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THE ARCHITECTS' JOURNAL

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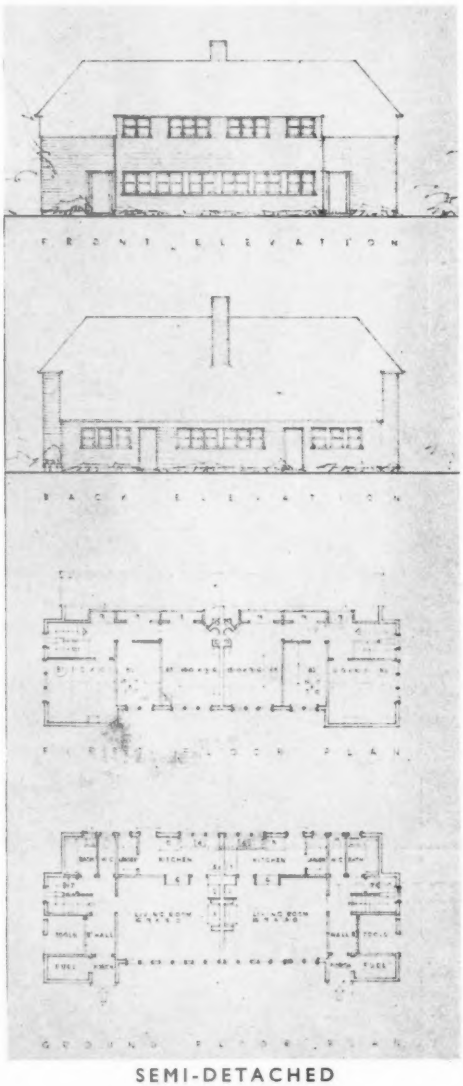
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, JUNE 23, 1938. NUMBER 2266 : VOLUME 87

PRINCIPAL CONTENTS

COMPETITION FOR TIMBER COTTAGES

WINNING SCHEME: BY C. M. AND H. W. CRICKMAY



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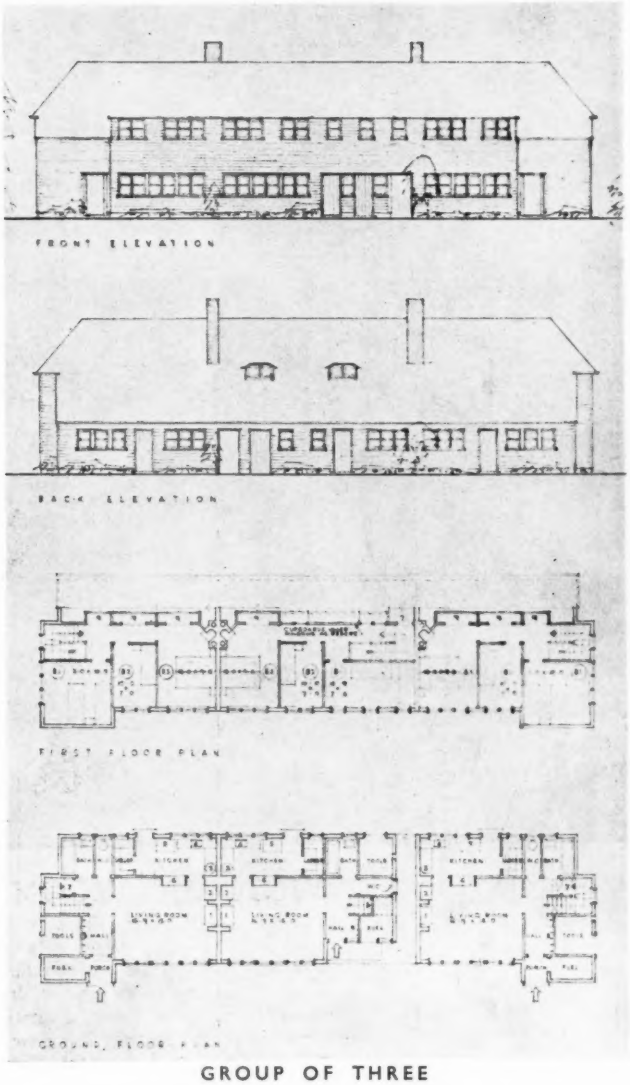


GROUP OF THREE

Messrs. C. H. James, A.R.A., Edward Maufe, A.R.A., and John Gloag, assessors of the competition organized by the Timber Development Association for timber cottages have made their award as follows :

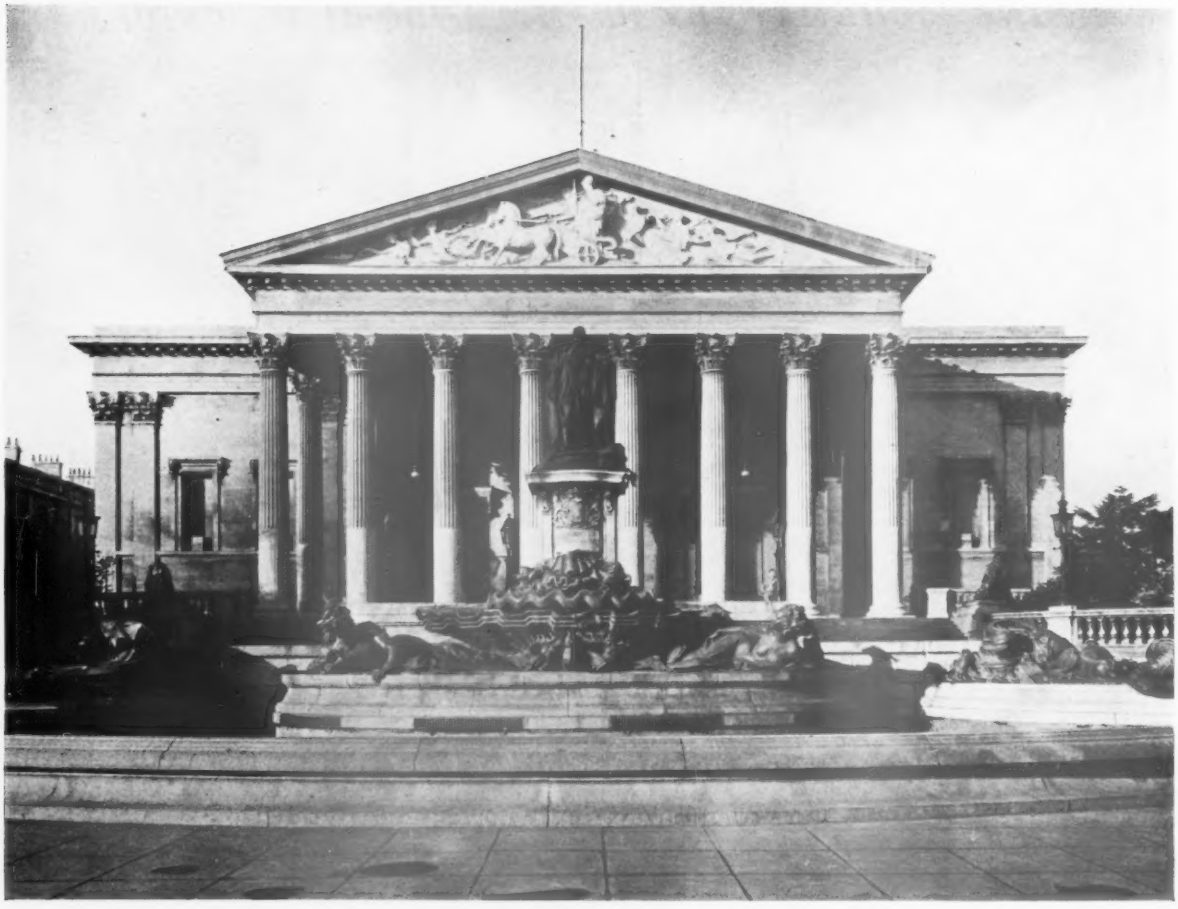
1st (£100) : Messrs. C. M. Crickmay and H. W. Crickmay, AA.R.I.B.A., 50 St. Mary Street, Weymouth ; 2nd (£50) : Mr. H. St. John Harrison, F.R.I.B.A., 5 Verulam Buildings, Gray's Inn Road, W.C. ; 3rd (£25) : Mr. Herbert J. W. Broadwater, Stud. R.I.B.A., 18 St. Andrew's Drive, Stanmore, Middlesex. Special mention awards of £10 each : Miss Beryl Bickerton, A.A.Dip., A.R.I.B.A., and Mr. Brian E. Wood, A.A.Dip., A.R.I.B.A.; Messrs. Godman and Kay, FF.R.I.B.A. ; Messrs. John D. Maidment and E. Vernon Knott, A.R.I.B.A. ; Mr. J. W. Davidson, Stud.R.I.B.A. ; Mr. Stanley E. Burden, Stud.R.I.B.A., and Mr. George G. Pace, Stud.R.I.B.A.

One hundred and sixty architects from all parts of Great Britain competed. Architects had to submit designs for both semi-detached cottages and a group of three cottages. The structure had to be of timber throughout, including walls, framework and floors. All windows, doors and internal fittings had to be of timber and the roof of wood shingles. Foundations had to be of brick or concrete, and brick or concrete had to be used for flues and fireplaces. Each cottage had to have a living-room, kitchen, larder, a bathroom and three bedrooms. Provision had also to be made for the storage of food and garden tools, including a wheelbarrow. There were no restrictions to the type of design.

Extracts from the assessors' report : "We should like to congratulate the Association on the excellent response to their invitation to competitors. We were, however, disappointed that more competitors did not take advantage of the peculiar properties of timber ; most of the designs could have been equally well built in brick or stone, and we have been careful to choose designs which make some contribution to the problem of cottages constructed in timber.

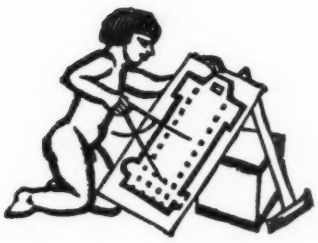
"The winning scheme has many excellent points and shows careful thought. The plans include amenities which, though very desirable, are seldom found in this class of work. The ground plan has one major fault, which could easily be remedied, namely, that the door from the kitchen into the living-room is on the wrong side of the dresser. The elevations are pleasant, and the long low lines of the roof are attractive and would be inexpensive.

The first-prize winners estimate that their cottages would cost £450 each. They say that : "Without allowing for any subsidy each cottage could be let at a rent of 7s. 3½d. per week. This figure is based on an assumed rate of interest of 3¼ per cent. after allowing £4 10s. per annum per cottage for repair. We consider that it is not possible to determine what amounts would be obtainable in subsidy under the Housing Acts, 1930 and 1935, without an actual case to work on. From the figures given in the second report of the Rural Housing Sub-Committee of the Central Housing Advisory Committee, however, it seems safe to assume that subsidies could be obtained under the 1930 Act to enable the cottages to be let at a rent in the neighbourhood of 3s. per week, and under the 1935 Act at approximately 4s. 6d. per week." The assessors, however, state that the cost of these cottages has, in their opinion, been slightly under-estimated.



VICTORIA ROOMS, BRISTOL

The main front of the Victoria Rooms, Bristol, where the inaugural meeting of the British Architects' Conference is to be held today. The Rooms, designed by Charles Dyer, were opened in 1842. In 1923 they were acquired by Sir George Wills and presented by him to the University of Bristol Union ; he also provided funds for alterations consisting of new accommodation on the north-east side, which were completed in the following year. In 1934 a fire completely gutted the main hall and basement accommodation below, although the rest of the building, including the original front, was unharmed. The interior reconstruction was completed last year from the designs of Messrs. G. D. Gordon Hake and Eustace H. Button. *Further illustrations appear on pages 1082–1083.*



10. ARCHITECTS, WHERE IS YOUR BRESSEY REPORT?

THE public are beginning to resent profiteering in land; re-housing in twelve-to-the-acre congestion; and roads on which 6,540 were killed and 230,000 injured last year. They may not know the right solutions for these things, but they are beginning to favour attempts at large-scale solutions.

A profession's activities are divided into internal administration and expression of policy on national questions. In the second part architects have made poor showing since the war. On housing, slums, roads and trading estates architects collectively have done nothing save pass resolutions of goodwill.

The reason for this state of affairs has been the concentration of professional policy for thirty years on professional consolidation. This has been extremely necessary, but its result has been that the public never imagines that architects have, or could have, any interest in things like housing, industrial location and transport.

This has been very damaging to architects and will be more so. As the country becomes more democratic the architect as planner becomes socially far more significant than as an individual artist. To the average man architects seem far too narrowly bound up with preservation societies, art societies and other restrictive agencies. The best kind of professional propaganda would be for architects to show that they can undertake constructive study of the national questions in which planning plays a great part.

Architects may be conscious of the truth of this as a generalization, but will yet ask: "Where is the organization and finance to be found for such studies?"

The three best-known schools of town planning could provide, in co-operation with a professional H.Q., all the means necessary. This co-operation, properly sustained, can make certain that the profession will be able to play its proper part in solving the problems of territorial planning. It would enable them to assemble and order the information needed as a basis for large-scale planning; it would enable them to formulate tentative policies and check them by application to particular areas—in time it would enable them to formulate a general planning policy for the profession and to make this policy known to the public.

"IT is not surprising," began a centre page article in *The Times* recently, "to find in *The Times* . . . pleas for planning." There may have been a dry humour in these words, but even so their significance is not lessened. They prove that, at long last, a majority of the influential opinion which gets things done has come to favour attempts at large-scale planning of land. It means that soon—perhaps within three years—territorial planning in the fullest sense will actually be in operation.

Architects should think about this development. They should think about it, in relation to the present position in which a section of the profession is urging the establishment of a planning centre where architects, in co-operation with other professions, can study territorial planning and prepare a skeleton policy for dealing with the largest problems architects will ever face professionally. They should think about it, especially, in relation to the Bressey Report.

This Report has been applauded by every section of opinion in the country. Why? It is a *road transport* plan; it aims to ease movement for motor cars in London partly by deflecting traffic by ring roads and partly by cutting new roads, tunnels or viaducts through central areas. It will not do a stupendous amount for the man in the street; it is certain that if it is to be carried out steps will have to be taken to prevent its being a land speculators' gold mine. And yet it is welcomed everywhere.

In the JOURNAL's opinion, it is welcomed because it is the first *planning* suggestion to be in scale with the problem, because it shows imagination and determination and because the average man is tired to death of the present chaos and of the frustration produced by the existing town-planning schemes.

If this reading of the situation is true, the attitude of the architectural profession towards the Bressey Report will be a perfect demonstration of its ability or inability to take part in future schemes of equal or greater magnitude.

Architects can foresee as easily as other intelligent members of the public the *probable* development of the Bressey scheme: Its being thought of as a Road Plan unrelated to anything else; its control by the Ministry of Transport; the secrecy to avoid speculation; the joggings from public opinion; and the completion of the first few links as costly super-impositions interfering as little as possible with surrounding areas in order to avoid mountainous local obstruction.

But architects can also, at times, see another side to the scheme. They can see that the motor car, more than anything else, now sets the scale for the way land is used, and that therefore it is right that a road plan should be the skeleton on which other planning is based —at least in Greater London. They can see, as did Sir Charles Bressey, that streets and alleys form so high a proportion of land area in parts of London that it would be uneconomic not to replan these areas in conjunction with the Bressey scheme. They can see that where Sir Charles's new roads go there will go "development" of one sort or another anyway. And they can see that such development will raise questions of housing, open spaces, and factories. In short, they realize that you cannot plan roads without in great measure planning the whole area served by those roads.

Realizing these things architects are presented with a straight choice. They can pass a resolution praising the Bressey Report and then sit and wait for any pickings in the way of new buildings along the new roads. Or they can decide that architects collectively must show that they have a policy for the solution of the planning problems which are implicit in the Bressey scheme.

If they make such a decision they will realize that their collective policy, if it is to contribute anything of value, must be based upon work—upon research —in a centre where architects can collaborate with all the professions involved in territorial planning. Without this research, architects will be able to do nothing save pass resolutions. If they decide, on the other hand, to pass resolutions while other professions do the work, they can blame only themselves if the other professions *do* the work.

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NOTES & TOPICS

"ASTRAGAL" NAPS . . .

THE R.I.B.A. election results were announced on Monday last, and showed a high proportion of old favourites among the winners.

*

The winners were : *Fellows' Plate*, Messrs. Abercrombie, Bunch, Hall, Hill, Wheeler and Wornum. *Associate Stakes*, Messrs. Adams, Dougill and Holford. *Licentiate Handicap :* M. Whitehouse.

*

Comparing them with my selections published on June 2, I find my general review of those likely to carry the money was better than my final selection of new blood which might well justify a flutter.

*

My general selection was : *Fellows*, Abercrombie, Adshead, Stanley Hall, Bunch, Wheeler, Ramsey and Chermayeff. *Associates*, Barnes, Goodesmith, Holford, O'Rorke, Colin Penn, Basil Ward, Livett and Skinner.

*

Final Selections were : Bunch, Wheeler, Chermayeff, and Ramsey ; Holford, Basil Ward and Skinner ; and Louis Blanc.

*

Thus I napped three out of six winners in the *Fellows' Plate*. But then I fear I fell off. Only the odds-on certainty W. G. Holford was among those placed in the *Associates' Stakes*.

*

Let me emphasize, however, that I was looking for new blood on June 2. Those who suspect that the idea was just to alter the betting are so far right that in a private little list done the same day seven out of ten winners were spotted—Messrs. Hill, Bunch and Adams having a staying power that was under-estimated.

*

That official architects should be as successful as private practitioners among the Fellows seems a point of interest.

A.R.P.

Before they decide whether or not to co-operate in A.R.P. architects must think very carefully about the intention of the precautions.

*

It is possible to consider the whole scheme as a military measure—designed, by instilling false confidence, spreading the target and close regimentation of civilians, to enable the general population to suffer appalling aerial attack for a longer period than the population of an enemy. It is also possible to regard A.R.P. purely as a means of safeguarding civilian lives which is not affected by the individual's opinion of Government policy.

*

The JOURNAL, I am told, holds the view that the immediate necessity for architects is to learn, with what accuracy they can, the degree of protection which is obtainable for civilians. For this reason there will be published in the JOURNAL for July 7 a special report, made by the A.A.S.T.A. from information available, on the various types of shelter which it is possible to construct; with some indication of relative costs.

*

Having studied these findings architects will be able to judge more clearly the value of the precautions officially recommended.

MODERNIST CREDO HITS ALL-TIME HIGH SAYS U.S. NEWSORGAN "TIME"

The competition for a $500,000 art centre at Wheaton College, Massachusetts, hailed by *Time* as "the most important competition in U.S. architecture since the world-wide competition for the *Chicago Tribune* tower in 1922," has been won by "two young Manhattan strugglers," Caleb Hornbostel and Richard M. Bennett. This in spite of the fact that the New York Museum of Modern Art and the Architectural Forum, joint organizers of the competition, invited architects Walter Gropius, Marcel Breuer, William Lescaze, Richard Neutra, and the Detroit firm of Lyndar and Smith, to enter for the competition; and paid them, to make sure of a right good show, $400 each for submitting their designs.

*

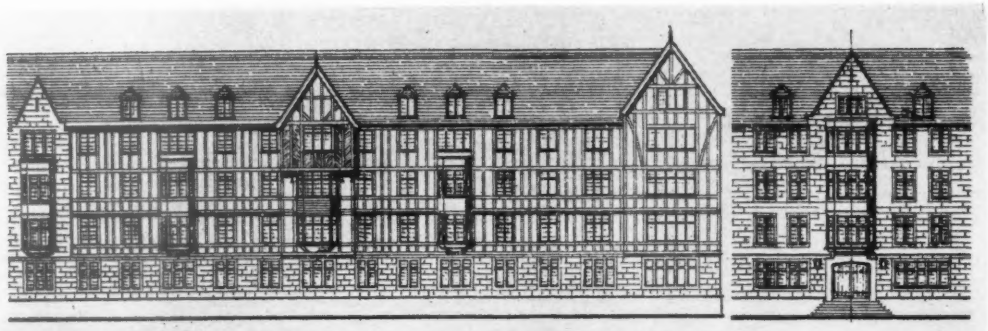
Of 252 designs submitted, "all but a scant two dozen" accepted what *Time* describes as the credo of modernism. To "celebrated internationalists" Gropius and Breuer went second prize.

*

Wheaton College, it seems, is "a small, earnest institution for female education nestling in a wooded cluster in the village of Norton, Mass." The judges were a little worried by the looks of the Hornbostel-Bennett addition, which is described as "fan-shaped, snuggling naturally to the contours of its location," but they gave it first prize in the hope that its outward visible form would eventually justify its brilliant ground plan.

MORE PLANNING AND "THE TIMES"

From *Time* to *The Times* is a lot of travelling. Since my note last week about *The Times* write-up (beg pardon) on the T.P.I. report, there have been three more letters on the right use of land, the planning muddle and all that, and also most of a column on the location of industry. It is encouraging, if not a little bewildering, to see our



Above are front and side elevations of the new block of offices which is to be built in Cathays Park, Cardiff, on a half-acre site on the south side of the park, now used as a public car park. The building will have two wings, one extending 165ft. along Priory-street, and the other 140ft. long facing Kingsway, joined at their apex by means of a 50ft. entrance hall facing north.

Incorporating all the most modern conveniences for business purposes the idea of such development was conceived by the Marquis of Bute, and the elevations of the building are to be carried out in stone with half timbered work in the Tudor style. When completed it will harmonise with the new corner premises at the junction of Kingsway and Queen-street, which are to be built for Messrs. E. Roberts, Ltd.

In all the building is capable of providing 64 suites of three-roomed offices, but the number of rooms may be increased to suit tenants. Strong-room and filing space in conjunction with the offices is to be provided on the top floor, and the whole building will be appropriately staffed with messengers, &c.

Covered car parking facilities are to be provided in the basement and at the rear of the building for the use of the public as well as for tenants.

most dignified and upstanding national daily becoming plan-conscious.

*

First, the unknown correspondent who showed such dangerously Martian tendencies in his article on the right use of land, replies to his critic (fiery, garden city protagonist F. J. Osborn) and suggests that the various schools of thought should pool their information and conclusions "for the consideration of the Barlowe Commission or some unbiased and Government-appointed body."

*

Another writer, Ronald Chamberlain, suggests that the main positive defect is "a 'suburbanized' viewpoint . . . rather than a 'garden city' bias," and that garden cities in themselves are "only a part of planning and not synonymous with it." A point worth making.

*

Said Reginald Rowe: "Unearned increment is at the bottom of it all." He asked why the Government does not intervene and adopt a long-sighted policy of decentralization.

"Why not choose certain large areas suitable for new towns, with large agricultural belts surrounding them, and impose a long-period option for purchase by the nation at a figure of present value per acre as agreed by arbitration? Is anyone robbed? No. The only thing eliminated is the speculator's chance of unearned increment on site value. I have suggested including in the purchase large surrounding agricultural belts because these can to an important extent supply the town's food. And surely such control of neighbouring land is necessary or there will be speculative purchases of this land and the old trouble will start all over again. It seems to me essential that there should be some final limit to the size of towns."

*

This, in *The Times*, is a magnificent gesture.

PROVINCIAL ENLIGHTENMENT

Since the Marquess of Bute sold roughly half Cardiff the daily press has been making a great song and dance about his fabulous wealth, but not very much has been said about his architectural taste. In Edinburgh the Marquess is a more than sensitive landlord. And in Cardiff?

*

View the fine specimen of Brewer's Tudorbethan (above) which is to adorn the south side of Cathays Park—South Wales's only imaginative place of town planning. Lord Brocket, Cheshire's well-known preserver of rural England, and the builder of equally medieval whimsies, must look to his evergreens.

TRIALS OF THE PROFESSION

"The city wall of Exeter *does* fall down—I remember a case where it fell at a brewery there," said Mr. Justice Goddard, during the hearing of a case last week in which an Exeter architect was concerned.

*

He (the architect) was commissioned by a firm to find a site and to design a warehouse for it. He chose a site adjacent to the city wall. In the course of excavation the wall fell down (as Mr. Justice Goddard, had he been there, would have warned them to expect), and, as the expense of rebuilding it was excessive, the whole job was abandoned.

*

The builder successfully sued the clients for payment for work done and also for loss of estimated profits. The architect, however, who had made no provision for shoring or underpinning, was declared responsible for refunding the whole sum to the clients, and was also directed to repay all fees already received.

ASTRAGAL

A.R.P.

On July 7 the JOURNAL *will publish a Special Issue concerning Air Raid Shelters. The issue will contain the report prepared during the last year by a Committee of the A.A.S.T.A. in collaboration with various experts and manufacturers. The Committee have examined the results of research in the principal European countries, and the report deals with bomb types; surface shelters; shelters in buildings; and tunnel shelters. Methods of planning and construction will be illustrated in detail. This issue will be the first publication in this country dealing with the structural aspects of A.R.P.*

NEWS

POINTS FROM THIS ISSUE

LEVERHULME SCHOLARSHIP IN ARCHITECTURE

The Leverhulme Scholarship tenable at the Architectural Association School of Architecture, value £1,000, which includes payment of fees and maintenance for a period of five years, has been awarded this year to Mr. John T. Norie Miles, of Southsea, Hants.

APPOINTMENT

Mr. R. O. Harris, Essex County Council Chief Assistant Architect, has been appointed architect to Somerset County Council.

RURAL HOUSING MANUAL

A rural housing manual on the design and siting of houses has been published by the Ministry of Health. (H.M. Stationery Office, price 1s. 6d.) The new manual is intended as a guide to local authorities in preparing plans for new houses, especially those built in rural areas.

The manual was prepared with the assistance of a special sub-committee of the Central Housing Advisory Committee, under the chairmanship of the Earl of Crawford and Balcarres.

THE LATE A. F. BALFOUR PAUL

We regret to record the death of Mr. Arthur Forman Balfour Paul, M.C., F.R.I.B.A., senior partner of the firm of Rowand Anderson, Paul and Partners, which took place at his esidence, Peffermill House, Craigmillar, Edinburgh, on June 3, after a short illness. Mr. Balfour Paul was president-elect of the Royal Incorporation of Architects in Scotland, and was to have been installed as president at the annual conference of the Incorporation which was held recently.

A son of the late Sir James Balfour Paul, Lyon King-of-Arms, Mr. Paul was educated at Edinburgh Academy. Articled to the late Sir Rowand Anderson in Edinburgh, he later went to London. When he returned to Edinburgh he worked independently for several years, and about 1906 was taken into partnership by Sir Rowand Anderson.

The association was interrupted by the war, and Mr. Paul served in France and was awarded the M.C. Following the death of Sir Rowand Anderson in 1921 Mr. Paul assumed control of the firm. About four years ago Mr. W. H. Kininmonth, A.R.I.B.A., and Mr. Basil Spence, A.R.I.B.A., joined the firm, which became known as Rowand Anderson, Paul and Partners.

Mr. Paul was a former president of the Edinburgh Architectural Association, a member of the Council of the R.I.B.A., and one of the Scottish representatives to the Allied Architectural Societies of Great Britain. He was elected a Fellow of the R.I.B.A. in 1933.

THE ARCHITECTS' DIARY

Thursday, June 23

R.I.B.A. CONFERENCE. *At Bristol. Until Saturday, June 25. 10.15 a.m.: Inaugural meeting at the Victoria Rooms. Inaugural address by the President, to be followed by short addresses by Mr. J. E. Barton, M.A., on "Architecture and the Public To-day," and (b) Mr. E. Berry Webber on "The Public Buildings of a Modern City." 2.30 p.m.: Alternative visits — Bath; Bristol; Clifton; Messrs. W. D. and H. O. Wills's Factory. 8 p.m.: Reception given by the Lord Mayor and Lady Mayoress at the Art Gallery, Queen's Road, Bristol.*

INSTITUTION OF STRUCTURAL ENGINEERS, 10 *Upper Belgrave Street, S.W.1. General meeting. 5 p.m.*

DESIGN AND INDUSTRIES ASSOCIATION. *Visit to R.M.S. Orcades. Depart, Fenchurch Street, 11.13 a.m.*

LONDON SOCIETY. *Visit to the works of Hampton and Sons, Queen's Road, S.W.8. 3 p.m.*

Friday, June 24

R.I.B.A. CONFERENCE. *At Bristol. 9.30 a.m.: Alternative whole-day tours—Cotswolds; Dunster; Wells; Stourton. 7.30 p.m.: Banquet at the Victoria Rooms.*

TOWN PLANNING INSTITUTE. *At Carton Hall, S.W.1. "Planning a Seaside Town." By Thomas Adams. 6 p.m.*

Saturday, June 25

R.I.B.A. CONFERENCE. *At Bristol. 10 a.m. to 1 p.m: Alternative visits—Castle Combe; Burrington Combe and Cheddar; Cattybrook Brick Works.*

Tuesday, June 28

ECCLESIOLOGICAL SOCIETY. *Commemoration Service in St. Paul's Cathedral. 6 p.m.*

LONDON SOCIETY. *Visit to the Church of St. Dunstan, Cranford, and Heston Airport. 2 p.m.*

Wednesday, June 29

ARCHITECTS' REGISTRATION COUNCIL. 66 *Portland Place, W.1. Council Meeting. 5 p.m.*

ROME SCHOLARSHIP IN ARCHITECTURE

The designs submitted in the Final Competition for the Rome Scholarship in Architecture will be on exhibition at the R.I.B.A., 66 Portland Place, W.1, between the hours of 10 a.m. and 8 p.m. (Saturday 10 a.m. and 5 p.m.) from July 5 to 9, 1938, inclusive.

