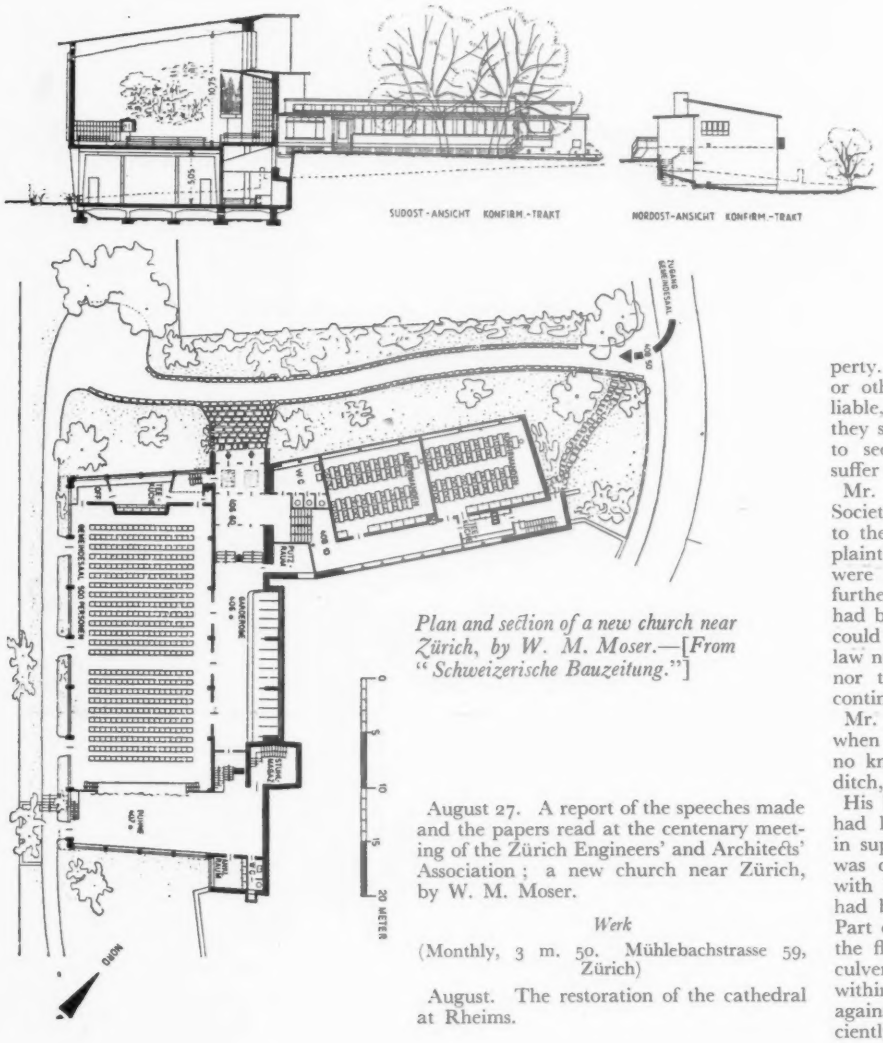
(Weekly, 1 fr. Dianastrasse 121, Zürich)

August 6. A review of large size automatic coal stokers ; the result of a competition for a new bridge in Winterthur.

August 13. Van Tongeren dust collecting systems ; a report of a steel bridge collapse in Belgium.

August 20. Ventilation of long automobile tunnels ; notes on the town planning of Basle.





Plan and section of a new church near Zürich, by W. M. Moser.—[From "Schweizerische Bauzeitung."]

August 27. A report of the speeches made and the papers read at the centenary meeting of the Zürich Engineers' and Architects' Association; a new church near Zürich, by W. M. Moser.

Werk

(Monthly, 3 m. 50. Mühlebachstrasse 59, Zürich)

August. The restoration of the cathedral at Rheims.

L A W R E P O R T

NUISANCE—ACT OF A TRESPASSER. NO LIABILITY

Sedleigh-Denfield v. *St. Joseph's Society for Foreign Missions and another.—King's Bench Division. Before Mr. Justice Branson*

THIS was an action by Dr. Gerald R. Sedleigh-Denfield, of Victoria Road, Mill Hill, against the St. Joseph's Society for Foreign Missions and Mrs. L. Hillman, for damages for alleged negligence or nuisance, and the matter arose out of the disputed rights over certain land, including a rainwater ditch.

The plaintiff and two defendants all own property adjacent to the disputed ditch, and plaintiff's case was that the acts of the defendants or one of them had resulted in the foundations of his property being damaged to the extent of some £500.

The first defendants are the owners of a Roman Catholic college, and Mrs. Hillman is the owner of a block of flats also adjacent to the ditch.

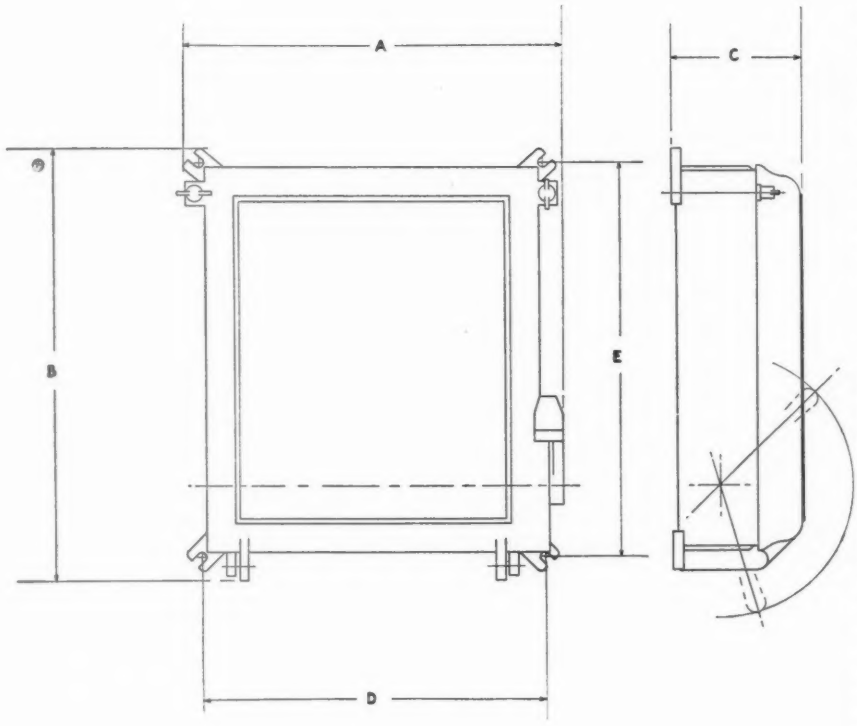
Mr. Granville Sharp, for Dr. Sedleigh-Denfield, said his client's property had suffered considerable damage. Prior to May, 1934, the ditch throughout its length was open. Later a block of flats, of which Mrs. Hillman was the owner, was erected, and it became necessary to deal with the water from the ditch. A large earthenware pipe was inserted and in that way the water was carried under the gardens of the flats. His client's case was that the pipe, a 15-in. one, was not sufficiently large to deal with all the water which accumulated. It became choked in heavy rain, as the entrance was not protected, and the water overflowed and damaged plaintiff's property. Counsel's contention was that one or other of the defendants or both were liable, as when the ditch was dealt with they should have taken proper precautions to see that plaintiff's property did not suffer in times of heavy rain.

