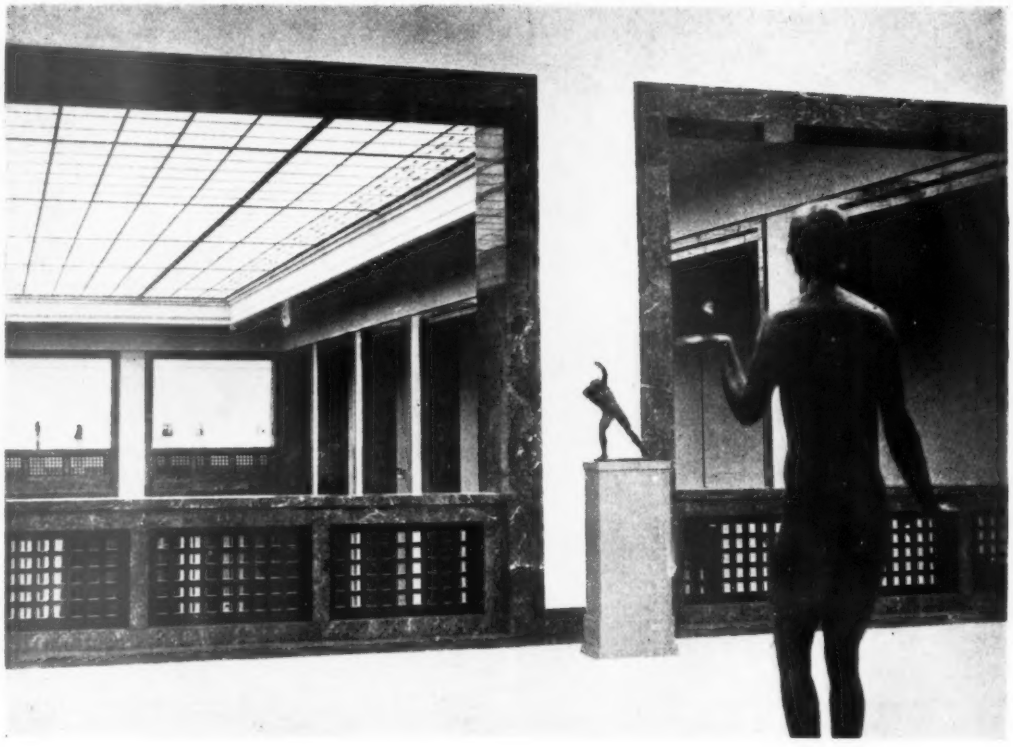
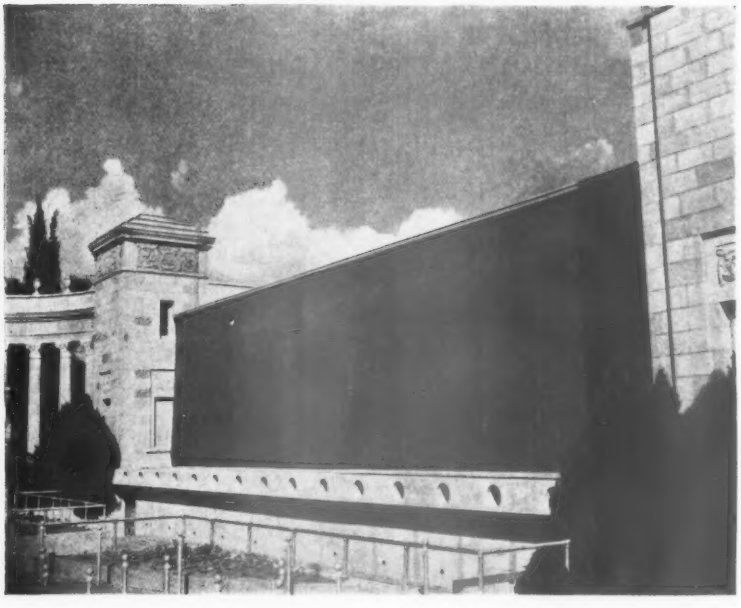
HOUSE OF GERMAN ART, MUNICH



THIS building was recently opened by Herr Hitler. Above is a view from the gallery, looking across the main hall.



THEATRE IN TEXAS

The open air theatre in the Brackenridge Park, San Antonio, which has been recently opened. The stage opening is 60 ft. and the stage 125 ft. by 50 ft.; the natural hill slope with a waterfall behind the stage is used as a back drop in suitable plays. The spotlights are in the building behind the seating.

On the left is the rising curtain, the thought not of the architects but of a local business man. Judging by the way the curtain slices through the architectural treatment of the proscenium tower, the architects continued not to think much of it. The architects were Harvey P. Smith, George Willis and Charles Boelhauwe of San Antonio.

NEW INQUEST ON ADAM SMITH

A LITTLE snappiness in the House of Commons over the opinions expressed in its evidence by the Board of Trade, a trifling affair barely reported—that is all that people have had to tell them that one more Royal Commission is now sitting.

The blame for this may be due to terminology. Royal Commissions have been with us too long; from being a hopeful sign when appointed in great problems they have changed long since into painless killers, have exhausted every possible jest and are now just disregarded with the quiet distaste reserved for wet Sundays in Glasgow. One cannot condemn the Press for not trying to make this Royal Commission on the Location of Industry seem different, for not featuring its personnel and bludgeoning their readers into something like appreciation of the terrific change of public attitude which this particular Royal Commission implies. If the *Daily Express* had given it the space which belongs of right to fruity breach of promise its public, caught too often, would probably not even have read the cross-headings.

Yet this Royal Commission does imply an astonishing change. It implies, at the general estimate of Royal Commissions, that sufficient influential people now believe it possible to regulate the distribution of industry with good result for it to be worth while for the Government to stage quite a Russian trial for giving the idea a sentence of fifteen years hard suppression. This valuation may be unjust and the public may be deluded in thinking that such is the Government's intention. At all events they are missing a good thing, if they retain any interest in human development, by not being told how much this Royal Commission admits by its existence that we have all changed.

The terms of reference of the Commission are :—

> To enquire into the causes which have influenced the present geographical distribution of the industrial population of Great Britain and the probable direction of any change in that distribution in the future ;
>
> To consider what social, economic or strategical disadvantages arise from the concentration of industries or of the industrial population in large towns or in particular areas of the country ; and
>
> To report what remedial measures, if any, should be taken in the national interest.

It has been said that the real cause of such big things being thought about at all is the bombing aeroplane, that defence will be served by a little tinkering here and there and the other questions, brought in as jam to the powder, will not have much place in the Report. But that when jam was needed jam of this particular kind was chosen still leaves the public with enough evidence of a great change.

The largest sign is the admission that an influential section of the community now believe that it is possible to apply human guidance with good effect to the largest of all domestic problems—to the problem of where and how the population as a whole shall earn its living and make use of Britain's land surface in so doing. The essential words here are "as a whole." They mark the biggest alteration in accepted versions of political economy during a century and a-half.

The stages leading to this alteration are very relevant to the present Commission. It is not too unfair to Adam Smith's *Wealth of Nations* to say its main teaching was that the more each man looked after his own advantage within the limitations of the Law the more prosperous the nation as a whole was bound to become. A teaching more likely to be popular with the Manchester School of thirty years later cannot be imagined. The Government kept the ring, each man did his best ; and the big things in industry and the use of land just happened.

Adam Smith was right about the nation becoming prosperous ; he was also incredibly wrong. The battle between the bits of his teaching that were right, and the bits that were wrong (pre-eminently the living conditions of a third of the population), still goes on. It was seen that the enormous efficiency of private enterprise was beneficent only when it worked within a framework which guaranteed a minimum standard of living and working conditions for each individual. The building of this framework has been almost the whole content of a century's politics. Factory Acts, drainage and water supply, housing, old age, health and unemployment legislation—these measures have all been designed to make sure that private initiative, the most ubiquitously potent and efficient force yet available for national development, does not press too hard on the individual.

But while these immediate measures for the individual have still a long way to go, some people have been thinking that a framework for private enterprise designed to prevent ill-effect to the nation as a whole —and ultimately, of course, to the individual— might not be beyond the powers of human intelligence. These people think that to allow a city to grow to a huge size (for a century the ambition of every city) with the result that a third of its inhabitants can be tolerably housed in it only at a high cost to the State, or outside it at high cost to themselves, is in the long run uneconomic and unhealthy for the nation.

It is held that for a long time all enterprise, public or private, has worked with a framework safeguarding the immediate interests of the individual. The idea now suggested is a framework safeguarding the future interests of the nation by circumscribing the liberty of enterprise to ramp up and down the land wherever it likes, always powerful, often contradictory and fairly often destructive in its effects. The huge idea is that it might be possible, by controlling the use of all land surface with consummate skill, to regulate the placing of industry so that all interests get a square deal and the population a greater chance, in the future, of a satisfactory life in healthy, civilized surroundings.

This is the idea which the present Royal Commission is examining.

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

NOTES & TOPICS

RESULTS OF THE ADDRESS

MR. GOODHART-RENDEL'S Address is now almost historic. Personal, outspoken and highly controversial instead of suavely formal and modestly optimistic, it was bound to shake people up all round. It was, one hopes, intended to have just this result.

*

The danger is that it could so easily be gradually forgotten as an amusing, or unfortunate, little sally of the kind that brilliant men cannot be stopped from making at times.

*

At the moment it looks as if only a few bits of the Address are to have a long life ; the most garishly outstanding of these being the President's views about official architects.

*

The latter object to these views on three principal grounds : that the President's views, ostensibly his own, are really those of the R.I.B.A. Council and in any case will be assumed by the public to be those of the R.I.B.A. ; that the work of the better official architects' departments is no more standardized than that of private architects and the security of tenure in them better than that enjoyed by private assistants ; and that the R.I.B.A. is trying (by implication, still trying) to pinch work from official departments for the benefit of private practitioners, and is not trying to improve conditions for all official architects.

*

These are very serious questions. During the last week I have been thinking a lot about them. If one can put aside personal prejudices entirely, which is doubtful, it seems that architectural progress must continue to be achieved largely by the individual, or three or four individuals possessed of great mutual respect and working in close alliance, who are as unhampered as possible by clients' stipulations other than on cost and accommodation. This state of affairs seems to make it probable that, for the next generation, the private architect will *more often* be in a position to make contribution to architectural progress.

*

For the rest of architecture, the 95 per cent., the problem becomes one of conditions of work as much as of architectural values.

*

In private offices the good average young man has a slightly more insecure position, much the same pay, more responsibility and usually more interesting work than his equal in a public office. And he has a chance, just a tiny chance, of moving up the ladder by leaps and bounds.

*

The complaint about most public offices by young men is chiefly "clogging." Clogging by conservatism of committees and some of the old architects at the top, clogging by a vast routine and supernumeraries in the middle and rather dreary uniform work at the bottom.

*

How is the R.I.B.A. to put these things right? By insisting on members being selected for official appointments?—I believe it does. By fixing a minimum wage scale for members?—Who is to prevent undercutting by non-members? By turning the R.I.B.A. into a propaganda machine for official architects?—This is a very big business.

*

I think it is worth remembering that the R.I.B.A. is democratically run and that it is maintained that a large majority of its members are either official or salaried men. If this is so, why is it that I seem to remember that when famous official architects—such as Sir J. G. West or Mr. W. T. Curtis—were nominated for the Council, they did not get very many votes? There is room for more thought here.

ROAD TO OXIANA

Among those who have received the annual literary awards presented by the *Sunday Times*, is Mr. Robert Byron, the author of *The Road to Oxiana*. It is a well deserved tribute to a persistent traveller, a penetrating critic, and incidentally, in view of last week's Leader in this JOURNAL, an Old Etonian. Few authors of travel books to-day seem aware, in any noticeable degree, of the architecture of the countries which they visit.

*

This last book of Mr. Byron's is a record of journeys made in Persia and Afghanistan in search of architectural monuments that are still relatively unknown and undescribed. Not only is the author a vivid writer, he is also a brilliant photographer and sensitive draughtsman. It is an intensely personal book, full of acute observations and comments, sharpened by a combination of petulance and enthusiasm, which is thoroughly stimulating.

E. V. L.

If Mr. E. V. Lucas fails to be quite as whimsy as the late Sir James Barrie, he has, nevertheless, succeeded in the quarter of a century through which I look back on his voluminous writings, in being a frisky, if rather woolly, Lamb. He has now adorned the *Sunday Times* with a column on the Building Centre.

*

"It does not greatly matter what a door handle is like, or an electric switch, or in what kind of lettering you say 'Beware of the Dog'—although there is a large selection here—but wall-paper must be right."

The statue of Earl Haig in Whitehall which was unveiled last week by the Duke of Gloucester. The statue is by Mr. Alfred Hardiman and the base was designed by Mr. S. Rowland Pierce.

The point of view is charming. Mr. Yerbury can have had no idea that he was living in Greenery Street, but as Mr. Lucas points out, what are door handles and bath taps compared with a quiet corner where newly married couples can choose the wall-paper—wall-paper at the Building Centre !

*

Mr. Lucas must have called at a quiet hour, because, apart from the staff who were drinking tea (oh !) he found only two young men, "who might be architects appraising bricks." Inevitably, perhaps, he ended by way of mahogany and willow on the subject of cricket bats, but what impressed him most was the fact that there was anything in Bond Street which was "FREE."

REIMANN EXHIBITION

Much though the cultured disdain this nonsense about art in business the commercial chaps know a good thing when they see it. I say this after a visit to the exhibition of students' work at the Reimann School, where people, often with no previous training of any kind, are taught to turn out good saleable stuff in what seems to me a fantastically short time.

*

And by saleable I do not mean slick and meretricious, but good, clean designs in the current vernacular, be it packaging or posters. How Mr. Reimann and his staff do it is nobody's business ; maybe this year's students are a particularly brilliant lot. But this show, after one short year's work, makes this a school to watch closely.

IMPERIAL AIRWAYS

Its advertisements, its posters, its offices by Mr. McGrath and its Empire flying boats (interior) by Mr. Brian O'Rorke have encouraged us to think that, in a quiet British way, Imperial Airways took suitability in design seriously.

*

Looking at a very small reproduction of a perspective of the proposed new Headquarters—a large building—one imagines that Imperial Airways has now said : "This—this big affair—is not a matter of design, it is a matter of architecture. And in architecture, you know, you just have to let architects have their way and abide by the results. So don't blame us."

*

The proposed building is modern in the Valhalla-of-the-Gods modernism of pronounced vertical and horizontal bands of Portland stone with a tower which, of course, is about the height of Nelson's Column. It is by this building that foreigners are to some extent to judge British airlines and British aircraft.

EMPIRE NEWS

Or little things that matter in South Africa :—

*

Insects, to one brought up on the death-watch beetle, mostly have a long-range influence on architecture, But here the flies, ticks, beetles, spiders (small and giant), moths, silver-fish, ants, mosquitoes, a hundred varieties of strange and weird insects which creep or fly or both, and of course a variety of lizards, scorpions, snakes and the like . . . all these affect architecture in a few months instead of a few centuries. Interior decoration, too—teak and whitewash, rather than painted deal and wall-paper.

*

There is a very small amount of wall-paper, some of it (imported) as elaborate as it is costly and pompous. It sticks fairly well with an insecticide paste. But for the first time in my life I have been asked what the trick is for taking paper off the walls of an old house and transferring it to the walls of a new. Even in Scotland . . . .

*

Met the other day real collaboration between the building inspector and the weather. The client rang up the inspector, friend of his, and asked why had he passed the chimney stack which started its visible life only from the top side of the ceiling joists ; 12 ft. height of solid brick stack above the joists and only a tin flue pipe below them? Oh yes, the building inspector had seen it this morning . . . and he had also seen the weather forecast, a south-easter certain during the night . . . and not a hope of the roof being on for at least two days. Advised client to take a look at the stack the next day.

*

He did . . . it had . . . and demolished a part of a wall in doing so. The weather had saved the council about 32s. 6d. in clerical assistance, postage, etc. And no need to hurt anyone's feelings with tactless official letters.

*

How to make a pitched roof watertight. Ceiling joists and rafters in the usual way, cover with any sort of ill-fitting tile ; lay over ceiling joists plenty of bitumen felt and cover all over with about one foot of sawdust (more if the daily rainfall is likely to be more than 5 ins.) ; then watch for the main leaks and put under them, on top of the sawdust, large zinc trays filled with sawdust. Birds can usually be excluded by covering the larger gaps in the tiles with wire netting.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

THE ARCHITECTS' DIARY

Thursday, November 18

COUNCIL FOR THE PRESERVATION OF RURAL ENGLAND. *At the Graves Art Gallery, Surrey Street, Sheffield. "Save the Countryside" Exhibition. Until November 26.*

INSTITUTION OF STRUCTURAL ENGINEERS. *Yorkshire Branch. At the Hotel Metropole, Leeds. "Steelwork in Buildings—Thirty Years' Progress." By S. Bylander. 7 p.m.*

Friday, November 19

TOWN PLANNING INSTITUTE. *At Caxton Hall, Caxton Street, S.W.1. Presidential address. By Ewart G. Culpin. 6 p.m.*

IRON AND STEEL INSTITUTE. *At the Royal Technical College, Glasgow. "Steel at Elevated Temperatures." By R. W. Bailey. 7.15 p.m.*

Saturday, November 20

ST. PAUL'S ECCLESIOLOGICAL SOCIETY. *Visit to St. Margaret's Church (2.30 p.m.) and the Chapter House, Westminster (4 p.m.).*

Monday, November 22

R.I.B.A., 66 *Portland Place, W.1. "The Prevention of Noise in Buildings." By C. J. Morreau. 8 p.m.*

LONDON SOCIETY. *Visit to the Church of St. Lawrence Jewry, Gresham Street, E.C.2. 2.30 p.m.*

Tuesday, November 23

HOUSING CENTRE, 13 *Suffolk Street, S.W.1. "The Uses of Concrete." By R. A. B. Smith. 1 p.m.*

UNIVERSITY EXTENSION LECTURES. *At 66 Portland Place, W.1. "Examples of the effect on Architecture of New Forces in Society." By Basil Ward. 6.30 p.m.*

Wednesday November 24

ROYAL SOCIETY OF ARTS, *John Street, Adelphi, W.C.2. "Teaching Design to Children." By Marion Richardson. 8.15 p.m.*

HOUSING ESTATE IN CAMBERWELL

Today, Mr. Lewis Silkin, M.P., Chairman of the Housing and Public Health Committee of the L.C.C., will perform the ceremony of opening the first portion of the new housing estate which is being formed by the Council on either side of Sumner Road, Camberwell.

When completed, this estate, which has an area of nearly 10 acres, will comprise 521 flats—in 13 blocks, five storeys in height—with accommodation for about 2,470 persons.

Five blocks, containing 217 flats of from one to five rooms, are now nearly ready for occupation. They will accommodate over 1,000 persons. A further four blocks are in course of erection, and it is anticipated that the remaining four blocks will shortly be commenced.

The estimated gross rents, including rates and water charges, of the flats in the first nine blocks are as follows, the net rents fixed by the Council being given in brackets: One room—5s. to 6s. 6d. (3s. 6d. to 4s. 9d.); two rooms—7s. 9d. to 10s. 9d. (5s. 6d. to 7s. 9d.); three rooms—10s. to 14s. (7s. 3d. to 10s.); four rooms—12s. 3d. to 16s. (8s. 9d. to 11s. 6d.); five rooms—15s. 6d. to 18s. (11s. to 12s. 9d.).

The architect is Mr. E. P. Wheeler, Chief Architect to the Council.

SALARIES: A PUBLIC MEETING

The Secretary of the Association of Architects, Surveyors and Technical Assistants has issued the following notice:

"The A.A.S.T.A. emphatically disagrees with the suggestion implicit in the inaugural address of the President of the R.I.B.A., Professor Goodhart-Rendel, that the interests of architecture and of architects can be, in all sincerity, separately pursued. It considers that the safeguarding of the interests of architects, the majority of whom are today salaried and not independent, is fundamental to the safeguarding and advancement of architecture itself.

"It will be remembered that following the publication recently by the R.I.B.A. of a recommended Scale of Salaries for its salaried members, the A.A.S.T.A. issued a statement criticising the scale, and stating that it was 'so vague and indefinite that it could be used by an unscrupulous employer to justify almost any salary.' The A.A.S.T.A. at the same time put forward certain constructive suggestions for the amendment of the scale to include *minimum* salaries up to age 25 and certain broad definitions of the grading above this age according to the work and responsibility undertaken.

"To obtain a public expression of opinion on the subject in general, and on the R.I.B.A. Scale in particular, the A.A.S.T.A. is holding a public meeting at the Friends Meeting House, Euston Road, N.W.1, at 6.15 p.m., on Thursday, November 25, under the title, 'Do Assistants Want a Salary Scale?' Speakers will be: Mr. George Thomson, Member of the T.U.C. General Council; Mr. F. J. Maynard, A.R.I.B.A., President of the A.A.S.T.A.; Mr. V. L. Nash, A.R.I.B.A., Member of the A.A.S.T.A. Council; Chairman: Mr. R. T. F. Skinner, A.R.I.B.A.

"The following resolution will be put to the meeting: 'This meeting of salaried architects and assistants, convened by the A.A.S.T.A., welcomes in principle the new Salary Scale of the R.I.B.A., but considers that both the rates and the grading are inadequately defined. It holds that until these defects are remedied the scale will be prejudicial to the interests of salaried men, and calls on the Institute to revise the scale, and to co-operate with the A.A.S.T.A. and other bodies in securing its general adoption.'"

IMPERIAL AIRWAYS NEW AIR TERMINAL

On page 775 we reproduce perspectives of Imperial Airways new terminal and head office building at Victoria, London, now in course of construction. The building will provide accommodation for the headquarters staff, and will be equipped to handle all Imperial Airways passengers and freight traffic.

This new British air transport centre will be the start or finish of every air journey by Imperial Airways between England and the Continent, and between England and the Empire, and has been designed by Mr. A. Lakeman, L.R.I.B.A.

The site is on the east side of Buckingham Palace Road, Victoria, embracing an area of nearly 28,000 sq. ft., and with a frontage from Elizabeth Bridge to a point nearly 500 ft. along the road. The rear adjoins No. 17 platform of the Southern Railway Station at Victoria.

Work was started on the foundations of the new terminus some months ago, and it is hoped that it will be ready for occupation by the end of 1938.

The building will be centred around a 34-ft. square tower which will rise 175 ft. above street level. It will form an axis to the main building block which will flank it on either side in the form of two curved wings swept outwards to the boundaries of Buckingham Palace Road. This curved frontage will allow the construction of an approach road to the main entrance off the public roadways. The building will be steel framed and the front to Buckingham Palace Road will be faced with Portland stone.

DUPLICATION OF BLACKWALL TUNNEL

At Tuesday's meeting of the London County Council the Highways Committee recommended the Council to seek powers in the next session of Parliament for the construction of another tunnel at Blackwall to relieve the traffic congestion in the existing Blackwall and Rotherhithe tunnels. In its report the Committee states that the need for further facilities for cross-river traffic east of Tower Bridge has been under consideration for some time past and that, after examining various proposals, it has formed the opinion, with which the Minister of Transport fully agrees, that the duplication of Blackwall Tunnel is most urgently needed.

The gross estimated cost of the scheme submitted by the Committee is £3,088,000 (net estimated cost £2,983,000). This provides for the construction of a new tunnel, for vehicular traffic only, about 800 ft. downstream from the present Blackwall Tunnel, with a carriageway 20 ft. in width—4 ft. wider than that in the old tunnel. When the new tunnel is built, one-way traffic arrangements will be put into operation, the new tunnel being used by south-bound traffic and the existing tunnel by traffic proceeding northwards.

The scheme also includes provision for the construction of adequate approaches to the new tunnel. On the north side a roundabout will be constructed north of East India Dock Road and from this roundabout a new open approach, passing by subway under East India Dock Road, will be formed. A new approach road will

also be provided from East India Dock Road.

On the south side of the river the tunnel will reach surface level near the northern end of Ordnance Road, and it is proposed that a new street shall be constructed on the east side of the open approach to the existing tunnel and that Tunnel Avenue shall be widened as far as Weetman Street.

The greater part of the open space known as Tunnel Gardens will be required for the new northern approach, but an area of adjacent land on the south side of Naval Row, which, with the portion of the gardens not required for the scheme, will have a slightly larger area than that of the existing gardens, will be laid out as open space, principally as a children's playground.