The scholarship is provided by the R.I.B.A., which makes a grant of £750 a year to the British School at Rome. It is awarded by the Faculty of Architecture of the British School at Rome, and is keenly contested annually by the most brilliant students in the country. The scholar is required to go to Rome to study

Vice-presidents of the R.I.B.A. Conference, now being held at Bristol: Right, the Lord Mayor of Bristol, Alderman John Milton, J.P. Below, left, Mr. A. E. Beswick, President of the Wilts and Dorset Society of Architects; centre, Mr. G. D. Gordon Hake, President of the Bristol Society of Architects; right, Mr. W. J. Stenner, President of the Wessex Society of Architects.

for a period of two or three years at the British School at Rome.

This year the subject for the competition was "A Play Park." Thirteen students, from the following schools were admitted to the competition: The School of Architecture, Cambridge University; The Welsh School of Architecture, The Technical College, Cardiff; The School of Architecture, Edinburgh College of Art; The Liverpool School of Architecture, University of Liverpool; The Bartlett School of Architecture, University of London; The School of Architecture, The Victoria University, Manchester; The School of Architecture King's College, University of Durham, Newcastle-upon-Tyne; The Department of Architecture, University of Sheffield.

TRADE CATALOGUES

The secretary of the London School of Interior Decoration, 14 Marlborough Place, St. John's Wood, N.W.8, would be glad to receive trade catalogues and circulars.

ANNOUNCEMENT

Mr. T. S. Tait and Mr. Francis Lorne, FF.R.I.B.A., announce that they have taken into partnership Mr. L. Gordon Farquhar, A.R.I.B.A. The firm's name remains as before—Sir John Burnet, Tait and Lorne.

CHANGES OF ADDRESS

As from tomorrow, the new office address of Mr. Verner O. Rees, F.R.I.B.A., will be No. 2 Gordon Square, W.C.1. Telephone No.: Museum 7320.

Messrs. Dixon and Braddock, AA.R.I.B.A., have moved their office to No. 2 Gordon Square, W.C.1.

Mr. Eric N. Smallwood, L.R.I.B.A., has moved his offices from No. 46 Farm Road, Edgware, Middlesex, to "Haseldene," Oaks Crescent, Wolverhampton. Telephone No.: Wolverhampton 21178.

COUNTY COURT, EPSOM

In the list of sub-contractors for the County Court, Epsom, published in our last issue, we omitted to state that Best and Lloyd, Ltd., were responsible for the outside cast bronze lanterns and a pair of wrought-iron gates.

COMPETITION NEWS

TIMBER COTTAGES

The winning scheme in the competition (organised by the Timber Development Association) for timber cottages is reproduced on page 1049. Designs placed second and third are given on page 1064.

TOWN HALL, NEWCASTLE-ON-TYNE

The City and County of Newcastle-upon-Tyne invite architects of British nationality to submit in open competition designs for a new Town Hall to be erected in the City. Mr. Verner O. Rees, F.R.I.B.A., has been appointed assessor; and the premiums offered are £750, £500, and £300.

The last day for submitting designs is Wednesday, November 30, 1938, and questions with reference to the competition must be submitted not later than Wednesday, July 6, 1938.

The conditions and instructions to competitors, together with a site plan, may be obtained from Mr. John Atkinson, Town Clerk, Town Clerk's Office, Town Hall, Newcastle-upon-Tyne. 1. Deposit, £2 2s.

CENTRAL FEATURE, OLYMPIA EXHIBITION

In connection with the Women's Fair and Exhibition to be held at Olympia from November 2 to 26, the promoters are offering a prize of £50 for the design of a central feature in the Design Section. The competition is being run in collaboration with the Design and Industries Association, and the following assessors have been appointed: Messrs. Charles Holden, Milner Gray, J. M. Ryan, and F. R. Yerbury. Details are obtainable from the Manager, Design and Leisure Sections, Exhibition Promoters (Olympia), Ltd., 32 St. James's Street, S.W.1. The latest date for submission of designs is July 1.

HAROLD FALKNER SPEAKING

Mr. Harold Falkner (April 28):

"*It is forty years since I first met C. H. Reilly, red headed, as he then was, and full of energy. Architectural criticism was unknown, Ruskin was retired and the technical papers were terrible.*

"*The evils likely to be developed by the schools system were well known. France had had its Beaux Arts some hundred years and with rare exceptions had never done any 'architecture' since. But certain events were not seen.*

"*Take Liverpool. Professor Reilly has for the last thirty years been teaching design based on tradition, chiefly Classic, his own inclination being a 'sublimated' Greek.*

"*Now (after Modernism has caught on with the half-highbrow and, of course, the schools), our Professor tells his students, some thousand ex-students and the technical journals that all he has said is 'tripe' and his teaching 'copyism.'*"

Professor C. H. Reilly (May 26):

"*Now for Harold Falkner and his tripe. My hair was red half a century ago he says. It never was, but never mind. Where I part company is over his ignorance of the main development. I still think it was necessary in 1904 to clear up the mess of Falkner's Arts and Crafts friends . . . by a clean mature classic. We learnt refinement by doing so. A sound knowledge of classical architecture for the modern designer is essential. The general and thorough use of steel is the main reason for our changed way of thinking. The traditionalists are trying to apply the architecture of brick and stone to an age of steel and concrete. May you live long enough, my dear Falkner, to design big jobs with lots of steel and to show in them that you, too, have made an honest man of yourself.*"

In the article below Mr. Falkner is not put down; he continues his Counter-Reminiscence.

THE Professor does not take himself sufficiently seriously. I fear the spectacle of two old fossils pouring literary warm water down one another's backs will not intrigue your readers sufficiently to produce a continuous demand for these articles.

If an editor (technical or daily) were asked who was the most accepted authority on architecture (especially training and teaching departments) not only in this country, but in the world, he would probably reply, Professor C. H. Reilly.

It therefore behoves him to be, apart, of course, from the necessary humorous diversions, serious.

"Half a century ago," indeed, I was a thirteen-year-old boy at school, with few interests in life beyond football.

"Simpleton." I don't in the least mind; it means a simple-minded person. Some of my best friends have, alas, questioned my simple mindedness.

By the way, the arts and crafts movement 1890–1914 was not my property. I was but a humble member of the junior branch. Morris was the founder, the permeating spirit and sustainer, and the classicists were allowed in only on sufferance, and provided they swallowed large doses of craftsmanship at frequent intervals.

And now for the admissions. The Professor admits that some schools which have given up a course in "classical" architecture have made a mistake, and that certain "modern" cinemas are due to this lack of training in our younger generation.

It would seem that a course (five years, I believe) of "mature classic" education to produce the "best modern work" is rather like the Chinaman's recipe for producing pork-crackling.

I agree with the Professor it is very difficult to see how the student is to be trained to produce this "best modern work." I go further, I cannot tell when he (or she) has been so trained.

Anyone can do it. I know of some houses produced by a builder's clerk (who has borrowed or bought a T-square) which appear to have all the essentials, "simplicity," "starkness,"

"ingenuity," an utter absence of "traditional shackles," and also, as this young man has some practical knowledge of building, an ability to keep the weather out, which the works of some of those highly trained ex-classicists obviously lack, the buildings remain up without coats of bitumen and other strengthenings.

The Professor even with all his compliments is not fair to my colleagues: we do not "copy". Because I use bricks and tiles, and sash windows (when my clients can afford them), it doesn't say I copy.

I grew up in a town and district in which every house (above £50 rateable) has sash windows with bars, except about 1 per cent. built between 1870–90. The conditions under which my clients live are as nearly as possible identical with those of the original inhabitants of the houses. Why should I use anything else? The omission of the bars was found to be a structural and practical mistake—why repeat it?

As to copying, as well say that when I write these words I am copying a writing master. (My typist says "I —— well wish he was.")

Like all those praiseworthy people who have sacrificed a career for the sake of improving the teaching in architectural schools the Professor has been out of touch with the practical side of building; two or three "consultation" jobs make very little difference. He has also been subject to all the winds that blow into research departments, building industry centres, international correspondence courses. All of which have to be gently treated in schools, but can be given a rough and thorough testing in an architect's outer office.

He tells us that two of the authors of the most "advanced" buildings are enthusiastic admirers of the old Georgian; I am not surprised. It must make a nice change after looking at their own work. M. le Corbusier said, stroking the columns of the hall of the National Liberal Club: "I wish I could have designed in the grand manner"; which may mean either that he wished he had had the opportunity, or that he wished he had had the ability. One may wish that he had had both; but it is by no means certain that he had the latter. Many an architect has been good enough at small and simple stuff, but came a h—l of a cropper when it came to the big.

The Professor has been humbugged by people who are themselves misled.

But enough of argument: he asks for reminiscences, and the gods of half a century ago. Well—here goes for forty years odd.

"I remember" the getting up, and the hurried breakfast, and the rush to the train. The train journey, much as it is today (things don't change much on the Southern in a trifle like forty years), and the walk across Waterloo Bridge—it always seemed to be hot and dusty—into the cool and shady Strand, and the walk down (east) towards Temple, past the street of Somerset House.

I remember the smells that came up into that coolness out of the cellars; that delightful soupy smell from the restaurant basement kitchen; the florists' musk, lilies, stephanotis and tuberose; and of course the oldest smell of all—new bread; and the grocer with his smell of bacon and cheese; and Thresher and Glennies, where Nelson bought his ties, and the tobacconist and snuff-maker with a Highlander since appropriated, I believe, by University College.

The smells have gone, or perhaps the faint smell of horse is changed for the stronger one of petrol and burnt oil; but some of the buildings remain, and of those that do, what chance is there that they will be there long? There was one (or was a year ago) the two upper storeys of which were Queen Anne, or perhaps Charles II; it is between St. Mary's, Strand, and St. Clement Danes, and is painted cream or white, two windows side by side above, I think below one wide window with side lights, the sashes perhaps replaced with Victorian.

In some way I associate it with the name Anson, but I may be wrong. Such a building is, besides being an essay on proportion and architecture, part of the History of England, and ought to be at any cost preserved. Such buildings have become more and more scarce in my memory. At the other end of the Strand opposite the present Adelphi there was a very fine Georgian one; country towns are always being admonished by the London Press to preserve their buildings (often I am afraid with little result, *vide* Exeter and Bristol; but surely London, the richest city in the world, could afford to preserve what little remains. And so through Wren's Middle Temple gate and down Temple Lane, and across Fountain Court, nearly the finest architectural setting in Europe, in May, with its early-leafed lime trees shade, into New Court, Temple, meeting perhaps the charwoman and her brushes departing round the corner, and Sir Richard's man taking his wig to be refurbished before the Courts opened. Up the wide shallow stairs (said to have been detailed by Wren himself) past the half-opened door of Lord James' outer office, with its dusty smell and calf bound books to the ceiling, the office of two Lords of Appeal, and on the top floor Sir (Mr. then) Reginald Blomfield's office. He asks us how we looked—well, we should look a bit strange today.

Morning-coats and pin-stripe trousers were essential; top-hats not discouraged; that's the way I began, but I developed into a hat and coat something like Sandeman's port wine poster before I left.

We were never very busy except once when we had a competition. My idea of inking in a drawing and Sir Reginald's did not coincide, so I wasn't overworked. And of our attitude towards the gods. The god of gods was Shaw.

Shaw was to architecture in those days what Gordon Richards is to racing today. If there was a good job going—Shaw got it. If he didn't want it, anyone might have it.

There is a story that Shaw had a letter lithographed (on gilt-edged notepaper, of course): "Mr. Norman Shaw presents his compliments to Lord or Lady —— and regrets that he is unable owing to pressure of work to accept his or her commission," and used to thoughtfully add, "but feels sure that Mr. ——, who is far from busy, will be glad to accept it."

Shaw was particularly acceptable to us, the "immature classicists," Jackson, Belcher, Bryden, and Blomfield, in that he was turning from Romantic Gothic to Classic, and had recently completed No. 2 Queen's Gate, Kensington, which was, and I think still is, one of the best buildings of the nineteenth century.

Shaw was building New Scotland Yard at the time, the Gaiety Theatre, Piccadilly Circus, and half London, and I remember the awe with which (news used to leak from office to office) we heard that the "egg and tongue" mouldings were 2 ft. 9 ins. deep.

No doubt we paid too much attention to style, to trivial and even unnecessary detail; we hadn't the faintest idea that there was such a thing as texture; we had far too much faith in drawings, half-inch and full-size, and we did not spend enough time on buildings. How much better is the student of today?

We did at least know that building is an economic proposition. We saw how the "old man" ran an office, and handled his clients and the builders; we saw letters (and pretty often worked the copying press).

If we didn't make the full sizes we at least traced them, and we heard the builders' comments (a privilege even the "old man" didn't share).

It seems to me that the modernists' schools make a point of ignoring everything that is useful. They exalt Professor Gropius to the sky. Yet his example in the curriculum of the Bäuhaus is totally ignored. He insisted on one year's experience on a building to one year in a school.

But perhaps I am wrong. I turn to page 524 of the *Architectural Association Journal*, May 1938, and find "A.A. school drawings by a fifth-year student," doubtless a very charming young woman. The drawings are said to be for a house for a professional man, income of £2,000 per annum, the site chosen is between party walls, which doesn't leave much discretion. The building appears to be certain fireproof floors stretching from wall to wall, and some temporary and quite arbitrary partitions, with a glass front and back.

What training beyond the ability to discover a reliable concrete floor, and a knowledge of the habits of a £2,000 professional man is required for such an exercise, and how can this be taught in a "school"?

AERIAL BOMBARDMENT

EFFECTS AND DEFENCE IN BARCELONA

[By F. SKINNER]

BELOW is the second of two articles by Mr. F. Skinner, of the firm of Tecton, concerning aerial bombardment in Catalonia and the effectiveness of the precautions taken against it.

Mr. Skinner has recently visited Barcelona and, although he has no special knowledge of A.R.P., the JOURNAL *considers his conclusions to be of special importance in view of the responsibilities architects are being asked to assume. The first article, published last week, dealt with the bombs used and the damage done by them. The present article deals with the work of the Committee of Passive Defence in Barcelona.*

IN the early months of the war the various Catalan municipalities took upon themselves the task of building bomb-proof shelters, and of protecting the civilian population against attack from the air or from the sea. Subsequently, this work was taken over by the Central Catalonian Ministry of Health, who were, of course, primarily concerned with the treatment of the wounded and the health services. Finally, by a Decree of June 15, 1937, a Committee for Passive Defence (Junta de Defensa Passiva de Catalunya) was set up. The committee began to function on August 1, 1937. It is responsible to the Catalonian Ministry of Labour. The committee is divided into three sections :—

(1) Medical, first aid and Service Z (anti-gas) ;

(2) Works Department for plans and construction of shelters, etc. ;

(3) Information and liaison.

About 142 persons are employed in the headquarters building at Barcelona, including 10 volunteers.

The first task of the committee was to examine the bomb-proof shelters which were already built or in course of construction by the various municipalities. Many projects had to be abandoned as, owing to the lack of technical experience on the part of the authorities building them, the shelters proved unsafe and even dangerous. The committee then set to work to build new shelters wherever necessary. There are complete records of all shelters which are built or in construction in the various towns and villages of Catalonia. All projects must first be submitted to the committee's engineers. The whole supply of cement for Catalonia is controlled by the Ministry of Labour and is apportioned for various purposes, e.g. fortifications, bombproof shelters, etc. The supply for all air raid precaution work is controlled by the committee for Passive Defence and permits are only issued if the design for the proposed shelter is considered satisfactory. Suggestions are made by the committee's engineers for improving the design wherever necessary.

Below is given, under various headings, a short account of the work for which the committee is responsible, in addition to the construction of shelters.

Records

A complete record is kept of every air raid which takes place, with the number of aeroplanes attacking, the number of bombs dropped, the number of casualties, and the number of houses totally or partially destroyed. In the case of Barcelona, the exact positions where the bombs dropped are marked on a plan, and the damage done is carefully noted.

Alarm Systems

The raids on Barcelona are made by aeroplanes which approach over the sea. They approach at a great height and shut off their engines while still out at sea and glide down towards the city. This means that their approach is very difficult to detect by mechanical means. The observation and alarm system is therefore of the greatest importance at Barcelona. A series of observers are posted along the coast, and these are in direct telephonic communication with the Passive Defence building from which all the electric sirens placed at various points in the city are simultaneously started. The alarm signal is one blast on the sirens of indefinite duration ; the all-clear signal is three blasts of one minute duration each. The longest period of notice of an impending raid which it has been possible to give in Barcelona has been four minutes ; it is usually less than this, and sometimes the sirens only sound after the first bombs have dropped. Experience has shown that the sirens can be heard quite satisfactorily in the streets, but not always adequately in the houses.

Black Outs

Originally, fines were imposed for showing lights of any kind during an air raid ; now, however—at any rate in Barcelona—a mere recommendation is enough to ensure that there is no light. In any case, whenever there is a raid the electric current is cut off.

Regulations during Raids

Strict regulations are issued and posted up all over the city in case of air raids. As soon as the sirens sound, all

pedestrians must go to the nearest refuge or to the nearest building. It is forbidden to stay in the street or to form groups at doorways. All automobiles must be parked with lights out in places where they will not cause obstruction ; the only cars allowed on the streets are those belonging to Ministers, Councillors, ambulance corps, rescue workers, police, anti-aircraft brigades, and telephone personnel. Any car may be requisitioned if required for rescue work. Telephone communication is restricted during raids to the authorities named above.

Fire Prevention

Incendiary bombs have not caused many serious fires in Barcelona, owing to the construction of the buildings.

The normal fire brigade is now responsible to the Committee for Passive Defence, and in addition further special fire fighters have been trained and are still being trained.

Rescue Work

There are special brigades, to each one of which an architect or engineer is attached, organized by the Committee, which normally work on the construction of shelters, but which are also responsible for rescue work after a bombardment. This involves the clearing of debris from collapsed buildings in order to uncover those who have been buried, and the rendering safe of the damaged buildings. These brigades are instructed not to leave the site until they are satisfied that nobody has remained buried and that the surrounding buildings have been rendered completely safe, and this often entails continuous work for a considerable period. After this has been done the Municipal Works Department comes on the site for such work as repair of sewers, services, etc., clearing of streets, and so on. There are about 500 men in these brigades in Barcelona, consisting of architects, engineers, and constructional workers. The fire brigade and army engineers also take part in the rescue work. Similar rescue organizations exist in all towns in Catalonia. For the training of technicians in this work an Institute of Passive Defence has been organized by the Committee.

Propaganda

Many posters have been issued explaining what should be done in case of an air raid ; how to make simple trench shelters, etc. ; how to barricade windows or strut basements against collapsing buildings. One or more of these posters may be seen in every public building and many apartment houses. In addition, of course, numerous handbooks have been issued on every air raid precaution subject. The photograph below shows the result of A.R.P. propaganda ; the pasting of strips of paper across window panes. Practically every window in Barcelona is treated in this way, usually in some elaborate design, and in the case of shop windows advertising displays are often formed in this way.

Metro

In addition to the provision of shelters the Metro is used for protection from bombardments. In the most favourable places there is about 60 ft. of cover above the tube, but there are considerable lengths where there is only about 3–6 ft. of cover, and these parts are, of course, not considered suitable for shelter. The Metro is generally considered reasonably safe from 300 k. bombs if there is approximately 23 ft. of cover above it. Water flooding is not considered a serious danger, as the amount of water which could enter the tube from burst mains is probably quite small, but, in any case, the water supply can be quite easily cut off if necessary ; also the Metro line is not level, and the water would only stand in certain places.

The Barcelona Metro is not mechanically ventilated. After one hour's use as a shelter in air-raid conditions the air is, however, quite tolerable, though a forced-ventilation system would be a great advantage. There is no evidence that the Metro has anywhere been adapted for anti-gas purposes. The entrances are only protected by open lattice gates.

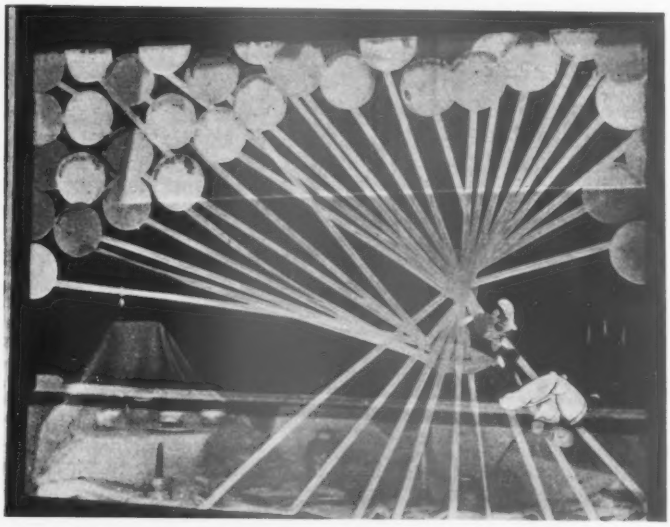
SHELTERS

Finance

The Barcelona City Council contributed the sum of 10,000,000 pesetas for the construction of shelters in the city, and the Government of the Republic contributed 4,000,000 pesetas for this purpose ; for the construction of shelters for the rest of Catalonia the Republic Government gave a further grant of 6,000,000 pesetas. These sums, however, are not likely to cover more than a quarter of the programme envisaged by the Committee for Passive Defence. The shelters are built partly by means of the Government subsidy and partly with money raised by the local municipalities. Paid labour is employed for this work. In addition, there are many voluntary contributions, either by gifts of materials (brick, timber, etc.), or by workers giving, for instance, one day's free work per month. There is no evidence of the forced labour mentioned in certain reports in this country. In some localities stamps have been issued to raise money for construction ; in Valencia (which is, of course, outside Catalonia) a special tax was instituted graded from 2 pesetas per month for families up to 150 pesetas per month for banks, cinemas, theatres, etc.

Placing of Shelters

In the early part of the war the shelters were mostly constructed near what were considered to be likely objectives for bombardments, such as power stations, arms factories, harbours, etc. Latterly, however, events have proved that the bombardments are by no means restricted to these objectives but are made just as often, if not more often, at places of no military importance. Many towns and villages were there are no military objectives have been subjected to severe bombardment, while other places where there are, for instance, arms factories, have been left alone. In Barcelona the early shelters were built on the outskirts of the town, near the industrial quarter, but later the policy has been to provide shelters in the most thickly populated parts nearer the centre of the city, due to the great loss of life in these places



Nearly all shops in Barcelona have paper strips pasted on windows to lessen chances of glass flying when more distant explosions crack the windows. These strips have been utilized as decorative displays.

during successive bombardments. In most villages shelters have been provided in close proximity to schools, due to the large number of children who have been killed in air raids.

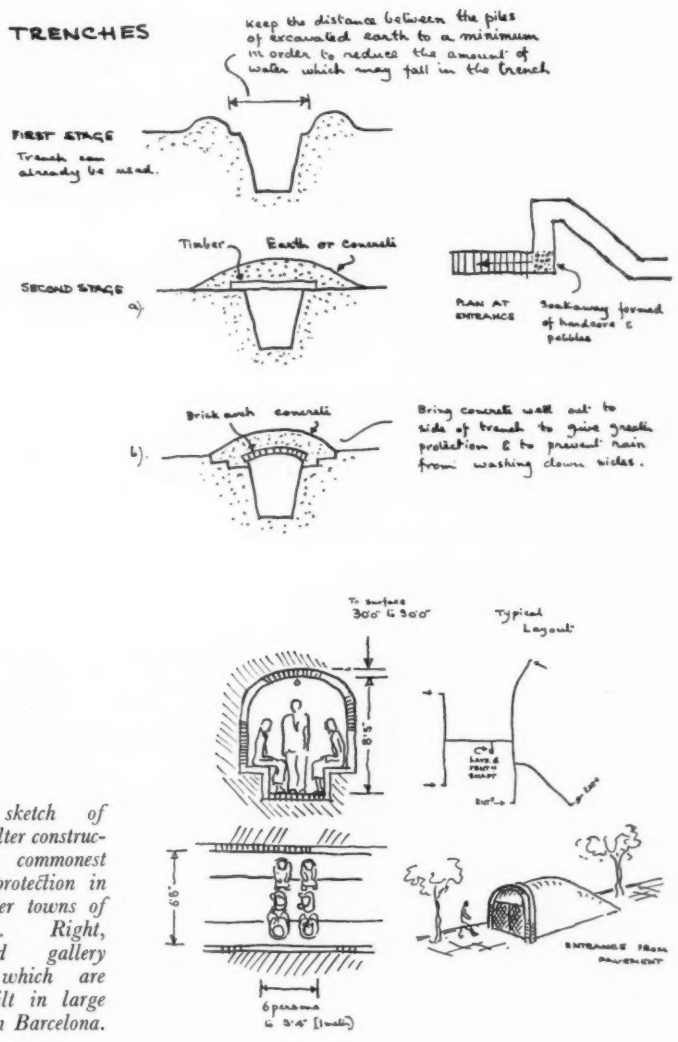
Generally speaking the shelters are placed wherever possible in the most economic positions, but at least as important a consideration is the placing of the shelters so that they are immediately accessible from houses, places of work, etc. ; parks and squares, though very suitable from other points of view, are often quite unsuitable for this latter reason.

Types of Shelter

In the early part of the war there was a tendency to construct the theoretically best type of shelter; for instance, elaborate reinforced concrete shelters underground. Now, however, owing to the urgency of the problem, the policy is to provide as many shelters as possible and as soon as possible of a type which can be considered reasonably good — for instance, in Barcelona, underground galleries, or surface type reinforced concrete shelters. In small towns and villages the tendency is now to dig trenches which are at first left open, but which are covered over if and when labour, materials, etc., permit. Alternatively, if it is financially possible underground galleries are constructed.

All the shelters are theoretically convertible to anti-gas equipment, but only a very few shelters have such equipment provided ; the great majority, for instance, have only open steel lattice gates.

The following are the types of shelter which are being built, or have already been built, in Catalonia :—



Above, sketch of trench shelter construction, the commonest type of protection in the smaller towns of Catalonia. Right, brick-lined gallery shelters which are being built in large numbers in Barcelona.

1. *Open or Covered Trenches*

The sketch shows the normal method of making these trenches. The obtuse-angled zig-zag trench is officially considered to be the safest type. This type of trench is largely used in small towns or villages. It is not suitable for use in most parts of Barcelona, as the service pipes run near the surface of the streets and boulevards. It is not, of course, proof against direct hits, but gives protection against blast, splinters or machine gunning from the air.

2. *Gallery Type*

These galleries are constructed usually at a depth of 10–15 metres underground ; they are ultimately lined with brickwork throughout. The plan and sections show the normal dimensions and the calculations for accommodation. A large number of these galleries have been constructed in Barcelona. They are made in all directions underneath existing buildings and streets, the entrances usually being placed either in squares or at the sides of the pavements in much the same way as the entrances to the Metro. The disadvantage of the gallery type of shelter is the long length of staircase which is necessary to approach it, and there has been a tendency lately to reduce the depth below ground and to provide a protective concrete slab at ground level, but no conclusions have been reached as to the most advantageous depth to place the tunnels, the best thickness for the slab, or the width of the slab necessary to protect the tunnel from oblique hits.

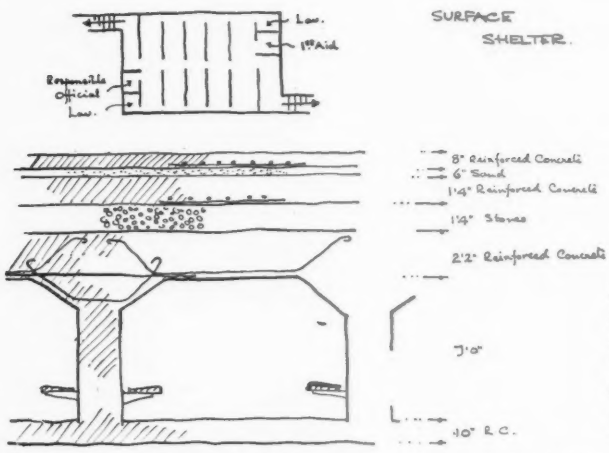
Great care is always taken now to avoid any cul-de-sacs in the galleries (and this applies to every type of shelter). Observation has shown that people are very reluctant to stay in any part of a shelter, however short its length, which does not have through circulation.

These galleries are usually provided with a central brick ventilating shaft (say, about 24 ins. square), and also at certain points with circular metal ventilating flues which are carried up about 10 ft. above ground level. These galleries are provided with electric battery lighting, and also have small cups filled with non-odorous and non-inflammable oil for emergency lighting. They are provided with iron lattice gates at the entrances.

3. *Reinforced Concrete Shelters*

These are built in Barcelona in many places where it is not found possible to build the gallery type ; for instance, where the subsoil (which is in most parts of a consistent loamy clay) is unsuitable, or where there is too much water underground. They are considerably more expensive to build than the gallery type ; they are always provided with two concrete slabs above, so that should there be a direct hit and the first slab is disintegrated the roof may not fall on the people in the shelter.

The sketch shows a design for a shelter (one of these is now in construction) by Senor Perera, of the Committee for Passive Defence, which is considered to be of a very good type. The sand underneath the top slab is for the purpose of spreading the shock from a falling bomb over as large an area as possible on the second slab. The



Reinforced concrete surface shelter, built where subsoil is unsuitable for underground galleries. They are more expensive than the latter.

stones below the second slab are provided to turn the direction of any bomb which should penetrate this slab.

4. *Shelters beneath Buildings*

A certain number of reinforced concrete shelters beneath buildings have been provided, and others are being built. Most of the buildings in Barcelona have big cellars, usually at least 15 ft. high, which are easily adaptable. The sketch below shows a typical example of such a shelter.