Mr. H. Hull, who appeared for the Society, submitted that so far as the entrance to the pipe was concerned, it was on the plaintiff's land. They denied that they were in the occupation of the land. He further contended that the user of the ditch had been normal and further that plaintiff could not succeed on the ground of common law nuisance, seeing that neither his clients nor their co-defendant had created it or continued it.

Mr. T. K. Wigan, for Mrs. Hillman, said when his client purchased the flats she had no knowledge as to the ownership of the ditch, or as to the pipe in question.

His lordship, in giving judgment, said he had had before him a mass of evidence in support of the pleas of the parties. It was clear that the ditch had been dealt with by someone and that a 15-in. pipe had been put in to deal with the water. Part of this pipe ran under the gardens of the flats, and so far as he could see the culvert was perfectly good where it was within her boundaries. The only complaint against her was that the pipe was not sufficiently protected by a grating. The opening was on land to which Mrs. Hillman had no right of entry, and under these circumstances how could it be said that she was under liability to the plaintiff. The plaintiff's claim against her therefore failed and must be dismissed with costs.

The next part of the case was as to the position of the college. If the pipe was a nuisance, as he held it was, because its entrance was not properly guarded against being choked, it had been made by one who was a trespasser. It was true that the servants of the college might have cleaned the ditch, but it could not be said that a nuisance, if any, had been continued because they knew of it and had not communicated it to the people of the college. This being the case it followed that the mere omission to remove a nuisance brought about by a trespasser was not a continuation of the nuisance by the owner of the property on which the nuisance existed. This view was supported by a decision of the King's Bench Division. His lordship pointed out that it was equally open to the plaintiff to have seen that the entrance to the pipe line was grated in a proper manner. The action also failed as against the college and he dismissed it, with costs.



TRADE NOTES

[*By PHILIP SCHOLBERG*]

London's Water Supply

TWO or three weeks ago a garage proprietor was fined for supplying water through a hose to a neighbouring block of flats, and during the hearing of the case it was revealed that the flat block was normally supplied by its own artesian well, but that this had failed, and the resident engineer thought that the best thing to do was to get water from the most convenient source. Now most architects who do any large jobs in the London area will tell you that the level of water below the surface drops by about 5 ft. or 6 ft. every year, but the subject crops up once more in a paper read by Dr. Stevenson Buchan before the British Association at Cambridge last month. As an officer of the Geological Survey, Dr. Buchan presumably knows what he is talking about, and it is therefore worth paying a certain amount of attention to what he says, which is, briefly, that London just won't have an underground water supply at all in about thirty-five years if things go on as they are now.

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For years the papers have periodically printed *obiter dicta* about the coal supplies of this country, different experts maintaining that they will be worked out in anything from thirty to three hundred years. But nobody takes any notice beyond feeling thankful that it's somebody else's problem, and all scientists are cranks anyway. But Dr. Buchan has too many facts at his command to make it possible to dismiss him so easily. His statement that the level of water in certain parts of London has fallen 300 ft. during the past sixty years is borne out by figures which most architects would give over the shorter period of their own experience, and he has taken the trouble to find out that at least 531 of London's 1,080 deep wells have been abandoned in recent years, either because the water supply is inadequate, or because it is polluted by salt water. Many of these disused wells are a source of contamination to the underground supply, for the linings of the shafts deteriorate and allow polluted surface water to enter from the gravels, a level which has long been abandoned as a source of drinkable water. The most important factor affecting the level is that the flow of water from the rain-absorbing areas of chalk round London to the underground reservoir in the centre is comparatively slow, so that it is not able to keep pace with the pumping from the wells. Yet in the City the pumping has been intensified and the number of wells doubled. New wells and galleries in the chalk beyond the county boundary have removed water which would otherwise have travelled to London, building has diminished the exposed area of the collecting ground, and surface drainage has further reduced the amount available for absorption. The lowering of the water level has also caused brackish water to flow from the tidal reaches of the Thames into the chalk and pollute the supply in an area where the wells were yielding large quantities, and during the past few years this pollution has spread rapidly and caused the abandonment of many wells. Dr. Buchan concludes that "unless pumping is stopped to allow the level of the water to recover, pollution must inevitably ruin the underground supply and throw the whole of the demand on overground resources some distance removed from the county. Even if a period of rest is allowed it is doubtful if the former condition of overflowing water supply could be restored within a century."

●

So you can take it or leave it. The consumption of water per head of the population is steadily going up, and it is common knowledge that for a building of any size it is nearly always worth while boring for water because the interest on the capital charge of the well will be less than the water rate levied on the building. Taking a long view, which is perhaps beyond the powers of the building industry, or of any other industry for that matter, it seems obvious that regulations of a kind will have to be made by the L.C.C. to limit the amount of water which may be abstracted by private wells, and it will also be necessary to compel the owners of abandoned wells to maintain the linings in sufficiently good condition to prevent the entry of the polluted surface water. When nearly half the existing wells have been abandoned it is high time to do something about the whole problem. Should the stimulus come from the R.I.B.A. or the Town Planning Institute? Either or both would do, but save us from the Royal Commission.

Switchgear

Dorman and Smith announce a new range of Lancastrian ironclad switches which are described as of heavy industrial type, but which look very suitable for the main switches of the ordinary private house. Incidentally, it is worth noting that it is not so very long since the comparatively small lighting loads of the average house were controlled by a main switch which consisted merely of a pair of tumbler switches linked together by a light wooden bridge piece, while nowadays one has proper iron boxes with interlocking devices so that the cover cannot be opened unless the current is off. And these even on the cut price jobs.

●

The diagram at the head of these Notes shows the essential dimensions, which are given in the table below for the various sizes and capacities, the figures given being for a double pole switch with fuses. All dimensions are in inches.

Amps.	A	B	C	D	E	Maximum Projection Switch Open
15	$6\frac{7}{8}$	$10\frac{1}{8}$	$3\frac{3}{8}$	$5\frac{9}{16}$	$5\frac{9}{16}$	$11\frac{1}{2}$
30	8	$11\frac{3}{4}$	$3\frac{3}{8}$	$6\frac{11}{16}$	$6\frac{3}{16}$	$12\frac{7}{8}$
60	$9\frac{1}{4}$	$15\frac{3}{4}$	$5\frac{1}{8}$	$8\frac{5}{16}$	$6\frac{3}{16}$	$18\frac{1}{8}$
100	$12\frac{3}{8}$	$19\frac{1}{2}$	$5\frac{3}{4}$	$11\frac{1}{4}$	$8\frac{1}{16}$	22

The switches are fitted with re-wireable

fuses or the high rupturing capacity cartridge type, suitable for voltages up to 650.—(*Dorman and Smith, Ltd., Ordsal Electrical Works, Salford, Manchester, 5.*)

A New Armoured Glass

I cannot believe that there is by now anyone who has not heard of armourplate glass, Pilkington's case-hardened glass, which bends and withstands heat and breaks in small pieces which do not cut. There have, however, been further developments in the process during the last few months, and moulded and blown glass can now be toughened in the same way. This type of glass is known as Armourlight, and it resists blast pressure, impact and thermal shock, its uses including glasses for flameproof fittings, floodlight glasses and insulators. Various further uses will, no doubt, appear as the process gets better known, for the possibilities seem about as many as there were for the original armourplate.—(*Pilkington Brothers, Ltd., St. Helens, Lancs.*)

And a Glass that isn't Glass

One of the latest arrivals at the Timber Development Association's Glasgow pavilion is a transparent material consisting mainly of wood. Made by British Celanese, the material is manufactured from wood flour and in its early stages apparently looks rather like treacle. The sheets, when hardened, are polished between steel sheets at high temperature and pressure and the result has a highly-glazed finish. So far the process has been applied to aeroplane work, where it is useful for navigation light covers and windscreens, as it is presumably a good deal lighter than glass. Quite how this comes into architecture I do not at the moment see, but it seems to have most of the characteristics of Perspex, I.C.I.'s transparent plastic, so that most of the first few months' production will presumably be snatched by the armament manufacturers. Wait patiently and windows may one day be able to bend in two dimensions comparatively cheaply, though I cannot see any logical reason why they should.