In reply to an application by the Committee for a Road Fund grant of 75 per cent. of the net cost of the whole scheme, the Minister of Transport has stated that he is prepared to make a grant of 75 per cent. of the cost of constructing the tunnel and 60 per cent. of the cost of the approaches.

The Minister, in making this offer, wished to make it clear that the special terms in this exceptional case should not be regarded as forming a precedent for departure from the normal rate (60 per cent.) of grant for major improvement schemes in London. The Committee states that it considers the offer as exceptional but not on the ground suggested by the Minister. On the contrary it expresses the hope that, in future schemes of high importance, the Minister will co-operate with the Council by making grants on a basis more favourable than in this case and they suggest that it be made clear to the Minister that the Council's position in relation to Road Fund grants generally is reserved.

In its report the Committee refers to other proposals which it has examined—namely, the construction at Woolwich of (1) a high-level bridge; (2) a vehicular tunnel; and (3) a Thames dam carrying a bridge. The Committee states, however, that neither a bridge nor a tunnel at Woolwich would relieve the congestion in Blackwall and Rotherhithe tunnels, which is the chief need at the present time, to any appreciable extent.

BRITISH PAVILION, PARIS EXHIBITION

The British Government does not propose to reopen the British Pavilion at the Paris Exhibition if it is decided to resume the Exhibition next year, and the French Government has been notified accordingly. This decision follows representations made to the Government by the Executive Committee of the Federation of British Industries regretting the decision to reopen the Exhibition in 1938.

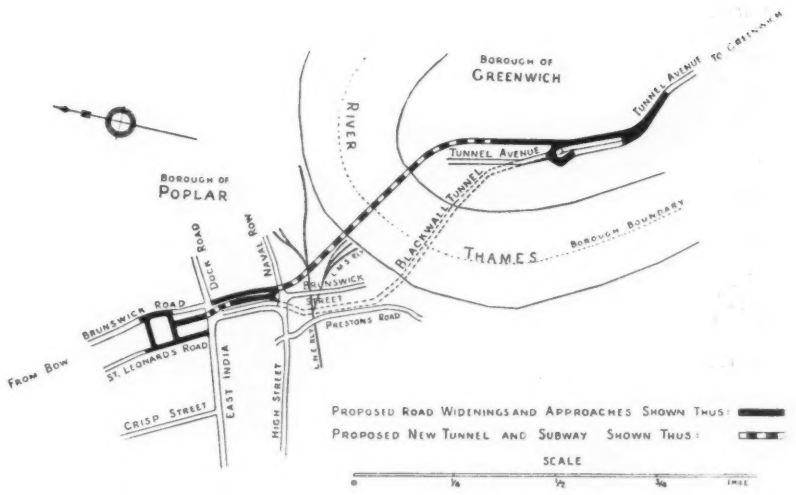
THE LATE W. E. RILEY

It is with deep regret we record the death of Mr. William Edward Riley, F.R.I.B.A., M.I.C.E. (retd.), at the age of 85. He was the Chief Architect to the L.C.C. and the Superintending Architect of Metropolitan Buildings from 1899 to 1919. He retired in the latter year on attaining the age of 67, his services having been extended for two years beyond the normal limit.

Mr. Riley, after serving his articles, was appointed, after an open competition, to the staff of the Director of Architectural and Engineering Works at the Admiralty, in 1877, and served in that capacity for 22 years. During this period he was in charge of Admiralty works at Bermuda, Devonport, Malta, and Chatham, and held the position of Assistant Director for three and a half years. He was seconded for special service at Halifax, N.S., Ceylon, and other places, and twice received the special approbation of the Admiralty.

In 1899 Mr. Riley was appointed Chief Architect to the L.C.C. and Superintending Architect of Metropolitan Buildings, for whom he was responsible for the design of a large number of buildings, including the London School of Arts and Crafts, the Sessions House at Newington, the Greenwich Generating Station, fire stations, working-class dwellings, technical institutes, and the architectural treatment of the superstructures of bridges. He was associated with Mr. Norman Shaw, R.A., in advising on designs submitted for the elevations of buildings in Aldwych and also for the New County Hall.

Mr. Riley was elected an Associate of the R.I.B.A. in 1883, a Fellow in 1900, and retired in 1935. He served on the Council of the R.I.B.A., and was a member of the Royal Society of British Artists and the Institution of Civil Engineers.



Drawing showing the proposed duplication of Blackwall Tunnel. See note on facing page.

SCHOOLS EXHIBITION

The *News Chronicle* Schools Exhibition is to be held at Dorland Hall, Regent Street, S.W.1, from December 20 to January 12.

CORRECTION

In the issue of the JOURNAL for October 28 it was stated that gas refrigerators were made up to a storage capacity of 5½ cubic feet. This is incorrect, as Messrs. Electrolux now manufacture models up to 10 cubic feet storage capacity.

ON THE AIR

November 22. National Programme. 8-8.30 p.m. Eighth of the series, "Design in Everyday Things." "Town and Country Planning—Our Streets." By Geoffrey Boumphrey.

ANNOUNCEMENTS

Mr. William P. Horsburgh informs us that he has taken into partnership his son, Mr. Ernest R. Horsburgh, B.ARCH., A.R.I.B.A., who has been associated with him in business for some years. The practice will be continued at the present address (D.16, Exchange Buildings, Liverpool, 2) as Messrs. William P. Horsburgh and Son.

After 43 years in practice, Mr. G. E. Nield, F.R.I.B.A., has now retired from the firm of Messrs. G. E. Nield and Son, which will be carried on by the remaining partner, Mr. Denzil Nield, at 222-225 Strand, W.C.2.

Mr. Andrew Carden, A.R.I.B.A., announces that his partnership with Messrs. R. Banks and R. W. Gray has been dissolved by mutual consent. He is continuing in practice at the same address, 10 King Street, St. James's, S.W.1, where he would be glad to receive trade catalogues.

R.I.B.A.

NEWS BULLETIN

Sessional Paper, "Prevention of Noise."—The general meeting at which Mr. C. J. Morreau is to read his paper on the "Prevention of Noise in Buildings"—Monday next, November 22, at 8 p.m.—is to be attended by many eminent persons interested in the medical and technical aspects of the subject. These include Lord Horder, Sir James Purves Stewart, Dr. A. H. Davis and Dr. J. E. R. Constable, of the National Physical Laboratory, and Mr. R. Fitzmaurice, of the Building Research Station. Mr. Morreau was himself on the staff of the Building Research Station for several years, during which he made a special study of his subject.

Sir Banister Fletcher.—At the Council Dinner before the general meeting, Sir Banister Fletcher is to be presented with a specially-bound copy of the new Library catalogue, the publication of which has been made possible by his generosity. The binding, in blue levant morocco, is the work of Mr. P. McLeish, of the Central School of Arts and Crafts, with which Sir Banister has been for many years connected. The cover bears a gold-lettered inscription that the volume has been presented by the President and Council.

Social Evenings.—A concert arranged by the R.I.B.A. Music Group will be held at the R.I.B.A. on Monday, December 6, at 8.15 p.m. The performers will be Miss Joyce Buckley, soprano; Miss Mary Armstrong, piano; Miss Helen Barnett, flute. No tickets are required, and there is no charge for admission, but it is hoped that everyone will buy a programme to help defray expenses. Members are invited to bring guests.

The next dance is on Friday, December 17.

Application for tickets should be made to Mr. R. W. H. Robertson, Clerk to the Social Committee, at the R.I.B.A.

University Extension Lecture.—Mr. Basil Ward's eighth lecture at the R.I.B.A. on Tuesday, November 23, will be on "Examples of the Effect on Architecture of New Forces in Society."

R.I.B.A. Exhibitions.—"Modern Schools" opens at the Public Library and Museum, Rugby, on Monday, November 29.

"Airports and Airways" is leaving Coventry on Monday, November 22, and opening at Hull on Tuesday, November 30.

"Civic Centres" is at Kidderminster until November 27, and opens at Huddersfield on December 7.

R.I.B.A. COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the Institute :—

British Standards Institution.—Owing to the resignation of Mr. Alan E. Munby (F.), through ill-health, from various Committees of the British Standards Institution, the following were appointed in Mr. Munby's place : Building Divisional Council : Mr. H. M. Fairweather (F.). Technical Committee B/19, Unit Weights of Building Materials : Mr. Oscar A. Bayne (A.) and Mr. W. R. Glen (L.). Technical Committee PW/49, High Alumina Cements : Mr. C. J. Morreau (A.) and Mr. Frank H. Heaven (A.).

Mr. Percy V. Burnett (F.) was appointed to represent the R.I.B.A. on the following Committees : Technical Committee SF/6, Areas and Heights of Chimneys ; and Technical Committee B/47, Fire Place Openings.

Plumbing Trades National Apprenticeship Council.—Mr. R. J. Angel (F.) was appointed to represent the R.I.B.A. on the Plumbing Trades National Apprenticeship Council.

Proposed London County Council Codes of Practice.—The Science Standing Committee reported that, as a matter of urgency, it had appointed Mr. Walter Goodesmith (A.) and Mr. J. Ernest Franck (F.) to represent the R.I.B.A. on a Joint Committee of the R.I.B.A., the Chartered Surveyors' Institution, the Institution of Civil Engineers and the Institution of Structural Engineers, to consider the proposed Codes of Practice under preparation by the London County Council, the first two of which relate to the use of electric arc welding for structural steelwork and to special steel reinforcement for reinforced concrete.

Election of Students.—The following Probationers were elected as Students of the R.I.B.A. : Messrs. G. A. Atkinson (University of London) ; R. A. Biggar (Architectural Association) ; R. T. Coulton (University of Cambridge) ; J. B. Denman (University of London) ; J. D. Foy (University of Manchester) ; G. K. Greening (Nottingham School of Architecture) ; J. F. Hendry (University of Cambridge) ; W. Logan (Junior) (Edinburgh College of Art) ; A. P. Porri (University of London) ; G. G. Rhodes (University of London) ; G. S. Richardson (Architectural Association) and R. T. Walters (Liverpool School of Architecture).

Report of the Trunk Roads Joint Committee of the C.P.R.E.—On the recommendation of the Art Standing Committee it was agreed to write to the Ministry of Transport expressing approval of the Report of the Joint Committee and urging that the terms of the report should be borne in mind.

National Parks.—On the recommendation of the Town Planning, Housing and Slum Clearance Committee the following resolution was passed for transmission to the Minister of Health :—

"That the Council of the Royal Institute of British Architects welcomes the interest in National Parks which the Ministry of Health has shown in receiving the deputation of the National Parks Standing Committee, and urges the Government, through the Ministry, to set up without further delay a National Park Authority, as recommended in the 1931 Report, and to take all other necessary steps to ensure the preservation and dedication, as National Parks for open-air recreation, of suitable areas in England and Wales and in Scotland."

Court of Governors of the University College of the South-West of England.—Mr. John Bennett (F.) was reappointed as the R.I.B.A. representative on the Court of Governors of the University College of the South-West of England.

Revision of the Scale of Professional Charges.—On the suggestion of the Chairman of the Practice Standing Committee the question of ratifying the amendment to Clause 2 (*e*) of the Scale of Charges, provisionally approved at the Council Meeting on June 21, was deferred pending a further report from the Practice Committee on the matter.

Reinstatements.—The following ex-members were reinstated :—As Fellow : Mr. E. C. Henriques. As Associates : Messrs. G. A. Burnett, C. J. Dillon, J. A. Carter Moffat, F. Ratcliff and L. E. Skipwith. As Licentiates : Messrs. A. J. Joynson, L. Moseley, H. E. Tufton and W. H. H. Marten.

Transfer to the Retired Members' Class.—The following members were transferred to the Retired Members' Class :—As Retired Fellow : Mr. Arthur Keen. As Retired Licentiate : Mr. J. A. Coe.

A special letter of thanks was sent to Mr. Arthur Keen for his many years of devoted service to the Institute.

Resignation.—The following resignation was accepted with regret : Mr. Charles F. Siebert (L.).

EXHIBITIONS

[*By D. COSENS*]

THERE are many conflicting accounts of Dégas, but it is doubtful whether it matters very much to anyone now whether he was ill-mannered and morose, or as high spirited as Mr. Sickert suggests. The only really important personal factor is that somewhere about 1880 his sight began to fail and that he therefore gave up painting in oils and took to the broader, far quicker medium of pastel, which he used with such success until the end of his life. His interest was always in people and the life of a city, in quick movement and the artificial lighting of the stage and the dressing-room, and he achieved an amazing luminosity with his hatching in pastel, one colour above another, gaining rich effects in this medium that would be almost impossible in any other. He never painted from nature, and always made careful preliminary studies for all his work, however spontaneous it may appear. Few painters can achieve recession by so slight a change of line, or stress the diagonal in a composition so successfully.

There are two exhibitions of his work at the moment, one at Rosenberg and Helft's, and one at the Adams Gallery. These should convince anyone who needs conviction that Dégas is one of the greatest masters of Impressionism, sometimes as great as Cézanne, always above the rest.

•

One day perhaps someone will organize a representative exhibition of contemporary English painting on a really large scale. For the Academy has long since ceased to reflect the art of this generation, and although this group or that group hold their exhibitions from time to time, there is always a strong bias of one sort or another and a heavy weight of mediocrity. There is no one exhibition that gathers together our national talent as a broadminded equivalent to the Academy might do, or where one can be certain of seeing a collection of the best work that is being produced today. One has to find it here and there.

The London Group annual exhibition is, on the whole, and in spite of many omissions, the nearest approach to a general survey of contemporary art. It has been unfortunate that starting as a robust manifestation of an independent outlook, and numbering amongst its members most of the more progressive painters, the standard of this exhibition has for some years steadily declined. Outstanding work was shown from time to time, but the general level became increasingly disappointing. This year, however, there is a striking change for the better, and the exhibition is, throughout, extremely good. The high lights are higher than usual, and the rest of the work well above mere competence. It is as though everyone had suddenly grown tired of painting in the manner of So-and-so, or to please someone else, and decided just for once to say well this is what *I* like. And the result is the success one might expect. In fact, this is as nearly a representative exhibition of the general trends in English art as one is likely to find.

Of the sculpture Ethel Walker's "Portrait of Gabriel Van Schnell" and Elizabeth Andrew's abstract carving (No. 334) are, in their respective manners, the most accomplished. The 281 paintings make a brave show and they are better hung in relation to each other than usual. Specially notable are Mark Gertler's "Window" (10), John Piper's "Painting : 1937" (134), James Fitton's "Bathing Raft on the East Coast" (107), "The Hard, Bradwell Creek," by R. V. Pitchforth (91), "Wiltshire Landscape," by Julian Trevelyan (198), and several paintings by Hans Feibusch, Ivon Hitchens, Victor Pasmore, and Adrian Allinson. John Riddle's "Harbour : Port Vendres," Roland Suddaby's "Thames at Reading," R. V. Pitchforth's "Quiet Creek," and Claude Rogers' "Aldeburgh Beach," show very individual, and each in their different ways, successful treatments of similar subjects.

•

The Storran has moved to Albany Courtyard, and it is now the best lit gallery in London, for it is so arranged that both day and artificial light fall on the pictures from the same angle and on the pictures only, not on the observer. This arrangement is ingenious and the result is extremely good.

The work of Henning Nyberg, which is being shown there is interesting, both in its exact colour relationships and for the painter's objective quality of vision. His "Boat" (No. 9) and "Plaice" (No. 2) are very successful.

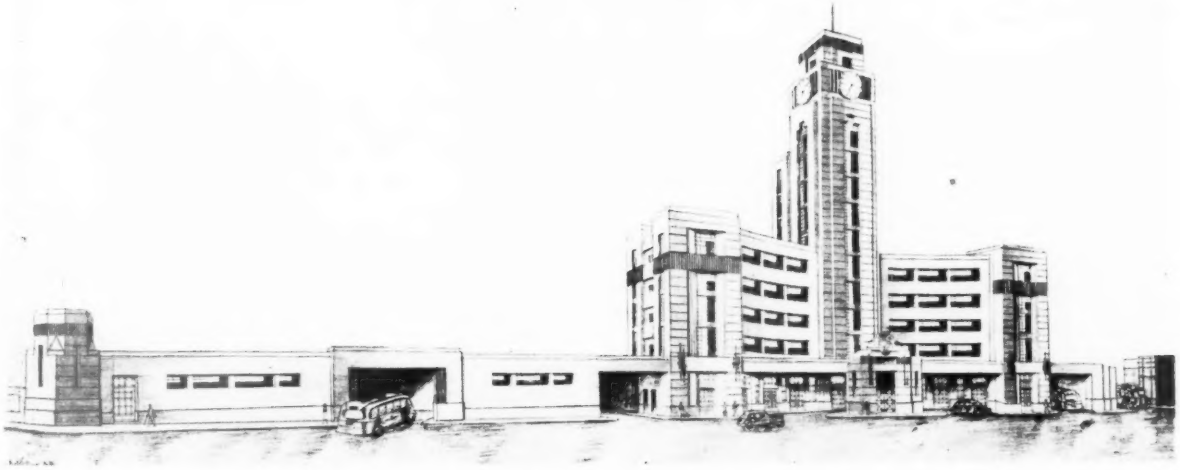
In his foreword to the drawings of Nijinsky, the dancer, at the same gallery, Herbert Read says : "In some of its essential features art is the direct expression of faculties which in normal people are either repressed or diverted." This is certainly true, but some conscious co-ordination is necessary, and the restless patterns of Nijinsky's designs are of greater pathological than æsthetic interest.

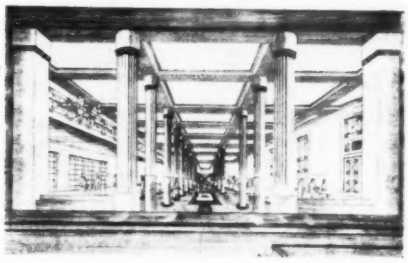
•

Dégas, Rosenberg and Helft, 31 Bruton Street. Until November 27, and The Adams Gallery, 2 Pall Mall Place. Until December 4.

The London Group. New Burlington Galleries. Until November 20.

Henning Nyberg, and Nijinsky. Storran Gallery, 2 Albany Courtyard. Until November 27.





Three perspectives, by Mr. Walker H. Williams, of the Imperial Airways new Terminal and Head Office Building at Victoria, London, which is now in course of construction from the designs of Mr. A. Lakeman. The site is on the east side Buckingham Palace Road, embracing an area of 28,000 square feet. The drawings show: above, the Buckingham Palace Road front; right, the main booking hall; and, the front facing the railway.

LAW REPORT

Thomas v. *Hammersmith Borough Council*

IN the King's Bench Division, High Court of Justice, the hearing was continued before Mr. Justice Porter of the action by Sir Alfred Brumwell Thomas, F.R.I.B.A., against the Hammersmith Borough Council to recover a sum of money for work done and services rendered as defendants' architect, and in the alternative for damages.

Plaintiff's case was that he prepared plans, etc., for the new Town Hall and offices for the Council, that the scheme was abandoned and that he had received £3,000 on account of his fees.

Defendants denied further liability.

The case was fully reported in our last issue.

Mr. J. W. Morris, K.C., and Mr. Granville Sharp appeared for the plaintiff, and Mr. D. N. Pritt, K.C., and Mr. R. A. Willes for the defendants.

Sir Brumwell Thomas was further cross-examined by Mr. Pritt, who suggested that not a single drawing was finished, replied that the drawings were very fine drawings.

Mr. Pritt : I am challenging these working drawings as being unfit to go to a quantity surveyor, I am not interested in the drawings as pretty pictures, but as explanatory drawings.

Sir Brumwell : Pretty pictures is rather uncomplimentary. They are more than pretty pictures—they are serious designs.

Mr. Pritt : Some of them hallowed by age, in fact.

In re-examination, Sir Brumwell said that when a quantity surveyor looked at drawings it was the common practice for him to raise queries and send them to the architect.

Mr. Morris : In practice is there any difficulty in going to the L.C.C. for consent during the period when the quantity surveyor is working on the quantities?—None whatever, provisional approval having been previously given.

Replying to further questions, Sir Brumwell said that a more imposing entrance to the Town Hall was asked for by the Council and a dome was suggested. He was asked whether it would be possible to have a dome, and he replied that it was purely a question of expenditure.

Mr. Oswald Healing, F.S.I., was called in support of the plaintiff's case. In reply to questions dealing with prime cost items, he said the quantity surveyor would approach a specialist for his price, having regard to the fact that x yards would be wanted. In the case of heating that would be dealt with by provisional sums, and the architect would deal with that.

Dealing with plans of the plaintiff, 40 to 70, witness said they were a set of drawings which appeared to him to be singularly accurate in the sense that the dimensions of each apartment were noted. The overall dimensions of the building were given and the storeys were also given. The plans showed the nature of the building and were pretty accurate. He should describe the plans produced by the architect as good plans, the drawings being complete, and there were details of the essential features of the structure.

Witness expressed the opinion that the plans in question compared favourably with what quantity surveyors usually got. The drawings and plans here would give a quantity surveyor sufficient to prepare his quantities in regard to the bulk of the work. It was possible that the quantity surveyor might ask for further details after seeing the plans. Personally, witness said he should be content with the plans from the start. He, however, would have asked for details for the constructional work to make the dome set out in the plans, as there was nothing before him to enable him to take out quantities for the dome. The drawings would have told him the method for the building of the front walls. The plans showed 14-in. brickwork, faced with stone.

Questioned with regard to the iron gates for the building, witness said the prime cost would be obtained from a manufacturer.

The general custom was, said witness, for the architect to work with the quantity surveyor, who would be in a special position in interpreting the architect's wishes. There was no practical difficulty in a quantity surveyor asking the architect for another drawing to supplement or elaborate the drawing or drawings he had before him.

Cross-examined, witness said it was usual for the architect to give a list of the firms to be approached. Major things, like heating, would be attended to by the architect himself. It was true that the rainwater pipes were not shown, but that was a matter which witness, as a quantity surveyor, would have mentioned to the architect at a first interview.

Replying to a question as to the plans, witness said he could not expect to find many more than those supplied, but he should want details as to the structure of the dome and the roof of the public hall.

Mr. Pritt : Did you notice any drawing that was complete in itself?—I can't answer that off hand, witness added he had never worked with Sir Brumwell as a quantity surveyor and had not heard of the action till a few months ago.

Witness was then cross-examined in detail on the drawings. In witness's view much of the detail work, such as the iron gates, would be done during the progress of the work, and an approximate figure of the cost obtained. The cost would be allotted by the architect.

Mr. Pritt questioned the witness as to the four piers shown on the plans for the dome and pointed out that though the load to be carried was 50 tons on some to upwards of

150 tons on others, the piers were all shown as of the same dimensions, viz., to carry 50 tons.

Mr. Healing said that appeared to be the case, but the quantity surveyor, who had the plans, would see that and at once draw the architect's attention to it, and the matter could be immediately rectified. His view was that the plans would be accepted as complete for a quantity surveyor—complete for major operations. They were complete because they gave the area and constructional work in the floors and roofs.

Mr. Sydney Clough, F.R.I.B.A., gave evidence for the plaintiff. He said that his firm traced some of the plaintiff's drawings. Witness also said he went to the L.C.C. for plaintiff and had some preliminary discussion with officials in the architects' department over the scheme, but there was no formal approval.

This was the plaintiff's case.

Mr. Morris then applied for an amendment of the pleadings to cover a claim for remuneration or a *quantum meruit*, on a *prima facie* contract as plaintiff had suffered loss. Further, plaintiff claimed that there were express terms.

After hearing Mr. Pritt, his lordship intimated that he was willing to allow the amendment, subject to the particulars of the express terms being given.

Mr. Pritt said his clients would put in their defence when they received the particulars of the express terms.

Mr. Pritt then opened the defence and said his case was that there was no contract here at all and no contract under seal. He submitted on the evidence already given, and particularly on the evidence of Mr. Healing, that the plans of the plaintiff were in no sense ready for submission to a quantity surveyor.

His lordship pointed out that if the authority were given the plaintiff to do the work, he was entitled to be paid. If the defendants put an end to the plaintiff's contract surely he was entitled to remuneration for the work he had done. Did the defendants say, when the plaintiff had done three-quarters of the work, we are tired of the work and that plaintiff would not get his fees? He had to find if the contract dealt with all manner of remuneration.

Mr. Morris said, his case was that the plaintiff was entitled to his fees.

Mr. Pritt characterized part of the plaintiff's claim as monstrous.