5. In addition, a certain number of concrete gallery type shelters have been built. The sketch shows a typical example of such a shelter. It is interesting to note that a 100-kilo. bomb fell on such a shelter. The result was a crater 1 metre deep, and a slight crack was caused in the top of the concrete of the shelter. There were, however, no casualties.

The following table gives the number of shelters of different types which have been built in Barcelona :—

	Persons
Straight gallery type :—	
Small shelters for	15,000
Large shelters for	27,000
Branched galleries for ..	242,000
Shelters beneath buildings for	13,000
Reinforced concrete cellular type shelters (surface) for ..	20,000
Total	317,000

(The normal population of Barcelona is roughly 1,500,000, but the present population is about 2,000,000.)

These shelters have all been constructed, but there are many more now in course of construction.

The following list of various towns in Catalonia gives some idea of the number of shelters built of the various types :—

Reus (population 27,417)

	Persons
Cellular type	9,000
Shelters under houses ..	11,000
Further shelters in construction	1,271
Total	21,271

This town has the highest proportion of shelters to population of any in Catalonia.

Tarragona	Persons
Gallery type	2,000
Small shelters under buildings	14,000
Gerona	
Gallery type	670
Trenches	1,300
Shelters under houses ..	3,000
Galleries in construction ..	2,800
Manresa	
Galleries	4,200
Cellular type	7,000
Shelters under buildings ..	800
Further shelters in construction	2,800

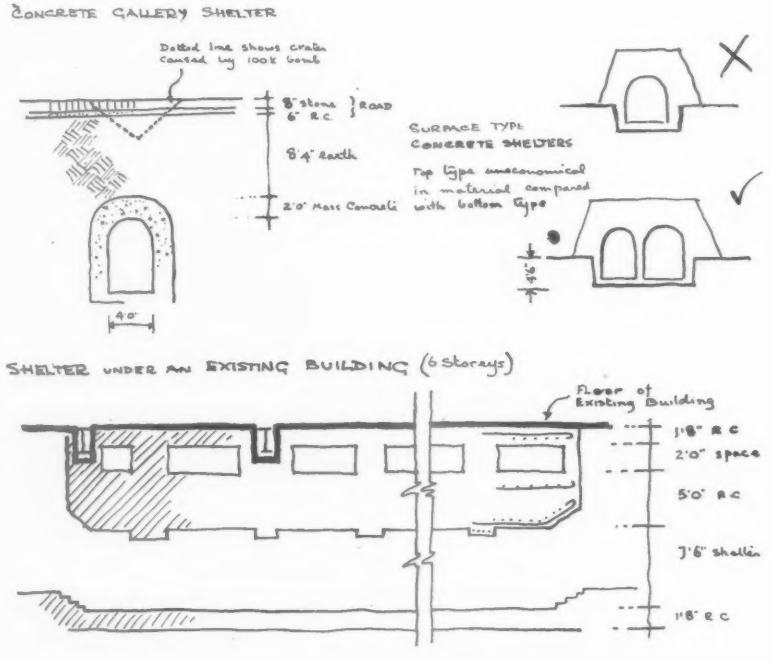
Comparative Cost of Shelters	Pesetas per Person
Large concrete refuges (cellular)	500*
Simpler concrete refuges (cellular)	300
Brick-lined galleries (2 metres wide by 2·5 metres high) ..	150
Covered trenches	80
Open trenches	35

* The approximate internal value of the peseta appears to be about 1½d.

The great advantage of the gallery type, apart from its cheapness, is that the gallery can be used, even if only a small part of it has been excavated ; indeed, these galleries are used, even if the brick vaulting has not yet been constructed. The reinforced concrete cellular type of shelter cannot, of course, be used until the whole shelter is completely finished. The gallery type is constructed at the rate of approximately 1 metre length per day.

General

At first there was a reluctance on the part of the population to use the shelters provided, but now, presumably due to the continuous bombardments and to the small number of casualties in shelters, they are used a great deal; in fact, as there are in Barcelona only enough shelters for about one-seventh of the present population of Barcelona, the authorities do not advertise the presence of shelters unduly for fear of overcrowding. There are small signs pointing to the entrance to many refuges, but others do not appear to have any notice advertising their whereabouts. The chief difficulty which has recently arisen is not in getting people to use shelters but in getting them to leave after the bombardment is over. This is especially the case after a continuous series of bombardments, such as those in the middle of March,



Above, sketch of concrete gallery shelter, one of which was struck by a 100-kilo. bomb without casualties. (Right) Showing better type of concrete surface shelter. Below, usual construction of shelters below existing buildings.

1938. It is, of course, very necessary to evacuate the shelters in order to clear the atmosphere and for cleaning purposes. This problem has arisen to a considerable extent on only two or three occasions.

Most refuges are supervised by two men who are officially appointed and who are sometimes, but not always, on permanent duty. They are responsible for opening the shelters when there is a raid (the shelters are normally kept closed) and for evacuation and closing of the shelters after the raid. Some shelters are controlled by committees, who take it in turns to supervise the shelter.

The amount of protection provided by shelters, which appears completely to justify their construction, can be shown by the following two examples :—

Reus : On April 12, 1938, three bombers dropped 32 bombs, of which 19 were incendiary ; 23 houses were entirely demolished and 19 half demolished, but only three people were killed. The alarm was given four minutes before the first bomb was dropped. The raid was at 12.20 mid-day.

Videras : 25–30 bombs were dropped in the middle of the town, but only two persons were killed.

Both the above towns are very well provided with bomb-proof shelters.

The results of the raids on Castellon at the end of May are also very interesting in this respect. In this city there is an elaborate and extensive system of underground interconnected tunnels. The population of the city is about 70,000. In one raid 450 bombs were dropped, and only one person was killed. In another raid 180 bombs were dropped, and 60 houses and a hospital destroyed. Two women and three children were killed in the hospital, and nobody in the town.

One of the posters of the Committee of Passive Defence in Barcelona.

LETTERS FROM READERS

KENNETH F. WRAY, F.R.I.B.A.

"HOPEFUL SPECIAL FINALIST"

RAYMOND WALKER

L. W. BURRIDGE (Clay Products Technical Bureau of Great Britain)

A.R.P.

SIR,—It is with great regret that in the last issue of the JOURNAL I notice once again prominence being given to the question of aerial bombardment, drawing attention to the part which the R.I.B.A. might take by collaboration with A.R.P. I should like to draw your attention to the fact that some of us believe that, whereas it is possible to give a small degree of protection for a limited time, A.R.P. are not primarily intended to protect the public, but to be the ground organization for our own bombing planes, in order that they may the more efficiently, as Earl Baldwin put it, "bomb more women and children more quickly than the enemy."

I deplore the efforts to enlist the services of the Arts, in the regimentation of the country on a military basis.

KENNETH F. WRAY

[*The* JOURNAL *considers that before architects decide whether or not they are being invited to collaborate in deceiving the public over A.R.P., they should examine the evidence available. With the object of helping them to do this, the* JOURNAL *will publish on July 7 a Special Issue dealing with the cost and presumed effectiveness of various structural precautions. Mr. Wray may possibly find this issue of interest should he not be already irrevocably decided in his attitude towards the subject.*—ED., A.J.]

Professor Reilly Speaking

SIR,—After having received such a drubbing from Professor Reilly I should now be only too thankful to crawl back into the cheese (or the river). Candidly, however, I am flattered that the great Reilly has taken notice of my feeble bleats (forgive me for mixing the figures of speech).

I remind the Professor that I said "*scarcely* heard of" in my reference to architectural schools eighteen years ago. (I believe there *was* a war from 1914 to 1918, when we youngsters had to think more of saving bread and butter to save the country and dodging air raids to save our skins, than of other serious business.) Again, being so ignorant I do not *know*—but for how many years have there been a number of scholarships really open to the children of poor people?

As to the Licentiateship—well, Professor, YOU KNOW—but why keep your tongue in your cheek?

"HOPEFUL SPECIAL FINALIST"

The Architect and Territorial Planning

SIR,—The JOURNAL has started to put the profession to rights—I have been very interested to see whether your excellent leaders during the last few weeks would result in pressure on your correspondence columns. However, since this pressure has not arisen I am taking the opportunity of providing a little of it myself.

As you have pointed out, while the architects have been busy putting their own house in order, their professional importance has as rapidly diminished as the fortunes of their patrons. Another few years and the private client may well be a thing of the past and the architect in private practice naught but a pleasant memory.

It is not as if this threatened decline of the private practice foretells a rosy future for the official architect, although more and more architects will have to be employed in an official capacity as bureaucracy develops.

But your possible solution to the problem is very disappointing.

The training of a few professional giants will not solve the problems of the architectural rank and file, and while too much specialization may have resulted in the narrow architectural outlook of today, it is very doubtful whether a man can be trained to organize large scale planning, both within and beyond architecture, unless his practical experience gives him an equally wide field in which to test his acquired theory.

If you had said it would be a good thing to enforce a study of architecture

and town planning on those leaders of the public such as the great industrialist or politician—then I would agree with you; but how on earth are we to get our great men to study that basis of all material achievement which we term "Architecture"? We cannot ask the Chancellor of the Exchequer to take a five-year course at the National School for Planning and Research, however important it may be that he should do so.

We can only hope to instil architecture into the young mind—so that our future Chancellors are better equipped.

But while we should perhaps be pressing for the substitution of architecture for the classics, your correspondents have been writing about the unfairness of the Town and Country Planning Act! Even in this age of material reality, hardly an architect is willing to admit that style is purely a matter of opinion and that law can only work fairly when dealing with fact. If architectural opinion can be made coherent it may be possible to dress a mere opinion in the clothes of fact—it might even be possible to dress up the "mumbo-jumbo" of the styles with an appearance of desirable truth; but is the profession capable of giving an undivided opinion on this matter? Of course not! How then is it possible for the industrialist or politician or "retired laundry proprietor" to avoid hurting the feelings and damaging the reputation of the profession as a whole?

We want three things :—

(1) A policy of design that is universally accepted.

(2) What I may describe as "spiritual cohesion" among members of the profession.

(3) An officially organized propaganda organization to tell the public why it needs the architect, what it needs him for, and where he can be found.

This is a job for the R.I.B.A., and as soon as members of the profession can stop wrangling amongst themselves, can stop jeering at well-intentioned (and most carefully considered) legislation, can make up their minds to support the R.I.B.A. on a sound external policy, then that Institute will have a chance to tackle these problems and sell the services of the profession to the British public in the way in which they should be sold.

Please forgive this outburst. But what is the good of training men for tasks even more difficult than ordinary architectural practice, until the machinery is in existence to place those men in reasonably lucrative employment? Neither you nor I, Mr. Editor, work for nothing, and neither of us has troubled to equip himself to do something that he will never be allowed the chance to do—or have we?

Let us therefore make the jobs first and look to the qualification afterwards.

RAYMOND WALKER

Burnt Clay Products

SIR,—It is continuously being brought to the notice of this Bureau, which was established to collect and disseminate authoritative information on bricks, brickwork, tiling and other forms of burnt clay products to all who are engaged in building, that the British Standard sizes for bricks are not specified to anything like the extent one would expect in architects' specifications, etc.

This is a somewhat surprising state of affairs in view of the fact that the existence of the British Standard Specification for Dimensions of Clay Facing and Backing Bricks (No. 657/1936) is attributable almost entirely to the prolonged and earnest efforts of the architects' own official institution, the Royal Institute of British Architects. As far back as 1904, the Royal Institute was able to obtain agreement to a partial standardization, and carried this standardization still further in 1919. As the preface to the 1936 British Standard Specification states: "The present Specification carries the work commenced by the Royal Institute of British Architects to its logical conclusion."

There would seem, therefore, to be an abundance of evidence that, for some thirty odd years, the main body of architectural opinion has been so strongly in favour of size standardization as to take the initiative throughout in pressing its requirements upon the manufacturing interests, and it is unlikely that this opinion has changed materially since 1936.

To quote again from the 1936 Specification's preface "the committee realize that the adoption of these dimensions by some manufacturers will necessitate changes in their plants." The Bureau is advised that these changes were quickly introduced in practically every brickyard in England, thus implementing the statement in the 1936 Specification that the manufacturers had indicated "their readiness to make the changes" without waiting for the incentive implied in the concluding words of the preface to the Specification, viz., "provided the support of the architects and purchasers . . . can be secured."

The surety in designing and estimating which derives from a certainty that the products delivered will be consistently of a known, specified size is so overwhelming an argument in favour of standard sizes as to require no emphasis, and any abandonment of the standards by the manufacturers on the score of lack of "support of the architects and purchasers" would, it is felt, be a retrograde step of serious import to the building trade as a whole.

For this reason the Bureau would appreciate the widespread influence and collaboration of your JOURNAL in a strong appeal to all who specify and purchase bricks to lay down in their specifications and orders that "all bricks shall satisfy British Standard Specification No. 657/1936," Clause 2 of which (quoted by permission of the British Standards Institution) reads as follows :—

The dimensions of the bricks shall be as given in the following table.*

L. W. BURRIDGE,
Clay Products Technical Bureau
of Great Britain.

* Length (L)		Width (B)		Depth (D)					
				Type I		Type II		Type III	
	Tol.		Tol.		Tol.		Tol.		Tol.
In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
$8\frac{3}{4}$	$\pm \frac{1}{8}$	$4\frac{3}{16}$	$\pm \frac{1}{16}$	2	$\pm \frac{1}{16}$	$2\frac{5}{8}$	$\pm \frac{1}{16}$	$2\frac{7}{8}$	$\pm \frac{1}{16}$

Tol=Tolerance.

EXHIBITIONS

[*By D. COSENS*]

THERE are two exceptionally good exhibitions of paintings by Utrillo, one at the Storran and one at the Adams Gallery. All are early and, dating from 1906 to 1918, cover his best period. Few have been shown before. In comparison with any of these paintings his more recent work is negligible. The exact source of Utrillo's charm is difficult to define, but few painters have succeeded better in conveying the atmosphere of empty streets or in suggesting the life behind closed shutters and blank façades. His white streets and houses are well known, less familiar are such masterpieces as his "Maison Orange" or "Marchand de Vins à Montmagny" at the Storran, both painted in 1908, or his "Boulevard de la Chapelle" at the Adams. These have a quality that he no longer achieves.

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The question of sculpture in relation to architecture is one that, unlikely as it may seem today, may well prove a strong force in modifying contemporary design. Few people are capable of appreciating the balance of pure form in architecture or any other art, and in the long run the popular demand for

some relieving ornament wins. The surprising return of the caryatid under the auspices of our severest architect is perhaps a portent. Be that as it may, contemporary architecture affords great possibilities for sculpture in such a plastic medium as concrete. The sad thing about Laszlo Péri's exhibition is that he has the idea, but not the courage of his material. Used boldly and in broad masses concrete has infinite sculptural possibilities, entirely its own. But Mr. Péri uses it timidly, as clay, and in all his work, except that it has the advantage of being worked direct and therefore does not necessarily have to be cast, it is only a clumsy substitute for the more sensitive clay. As an architect and a sculptor, Mr. Péri must be fully aware of this and it would be interesting to see him set free on work more in scale with his material. His exhibition in Soho Square shows both enterprise and originality, and the experiment is clearly one that should be worked out in its own terms.

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Anything that can be called arts and crafts is usually suspect. We are only too familiar with those pathetic collections of useless objects where endless ingenuity and often excellent workmanship have been wasted on deplorable designs. The ardour of the home craftsman is always far ahead of his taste, and instead of condemning him for not possessing the æsthetic sense of the trained designer it would be more profitable to encourage him to work on good design for which a market exists—an experiment which has of course been made, but not often or widely enough. That a scheme of this sort can prove successful is amply proved by the Danish Design Exhibition at 5 Hyde Park Square. This is the result of a national attempt to raise the standard of design in arts and crafts, and the work of all members of the "Haandarbejdets Fremme" has to be passed by a committee before it may be shown. Their exhibition is unique, for its high standard is maintained throughout, there is nothing that is not good of its kind, and what is even more remarkable, no anxious attempts have been made to be new and original at all costs. The *décor* is extremely successful. The exhibits are shown in a large empty house against a background of corrugated packing paper (the Danish variety is pleasanter in colour than ours), textiles are used sparingly as vertical pattern in the rooms and the various objects, furniture, pottery, and rugs and toys are carefully arranged in relation to each other.

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Early Paintings by Utrillo. Storran Gallery, 5 Albany Court Yard.

Early Paintings by Utrillo. Adams Gallery, 2 Pall Mall Place.

Sculpture in Concrete by Laszlo Péri. 36 Soho Square.

Danish Design. 5 Hyde Park Square.

R.I.B.A.

ELECTIONS

At a general meeting of the R.I.B.A., held on Monday, June 20, the results of the annual elections to the Council were announced. They are printed below :—

President : Mr. H. S. Goodhart-Rendel.

Past Presidents : Mr. Percy E. Thomas, O.B.E. (Cardiff), and Sir Raymond Unwin, Hon. LL.D.Mancr.

Members of Council : Professor Patrick Abercrombie, M.A.Lvpl., Professor C. H. Reilly, O.B.E., and Messrs. Robert Atkinson, Hon. M.ARCH.Livpl., E. C. Bewlay, A. C. Bunch, C. Cowles-Voysey, Joseph Emberton, E. Stanley Hall, Stanley Hamp, G. N. Hill, Charles H. Holden, T. Cecil Howitt, D.S.O., E. B. Maufe, Howard M. Robertson, Sydney Tatchell, Maurice E. Webb, E. P. Wheeler, and G. Grey Wornum.

Associate Members of Council : Professor W. G. Holford, and Messrs. W. Naseby Adams, Percival C. Blow, W. Austin Daft, Wesley Dougill, R. A. Duncan, C. A. Minoprio, Norval R. Paxton, and E. Berry Webber.

Licentiate Members of Council : Sir William F. V. M. Milner, and Messrs. Stanley A. Heaps and S. Lunn Whitehouse.

Representatives of Allied Societies in the United Kingdom or the Irish Free State

Six Representatives from the Northern Province of England : Messrs. G. H. Gray (Northern Architectural Association) ; W. A. Johnson (Manchester Society of Architects) ; H. A. Dod, M.A.Livpl. (Liverpool Architectural Society) ; C. W. C. Needham (York and East Yorkshire Architectural Society) ; F. L. Charlton (West Yorkshire Society of Architects) ; W. G. Davies (Sheffield, South Yorkshire and District Society of Architects and Surveyors).

Five Representatives from the Midland Province of England ; Messrs. S. N. Cooke (Birmingham and Five Counties Architectural Association) ; E. J. Williams, J.P. (Leicester and Leicestershire Society of Architects) ; W. G. Watkins (Nottingham, Derby and Lincoln Architectural Society) ; Leslie Barefoot (East Anglian Society of Architects) ; and Major Basil C. Deacon (Northamptonshire, Bedfordshire and Huntingdonshire Association of Architects).

Six Representatives from the Southern Province of England : Messrs. J. C. C. Bruce (Devon and C Architectural Society) ; C. W. Pike (Wessex Society of Architects) ; G. Hastwell Grayson, M.A. (CANTAB.) (Berks, Bucks and Oxon Architectural Association) ; A. L. Roberts (Hampshire and Isle of Wight Architectural Association) ; H. P. G. Maule, D.S.O., M.C. (Essex, Cambridge and Hertfordshire Society of Architects) ; one representative to be nominated by the Council of the South-Eastern Society of Architects.

Four Representatives of Allied Societies in Scotland, nominated by the Council of the Royal Incorporation of Architects in Scotland : Colonel G. G. McLean, O.B.E. (Glasgow) ; Messrs. Norman A. Dick (Glasgow) ; Charles G. Souter (Dundee) ; and one representative to be appointed.

One Representative of Allied Societies in Wales, nominated by the Council of the South Wales Institute of Architects : Mr. Oliver S. Portsmouth (Swansea).

Two Representatives of Allied Societies in Ireland : Messrs. Harry Allberry (Royal Institute of the Architects of Ireland) and T. R. Eagar (Royal Society of Ulster Architects).

Representatives of Allied Societies in the British Dominions Overseas, nominated by the Council of each of the following : The Royal Architectural Institute of Canada : Mr. H. L. Fetherstonhaugh ; Representative in the United Kingdom : Mr. E. Stanley Hall, M.A. (OXON) ; The Royal Australian Institute of Architects : Professor A. S. Hook, A.R.C.A. (LOND.) ; Representative in the United Kingdom : Mr. Maurice E. Webb, D.S.O., M.C., M.A. (CANTAB.) ; The New Zealand Institute of Architects : Representative to be nominated ; Representative in the United Kingdom to be nominated ; The Institute of South African Architects : Representative to be nominated ; Representative in the United Kingdom to be nominated ; The Indian Institute of Architects : Mr. P. P. Kapadia, B.A., J.P. ; Representative in the United Kingdom : Professor Patrick Abercrombie, M.A. (LIVERPOOL).

Representative of the Architectural Association (London) : Mr. Verner O. Rees.

Representative of the Association of Architects, Surveyors and Technical Assistants : Mr. Roderick C. Fisher.

Chairman of the Board of Architectural Education : Mr. Hubert Lidbetter.

Chairman of the R.I.B.A. Registration Committee : Mr. T. A. Darcy Braddell.

Chairman of the R.I.B.A. Official Architects' Committee.

Representative of the R.I.B.A. Salaried Members' Committee.

SOANE MEDALLION AND VICTORY SCHOLARSHIP
BOARD OF ARCHITECTURAL EDUCATION

The R.I.B.A. Council has decided to amend the arrangements for the competitions for the Soane Medallion and Victory Scholarship. The revised arrangements will come into operation in 1939–40, and are as follows :—

Instead of a Preliminary en-loge Competition and a Final en-loge Competition being conducted as in the past, only one en-loge competition will be held.

Competitors will be furnished with an outline programme for the competition, one month before the en-loge competition is held, and at the opening of the en-loge competition, which will be held in July annually, they will be handed the complete programme.

The en-loge competition will be of 12 hours' duration, at the conclusion of which competitors will be required to hand in their schemes prepared en-loge, retaining a tracing of their drawings for their own use.

Competitors will be notified within two weeks of the en-loge competition whether or not they will be permitted to proceed with their final drawings.

Competitors who are permitted to proceed with their final drawings will be allowed a period of ten weeks from the date of the receipt of this notification to develop their final drawings.

NEWS BULLETIN

End of the Session.—The Session 1937–38 ends officially on June 30. Under the new byelaws the Art, Practice and Science Committees will cease to be "standing" and in common with other Committees will be appointed by the Council. The old Literature Standing Committee will cease to exist, part of its work being carried on by a new Library Committee. The new Council will meet to appoint the Committees on July 18.

Rome Scholarship Exhibition.—The designs submitted in the final of the Rome Scholarship in Architecture will be on view at the R.I.B.A. from July 5 to 9 (10 a.m. to 8 p.m., Saturdays 5 p.m.). The Rome Faculty meet to make the final award on Friday, July 1.

Presentation to the Library.—The R.I.B.A., which already possesses the most interesting collection of Lethaby's architectural drawings has now been presented by Miss Crosby, Lethaby's sister-in-law, with a number of his notebooks and sketchbooks dating from 1875 to near the year of his death.

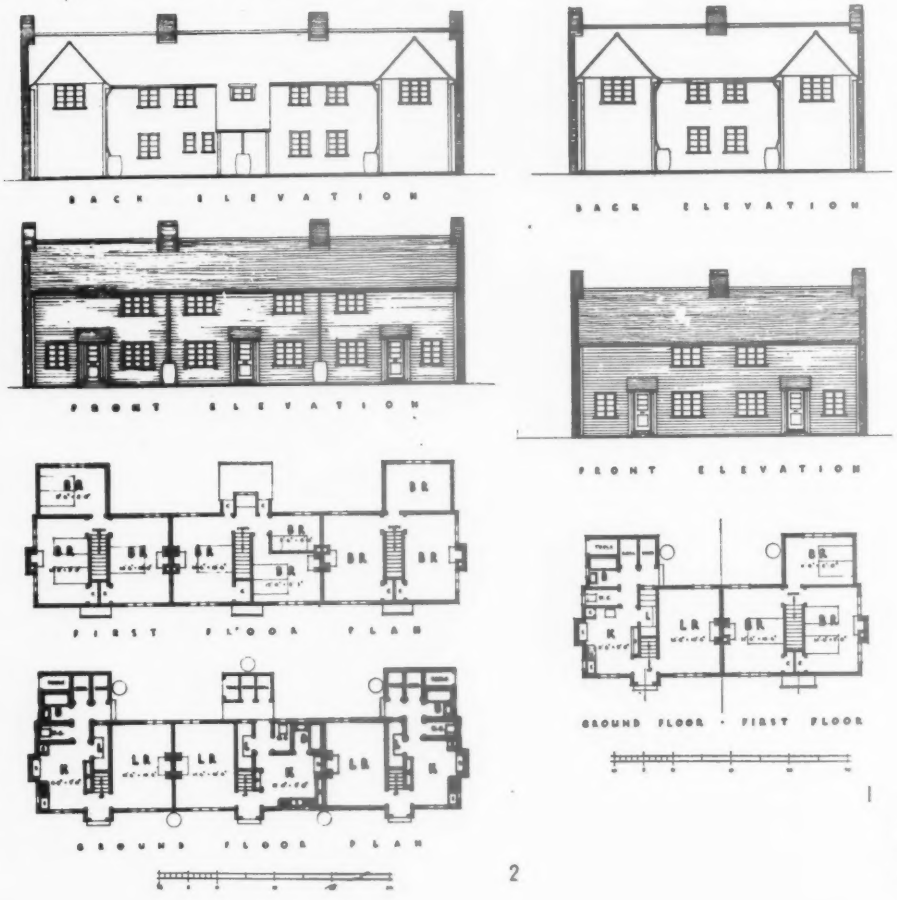
Exhibitions.—"Health, Sport and Fitness" opens at the Manchester City Art Gallery on July 4.

"Airports and Airways" opens at the Sunderland Public Library and Art Gallery on July 1.

COMPETITION FOR TIMBER COTTAGES

LEFT: DESIGN PLACED SECOND, BY H. ST. JOHN HARRISON.

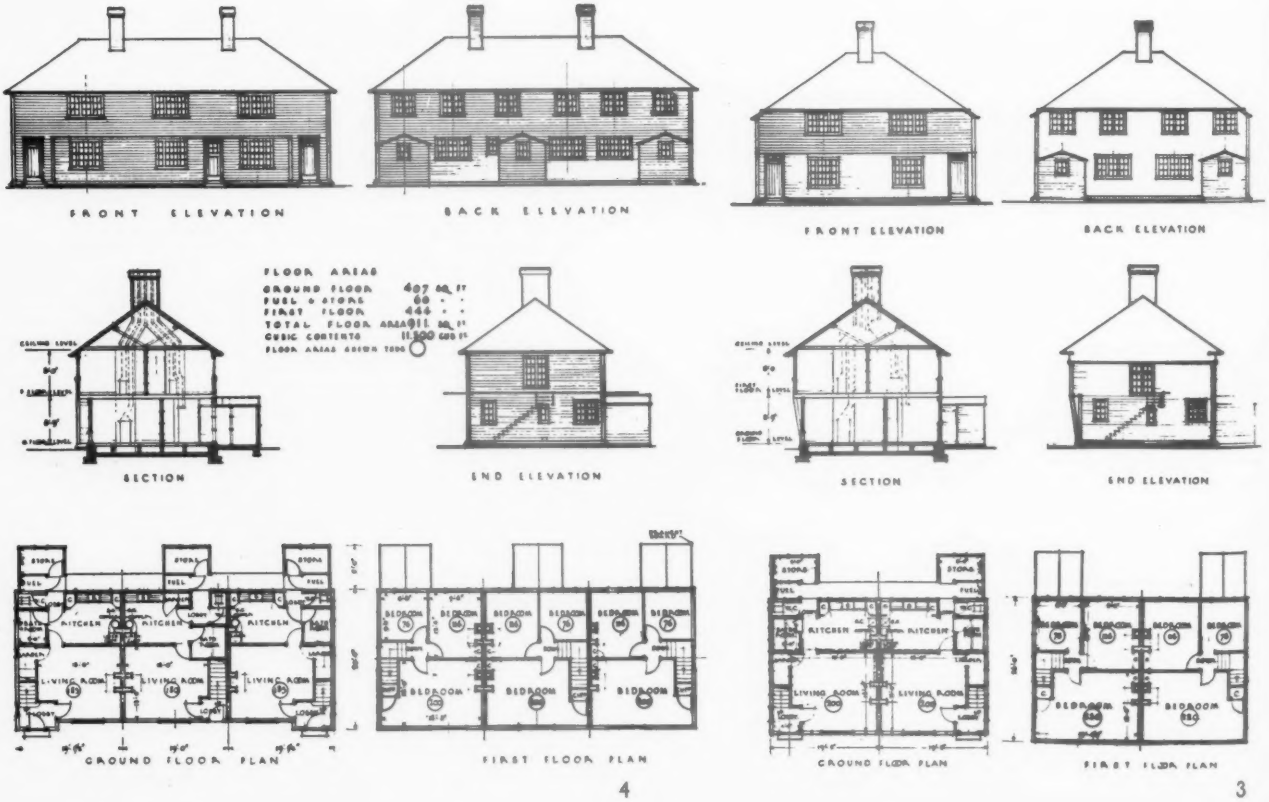
1—Semi-detached cottages.
2—Group of three.



2

BELOW: DESIGN PLACED THIRD, BY HERBERT J. W. BROADWATER.