Propaganda

The photograph on this page has been sent to me by the secretary of the Cold Rolled Brass and Copper Association, who says that the tableau was prepared jointly by his own association and "the Brass and Copper Tube Association, and was an outstanding success of the final episode in the pageant representing the industries of Birmingham." The official description adds that "the tableau which the two associations present is constructed of brass, copper, cupro nickel and nickel silver sheets and strip, surmounted by solid drawn tubes in the same metals, and the flexibility of the finer grades of the metal is shown by the shimmering woven metal mesh dresses worn by the living female figures who decorate the tableau."

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I congratulate the "living female figures" on looking less uncomfortable than they might under the circumstances, but I must confess I wouldn't mind having some information about cold rolled brass and copper. Perhaps this association publishes booklets which tell you something about them. If they don't I expect the Copper Development Association would probably tell them what to do.—(*The Cold Rolled Brass and Copper Association, King's Court, Colmore Row, Birmingham, 3.*)

THE BUILDINGS ILLUSTRATED

FREE CHURCH, PERIVALE PARK (pages 391–393). Architect: John P. Blake. The general contractors were Melsom and Rosier, and sub-contractors and suppliers included: Sevenoaks Brick Co., Ltd., sand lime bricks; London Brick Company, Ltd., rustic flettons; Girlings' Ferro Concrete Co., Ltd., artificial stone; C. and S. Construction Company, structural steel; Pilkington Bros., Ltd., dome lights; Faulkner, Greene & Co., Ltd., lantern lights; John Drake & Co. (Egham), Ltd., hot-water heating system; L. E. Davis, electrical wiring; Philips Lamps, Ltd., electrical fittings; Williams Gamon (Kaleyards), Ltd., steel windows; Kalee, Ltd., stage curtains; Xelite Plaster Co., Ltd., plaster to small church; Mealing Bros., chairs; Sadgrove & Co., Ltd., communion table; T. Cooper, pulpit and reading desk.

INFANTS' SCHOOL, SHOREHAM (pages 396–397). Architect: G. C. Stillman. The general contractors were Anglo-Scottish Construction Co., who were also responsible for sanitary fittings, fibre board, etc. Sub-contractors and suppliers included: Dicks, Ltd., heating installation; Phillips and Dart, Ltd., electrical installation; Light Steelwork, Ltd., light steel framework; Coupers Casements, Ltd., metal windows; Alfred Brown & Co., Ltd., cloakroom fittings; Wainwright Paving Co., paving; Asserati, Ltd., asphalt roofing; Matthew T. Shaw & Co., Ltd., constructional steelwork.

Manufacturers' Items

The directors of the Ketton Portland Cement Co., Ltd., announce that in their forthcoming annual report to shareholders it is their intention to recommend the payment of a final dividend of 8¾ per cent. (less tax) on the ordinary share capital, making, with the interim dividend of 6¼ per cent. (less tax) already paid, 15 per cent. (less tax) for the year to June 30, 1938. This compares with a dividend of 12½ per cent. (less tax) paid last year. Participating preference shareholders will thus qualify for a participation of 1½ per cent. (less tax), bringing their dividend for the year to 9 per cent. (less tax). The report will be issued to shareholders at the end of this month.

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A new catalogue (No. 38) has now been issued by Bayliss, Jones and Bayliss, Ltd., of Victoria and Monmoor Works, Wolverhampton. Attractively bound, it deals in a comprehensive manner with architectural ironwork in general, with particular reference to fencing and gates.

Dealing with everything from altar rail standards to deer park fencing, garden hurdles and collapsible gates, the method of description used is to devote a page to each type, giving a photograph of the product in use (the "bleed-off" in make-up must surely have done more than anything else to improve the appearance of the modern catalogue); give a short list of advantages; and a specification, together with a detail drawing of points of construction.

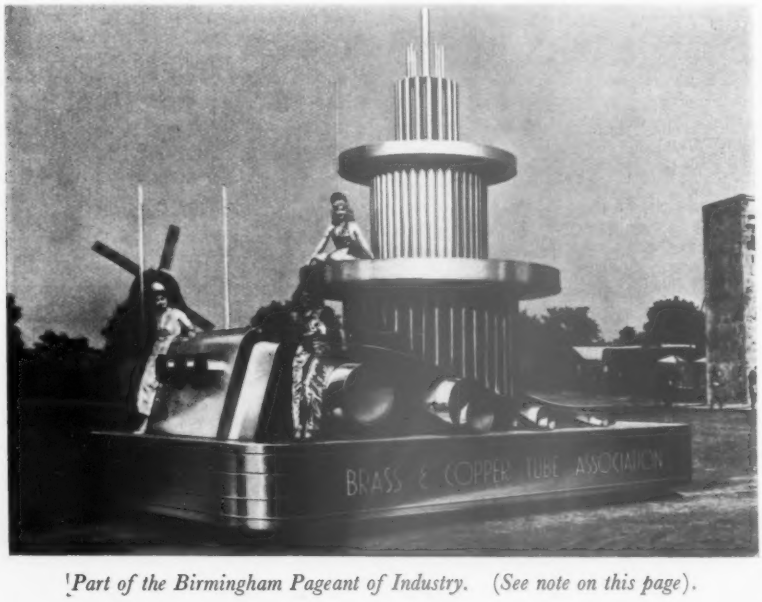
While some of the garden gate designs bow the knee to whimsy (and why not?), railings, both utilitarian and decorative, reach a very high standard of unobtrusive design.

•

Jenson and Nicholson, Ltd., of Jenson House, Stratford, London, E.15, have just issued an interesting booklet, entitled, "Decay in Timber and Fabric and How to Prevent It," the suggested remedy being this firm's product, Cuprinol.

To quote from the booklet:

"Although creosote has been employed for many years for treating timber, it was never evolved for the purpose. It is a waste product of the gas-making industry. It happened to afford timber temporary protection against the ravages of decay, and was accordingly adopted for such use. Practice has revealed that creosote, unless it is applied by the expensive pressure process, washes and dries out, and that, in the course of a year or two, it loses strength and becomes useless as a protective substance. Although exposed timber can be periodically re-treated, built-in members and posts below ground cannot be reached, and, therefore, rot when the creosote has lost its potency. The advent of Cuprinol was not an accident, neither was Cuprinol a by-product of an industry for which a use had to be found. It was a result of years of inquiry into the reasons why timber is so prone to decay, and of the expenditure of large sums of money to formulate a material to combat the decadent factors."



Part of the Birmingham Pageant of Industry. (*See note on this page*).

PRICES

On the following pages appear *(a)* Prices for Measured Work, Part II; *(b)* Prices for Approximate Estimates.

★ *ANSWERS TO QUESTIONS*

While the JOURNAL, *naturally, cannot presume to undertake the responsibilities of a quantity surveyor, it has arranged with the authors of this Supplement to answer readers' questions regarding any matter that arises over their use of the Prices Supplement in regard to their work, without any fee. Questions should be addressed to the Editor of the* JOURNAL, *and will be answered personally by Messrs. Davis and Belfield. As is the normal custom, publication in the* JOURNAL *will omit the name and address of the enquirer so that it is unnecessary to write under a pseudonym.*

The complete series of prices consists of four sections, one section being published each week in the following order :—

1. Current Market Prices of Materials, Part I.
2. Current Market Prices of Materials, Part II.
3. Current Prices for Measured Work, Part I.
4. A.—Current Prices for Measured Work, Part II.
   B.—Prices for Approximate Estimates.