Mr. Pritt, continuing his speech on behalf of the defendants, submitted that the £3,000 which the plaintiff had been paid by the Council was enough to represent the value of the work he had done. After the Council had paid £36,000 for a site and been told that it was a very good one and spent £1,000 to make the site better, they were then told by the plaintiff that what they had got was really a constructive total loss. The Council had to write off their losses, and they were left with an empty site and faced with any litigation that the plaintiff might begin. The more the case was investigated, the more the defendants discovered that the plaintiff's work was never properly done at all. The case which the plaintiff had put forward depended largely on his uncorroborated oral evidence, and on which he (counsel) asked his lordship to come to the conclusion that on any point of doubt the plaintiff's evidence ought not to be accepted. As to the 220 drawings the plaintiff had put forward, nobody had come forward to say when they were done, except that they were done between 1931 and 1935. Mr. Fox, Sir Brumwell's assistant, had not been called to give evidence, and Mr. Clough had found it very difficult to give the date. The defendants' contention as to the steel work drawings was that they were completely useless.

Counsel then took his lordship through the voluminous correspondence in the case.

The first witness called for the defence was Mr. Henry R. Mackenzie, divisional architect in the architectural department of the L.C.C. He said his department was divided into three sections and investigated applications made to the Council under the London and Country Town Planning Act, the London Building Act and the Metropolis Management Act, 1878. Under the Building Act, 1930, it was necessary, before work was commenced, to submit plans to the Council to show means of escape from the building, in case of fire and it was usual for the architect to approach the County Council so as to obtain its views concerning that part of the building which was to be used for public entertainment. For the approval of the Council the plans must be complete. It would not be usual or wise for an architect to prepare a complete working drawing before one of those provisional applications was made to an officer of the L.C.C. With regard to the plans, he had seen some of them and he thought that the height exceeded the height approved by the Council and it was to that that he would call attention. The maximum height was 60 ft. but in the drawings the height was something over 70 ft. The Council would consider that on its merits.

As to the means given for escape in case of fire, if he had to report on it, he should report unfavourably.

With regard to the plan as to entertainment, there again it did not appear to be one to be recommended for favourable consideration. It would be necessary to re-plan parts of the building considerably.

Mr. James Edgar Coxon, assistant architect in the Theatres Department of the L.C.C., said he had looked at the plans for the licensed part for entertainments, and he should have discouraged the plans in their present state.

Mr. James William Hepburn, who was, in 1934, assistant architect in charge of the Town Planning Section, said he had a recollection of Mr. Clough's call.

Mr. Edward D. Hodgkin, who, in 1933 was senior assistant in the architects' department, for Theatres section, L.C.C., said he had a record of Mr. Rodney Thomas calling in November, 1933, in regard to the car park.

Mr. Charles Holloway James, F.R.I.B.A., of Bloomsbury Street, London, said in June last he was asked to go into these plans with Mr. S. Tachell and Mr. Horace Langdon, a quantity surveyor, and he had inspected them. His practice was to go to the L.C.C. and ascertain its views before preparing his plans. In his opinion decisions as to the method of heating was almost the earliest thing to plan. Witness thought that as quantity surveyor he should be given exact particulars of what was wanted.

The hearing is proceeding.

COMPETITION NEWS

POSTER HOARDING

A competition for a poster hoarding is being held by the Yorkshire and Northern Poster Advertising Association, in co-operation with the West Yorkshire Society of Architects, the York and East Yorkshire Society of Architects, the Sheffield, South Yorkshire and District Society of Architects, and the Northern Architectural Association. The competition is open to architects and students within the area of the above societies.

The assessors are Sir Enoch Hill, and Messrs. S. W. Milburn, F.R.I.B.A., J. C. A. Teather, F.R.I.B.A., C. W. C. Milburn, F.R.I.B.A., Norval R. Paxton, F.R.I.B.A., Cyril Sheldon and Arthur Taylor; and the following premiums are offered: £50, £30 and £20. The latest date for submission of designs is March 31, 1938. Following are some extracts from the conditions:—

"The competition is for the design of a poster hoarding which can be erected in large or small towns, and which will fit in with its surroundings.

"The design should be of such a character that it is capable of being used for hoardings of varying overall lengths, but never exceeding 75 ft., and of an average length of 50 ft. The standard poster in commonest use measures 6 ft. 8 ins. wide and 10 ft. deep. The overall length of the hoarding should be made up of multiples of this size, together with whatever space is required for any architectural feature, and also spacing between the posters in the form of panelling, which should not exceed 15 ins., nor be less than 8 ins. The maximum height from the ground should not exceed 12 ft., which includes 10 ft., the depth of posters. If it is possible to erect higher than 12 ft., any additional height would best be obtained by standing the hoarding on trellis.

"The present usual method of construction is by wooden uprights and stays bolted to reinforced concrete posts sunk in the ground, and faced with either wood or galvanized-iron sheets, according to situation and circumstances. Provision should be made for painting, or other method of weather protection, of all portions of the structure not covered with posters.

"Although most hoarding-owners are prepared to go to some expense in the erection of their structures, cost is a very material factor, and in making up a design this aspect of the matter should be borne in mind. Essential features are stability, durability, and simplicity of construction.

"Drawings required: ¼ in. scale front and back elevations and ¼ in. scale plan. 1 in. scale details of portion of the hoarding with any other details necessary to explain the construction. Perspective sketch in colour, with no attempt to show any posters. Drawings are to be on double elephant sheets mounted on cards.

"Sending-in Day: All drawings are to be delivered flat to West Yorkshire Society of Architects, 62 Woodhouse Lane, Leeds 2, accompanied by a sealed envelope containing the name and address of the competitor, and should reach the address named not later than March 31, 1938. There is no limit to the number of designs a competitor may submit.

FIRST CHURCH OF CHRIST SCIENTIST, BELFAST

DESIGNED BY CLOUGH WILLIAMS-ELLIS; D. W. BOYD, SUPERINTENDING ARCHITECT

GENERAL PROBLEM — *Christian Science Church comprising meeting-hall, committee rooms, caretaker's house, cloister garden and laundry.*

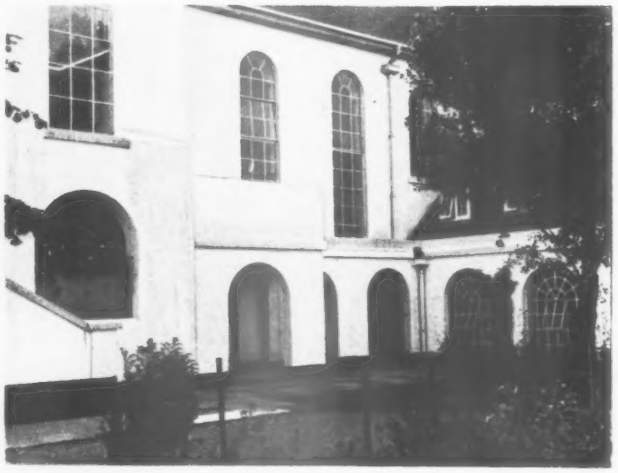
SITE — *L-shaped on the corner of University Avenue, Belfast.*

CONSTRUCTION — *Walls are of brick, rendered and whitewashed. The roof is of Welsh slates; and the floors are of oak.*

ELEVATIONAL TREATMENT — *The clients wished for "simple dignity."*

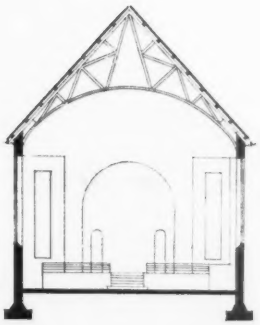
The photographs show: above, the side elevation; left, the platform end of the church—the door on the left gives access to the dressing-room, and those on the right to the vestibule; below, a detail of the entrance to the vestibule and the gallery stairs.

FIRST CHURCH OF CHRIST SCIENTIST,

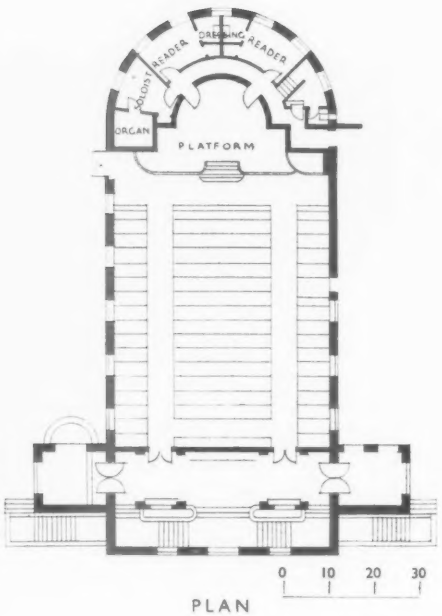


PLAN—*The plan was dictated by the number of auxiliary rooms grouped round the main meeting-hall. The main entrance is in University Avenue and gives access to a foyer on either side of which is a vestibule. The meeting-hall provides seating accommodation for 324 persons on the ground floor and 87 in the gallery, which is planned immediately above the foyer. On the first floor, at the platform end, there are three small rooms and, on the top floor, the rooms for the Board, treasurer, and clerks.*

The photographs show: left, the entrance gates: above, a side elevation; below, the foyer.



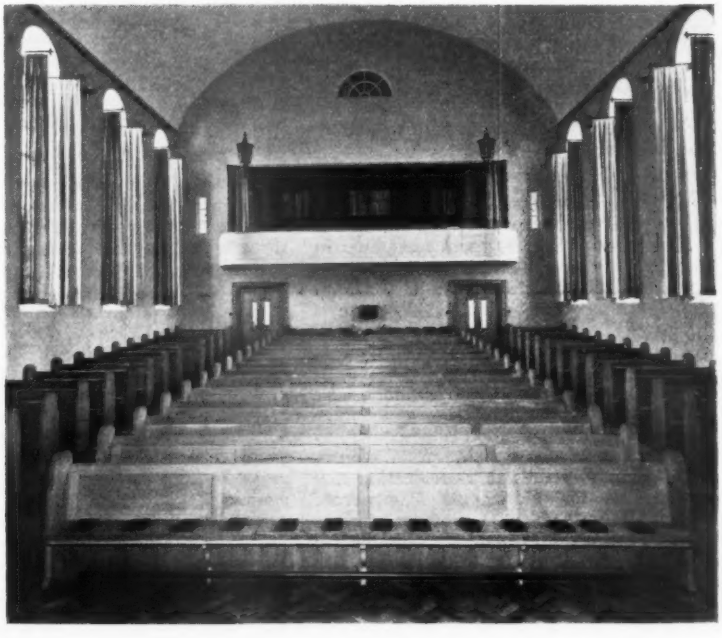
SECTION



PLAN

BELFAST: BY CLOUGH WILLIAMS-ELLIS

D. W. BOYD
SUPERINTENDING
ARCHITECT



INTERNAL FINISHES—*Colour wash. The vaulted church roof is of fibrous slabs, plastered. The stairs are of green and black composition flooring and the floors of the foyer are of green Westmorland roofing slates bedded in cement. The cupola is of copper.*

HEATING—*Electric tube.*

The photographs show: above, two views of the meeting-hall; left, a view from the gallery staircase landing.

For list of general and sub-contractors see page 805.

IN THAT CONTINGENCY

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

Dampness in Buildings

¶ DURING the winter months, numerous inquiries are received at the Building Research Station relating to the dampness of external walls. Without inspection inquiries of this kind are always difficult to deal with and sometimes the only effective remedies are unacceptable because of their cost or of their effect upon the appearance of the building. The present series of notes, of which this is the first section, has been prepared to facilitate the detection of the sources of dampness, to indicate the available remedies and to provide information in respect of design and choice of materials in new work.

External walls may become damp internally as the result of various causes, and for the sake of convenience the problem is discussed under four headings, viz :—

(i) Damp entering from ground or roof.
(ii) General damp penetration through walls.
(iii) Local damp penetration through walls due to defective construction.
(iv) Condensation.

Each section will be dealt with separately in this Series.

(i) *Damp entering from ground or roof.*

(a) *Damp rising from the ground.*—Except in cases where water is forced through a wall by pressure, as happens sometimes in basements, damp obtains access to the interior faces of walls by capillary action. It follows that this form of penetration is only possible when an unbroken capillary path occurs between the soil and the walls.

Few building materials are non-porous and usually there is a danger of damp rising in the wall unless suitable precautions are taken. The usual method is, of course, to provide an adequate damp-proof course. The British Standard Specification for "Materials for Horizontal Damp-Proof Courses" (No. 743–1937), provides information concerning the materials suitable for this purpose.

Although it is now usual and indeed compulsory to provide damp-proof courses their usefulness may be entirely destroyed if they are not placed in the correct position. This point may perhaps be most clearly explained by the comparison of examples of faulty and correct construction. The sketch diagrams (Figures 1 and 2) are self explanatory.

Buildings from which the damp-proof course has been omitted or in which they have been misplaced show unmistakable signs of this defect. Usually all the walls in which the defect occurs are damp near the floor level and the dampness may rise to the extent of two or three feet. Penetration of this kind may result in disintegration of plaster and even of brickwork, fungal decay of skirtings and floor timbers, or in less severe cases injury to decorations. Often at the highest parts of the damp patches efflorescence occurs. Internal walls and partitions may be affected in a similar way.

Owing to the expense involved in underpinning and inserting or altering a damp-proof course palliative measures are often adopted, usually with unsatisfactory results. Among the most common of such measures may be mentioned the provision of wooden dadoes, cement rendering, painting or the application of metal foil or bituminized paper. An expression often used in the building industry is that "water has to come out somewhere." This is generally true of rising ground-moisture, and if drying of moisture in the lower part of a wall be prevented by covering or sealing, the result is that the dampness rises to a higher level beyond the sealed area. In addition some of the methods mentioned fail from other causes. In wooden dadoes dry rot may attack the plugs, fixing battens and boarding and even spread throughout the building, carrying its own supply of moisture derived from the wet wall. The dado will not in any case afford protection to floor timbers against fungal attack. Cement renderings even when "waterproofed" often develop shrinkage cracks through which moisture may pass and in some circumstances may be forced from the wall by efflorescing salts. Also, cement renderings on a cold damp wall are apt to cause condensation.

Paint applied to damp walls usually has a very short life and even special treatments of damp resisting materials may be unsatisfactory under such severe conditions.

The only certain way of effecting a cure in such cases is to provide or reconstruct the damp-proof course or, if simpler, to alter the construction or level of the floor or soil. A definite break must be effected between the affected wall and the soil by an impervious material or by an air gap.

When the insertion of a damp-proof course or similar alteration is impracticable and it is desired to mitigate the trouble, there is a choice between various methods of external or internal treatment, some of which have been briefly mentioned above. These can be more conveniently discussed in a later section.

(b) *Damp passing through the roof and parapets.*—Damp walls attributable to a leaky roof are rare except in the case of flat roofs with poorly designed parapet walls. It is of course possible for moisture from a leaky roof to flow along rafters or roof boarding to the interior surfaces of the walls. Such troubles are usually easily traced and remedied.

Penetration at the edges of flat roofs with a parapet is not uncommon. A parapet wall is severely exposed on two faces and the top; and unless its design and construction is above criticism there is a risk of penetration to the interior of the building.

Penetration of this kind is usually indicated by a general dampness of the external walls immediately below the roof and patches exhibiting more pronounced signs of dampness. The dampness may be, and usually is, accompanied by efflorescence and injury to decoration. In many cases the damp spreads into the ceiling plaster and if the roof is composed of hollow units of burnt clay or concrete there may be sufficient water present to flow through the cavities of the units and soak into some parts of the ceiling.

Because of the severity of exposure, the design of parapet walls demands exceptional care. It is generally realized that damp-proof courses are necessary immediately above ground level, but often the fact that it is necessary and, in some cases, even more important to provide adequate protection in the case of parapet walls is disregarded. The same principles of design apply equally in the case of damp-proof courses at the top of a building and at the base, and the danger of penetration from a parapet wall is increased by the natural flow of water towards the ground. For example, if a damp-proof course be inserted immediately above the ceiling of the top floors, it is possible for the parapet wall to become water-logged and for moisture from the wall and further rain which cannot be absorbed by the wall to flow over the edges of the damp-proof course and be absorbed by the masonry beneath. In this way penetration may occur even when apparently effective damp-proof courses are provided. Penetration may be more severe in cases where, for appearance, the damp-proof course has been stopped inside the wall and the joint pointed.

A parapet damp-proof course should be treated as a gutter discharging water. On the internal face of the parapet it should discharge over the skirting of the flat roof and it would be advantageous if, externally,

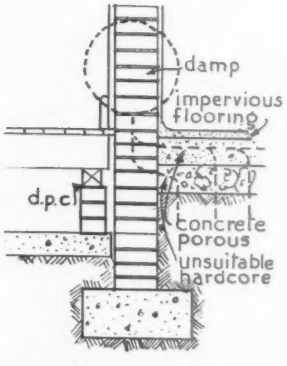


FIGURE 1 (Faulty)

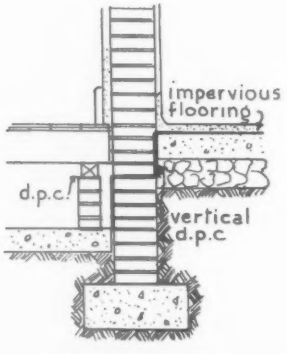


FIGURE 2 (Correct)

it formed a drip to throw emerging water away from the face of the wall. If the parapet wall is of cavity construction the water should preferably be discharged on to the roof. This also applies when the external face of solid walls is rendered.

In many cases the correct placing of damp-proof courses in parapet walls is complicated by the intrusion of the roof slab into the wall. In such cases it may be necessary to provide a continuous course above the flashing of the roof, across parts of the parapet wall, vertically downwards to protect the edge of the roof slab and then outwards to the external face.

The correct design in special cases is largely a matter of common sense. As long as it is realized that the parapet, in extreme cases, may function as a leaky tank of water and that the capillary path between the parapet wall and the main wall must be completely broken, correct detailing will be simplified.

The above principles may be successfully employed in dealing with chimney stacks. Where chimneys emerge through sloped roofs a stepped damp-proof course may be necessary.

Sketches Figures 3 and 4, of faulty and correct construction respectively, illustrate the points discussed above.

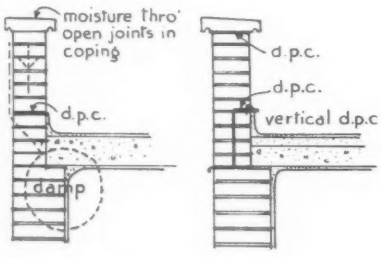


FIGURE 3 (Faulty) FIGURE 4 (Correct)

Cleaning Fire-Blackened Brickwork

¶ *A FIRM of architects asked for advice on the cleaning of the face of brickwork which had been badly stained black by a fire in a factory. The brickwork in question was the sound work remaining when the rest of the building had been demolished. It was proposed to build up on these stained walls, and it was feared that when the walls were distempered the black stain would show through. It was stated that the stains appeared to be of a resinous character, possibly resulting from the proximity of an adjacent timber floor. Attempts to clean the bricks—both before and after wetting—had been unsuccessful, as also had an attempt to glass-paper the bricks.*

A few trials with samples of the stained brickwork showed that the fire-blackening on the brickwork could easily be removed by a blow-lamp. It was found that underneath the black surface there was also a coat of distemper which required removal. This distemper was found to lose its grip on the brick if it was wetted while still hot.

The cleaning was completed by wiping with a cloth dipped in clean, hot water. It should be noted that no soda, sugar, soap, or other cleaning agent should be used for such a purpose.

LETTERS *FROM* READERS

G. NOEL HILL, F.R.I.B.A.
(City Architect, Manchester)

ROYAL ENGINEER

OLD SALOPIAN

Official Architecture

SIR,—I hesitate to direct my first letter to the press on a controversial subject, but I am roused to do so after reading the reference to official architecture and private architects in the inaugural address delivered before the Royal Institute of British Architects by the President. A large part of the address is a challenge to the official architect, and it is the President of the Institute who has thrown down the glove.

The attack which has been made is calculable of undermining the status of a very large proportion of the members of the Institute of which he holds the most honoured office.

The criticism of "inappropriateness" was directed to those buildings which are in the main designed by official architects; this could give no other impression than that this was a fault confined to official architecture. I submit that this is by no means correct, and that the statement is unfairly misleading.

"Slot-machine" architecture, where it exists, cannot be said to be confined to official architects' departments. This criticism was equally unfair and misleading. It is frequently an easy matter to identify the architect of any building of note, and this applies particularly to eminent private architects. I feel they would be distressed if this inferred staleness. I do not agree that the work of official architects is increasing because it is found to be as easy as catering "by means of slot machines," but because it is proving to be more economical and satisfactory; satisfaction resulting from the constant contact between architects and clients. The official architect lives with his client, and, what is equally important, has to live with his jobs after they are completed.

Referring to the designing of public buildings, it is inferred that these are in the hands of official architects. The truth is that the plums—the principal public buildings—are the subjects of competitions, and are designed by private architects, and never before has there been such a harvest as the last few years have produced.

It is so easy to attack the official architect; it appears to be a new form of etiquette, but it is an ostrich-like attitude. Is it not equally important that the stores, commercial houses and banks, etc., the preserve of private architects, which are the principal contribution to the architecture of the towns, should be designed by "the best men for the purpose in the whole profession?" If posterity has a finger to point, most of it will cover the architecture of private practitioners.

Reference was made to the employment of supernumeraries by official architects' departments to meet an emergency. Is it not a better practice than working existing staffs overtime—not uncommon in private architects' offices? Do not private architects sometimes employ temporary staffs to meet an emergency, and dismiss them when work is normal?

Perhaps the Minister to whom the deputation was sent by the Institute found there was nothing in its case.

I do not like the idea of a separate organization for official architects, but if this is to be the attitude of the R.I.B.A. it will be necessary for official architects to do something about it, and it will be an unfortunate day for the Institute.

I have expressed the views of sixteen members of the Institute on the permanent staff of my department.

G. NOEL HILL

Earl Haig's Statue

SIR,—I have just seen Earl Haig's statue and sympathize with the Field Marshal for losing his hat. Once, during the war, I lost mine and suffered a mild attack of "clink" and pack drill.

I have never seen a Field Marshal without a hat, but I believe one of Victorian days sometimes appeared on parade in full uniform mounted on a charger and carrying an umbrella.

How different Duggie's rocking horse looks from my old mule whose feet always seemed to hit everything except the ground.

ROYAL ENGINEER

Public Schools

SIR,—From your Leading Article in last week's issue entitled "Educated at—" I note that you say from the first 40 eminent architects that came to your mind, 24 were educated at public schools. May I venture to point out that in the strict sense of the word—Public School—, and surely as architects we should call a spade a spade, there are only seven Public Schools, these being Eton, Harrow, Winchester, Shrewsbury, Westminster, Rugby and Charterhouse. Therefore it will be seen that Mr. H. S. Goodhart-Rendel (Eton) and A. H. Moberley (Winchester) are the only Public School men out of the first 40 eminent architects brought to mind.