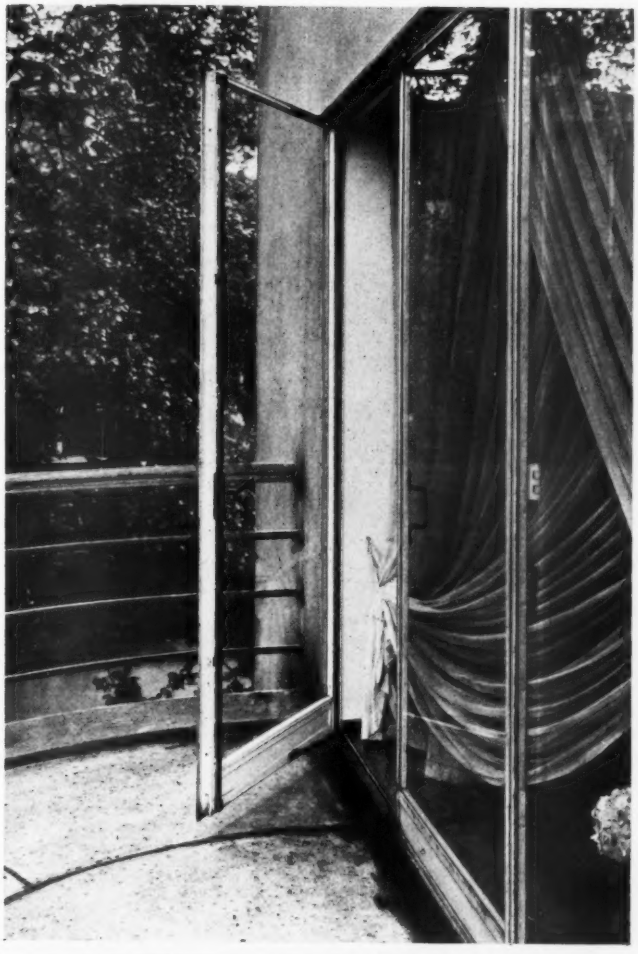
3—Semi-detached cottages.
4—Group of three.



4 3

WORKING DETAILS : 663

BEDROOM BALCONY & THREE-FOLD MIRROR • HOUSE IN CHELSEA, S.W. • MENDELSOHN & CHERMAYEFF



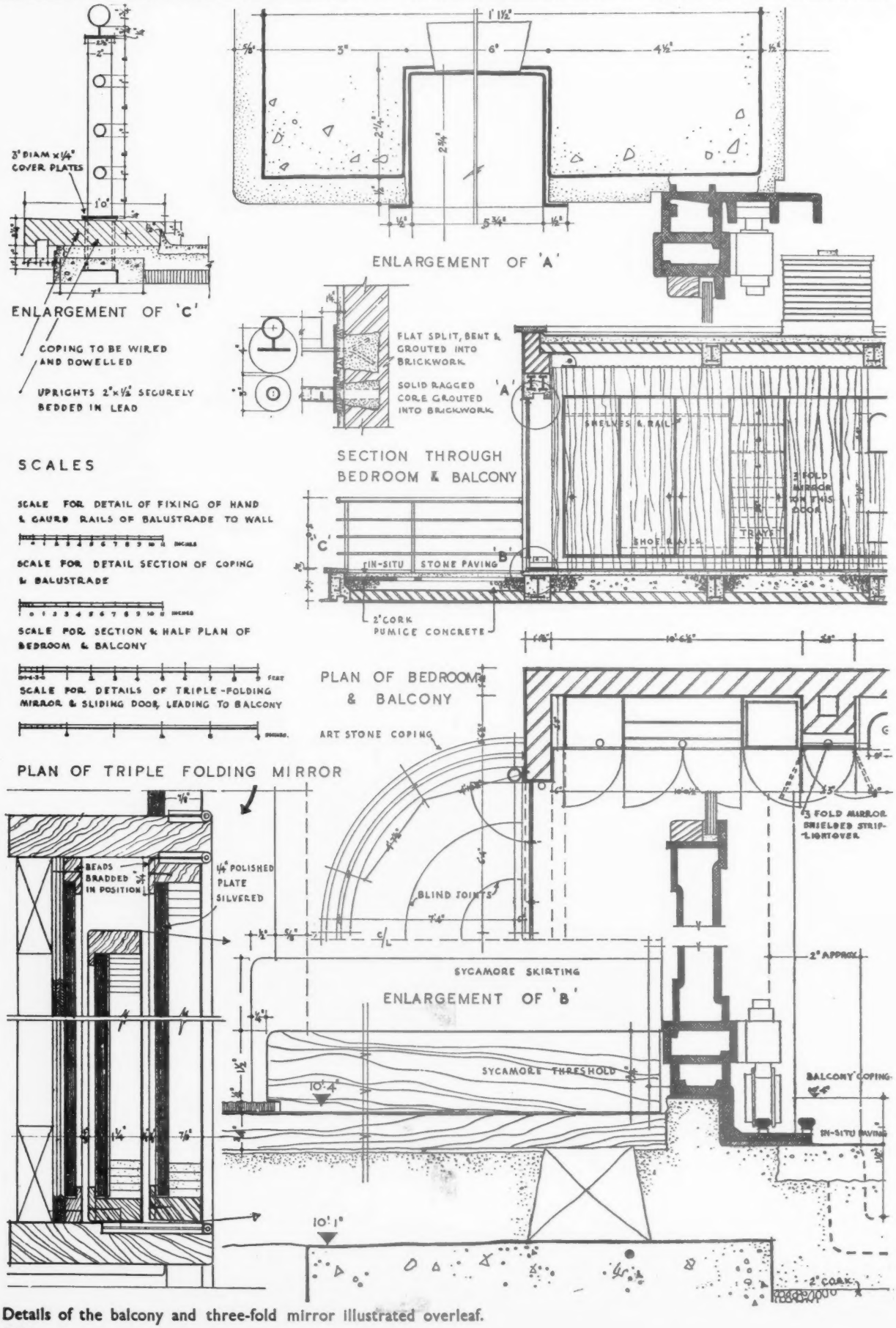
The balcony is semi-circular, and forms the roof to the bay window of the drawing room below. It is paved with stone and has an artificial stone coping with steel balustrade. Sliding-folding glazed steel windows give access from the bedroom.

The three-fold mirror forms a part of the built-in fitments in the bedroom. When not in use the mirror can be folded away to form a door flush with the sycamore bedroom panelling.

Details are shown overleaf.

WORKING DETAILS : 664

BEDROOM BALCONY & THREE-FOLD MIRROR • HOUSE IN CHELSEA, S.W. • MENDELSOHN & CHERMAYEFF



Details of the balcony and three-fold mirror illustrated overleaf.

The Architects' Journal Library of Planned Information

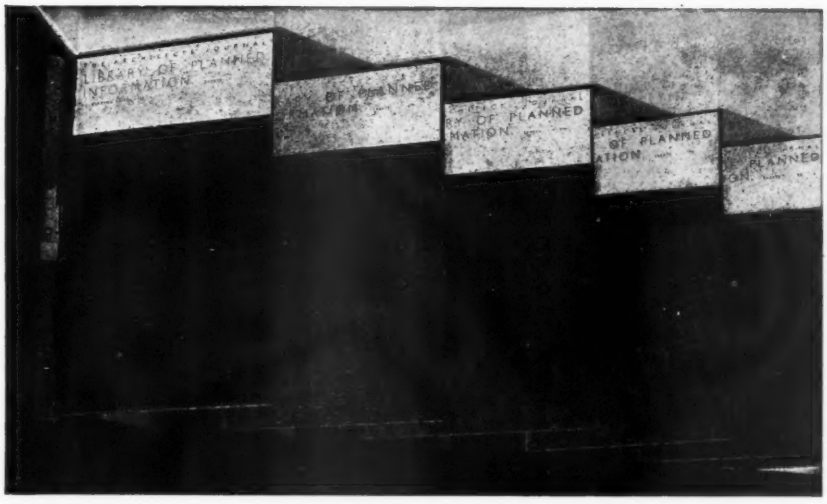
INFORMATION SHEET

SUPPLEMENT

SHEETS IN THIS ISSUE

637 Electrical Equipment, Lighting

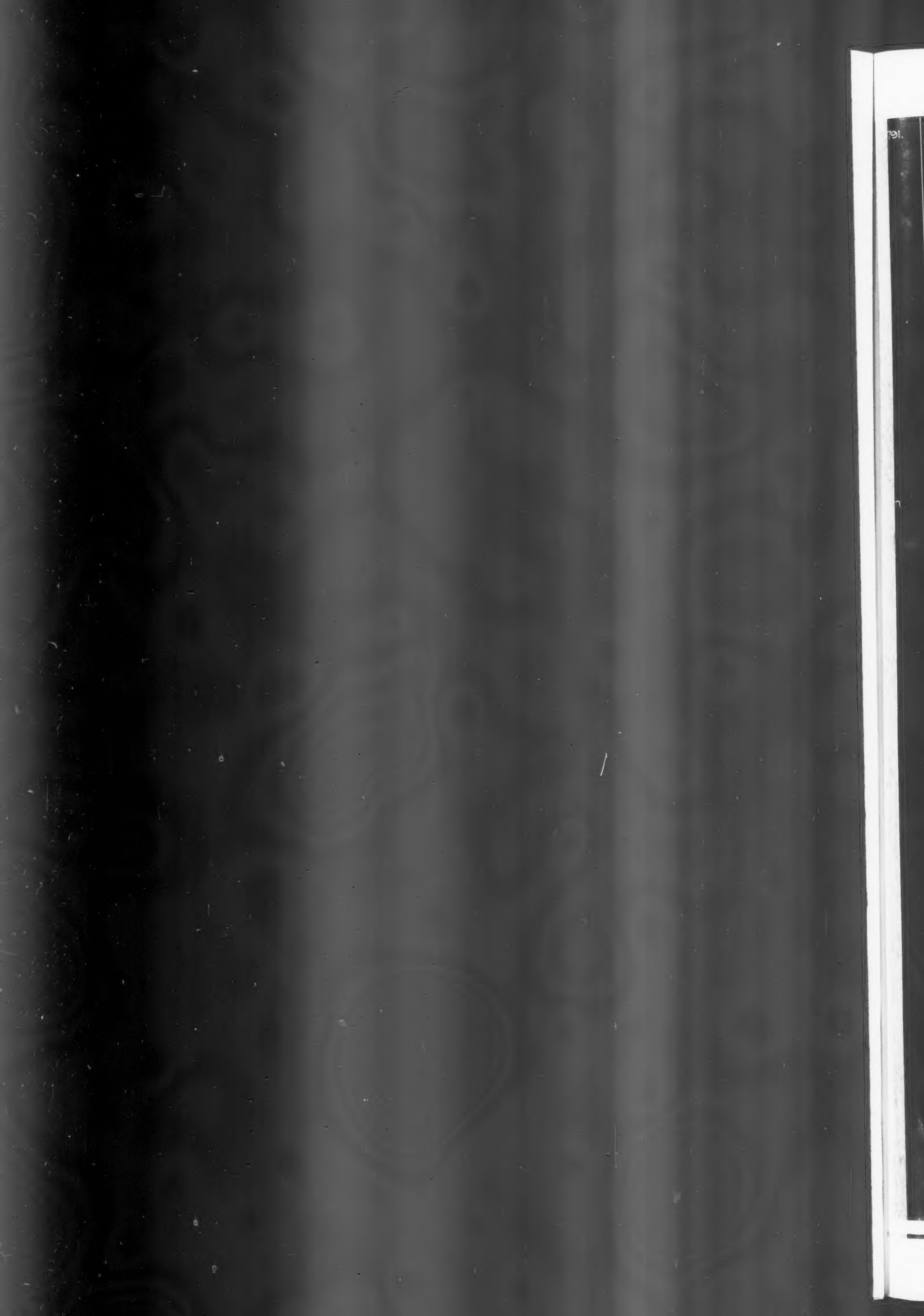
638 Elementary Schools—VII



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 :

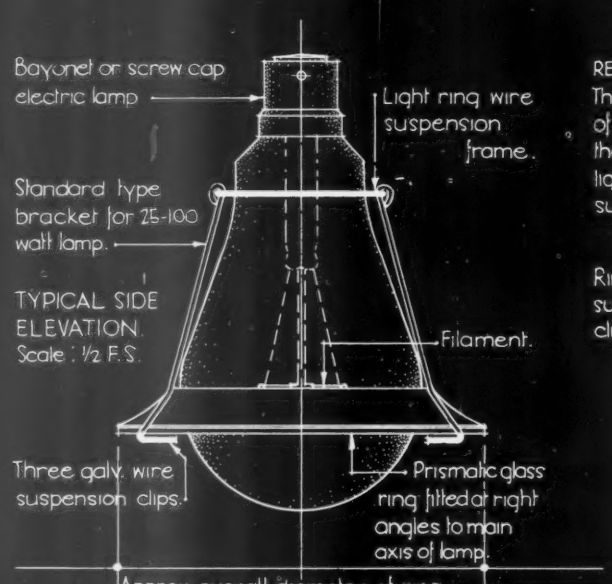
601 : Sanitary Equipment
602 : Enamel Paints
603 : Hot Water Boilers—III
604 : Gas Cookers
605 : Insulation and Protection of Buildings
606 : Heating Equipment
607 : The Equipment of Buildings
608 : Water Heating
609 : Fireplaces
610 : Weatherings—I
611 : Fire Protection and Insulation
612 : Glass Masonry
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

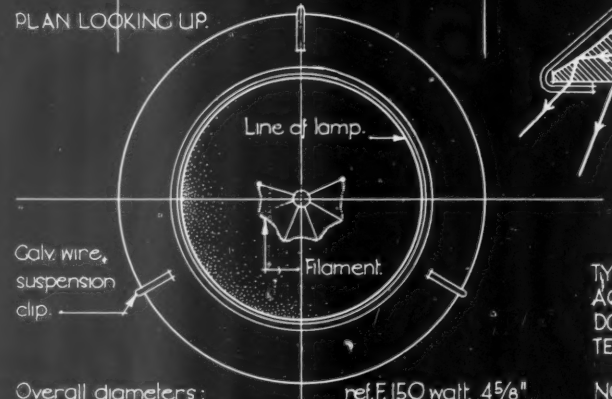


THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

CONSTRUCTION AND OPERATING PRINCIPLES OF THE AMPLILUX PRISMATIC REFLECTING RING :

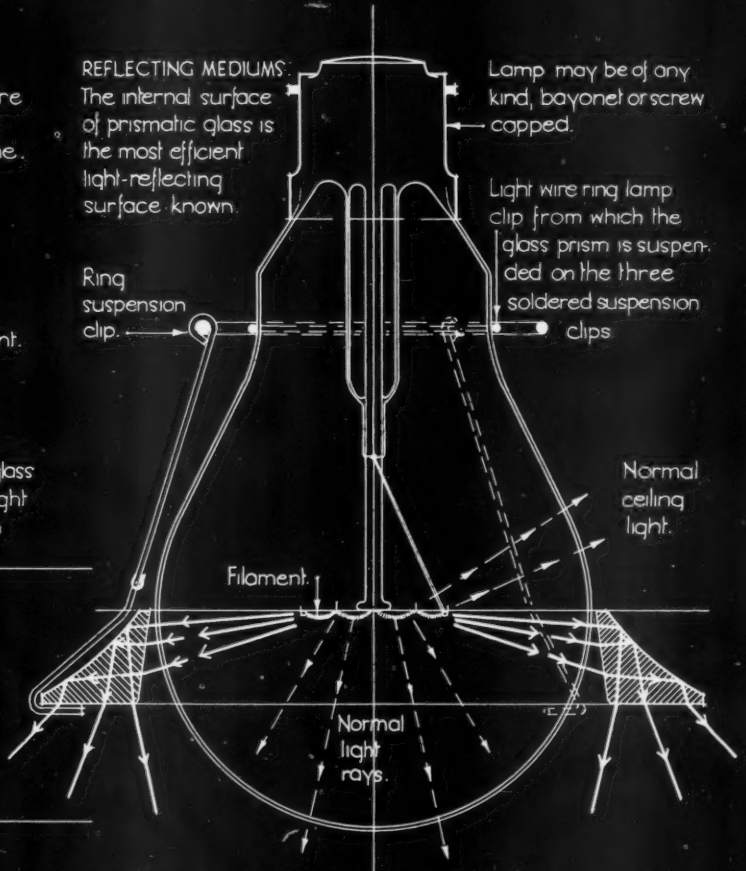
SPECIAL FITTINGS : In addition to the wire attachment bracket for fitting rings to existing lamps, special prismatic bell and pendant fittings are also available, see diagrams below.





Overall diameters :

Ring ref. C,	25 & 40 watt lamps,	3¾"	ref. G, 200 watt,	5⅛".
do. D,	60 do.	3⅞"	ref. H, 300 watt,	6"
do. E,	100 do.	4⅜"	ref. J, 500 watt,	7"



TYPICAL F.S. SECTION THROUGH 40-60-WATT LAMP SHOWING DOWNWARD & OUTWARD REFLECTED LIGHT RAYS FROM PRISM.

NOTE : The ring only reflects those horizontal light rays which are normally wasted.

OPERATING PRINCIPLE :

The rays striking the outer face of the prism at angles bigger than the total internal reflection angle, are not refracted as normally, but reflected back in a downward direction as shown.

TYPES OF AMPLILUX FITTINGS INCORPORATING THE PRISMATIC RING OR PRINCIPLE OF INTERNAL REFLECTION:

Prismatic ring.	Prismatic ring.	Clear frosted glass.	Prismatic flange.	Prismatic ring.
For office & general use.	Offices & showrooms.	For general use.	For industrial work.	For general use.
EXCELSIOR UNIT.	SENIOR UNIT.	TOTALLY ENCLOSED.	PRISMATIC BELL.	MELIOR UNIT.

Particulars of the specialised applications shown above will appear on Information Sheet No. 2 of this series.

Information from The Amplilux Lighting & Illumination Co. Ltd.

INFORMATION SHEET : ELECTRICAL EQUIPMENT: PRISMATIC REFLECTING RINGS : No. 1.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 637 •

ELECTRICAL EQUIPMENT, LIGHTING

Product : Prismatic Glass Reflecting Rings for Electric Lamps

Description :

The Amplilux prismatic reflector is an apparatus consisting of a prism-shaped glass ring, hung at a level with the filament on a light wire frame round the lamp. The frame is easily fixed to any standard electric lamp, and is set by sliding adjustment so that the top of the ring is in the exact position dictated by the particular type of lamp and filament. The reflector should always be at right angles to the main axis of the lamp.

The diameter of the glass varies according to the wattage of the lamp to be fitted, but the construction of the wire frame and method of fitting are standard for 25–100 watt lamps.

The prism suspension frame consists of two concentric light wire rings which are soldered together at intervals. The inner ring forms the actual lamp grip while the outer ring has three suspension wires soldered at points equidistant on its perimeter, and these hold the glass ring firmly in position, free from the sides of the lamp.

The wire rings are severed at a point on their perimeter to allow free expansion and contraction, the perimeter forming a spring.

Where this standard bracket will not fit the lamp, a type having spring wire clips as described below for lamps of 150–500 wattage may be fitted.

The brackets supporting the prismatic rings round 150–500 watt lamps obtain their grip on the neck of the lamp by means of two spring wire clips, standing above the ring suspension frame, and soldered at the legs to it.

Three suspension clips are soldered at points equidistant around the wire, and these hold the glass ring firmly in position, free from the sides of the lamps as before.

Operation :

Light rays travelling inside a block of glass which strike the boundary face within the particular angle of incidence known as the angle of total internal reflection, are normally bent away or refracted from their original direction when they emerge into the air.

The Amplilux prismatic reflecting rings illustrated on this Sheet are formed of special glass, the angles and curvatures of which are so calculated that all the light rays which strike the inside vertical face pass through the glass to the outer inclined surface but strike this at an angle greater than the angle of total internal reflection, and are thereby reflected downwards and outwards to illuminate a wide area of the working plane.

Use :

The rings are designed for use with lamps, the light of which is to be directed towards a given plane. As shown on the full-size section overleaf, the ring surrounds the ordinary electric lamp and deflects the normally unused, side-thrown light rays. Thus, not only can lamps of less wattage be used to obtain light of specified intensity, but the vertical intensity given by existing bare lamps can be more than doubled. It should be noted that the total internal reflection from prismatic glass is greater than that obtainable from metallic surfaces.

Fittings :

The prismatic ring can be used on lamps without shade coverings if desired, and it will be found that in addition to the increased vertical intensities obtained, side glare is eliminated. For lamps inside shades and reflectors, although the ring cuts off a narrow band of light, the prismatic glass reflection is so much greater than that of the shade or reflector that a considerable increase in useful light always occurs. In opal glass conical shades, for instance, approximately 100 per cent. increase is obtained, and in vitreous enamelled reflectors of the type generally used in works and offices, approximately 60 per cent. increase is usually obtained with new reflectors, and still greater percentages when their efficiency has been reduced through dirt or the discoloration of the enamel.

The Company manufactures special fittings incorporating the prismatic element, and these are available in both the prismatic bell and the pendant types. Particulars and prices will be supplied upon application.

Maintenance :

The prismatic ring, being based on total internal reflection, is not affected by the collection of dust on the upper sloping surface. The glass itself cannot tarnish or deteriorate in any way, and is capable of withstanding considerable heat or mechanical shocks.

Prices :

Ring reference C, for 25–40 watt lamps, 5s. 6d.
Ring reference D, for 60 watt lamps, 6s.
Ring reference E, for 100 watt lamps, 7s.
Ring reference F, for 150 watt lamps, 8s.
Ring reference G, for 200 watt lamps, 9s.
Ring reference H, for 300 watt lamps, 12s.
Ring reference J, for 500 watt lamps, 15s.

Manufacturer : The Amplilux Lighting & Illumination Co., Ltd.

Address : 12, Grosvenor Gardens, London, S.W.1

Telephone : Sloane 6101

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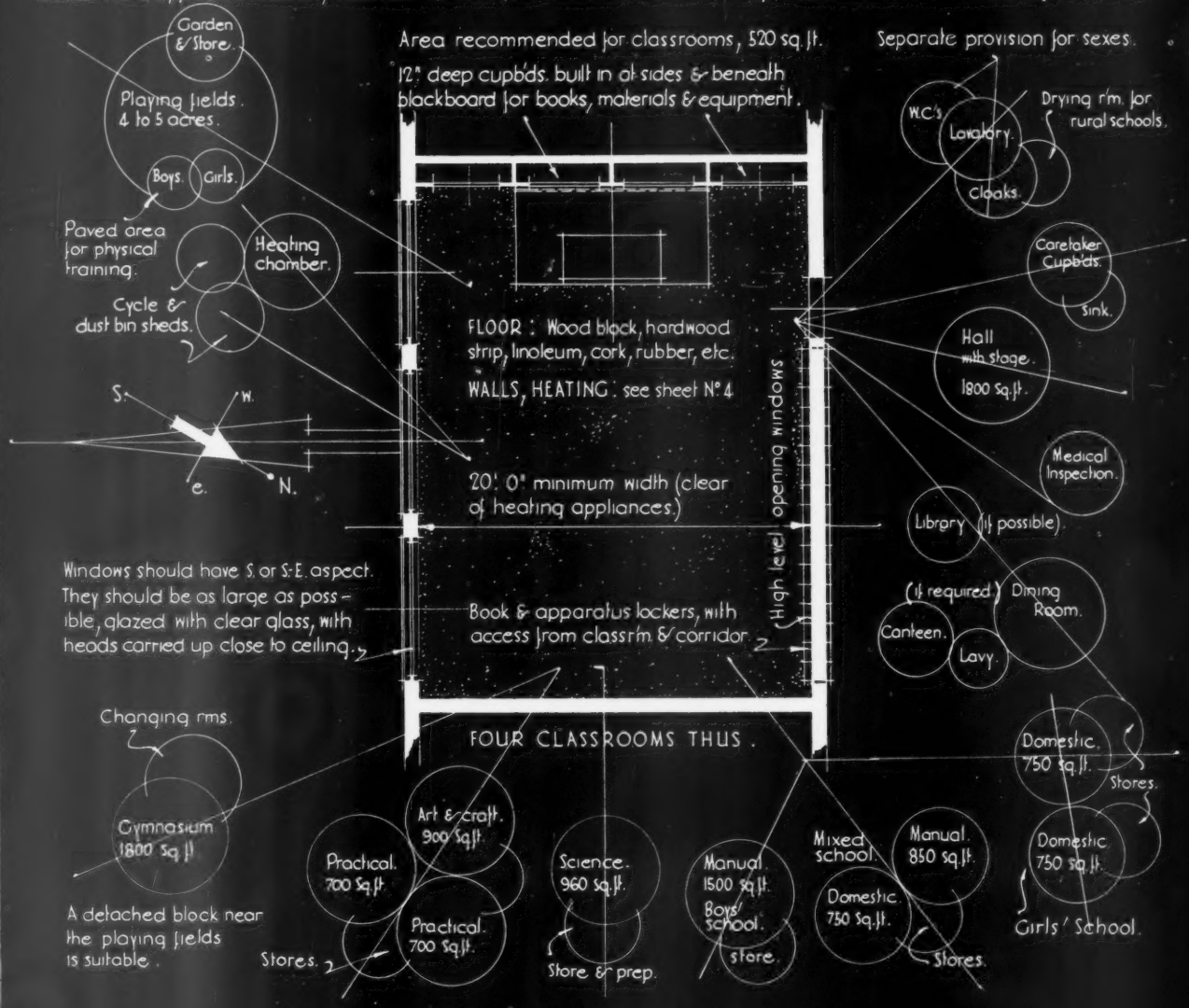
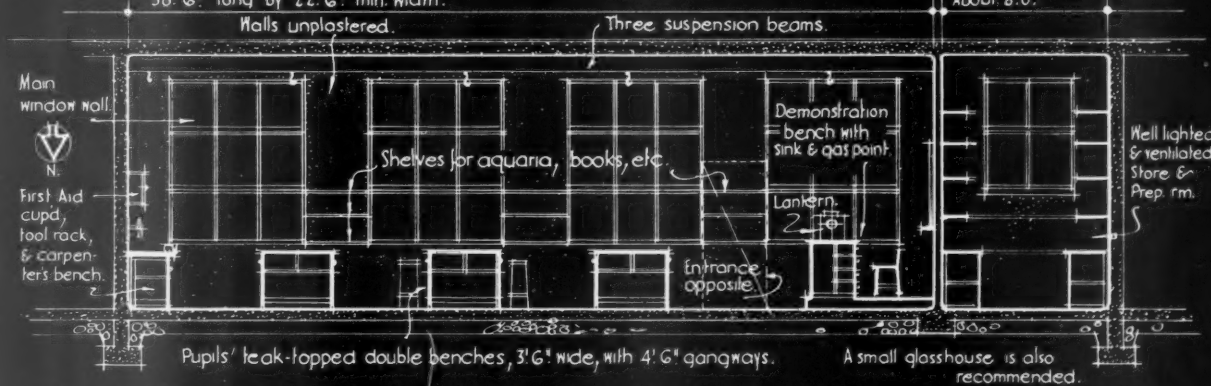
DIAGRAMMATIC SCHEDULE OF SENIOR SCHOOLS (TWO-STREAM) ACCOMMODATION : Scale : 1 inch = 8 feet.

Annual intake approx. 80 children, maximum roll 320. For notes on smaller & larger schools see reverse side of this sheet.



DIAGRAMMATIC LONGITUDINAL SECTION OF WHOLE CLASS; SENIOR SCIENCE ROOM :



For diagrammatic schedule of storage & staff accommodation for different types of school, see Information Sheet N° 8 of this series.

Extracts from "Elementary School Buildings" issued by the Board of Education, 1936.

INFORMATION SHEET : ELEMENTARY SCHOOL BUILDINGS : N° 7.

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

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INFORMATION SHEET

• 638 •

ELEMENTARY SCHOOLS—VII

Subject : Senior Schools Accommodation

The information on this Sheet is a summary of the recommendations regarding senior schools, contained in the Board of Education's Pamphlet No. 107, "Suggestions for the Planning of Buildings, for Public Elementary Schools," published in 1936 by His Majesty's Stationery Office, and is reproduced here by permission of the Controller.

General :

The Board states that in senior school planning it will probably be not unreasonable to suggest that the accommodation should be divided almost equally between classrooms and practical rooms, and that, owing to the importance and difficulty of planning of practical rooms, their number and arrangement is one of the first points to consider in designing a new senior school. The schools should be planned with a school-leaving age of 15 in view, and it will be reasonable to take a four-years' course as the normal standard of provision.

For the purpose of illustration, the application of these principles to a medium-sized "two-stream" school has been considered. With a complete four-years' course there will be eight forms in the school.

Larger Schools :

In many areas it will be possible to effect larger concentrations of the senior children in three-stream schools with 12 forms in a complete four years' course. The maximum roll of such a school would be 480, and generally speaking the same provision as in a two-stream school will be required for science, manual instruction and housecraft, together with a hall of 1,800 sq. ft., with a stage in addition, and the necessary provision for indoor physical training. The remainder of the accommodation will be divided between six or seven classrooms and four practical rooms on the lines indicated.

If special conditions in some districts lead Authorities to contemplate the possibility of still larger concentrations in four-stream schools with 16 forms in the complete four-years' course, the accommodation required will be approximately double that required for a school for 320 children. In such cases the amount of accommodation required must be decided on the particular conditions, but the Board considers that, although such an organisation may have its advantages, these are more than counterbalanced by its disadvantages.