● *Prices are for work executed complete and are for an average job in the London Area, all prices include for overhead charges and profit for the general contractor.*

PART 4

CURRENT PRICES FOR MEASURED WORK—II

BY DAVIS AND BELFIELD, P.A.S.I.

JOINER

Deal Flooring

		1″	1¼″
★Plain edge flooring in batten widths	per square	38/–	46/5
★Ditto tongued and grooved ditto	per square	41/9	50/6
T. & G. B.C. Pine rift flooring in narrow widths	per square	50/–	—

Wood Block Flooring, laid herringbone, 100 yards and up

D.G. and T.G. kiln dried, 2 block border, laid in hot mastic composition on cement screed, including 2 feet run of straight cutting per yard super, and wax polishing at time of laying.

		1″ nominal	1¼″ nominal
Burma teak	per yard super	13/11	18/4½
Canadian Maple	per yard super	11/6	13/8
25–30 per cent. quart Austrian Oak	per yard super	12/10	16/–
Plain American Oak (no selection made for sap)	per yard super	11/8	—
Gurjun	per yard super	12/7	14/9
Pitch Pine (50% rift sawn)	per yard super	11/10	13/8
Ditto (100% ditto)	per yard super	13/1½	15/6
British Columbian Pine	per yard super	10/–	11/6
Kara Sea Deal, 100 per cent. rift sawn	per yard super	9/9	10/6
Jarrah	per yard super	13/2	15/9
Additional straight cutting	5½d. per foot run		

JOINER—(*continued*)

Secret Nailed Tongued and Grooved Strip Flooring, fully Desiccated, including Polishing

		1″ nominal	1¼″ nominal
		£ s. d.	£ s. d.
Austrian Wainscot Oak	per square	8 18 6	10 12 7
Plain Japanese Oak	per square	7 10 8	9 2 2
Plain American Oak	per square	7 7 0	9 3 9
Pitch Pine	per square	7 0 6	8 15 7
British Columbian Pine	per square	4 14 6	5 7 7
Canadian Maple	per square	6 19 1	8 10 7
Burma Teak	per square	8 18 6	10 17 4
English Oak	per square	10 4 9	12 15 11
Gurjun	per square	6 19 1	8 10 7
Jarrah	per square	6 13 10	8 6 5

Wall Linings

★⅝″ Deal tongued and grooved V-jointed Matching in narrow widths	per square	32/9
¼″ (6 mm.) Birch (A) Plywood and fixing to walls	per square	46/6
7/16″ Asbestos cement sheets butt jointed	per foot super	–/3¾
½″ Fibre board and fixing to walls	per yard super	2/11
Deal battens as ground plugged to brickwork	per foot super	–/1½
•1½″ × ⅜″ wrot and chamfered fillets	per foot run	–/1½
2″ × ½″ wrot and moulded ditto	per foot run	–/1¾

★ **Items marked thus have fallen in price since August 11.**

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

JOINER, IRONMONGER AND STEEL AND IRONWORKER

JOINER—(*continued*)

Skirtings

		Deal	Austrian Oak
1″ chamfered or moulded 4″ high, fixed to and including grounds and backings planted on	per foot run	–/3½	–/7¾
Add for plugging to brickwork ..	per foot run	–/0½	–/0¾

Fitted ends on hardwood price as 4″ of skirtings, mitres as 6″.
Fitted ends, etc., on deal skirting included in price per foot run.

Casements and Fanlights

		1½″	2″
Deal moulded sashes divided into squares with glazing bars	per foot super	1/4½	1/5½
Add for hanging casements (butts measured separately)	each	1/9	2/–

Cased Frames and Sashes

Deal cased sashed frame, including 2″ double hung sashes, with 6″×3″ Oak cill and brass axle pulleys, sash line and weights, average 15 feet super ..	per foot super	3/9

Doors in Deal

		¾″	1″	1¼″
Matchboarded, ledged and braced door	per foot super	1/–	1/2	1/4
		1½″	1¾″	2″
Framed, ledged and braced door, filled in with matchboarding ..	per foot super	1/5	1/9	1/10
Ditto garage doors	per foot super			1/7
				4-panel
1½″ square framed, both sides ..	per foot super			1/7
2″ ditto	per foot super			1/9
1½″ ditto bead butt panels one side, but square the other	per foot super			1/9
2″ ditto, ditto	per foot super			1/11
1½″ moulded both sides	per foot super			1/10
2″ ditto	per foot super			2/–
For fixing only p.c. doors allow ..	per foot super			–/2½

Hardwood doors two-and-a-half times as much as deal.

Deal glazing beads, mitred and bradded	per foot run	–/1½
Ditto and fixed with brass cups and screws	per foot run	–/3

Window and Door Linings

		1″	1¼″	1½″
Deal linings, 6″ wide, tongued at angles and planted on including backings	per foot run	–/6½	–/7	–/8
Add for plugging to wall ..	per foot run	–/0½	–/0½	–/0½
Add for rebating	per foot run	–/0½	–/0½	–/0½
Add for ¼″ × 2″ Deal stop planted on	per foot run	–/1½	–/1½	–/1½
Deal window board 9″ wide, with rounded nosing, tongued at back and on and including bearers plugged to brickwork..	per foot run	–/10	–/11	1/1
¾″ Deal scotia mould	per foot run		–/1½	
Oak linings 6″ wide tongued at angles and planted on including backings	per foot run	1/2½	1/4½	1/7½
Add for plugging to brickwork ..	per foot run	–/1	–/1	–/1
Add for rebating	per foot run	–/1	–/1	–/1
Add for ½″ × 2″ Oak stop planted on	per foot run	–/3½	–/3½	–/3½
Oak window board 9″ wide, with rounded nosing tongued at back and on and including bearers plugged to brickwork..	per foot run	1/10	2/1	
¾″ Oak scotia mould	per foot run		–/3½	

Window and Door Frames

		Deal	Austrian Oak
4″ × 3″ door frames	per foot run	–/10	2/0½
4″ × 3″ window frames	per foot run	1/–	2/4½
4″ × 3″ transomes and mullions ..	per foot run	1/3½	2/11½
6″ × 3″ door cill, sunk weathered twice throated and grooved for water bar (measured separately)	per foot run	—	3/9
6″ × 3″ window ditto	per foot run	—	3/1
Add or deduct for variation in sectional area per square inch	per foot run	–/0½	–/1½
Add for each labour, for chamfer, bead or rebate, etc.	per foot run	–/0½	–/1
Add for each moulding	per foot run	–/0¾	–/1½

Architraves

		Deal	Oak
1″×3″ chamfered or moulded architraves, including mitres on softwood, planted on	per foot run	–/3	–/7¼

Mitred angles on oak price as 6″ of architrave.