OLD SALOPIAN

FABRIC SHOWROOM AND GARAGE, BROADWAY,

PROBLEM—*To provide a large area of floor space for the display of fabrics with the minimum of restriction and at low cost.*

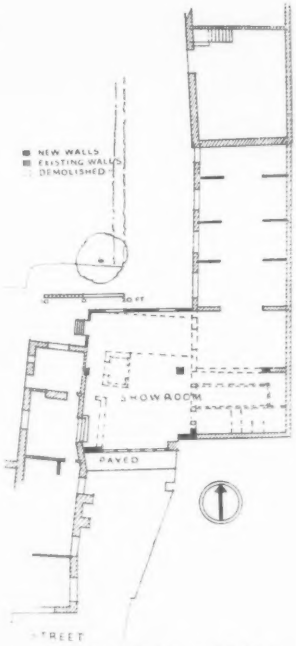
SITE—*Adjoining the existing showrooms of Gordon Russell, Ltd. The site was previously occupied by a passage, yard and small offices which had become redundant.*

CONSTRUCTION—*Brick walls, partly existing. The steel beams and the flat timber roof are covered with a rubber composition. The floor is of concrete, with a waterproofed screed. The head of the frame of the large show window for the display of goods is cambered to counteract the possible appearance of sagging. The wall behind is covered with weather-boarding, painted biscuit colour.*

INTERNAL FINISHES—*Plaster and cream distemper to walls; floor, close carpeted. The ceiling is of wallboard, distempered. The shelves for display conceal heating pipes.*

SERVICES—*Existing cast-iron pipes and radiators.*

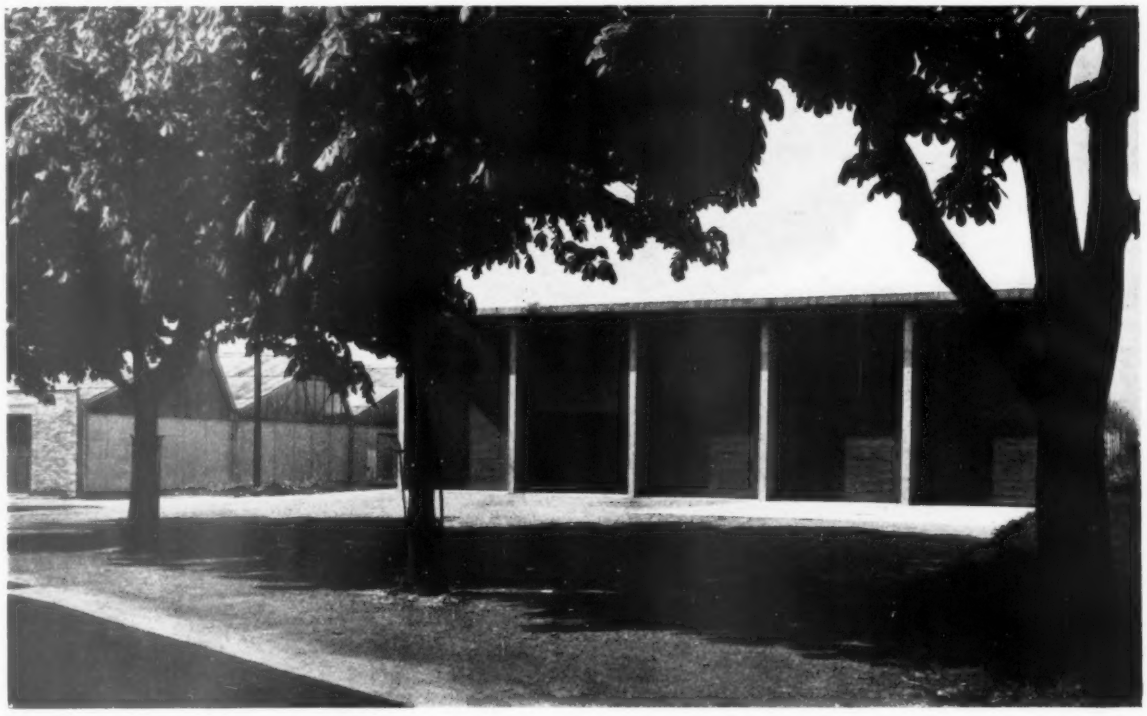
COST—*Cost per foot cube: approximately 7½d., including new radiators connected to existing system, but not electrical work.*



SHOWROOM: PLAN

The showroom is on the right of the photograph shown at the top of the page; on the left is a seventeenth-century building. The view of the interior of the showroom is taken from the entrance.

WORCS.: BY G. A. JELLICOE AND PARTNERS



PROBLEM—*Garage for five or more vans of varying sizes, dimensions of building being controlled by size of largest van. Workshop and small office are attached.*

SITE—*Open; frontage determined by adjacent factory.*

PLAN—*Good light and easy entry essential.*

ELEVATIONAL TREATMENT—*Eaves soffit is boarded, and painted blue; the remainder of the paintwork, including shutters, is dark grey; the fascia is covered with lead. Concrete blocks are provided at the foot of the columns for protection.*

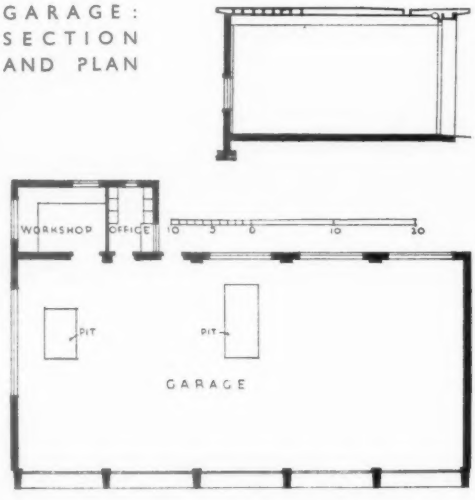
CONSTRUCTION—*Brick walls in brownish facing bricks. Reinforced concrete piers, finish left as cast in wrought shuttering. Steel beams and flat timber roof are covered with boarding and composition roofing. Ceiling is of asbestos sheets.* *For name of general contractors, see page 805.*

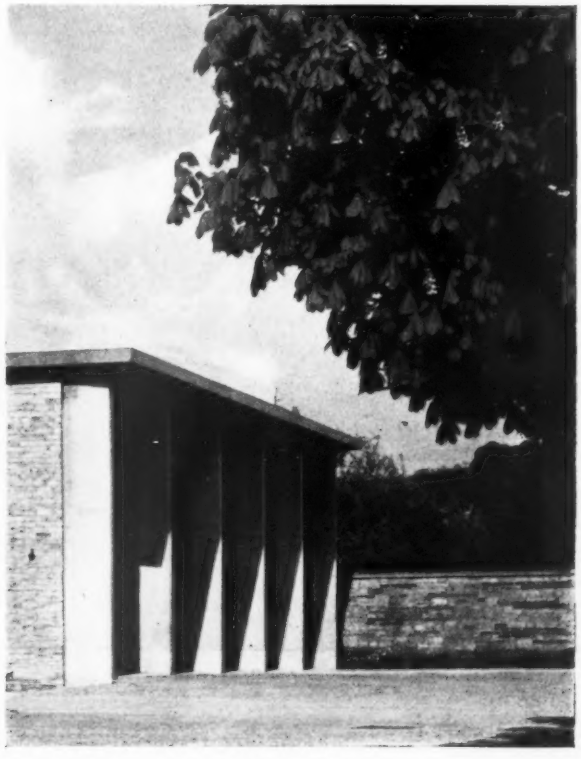
COST—*Per foot cube 5¾d., including wash, underground soft water tank, and heating installation; but not electrical work.*

D. W. MITCHELL,

ASSISTANT

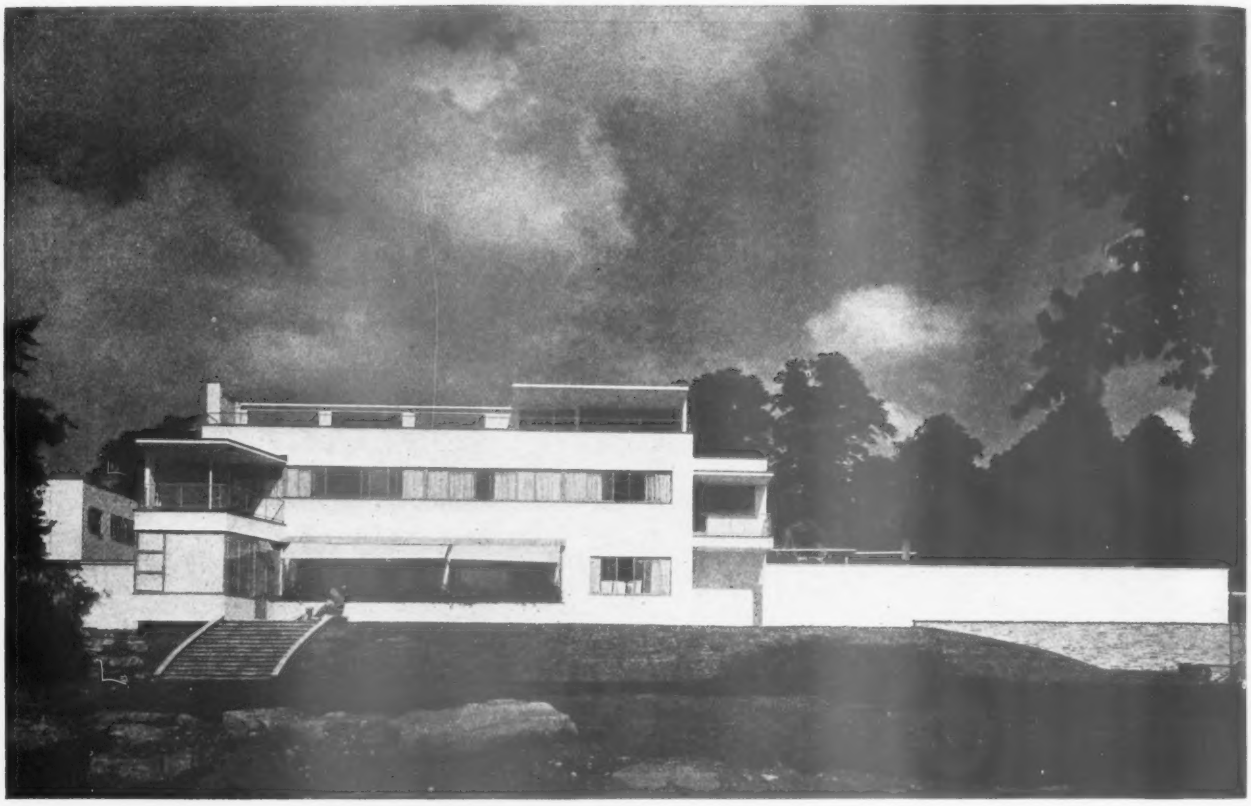
GARAGE: SECTION AND PLAN



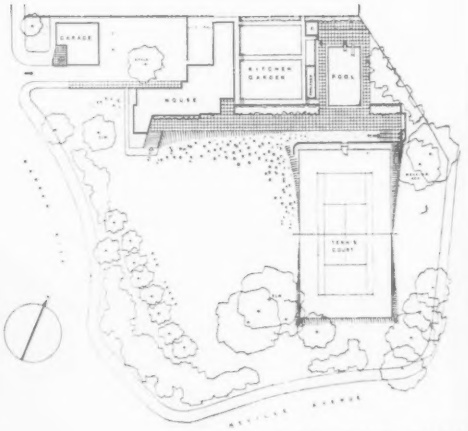


D

HOUSE NEAR KINGSTON, SURREY:



SITE—*In an old park not far from Kingston, bounded by Warren Rise and Neville Avenue. The fine trees already existing on the site and the rise of the ground from south to north made the highest ground, away from the road, the ideal position for the house; the sunny aspect coincided with the best outlook and the distant view.*



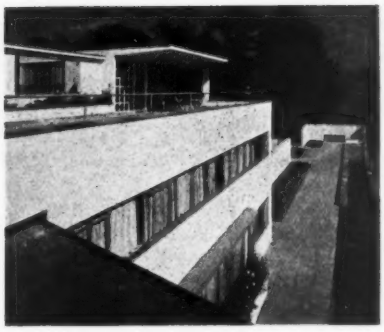
LAY-OUT PLAN

CONSTRUCTION AND EXTERNAL TREATMENT—*Reinforced concrete, with small-diameter steel columns used as points of support where minimum interruption of light was required. The concrete is treated externally with concrete paint of a cream colour. The canopies and parapets are finished in copper. The design of the sliding metal windows used throughout was specially worked out by the architect in collaboration with the manufacturer.*

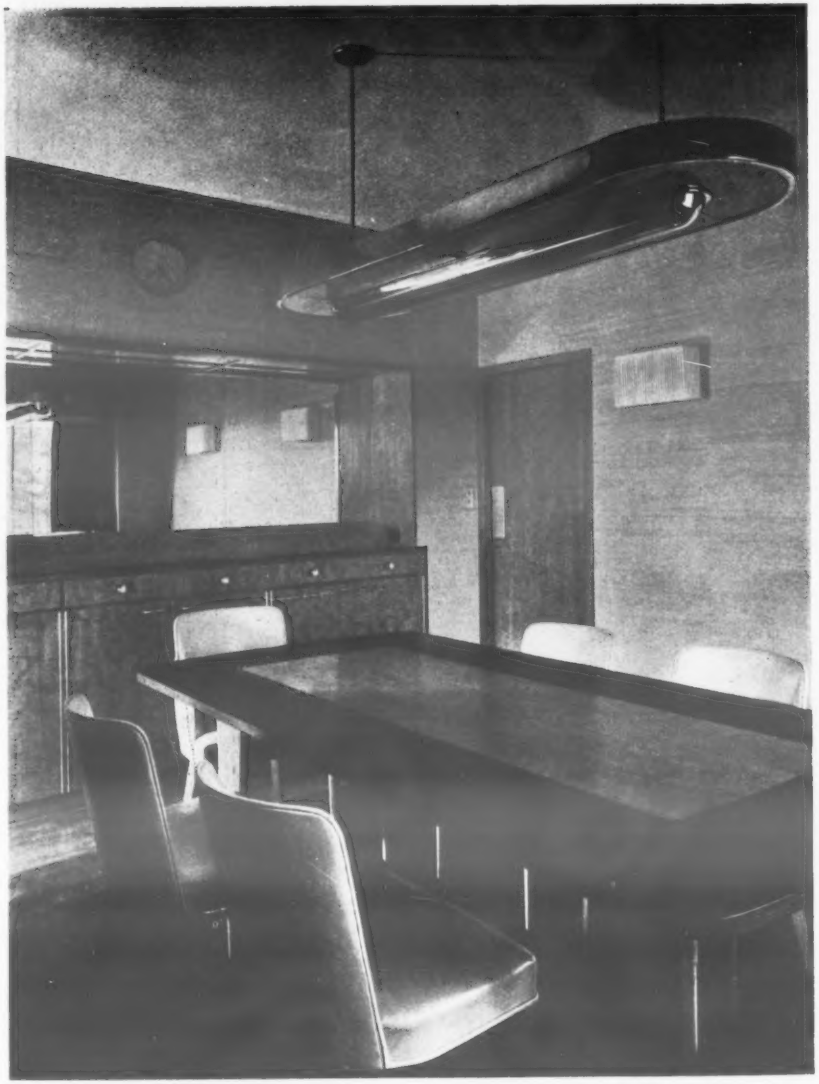
The photographs show: above, the south front; left, the garage, with chauffeur's flat above.

DESIGNED BY E. MAXWELL FRY

The photographs show : right, the approach to the front door ; below, left and centre, two views of the garden front ; below, right, the south terrace as seen from the roof.



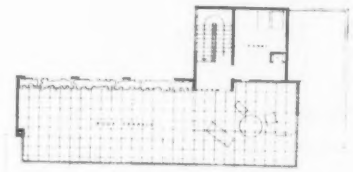
HOUSE NEAR KINGSTON, SURREY: BY E. MAXWELL FRY



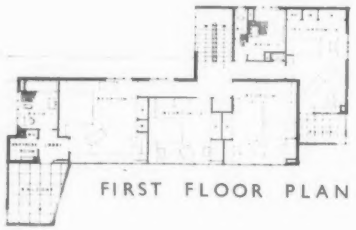
The photographs show : above, the dining-room ; the walls are covered with wood-veneer paper and the furniture is of pear wood. The chairs are upholstered in yellow hide. Centre (top) : looking from the sun-room along the terrace. Centre (bottom) : one of the bedrooms. Right (top) : the staircase. Right (bottom) : the dressing-room ; the glazed door shown gives access to a private balcony. Facing page : the principal living-room. It is connected at one end with sliding doors to the study, the windows being continuous : at the other end it has a small bar with rolling shutters to conceal it when not in use. The crescent-shaped sofa is upholstered in scarlet leather: the walls are cream colour, the floor Australian walnut ply and the rug black and white. The architect designed all the built-in and most of the movable furniture, and supervised all the decoration and furnishing.

access to a private balcony. Facing page: the principal living-room. It is connected at

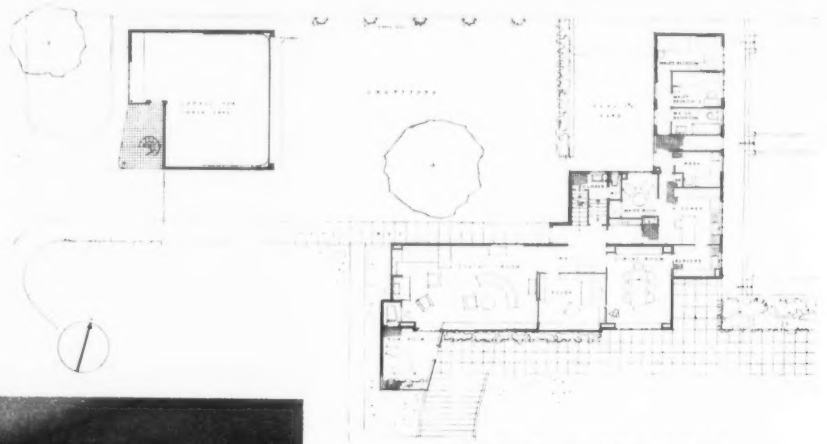
furniture, and supervised all the decoration and furnishing.



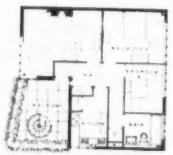
ROOF PLAN



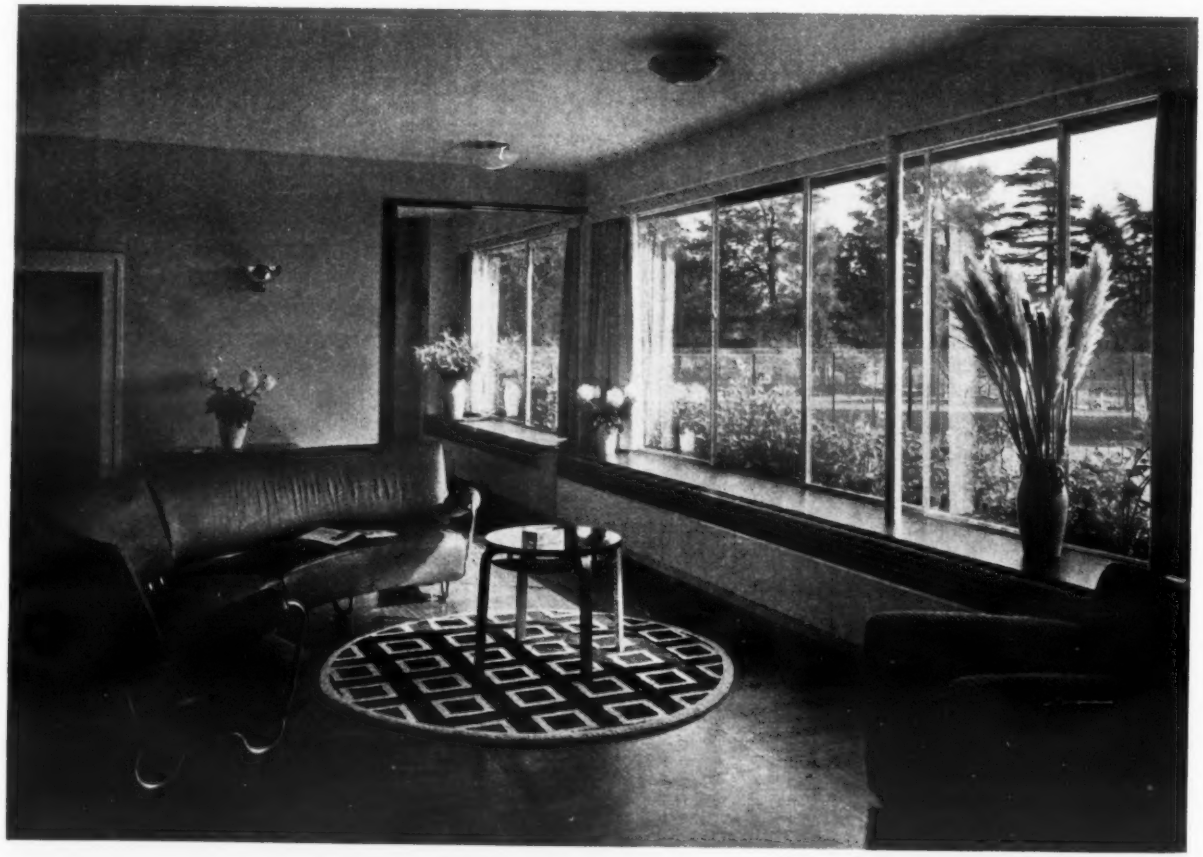
FIRST FLOOR PLAN



GROUND FLOOR PLAN



PLAN OVER GARAGE



PLAN—*The plan places the windows of all the principal rooms on the long south front, which is carried on by the wall shown in the photograph at the top of page 784. This wall screens a garden court and shelters a terrace leading to a swimming pool. The disposition of these is shown in the lay-out plan. In order not to break into the seclusion of the garden, which serves as a direct extension of the sun-room and terrace on the south front, the main entrance has been planned right at the back with the approach to it actually along one side of the garage yard. The entrance is flanked by a detached garage building, with a chauffeur's flat over it. The approach to the front door is protected by a long cantilevered canopy.*

HEATING—*Several systems of heating are used: ceiling panels in the bedrooms, adjustable radiant panels in the bathrooms, tubular heaters generally and the specially designed convection heaters in the living-room and sun-room.*

For list of general and sub-contractors, see page 805.

SOCIETIES AND INSTITUTIONS

"SAVE THE COUNTRYSIDE" EXHIBITION

An exhibition entitled "Save the Countryside," was opened recently at the Graves Art Gallery, Sheffield. The exhibition, which has been arranged by the C.P.R.E., illustrates the scenery, the architecture, and the disfigurements of the Peak District. It runs until November 26.

Sir William Rothenstein, speaking at the opening ceremony, said that in the matter of building houses, what was needed in England to-day was a great system of care in planning and of construction in decent taste, not necessarily æsthetically beautiful buildings, but seemly and efficient and well-built dwellings. Sooner or later we should have to set up some authoritative body which would see that qualified architects and house-planners stood close behind those engaged in building, so that we might not have any further continuance of the accidental and haphazard building which was making an eyesore of what should be all seemliness and beauty. He was afraid that much of the building now going on was but to ensure the provision of slums a hundred years hence.

SHEFFIELD, SOUTH YORKSHIRE AND DISTRICT SOCIETY OF ARCHITECTS AND SURVEYORS

The Jubilee Dinner, marking the fiftieth anniversary of the Sheffield, South Yorkshire and District Society of Architects and Surveyors, was held recently at Sheffield. Mr. J. Amory Teather, F.R.I.B.A., presided.

Sir Henry Stephenson, proposing the toast "The City and Trade of Sheffield," said that steel firms were enjoying a certain amount of prosperity, but there were two sides to the picture.

A certain amount of it was attributable to the re-armament programme, and however necessary they considered that programme was, they should not lose sight of the fact that this was dangerous to their trade, especially export trade.

Boom in trade brought high wages which, in turn, brought high prices, which militated against trade, particularly foreign trade.

He thought the Government and manufacturing interests should make plans for the time when the re-armament programme faded away.

Colonel F. A. Neill, in responding to the toast, commented on the opportunities for re-housing on cleared sites in Sheffield. He said he could not see all the cleared areas being required for factory and business sites. Some, he hoped, might be developed for the re-housing of people. There was no doubt that the cost of transport for workpeople, who were forced to live long distances from their occupation, made serious inroads into the weekly wage and should not be overlooked.

Every thoughtful industrialist realized the vital necessity for people to be housed under the best conditions consistent with a rent well within their means. In his opinion there was less danger of a European conflagration, due to the re-armament programme—he deprecated too much talk of the possibility of war—still he thought the question of protection against air raid was worthy of their consideration.

Particularly he thought architects should give careful thought to this when designing new or adapting old buildings. To be effective, preparations must be made in advance; and he would suggest that architects could encourage the provision of at least gas-proof and, where possible, splinter-proof shelters in new houses and business premises.

Sir William Rothenstein, proposing the toast of "The R.I.B.A. and the Allied Societies," said that architects were like artists and others who pursued art, in that they could not be good servants unless they had masters who knew what they wanted. They had open spaces in the city providing scope for the architects, but he hoped they would be able to set up buildings of a high standard. They did not want just blocks of houses for the workpeople, but they should have their theatres, halls, and churches as well.

He hoped to see town planning, with fine buildings, etc., in which there were contributions from the cities' architects, sculptors, artists, metal workers and other craftsmen.

Professor L. P. Abercrombie, in responding to the toast, spoke of the need of making theirs a registered profession and said a Bill was being promoted in the next Parliament—The Architectural Registration Act—for that purpose, which he hoped would have their support.

Sir Charles Nicholson deprecated the tendency for estates to be entirely devoted to one class—those earning from £2 10s. to £4 10s. per week—instead of having them more mixed, as was the earlier custom.