Smaller Schools :

The case of the small single-stream Senior School, with an annual intake of not more than 40 children and a maximum roll of 160 for a complete four-years' course, is one of special difficulty. Such schools will almost invariably be mixed schools in rural areas. That such a school needs a hall for assembly, etc., as well as for physical training, admits of no doubt, and, in a school where the numbers on the roll are likely to be nearer 200 than 100, the Board would be reluctant to approve proposals that did not provide for a hall of at least 1,250, and, if possible, 1,500 sq. ft.

In the Board's view, however, the most important feature of the small Senior School should be its practical rooms, of which there should be at least two. The allocation of these rooms will no doubt vary to some extent with circumstances, but it is clear that they will have to be multiple-purpose rooms. The arrangement and use of a practical room for two or more differing activities is never easy, but it is perhaps most difficult and wasteful when the room is to be used for Manual Instruction and Housecraft, and the Board hope that this combination will be avoided. On the assumption that the rooms will be assigned, one to Manual Instruction and Science and one to the various Domestic Crafts—an arrangement which the Board are disposed to think less open to objection than any other—neither room should be smaller than 750 sq. ft., and one room at least, that for Manual Instruction and Science, if not both rooms, should be not less than 900 sq. ft., preferably based on a width of 24 ft.

In addition, a minimum of three other teaching spaces will be required. In single-stream schools with a small annual entry, where there is a hall which can be used, with suitable furniture, for teaching purposes in addition to its normal functions, two classrooms of normal size may complete the provision. Where, however, there is no hall, or in single-stream schools with a normal entry, three classrooms will be needed, and it is desirable that unless there is a hall, one of these three teaching spaces should be a practical room of 750 sq. ft., suitable for Art and its allied crafts. It should perhaps be pointed out that in schools where the practical rooms have to be used for several purposes, including some classwork, it is particularly important that the question of the furniture and fittings to be used and the provision to be made for the storage of books should be settled when the size and allocation of the rooms is decided.

Science Room :

The wall opposite the main window wall should also have windows for purposes of cross-ventilation and lighting, but the Board considers that there are great advantages in leaving the greater part of this wall space free. The demonstration bench should be at least 8 ft. long by about 2 ft. to 2 ft. 6 ins. wide and 2 ft. 9 ins. high, with extension flaps for greater length if possible. The bench should be fitted with a gas point, sink, and, if possible, with electric light or power points, and have drawers on the teacher's side and cupboards on the pupils' side. Two other sinks, one with hot and cold water and the other of white glazed ware, should be provided. A few other gas and electric points should be provided in the walls or in the floor of the Science room.

Other Rooms :

For recommendations regarding the planning and furnishing of Handicraft rooms, Housecraft rooms, Art and other practical rooms, see paragraphs Nos. 41 to 54 of the Board's pamphlet.

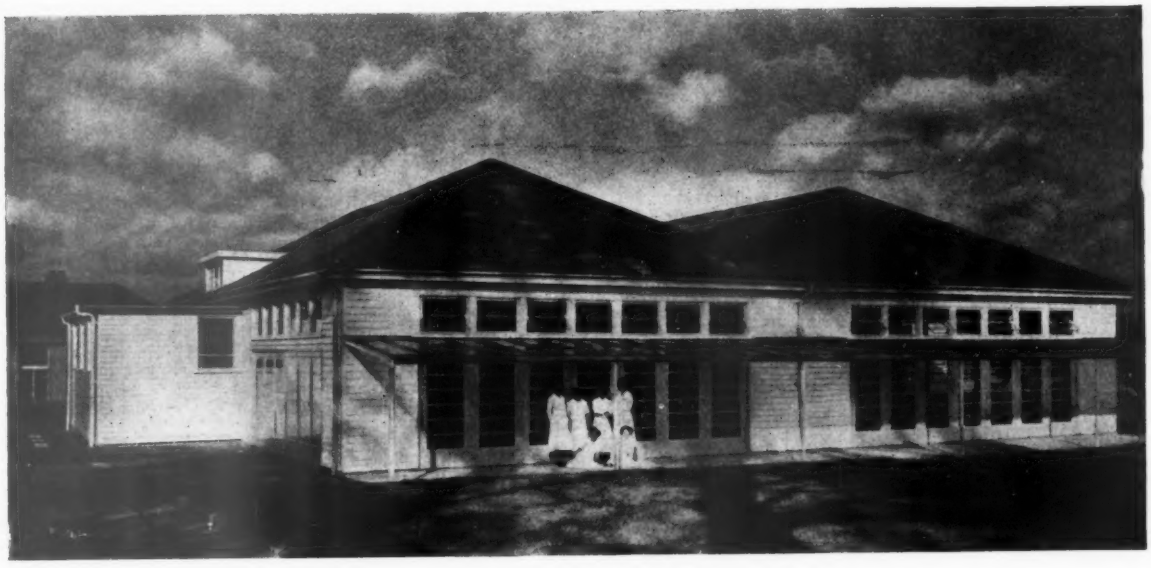
Previous Sheets :

The first six Sheets in this series are Nos. 486, 511, 545, 546, 549 and 550.

THE BRISTOL FRONT

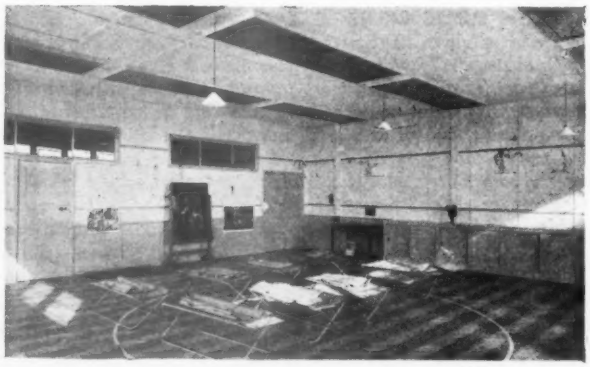
In view of the British Architects' Conference now being held at Bristol, we publish on this and the following ten pages, examples of local current work designed by Bristol architects and the City Engineer's Department. The University of Bristol Union, Victoria Rooms, where the Conference is being held, is illustrated on pages 1082–1083.

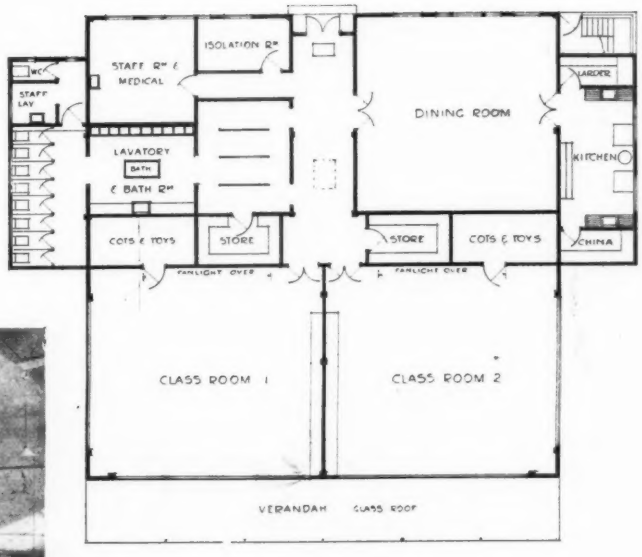
C. F. W. DENING



COUNCIL NURSERY SCHOOL, ILMINSTER AVENUE—

A temporary building containing two classrooms, each for forty babies, dining-room, kitchen, staff and medical inspection rooms, isolation room and stores for cots and toys. Externally the walls are weather-boarded and the roof is covered with dun-coloured Roman tiles.
Above, view from playground; below, a classroom.



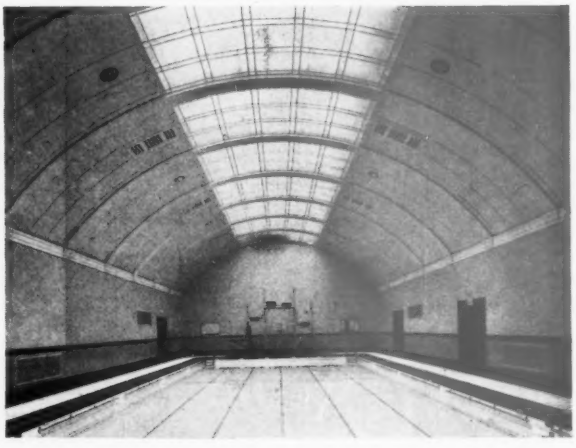


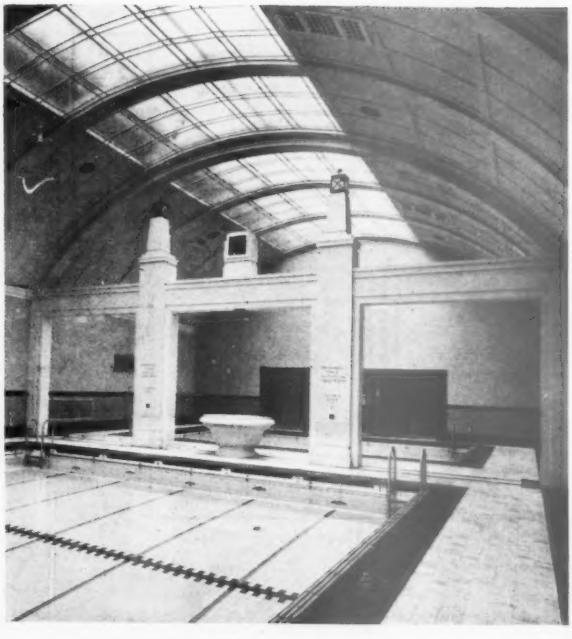
GROUND PLAN

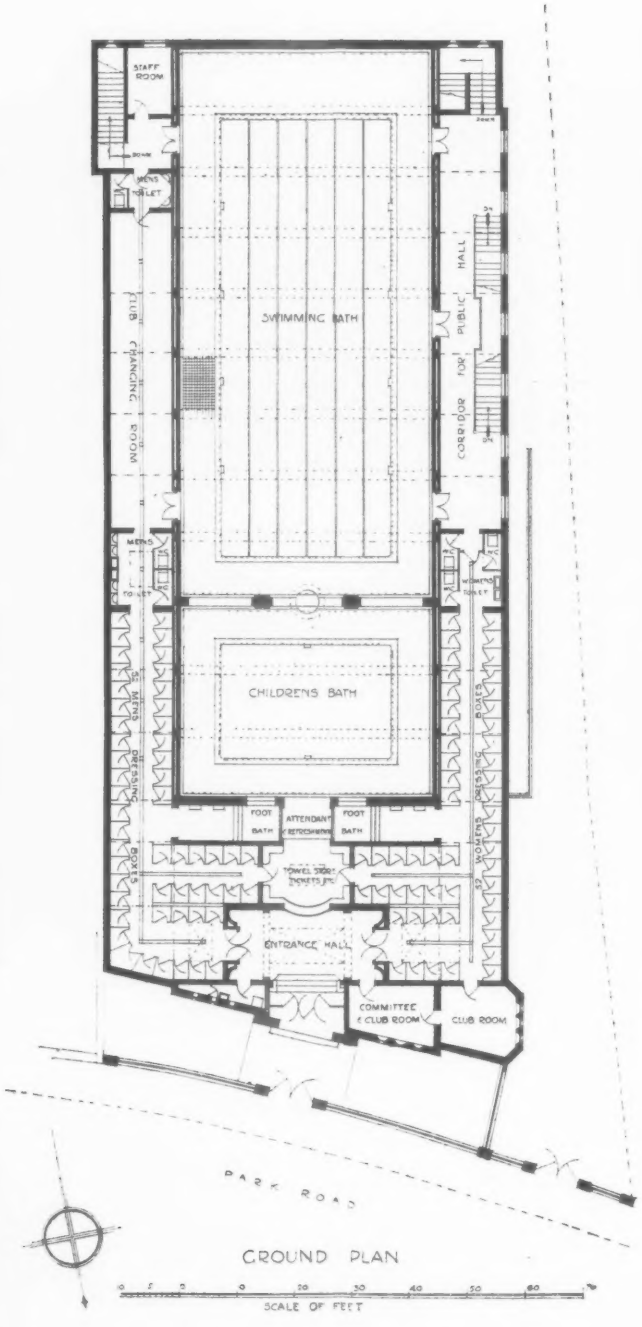
SCALE OF FEET

E

C. F. W. DENING



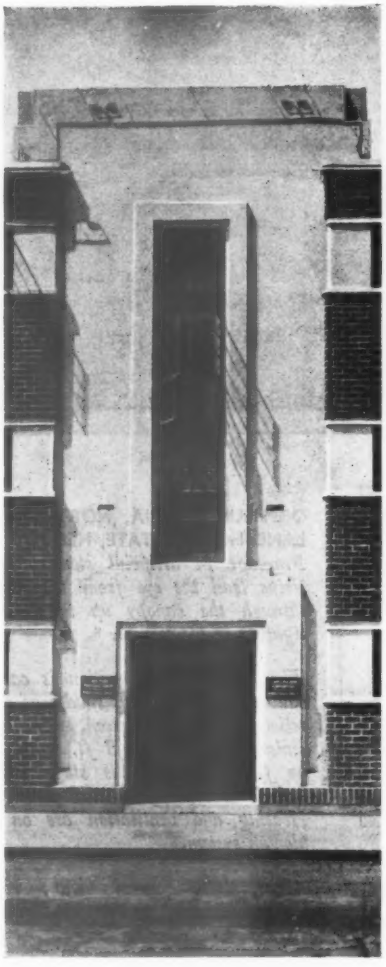


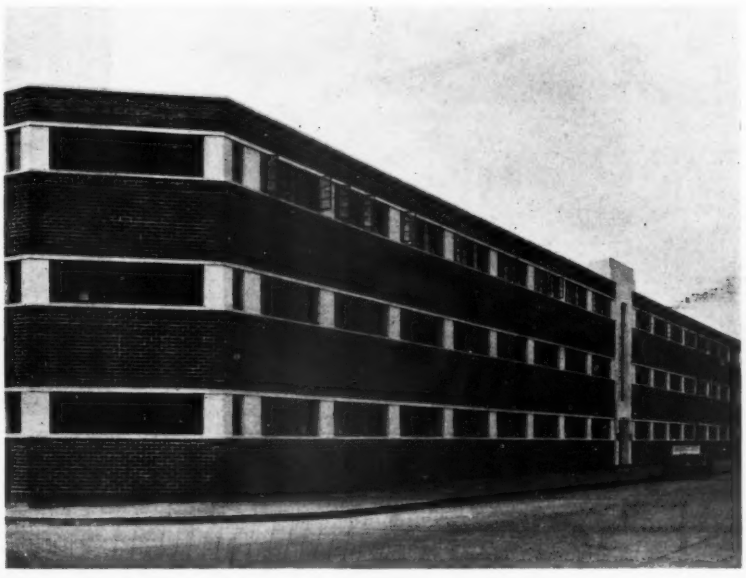


SHIREHAMPTON PUBLIC BATHS—*External walls are brindled bricks. The front elevation has rustic facings and the principal entrance is in grey Forest of Dean stone. The pitched roof over the bath hall is covered with green glazed pantiles and the flat roofs are asphalt. Internally the walls of the dressing-rooms and the bath hall are lined with cream glazed bricks with skirtings and doorways in black. Surrounds to pools are in white corrugated non-slipping tiles with black borders. The continuous lay-light over the bath hall is glazed with reinforced glass with borders of pale blue and the coffered ceiling is tinted a pale cream. The walls of the pools are of reinforced concrete asphalted and lined with white glazed bricks. Guide lines in the large bath are of blue bricks with a danger line of scarlet bricks at a depth of 4 ft. 4 ins.*

Top, main entrance front; centre and left, two views of the swimming bath.

ALEC F. FRENCH

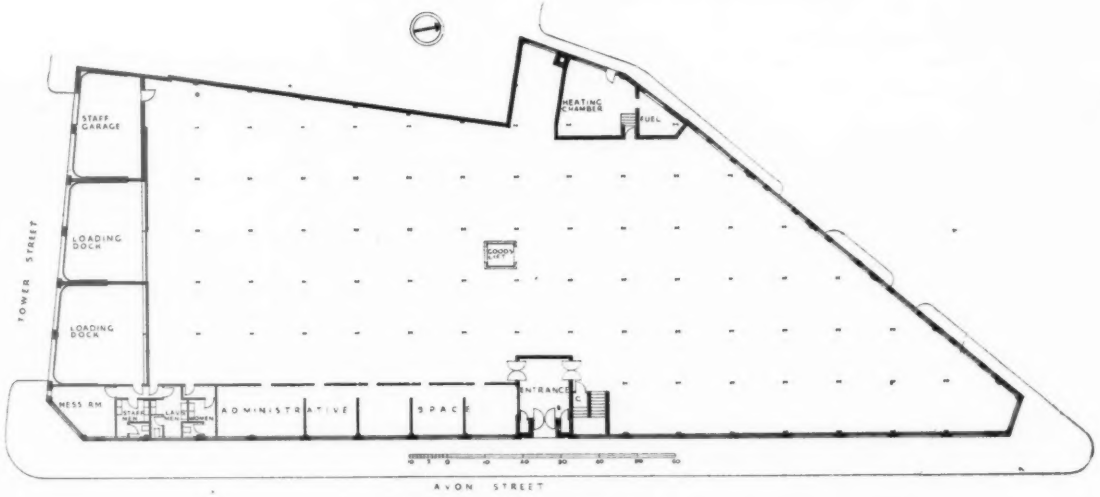




SHOWROOMS, OFFICES AND WAREHOUSE, AVON STREET—*The building consists of a ground and two upper floors designed to make full use of the space available and is heated throughout by overhead coils, thus obtaining the maximum amount of wall space possible. The administrative section, occupying a small portion of the ground floor, links up with the main entrance in Avon Street and the loading docks in Tower Street, where garage accommodation has been provided for private cars. Steel-framed, with reinforced concrete floors and 11 ins. cavity brick panel walls, faced externally with multi-coloured facings. Cills : precast concrete with white cement to match the vertical panel fillings and central feature.*

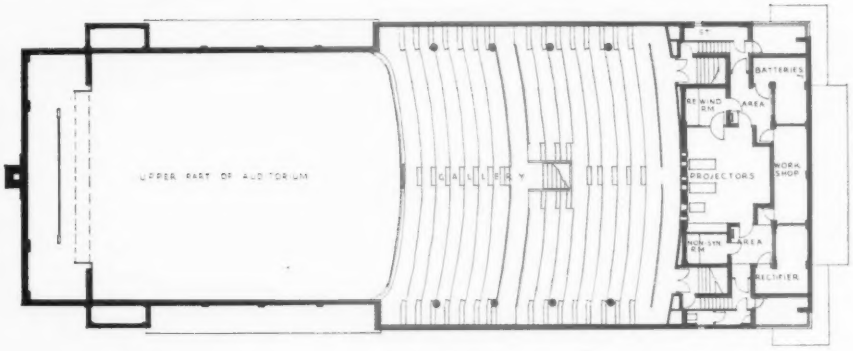
Finishings to showroom floors generally, asphalt, and to the offices and entrance hall linoleum and terrazzo.

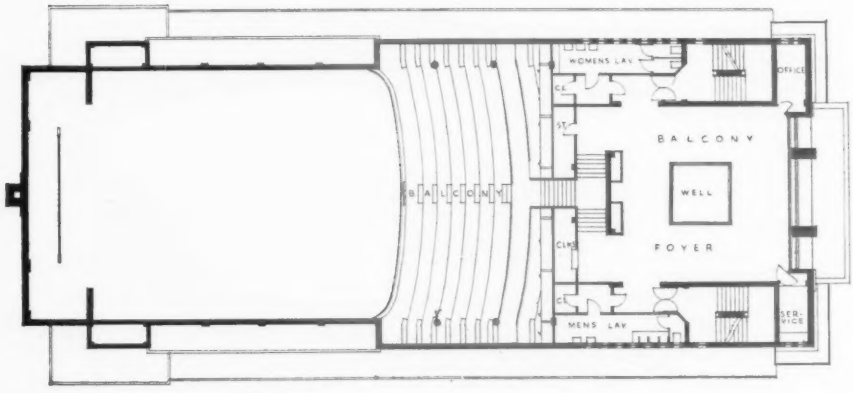
Above, front to Avon Street ; left, the main entrance.

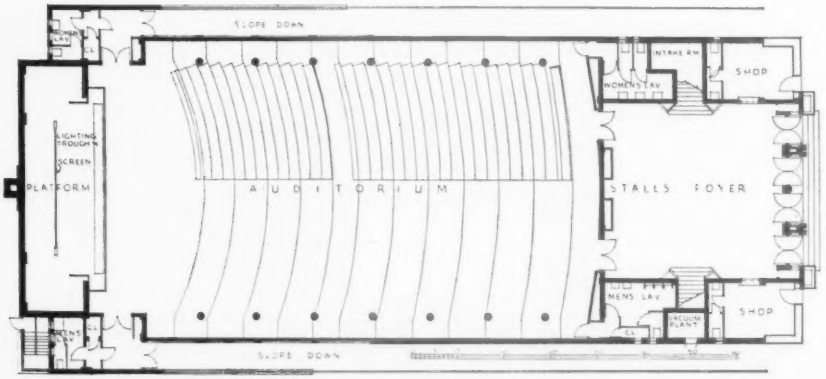


GROUND FLOOR PLAN

ALEC F. FRENCH







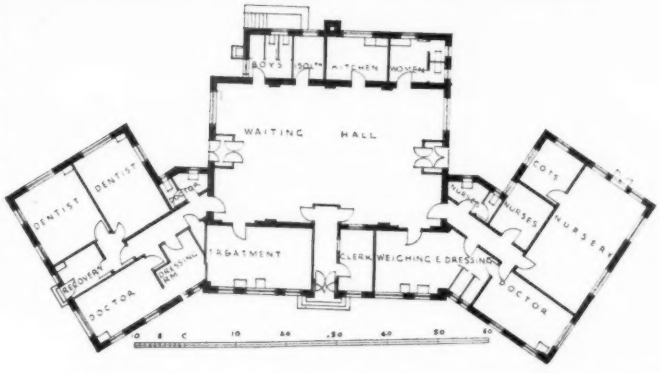
ORPHEUS CINEMA, NORTHUMBERLAND HOUSE ESTATE, HENLEAZE—*Frontage in artificial stone. Neon strips lead the eye from the ground through the canopy up to the spot lighting in the cornice.*

The auditorium decoration is carried out in light and dark shades of gold, relieved by red and green. The proscenium opening is 38 ft. wide and 27 ft. high, and the stage fittings include a top batten and footlights. Heating and ventilation are on the plenum system.

Above, left, general view; right, the auditorium.

GROUND FLOOR, BALCONY AND GALLERY PLANS

HAROLD E. TODD

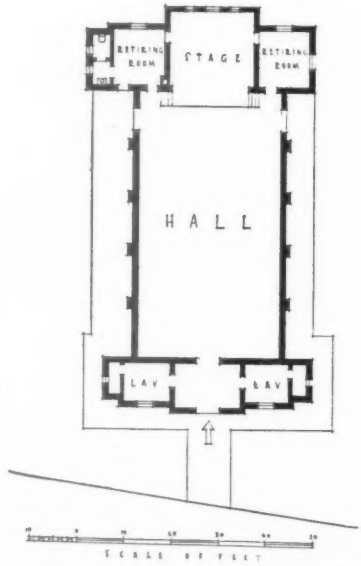


BEDMINSTER HEALTH CENTRE—*The site of the building is on the corner of St. John's Lane and Wedmore Vale on what was somewhat low-lying ground in relation to the road levels. For this reason the ground floor level of the building has been raised, leaving a ventilated space between the ground and the floor. The site surrounding the building has been made up to the requisite levels.*

Walls : brickwork in cement mortar and the ground floor and flat roofs of reinforced concrete. Roof over the main waiting hall is steel and timber, covered with Cornish slates.

Heating of the building is obtained by low-pressure hot-water system. Cost : £6,900.

EUSTACE H. BUTTON

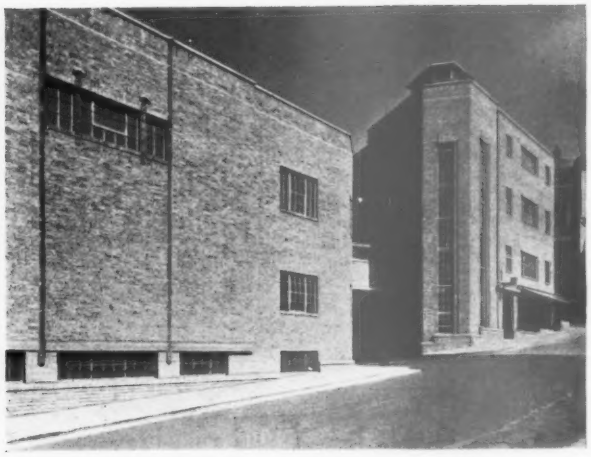


CONGREGATIONAL CHURCH HALL, HORFIELD—*This hall forms the first unit of a layout, to which ultimately will be added a church, Sunday school and club rooms and a manse. The site is on a main road in a new housing area.*

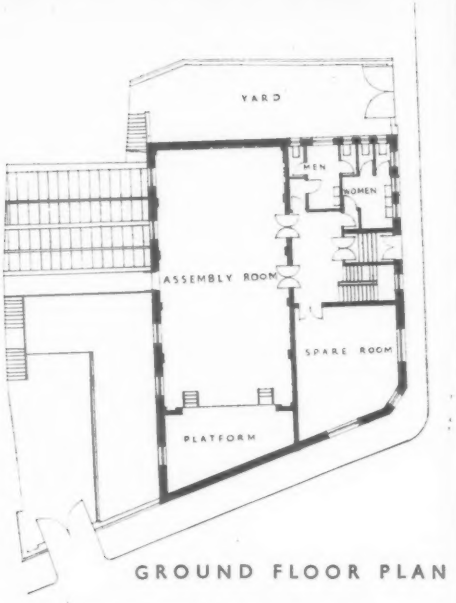
Exterior walls : faced with local brindle bricks, pointed with cream mortar. Windows ; standard steel casement in wood frames, painted cream. Roof covered with dark brown Bridgwater tiles.

Interior generally finished cream with dark-brown coloured cement dados.