Add for plugging to brickwork ..	per foot run	–/0½	–/0¾
Add for narrow splayed grounds ..	per foot run	–/1½	–/1½

JOINER—(*continued*)

Shelving

		Deal	Oak
Slat shelving of 1″ × 2″ spaced ¾″ apart	per foot super	–/9	—
1″ shelving	per foot super	–/10	2/2
1½″ ditto	per foot super	–/11½	2/6
1″ cross-tongued shelving ..	per foot super	1/–	2/6
1½″ ditto	per foot super	1/1½	2/10
1″ × 2″ chamfered bearers planted on	per foot run	–/2½	–/5½
Add if bearers plugged to brickwork	per foot run	–/0½	–/0¾

Teak Draining Boards and Twice Oiling

1½″ Moulmein cross-tongued fluted draining board fixed to slight falls	per foot super	3/9
½″ × 2″ rounded rim bedded in white lead and screwed to edge of draining board	per foot run	–/5
½″ × 4″ rounded skirting fillet ditto.. ..	per foot run	–/9

Staircases

		Deal	Oak
1½″ treads and 1″ risers ..	per foot super	2/–	5/–
2″ strings, fixed	per foot run	1/10	4/7
Housing treads and risers to strings ..	each	–/9	1/6
3″ × 2½″ French polished moulded handrail	per foot run	—	2/6
1½″ × 1½″ square balusters 2′ 6″ long ..	each	–/10	2/–
4″ × 4″ Newels with chamfered edges and fixing	per foot run	1/4	3/4

IRONMONGER

Fixing only

4″ Butt hinges to softwood	per pair	1/–
4″ ditto to hardwood	per pair	1/4
16″ T. hinges to softwood	per pair	1/6
48″ Collinges patent gate hinges to softwood	per pair	7/6

		Softwood	Hardwood
6″ Cabin hooks	each	–/7½	–/10
Hat and coat hooks	each	–/3	–/4
Cupboard knobs	each	–/3	–/4
Night latches	each	1/6	2/–
Thumb latches	each	1/6	2/–
Letter plate and knocker, including perforation in door	each	2/6	3/4
Barrel or tower bolts	each	–/10	1/1
Flush bolts	each	1/6	2/–
Rim locks and furniture	each	2/–	2/8
Mortice ditto	each	3/–	4/–
Rebated ditto	each	3/6	4/8
Grip handles	each	–/6	–/8
Cupboard locks	each	1/–	1/4
Spring catches	each	–/10½	1/1½
Casement fastener	each	1/–	1/4
Ditto stays	each	–/10	1/1
Sash fastener	each	–/8	–/11

STEEL AND IRONWORKER

(For Rainwater Goods—*see* " Plumber.")

Steelwork

		£	s.	d.
Basis for plain rolled steel joists ..	per ton	16	6	6

Fabricated Steelwork

		£	s.	d.
Joists cut and fitted	per ton	20	10	6
Stanchions, ordinary sections with riveted caps and bases	per ton	23	10	6
Stanchions, compound	per ton	25	11	6
Plate girders	per ton	28	9	6
Framed roof trusses, 25′ 0″ span ..	per ton	30	4	6
Ditto ditto 60′ 0″ span ..	per ton	28	5	0

The above prices are ex mills ordered well in advance of delivery.
Prices ex London stocks are considerably higher, and definite quotations should be obtained.

Wrot Iron Work

Simple balusters and handrail fixed (excluding mortices, etc.)	per cwt.	56/–
Bolts and nuts fitted	per cwt.	45/–

Galvanized Corrugated Sheeting

		20 B.G.	22 B.G.
Sheeting in 3″ corrugations and fixing on wood framing with screws and galvanized embossed curved washers including laps ..	per square	56/–	49/–
Ditto fixed to steel framing ..	per square	63/4	56/8

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

PLASTERER, EXTERNAL AND INTERNAL PLUMBER

PLASTERER

Lime and Sirapite Plastering

	Per yard super	In narrow widths per foot super
Expanded metal lathing	1/8	–/3
1″ × 3/16″ sawn laths	–/9	–/1½
Render and set in lime and hair	1/8	–/3½
Render, float and set in lime and hair	2/–	–/3¾
Plaster, float and set ditto on lathing (measured separately)	2/1½	–/4
Render and set with Sirapite	1/9½	–/3½
Plaster, float and set ditto on lathing (measured separately)	2/3	–/4
Skimming coat Sirapite	1/5½	
⅜″ thick plaster board fixed including covering joints with scrim cloth	2/–	

Keenes

	Per yard super	In narrow widths per foot super
Cement plain face on and including a backing of Portland cement and sand	2/6	–/5

Mouldings and Labours

		Lime and Sirapite	Keenes
Plain cornices and mouldings 6″ girth	per foot run	–/9½	–/11
Labour arris, quirk or throat	per foot run	–/1½	–/1½
Ditto rounded angle	per foot run	–/2	–/2
Ditto staff bead	per foot run	—	–/7½

Mitres price as 12″ of moulding, stopped ends as 6″, and rounded angles as 18″.

Portland Cement and Sand (1 : 3)

		½″	¾″
Screeds to floors for wood or tiles	per yard super	1/2½	1/4
Screeds for tiling, etc., on walls	per yard super	1/4	1/6
Renderings to walls—one coat float finish	per yard super	1/6	1/8
Plainface	per yard super	1/10	2/–

Coloured Cement Plainface

Cullamix No. 2 or 3 cream, on and including water repellent cement and sand backing	per yard super	3/10
Snowcrete mixture on and including ditto	per yard super	3/10
Snowcrete and white silica sand on and including ditto	per yard super	3/6

For raking out joints of brickwork, keyed bricks or hacking face of concrete, to form key for plastering, see "Bricklayer."

Wall Tiles, Commercial Quality

6″ × 6″ × ¼″ ivory or white	per yard super	16/–
Extra for rounded edge tiles	per yard run	1/5
6″ × 6″ × ¼″ coloured enamel bright glazed	per yard super	21/3
Extra for rounded edge tiles	per yard run	–/7¾
6″ × 6″ × ¼″ eggshell gloss enamelled	per yard super	22/1
Extra for rounded edge tiles	per yard run	–/6¾

EXTERNAL PLUMBER

Lead

	Flats	Gutters, Flashings, etc.	Stepped Flashings	Soakers cut to size
Milled sheet lead and labour per cwt.	39/6	40/7	41/8½	34/4
Bedding edges in white lead			per foot run	–/2
Lead wedgings to flashings			per foot run	–/1½
Ditto to stepped flashings			per foot run	–/2
Dressing 6-lb. lead over glass and glazing bars			per foot run	–/3½
Copper nailing			per foot run	–/1½
Close ditto			per foot run	–/2
Bossed ends to rolls			each	–/7½
Extra labour dressing through shoots and into rainwater heads			each	3/–
Ditto to cesspools, including extra solder			each	5/3

Cast Iron Rainwater Goods

Rainwater Pipes fixed to brickwork.

		3″	4″
Round pipes	per foot run	1/5½	1/9
Extra for bends	each	2/2	2/10
Ditto 6″ offset	each	2/4	2/10
Ditto single branches	each	2/7	3/1
Ditto shoes	each	1/7	2/2
		3½″ × 3½″	4″ × 3″
Square and rectangular pipes	per foot run	3/2	2/10
Extra for elbows	each	4/11	3/6
Ditto single branches	each	5/9	5/4
Ditto shoes	each	4/8	4/3

EXTERNAL PLUMBER—(*continued*)

Gutters fixed to fascia.

		4″	5″	6″
Half-round gutters	per foot run	1/–	1/2½	1/8½
Extra for angles	each	1/9	2/–	2/3
Ditto nozzles	each	1/7	1/10	2/5
Ditto stop ends	each	1/–	1/3	1/4½
Ogee gutters	per foot run	1/1½	1/4	1/9½
Extra for angles	each	1/9½	2/3	2/4
Ditto nozzles	each	1/8	2/3	2/8
Ditto stop ends	each	1/1½	1/4½	1/7½

INTERNAL PLUMBER

Lead Pipes

Service.