By failing to mix the classes they lost that spirit of brotherhood which they ought to obtain on these estates.

HOUSING AND TOWN PLANNING PROGRESS

New matter relating to town planning has been added to the reprint of the Housing and Town Planning chapters of the recently-published Annual Report of the Ministry of Health, issued by the Stationery Office, price 1s.

The new matter consists of particulars of town planning appeals to the Minister of Health, Sir Kingsley Wood, against the decision of the local authority on such questions as the introduction of shops and industrial buildings into residential areas, the erection of modernist houses in rural districts—in a Lake District case the Minister upheld the local authority's refusal to allow the house to be built, while in a South Country case their refusal was overridden—and the establishment of film studios on an area of downland, where the Ministry supported the local authority in refusing permission.

The housing chapters recall that up to the end of 1936, 100,355 slum houses had been demolished and 127,553 houses built to replace them. The five-year plan will be completed according to schedule except in London and a few other large cities, where it was always known that the task must take longer.

Local authorities built 71,734 houses compared with 52,357 in 1935. Private enterprise built 273,516 without State assistance; eight out of every nine of these houses had a rateable value of not more than £26 (£35 in Greater London), and an increasing number of them were built to let.

In addition to the appeal cases already mentioned, it is pointed out that three-fifths of England and Wales is now under planning control—3,000,000 acres more than in 1935. Among the areas brought under planning for the first time was the City of London. Authorities are specially urged to consider planning in connection with the erection of aerodromes.

Planning also helps preservation—not only of the countryside, but of historic buildings. Bridgwater Watergate, New Romney Town Hall and the former Market Hall at Leominster have all been safeguarded in this way.

IN PARLIAMENT

Ribbon Development Act

Sir William Davison asked the Minister of Transport if he could inform the House as to the working of the recently passed Ribbon Development Act; in how many cases and for what distances, and under what circumstances, had the local highway authority granted permission for buildings to be erected with frontage to a classified road; and whether he was satisfied that the power given to highway authorities to authorize exceptions to the provisions of the Act had been properly administered.

Mr. Burgin said that the Act itself applied restrictions to 43,000 miles of road. Highway Authorities had by resolution and with his approval extended its application to a further 21,000 miles. The Act gave him no power to call on highway authorities to furnish him with the data with which to compile the statistics asked for in the question, which would in any case be an undertaking of considerable magnitude. He was satisfied that, in general, highway authorities were not relaxing these restrictions to the detriment of the roads affected, but he was carefully watching the position. Before deciding to give assistance from the Road Fund towards the cost of any scheme of road improvement or new construction, he required an assurance from the highway authority concerned that they would exercise their powers to safeguard the road in accordance with the spirit and intention of the Act.

Banqueting House

Sir P. Sassoon, in answer to Mr. Hall Caine, said that no proposal had been made that the Royal United Service Institution should give up possession of the Banqueting House, Whitehall, but so far as he was concerned, he could assure the hon. member that, should the matter arise, no proposal for a change in the use of this most beautiful and historic building would be made without the fullest consideration being given to the present and future requirements of the Institution.

Ancient Cottages—Reconditioning

Mr. Bossom asked the Minister of Health in view of the facts that the preservation of many beautiful old cottages depended entirely on the amount of money available for reconditioning and that the sum now available was often insufficient, if he would promote legislation or issue regulations increasing the sums available for this purpose where the cottages justified it.

Mr. Bernays said that his right hon. friend was not aware that the grants available under the Housing (Rural Workers) Acts were insufficient for their purpose. He proposed to introduce legislation extending the time of operation of these Acts and hoped that the fullest use would be made of them.

Preservation of Ancient Buildings

Mr. Bossom asked the Minister of Health whether, as many beautiful and historic cottages were now being destroyed which it would be possible to save if properly reconditioned, he would ask the county councils, the preservation societies, and the local panels of architects to prepare a list of the cottages it was essential to preserve so that the entire subject could be comprehensively considered.

Mr. Bernays said that his right hon. friend had frequently urged, and would continue to urge, upon local authorities, the desirability of taking all practicable steps by way of publicity and proper survey to secure the reconditioning of cottages which could be made fit for human habitation and he understood that such a list as his hon. friend had in mind was in course of preparation.

The Architects' Journal Library of Planned Information

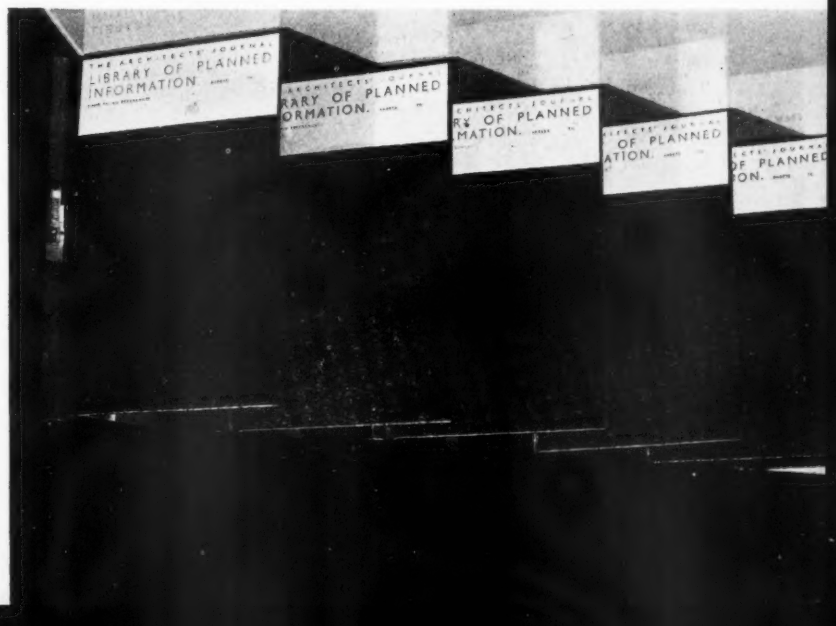
INFORMATION SHEET

SUPPLEMENT

SHEETS IN THIS ISSUE

574 Sanitary Equipment

575 Plywood—II



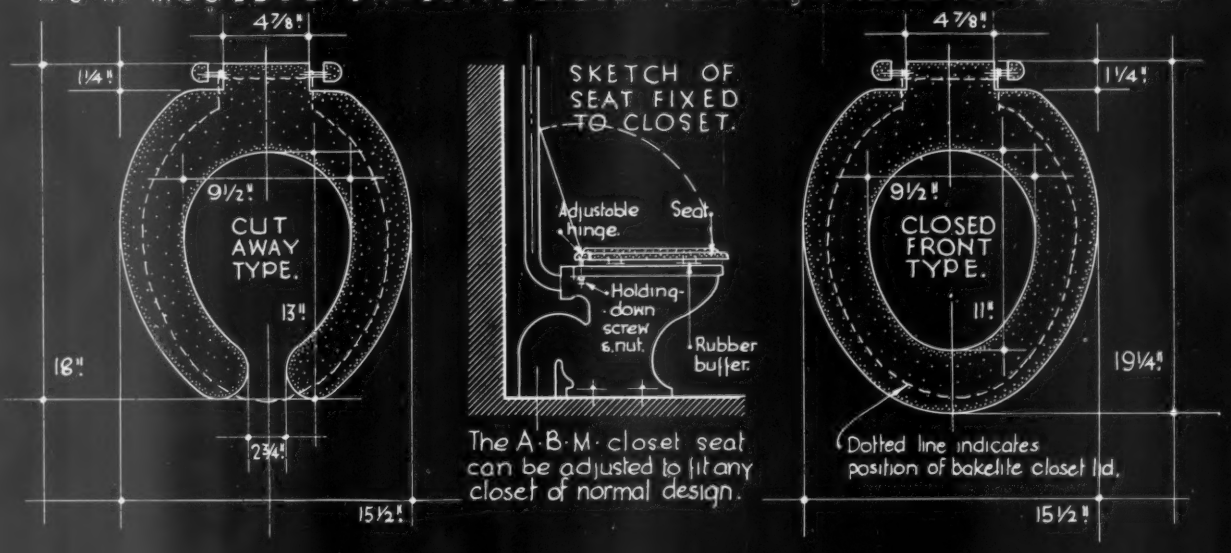
Sheets Issued since Index :

501 : Aluminium
502 : Fixing Blocks
503 : Approximate Estimating—XII
504 : Aluminium
505 : Aluminium
506 : Approximate Estimating—XIII
507 : Plumbing : Jointing of Copper Pipe
508 : Roofing—Valley Flashings
509 : The Equipment of Buildings
510 : Aluminium
511 : Elementary Schools—II
512 : School Lighting
513 : Approximate Estimating—XIV
514 : Air Conditioning
515 : Insulation of Buildings
516 : Cycle Parks
517 : Cycle Parks
518 : Plumbing Systems—II
519 : Kitchen Equipment
520 : Roofing—Flashings
521 : Motor Cycle Parks
522 : Reinforced Asbestos-Cement Roofing Tiles
523 : Poison Gas Precautions
524 : Kitchen Equipment
525 : Metal Reinforced Asbestos Cement
526 : Leadwork to Photographic Developing Tanks
527 : Asbestos-Cement Corrugated Sheets
528 : Cycle Parks
529 : Kitchen Equipment
530 : Asbestos-Cement Corrugated Sheets
531 : Plumbing
532 : Roofing—Flashings
533 : Asbestos-Cement Corrugated Sheets
534 : Insulation of Buildings
535 : The Equipment of Buildings
536 : Asbestos-Cement Ventilators
537 : Slate Window Cills, etc.
538 : Petroleum Storage
539 : Linoleum
540 : Plumbing
541 : Linoleum
542 : Garage Equipment
543 : The Equipment of Buildings
544 : Sheet Leadwork
545 : Elementary Schools—III
546 : Elementary Schools—IV
547 : U.S.A. Plumbing—III
548 : Wallboards
549 : Elementary Schools—V
550 : Elementary Schools—VI
551 : U.S.A. Plumbing—IV
552 : Sheet Leadwork
553 : Kitchen Equipment
554 : Burnt Clay Roofing Tiles
555 : A.B.M. Draining Boards
556 : Kitchen Equipment
557 : Asbestos-Cement Roofing
558 : A.B.M. Rainwater Pipes
559 : Flashing
560 : Kitchen Equipment
561 : Asbestos-Cement Roofing
562 : A.B.M. Rainwater Gutters and Fittings
563 : Asbestos-Cement Roofing
564 : The Equipment of Buildings
565 : Air Conditioning
566 : A.B.M. Rainwater Gutters and Fittings
567 : Plywood—I
568 : Leadwork
569 : Gas Cookers
570 : A.B.M. Moulded Gutters and Fittings
571 : Fuel Storage—I
572 : Electrical Equipment
573 : Wallboard and Insulating Board

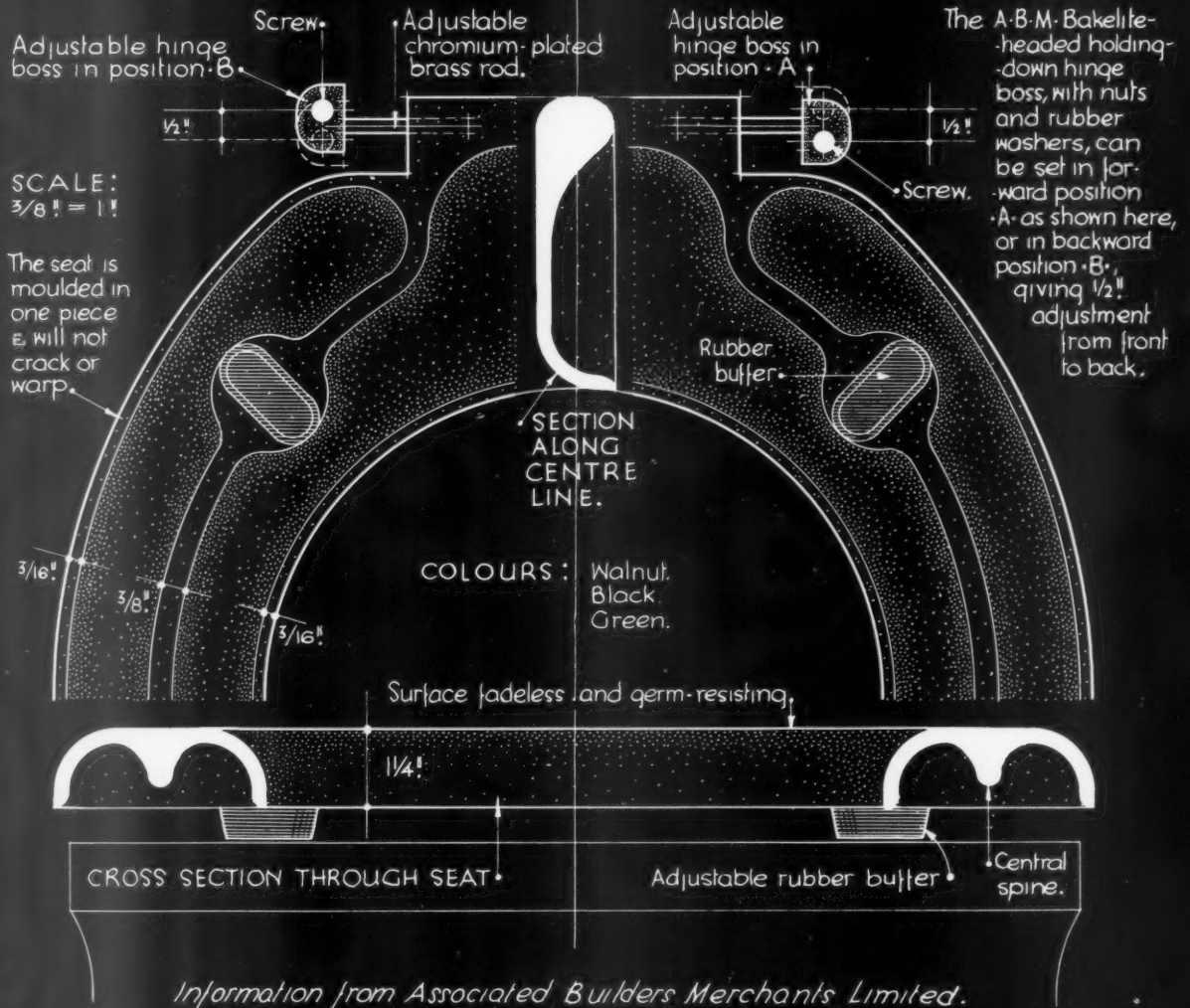
680.

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

A·B·M· MOULDED BAKELITE CLOSET SEAT WITH ADJUSTABLE HINGE.



INVERTED HALF-PLAN OF SEAT SHOWING ADJUSTABLE HINGE, ETC.:



Information from Associated Builders Merchants Limited.

INFORMATION SHEET : MOULDED BAKELITE CLOSET SEATS:
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1· Olga A. Bayne

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 574 •

SANITARY EQUIPMENT

Product : A.B.M. Moulded Bakelite Closet Seats

General :

As a material for closet seats bakelite has the advantages of durability, lightness and strength ; the seats are moulded in one piece with a smooth, hard non-porous, polished surface, which is germ resisting, durable and easily kept clean. They are made in a range of colours which will not wear off, the colouring matter being incorporated with the bakelite throughout its substance. It is also free from liability to twist, crack or warp.

Adjustable Hinges :

A special feature of the A.B.M. moulded bakelite closet seats is that they can be fitted to any closet of normal design, as they are equipped with special patent adjustable bakelite hinge bosses, and with special washers, buffers, etc., which enable adjustments to be made according to the requirements of the individual closets.

Design :

There are two standard models of A.B.M. closet seat, which embody in standardised form the essential requirements of the many possible variations of closet seat design.

The two models are as follows :—

(*a*) A.B.M. open front pattern seat. This is of the open-fronted type that is considered to afford the maximum hygienic efficiency.

(*b*) A.B.M. closed-front seat. This type is of the accepted oval closed-front pattern.

Both the closed front seat and the cutaway seat are moulded in one piece and are made with a single or double flap. They follow the same general principles as regards their construction, equipment, fixing, etc. The two types, with dimensions, are illustrated at the head of the Sheet.

Buffers :

Beside the adjustable bakelite hinges each seat is provided with four wide rubber buffers which form the actual bearing surface between the closet and the seat. These screw into sockets in the underside of the seat and provide ½-in. adjustment of bearing surface laterally and from front to back.

Adjustment and Fixing :

The A.B.M. patent bakelite hinge enables the seat to be fitted exactly to the closet. It consists of two reversible bakelite-headed holding-down hinge bosses (shown on the half-plan) with slots for the tubes on which the seat hinges, and bolts with nuts and rubber washers for holding the seat in position on the closet itself.

The projection at the back of the seat has two holes into which are fitted chromium-plated brass tubes (see half plan).

These tubes are cut to the lengths necessitated by the position of the holes in the lugs of the closet. This provides lateral adjustment. Adjustment from front to back is made by placing the hinge bosses on the ends of the tubes either in the forward position as shown at (A) in the half plan, or alternatively by transposing them, when they will occupy a position ½ in. further back, shown at (B) in the half plan.

Any irregularity on the pan is simply adjusted by rubber washers supplied with the seat lugs.

Colours :

The bakelite models are supplied in :—

Walnut	Green
Black	White

Packing :

Every A.B.M. bakelite closet seat is supplied packed separately in a carton, and these in quantities are packed in fibre containers, supplied free, which keep the seats in perfect condition, 12 cartons to a container, single flap, and 9 double flap, marked with details of the contents.

Previous Sheets :

Sheets already published dealing with A.B.M. products are Nos. 555, 558, 562, 566 and 570.

Standardised Designs :

The Associated Builders' Merchants is a non-trading organisation devoted to the standardisation of the design of building materials and equipment.

Materials and equipment made by a number of manufacturers are stamped with the following symbol  indicating that they conform to the standard of design and quality laid down.

Information from : The Associated Builders' Merchants, Ltd.

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

709

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

TYPES OF "FLEXOMETAL" METAL FACED PLYWOOD. (Multiply or laminated construction.)

(A) SINGLE METAL FACE.
This type is intended for use primarily where great durability and weather resistance is required on only one face; e.g. panelling etc.

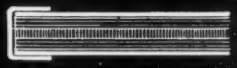
(B) BOTH SIDES METAL FACED.
This type is suitable where durability & weather resistance are required on both faces, or where a panel of maximum resistance to buckling & bending per unit of weight is required.

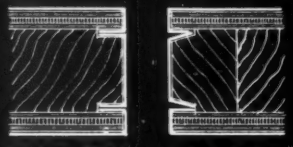
DETAILS SHOWING STANDARD METHODS OF SEALING EDGES OF FLEXOMETAL :

1. 
Both metal faces left proud, metal strip inserted & both faces turned to cover edge of ply & sweated.

2. 
Both metal faces left proud, turned over onto edge and sweated.

3. 
Both metal faces left proud, metal strip inserted & groove filled flush with solder & filed smooth.

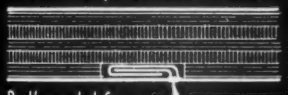
4. 
Metal edges left flush, edge fitted with channel & sweated on both faces.


HOLLOW TYPE: SOLID TYPE.

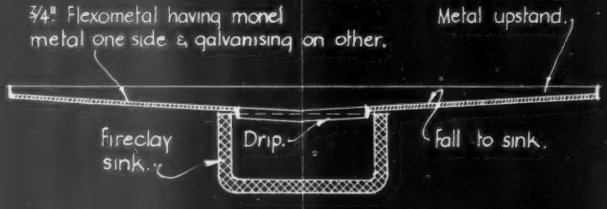
Applicable to doors only.
Flexometal plain sealed, & frame rebated before pressing the metal; channel inserted, joints sweated.

DETAIL OF WELTED JOINT.

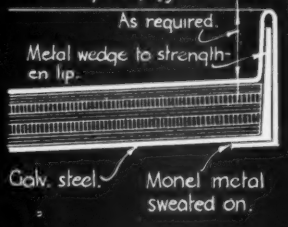
SIZES OF SHEETS.
Flexometal is obtainable in sheets up to 10 ft. wide by any length with minimum thickness of 3/8".
Either single or double faced.


Both metal faces welted together, & joint sweated.

LONGITUDINAL SECTION & DETAILS OF A FLEXOMETAL DRAINING BOARD :



½ F.S. detail of drip around sink.

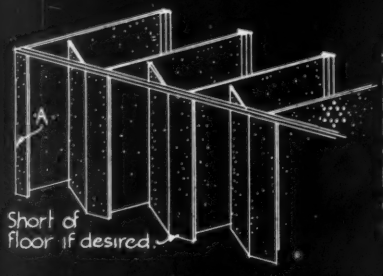


Continuous monel metal upstand.

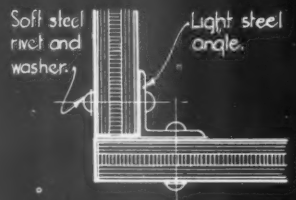
STANDARD FLEXOMETAL PARTITION DETAILS :

Flexometal having both sides metal faced is recommended for this purpose, with all edges sealed.

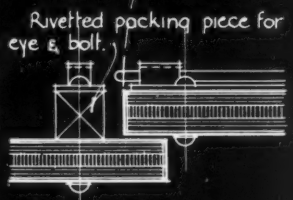
METALS AVAILABLE :
Flexometal is usually supplied in galvanised steel treated for paint or cellulose, but in special instances in staybright, copper monel metal, plain or anodised aluminium, etc.
Sizes of stock sheets vary according to the types of metals used.



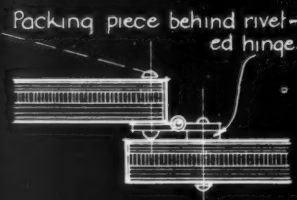
Isometric sketch showing arrangement of Flexometal units to form a range of lavatory, shower, swimming-bath, hospital and hairdressing cubicles etc.



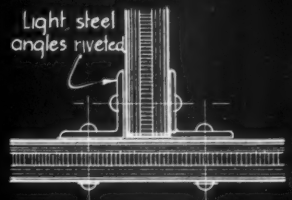
Typical corner detail at "A"



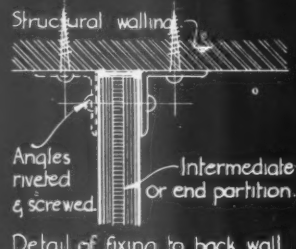
Detail at lock edge of door.



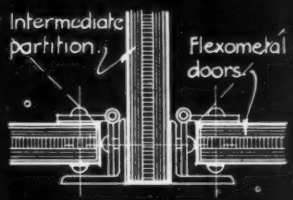
Detail at hinge edge of door.



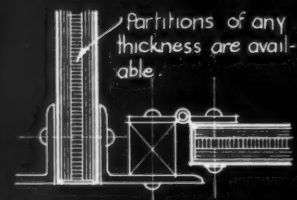
Detail at junction of partition



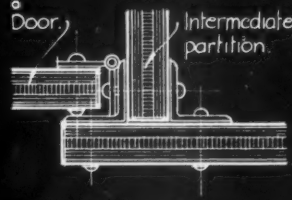
Detail of fixing to back wall.



Detail at door hinges when front partitions are eliminated.



Alternative construction when front partitions are eliminated.



Detail of alternative arrangement at door hinges.

DOORS : Metal faced doors of any size & thickness, of either multiply or laminated construction, are also manufactured.

Information from Flexo Plywood Industries, Ltd.

INFORMATION SHEET : DECORATIVE AND STRUCTURAL METAL FACED PLYWOODS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Oscar P. Beige

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 575 •

PLYWOOD—II

Product : "Flexometal" Metal Faced Plywood

Description :
Flexometal consists of either a multiply or a laminated plywood of any thickness with a sheet of metal on one or both sides. The metal is cemented to the wood with a special adhesive under high pressures. The material can be supplied in sizes above the stock sizes given below, maximum dimensions being governed by transport facilities or by limitations in the width in which the facing metal is available.

Uses :
Metal-faced ply is used for fire-resisting and flush door construction, bins and shelving, cupboards, and fittings, lining walls, food lift cages and casings, dressing boxes and W.C. partitions, hospital trolleys, counters and table tops, fascias and stall boards, skirtings, architraves, stanchion and beam casings, kicking plates, panelling and in decorative situations generally. The corners of Flexometal can be shaped to fit standards and uprights.