RICHARD C. JAMES AND MEREDITH

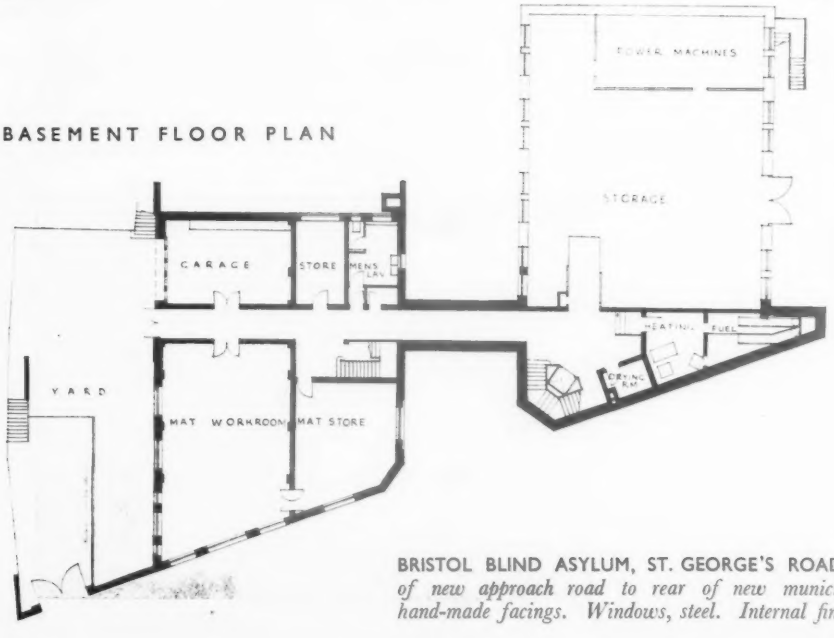


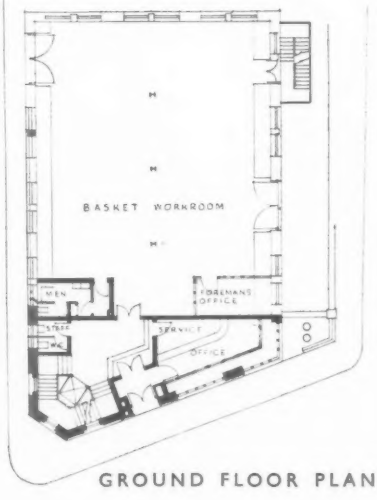
FIRST FLOOR PLAN



GROUND FLOOR PLAN

BASEMENT FLOOR PLAN



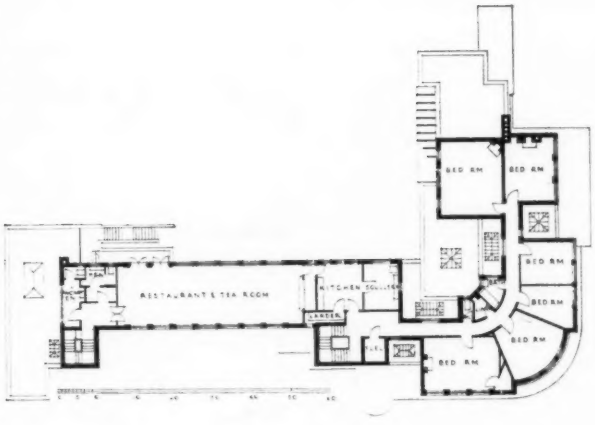


GROUND FLOOR PLAN

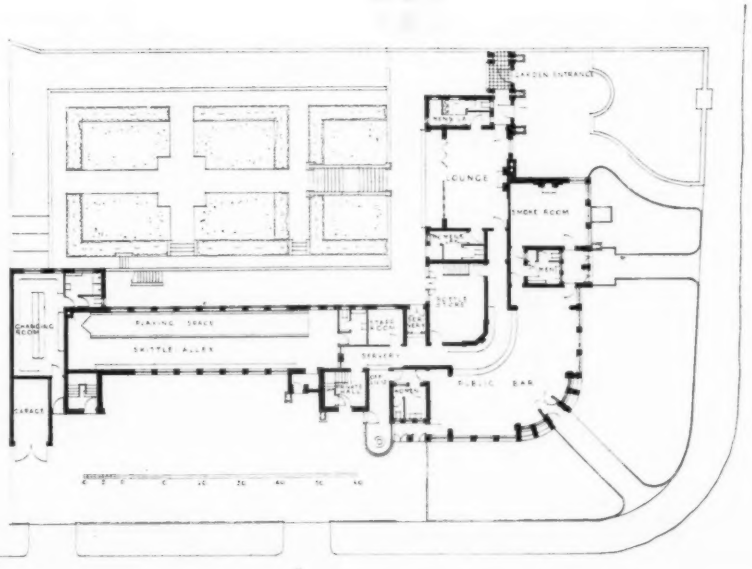
BRISTOL BLIND ASYLUM, ST. GEORGE'S ROAD—*Extensive rebuilding required by provision of new approach road to rear of new municipal buildings. External walls, Cotswold hand-made facings. Windows, steel. Internal finishings to walls, semi-glazed golden browns.*

RICHARD C. JAMES AND MEREDITH

MERCHANTS ARMS, STAPLETON—*External brick walls hand-made sand-faced reds, with dressings to windows, etc., in Coleford greys. Windows are steel. The building incorporates a restaurant and changing and washing rooms for the use of teams using the adjoining park.*

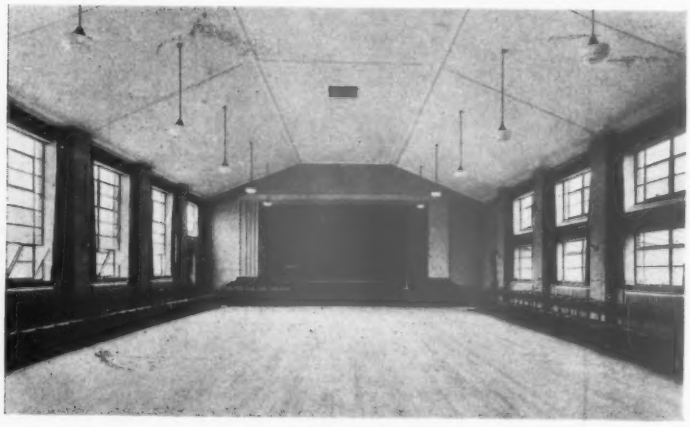


FIRST FLOOR PLAN



GROUND FLOOR PLAN

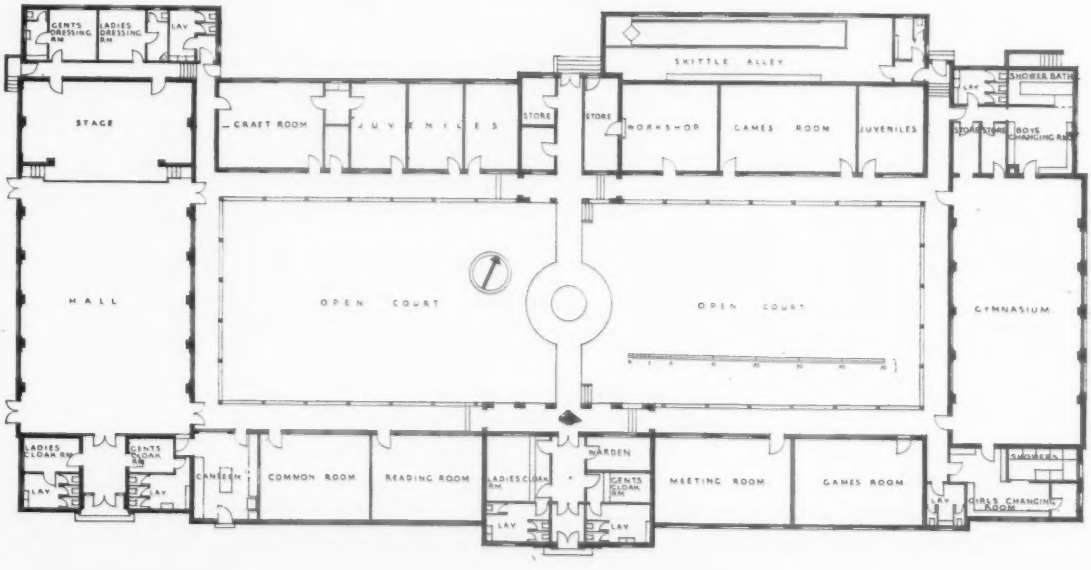
H. M. WEBB (CITY ENGINEER)



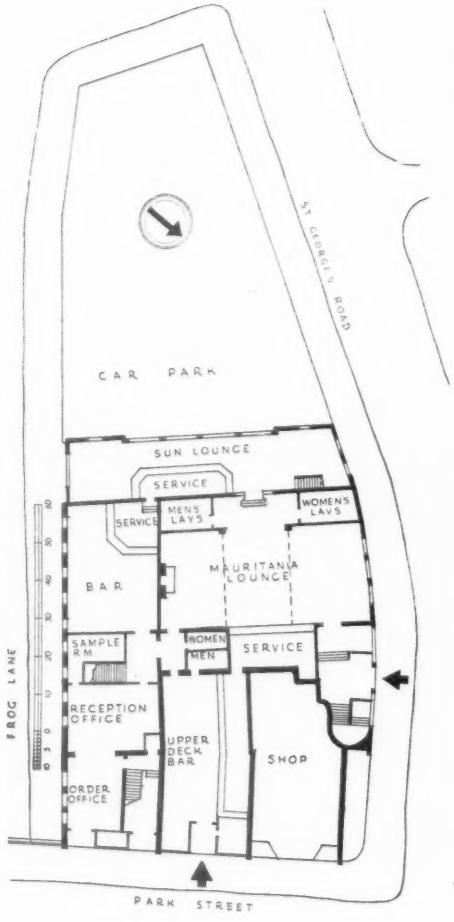
FILWOOD SOCIAL CENTRE, KNOWLE WEST HOUSING SITE — *Outside walls, brick cavity 11 ins. thick; external facings, multi-coloured bricks. Internal walls generally painted and distempered, except in the hall and stage and warden's room, which are plastered. Ceilings, wallboard with cover strips at joints, and distempered.*

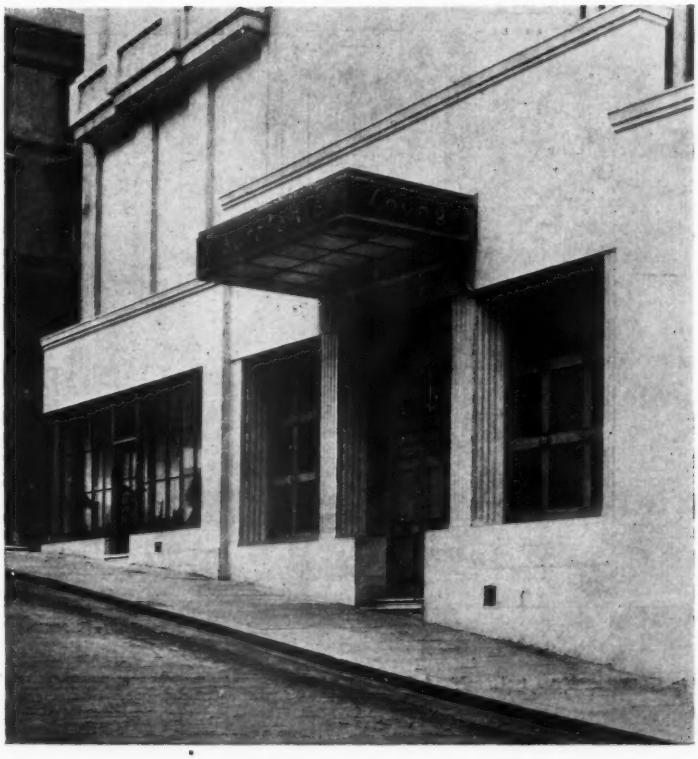
Top, general view; centre, a view in the courtyard; left, the hall.

GROUND FLOOR PLAN



W. H. WATKINS





AVERY'S, PARK STREET, BRISTOL—*The reconstruction and extensions to these premises were necessary owing to a major clearance and road widening scheme in the vicinity.*

The planning was difficult owing to the various levels of roads from which access was required to the building, Frog Lane on the east passing under Park Street, and St. George's Road on the west sloping down from Park Street to the car park at rear at level of Frog Lane.

The main existing building to Park Street has been retained and the extensions cover the whole site for three storeys, and the main new block facing Frog Lane a further two storeys.

The clients, anticipating the reconstruction and extension of their premises, bought up much of the panelling from the rooms of the "Mauretania" when it was dismantled in 1935, and this panelling has been used wholly or in some cases partly in the decoration of the various bars and the premises are now known as "The Mauretania."

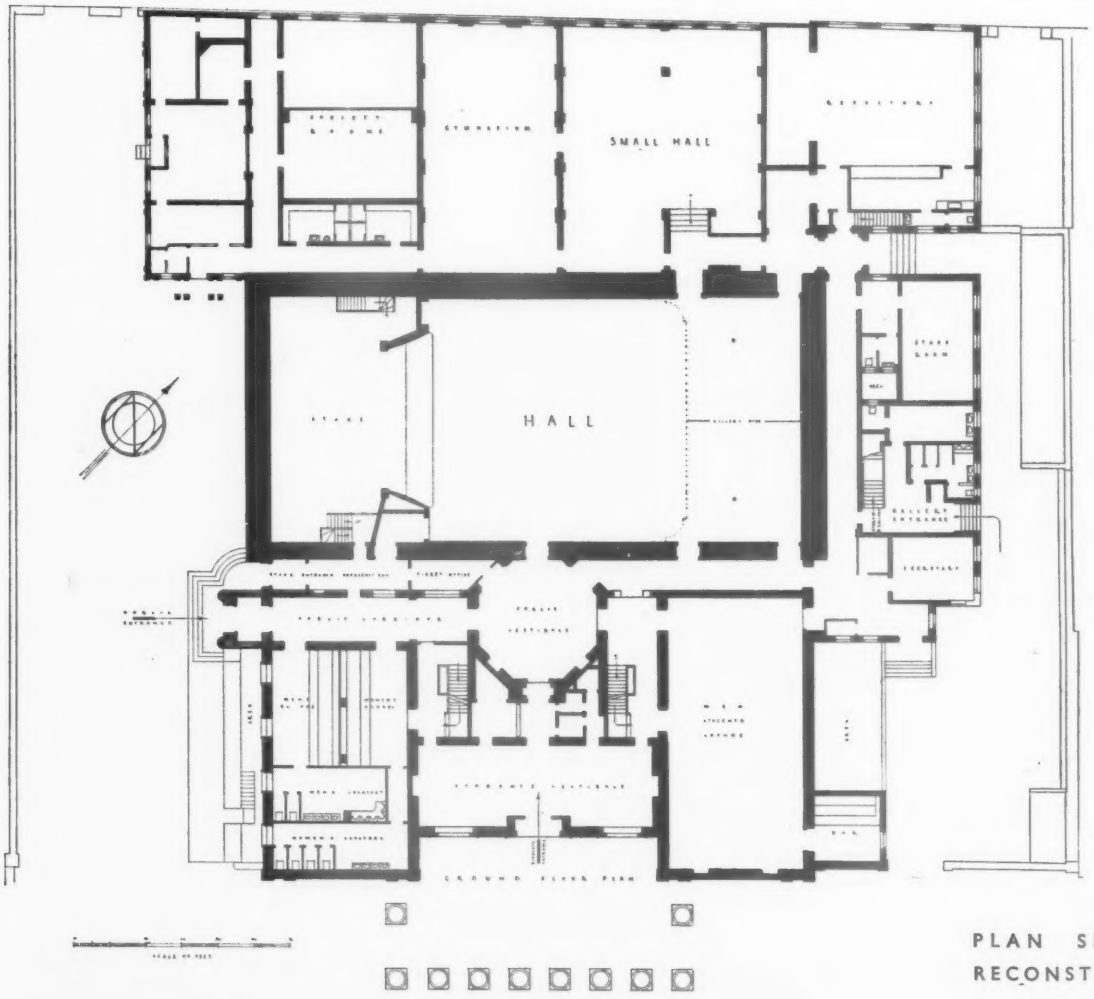
MATERIALS—*Reconstructed stone dressings, metal windows, hollow tile floors, wall linings, terrazzo floors, asphalt flat roof.*

Right, top, the Frog Lane front; right, the entrance in Park Lane.

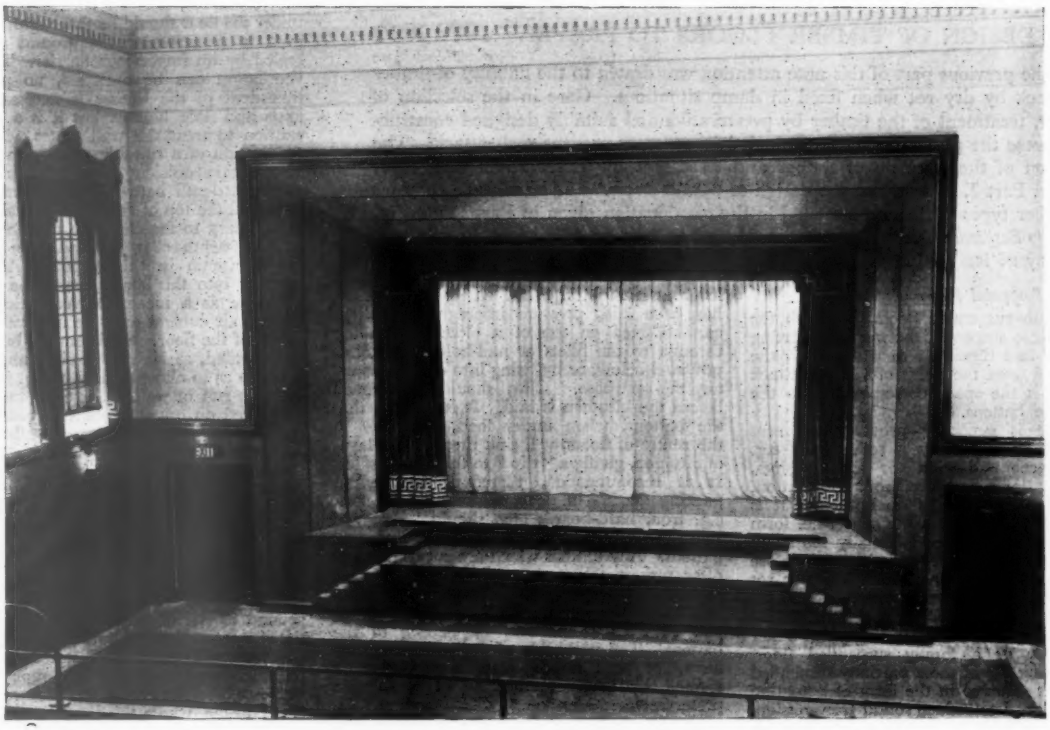
G. D. GORDON HAKE AND EUSTACE H. BUTTON

Left, one of the entrances; above, a detail of the balcony. Facing page: a general view in the hall; and the students' hall.

For list of general and sub-contractors for the buildings illustrated in this section see page 1086.



PLAN SHOWING RECONSTRUCTION



UNIVERSITY OF BRISTOL UNION, VICTORIA ROOMS—*The reconstruction of the interior included a new main hall, supper room and public vestibule. The main front, completed in 1842, is illustrated on page 1050.*

MAIN HALL—*Maple dance floor upon sprung under-carriage, which can be locked rigid; walls, continuous dado of flush panel ray rads around hall let into panelled dado 10 ft. 6 ins. high and formed of continuous bands of Indian white mahogany, toned grey-green, and picked out with Australian walnut fillets and capping; skirting ebonized black, capping picked out in gold and black. Walls above dado covered with acoustic plaster, toned off-white colour. Windows framed with plum colour curtains and pelmets with gilded cornices, the curtains being ornamented with old gold braid; proscenium curtains same colour with key pattern border. Splays of proscenium openings designed as acoustic reflectors. Ceiling fibrous plaster, very slightly coffered, the edges of coffers and the enrichments of the cornice being picked out in orange.*

IN THAT CONTINGENCY

THE DESIGN OF TIMBER FLOORS TO PREVENT DRY ROT

In the previous part of this note attention was drawn to the liability of timber to attack by dry rot when fixed in damp situations. Care in the selection of timber, treatment of the timber by preservative and suitably designed construction, were the precautions recommended in order to prevent such attack. The question of the selection of timber and treatment by preservatives were dealt with in Part I, as was also the design of "solid floors." It remains to consider the other types of floors mentioned in the classification given in Part I, namely, *Partially Suspended Floors* and *Totally Suspended Floors* (published in the JOURNAL for May 26 last).—[Crown Copyright Reserved.]

2. *Partially Suspended Floors*

IN partially suspended floors, in which the boards are suspended between supporting battens laid direct on to a sub-floor, the main feature from the point of view of attack by dry rot is the space corresponding to the depth of the battens.

This space is generally provided to meet requirements not met by a solid floor, e.g. resilience, accommodation for service pipes, or, in upper floors, improved sound insulation. Where these requirements do not exist, it is advisable to dispense with the space, i.e. form a solid floor. The space is usually too small to ventilate adequately, and it is therefore necessary to guard against the risk of dry rot to which timber in contact with unventilated air is exposed. The risk is probably greater with this form of construction than with either a solid floor or a totally suspended floor. The increasing use of these partially suspended floors, as for instance in the form of "floating floors" designed to reduce sound transmission, calls therefore for a full appreciation of the risks involved and the precautions which should be taken to obviate these risks.

(a) *Upper Floors*

As in the case of upper solid floors, the concrete sub-floor under upper partially suspended floors, should be thoroughly dried out before any timber is laid.

When the concrete is properly dry, a timber finish can be fixed safely by laying, say, 1 in. nominal T and G floor boards on, say, 2 ins. by 2 ins. deal battens fixed to the concrete by floor clips, of which several proprietary types are marketed. Care should be taken to ensure that all dirt, especially sawdust and shavings, etc., is removed from between the battens before the floor boards are fixed. If the concrete is dry, it is not considered imperative to treat the battens and boards with a preservative; but it is by no means easy to dry out the concrete and preservative treatment of the timber is desirable wherever there is the slightest suspicion of dampness. The use of concrete or a sand and cement mix in lieu of floor clips, to hold down *dovetailed* battens, adds to the weight to be carried on the floor, reduces the space available and, of course, is only safe when the battens have received preservative treatment.

(b) *Ground Floors*

With partially suspended as with solid floors next to the ground, it is necessary that, in addition to preservative treatment of all timber, a completely impervious layer should be interposed between the timber and the sub-floor.

Before this damp-proof course is laid provision for securing the timber battens to the concrete sub-floor can be made either by embedding pressure impregnated timber fillets or blocks, or nail-holding concrete blocks in the sub-floor, or, preferably, by floor clips inserted in the concrete before the concrete sets. The whole area of the floor should then be covered with a layer of a material suitable to provide the requisite impervious barrier.

As indicated previously in the case of solid floors, bitumen is one of the most convenient materials for this purpose—a lightly brushed coating of tar will not do. The bitumen should be the same as specified for solid floors; its hardness, as defined by its "penetration-number," should be between 40 and 50. It should be poured hot to form a continuous layer at least $\frac{1}{8}$ in. thick. After the bitumen has been laid, pressure impregnated battens can be fixed on top of it either by nailing through to the fillets or nail-holding concrete provided below, or by fixing into clips provided for this purpose. Clips should be opened before the bitumen is laid. It is possible that the battens, when under load, especially in the centre of floors, will sink through the layer of bitumen, giving a "dip" to the floor surface. It is recommended, therefore, that small packing pieces, $\frac{1}{8}$ in. deep, of a suitable material, e.g. iron, hard-board, etc., should be pressed into the bitumen at, say, 2 ft. centres under all battens. Any battens which are cut or notched after preservative treatment should have the exposed surface treated by brush application of a suitable preservative. Finally, the boards can be fixed in position by nailing to the battens. The underside of the boards, if they have not been impregnated, should also be treated by brush application of a suitable preservative.

It must be emphasised that in both upper and ground floors of this type ventilation alone cannot be relied upon to prevent dry rot, and for this reason the precautions indicated should always be observed. It is, however, an added advantage if air circulation can be induced in the cavity formed between the boards and the sub-floor. This particularly applies to upper floors where preservative treatment of the timber is not adopted. One or two small air-bricks opening into the cavity are useless for this purpose. Gaps between the battens sufficient to allow a thorough circulation o air, the finishing of the boards, say, 2 ins. from the wall face, and the covering of the continuous aperture so formed around the edge of the boards by a dado behind which air-circulation can be induced by suitable openings to either the outside or inside air or both, is an example of the type of construction required.

The above recommendations for the construction of partially suspended ground floors are offered tentatively pending the result of full-scale experiments which the Forest Products Research Laboratory hope to make.

3. *Totally Suspended Floors*

From the present standpoint the main feature of totally suspended floors, i.e. those in which boards are suspended between joists which are themselves suspended, is the relatively large air space in contact with the timber.

(a) *Upper Floors*

Dry rot in upper totally suspended floors is rare because of the dry air conditions which usually exist above and below upper floors, and also because of the absence of any "wet" construction in floors of this type. No special precautions are required, except for the fact that any risk of dry rot in this type of floor usually lies in a damp condition in the walls, etc., supporting the floor. It is, therefore, important that all ends of timbers, or wall plates, etc., which are built into damp materials or materials which may become damp, should be treated by brush application of a suitable preservative and/or bedded on a layer of bituminous felt. In the case of joists, the end of the joist can be wrapped in the felt before being built into the wall.

(b) *Ground Floors*

If for any reason it is decided to construct a totally suspended timber floor next to the ground, e.g. where the site level in relation to the finished floor level makes such construction economic, it is imperative that the space under the floor should be thoroughly ventilated, even in cases where the ground moisture is sealed by an impervious barrier. *If* thorough ventilation can be obtained, no preservative treatment of the timber is necessary for the joists and floor boards, but it is a useful precaution to treat the wall plates with a brush application of a suitable preservative.

To obtain efficient ventilation, a space of sufficient depth between the underside of the floor and the top of the ground or site concrete is necessary to facilitate the circulation of air. A clear depth of 1 ft. should be considered the minimum in this respect. An aperture opening into this space cannot be considered adequate as a means of ventilation; a continuous air current must be induced under the whole of the floor. Sufficient air bricks should be provided, as high as possible above ground level, so as to allow at least 1½ sq. in. *open area* per foot run of wall. These air bricks should be placed on opposite walls in order to allow *cross* ventilation. All sleeper walls should be honeycombed. Care should be taken that no unventilated air pockets exist, e.g. as may occur near to a bay window. The construction of ducts in the form of pipes under hearths, and under solid floors wherever they interrupt cross ventilation, is of great assistance in this respect.

Because the space under the floor breaks the capillary path between the timber and the ground or site concrete, and thereby prevents the rise of moisture in liquid form, and because the ventilation, which as stated must always be introduced, removes any moisture which may rise from the ground in the form of vapour, it is possible, where this insulation and ventilation are efficient, to omit safely the overall damp-proof course which is necessary under timber in solid floors and partially suspended floors next to the ground. In this type of construction, the impervious barrier is confined therefore to the materials in actual capillary contact with the ground, e.g. walls and supports to the floor.

It should be noted that tongued and grooved boards should always be used for a floor the underside of which is ventilated as described above. If the ventilation is as efficient as it should be, objectionable draughts will otherwise pass through the open joints between the boards.

The illustration on page 1085 shows a totally suspended floor, and a solid floor, both next to the ground, designed in accordance with the recommendations made above. The detail in the left-hand bottom corner illustrates faulty construction, since the damp-proof course in the solid floor has not been carried down the face of the wall to make the requisite water-tight joint with the damp-proof course in the wall. This omission is found to be the cause of many cases of dampness reported to the Building Research Station.

Floor Coverings

The floor covering used naturally has an influence on the ventilation of timber floors. Impervious coverings such as linoleum or rubber reduce ventilation and increase risk of condensation and where the construction is faulty the use of an impervious covering may be sufficient to create a dangerous condition. No trouble should be experienced whatever type of floor covering is used on floors properly constructed as previously described. It must be emphasized, however, that impervious coverings should never be laid immediately after the erection of a building. They should be laid only when the building has had time to dry out completely.

Linoleum, etc., on floors on the solid or partially suspended floors, particularly when they are next to the ground, should not be washed, especially if the covering is badly worn, since any water which penetrates through joints and cracks in the covering may have difficulty in escaping. Linoleum in such situations should be oiled or waxed.

Periodic Inspection

In conclusion, it should be emphasized that even when all precautions have been taken,

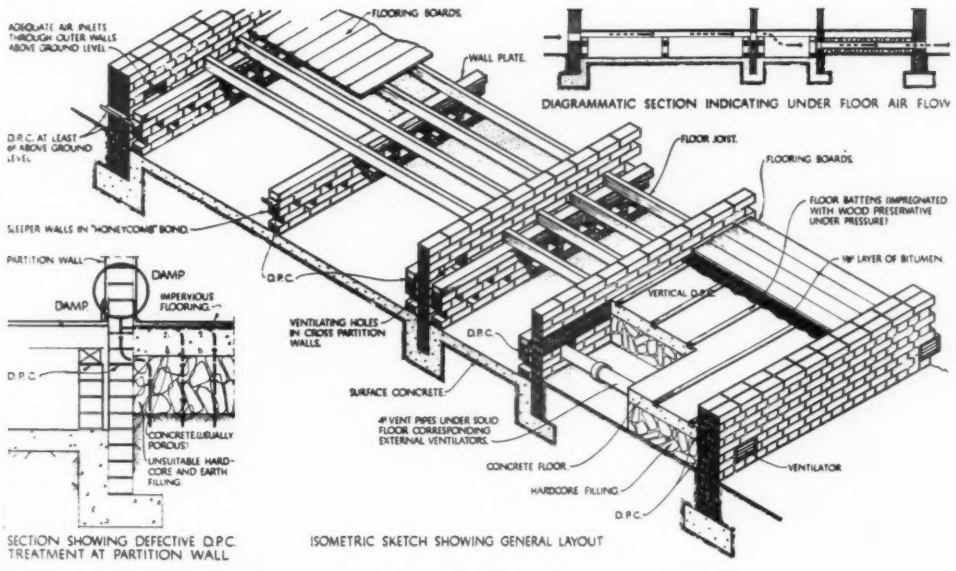
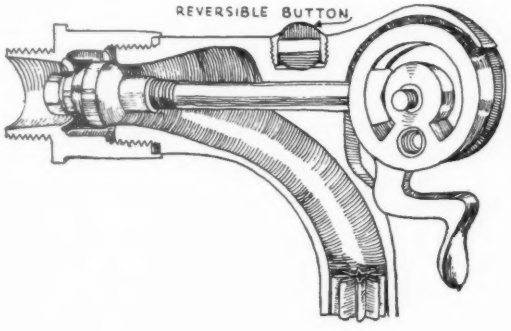


FIG. DETAILING AT GROUND FLOOR LEVEL RECOMMENDED TO ENSURE ADEQUATE UNDER FLOOR VENTILATION AND PREVENTION OF RISING DAMPNESS

Drawing showing a totally suspended floor, and a solid floor, both next to the ground, designed in accordance with the recommendations made on the preceding page.

accidents may occur and, therefore, wherever timber is present, dry rot should be regarded as a possibility and periodic inspection made in order to discover and remedy any outbreak while it is still in its early stages.

(This note has been prepared in co-operation with the Forest Products Research Laboratory, who have provided much of the information on which it is based. Full use has been made of Bulletin No. 1 of the laboratory on "Dry Rot in Wood" (London, H.M. Stationery Office, price 1s. net). A third edition of the Bulletin, at present in course of preparation, is to be issued in the near future. The question of the *cure* of dry rot, which is not covered by the present note, is fully dealt with in the Bulletin).



TRADE NOTES

[*By PHILIP SCHOLBERG*]

A New Kind of Tap

FROM time to time one comes across, in cloakrooms, the kind of tap which turns from full on to off with only about a quarter turn, a device which I have always looked upon as being provided for the sake of the business efficiency expert who will presumably appreciate the saving in time even though he may not know what to do with it. The same sort of tap is, of course, often used in hospitals, particularly for surgeons' wash-ups where the taps have a long lever so that they can be turned on and off with an elbow. The idea is a quite simple one and it is only necessary to make the thread of the spindle a little coarser so that movement through a small angle will give a comparatively large movement of the washer. Why taps of this kind should not be more usual in the private house I have never been able to discover, for the three or four turns required to open the ordinary tap full are really rather unnecessary. The quick action tap admittedly puts a fairly heavy wringing load on the spindle and it is also more liable to produce water hammer than the ordinary kind, but these do not seem to be adequate reasons for its rarity. No doubt the water boards have several of their usual reasons for disapproving of the whole idea.