		½″	¾″	1″	1¼″
Pipes laid in trenches	per foot run	–/10¾	1/2½	1/8¾	2/4½
Add if fixed on walls	per foot run	–/2	–/3	–/4	–/5
Ditto if in short lengths	per foot run	–/1	–/1	–/1½	–/2
		1½″	2″	2½″	3″
Pipes laid in trenches	per foot run	3/–	4/–	—	—
Add if fixed on walls	per foot run	–/6	–/8	—	—
Ditto if in short lengths	per foot run	–/3	–/4	—	—

Distributing.

		½″	¾″	1″	1¼″
Cold water pipes fixed to walls	per foot run	–/10¾	1/2¾	1/8¼	2/3
Add if in short lengths	per foot run	–/1	–/1	–/1½	–/2
Cold water pipes fixed to walls	per foot run	1½″ 2/9½	2″ 3/7½	2½″ —	3″ —
Add if in short lengths	per foot run	–/3	–/4	—	—

Flushing and Warning.

		½″	¾″	1″	1¼″
Waste and overflow pipes fixed in short lengths	per foot run	–/8¾	–/11	1/2	1/5
Waste and overflow pipes fixed in short lengths	per foot run	1½″ 1/10	2″ 2/5½	2½″ —	3″ —

Soil and Ventilating

		3½″	4″	4½″
Pipes fixed, including lead tacks	per foot run	5/3	5/10	6/8½

		1½″	2″	2½″	3″	3½″	4″	4½″
Bends	each	1/6	2/–	2/9	3/9	4/3	4/6	5/6
Soldered joints to fittings	each	½″ 2/1½	¾″ 2/4	1″ 2/7	1¼″ 2/9	1½″ 3/–	2″ 3/5	
Soldered branch joints (price as largest branch)	each	½″ 2/3½	¾″ 2/6	1″ 2/9	1¼″ 3/–	1½″ 3/3		
Soldered branch joints (price as largest branch)	each	2″ 3/8	2½″ 4/–	3″ 4/6	4″ 5/–	4½″ 6/6		
Wrap small pipes with hair felt	per foot run	–/6						

Drawn Lead Traps

	1¼″	1½″ 3″ deep seal	1½″	1½″ 3″ deep seal	2″	2″ 3″ deep seal
P. Traps 6 lb. with cleaning eye and two soldered joints each	7/1	7/7½	8/3	8/9½	9/8	10/2½
S. ditto each	7/6	8/0½	8/8	9/2½	10/4	10/10½

Brasswork (Best Quality)

	½″	¾″	1″
Brass screwdown stop cocks including two soldered joints each	7/6	9/9	13/1
Ditto, including two red lead joints for iron each	5/8	7/10	11/–
Ditto, including one soldered and one red lead joint each	6/1	8/1	11/2
High pressure Portsmouth pattern ball valve with flynut and union and one soldered joint each	8/5	11/7	17/2
Ditto, including red lead joint for iron each	6/5	9/2	16/8

	2″	4″
Brass thimble and soldered and cement joints each	5/–	9/5
Ditto, with solder and caulked lead joints each	6/–	11/2

Fixing Only (Connections to Pipes measured separately)

24″ × 18″ × 6″ sinks including taps, etc., and pair of brackets cut and pinned to brickwork each	6/–
24″ × 18″ lavatory basins ditto each	6/6
W.C. suite comprising pan and trap, seat, W.W.P. and brackets each	10/6
Baths, including taps, etc., and setting in position each	10/6

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

INTERNAL PLUMBER, GLAZIER AND PAINTER

INTERNAL PLUMBER—(*continued*)

Screwed and Socketed Galvanized Steam Quality Steel Tubes and Fittings

Pipes up to and including 1½″ include short running lengths, sockets, connectors, elbows, bends, fire bends; Tees and Diminishing Pieces enumerated.

Distributing.

	½″	¾″	1″	1¼″	1½″	2″
Pipes fixed to walls per foot run	–/10	1/–	1/4	1/10	2/4	3/–
Ditto in short lengths, fittings, etc., measured separately per foot run	–/10	1/–	1/4	1/10	2/4	3/–
Extra for						
Firebends .. .. .. each	–/4	–/6	–/9	1/1	1/6	2/–
Bends .. .. .. each	1/2	1/5	1/9	2/6	3/1	4/9
Round elbows .. .. each	1/5	1/8	2/–	2/4	2/10	4/4
Square ditto .. .. each	1/5	1/8	1/11	2/3	2/8	4/1
Tees .. .. .. each	1/6	1/10	2/1	2/9	3/1	4/8
Crosses .. .. .. each	2/9	3/2	3/10	5/–	6/–	9/1
Diminishing pieces .. each	–/10	–/11	1/2	1/6	1/11	2/8
Caps .. .. .. each	–/7	–/8	–/10	1/–	1/5	1/9
Plugs .. .. .. each	–/6	–/6	–/8	–/11	1/4	1/8

Cast Iron Waste, Soil and Vent Pipes

	2″	3″	4″	5″	6″
L.C.C. pipes in 6′ 0″ lengths fixed to brickwork .. per foot run	1/10	2/–	2/5	4/5	5/4
Extra for bends .. .. each	5/3	6/1	7/10	11/–	14/9
Ditto single branches .. each	6/5	8/2	11/–	17/6	23/6
Ditto swannecks 6″ projection each	6/1	8/9	11/1	16/1	22/–
Extra for access door or any fitting .. .. .. each	6/9	6/9	7/3	8/6	8/6

Zincworker

	13 G.	14 G.	15 G.	16 G.
Rolled sheet zinc on flats per foot super	–/7½	–/8	–/9	–/9½
Ditto in gutters, cover flashings, etc. per foot super	–/8½	–/8½	–/9½	–/10½
Ditto in stepped flashings per foot super	–/10½	–/11	1/–	1/0½
Labour and risk dressing over glass per foot run	–/4½	–/4½	–/4½	–/4½
Capped ends to rolls .. .. each	–/2¼	–/2¼	–/2¼	–/2¼
Extra labour to cesspools .. each	2/7½	2/7½	3/2	3/2

Copperworker

Distributing.

	½″	¾″	1″	1¼″	1½″	2″
Solid drawn copper tube fixed to walls .. .. per foot run	–/9	1/–	1/5½	1/10	2/3	3/3
Add if in short lengths per foot run	–/0¾	–/0¾	–/1	–/1½	–/2	–/2¼

Fittings for copper tubes

Compression type							
Straight couplings .. each	1/10	2/2	3/–	3/9	5/1	7/3	
Obtuse elbows .. .. ,,	2/8	3/2	4/5	5/6	8/10	12/7	
Tees .. .. .. ,,	3/1	3/6½	5/4	7/4½	11/3	15/7	
Crosses .. .. .. ,,	4/1½	4/8	5/8½	8/–	13/2	18/–	
Reducing coupling .. ,,	—	2/2	3/–	3/9	5/1	7/3	
Bends .. .. .. ,,	2/5	2/10½	3/1	5/–	8/3	11/11	
Brass stopcocks .. .. ,,	5/6	7/10	11/–	19/3	26/6	43/6	
Capillary type							
Straight coupling .. each	1/6	1/11	2/7	3/3	4/1	5/4½	
45° Elbow .. .. ,,	2/4	2/11½	3/10½	4/11	6/10	9/7	
Tees .. .. .. ,,	2/7	3/–	4/3	5/10	7/10	11/–	
Crosses .. .. .. ,,	3/1	3/6	5/1½	6/10	9/8	13/5	
Reducing coupling .. ,,	—	1/7	2/–	2/6	3/3	4/8	
Bends .. .. .. ,,	2/8	3/2	4/3	5/7	8/1	10/11	
Pillar tap connections .. ,,	1/11	2/6					