Fixing :
When used for facing flush doors, Flexometal is applied to the framing with waterproof cement under hydraulic pressure. For panelling and similar decorative uses, the panels should be nailed or screwed to grounds.

Sawing :
Flexometal may be cut in straight lines with various kinds of saws, and with ordinary wood working saws with relatively small teeth (not less than eight to the inch) and with very little "set." For cutting by hand, a carpenter's hand saw is preferable. For curved cuts band, jig and keyhole saws are used. Special saws for Flexometal can also be obtained. (The names of manufacturers of such saws can be furnished by Flexo Plywood Industries, Ltd.).

Drilling :
Ordinary twist drills are used for drilling holes up to $\frac{3}{8}$-in., and sometimes even 1 in. in diameter. When drilling panels with one metal face, the metal side should be up ; when drilling panels with two metal faces a smooth hardwood block should be used under the panel.

Riveting :
When riveting Flexometal it is necessary to use a cover strap or washer $\frac{1}{16}$" thick to distribute the pressure of the rivet head, $\frac{1}{4}$-in. to $\frac{3}{8}$-in. soft steel or duralumin rivets are used. Light rivets are easily driven through Flexometal with riveting machines.

Nailing :
Nails may be driven close to the edge of the panel without splitting or breaking away the edge. Flexometal can be nailed without introducing depressions as with plain sheet steel.

Surface durability :
Steel facings of Flexometal are zinc-coated to resist rusting, and the zinc coating is chemically treated to hold paint.

Resistance to Blows :
Steel facings resist penetration in minor accidents, and the plywood backing absorbs the energy of a blow, preventing serious denting.

Elimination of Metallic Noise :
Flexometal, when struck, gives off practically the same sound as wood, and does not ring or clatter when subjected to vibration.

Thermal Conductivity :
The thermal conductivity of Flexometal is almost the same as that of wood ; the thermal conductivity of $\frac{1}{4}$-in. Flexometal is about $\frac{1}{3\frac{1}{2}\text{th}}$ that of No. 22 gauge steel.

Effect of Changes of Temperature :
Repeated variations of temperature from freezing to almost boiling point do not seriously affect the bond between the metal and the wood. Continual exposure to temperature above 160°F. is, however, not recommended.

Fire Resistance :
Flexometal is a fire-retardant for use in filing cabinets and doors. While the red heat of a flame destroys the bond between the metal and the wood, the latter continues for some time to insulate against the high temperature of the flame and thereby protects inflammable articles near the plywood surface.

Expansion and Contraction :
The small difference in the coefficient of expansion of steel and wood has no apparent effect on Flexometal. The expansion or contraction of the plywood backing due to variations in atmospheric humidity are also extremely small, and the slight convex bending on the plywood side due to moisture absorption is easily restrained by the framing or structure to which the Flexometal is fastened, so that the panel remains flat. Where no framing is used, the Flexometal with two metal faces is recommended since it remains perfectly flat under all conditions.

Resistance to Decay :
Both moisture and air are required for bacterial and fungus growth, and by the so-called "dry-rot." By encasing or painting the edges of Flexometal having two metal faces, both these agents are excluded. Where panels with only one face of metal are used, it is customary to bend the metal face over the edges when this face is exposed to conditions conducive to decay, while the wood face is thoroughly coated with paint or a good grade of some bituminous waterproofing solution.

Weight :
For purpose of comparison the following weights of Flexometal and various thicknesses of sheet steel and of wood are included.

Approximate Weights per square foot :

	Lbs.
Flexometal—	
3 m/m Galvanized one side ...	1.08
3 m/m ,, two sides ...	1.70
4 m/m ,, one side ...	1.16
4 m/m ,, two sides ...	1.79
6 m/m ,, one side ...	1.47
6 m/m ,, two sides ...	2.09
3 m/m Aluminium one side ...	0.66
3 m/m ,, two sides ...	0.86
4 m/m ,, one side ...	0.74
4 m/m ,, two sides ...	0.95
6 m/m ,, one side ...	1.05
6 m/m ,, two sides ...	1.26
Sheet Steel :—	
20-G. (B.S.W.G.)	1.47
18-G. ,, ...	1.96
16-G. ,, ...	2.61
14-G. ,, ...	3.26
Swedish Pine, air dry, 1 in. thick ...	3.50
White Oak	3.83
White Ash	3.33
Mahogany	3.00

Rebating :
In many uses of the one-metal face Flexometal it is desirable to allow the metal face to extend over the edges of the panel. This is best accomplished by trimming away the plywood along the edges for a distance of $\frac{1}{4}$ in. to 1 in. on a spindle machine or a circular saw. V-grooves are similarly cut on either a moulding machine or on a circular saw equipped with a tilting table.

Soldering :
Being zinc coated, galvanized Flexometal lends itself to tinning and soldering.

Bending :
Panels with the metal on the outside or convex surface can be bent to slight curvatures by hand and held in position by the usual fixings, smaller radii down to 12 ins. are bent over forms or between rolls. Mild curvatures can also be obtained by hand with the metal on the inside or concave surface. By means of special equipment for bending, the one-metal face panels can be bent to a radius as small as 6 ins. with the metal on either side on the band.
The company's works are equipped to carry out any bending within the limits of the material, and prices for special work will be furnished on receipt of particulars.

Finishing :
For rough work, one coat of paint sprayed with a machine may be satisfactory whilst for the high grade of surfaces additional coats may be employed at the decorator's discretion.
A typical high-grade finish is as follows :—
One coat metal primer, two or three coats of filler rubbed down and followed by the usual colour, varnishes or enamels.
Galvanized Flexometal can be supplied artificially weathered, and may then be finished in either lead or cellulose paint, providing the surface is thoroughly cleansed before the application of the priming coat.

Lightweight Flexometal :
Aluminium or galvanized steel on $\frac{1}{16}$-in. plywood. Maximum size as for galvanized steel. Weights : Galvanized face, 14 oz. Aluminium, 8.5 ozs. per sq. ft.

Prices :
The price of Flexometal varies considerably according to the type and thickness of plywood, whether the metal facing is applied on one or both faces, kind and thickness, of metal used, treatment of edges, size of sheet, etc.

Strength :
The stiffness factor E I is the product of the modulus of elasticity E into the moment of inertia I per inch of width of section. It is a measure of the ability of the material to resist buckling and bending. The stiffness for Flexometal (two metal faces) is the sum of the E I for the plywood and the steel.

British S.W.G.	Thickness Ins.	Weight Lbs. per sq. ft.	Stiffness E I
Flexometal ...	0.25	1.9	14,000
20-G. steel ...	0.036	1.47	120
19-G. ,, ...	0.040	1.58	160
18-G. ,, ...	.048	1.96	280
17-G. ,, ...	.056	2.24	440
16-G. ,, ...	.064	2.61	650
15-G. ,, ...	.072	2.80	930
14-G. ,, ...	.080	3.26	1,280
13-G. ,, ...	.092	3.71	1,950
12-G. ,, ...	.104	4.24	2,820
11-G. ,, ...	.116	4.72	3,960
10-G. ,, ...	.128	5.21	5,250

Galvanized Steel Facing	Staybrite Steel	Monel Metal	Copper and Gilding Metal	Aluminium on one or both sides	Anodised Aluminium
6′ 0″, 7′ 0″, 8′ 0″, 9′ 0″, 10′ 0″ × 2′ 0″, 2′ 6″, 3′ 0″, 3′ 6″, 4′ 0″	6′ 0″ × 2′ 0″, 2′ 1″, 2′ 6″	8′ 0″ × 3′ 0″	6′ 0″ × 3′ 0″	6′ 0″, 7′ 0″, 8′ 0″, 9′ 0″, 10′ 0″ × 2′ 0″, 2′ 6″, 3′ 0″, 3′ 6″, 4′ 0″	6′ 0″ × 2′ 0″
11′ 0″, 12′ 0″ × 2′ 0″, 2′ 6″, 3′ 0″	Strips 8″ and 9″ wide up to 75 ft. long.		Other sizes to order up to 8′ 0″ × 4′ 0″. Strips 18″ wide of any length	In heavy gauges up to 12′ 0″ × 6′ 0″ 50′ 0″ × 3′ 0″	In 12 square feet.

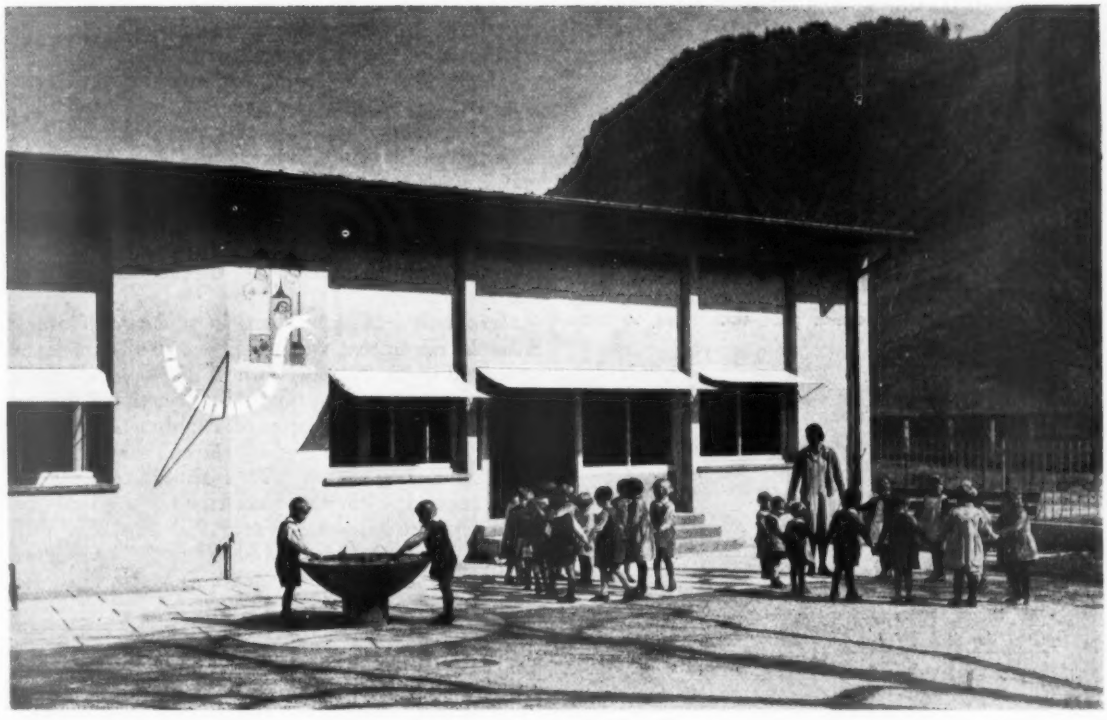
Unlimited areas may be obtained in any metal facing by using welt joints.

Manufacturer: Flexo Plywood Industries, Ltd.
Address : Flexo Works, South Chingford, London, E.4
Telephone : Silverthorn 2666 (8 lines)
Telegrams : Flexoply, Phone, London

SCHOOLS

The Architects' Journal Library of Planning

Nursery-Infant Schools



Playground and drinking fountain at a Nursery School near Zurich. Hans Leuzinger, architect.

CIRCULATION

Entrances

IN Nursery-Infant Schools with 80 or more children control is simplified if a separate entrance is provided for the 2–5's. The younger children are daily inspected and have to be supervised in the coat rooms. The older children are inspected periodically, and are capable of looking after themselves. Direct circulation from entrance through inspection room to coat rooms and playrooms is important for the 2–5's. As some children will have to be washed or bathed before entering the playroom, the bathroom should also be in the line of circulation—preferably immediately adjacent to the inspection room.

Corridors

These should be at least 6 feet wide, 10 feet when used as coat rooms. In addition to providing easy circulation, they should be made interesting. Windows should be low enough to give children a glimpse of the garden or of their pets.

Corridors can be made convertible into open verandahs for outdoor sleeping but permanently open corridors are not advisable, as they tend to confine children to one playroom in cold weather.

Notes on windows, lighting, heating, ventilation and surface finishes for corridors will be given under Senior School plan units.

Stairs and Ramps

These should be avoided, except to give access to staff rooms on an upper floor. It is important for all children's accommodation to be on the ground floor and to be made immediately accessible to the outdoors. Single steps are treacherous, and if a change in level between playroom and outdoor play space cannot be avoided, it should be made obvious with two or more safe steps or, better, with a shallow ramp.

Outdoors

The treatment of the outdoors calls for imagination, particularly when space is confined as it so frequently is. It should be conceived as a garden rather than a "playground" in the too familiar meaning of that word. It should be full of suggestions, places to explore, mounds and hollows and steps and trees.

Immediately outside the playrooms there should be a hard play space, partly covered, large enough to give room for a large number of the children to play when the grass is wet. Accessible from this should be sand-pit, jungle-gym and outdoor toy store. The best surfacing for the hard playground is some form of concrete or paved finish, as smooth as possible without being slippery.

There should also be as large an area as possible of grass play lawn, flat for the most part, but with a grass bank if there is room. No Nursery School should be thought complete without a garden, or at least a variety of flowers in troughs, which the children themselves can tend (when they get beyond the stage of plucking

Water-play in the garden of the Chelsea Open Air Nursery School, showing slide and canvas pool, both cheap to instal and enormously useful.

off the petals). Another great asset is special provision for pets, though the 38 pigeons and 29 rabbits counted at a Willesden school need not be exceeded.

Outdoors, as indoors, planning sensibly for children's needs is much more important than making a "pretty garden." One of the best outdoor arrangements from the point of view of educational value as well as attractive setting in a small area is the garden of the Nursery School in Glebe Place, Chelsea.

Below is a list, in order of importance, of outdoor features suggested by the Nursery School Association and other authorities.

(*a*) *Grass play lawn.* This should be easily accessible from the playrooms, and should preferably run their entire length. It should be large enough for at least half the children in the school to play together or in groups. Part of it should be banked if there is space and opportunity.

(*b*) *Hard Play Space.* This should be directly connected with the playrooms. In 2–5 schools its area need not be more than the total area of the playrooms, but in 2–7 schools and Infant Schools it should be large enough to give space for the more vigorous games of the 5–7 children. For Infant departments with four or more groups a minimum site area of 2 acres is recommended. This would leave ample margin for a garden in addition to hard play space.

(*c*) *Sand Pit.* This should be well drained and fitted with some form of cover. Movable sand boxes, sometimes used indoors, are also possible.

(*d*) *Jungle-gym.* This is a vent for tireless energy. It can be bought standard or quite cheaply made by local joiners.

(*e*) *Paddling Pool and Shower.* Some form of water play, indoors or out, is an important part of a child's training. For summer use an outdoor pool, fitted with an easily operated spray, is a worth-while investment. A cheaper substitute is a movable canvas pool, used with success at the Chelsea Nursery School.

(*f*) *Pets.* If these are to be kept they must be given plenty of space, and the best place for them is not near the playroom windows.

(*g*) *Flower Beds*, where children can plant flowers and watch them grow, are worth the sacrifice of a lot of the flowers planted professionally. Paved paths between the beds are important. If no room for beds, troughs or boxes are the next best things.

(*h*) *Bird Bath and Bird House.*

(*i*) *A few Shallow Steps.* These can often be combined with the sand-pit or pool.

(*j*) *One or two Trees*, for shade as well as instruction and observation.

(*k*) *Vegetable Plot.* Provides cheap spinach and other greens for the children when there is room to spare.

In connection with the outdoors the following accommodation, which may or may not be linked to the main building, is useful though not indispensable.

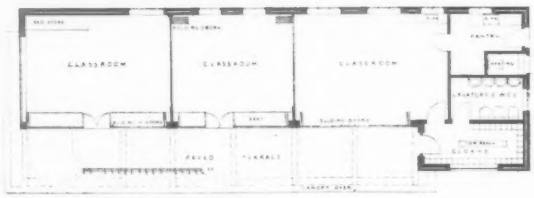
Garden Workshop. Even in separate Nursery Schools miniature work-benches are sometimes provided. In Nursery-Infant Schools a small open-air room with a boarded floor, fitted with a low bench and a couple of rough solid tables, would be well patronized by the older children.

Outdoor Toy Store. This should be placed adjacent to the covered play-space. It should be not less than 40 sq. ft. in area.

Tool Shed. This should provide separate accommodation for gardener's tools and for children's tools, flower pots, etc.

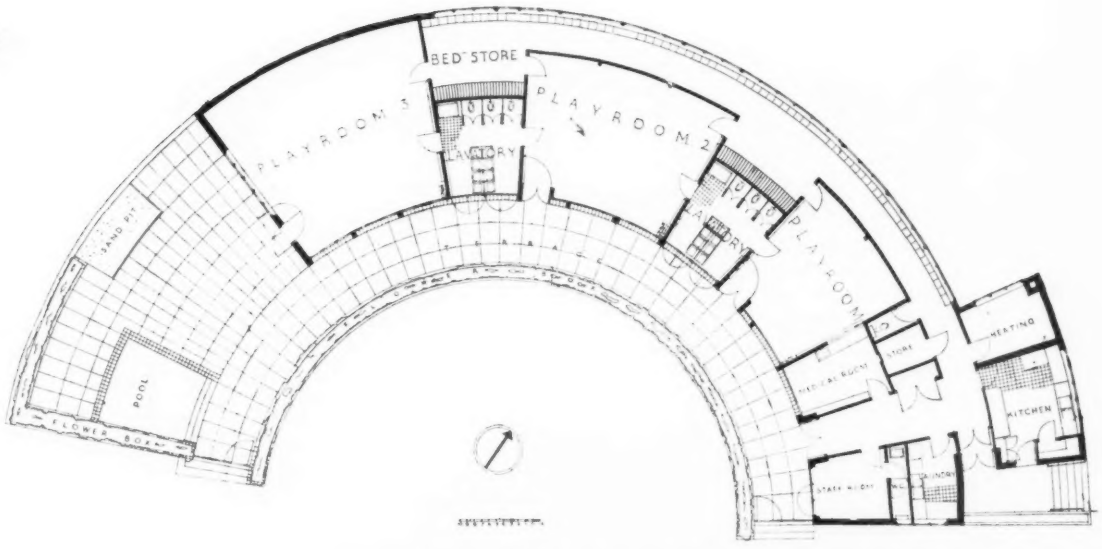
Pram Store. Placed fairly near the entrance. Its size will depend on the distance of the school from the children's homes.

"*House.*" This need be no more than a roof on three or four supports—just high enough for 7-year-olds.



Intercommunicating playrooms at Maria Grey School at Brondesbury, showing nesting type metal chairs and tables. This arrangement gives good opportunity for indoor community games but lacks sound separation. Where it can be afforded it is preferable to give each playroom a separate coatroom and lavatory. Ackworth and Montagu, architects.

SCHOOLS



Plan and playroom interior of Kensal Rise Nursery School. (E. Maxwell Fry, in collaboration with Grey Wornum, C. H. James, Robert Atkinson, Elizabeth Denby, housing consultant). A plan which gives a variety of playroom sizes with good separation. Arrangement of staff and medical inspection rooms, lavatories and bed stores is admirable and the coatroom-corridor, though open to criticism, has been found to work well in practice. The kitchens might have been more centrally placed. On a site far too restricted, best possible use has been made of flower troughs. Notice double draught-proof doors to playrooms and (in photograph) adjustable gas radiant heater. (Photograph by E. Tudor Hart.)

Indoors

Playrooms. The word *playroom* instead of *classroom* gives an idea of what is wanted for children under 7. In progressive Infant Schools the rigid class has been abandoned: it is incompatible with the Nursery School idea. The description of a child's typical day has outlined the constantly changing group activities which must be understood by the designer of a Nursery or a Nursery-Infant School.

Size. For a group of 30 children between 2 and 5, or for a smaller group of the youngest children, a room not less than 850 sq. ft. is advisable. For the 5–7 children, 600 ft. should be the minimum for a group of 30, 700 ft. for a group of 40. These figures set a higher standard than the usual minimum set for Infant Schools where 520 ft. is still common for a class of 40 to 50. But they anticipate improved conditions based on the teaching recommendations of the Hadow Report.

A recess is always useful. In the younger children's rooms this can sometimes be a raised platform, cupboards under, combined with the always popular slide, or it can be a "puddling corner," tiled and fitted with a tap and small sink. All Nursery School teachers would welcome something of this sort attached to at least one of the playrooms. In Franz Singer's school at Vienna temporary recesses are made with movable cupboards and tables turned on their sides. Such little compartments appeal strongly to small children who enjoy the sense of enclosure for some of their games.

In one-group schools it will be a great asset to have one smaller room, 400–450 sq. ft., next door to the large playroom, where 2–3-year-olds can be separated from the others. Where great economy is necessary the one playroom can be slightly enlarged and fitted with folding doors. In schools of more than two groups, one room should be made considerably larger than the others so that two groups can occasionally be combined for community play, and this room might, with advantage, be fitted with folding doors. Or it can be in the form of a hall serving as circulation space between other rooms and capable of being thrown open to link up with the play-garden. A large circular room of this type is an attractive feature of the

Maison Alfort kindergarten department in the Jules Ferry school on the outskirts of Paris.

Playrooms *en suite*, divided by folding doors, are an interesting feature of the Brondesbury School, but most teachers prefer a plan arrangement which gives greater noise insulation.

Windows. There should be at least one continuous window along the whole of one side of the room, facing south-east to south and overlooking an interesting part of the garden. Direct contact with the outdoors is important, but casement or folding windows down to the ground have not been found suitable in English Nursery Schools. A small door to the open air, opening off a lobby or made as draughtproof as possible, and continuous windows stopping within 1 ft. 3 ins. of the ground so that children can see out, is a good arrangement. Small children spend a great deal of their time on the floor and the avoidance of draughts is important.

Playrooms with large, low windows opening along two adjacent walls facing south and east are excellent, but the advantages of " open-air-pavilion " planning have been exaggerated lately. Children are much happier and more responsive when lightly and freely clothed in a room which is healthily warmed and draught protected, adequately but not excessively airy, than they are when heavily clothed in a room swept with cold air currents.

In our damp-laden atmosphere there is no ultimate or immediate advantage, except to tubercular subjects, in all-the-year-round open-air teaching. In warmer weather Nursery School children will in any case be outdoors for the greater part of the time, and in all schools separate outdoor teaching in suitable weather should be planned for and encouraged.

The best position for the paved play space is obviously just outside the playroom and if a covered terrace is formed on the window side a range of additional windows should be placed above the canopy. Even if mostly of glass, canopies tend to take light from the playroom.

The section through the Kensal House school is a good example of window arrangement where a canopy is used. The high window above the corridor on the opposite wall gives good cross ventilation. Probably the ideal arrangement would be a wide uninterrupted window to the south-east and a covered terrace to the north-west.

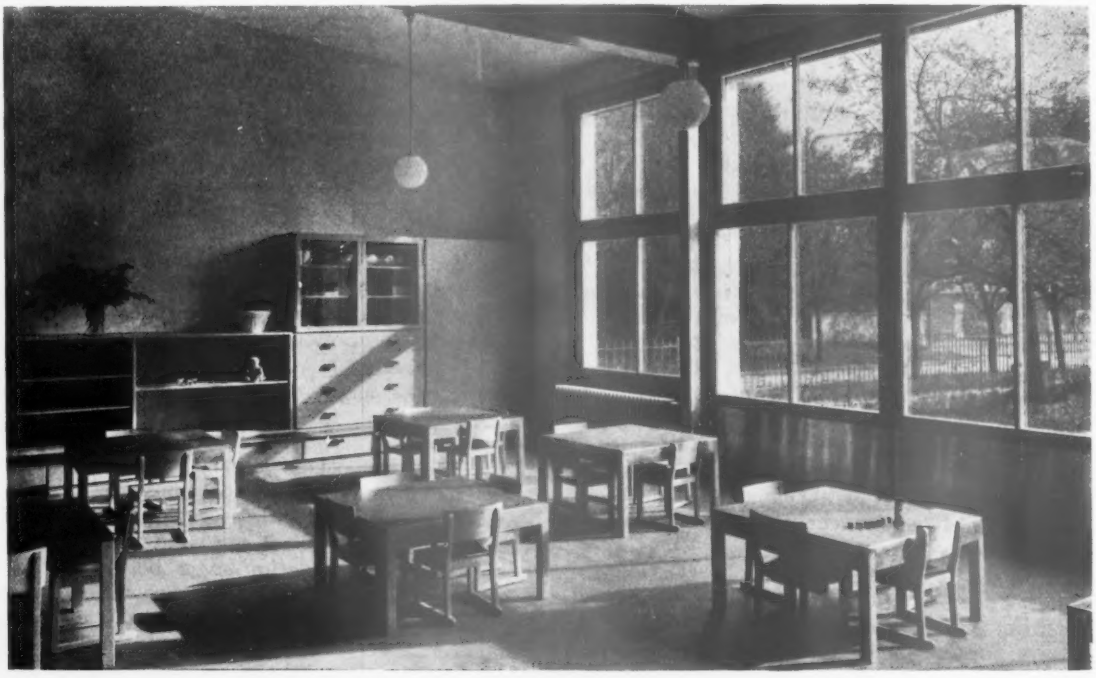
For the playroom, and for all children's rooms including the wash rooms, windows should start almost at the ceiling and finish within 1 ft. 3 ins. to 1 ft. 6 ins. of the floor. For controlled ventilation the best arrangement for full window walls is outward opening hoppers at the top (inward opening is likely to give down draught if placed high up), all-opening casements or (if they can be afforded) " concertina " sliding and folding windows about 4 ft. deep in the middle, and *inward* opening hoppers at the bottom, where they can be operated by the children themselves. Ideally, upper hoppers should be operated by winding gear, lower hoppers should have anti-draught side pieces. Lower hoppers, however, are not essential. If concertina windows are used they may be brought down to sill level so that all window divisions can be made to disappear. A flower trough outside playroom windows is a good device for protecting children from open casements or concertina windows.