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The section at the head of these notes shows an entirely new kind of tap which has the same virtues of quick action, but which does its job in a different way. The spindle is horizontal, and passes through the front wall of the tap, where it is screwed into a sector-shaped slipper, this in turn engaging with an eccentric cam provided with a finger-piece. The raising and lowering of this finger-piece produces a horizontal movement of the valve and turns the water on and off. While this may seem to be a rather complicated way of carrying out a fairly straightforward process, the manufacturers justly point out that the water pressure helps to close the valve instead of hindering it as it does in the screw-down tap. More important, the spindle is under tension only and is therefore entirely free from the risk of bending which very definitely exists when the ordinary tap is screwed down hard with both hands in the usual attempt to cure the inevitable leaking washer. If a new valve seat has to be cut it is very accessible when the tap is dismantled, and there seems to be nothing very much likely to go wrong. It is claimed that there is no more likelihood of water hammer than with the ordinary tap and the mechanism is extremely smooth and free in operation. On top of the tap there is a small reversible disc held in position by a screwed ring; one side of this is coloured black for cold, the other red for hot, so that from the point of view of the supplier it is not necessary to hold large stocks, for a hot tap can be turned into a cold one in a minute or so with a pair of pliers. The bib of the tap contains an anti-splash device. Standard finishes are chromium and polished brass.

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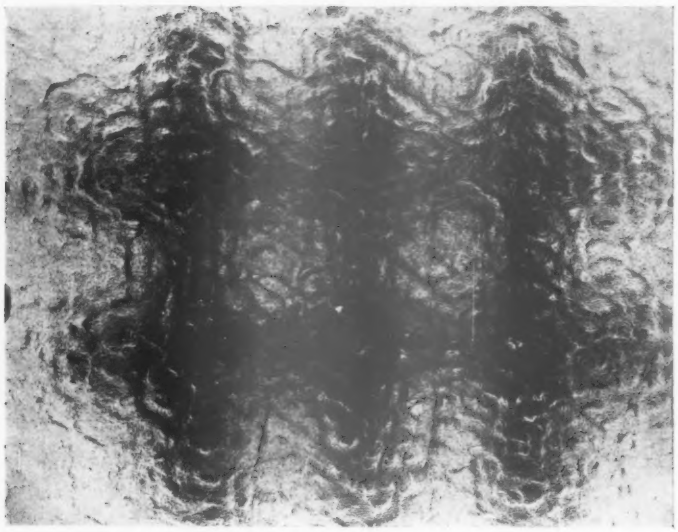
The manufacturers seem to me to deserve a small bouquet. Their tap does not look at all like the ordinary tap, but as it works in a different way there is no reason why it should. The exterior is clean and smooth, yet there is no mention of the word streamlining, a relief for which I am profoundly grateful. Perhaps Birmingham takes a saner and more Fowler-like view of the English language than London.—(*John Russell & Co., Ltd., Belmont Brass Works, Birmingham.*)

Ready-mixed Concrete . . .

Several large towns now have central depots from which ready-mixed or truck-mixed concrete can be delivered straight



Clouded Cathedral, a new semi-obscured glass recently introduced by Pilkingtons.

to the job. The advantage of this is that the aggregates can be properly graded and the mix tested in a way which may not be possible on the small job, while it is also possible to specify the use of high-grade concrete (as defined in the L.C.C. bye-laws) even though the volume needed is small, or if the builder has not had enough experience with it to be really reliable. Two methods are in vogue at the moment. In one the concrete is completely mixed at the factory, in the other the cement and aggregate are placed dry in a mixer mounted on a lorry, water being added and mixing completed on the way to the job, or after arrival there. —(*Express Supply Concrete, Ltd., 12 South Wharf, Paddington, London, W.2.*)

. . . and Ready-mixed Renderings?

Mention of ready-mixed concrete reminds me that the annual report of the Building Research Station, referred to in these notes last week, draws attention to the Continental practice of supplying ready-mixed renderings. The report does not say whether the rendering is supplied in the same way that the Express people supply concrete, but this seems a possible development which may well become popular in this country. The Express people have had experience with concrete and it is therefore reasonable to assume that they would be able to do the same thing with renderings. I commend it to them as a procedure which some enterprising firm is certain to do sooner than later if they don't do it themselves.

A New Semi-Obscured Glass

The photograph on this page shows a sample of Clouded Cathedral, a new semi-obscured glass which has just been produced by Pilkingtons. As can easily be seen from the illustration the glass gives just enough distortion to prevent clear vision and is therefore particularly suitable for windows, doors, partitions or screens where complete privacy is not necessary or where a more formal patterned glass might be thought out of place. This new glass is available in white only, in a thickness of $\frac{1}{8}$ in., and the usual manufacturing sizes are obtainable. For white light the transmission factor of the glass is 85 per cent.—(*Pilkington Brothers, Ltd., St. Helens, Lancashire.*)

Curved Thermolux

Not until I saw a photograph of one of the pavilions at the Glasgow Exhibition did I realize that it is now possible to obtain Thermolux glass curved as well as flat. Enquiries show that the sizes available are approximately the same as for the flat sheet, though prices are very naturally higher. I was also told that the depth of the necessary seal at the edges has recently been reduced somewhat, so that the black band at the edge of each sheet is less noticeable, though, of course, most designers allow for this and arrange the rebates so that it will not show.—(*The Thermolux Glass Co., Ltd., 1 Albemarle Street, Piccadilly, London, W.1.*)

Shower Heads

For many years nearly all the American architectural papers have been carrying advertising for Speakman shower heads, and on paper they seem to be a very sensible piece of design. The main point is that the water comes out of the head through the annular space round a series of tapered plungers, which are all linked together and adjustable by a handle outside the head. Endwise movement of the plungers alters the kind of spray, so that you can get anything from a fine needle spray down to a large volume waterfall, this latter effect keeping the inside of the head clean, as there are none of the usual fine watering can holes to choke up. Nobody in this country, so far as I know, makes anything on the same lines, nor do there seem to be any English agents. One or other of these faults should certainly be remedied soon, for the fitting is a good one, but only the most conscientious architect would go through all the fuss and worry of importing a single head to please a fastidious client.

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And while we are on the subject of showers, why are there no thermostatic mixing valves available? Here, again, America is ahead. The ordinary mixing valve works quite well, but the pressures of the hot and cold supplies are seldom the same, and as soon as the temperature is nicely adjusted somebody turns on a cold tap somewhere else, away goes the cold pressure and the shower instantly becomes scalding hot. Thermostatic valves *are* available for supplying large ranges in schools and sports pavilions, but there is nothing for the private house. Or is there?

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And a shower is really not at all bad as a substitute for the bath. Stand under it to get wet—turn it off and apply soap—then turn it on again to wash the soap off. Half the time of an ordinary bath and about a quarter the amount of hot water, but no good, of course, for people who like to lie and wallow.

THE BUILDINGS ILLUSTRATED

NURSERY SCHOOL, BRISTOL (page 1073). The general contractors were E. A. W. Poole and Son, and Pharaohs (Distributors), Ltd., were responsible for the Insulite for the ceilings and partitions.

SHIREHAMPTON BATHS, BRISTOL page 1074). Architect: C. F. W. Dening. The general contractors were: C. A. Hayes and Sons, Ltd., and the sub-contractors and suppliers included The Caxton Floor Co., floors; The British Reinforced Concrete Co., concrete; Gardiner, Sons & Co., constructural steelwork; G. N. Haden and Sons, heating; J. Mouchel Partners, reinforced concrete; Stourbridge Glazed Brick Co., and The Cattybrook Brick Co., bricks; J. Cox; Mellowes & Co., patent glazing; F. Braby & Co., vent trunks; The Colston Electrical Co., Ltd., electric lighting; F. & R. Edbrooke, diving stage; Llewellin's Machine Co., turnstiles; F. H. Dunn and Son, steps and handrails to bath; E. J. Harris, joinery; The Bristol Marble Mosaic Co., mosaic floor; G. E. Tucker, door furniture; Kleine Floor Co., floor tiles (Duromit); Arthur Scull and Sons, plumbing; The Western Trinidad Asphalte Co., asphalt; Diespeker & Co., curb to bath and channels; The Bristol Stone and Concrete Co., reconstructed stone in screen and fountain; Charles Cornish & Co., roof tiling; Gardiner, Sons & Co., windows and laylights; Boultons, black and white floor tiles.

PREMISES FOR MESSRS. LINCOLN, AVON STREET, BRISTOL (page 1075). Architect: Alec F. French. The general contractors were W. Cowlin and Sons, Ltd., and the sub-contractors and suppliers included: A. Scull and Sons, Ltd., sanitary plumbing and heating; Gardiner, Sons & Co., steelwork and general ironmongery; Crittall Manufacturing Co., metal windows; Western Trinidad Lake Asphalte Co., Ltd., asphalting; British Reinforced Concrete Co., floor reinforcement; H. O. Strong and Sons, lifts; Mosaic Terrazzo Co., terrazzo; Cattybrook Brick Co., Ltd., bricks; Gough Bros., electrical work.

ORPHEUS CINEMA, NORTHUMBERLAND HOUSE ESTATE, HENLEAZE, BRISTOL (page 1076). Architect: Alec F. French. The general contractors were Stone & Co., and the sub-contractors and suppliers included: Gardiner, Sons & Co., steelwork, ironmongery, metal windows and door furniture; Mosaic and Terrazzo Co., Ltd., terrazzo flooring; India Rubber Gutta Percha and Telegraph Works, Ltd., rubber flooring; H. H. Martyn & Co., plaster work; Western Trinidad Lake Asphalte Co., Ltd., asphalting; Slate Slab Products, Ltd., Permalite facings, etc.; Trussed Concrete Steel Co., Ltd., steel reinforcement; G. R. Speaker & Co., Ltd., Eternit asbestos cement roofing and vertical sheeting; George Pixton & Co., Ltd., seating; Girosign, Ltd., signs; A. Harold, Ltd., uniforms; Walturdaw Cinema Supply, Ltd., projection box equipment, stage lighting, curtains, etc.; General Electric Co., light fittings, clocks and neon lighting.

BEDMINSTER HEALTH CENTRE (page 1077). Architect, Harold E. Todd. The general contractors were Stone & Co. (Bristol), and the sub-contractors and suppliers included:

G. N. Haden and Sons, Ltd., heating; A. Scull and Son, Ltd., plumbing; Gough Bros., electric installation; John Lysaght, Ltd., structural steel; Crittall Manufacturing Co., Ltd., metal windows; Bayliss, Jones and Bayliss, railings.

HORFIELD CONGREGATIONAL CHURCH HALL, BRISTOL (page 1077). Architect: Eustace H. Button. The general contractors were Bray and Slaughter, Ltd., and the sub-contractors and suppliers included: Gardiner, Sons & Co., steelwork; Gough Bros., electric lighting; Skinner, Board & Co.

BRISTOL BLIND ASYLUM, ST. GEORGE'S ROAD, PARK STREET, BRISTOL (pages 1078). Architects: Richard C. James and Meredith. The general contractors were Bray and Slaughter, Ltd., and the sub-contractors and suppliers included: Northwick Brick and Tile Co., materials; Gardiner, Sons & Co., Ltd., steel windows; Cattybrook Brick Co., Ltd., the whole of the internal finishings to walls, semi-glazed golden browns.

MERCHANTS ARMS, STAPLETON, BRISTOL (page 1079). Architects: Richard C. James and Meredith. The general contractors were Stone & Co. (Bristol), Ltd., and the sub-contractors and suppliers included: Coleford Brick and Tile Co., materials; Gardiner, Sons & Co., Ltd., steel windows; Parnalls, bar fittings and panelling.

FILWOOD COMMUNITY CENTRE (page 1080). The City Engineer's Department. The general contractors were Wilkins, Son and Coventry, and the sub-contractors and suppliers included: G. N. Haden and Sons, Ltd., heating; Crittall Manufacturing Co., steel windows; Western Trinidad Co., asphalt work; Gardiner, Sons & Co., steelwork, etc.; F. C. Goss, electric lighting; Hall and Dixon, stage curtains.

AVERY'S, PARK STREET, BRISTOL (page 1081). Architect: W. H. Watkins. The general contractors were W. T. Nicolls, Ltd., and the sub-contractors and suppliers included Heaton Tabb & Co., Ltd., interior decorating; Gardiner, Sons & Co., Ltd., steelwork; The Bristol Stone and Concrete Co., Ltd., reconstructed stone; Crittall Manufacturing Co., Ltd., metal windows; Kleine Co., Ltd., hollow tile floors; British Vitrolite Co., Ltd., wall lining; Marble Mosaic Co., Ltd., terrazzo floors; G. N. Haden and Sons, Ltd., heating and ventilating; Western Trinidad Lake Asphalte Co., asphalt flat roof.

UNIVERSITY OF BRISTOL UNION, VICTORIA ROOMS, BRISTOL (pages 1082-1083). Architects: G. D. Gordon Hake and H. Button. The general contractors were William Cowlin and Sons. The sub-contractors and suppliers included: Gardiner, Sons & Co., steelwork; H. H. Martyn & Co., panelling in hall; Clark and Fenn, fibrous plaster; May Acoustics Co., acoustic plaster; India Rubber Gutta Percha and Telegraph Works Co., rubber floors; Strand Electric and Engineering Co., stage lighting; Hall and Dixon, curtains; Hall Manufacturing Supply Co., stage gear; Pharaohs (Distributors), Ltd., Insulite for ceilings and partitions; Waldo Maitland and Partners, lighting consultants.

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICTS

ENFIELD. *Houses, etc.* Plans passed by the Enfield U.D.C.: 215 houses, Gt. Cambridge Road, Manor Farm Estate, Hilbery Chaplin, Ltd.; 36 flats, off Gordon Road, Mr. C. E. Harris; 70 flats, Adelaide Close, Mr. G. W. Newman.

HAMMERSMITH. *Flats, etc.* Plans passed by the Hammersmith B.C.: 24 flats, Rylett Road, Smith, Oakley and Garrard.

ILFORD. *Houses, etc.* Plans passed by the Ilford Corporation: 11 houses, Stoneleigh Road, Hurstwell & Co.; 12 shops and houses, 13/24 Kings Parade, High Street, Barkingside; 104 houses, between Longwood Gardens and Clayhall Avenue, Mr. J. T. Perrin.

LEWISHAM. *Houses.* Plans passed by the Lewisham B.C.: Houses, Hillcrest Road, Sydenham, Cooper Estates, Ltd.; houses, Ravensbourne Park, Mr. G. S. Hone.

PADDINGTON. *Flats.* Plans passed by the Paddington B.C.: 80 flats and four lock-up shops, Lancaster Street.

ST. PANCRAS. *School Treatment Centre.* The L.C.C. is to erect a school treatment centre in Chalton Street, St. Pancras, at a cost of £7,200.

SOUTHGATE. *Flats, etc.* Plans passed by the Southgate Corporation: Nine flats, St. Kilda's Lodge, Chase Side, Mr. E. W. Palmer; 26 houses, 1 & 2, 15/38 Westpole Avenue, Cockfosters, Mr. H. A. Nash; six shops, 63/65 Chase Side, Marshall and Tweedy; 18 houses, Sheringham Avenue, Mr. G. W. Newman; 24 houses, Oakwood Park Estate, Mr. C. E. O. Ward; 40 flats, Westpole Avenue, Mr. J. R. Scarborough.

SOUTHWARK. *Enlargement of Premises.* The governors of the Borough Polytechnic, Southwark, are to enlarge the premises at a cost of £28,000.

TULSE HILL. *School.* The L.C.C. is to erect an elementary school at Tulse Hill.

PROVINCES

ABINGDON. *School.* The Berks Education Committee has purchased land in Lashford Lane, Abingdon, for a new junior school.

BEXHILL. *Cinema.* Plans passed by the Bexhill Corporation: Cinema, Chestnut Walk, Mr. J.E. Maynard, architect for Mr. W. P. Glessing.

BIRMINGHAM. *Clinic.* The Birmingham Education Committee is to erect a school clinic in Aldridge Road, Perry Barr, at a cost of £7,000.

BIRMINGHAM. *Clinic.* The Birmingham Education Committee is to erect a school clinic in Maas Road, Northfield, at a cost of £6,900.

BIRMINGHAM. *Flats.* The Birmingham Corporation is to erect 431 flat dwellings in Birchfield Road, at a cost of £257,532.

BIRMINGHAM. *Flats.* The Birmingham Corporation is to erect 323 flat dwellings in Trafalgar Road and Alcester Road, at a cost of £222,607.

BIRMINGHAM. *School Enlargement.* The Birmingham Education Committee is to enlarge the Peckham Road school, at a cost of £13,000.

BIRMINGHAM. *School.* The Birmingham Education Committee is to erect an elementary school at the Four Dwellings Farm estate, Quinton, at a cost of £57,000.

BLACKPOOL. *Houses, etc.* Plans passed by the Blackpool Corporation: 54 houses, Rockingham Avenue, R. Fielding and Son; 15 houses, North Drive, etc., R. and H. Fletcher, Ltd.; 55 houses, Vicarage Road, Mr. R. Mitchell; 20 houses, Leith Avenue, Mr. A. A. Holt.

BRISTOL. *Town Hall, etc.* The Bristol Corporation has obtained sanction to borrow £300,000 for the erection of a new town hall and municipal offices.

BURSLEM. *Houses, etc.* Plans passed at Burslem: 10 houses, High Lane, for Mr. G. Broad; 55 garages, off Waterloo Road, Cobridge, for Col. H. Roscoe.

CHANCTONBURY. *Houses.* The Chanctonbury R.D.C. is to erect 80 houses in the parishes of Steyning, Washington, Ashington and Sullington, at a cost of £31,856.

CHESHIRE. *Police Headquarters.* The Cheshire C.C. is to erect divisional police headquarters at Bromborough, at a cost of £60,790.

DONCASTER. *School Enlargement.* The Doncaster Education Committee is to enlarge the Oswin Avenue school at a cost of £37,605.

DURHAM. *Gymnasium, etc.* The Durham County Education Committee is to erect a gymnasium, etc., at Durham Girls' School, at a cost of £9,887 10s.

DURHAM. *Cinema.* The Palladium (Durham), Ltd., are to erect a cinema in Sherburn Road, Durham.

DURHAM. *Houses.* Messrs. H. E. Pitt, Ltd., are to erect 44 houses at Merry Oaks Estate, Neville's Cross, Durham.

DURHAM. *Houses.* The Durham R.D.C. is to erect 23 houses at Cassop Colliery.

ESTON. *Houses.* The Eston U.D.C. is to erect 14 houses at Normanby, at a cost of £5,384.

GLASGOW. *Clinic.* The Glasgow Corporation has approved plans for the erection of a clinic at Seaward Street, at an estimated cost of £10,300.

GLASGOW. *Garage, etc.* The Glasgow Corporation Transport Committee is to enlarge the Knightswood bus garage, at an estimated cost of £12,500; erect a new motor-bus garage in the south-western district of the city, at £20,000; extend the Elderslie depot at £1,700; extend the Elderslie and Coatbridge tramway depots at estimated costs of £2,050 and £4,500, respectively; and erect a school for the motor-bus section at Larkfield, at an estimated cost of £70,000.

GOOLE. *Houses, etc.* The Goole Corporation is to erect 39 houses and eight flats in Morley Street, 60 houses on the Mount Pleasant Estate, and 40 on the Potter Grange Estate, at a cost of £50,797.

HUCKNALL. *Houses.* The Hucknall U.D.C. is to erect 104 houses on the Ruffs Farm Estate, at a cost of £35,700.

HYDE. *Houses.* Plans passed by the Hyde Corporation: 20 houses, Kingston Estate, off Manchester Road, Mr. J. Hall; six houses, Knott Lane, Dean and Whipp.

MANCHESTER. *Houses.* The Manchester Corporation is to erect 40 houses in Matthews Lane, Levenshulme, at a cost of £16,836.

MANCHESTER. *Flats.* The Manchester Corporation is to erect 240 flats on the Hulme clearance area, at a cost of £144,525.

MONKSEATON. *School.* The Northumberland Education Committee is to erect an infants' school at Monkseaton, at a cost of £10,000.

MORECAMBE. *Houses, etc.* Plans passed by the Morecambe Corporation: 38 houses, Woodland Drive, Mr. N. L. Proctor; 10 houses, Woodhill Drive, G. and W. Taylor.

NEW WASHINGTON. *Cinema.* The Southgate Cinemas, Ltd., is to erect a cinema in New Rows South, New Washington.

NORTHUMBERLAND. *Welfare Centres.* The Northumberland C.C. is to erect welfare centres at Seaton Delavel at a cost of £3,200 and at Hexham at £3,200.

SHROPSHIRE. *School.* The Shropshire Education Committee is to erect a senior school to accommodate about 280 seniors in the St. George's Prior's Lee Area.

STOKE-ON-TRENT. *Houses, etc.* Plans passed by the Stoke-on-Trent Corporation: 42 houses, off Anchor Road, Longton, for Messrs. Tideswell Bros.; 36 houses, off Stone Road, for Mr. H. W. Cartildge; 144 houses, off Waterhead Road, Meir, for Hillside Housing and Estate Co.

SUTTON COLDFIELD. *Houses, etc.* Plans passed by the Sutton Coldfield Corporation: Six houses, Darnick Road, Mr. R. W. Stanton; 19 houses, Westwood Road, British Ensign Builders.

WARGRAVE. *School.* The Church of England authorities are to erect a senior school at Wargrave.

WOLVERHAMPTON. *Houses.* The Wolverhampton Corporation has obtained sanction to borrow £39,130 for the provision of 92 houses on the Pond Lane site.

WOOLER. *School.* The Northumberland Education Committee is to erect a school at Wooler at a cost of £25,000.

WORTHING. *Houses.* Plans passed by the Worthing Corporation: 19 houses, Downside Avenue, Monks Farm Estates, Ltd.; 18 houses, Wingmer Road, Nunns Estates; house, Hillside Avenue, Mr. J. F. Collier; 14 houses, Ringmer Road, Goldsmith and Pennells; 10 houses, Canterbury Road, Kenrite Estates, Ltd.; 14 houses, Cheviot Road, A. M. Lyne, Ltd.; 12 houses, Goring Road, Mr. M. R. Fletcher.

WRITTLE. *School.* The Essex Education Committee has acquired a site at Writtle for the erection of a junior school.

Copies of the loose supplement containing the labour rates for the principal towns and districts throughout the country can be obtained from the JOURNAL, price 2d. to cover postage.

PRICES

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.** (published last week)
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.

On the following pages appears Prices of Materials—Part 2, with the prices, last published on May 26, brought up to date.

Immediately below, Messrs. Davis and Belfield mention the principal changes which have occurred in the last month. Similar notes, and the deductions that may be drawn from them, will be published on this page each month.

NOTES ON PRICE CHANGES

There are a number of changes this month and wherever changes have occurred prices have fallen with one exception. Joinery timber, lead, copper and zinc are chiefly affected and white lead paint naturally follows suit. 32 oz. clear sheet glass has also fallen in price—the first change for some time.

O. A. DAVIS, P.A.S.I.

PART 2

Prices vary according to quality and the quantity ordered.

Those given below are average market prices and include delivery in the London area, except where otherwise stated, but do not include overhead charges and profit.

CURRENT MARKET PRICES OF MATERIALS

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

JOINER

Prices are for standards in one delivery; when less than a standard is required, or special lengths, add £1 per standard

Joinery Timber

			Per standard £ s. d.	Per foot cube £ s. d.
3″ × 9″	Scantling	2nd Archangel	41 10 0	5 0½
✱3″×9″	,,	3rd ,, ...	28 10 0	3 5½
●2″×9″	,,	2nd ,, ...	48 10 0	5 10½
✱2″×9″	,,	3rd ,, ...	29 10 0	3 7
3″ × 8″	,,	2nd ,, ...	33 0 0	4 0
3″ × 8″	,,	3rd ,, ...	25 10 0	3 1½
✱2″×8″	,,	2nd ,, ...	34 0 0	4 1½
2″ × 8″	,,	3rd ,, ...	25 10 0	3 1½
3″ × 7″	,,	2nd ,, ...	32 0 0	3 10½
✱3″×7″	,,	3rd ,, ...	24 10 0	2 11¾
✱2″×7″	,,	2nd ,, ...	34 0 0	4 1½
2″ × 7″	,,	3rd ,, ...	25 10 0	3 1½
✱2″×6″	,,	u/s ,, ...	24 0 0	2 11
✱1½″×11″	,,	3rd ,, ...	39 0 0	4 8¾
✱1½″×9″	,,	u/s ,, ...	35 0 0	4 3
✱1″×9″	,,	2nd ,, ...	46 10 0	5 7¾
✱1″×9″	,,	3rd ,, ...	35 10 0	4 3¼
1″ ×11″	,,	2nd ,, ...	49 0 0	5 11½
✱1″×11″	,,	3rd ,, ...	40 0 0	4 10¼
✱1¼ ×9″	,,	2nd ,, ...	46 10 0	5 7¾
✱1¼″×9″	,,	3rd ,, ...	35 10 0	4 3¾
1¼″×11″	,,	2nd ,, ...	49 10 0	6 0
✱1¼″×11″	,,	3rd ,, ...	40 10 0	4 11

● **Items marked thus have risen in price since May 26.**

JOINER—(*continued*)

Flooring

		1/2″	1″	1¼″
Yellow deal, plain edge in batten widths ..	per square	20/–	✱23/6	✱30/–
Ditto, T. & G.	per square	20/6	✱24/–	✱30/6
✱T. & G. rift sawn B.C. pine in 4″ widths ..	per square		30/–	
✱T. & G. random grain, in 4″ widths	per square		18/6	

Wall Linings

Deal Match Boarding :—

1″×6″ T.G.B.	per square	25/–
1″×4½″ T.G.V.	per square	24/–
¾″×6″ T.G.B.	per square	19/–
¾″×4½″ T.G.V.	per square	18/–
✱½″×6″ T.G.B.	per square	16/6
½″×4½″ T.G.V.	per square	16/–
✱½″×4½″ T.G.V.	per square	12/6

Asbestos-Cement :—

1/12″ Semi-compressed flat building sheets, grey	per yard super	1/3¾
1/10″ Ditto	per yard super	1/4½
¼″ Ditto	per yard super	1/11
¼″ Metal reinforced flat building sheets	per yard super..	3/4

Prices are for orders of less than 1 ton.

✱ **Items marked thus have fallen in price since May 26.**

CURRENT PRICES

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

JOINER AND STEEL AND IRONWORKER

JOINER—(*continued*)

Wall Boards :—

Asbestos-cement wall board (in sheets 8′ 0″×4′ 0″ only) under 5,000 feet super	per foot super			–/2½
Asbestos-cement stipple glazed sheets (in sheets 8′ 0″ × 4′ 0″ only)	per yard super			7/6
Ditto, plain white glazed sheets (in sheets 8′ 0″×4′ 0″ only)	per yard super			8/6
Marble glazed sheets (in sheets 8′ 0″× 4′ 0″ and 4′ 0″×4′ 0″)	per yard super			7/6

	300 yards.	300–1,000 yards.	1,000–2,000 yards.
½″ Fibre board	2/–	1/10½	1/9

	25–75 yards	150–300 yards	Over 600 yards
¾″ Fireproof plaster board (per yard super)	2/2	1/10	1/6
½″ Ditto (per yard super)	2/–	1/8	1/4
Joint tape (approx. 250 feet run) per roll	..	..	1/6
Joint filler .. ..per lb.	..	..	–/4

Plywoods :—

	4 m/m	5 m/m	6 m/m	9 m/m	12½m/m
Birch (A) per square	22/–	26/6	30/–	42/6	45/–
„ (B) per square	18/–	19/–	—	—	—
Japanese figured oak (A.A.) per square	33/6	37/–	38/6	65/–	—
Austrian oak, figured one side (A.A.) per square	—	71/6	77/6	99/6	117/6
Australian walnut, finely figured one side (boards 72″×36″) per square			¼″ 67/6	¾″ 85/–	
Sycamore, figured one side (ditto) per square			75/–	85/–	
Honduras mahogany, figured one side (ditto) per square			75/–	—	
Honduras mahogany, finely figured (boards 84″×36″) per square			125/–	—	

Prices are for complete bundles.

Blockboards :—

Alder :—

Thickness		Boards 60″×183″	Boards 72″×183″
¼″	per square	67/–	73/6
½″	per square	76/–	83/6
¾″	per square	83/3	91/3
⅞″	per square	87/3	96/3
1″	per square	100/6	110/6
1¼″	per square	122/–	134/–
1½″	per square	128/–	140/–
1¾″	per square	160/9	169/9

Birch :—

Thickness		Boards 54″×72″	Boards 60″×140″
¼″	per square	50/3	52/9
½″	per square	57/3	60/3
¾″	per square	63/3	67/–
⅞″	per square	68/–	71/3
1″	per square	75/–	77/9

Prices are for complete bundles.

Hardwoods

Joinery Quality.

English oak	per foot cube	15/–
American oak (plain)	per foot cube	10/–
„ „ (quartered)	per foot cube	12/–
Australian Silky Oak (plain) ..	per foot cube	11/–
„ „ „ (quartered) ..	per foot cube	12/6
Walnut, European	per foot cube	18/–
Teak, Rangoon	per foot cube	15/–
„ African	per foot cube	12/–

JOINER—(*continued*)

Mahogany, Honduras	per foot cube	14/–
American whitewood	per foot cube	10/–
Birch	per foot cube	8/–
Cedar (aromatic)	per foot cube	16/–
Japanese oak (plain)	per foot cube	11/–
„ „ (quartered)	per foot cube	13/–
Austrian oak (plain)	per foot cube	12/–
„ „ (quartered)	per foot cube	16/–

Sundries

Slaters or sarking felt	per yard run	–/6
Roofing felt	per yard run	–/8
Bituminous hair felt	per roll	33/–
All rolls 25 yards long by 32″ wide.		
Cork slabs, 1″ thick (3′ 0″×1′ 0″)..	per foot super	–/4½
„ 2″ thick (3′ 0″×1′ 0″)..	per foot super	–/8
Slagwool	per cwt. (approx.)	12/–
Building paper in rolls of 100 yards, 1-ply, 60″ wide (B.I.80 and L.G.I.80)	per roll	67/6
Ditto, 2-ply, 60″ wide (B.I.80)	per roll	135/–
Ditto, 2-ply, 60″ wide (B.I.20)	per roll	202/6

"Cabots" Quilt :—(Ex Works Twelve roll lots delivered carr. free.)