	24 G.	23 G.
Rolled sheet copper on flats .. per foot super	1/5	1/7
Ditto in gutters, cover flashings, etc. per foot super	1/7	1/9
Ditto in stepped flashings .. .. per foot super	2/1½	2/4½
Labour and risk dressing over glass per foot run	–/4½	–/4½
Capped ends to rolls .. .. .. each	–/3¼	–/3¼
Extra labour to cesspools .. .. .. each	3/8	3/8

GLAZIER

Sheet Glass (Ordinary Glazing Quality)

18 oz. clear sheet and glazing to wood, sprigged and with back and front putties, to all normal sizes not exceeding 60″ in length or 40″ wide .. .. .. per foot super	–/6½
24 oz. ditto .. .. per foot super	–/7¾
32 oz. ditto .. .. per foot super	–/11½

GLAZIER—(*continued*)

Obscured ground sheet glass, net extra to above prices per foot super	–/1¾
⅛″ figured rolled white glass and glazing to wood with beads (measured separately) .. .. per foot super	–/10½
Ditto, normal tints, ditto .. .. .. per foot super	1/2¾
Hammered double rolled cathedral white ditto per foot super	–/10
Ditto, normal tints, ditto .. .. .. per foot super	1/1¾
Add for glazing into metal frames (ordinary rebates) per foot super	–/1⅛
Ditto, metal sashes with ferroput .. .. per foot super	–/2¼
Ditto, solid metal casements and screw beads per foot super	–/2¼
Wash leather strip or similar material and bedding edge of glass .. .. per foot run	–/3¼

Glazing only thick drawn sheet glass, polished plate or wire polished plate for all normal sizes. (For prices of glass see materials section and add profit, say 10 per cent.) per foot super 6¼d.

PAINTER

Painting, Whitening and Distempering (on new Plastered Walls)

Twice distempering white .. .. per yard super	–/5
Ditto, in common colours .. .. per yard super	–/7
Add for stippling .. .. .. per yard super	–/2
Preparing and painting three coats of paint per yard super	1/9

Preparing and Painting Two Coats of Oil Colour on Ironwork after fixing

General surfaces .. .. .. per yard super	1/1½
Perforated landings and staircases both sides (one side measured) .. .. per yard super	2/6
Pipes, bars, balusters, etc., not exceeding 3″ girth per yard run	–/1¾
Metal Window Frames .. .. .. per yard run	–/2¾
Eaves gutters .. .. per yard run	–/7½
2″ Rainwater pipes .. .. per yard run	–/3
4″ ditto .. .. per yard run	–/6
Squares one side .. .. per dozen	1/9
Large ditto .. .. per dozen	2/3
Extra large ditto .. .. per dozen	3/–
Edges of casements .. .. each	–/3

Painting on New Woodwork

	Knot, prime, stop and paint three coats oil colour	Add or deduct for each coat more or less
General surfaces .. per yard super	2/–	–/6
Fascias and soffites .. per yard super	2/6	–/7½
Fillets, skirtings, etc., not exceeding 3″ girth .. .. per yard run	–/3	–/0¾
Ditto, not exceeding 6″ ,, ,, ,,	–/5½	–/1½
Ditto, not exceeding 9″ ,, ,, ,,	–/7	–/1¾
Ditto, not exceeding 12″ ,, ,, ,,	–/9	–/2
Squares one side .. .. per dozen	3/6	–/9
Large ditto .. .. ,, ,,	4/6	1/–
Extra large ditto .. .. ,, ,,	6/–	1/4
Edges of casements .. each	–/6	–/1½

Sundries

Twice creosoting woodwork .. .. per yard super	–/6
Twice limewhiting brickwork .. per yard super	–/4

	Sizing	Staining	Once Varnish
General surfaces .. per yard super	–/2	–/4½	–/6
Wax polishing .. .. per foot super			–/4½
Body in and French polish on hardwood surfaces per foot super			1/–

Writing

Plain letters or figures, two coats, 2″ to 12″ letters per dozen inches in height	1/10½
Ditto, shaded .. .. .. ,, ,, ,, ,, ,,	2/6
Plain gold, 2″ to 12″ letters .. ,, ,, ,, ,, ,,	2/6
Ditto, 12″ to 24″ .. .. ,, ,, ,, ,, ,,	3/9

Gilding

	Single Gold	Double Gold
Preparing and gilding in best oil gold per foot super	5/3	8/4
Ditto in matt or burnished gold per foot super	7/4	11/6

Paperhanging

Pasting and hanging only.

	On walls	On ceilings
Preparing new plastered walls for papering per piece (60 feet super)	1/4	1/5½
Plain lining paper .. ,, ,, ,, ,,	1/4	1/8
Common printed papers ,, ,, ,, ,,	2/–	2/6

APPROXIMATE ESTIMATES

ON this and the three following pages the JOURNAL's section of Approximate Estimates is published for the seventh time.

There is nothing revolutionary about the idea—its usefulness lies in its efficiency as a time-saver in calculating the approximate price of work to which the cubing system cannot be applied.

In brief, an Approximate Estimate in considering a roof, converts the several units of pricing involved into a common unit of price per square yard, and then adjusts the price to cover sundry labours. By this means several stages of calculation are saved by the estimator in a hurry.

• *The following composite prices are for work executed complete and should be used for the preparation of Approximate Estimates only.*

FOUNDATIONS

		Thickness of walls 9″	11″ Hollow	13½″
• Excavation in clay soil for foundations 2′ 6″ deep to walls, including stock brickwork in second stocks cement mortar 1 : 3 up to 6″ above ground and horizontal double slate damp-proof course with external facings p.c. 100/– and pointing	*per yard run*	25/1	28/3	35/4
• Ditto, in ordinary soil ditto	*per yard run*	23/10	27/1	33/9

EXTERNAL WALLS

• External walls in Fletton brickwork in cement mortar 1 : 3 including three coat lime plaster and twice distempering one side and facings p.c. 100/– in Flemish bond, joints raked out and pointed with a neat struck weathered joint, the other	*per yard super*	19/4	19/1	24/9
• Ditto, including Keenes cement plain-face and three coats oil colour one side and ditto	*per yard super*	21/–	20/9	26/5
• Ditto, including internal fair face, flush jointed one side and ditto	*per yard super*	17/7½	17/4½	23/0½
• For variation of 10/– per m. in p.c. of facings in Flemish bond (stretcher in cavity work)	*per yard super*	–/9	–/6¾	–/9

APPROXIMATE ESTIMATES—(*continued*)

INTERNAL WALLS AND PARTITIONS

		2″	3″	4½″	9″
● Breeze partitions set in cement mortar or Fletton brick walls and including three coat lime plaster and twice distempering both sides	*per yard super*	9/11	11/1	11/1	16/7
● Ditto, built fair and flush jointed both sides ...	*per yard super*	—	—	7/8½	13/2
● Ditto, including Keenes cement plain-face and three coats oil colour both sides ...	*per yard super*	13/3	14/5	14/6	19/11