Standard wood and metal types are so well known to architects that descriptions here would be superfluous.

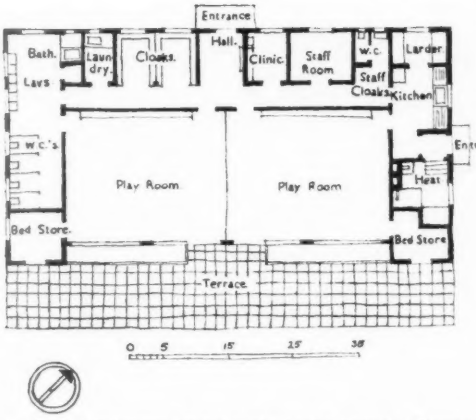
Doors

Glass doors should have wired or armour-plate

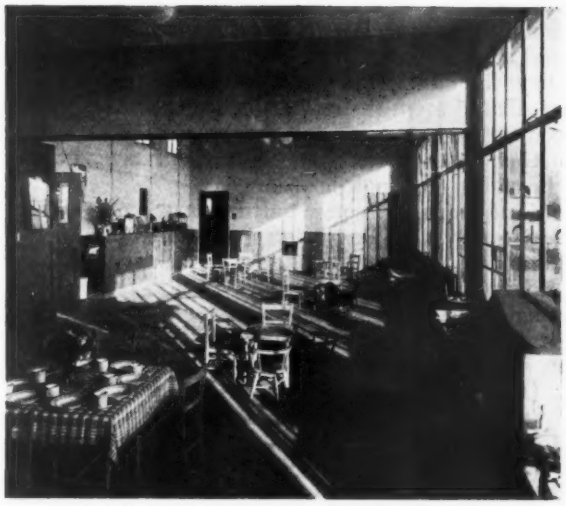
Playroom in a Zurich Nursery School. (Hans Leuzinger, architect.) Built-in and movable furniture appropriate in character.

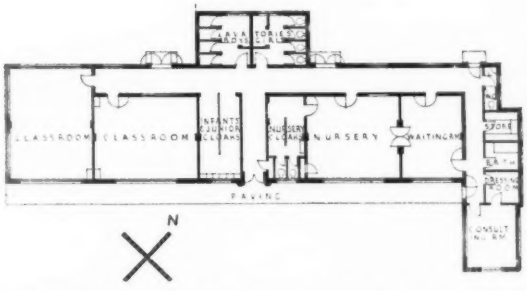


SCHOOLS

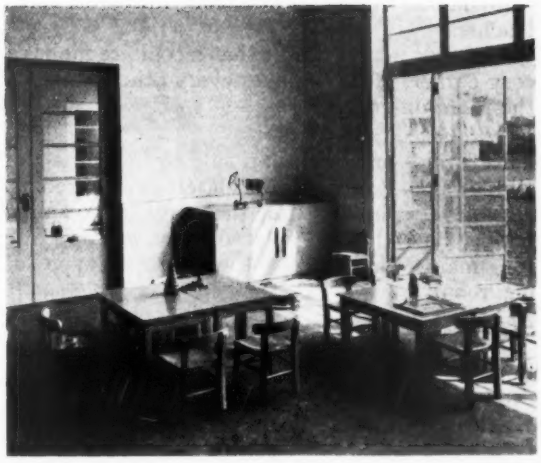


An English Nursery School : the Lache School, Chester (Gibson and Lemmon, architects). A good straightforward plan with inter-communicating playrooms. Wood-frame construction using standard panels of asbestos-cement, asbestos fibre-board and other asbestos products.





An English Nursery-Infant School : isolated department of Bottisham all-age school, Cambridgeshire (S. E. Urwin, architect). The Nursery end is planned as infant welfare clinic.



glass. All-wood or all-metal doors should be flush, of reliable manufacture. Doors used by the children should be light as possible within the limit of sound construction and never more than 2 ft. 6 ins. wide. Lever handles fitted low enough for the smallest child are best. Ideal for intercommunicating doors between playrooms and lavatories are wired glass doors through which the children can see each other and so avoid knocking the unwary off their legs.

Artificial lighting

Nursery-Infant School lighting need not be planned with the scientific accuracy necessary in Junior and Senior Schools, but, though used for only short periods, lights should be arranged to give an illumination *on the floor* of between 5 and 10-foot candles. Lighting should be evenly diffused with a minimum of glare.

Panel lighting in the ceiling is a pleasant arrangement which avoids hanging excrescences and removes the source of light as far as possible from the children's eyes.

In playrooms and lavatories it is good training to have switches within reach of the 3- and 4-year-olds.

Heating

Though it is true that children need fewer thermal units for their comfort than grown-ups, the provision of evenly distributed controlled heat is nevertheless important. In "open-air" schools where continuous windows open down to the ground it has been found difficult in winter months to achieve an adequate supply of fresh air and adequate warmth at the same time, even with radiant heat methods.

A temperature of 55°–60° F. immediately above the floor should be aimed at. It has been found that the most efficient method of heating a nursery or any room where there are abnormal heat losses, is by adjustable radiant panel heaters (electricity or gas, operating at about 400° F.) fixed to walls about 7 ft. above the floor. (See photograph, page 19 of Schools). The deflecting surface is normally hung at an angle of 45° but is adjustable.

Panels flush with the ceiling can be fitted when light joist and building board construction is used. They do away with a dust-collecting excrescence, but since they have to be fitted at a height of 9 ft. or more there is likely to be a slight loss of efficiency.

Nearest to ideal, except from the cost point of view, is the invisible panel system *in the floor*—giving evenly distributed low temperature over the entire floor area.

Hot water radiators, or any partly or wholly convectric elements, should (ideally) be avoided, partly because they can never be efficient in

rooms where air is constantly being changed and partly because they have inconvenient edges and surfaces which are often too hot. If used, they should be fully recessed, but in a well-ventilated room the radiant is healthier than the convectric source of heat.

Gas fires and electric radiators within reach of the children cannot be used.

Coal fires are recommended in a recent publication by the Board of Education but the authors, after questioning several Nursery School superintendents, are against this recommendation. There must in any case be subsidiary heating, and the disadvantages of a coal fire in a Nursery School are :—

(1) Deposits extra dirt inside and out.

(2) Makes even temperature distribution almost impossible and tends to upset ventilation.

(3) Has to be partly hidden by a close mesh guard which gets dangerously hot.

(4) Restricts spontaneous group-forming.

(5) Makes extra work for fully occupied teachers.

Diehards may murmur that a coal fire makes a cosy corner. But it makes every other corner of the room un-cosy.

Ventilation

Natural cross-ventilation by means of windows is essential for all children's rooms. High-level windows (of the outward opening hopper type) should be placed in the wall opposite the main window in the normal type of playroom.

Floor coverings

The playroom floor is an important consideration. A small child lives very close to the floor even when he is not actually crawling on it. Hygiene, warmth, resilience are attributes to be aimed at. So far, cork (or cork composition) has been found to combine these three better than anything.* Rubber, in strips or in the form of asbestos-reinforced tiles, comes a close second. It is easier to keep clean than cork, which is liable to hold small particles of grit, but it is not so pleasant for the children to sit on and, has rather too high a coefficient of friction, making it difficult to push chairs and tables around. Also, it is more expensive. "Battleship" linoleum (semi-matt polish) is slightly cheaper than cork and a reasonably good substitute if it is of high grade manufacture.

On no account should wood be used for any floor finish in the children's rooms. Wood verandahs were common in the earliest Nursery Schools and proved dangerous owing to splinters and uneven wear.

Coved skirtings should be the rule. Where cork or some similar material is used, it can be made to curve up at the meeting of the wall and stop against a wood batten.

Wall and ceiling finishes

All walls should be made washable within finger range.

In playrooms a reasonably light colour all over the wall is perfectly practical provided the surface is genuinely washable. It also has the advantage that dirt, made visible, will be more frequently washed off.

Semi-gloss paint is better than full gloss, which is likely to cause dazzle. Ceilings are best with light coloured matt surfaces to give good diffused reflection.

It would not be sensible to lay down rules for colour. Children under five show definite preference for primary colours, but this does not mean that all playrooms have to be decorated in yellow, blue and red. There is a popular idea afoot that blue is depressing to children. It is obvious that a colour scheme employing only cold colours is not suitable, but the use of blue (particularly light blue) in combination with its complementary colours can be extremely gay. Walls and ceilings might well be of different colours, but they should always be light in tone. Screens or small areas of walls (in recesses, for instance) give interesting variety if treated with full contrasting colours, but otherwise full colours should be reserved for furniture, toys, and other movable objects.

A discussion of colour and design generally is reserved for the final section.

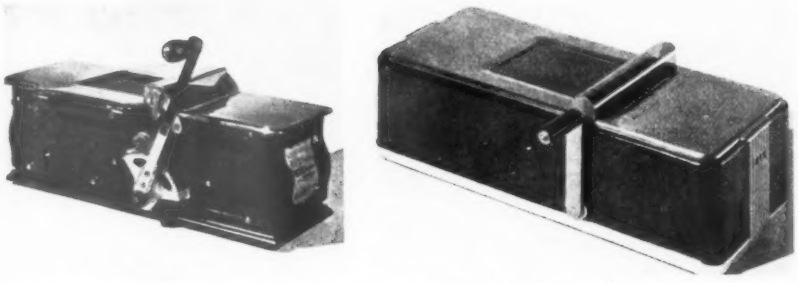
Storage

Full requirements for storage will be grouped together at the end of *Plan Units*. It is important that ample shelves and cupboards for toys and picture books should be arranged so that the children can reach them. Teachers' stores and bed racks can be made accessible from the playroom or from immediately outside it.

When planning cupboard space it must be remembered that dolls' prams, wheelbarrows, trolleys, tricycles, motor cars, will be used indoors within the limits of space in wet weather. Large cupboards in each playroom, or a large central cupboard, can be made to take care of these.

Emphasizing the importance of floor surface. Nursery School in Vienna (Franz Singer, architect).

* If invisible panel floor heating is used, cork will not be suitable on account of its high insulation properties.



Before and after : a sales slip register re-modelled by Walter Dorwin Teague.
[From "Pencil Points."]

PERIODICALS

SEPTEMBER AND OCTOBER ANTHOLOGY

AMERICA

American Architect

(Monthly, $1.00. 572 Madison Avenue, New York)

OCTOBER. New England churches—a series of excellent photographs by Samuel Chamberlain; offices in New York by C. Coggeshall; recent brick buildings—a portfolio of work by various architects; Time-saver Standards deal this month with brickwork.

Architectural Forum

(Monthly, $1.00. 135 East 42nd Street, New York)

September. The Paris exhibition—twenty pages of illustrations and review by Henry-Russell Hitchcock, who admires the Italian, Danish, Austrian, Finnish, Czechoslovakian and Swiss pavilions, while disliking or remaining indifferent to the rest. A very unusual house by Kraetsch and Kraetsch (see illustrations page 803), the plan and ramps being largely the result of a particularly strong-minded client. Ten pages of book-shop plans. Small houses and some re-modelling schemes.

October. Domestic interiors reference number, 120 pages of photographs, plans and essential dimensions, the various sections—eating, sleeping, recreation, etc.—each being finished with a complete *projet*, by Neutra, Born, the younger Saarinen and others. A particularly good issue to keep for future use, for nearly all the best American designers are represented, as well as a number of Europeans.

Architectural Record

(Monthly, 50 cents. 115 West 40th Street, New York)

September. Five standardized service stations designed by Walter Dorwin Teague for the Standard Oil Co., pleasant designs modified for different sites; eight pages showing architects' own offices, probably selected with some care, but giving the impression that plenty of American architects have properly planned offices. Twelve houses $10,000 to $20,000; notes on residential air-conditioning systems by Brewster S. Beach.

October. A five-page article by Frank Lloyd Wright on architecture and life in the U.S.S.R., "plans for the new Moscow are far ahead of any city planning I have seen elsewhere." Simon Brienes reports the first congress of Soviet architects. William G. Perry's hotel for the Williamsburg restoration, a sound and scholarly exercise consistent with Williamsburg but slightly post-dating it. Mr. Lawrence Kocher reports the Paris Exhibition with some 11 pages of good photographs and there is also a double-spread by Moholy-Nagy. The Month's Building Types section deals with flat blocks.

Pencil Points

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

September. The work of Walter Dorwin Teague, one of America's better industrial stylists who keeps as much as three years ahead of the public taste. Small city garden possibilities, an article by Garrett Eckbo. Good photographs and drawings of early houses at Cambridge, Mass.

•

FRANCE

L'Architecture

(Monthly, 8 frs. 51 Rue des Ecoles, Paris 5e)

September. The colonial section of the Paris Exhibition, photographs and details of Beaudouin and Lods's illumination schemes, and a report of the hundredth congress of the Archæological Society of France.

La Technique des Travaux

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

September. A flat block in Brussels by Jacques Saintenoy; the Paris Exhibition; a municipal swimming pool at Casablanca and a wireless station at Nice by A. Audoul; technical notes on beam calculations.

October. The "Centre Régional" of the Paris Exhibition—photographs, no plans; the new Le Bourget airport buildings by Georges Labro—plenty of photographs and plans; the Lincoln tunnel under the Hudson River—layouts, progress photographs and constructional details.

•

GERMANY

Baukunst und Städtebau

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

September. Additions to the Reichshauptbank in Berlin by Heinrich Wolff; industrial buildings by Rudolf Lodders; an article by Friedrich Paulsen on the work of Christian Hansen—all the above from previous issues of *Bauwelt*. Tribunes for the Nürnberg party gathering, the work of Professor Speer, who was also responsible for Germany's Paris pavilion.

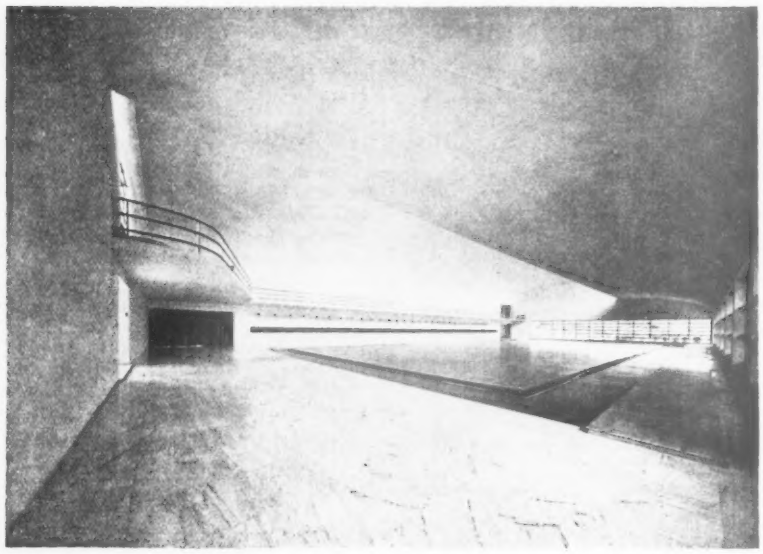
October. Colliery buildings by Schupp and Kremmer; more industrial work by Rudolf Lodders; two traditional houses near Berlin by Gunther Andretzke; middle-class houses by Heinrich and Wilhelm Quante.

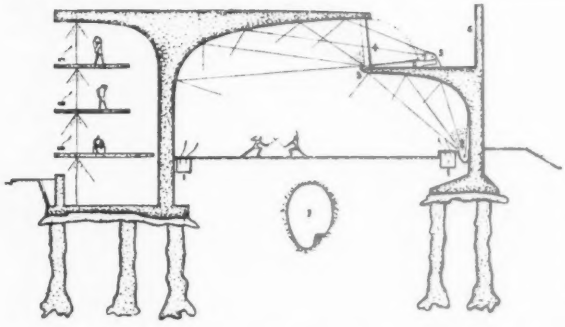
Baumeister

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

September. The Paris Exhibition, a rather non-committal article by Guido Harbers; the Düsseldorf Exhibition; a pair of unequal sized semi-detached houses by Werner Harting, the smaller being the architect's own studio; working-class

A Works Sports Club at Schweinfurt by Paul Bonatz and Kurt Dübbers.
[From "Moderne Bauformen."]





Interior view and section of a Fencing School in Rome, by Luigi Moretti. [From "Architettura."]

houses and flat blocks by Joseph Deuzinger; the Hermann Göring aerial warfare school near Nürnberg, by Weigel and Reichel; competition notes and working drawings.

October. Professor Albert Speer's Nürnberg buildings, dull and heavy; working-class housing by Buchka and Schlie at the Dresden "House and Garden" exhibition; a new school in Augsburg and a painter's house in Oderberg by Werner Harting.

Bauwelt

(Weekly, 90 pf. Ullstein Verlag, Berlin, S.W.68)

September 2. Professor Speer's buildings at Nürnberg.

September 9. Recent industrial work by Rudolf Lodders.

September 16. Scheme for another Nürnberg stadium by Professor Speer; middle-class houses by Heinrich and Wilhelm Quante.

September 23. "Two architects in Paris," an article on the exhibition containing a photograph of the U.S.S.R. pavilion; colliery buildings by Schupp and Kremmer.

September 30. Competition for a new Town Hall in Emmerich, won by Ernst Kreytenberg; country houses by Otto Prossinger and Georg Schutz.

October 7. The work of Fritz Schopohl, a designer capable of turning out a traditional small house with competence and skill.

October 14. Four more houses by Fritz Schopohl.

October 21. New buildings for the Heinkel aeroplane factory, by Otto Biskaborn; competition for the re-planning of two Leipzig squares, won by Ludwig Mau.

Deutsche Bauzeitung

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

September 1. The four-family block, a new housing unit analysed by Edgar Simon.

September 8. The international housing and town planning congress in Paris.

September 15. An article on swimming baths and wash-houses by Dr. Erbs, continued from the issue of August 25.

September 22. Competition for an office block for a Hamburg fire insurance company, won by Hannes Mramor.

Buildings Supplement. The Paris Exhibition, notes and illustrations of various pavilions; two churches and a seaman's home by Kurt Stoltenberg; houses by Werner Harting.

October 6. Competition for working-class houses, won by Doerfel and Richter.

October 13. Tiling problems round dormer windows, an illustrated article by Hermann Decker.

October 20. Various competition results.

October 27. A garage below a flat block, by Hermann Mohr.

Buildings Supplement. Recent housing in the Hamburg district, all traditional, but mostly quite good of its kind. Fireplaces by various architects, photographs and useful flue sections.

Innen Dekoration

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

September. Interiors, very dreary and depressing, of the German pavilion in Paris; photographs of the remaining pavilions seem to have been chosen only if they are in the same spirit as the German—the whole giving a somewhat biassed view.

Moderne Bauformen

(Monthly, 3m. Julius Hoffmann, Paulinenstrasse 44, Stuttgart)

September. A list of buildings to see in Zurich; three jobs in Basle, administration building for Hoffmann La Roche & Co., a Christian Science church, and a large country house—all by Otto Salvisberg; alterations to the Grand Hotel, Vienna, by Oswald Haerdtl; a two-and-a-half-room flat in Vienna, by Sylvester Keidel.

October. Professor Speer's new Nürnberg Stadium scheme; some good photographs of the Paris Exhibition; and a really excellent stadium at Schweinfurt by Paul Bonatz and Kurt Dübbers (see illustration page 801); recent furniture by the Stuttgart State school, much of it good, some lamentable.

•

HOLLAND

Bouwkundig Weekblad Architectura

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

September 4. Eliel Saarinen's work at Cranbrook.

September 11. A country house on the Bodensee by Conrad Furrer; two drawings of the New Theatre, Rotterdam, by J. Verheul.

September 18. Impressions of a tour in South Limburg, by J. F. Berghoef—church murals, windows and sculpture.

September 25. A Roman Catholic church at Groesheek, by Granpré Molière; a medium-sized house at Hilversum, by P. J. Verschuyl—plan rather straggling.

October 2. Religious sculpture by Charles Vos.

October 9. Recent work in the Weiringen district.

October 16. Restoration work at Delft Cathedral, by H. van der K. Meijburg.

October 23. Notes on the centenary celebrations of the Swiss Engineers' and Architects' Association; racecourse and grandstands at Merano, by P. Vietti-Violi.

de 8 en opbouw

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

September 4. Recent working-class flat blocks in Amsterdam.

September 18. Notes on the Paris Exhibition, by Siegfried Giedion and Mart Stam.

October 16. Eight small houses—photographs, plans and full details.

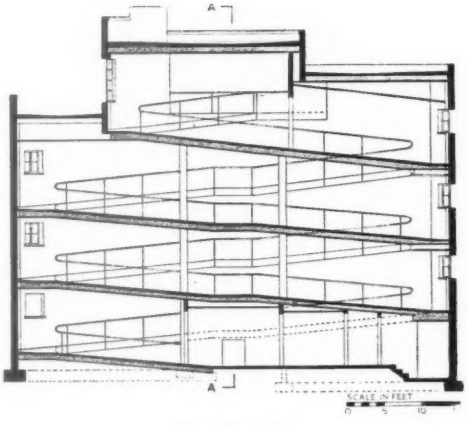
•

ITALY

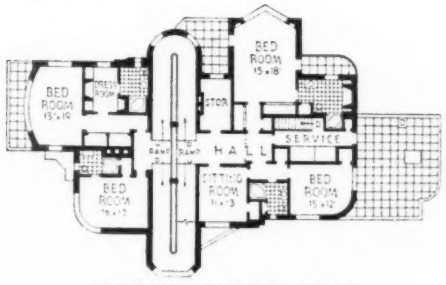
Architettura

(Monthly, 18 lire. Via Palermo 10, Milan 1)

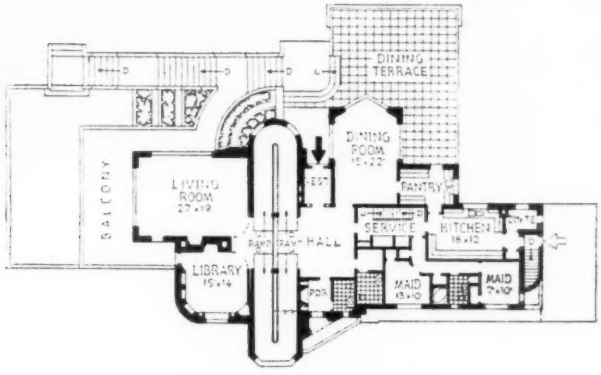
August. A school of fencing in the Mussolini Forum, by Luigi Moretti (see illustra-



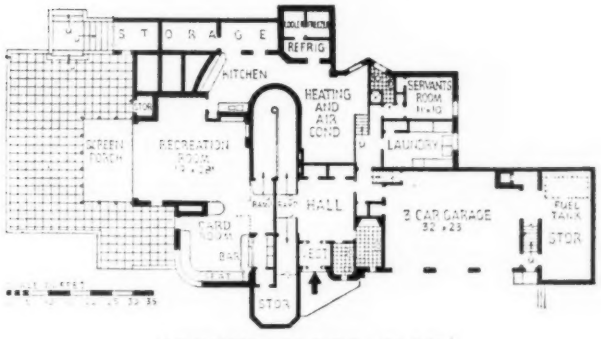
SECTION



SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN

A house for a strong-minded client, by Kraetsch and Kraetsch. Access is by ramps instead of stairs. [*From the "Architectural Forum."*]

tion and section); a medium-sized flat block in Rome, by Giuseppe Quaroni.