Double ply ..	per roll 42/–	per half roll	23/6

All rolls 28 yards long by 36″ wide. Special terms for quantities.

Cut steel clasp nails, 1″ per cwt.	33/6	4″	per cwt.	23/6
„ „ floor brads, 2″ „	22/9	3″	per cwt.	21/9
Bright oval wire nails 1″ „	35/9	4″	per cwt.	23/6
Scotch glue			per cwt.	60/–

Floor Clips :—

		£	s.	d.
One leg floor clip	per 1,000	8	8	0
2″ short leg floor clip	per 1,000	8	8	0
2″ Regular floor clip	per 1,000	8	15	0
3″ „ „	per 1,000	9	0	0
2″ Regular ceiling clip	per 1,000	8	15	0
Single leg ceiling clip (7½″)	per 1,000	10	10	0

Special terms for quantities.

STEEL AND IRONWORKER

Steelwork

		£	s.	d.
Basis price for rolled steel joists sections 5″×3″ to 16″×6″, in 10 ft. to 50 ft. lengths	per ton	14	0	0
Extras on above for :—				
9″×7″ Section	per ton	0	5	0
4″×3″, 5″×2½″, 10″×8″, 12″×8″, 14″×8″ and 16″×8″ to 20″×7½″ sections inclusive	per ton	0	10	0
3″×1½″, 3″×3″, 4″×1½″, 4½″×1½″ and 24″×7½″ sections	per ton	1	0	0
Channels, angles and tees	per ton	15	0	0
Mild steel plates	per ton	15	0	0
Screw bolts	per ton	35	0	0

Fabricated Steelwork

		£	s.	d.
Joists cut and fitted	per ton	18	0	0
Stanchions, ordinary sections with riveted caps and bases	per ton	22	0	0
Stanchions, compound	per ton	23	10	0
Plate girders	per ton	28	0	0
Framed roof trusses, 25′ 0″ span	per ton	27	10	0
„ „ „ 60′ 0″ span	per ton	25	0	0

Prices ex stock are higher, and definite quotations should be obtained.

Prime Galvanized Corrugated Iron Sheets

(Ex London Stocks)

	10 cwt. lots £ s. d.	Less quantity £ s. d.
4 to 9 fts. 18 or 20 gauge, 8/3″ corrugations .. .. per ton	20 0 0	21 0 0
10 fts. 18 or 20 gauge, 8/3″ corrugations	20 10 0	21 10 0
4 to 9 fts. 22 or 24 gauge, 8/3″ corrugations .. .. per ton	20 10 0	21 10 0
10 fts. 22 or 24 gauge, 8/3″ corrugations	21 0 0	22 0 0
4 to 8 fts. 26 gauge, 8/3″ corrugations ..	21 15 0	22 15 0
9 fts. 26 gauge, 8/3″ corrugations ..	22 5 0	23 5 0
10 fts. 26 gauge, 8/3″ corrugations ..	22 15 0	23 15 0

CURRENT PRICES

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

PLASTERER, PLUMBER AND INTERNAL PLUMBER

PLASTERER

Plaster and Cement

		1-ton loads	5-ton loads	
Sirapite (coarse)	per ton	70/–	64/–	
„ (fine)	per ton	78/–	—	
Victorite No. 1	per ton	85/–	78/6	6-ton loads
„ No. 2 or non sweat	per ton	80/–	73/6	
Thistle (browning, haired and pink finish)	per ton	70/–	64/–	
Thistle (fine)	per ton	78/–	—	
Pink plaster	per ton	66/–	—	
White plaster	per ton	78/–	—	
Keene's pink	per ton	112/6	—	
Keene's white	per ton	117/6	—	
Super Carbo	per ton	—	47/6	4-ton loads
Carbo-setting	per ton	—	57/6	

		1 ton upwards £ s. d.
Cullamix No. 2 cream (rendering mixture)	per ton	5 10 0
„ No. 3 cream	„ „	per ton 5 10 0
Snowcrete mixture	„ „	per ton 5 5 0

Sundries

Sharp washed sand	per yard cube	8/–
Cow hair	per cwt.	40/–
Goat's hair	per cwt.	55/–
⅛″ laths	per bundle	2/–
¼″ laths	per bundle	2/4½
Expanded metal lathing, 9′ 0″ × 2′ 0″ ⅜″ mesh × 26 gauge	per yard super	–/11
Lath nails (galvanised) 1½″ × 14 gauge	per cwt.	44/6
„ (bright wire) „ „	per cwt.	27/–

		Less than 150 yds.	Less than 300 yds.	Over 300 yds.
⅜″ Plaster board	per yard super	1/–	–/11	–/10
1½″ Galvanised nails	per lb.		–/5	
Scrim cloth in 100-yard rolls	per roll		2/3	

Wall Tiles

Commercial quality.		
Ivory, white, etc., glazed 6″ × 6″ × ⅜″	per yard super	9/9
Angle beads (1½″ wide)	per yard run	1/2¾
„ „ (1″ „)	per yard run	–/10
Rounded edge tiles	per yard run	2/6½
Coloured enamelled bright glazed, 6″ × 6″ × ⅜″	per yard super	14/3
Angle beads (1½″ wide)	per yard run	1/4¾
„ „ (1″ „)	per yard run	–/11¼
Rounded edge tiles	per yard run	2/7
Eggshell gloss enamelled, 6″ × 6″ × ⅜″	per yard super	15/–
Angle beads (1½″ wide)	per yard run	1/7¾
„ „ (1″ „)	per yard run	1/0¾
Rounded edge tiles	per yard run	2/8½

PLUMBER

Lead

*3½ lbs. and upwards milled sheet lead in quantities of 5 cwts. and upwards	per cwt.	22/–
Add if cut to sizes	per cwt.	3/–
Lead ternary alloy, No. 2 quality extra over sheet lead	per cwt.	7/–
* Allowance for old lead delivered to merchant	per cwt.	11/9

Cast Iron Rainwater Goods (Painted or Unpainted)

The following prices for rainwater pipes and gutters are subject to 20 per cent. trade discount, and the prices of the fittings are subject to 5 per cent. and 20 per cent. trade discount.

Rainwater Pipes

		2″	2½″	3″	3½″	4″	4½″	5″	6″
Round pipes	per yard	2/8½	2/9½	3/7½	4/0½	4/9½	6/1½	7/2½	9/2
Shorts, 2′ 0″, 3′ 0″ and 4′ 0″ extra	per yard	–/3¾	–/3¾	–/3¾	–/3¾	–/3¾	–/5	–/5	–/5
Bends	each	1/9	2/–	2/6	3/–	3/7	5/–	6/6	8/5
Offsets 4½″ and 6″ projection	each	2/2	2/8	3/–	3/5	4/4	6/3	7/6	9/10
Offsets, 9″ projection	each	2/10	3/2	3/9	4/8	5/7	7/6	8/10	11/2
Branches, single	each	2/7	3/1	3/9	4/4	5/3	7/6	8/5	13/1
Shoes	each	1/6	1/9	2/–	2/8	3/–	4/4	5/5	7/6

PLUMBER—(*continued*)

Square and rectangular pipes.

3″ × 3″	per yard	6/9½
3½″ × 3½″	per yard	8/4
4″ × 2″ or 2½″	per yard	7/4¾
4″ × 3″	per yard	7/4¾
4″ × 4″	per yard	9/0¾
4½″ × 3″	per yard	8/5¼
5″ × 3″ or 3½″	per yard	9/7

Gutters

		3″	3½″	4″	4½″	5″	6″
Half round gutters	per yard	1/9½	2/1	2/1	2/2½	2/4¾	3/7¾
Shorts 2′ 0″, 3′ 0″ and 4′ 0″ extra	per yard	–/2½	–/2½	–/2½	–/2½	–/3¾	–/3¾
Angles and nozzle pieces	each	1/5	1/7	1/9	2/–	2/2	3/1
Stop ends	each	–/5	–/5	–/7½	–/9	–/10½	1/–
Ogee gutters	per yard	2/1	2/3½	2/4¾	2/6	2/9¾	3/10½
Straight back and shorts 2′ 0″, 3′ 0″ and 4′ 0″ extra	per yard	–/2½	–/2½	–/2½	–/2½	–/3¾	–/3¾
Angles and nozzle pieces	each	1/11	1/11	2/–	2/4	2/8	3/3
Stop ends	each	–/6	–/7½	–/9	–/10½	1/–	1/3

Mild Steel Rainwater Goods

The following prices should be increased by 5 per cent. and are subject to 7½ per cent. trade discount.

24 Gauge rainwater slip jointed pipes.

		2″	2½″	3″	3½″	4″
Galvanized round pipes with ears	per 6′ 0″	2/7½	3/1½	3/9	4/3	4/9
Painted round pipes with ears	per 6′ 0″	2/7½	3/–	3/4½	3/10½	4/3
Painted or galvanized short lengths with ears, extra	each	–/6	–/6	–/6	–/6	–/6

18 Gauge Gutters.

		3″	3½″	4″	4½″	5″	6″
Galvanized half round gutters	per 6′ 0″	2/–	2/3	2/4½	2/9	3/–	3/7½
Painted half round gutters	per 6′ 0″	1/6	1/9	2/–	2/3	2/6	3/–
Painted or galvanized short lengths extra	each	–/3	–/3	–/3	–/3	–/3	–/3

Asbestos-Cement Rainwater Goods

The following prices are subject to 10 per cent. trade discount.

Rainwater pipes.

Prices are for 6′ 0″ lengths, and 10′ 0″ lengths in 2″, 2½″ and 3″ diameters. Short lengths up to 2′ 0″ are charged as one yard. From 2′ 0″ to 4′ 0″ charged as 1½ yards. From 4′ 0″ to 6′ 0″ charged as 2 yards. Over 6′ 0″ charged as 10′ 0″.

Round pipes.

2″	per yard run	1/10
2½″	per yard run	2/0¾
3″	per yard run	2/5¾
3½″	per yard run	2/11¼
4″	per yard run	3/4¾
4½″	per yard run	4/10½
5″	per yard run	5/9¼
6″	per yard run	7/1¾

Gutters.

Short lengths of gutter up to 2′ 0″ charged as 1 yard; from 2′ 0″ to 4′ 0″ as 1½ yards, and over 4′ 0″ as 2 yards.

		3″	4″	4½″	5″	6″	8″
Half round gutters	per yard run	1/3¾	1/6¾	1/7¾	1/11	2/8	3/3½
Ogee gutters	per yard run	—	1/11	2/0¾	2/5¾	3/0½	3/11¼

INTERNAL PLUMBER

* Lead pipe in coils, 5 cwts. and upwards	per cwt.	21/6
* Lead soil pipe	per cwt.	24/6
Add if ribbon marked	per cwt.	–/3
Lead ternary alloy, No. 2 quality extra over lead pipe	per cwt.	7/–
Plumber's solder	per cwt.	85/–
Tinman's solder	per cwt.	111/–

Drawn lead traps with brass screw eye, 6 lbs.

		1″	1¼″	1½″	2″
S. trap	each	1/7	1/9	2/2	3/2
P. trap	each	1/4	1/6	1/10	2/7
Extra for 3″ deep seal	each	–/6	–/6	–/6	–/6

* Items marked thus have fallen since May 26th.

CURRENT PRICES

INTERNAL PLUMBER

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

INTERNAL PLUMBER—(*continued*)

Screwed and Socketed Steel Tubes and Fittings for Gas, Water and Steam, etc.

		½″	¾″	1″	1¼″	1½″	2″
Tubes.							
Tubes 2 ft. long and over	per ft.	–/5½	–/6¾	–/9¼	1/1	1/4½	1/10
Pieces 12″ to 23½″ long	each	1/1	1/5	1/11	2/8	3/4	4/9
Bends	each	–/11	1/2	1/7½	2/7½	3/2	5/2
Fittings.							
Elbows, square ..	each	1/1	1/3	1/6	2/2	2/7	4/3
Elbows, round ..	each	1/2	1/5	1/8	2/4	2/10	4/8
Tees	each	1/3	1/7	1/10	2/6	3/1	5/1
Crosses	each	2/9	3/3	4/1	5/6	6/7	10/6
Sockets, plain ..	each	–/4	–/5	–/6	–/8	–/10½	1/3
Sockets, diminished	each	–/6	–/7	–/9	1/–	1/4	2/–
Flanges	each	1/–	1/2	1/4	1/9	2/–	2/9
Caps	each	–/5	–/6	–/8	1/–	1/3	2/–
Plugs	each	–/4	–/5	–/6	–/8	–/10	1/3

Fittings and flanges and tubes ordered in long random lengths are subject to the following trade discounts :—

	Tubes	Fittings	Flanges
Gas	62½%	53½%	57½%
Water	58½%	50%	52½%
Steam	56½%	46½%	47½%
Galvanized gas	53½%	46½%	47½%
,, water	48½%	42½%	42½%
,, steam	43½%	38¾%	37½%

Brasswork. Best Quality

		½″	¾″	1″
Chromium plated screw-down bibcocks, screwed for iron ..	per dozen	34/6	56/3	99/–
Ditto, with screw ferrule ..	per dozen	43/–	67/3	105/6
Ditto, with capstan head lettered, screwed for iron ..	per dozen	40/6	62/3	108/–
Ditto, with screw ferrule ..	per dozen	49/–	73/3	124/6

		Brass Screwdown Stop Cocks with Unions both Ends	Brass Screwdown Stop Cocks with Screwed Ends	Brass Screwdown Stop Cocks with Male Screwed End and Iron Unions
½″	per dozen	37/6	43/–	35/–
¾″	per dozen	59/–	65/–	54/–
1″	per dozen	90/–	97/6	84/–
1¼″	each	12/9	13/6	12/–
1½″	each	20/6	21/6	19/–
2″	each	39/9	41/3	37/6

		½″	¾″	1″
Portsmouth pattern ball valve for low pressure, screwed for iron ..	each	3/7	5/5	11/3
Ditto, with flynut and union ..	each	4/3	6/3	12/9
High pressure ditto, screwed for iron	each	3/7	5/5	11/3
Ditto, with flynut and union ..	each	4/3	6/3	12/9

		2″	2½″	3″	4″
Socket thimble sloping shoulder.	per dozen	10/–	13/–	15/9	22/3

		1½″	2″	2½″	3″
Flanged ferrule thimble	per dozen	7/9	9/–	13/6	16/–

		½″	¾″	1″	1¼″	1½″	2″
Union joints for lead and iron ..	per dozen	7/6	10/3	14/–	26/–	42/6	92/–
Single nut short boiler screws ..	per dozen	6/–	9/–	14/3	21/–	33/–	60/–
Double nut boiler screws	per dozen	8/3	9/9	15/–	22/6	43/6	69/–

Belfast sink wastes stamped brass with brass plug diameter of outlet 2″ .. .. per dozen 18/–

Galvanized Mild Steel Open Top Cisterns riveted with internal angle iron at top and corner plates

The following prices are subject to 15% and 20% trade discount :—

		14-gauge £ s. d.	12-gauge £ s. d.	¼″ plate £ s. d.	⅜″ plate £ s. d.
50 gallon capacity	each	2 5 11	2 14 5	3 1 7	7 0 8
100 ,,	each	3 8 9	4 2 11	4 16 9	9 10 8
200 ,,	each	6 6 9	6 19 5	7 18 3	13 1 0
500 ,,	each	12 6 0	13 16 1	15 16 3	22 6 9
1,000 ,,	each	—	21 9 4	24 19 5	34 15 4

INTERNAL PLUMBER—(*continued*)

Galvanized Hot Water Tanks, fitted with handhole cover.

The following prices are subject to 15% and 20% trade discount :—

Capacity		16-gauge tested to a pressure of 1 lb. per sq. inch = 1½ ft. head of water £ s. d.	14-gauge tested to a pressure of 3 lbs. per sq. inch = 4½ ft. head of water £ s. d.	12-gauge tested to a pressure of 7½ lbs. per sq. inch = 10 ft. head of water £ s. d.	¼″ plate tested to a pressure of 10 lbs. per sq. inch = 15 ft. head of water £ s. d.
20 gallons	each	2 0 3	2 3 11	2 7 8	2 12 9
40 ,,	each		3 1 7	3 9 0	3 16 8
			Tested to a pressure of 5 lbs. per sq. inch = 7½ ft. head of water		Tested to a pressure of 7½ lbs. per sq. inch = 10 ft. head of water
60 ,,	each		4 19 3		5 5 5
80 ,,	each				7 5 7
100 ,,	each				8 4 5

Screwed flanges or bosses

½″	¾″	1″	1¼″	1½″	1¾″	2″	2¼″	
1/8	2/–	2/4	2/11	3/4	3/9	4/8	6/9	Extra per flange or boss.

2½″	3″	3½″	4″	4½″	5″	6″
8/4	14/3	16/9	19/3	26/11	30/1	45/1

Galvanized Hot Water Cylinders, Mild Steel Riveted throughout, without Manhole, with usual number of flanges

The following prices are subject to 15% and 20% trade discount :—

Capacity		16-gauge tested to 5 lbs. pressure = 10 ft. head of water £ s. d.	14-gauge tested to 15 lbs. pressure = 30 ft. head of water £ s. d.	12-gauge tested to 20 lbs. pressure = 40 ft. head of water £ s. d.	¼″ plate tested to 25 lbs. pressure = 50 ft. head of water £ s. d.
20 gallons	each	1 18 7	2 2 8	2 8 4	2 15 4
40 ,,	each	2 10 11	2 16 8	3 6 1	3 15 0
65 ,,	each		4 8 7	5 1 8	5 16 1
75 ,,	each		5 1 7	5 15 0	6 11 4
85 ,,	each			6 10 8	7 11 9
100 ,,	each				8 2 5

Cast Iron Soil Pipes and Connections, L.C.C. ⅛″ metal.

The following prices for soil pipes are subject to 20% Trade Discount, and the prices of the fittings are subject to 20% and 5% Trade Discount.

	2″	2½″	3″	3½″	4″	5″ ¼″ metal	6″ ¼″ metal
Minimum weights in lbs. per 6′ 0″ length	24	30	35	41	46	78	92
Pipes coated or uncoated per yard run	3/10½	4/0½	4/5½	5/–	5/8½	11/8	14/0½
Double sockets extra each	–/11½	–/11½	–/11½	–/11½	–/11½	1/0½	1/0½
Short lengths extra 2′, 3′ and 4′ per yard run	–/3½	–/3½	–/3½	–/3½	–/3½	–/5	–/5
Single spigot branch cast on pipe .. .. each	4/3	4/5	4/7	4/9	4/11	7/6	9/3
Single socket branch cast on pipe .. .. each	10/9	11/–	11/3	11/6	11/9	16/–	19/–
Bends, standard angles each	3/1	3/5	3/9	4/8	5/3	9/4	12/9
Large radius bends each	4/–	4/4	5/–	6/–	7/–	13/–	16/9
Inspection bends raised flange door, 4 gunmetal bolts .. .. each	16/1	16/11	17/9	18/8	19/3	31/10	36/6
Swannecks 4½″ and 6″ projection .. .. each	3/9	4/4	5/11	6/10	7/11	14/11	20/1
9″ ditto .. .. each	5/–	5/7	6/10	7/11	9/4	17/1	22/10
12″ ditto .. .. each	5/11	6/10	7/11	9/8	10/7	19/1	27/1
Single branch with two sockets. T. pieces. T. pieces diminishing two sockets, inverted two sockets.	3/9	4/8	5/7	6/6 each	7/6	15/10	21/8
Parallel branch pieces not exceeding 6″ centres. Y pieces. Anti-syphon branches with curved arm.	4/10	5/11	6/10	7/11 each	8/11	—	—
Double branch pieces, three sockets .. .. each	5/11	7/–	7/11	9/–	10/3	20/3	27/3
Inspection branch pieces double oval access door, 2 gunmetal screws each	12/11	14/–	14/11	16/6	17/9	29/2	36/2
Long branch pieces each	5/–	6/–	7/3	8/6	9/9	19/–	25/–

CURRENT PRICES

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

COPPERSMITH AND ZINCWORKER, GLAZIER AND PAINTER

COPPERSMITH AND ZINC WORKER

Copper

★Hot rolled copper sheeting in 1 cwt. lots, all gauges to 24 wire gauge .. .. per lb.	-/9
★Copper tube, seamless solid drawn .. .. per lb.	-/11¾
Copper wire 10 and 12 gauge .. .. .. per lb.	-/9
★Copper nails, 1″ and up .. .. per lb.	-/9½

Fittings for Copper Tubes

Compression Type :	½″	¾″	1″	1¼″	1½″	2″	2½″
Straight coupling each	1/1½	1/4½	2/0½	2/8	3/9½	5/7½	14/-
Obtuse elbow each	1/10½	2/2½	3/3	4/1½	7/1½	10/5½	—
Tees .. each	2/1½	2/5½	4/-	5/9½	9/3	13/1½	19/3½
Crosses .. each	3/-	3/4½	5/2½	6/3½	10/11½	15/3	26/4½
Reducing coupling each	—	1/4½	2/0½	2/8	3/9½	5/7½	14/-
Bends .. each	1/7½	1/11½	2/11	3/8½	6/7½	9/10½	14/1
Brass stop cocks each	3/11½	5/10½	8/7½	15/11½	22/3½	37/8½	—

Extra for Polishing 25%; Chromium plating 50%; Nickel plating and polishing 50%.

Capillary Type							
Straight coupling each	-/7½	-/10½	1/3½	1/8½	2/3½	3/4½	5/9
45° elbow .. each	1/3½	1/8½	2/4½	3/2	4/9	7/1½	11/1
Tees .. each	1/5½	1/7½	2/8	3/11½	5/7½	8/3½	12/8
Crosses .. each	1/10½	2/0½	3/4½	4/9	7/2½	10/6	18/2½
Reducing coupling each	—	-/6½	-/8½	1/0½	1/7	2/9½	4/4½
Bends .. each	1/7	1/11	2/9½	3/9½	5/11½	8/3½	11/10½
Pillar tap connection .. each	1/-	1/5½					

Extras for Polishing 15%; Chromium plating 40%; Nickel plating 27½%

Zinc

	Quantities of less than 3 cwts.	Quantities of more than 3 cwts.	Quantities of more than 5 cwts.
★Sheet zinc, 10 gauge and up per cwt.	31/-	30/6	30/-

	5 sheets and under	12 sheets
★8 gauge zinc safe hole perforated sheets, size 8′ 0″ × 3′ 0″ .. per sheet	4/9½	4/0½
★7 gauge ditto .. .. per sheet	4/2½	3/7
★6 gauge ditto .. .. per sheet	3/9½	3/3

GLAZIER

Sheet Glass cut to size (ordinary glazing quality)

	In squares not exceeding 2 ft.	4 ft.	5 ft.	Over 6 ft.
18 oz. clear sheet .. .. per foot super	-/2½	-/2¾	-/3	-/3½
24 oz. ditto .. .. per foot super	-/2¾	-/3¾	-/4	-/4⅜
★32 oz. ditto .. .. per foot super	-/4	-/5⅞	-/6⅞	-/7⅞
Obscured sheet glass net extra	-/1½	-/1½	-/1½	-/1½
⅛″ figured rolled glass, white per foot super	-/6½			
⅛″ ditto, normal tints .. per foot super	-/9½			
Hammered, doubled rolled, Cathedral white .. .. .. per foot super	-/6			
Ditto, normal tints .. per foot super	-/8½			

Thick Drawn Sheet Glass cut to size

	In squares not exceeding 1 ft.	2 ft.	3 ft.	4 ft.	6 ft.	8 ft.
⅛″ thick .. per foot super	-/9	-/11	1/-	1/2	1/3	1/4
¼″ thick .. per foot super	-/11	1/-	1/3	1/5	1/7	1/9

	In squares not exceeding 12 ft.	20 ft.	45 ft.	65 ft.	90 ft.	100 ft.
⅛″ thick .. per foot super	1/6	1/7	1/9	—	—	—
¼″ thick .. per foot super	1/10	2/2	2/4	2/8	3/-	3/-

For selected glazing quality add 10 per cent. to the above prices.

British or Foreign Polished Plate Glass cut to size

Ordinary ¼″ Substance In Plates not exceeding	Glazing for Glazing Purposes	Selected Glazing Quality	Silvering Quality
1 ft. super .. per foot super	1/-	1/3	1/7
2 „ .. per foot super	1/4	1/6	1/10
3 „ .. per foot super	1/10	2/1	2/6
4 „ .. per foot super	2/6	2/9	3/2
6 „ .. per foot super	2/10	3/-	3/6
8 „ .. per foot super	2/11	3/4	3/8
12 „ .. per foot super	3/1	3/8	3/11
20 „ .. per foot super	3/1	3/9	4/1
45 „ .. per foot super	3/3	4/-	4/4
65 „ .. per foot super	3/7	4/3	4/11

GLAZIER—(*continued*)

British or Foreign Polished Plate Glass cut to size—(contd.)

Ordinary ¼″ Substance In Plates not exceeding	Glazing for Glazing Purposes	Selected Glazing Quality	Silvering Quality
90 ft. super .. per foot super	3/11	4/8	5/1
100 „ .. per foot super	4/-	4/10	5/4

Plates exceeding 100 ft. super or 160 in. long, or 104 in. wide, at higher prices.

The usual thickness of polished plate glass is about ¼″, but if required of special thickness for glazing purposes, add to the above for :—

	Plates up to and including 4 ft. super	All plates over 4 ft. super
⅛″ to 5/32″ .. .. per foot super	-/2	-/4
⅛″ to 5/32″ exact .. per foot super	-/2	-/3
3/16″ .. .. .. per foot super	No extra	-/1½
¼″ bare .. .. per foot super	„	-/1½
¼″ exact .. .. per foot super	-/2	-/2
5/16″ to ⅜″ .. .. per foot super	No extra	-/4½
⅜″ exact .. .. per foot super	-/2	-/6

Special quotations should be obtained for other qualities and thicker substances.

Silvering

	Ordinary Quality on Polished Plate, Thick Drawn Sheet Patent Sheet and Plain Sheet	On Embossed or Decorative Work
12 ft. super or 90 in. long .. per ft. super	9d.	1/4
20 ft. „ or 100 in. long per ft. super	10d.	1/4
45 ft. super } or 110 in. long per ft. super	1/-	1/5
50 ft. „ }	1/0½	1/6
55 ft. „ } or 120 in. long per ft. super	1/1	1/6½
60 ft. „ }	1/1½	1/7
65 ft. „ } or 130 in. long per ft. super	1/2	1/8
70 ft. „ }	1/3	1/9½
75 ft. „ } or 140 in. long per ft. super	1/4	1/11
80 ft. „ }	1/5	2/0½
85 ft. „ } or 150 in. long per ft. super	1/8	2/5
90 ft. „ }	1/11	2/9½
95 ft. „ } or 160 in. long per ft. super	2/2	3/2
100 ft. „ }	2/5	3/8

For silvering on fluted sheet, figured rolled and cathedral, add 4d. a foot to the prices set out in the first column for polished plate, etc.

Silvering bent glass, double or more, according to bend.

For plates over 100 ft. super, add 3d. per ft. super for every 5 ft. or part of same.

Plates over 160 in. long at special rates.

Stripping for re-silvering, add 8d. per ft. super.

Wired Glass Cut to Sizes

¼ in. Georgian rough cast .. .. .. per ft. super 10d.

	In squares not exceeding 1 ft.	2 ft.	3 ft.	4 ft.
¼-in. Georgian polished plate per ft. super	2/6	2/8	2/10	3/2
	8 ft.	12 ft.	20 ft.	30 ft.
¼-in. Georgian polished plate per ft. super	3/8	3/10	4/2	4/6

Supplied in sizes up to 110 in. long and up to 36 in. wide.

For cutting to allow for wires in adjacent pieces to be "lined up," add 4d. per foot super.

PAINTER

White ceiling distemper	per cwt.	12/6
Washable distemper	per cwt.	60/-
Petrifying liquid	per gallon	4/6
★Ready mixed white lead paint (best) 5-cwt. lots, in 14 lb. tins	per cwt.	68/-
White enamel	per gallon	25/-
Aluminium paint	per gallon	20/-
★Stiff white lead, genuine English stack process, 1-ton lots, in 1-cwt. kegs	per cwt.	48/3
Driers	per cwt.	36/-
★Linseed oil raw (5-gallon drums)	per gallon	3/-
★ „ boiled „ „	per gallon	3/3
French polish	per gallon	11/6
Knotting	per gallon	16/-
Oil stain	per gallon	12/-
Varnish, oak	per gallon	10/-
„ copal	per gallon	16/-
„ flat	per gallon	20/-
★Turpentine, genuine American 5-gallon lots	per gallon	3/1
Creosote, 1-gallon lots	per gallon	1/4
Putty	per cwt.	12/6
Size	per firkin	3/6
Best English quality gold leaf, 23 carat ..	per book	2/4½
Extra thick, ditto	per book	3/6

★ Items marked thus have fallen since May 26.