GROUND FLOORS

● Solid ground floor construction including 9″ excavation, 4″ bed of hardcore, 6″ concrete 6 : 1 surface bed, finished with 1½″ granolithic paving trowelled smooth	*per yard super*	9/10
● Ditto, finished with ¾″ cement and sand 1 : 3 screed and wood block flooring or paving p.c. 10/– yard	*per yard super*	18/2
● Ditto, finished with 2″ × 2″ sawn floor fillets and floor clips and 1″ deal tongued and grooved flooring, batten widths	*per yard super*	12/11½
● Ditto, finished with floor fillets as before and 1″ (nominal) oak tongued and grooved narrow widths strip flooring polished at time of laying	*per yard super*	25/2½
● Sleeper wall ground floor construction, including 15″ excavation, 4″ bed of hardcore, 6″ concrete 6 : 1 surface bed, sleeper walls 12″ high, built honeycomb, 4½″ slate damp-proof course 4½″ × 3″ fir plate, and 4″ × 2″ sleeper joists and 1″ deal tongued and grooved flooring in batten widths	*per yard super*	15/3
● Ditto, with 1″ nominal oak tongued and grooved narrow widths strip flooring polished at time of laying	*per yard super*	27/6

UPPER FLOORS

		With 7″ Joists	With 9″ Joists	With 11″ Joists
● Wood construction including 2″ fir joists on 4″ × 3″ fir plates and herring-bone strutting with three coat lime plaster and twice distempering white to soffite and 1″ deal tongued and grooved flooring in batten widths	*per yard super*	12/–	13/2	14/3
● Ditto, with 1″ nominal oak tongued and grooved narrow widths strip flooring polished at time of laying	*per yard super*	24/3	25/5	26/6
● 5″ thick concrete 4 : 2 : 1 reinforced with fabric suitable at 13′ 0″ spans for carrying ¾ cwt. per ft. super, with two coat lime plaster and twice distempering white to soffite and 1″ Kara Sea deal 100 per cent. rift sawn block flooring wax polished at time of laying ...	*per yard super*			25/7
● Ditto, with 1″ nominal 25/30 per cent. quartered Austrian oak block flooring polished at time of laying	*per yard super*			28/8

APPROXIMATE ESTIMATES—(*continued*)

FLAT ROOFS

		Using 7″ Joists	Using 9″ Joists	Using 11″ Joists
● Wood construction including 2″ fir joists on 4″ × 3″ fir plates and herring-bone strutting with three coat lime plaster and twice distempering white to soffite and best natural rock asphalt roof finish ...	*per yard super*	18/5	19/5	20/6
● 5″ Thick concrete 4 : 2 : 1 reinforced with fabric (suitable at 13′ 0″ span for carrying 40 lbs. per ft. super) with two coat lime plaster and twice distempering white ditto	*per yard super*			22/7

PITCHED ROOFS

● Bangor Countess 20″ × 10″ slating, laid to 3″ lap fixed with zinc nails, including 2″ × 1″ battens, ¾″ roof boarding and 4″ × 2″ rafters (measured on slope)	*per yard super*	13/1
● Westmorland Random green slates No. 1 best 24″ to 12″ long proportionate widths ditto	*per yard super*	17/2
● Machine-made tiles 10½″ × 6½″ laid to a 4″ gauge, fourth course nailed with galvanized nails ditto	*per yard super*	11/6
● Hand-made sand faced tiles ditto ditto	*per yard super*	12/3
● Slate ridges, including cuttings and 1½″ × 9″ deal ridge	*per yard run*	9/10½
● Half-round ridge tile ditto	*per yard run*	7/7
● Slate hips, including cuttings, lead soakers, and 1½″ × 11″ deal hips	*per yard run*	12/5½
● Hip tiles, including cuttings and 1½″ × 11″ deal hips	*per yard run*	14/–
● Lead valley gutter to slated roof, including cuttings and 1½″ × 11″ deal hips	*per yard run*	18/5
● Purpose-made valley tiles, including cuttings and 1½″ × 11″ deal hips	*per yard run*	13/7

DOORS

		Partitions or Walls				
		2″	3″	4½″	9″	13½″
● 2″ flush door p.c. 29/– 2′ 6″ × 6′ 6″, including deal frames or linings, ironmongery p.c. 15/– and simple architraves both sides, all painted	each	100/–	101/5	96/3	100/10½	106/10½

WINDOWS

Prices are for normal size, including suitable ironmongery, glazing with clear sheet glass and painting.

● Standard metal casements with fixed lights	*per foot super*	2/5
● Ditto, with average proportion of opening lights	*per foot super*	3/10
● Standard metal casements in wood frames with fixed lights	*per foot super*	4/–
● Ditto, with average proportion of opening lights	*per foot super*	4/11
● Standard industrial type sashes with fixed lights	*per foot super*	2/2
● Ditto, with average proportion of opening lights	*per foot super*	3/6
● Solid deal frames and 2″ casements	*per foot super*	5/0½
● Deal cased frames and double hung sashes	*per foot super*	4/10½

NOTE.—Standard wood surrounds to metal windows can be obtained at a cheaper price than that given for wood frames above.

APPROXIMATE ESTIMATES—*(continued)*

STAIRCASES

• Deal 9′ 0″ high, including half space landing, newels, balusters and handrail	*each*	£23	10 0
• Austrian oak ditto	*each*	£44	5 0
• Precast concrete ditto	*each*	£32	15 0

DRAINS

		Ordinary Soil	*Clay Soil*
• Manhole, 2′ 3″ × 1′ 6″ × 2′ 0″ deep, including excavation, 6″ (6 : 1) concrete bottom, one brick sides 3rd stocks in cement mortar with brown glazed half-round straight main channel and one brown glazed branch channel, including benching, sides rendered in cement and sand (1 : 3) and a 24″ × 18″ black single seal cast iron manhole cover and frame, weight 0 cwts. 3 qrs. 0 lbs.	*each*	£3 12 6	£3 15 6
• Manhole 2′ 3″ × 3′ 9″ × 4′ 0″ deep ditto including six branches	*each*	£7 2 0	£7 6 6

		Clay Soil		*Ordinary Soil*	
		4″	*6″*	*4″*	*6″*
• British standard quality stoneware drain pipes laid on and including 6″ thick concrete bed flaunched up both sides of pipe and excavating average 2′ 6″ deep	*per foot run*	2/5	3/0½	2/3	2/10½
• Ditto, but excavating 4′ 0″ deep	*per foot run*	4/1½	4/9	3/7½	4/3
• Cast iron drain pipes in 9′ lengths and laying in trench including 6″ concrete bed and excavating average 2′ 6″ deep	*per foot run*	4/8	6/6½	4/6	6/4½
• Ditto, average 4′ 0″ deep	*per foot run*	6/4½	8/3	5/10½	7/9

PATHS AND DRIVES

• 2″ finished gravel paths, including 6″ excavation and 4″ bed of hard-core and edging boards	*per yard super*	5/3
• 7½″ finished gravel drive, including 6″ excavation, 6″ bed of hardcore and edging boards	*per yard super*	6/9
• 2½″ Tarmacadam drive including ditto	*per yard super*	7/10

FENCES

• Cleft chestnut pale fence 4′ 0″ high	*per foot run*	–/10
• Deal weather boards, including posts, arris rails and gravel boards creosoted, 5′ 0″ high	*per foot run*	2/9½
• Ditto, in English oak throughout	*per foot run*	3/10½

The four sections on PRICES published in the issues of August 18, 25 and September 1 and this week, together complete the PRICES SUPPLEMENT. Next week the FIRST SECTION—PRICES OF MATERIALS, PART 1—will be repeated with items revised according to market quotations.