Rassegna di Architettura

(Monthly, 15 lire. Via Podgora 9, Milan 105)

September. Wren's plan for London after the Great Fire, an interesting and diverting commentary by G. de Finetti, based on extracts from Aldous Huxley's *Antic Hay*; a post office at Belluno, by A. A. Novello; three country houses near Bolzano, by Enrico Pattis; competition results.

•

SWEDEN

Byggmästaren

(Weekly, 20 kr. per annum. Kungsgatan 32, Stockholm)

No. 28. Two competition results, neither of exceptional interest.

No. 29. A system of air filtration via the surrounding subsoil to a basement intake employed in the Swiss pavilion in Paris.

No. 30. Textile factory by Hugo Häggström.

No. 31. Sven Lind's Swedish pavilion at Paris—plenty of good photographs and constructional drawings.

Boet

(Monthly, 1 kr. 75. Kristinelundsgatan 11, Gothenburg)

No. 7. Recent lighting fittings for the private house; Danish interiors, an article by Martin Strömberg.

No. 8. Some good simple furniture; recent bookbindings, mostly luxury, but in the best Swedish manner.

•

SWITZERLAND

Schweizerische Bauzeitung

(Weekly, 1 fr. Dianastrasse 5, Zürich)

September 11. New electrically-driven stock for the Pilatus rack railway; competition results.

September 18. Timber structures at the Paris Exhibition.

September 25. Competition for a school in Berne, won by Dubach and Gloor.

October 2. A small timber house by Otto Senn—full plans, interiors, and some constructional details.

October 9. Zürich fire station, by Hermann Herter—plans, full photographs and sections.

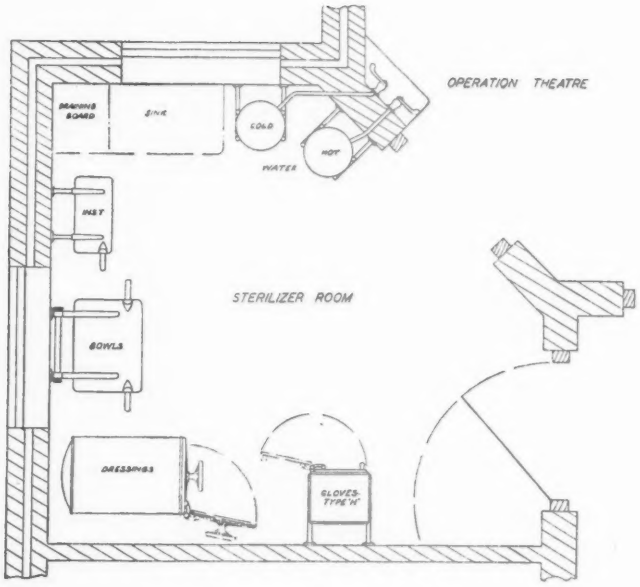
October 16. The General Motors factory at Biel, by R. Steiger—full photographs, constructional details and plans, with a general layout showing production flow.

October 23. A scheme for a covered stadium in Zürich, by Egender & Muller and R. A. Naef.

Werk

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

September. Sculpture by Max Fueter; various country houses; the "Creative People" exhibition at Dusseldorf; Stockholm, an article by Hans Bernoulli.



TRADE NOTES

[EDITED BY PHILIP SCHOLBERG]

Coloured Midhurst Whites

EVEN though it may sound one of the more obvious contradictions it is none the less true, for the Midhurst people, after producing a white calcium silicate brick in such enormous quantities that everyone takes it for granted, have now produced three standard colours—buff, blue, and silver-grey—though they are quite prepared to have a shot at matching any colour you may care to offer them. The coloured varieties are the same size and have the same strength as the standard Midhurst White, and the colour is not a surface skin, but goes right through the brick. The standard colours noted above are kept in stock and can be delivered at once, samples of special colours taking about a week to make. Price is 95s. a thousand delivered in London, as against 75s. for the standard white brick.

•

Quite as a sideline, does everybody know how many bricks it is possible to lift with one hand? Pride forbids me to give my own guess, but I was given a demonstration in Midhurst's London office, and the answer is far higher than I should ever have believed. No strings, ropes, boards or whatnots allowed, simply one hand and an unlimited supply of bricks. Possibly it is a trick as old as the hills, rather like the traditional one of telling the raw apprentice to go and get a lead hammer hardened, but it was new to me. The answer will appear in a fortnight's time, though I hope someone will have got it right before then.—(*The Midhurst Brick Co., Ltd.*, 11 Lower Regent Street, S.W. 1.)

Sterilizing Equipment

From the Medical Supply Association comes a full catalogue of sterilizing equipment of all kinds, preceded by a series of very clear notes on current sterilizing technique. While it is quite possible to arrange efficient sterilization with gas, electricity or even oil as a source of energy, steam is generally the most convenient, and these suppliers strongly recommend it as the best method. While the actual design of these fittings is not really the architects' province, it is interesting to see that there is a general clean-up going on, not from the point of view of appearance, but in order that the apparatus may be more foolproof. The complete process of sterilization involves several different operations and twiddlings of taps—steam on, vacuum, steam on again, steam exhaust, second vacuum, and drying. Anyone who has had anything to do with water-softeners knows that the average householder is only too liable to get in a tangle over the various taps, and most sterilizers are a good deal more complicated. At least one water-softener firm makes a master control valve which can be worked by the most stupid, and the same sort of thing is available for sterilizers, a single hand wheel going progressively through the proper sequence of operations in such a way that it is almost impossible to miss one out, and so that the operator can see exactly what is happening at any given moment.

•

The firm also maintains an advisory service for the planning of sterilizing rooms, a sample effort being shown above. The apparatus on this plan is mostly of the free-standing type, but built in varieties are also available.—(*The Medical Supply Association, Ltd., 167-173 Gray's Inn Road, London, W.C.1.*)

Bar Fittings

Bars, lounge, saloon, public, snack, buffet, long, smoke room, cocktail, ball room, here they all are illustrated in a new brochure from Gaskell and Chambers, who specialize in these things, whether to architects' designs or to their own. As opposed to mere agents or fixers, this firm maintains its own factories and specializes in fittings of all kinds, counters, wall panelling, and tables and chairs. It is almost impossible to produce a real catalogue for this kind of work, and the firm has rightly chosen to illustrate complete schemes from all over the country, so that one gets a clear idea of the sort of work they carry out.—(*Gaskell and Chambers, Ltd., 50-52 Dale End, Birmingham, 4.*)

Electric Fires

The '37-38 fires by the G.E.C. are mostly quite simple, the reflector types in particular being well up to the standard which the architect demands nowadays, and in spite of this they are not by any means expensive. There is a new version of the combined slot-meter fire which is apparently popular in boarding-houses (or should one say residential hotels?) where people are not allowed to have a fire without paying for it, and there is also a new all-insulated bakelite fan-heater which passes a current of air over a coiled heating element. This heater is perfectly safe to use in bathrooms or nurseries, and it can also be employed as a hair or clothes dryer, or for removing condensation from shop windows. The fan can be used without the heating element in summer, and, since its motor is of the induction type, it causes no interference with wireless sets.—(*The General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2.*)

Bakelite Veneers

The use of bakelite veneers for table and counter tops is popular enough, but this material has many advantages as a veneer for doors or wall panelling, the chief one being that it is almost unaffected by the atmosphere, and that dirty finger marks can so easily be washed off. I mentioned some months ago that the new office block at Bakelite's Birmingham factory showed a good many examples of the proper use of this material, notably for w.c. partitioning, and desks and other furniture, quite apart from panelling of all kinds.

•

The material has no special vices in use, sheets $\frac{1}{16}$ or $\frac{3}{64}$ in. thick being supplied in sizes of 8 ft. by 4 ft. or 7 ft. by 3 ft. as a veneer for plywood or laminated board, when the result can be sawn, drilled, planed or machined with ordinary woodworking tools. Quite a large range of colours is available, blues, greens, browns and buffs, and there is also a good clear red of a kind which for some years was rather difficult to obtain. Of the artificial marble finishes and the imitation wood veneers the less said the better. Admittedly they are triumphs of fidelity, and I suppose it is unkind to blame any firm too much for

supplying what its customers insist on having, but although Bakelite are naturally proud of their technical skill they do not really seem to enjoy making their material look like something else. Queries about the actual process of reproduction produce a polite request not to be too curious, but I imagine it is done photographically; you can, incidentally, have photomurals reproduced if you want them. Simple inlaid patterns are also possible, one of the examples illustrated using a thin metallic foil, which is protected by a thin film of transparent resin incorporated during the process of manufacture.

The official title of the booklet is "Trefoil" Bakelite Veneers; there are plenty of illustrations to show what the stuff looks like, and these are followed by drawings showing various methods of fixing. Just the sort of information the architect needs, but does not always get.—(*Bakelite, Ltd., 68 Victoria Street, London, S.W.1.*)

THE BUILDINGS ILLUSTRATED

FIRST CHURCH OF CHRIST SCIENTIST, BELFAST (pages 777-779). Architect: Clough Williams Ellis. Superintending Architect: D. W. Boyd, M.R.I.A.I. The general contractors were: Stewart and Partners, Ltd. All the hardwood joinery in the Church was carried out at the workshop of the general contractors; also the plastering and painting were carried out by their workmen. The sub-contractors and suppliers included: Wm. Curran and Son, Ltd., plumbing; Robert Ardis, electric light and heating; Robert Kirk, Ltd., terrazzo and tiling; Musgrave & Co., Ltd., iron gates and railings; A. M. MacDougall and Sons, woodblock flooring; Redpath, Brown & Co., Ltd., steelwork; Ewart and Sons, Ltd., copper work; Emerson and Norris, reconstructed stone; Henry Willis and Sons and Lewis, Ltd., organ.

GARAGE AND FABRIC SHOWROOM AT BROADWAY, WORCESTERSHIRE (pages 782-783). Architects: G. A. Jellicoe and Partners. Assistant architect: D. W. Mitchell. The general contractor was Sir Charles Steward.

HOUSE AT WARREN RISE, NEW MALDEN, SURREY (pages 784-787). Architect: E. Maxwell Fry. The general contractors were T. H. Adamson and Sons, and the principal sub-contractors and suppliers included: Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt; Cattybrook Brick Co., Ltd., facing bricks; Geo. Vint and Bros., garden walling (stone); Art Pavements and Decorations, Ltd., artificial stone flooring; Frazzi, Ltd., Paropa roofing; F. McNeill & Co., Ltd., Insulcrete, Statite plaster; T. and W. Farmiloe, Ltd., glazing; Venesta, Ltd., walnut-faced plywood floor, flush panel and Plymax doors, plywood; Cellulin Flooring Co., and Korkoid Decorative Floors Ltd., lino and cork tiles; Sika-Francois, Ltd., waterproofing materials to swimming pool; Drake and Gorham, Ltd., electric heating and electric wiring; Heatrae, Ltd., water heaters; Bratt Colbran & Co., Ltd., grates; Allen and Greaves, Ltd., spiral metal stair and diving board; Spencer Heath and George, Ltd., springboard; Troughton and Young, Ltd., Merchant Adventurers of London, Ltd., Ascog, Ltd., Oswald Hollmann, and Best and Lloyd, Ltd., electric light fixtures; Synthetic Stone, Ltd., copings; Yorkshire Copper Works, Ltd., copper tubes throughout and plumbing; John Bolding and Sons, Ltd., sanitary fittings; Hilmor, Ltd., Comyn Ching & Co., Ltd., and Dryad Metals, Ltd., door furniture; Oscar Kanter, door furniture (Wehag); Williams and Williams, Ltd., steel casements and window furniture; G.P.O., telephones (house exchange system); British Vitrolite Co., Ltd., bathroom panelling; Light Steelwork (1925), Ltd., entrance gates, balcony railings, and stair balustrade; Lenscrete, Ltd., glazed concrete windows; Nobel Chemical Finishes, Ltd., "Dulux" paint, Beldec distemper; Bitulac, Ltd., interior of pool (Bitulac); A. Shingleton, sunblinds; Stic B Paint Sales, Ltd., concrete paint; P. C. Henderson, Ltd., garage door gear; J. Starkie Gardner, Ltd., interior metalwork: Henry Wiggin & Co., Ltd., Monel metal sinks; National Stone and Granite Paving Co., stonework—terrace paving: Frigidaire, Ltd., automatic refrigerators; F. and E. Eastman, tiling; Fairways, Ltd., Fairways tesselated tiles; Art. Sanderson and Sons, Ltd., wallpapers; En-Tout-Cas, Ltd., tennis court; Bath Cabinet Makers, Ltd., built-in furniture; Grant White, garden consultant; Waygood Otis, Ltd., lifts; Smith's English Clocks, Ltd., clocks; Eric Munday and Wm. Pickford, lettering; Turn-Over Filter Co., ozone plant to swimming pool; B. Cohen and Son, Ltd., furniture, carpets and curtains; Finmar, Ltd., Plan, Ltd., and Isokon Furniture Co., furniture.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICT (15 MILES RADIUS)

BETHNAL GREEN. *Tenements.* The L.C.C. is to erect 61 tenements in Tent Street, Bethnal Green, at a cost of £36,500.

ENFIELD. *Flats, etc.* Plans have been prepared by Mr. E. W. Palmer for the erection of 20 flats and four lock-up shops in Brick Lane, and 112 flats in Eaton Road, Enfield.

HACKNEY. *Tenements.* The L.C.C. is to erect 68 tenements in Warburton Square, Hackney, at a cost of £38,000.

LONDON. *School Reconditioning.* The L.C.C. is to recondition four elementary schools at Childeric Road, Deptford; Kingswood Road, Fulham; Lollard Street, Lambeth; and Wenlock Road, Shoreditch.

MARYLEBONE. *Flats.* The L.C.C. is to erect 54 flats in Richmond Street, Marylebone, at a cost of £28,750.

STEPNEY. *Flats.* The L.C.C. is to erect 240 flats in Pennington Street, Stepney, at a cost of £143,650.

SOUTHERN COUNTIES

BOURNEMOUTH. *Police Headquarters.* The Bournemouth Corporation has obtained sanction to borrow £13,000 as a first instalment of the cost of the erection of new police headquarters, the total estimated cost of which is £36,713.

BOURNEMOUTH. *School.* The Bournemouth Education Committee has purchased a site at Boscombe for the erection of a senior school.

BOURNEMOUTH. *Houses.* Plans passed by the Bournemouth Corporation:—29 houses, Wimborne Road, A. C. Barnes & Co.; 28 flats, "Steyne," Manor Road, Mrs. L. Rowley; 23 houses, Petersfield Road, Mr. J. N. Hardy.

BOURNEMOUTH. *Reorganization of Schools.* The Bournemouth Education Committee has approved proposals for the reorganization of the elementary schools at a cost of £175,000.

BURPHAM. *Houses.* Mr. A. E. Armstrong is to erect 150 houses in New Inn Lane, Burpham, Surrey.

CATERHAM. *Houses.* Plans passed by the Caterham U.D.C.:—31 houses, The Buckstones, Buxton Lane, Messrs. Keens (Beckenham), Ltd.

GUILDFORD. *Houses.* Plans passed by the Guildford Corporation:—14 houses, Lansdown Estate, Boxgrove Road, Mr. L. R. Hiscock.

HOVE. *Hotel, etc.* Plans passed by the Hove Corporation:—Hotel, Sackville Gardens Hotel, Brougham Mansions, Kingsway, Mr. J. Dixon, for Sackville Gardens Hotel, Ltd.; 16 bungalows, Dale View, The Summersdale Estates, Ltd.

HOVE. *Flats.* Plans have been prepared by Mr. A. Feldman for Highgate Builders, Ltd., for the erection of a block of 55 flats at the Upper Drive, Hove.

PORTSMOUTH. *Houses, etc.* Plans passed by the Portsmouth Corporation:—12 houses, Woodfield, Farlington, Parker Estates.

ROCHESTER. *General Depot.* The Rochester Corporation is to provide a general depot at Acorn Wharf, at a cost of £10,811.

WATFORD. *Municipal Buildings.* The Watford Corporation has obtained sanction to borrow £160,471 for the erection of municipal offices and an assembly hall.

WEYMOUTH. *Houses.* The Weymouth Corporation is to erect 118 houses in Radipole Lane and Quibo Lane.

WEYMOUTH. *Fire Station.* The Weymouth Corporation has approved plans for the erection of a new fire station.

WEYMOUTH. *Bandstand.* The Weymouth Corporation is to proceed with the erection of a new bandstand, at a cost of £30,000.

WEYMOUTH. *Schools.* The Weymouth Education Committee is to obtain a site for a new junior and infants' school for the parish of Radipole.

WEYMOUTH. *Houses.* The Weymouth Corporation is to obtain tenders for the erection of 88 houses and eight flats on the Goldcroft Estate.

WEYMOUTH. *Houses.* Plans passed by the Weymouth Corporation: 10 houses, off Verlands Road, Preston, Mr. G. Parkhouse; 30 houses, Marlborough Avenue, Andrews and Andrews.

EASTERN COUNTIES

BARKING. *School.* The Barking Corporation has obtained sanction to borrow £69,153 for the erection of Manor Central School.

BECCLES. *School.* The East Suffolk Education Committee is to erect a senior school at Beccles at a cost of £31,768.

BECONTREE. *Cinema.* The L.C.C. has leased a site at the corner of Lodge Avenue and Porters Avenue, Becontree, to Wigram Family Settled Estates, Ltd., for the erection of a cinema.

CAMBRIDGE. *Cattle Market Enlargements.* The Cambridge Corporation is to enlarge the cattle market at a cost of £8,460.

MIDLAND COUNTIES

BIRMINGHAM. *Fire Station.* The Birmingham Corporation has obtained sanction to borrow £26,812 for the erection of a new fire station at Erdington.

COVENTRY. *Aerodrome.* The Coventry Corporation is to undertake preliminary works at Baginton aerodrome, at a cost of £7,349.

LICHFIELD. *School.* Plans passed by the Lichfield Corporation:—School, Cherry Orchard, Staffordshire C.C.

NORTHERN COUNTIES

AMBLE. *School.* The Northumberland Education Committee has purchased a site in South Avenue, Amble, for a council school.

BELFORD. *School.* The Northumberland Education Committee has purchased a site at Belford for the erection of an elementary school.

DEWSBURY. *School.* The Dewsbury Education Committee is to erect an elementary school in Temple Road, at a cost of £35,120.

HULL. *Garage, etc.* The Hull Corporation is to extend the refuse works and erect a central garage, at a cost of £35,500.

ILKESTON. *Houses.* Plans passed by the Ilkeston Corporation:—48 houses, Richmond Avenue, Allcock and Sisson; house, Derby Road, Mr. A. H. Marshall.

RATES OF WAGES

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

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

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

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

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

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

MATERIALS

EXCAVATOR AND CONCRETOR

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

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . . per F.R.	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . . ,,	3 6	5 3
Rest Bends . . . ,,	4 3	6 3
Single Junctions . . ,,	3 6	5 3
Double . . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . . ,,	6 9	8 9
Interceptors . . . ,,	16 0	19 6

IRON DRAINS:

	£ s. d.	£ s. d.
Iron drain pipe . . . per F.R.	2 3	3 8
Bends . . . . each	6 4	13 1
Inspection bends . . ,,	11 5	14 4
Single junctions . . ,,	11 2	22 10
Double junctions . . ,,	17 2	30 9
Lead Wool . . . . lb.	6	—
Gaskin . . . . . ,,	5	—

BRICKLAYER

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

MASON

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

SLATER AND TILER

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

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

CARPENTER AND JOINER

	£ s. d.
Good carcassing timber . . F.C. 2s. 7d.	– 2 10
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . Sq.	18 6
,, 1" . . ,,	1 1 6
,, 1¼" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
,, 1¾" . . ,,	1 10 0
Deal matchings, ¾" . . ,,	14 0
,, ¾" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding, ¾" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1¼" . . ,,	1 6 0

Plywood, per ft. sup.:

Thickness	¼" A	B	BB	⅜" A	B	BB	½" A	B	BB	⅝" A	B	BB	¾" A	B	BB
Qualities	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch 60 × 48	4	2½	2	5	3	2½	7	5	4	8	6	5			
Cheap Alder .	–	2	1½	–	3½	2	–	–	–	–	–	–			
Oregon Pine .	–	2½	–	3	2½	–	4	3½	–	5	4½	–			
Gaboon Mahogany	4	3½	–	5	4½	–	7	6½	–	8	7	–			
Figured Oak .	6½	5	–	7½	5½	–	10	8	–	1/–	9	–			

	£ s. d.
Scotch glue . . . . . lb.	8 d.

SMITH AND FOUNDER

Tubes and Fittings:

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

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

Discounts	TUBES Per cent.		Per cent.
Gas . . .	66⅔	Galvanized gas .	56⅔
Water . . .	61⅔	,, water .	51⅔
Steam . . .	58⅓	,, steam .	46⅔
	FITTINGS		
Gas . . .	57⅓	Galvanized gas .	48⅓
Water . . .	53⅓	,, water .	46⅔
Steam . . .	48⅓	,, steam .	41⅔

	s. d.
Rolled steel joists cut to length . . cwt.	15 6
Mild steel reinforcing rods, ⅜" . . . ,,	18 0
,, ,, ,, ½" . . . ,,	17 9
,, ,, ,, ⅝" . . . ,,	17 6

SMITH AND FOUNDER—*continued*

	s. d.
Mild steel reinforcing rods, ¾" . . . cwt.	17 6
,, ,, ,, ⅞" . . . ,,	17 6
,, ,, ,, 1" . . . ,,	17 6
,, ,, ,, 1¼" . . . ,,	17 6
,, ,, ,, 1½" . . . ,,	17 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R.	1 0	1 3½
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 7 3
,, drawn pipes . . . ,,	1 6 9
,, soil pipes . . . ,,	1 9 9
,, scrap . . . ,,	18 0
Solder, plumbers' . . . lb.	1 1½
,, fine do. . . . ,,	1 4
Copper, sheet . . . ,,	1 0½
,, tubes . . . ,,	1 2½

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

PLASTERER

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

GLAZIER

	s. d.	s. d.
Sheet glass, 24 oz., squares n/e 2 ft. s. F.S.		2½
,, ,, 26 oz. ,, ,,		3½
Flemish, Arctic, Figures (white)* ,,		7½
Blazoned glasses . . . ,,		2 6
Reeded: Cross Reeded . . ,,		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite ,,		6½
Crown sheet glass (n/e 12" × 10") ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and	2 0
⅛" rough cast; rolled plate . ,,		6
⅛" wired cast; wired rolled . ,,		10½
⅛" Georgian wired cast . ,,		11½
¼" Polished plate, n/e 1 ft. ,,	†1 0 to	‡1 3
,, ,, 2 ,,	†1 4 ,,	‡1 6
,, ,, 4 ,,	†2 6 ,,	‡2 9
,, ,, 8 ,,	†2 11 ,,	‡3 4
,, ,, 20 ,,	†3 1 ,,	‡3 9
,, ,, 45 ,,	†3 3 ,,	‡4 0
,, ,, 100 ,,	†4 0 ,,	‡4 10
Vita glass, sheet, n/e 1 ft. ,,		1 0
,, ,, 2 ft. ,,		1 3
,, ,, over 2 ft. ,,		1 9
,, ,, plate, n/e 1 ft. ,,		1 6
,, ,, 2 ft. ,,		3 0
,, ,, 5 ft. ,,		4 0
,, ,, 7 ft. ,,		5 0
,, ,, 15 ft. ,,		6 0
,, ,, over 15 ft. ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and	3 6
,, rough cast ¼" and ⅜" ,,	8½ ,,	1 0
Putty, linseed oil . . . lb.		3

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

PAINTER

	£ s. d.
White lead in 1-cwt. casks . . cwt.	2 17 9
Linseed oil . . . . gall.	3 2
Boiled oil . . . . ,,	3 5
Turpentine . . . . ,,	3 9
Patent knotting . . . ,,	14 8
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . . ,,	1 15 0
Ready mixed paint . . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

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

EXCAVATOR AND CONCRETOR

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

DRAINLAYER

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

BRICKLAYER

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

ASPHALTER

		s.	d.
½" Horizontal dampcourse	Y.S.	4	9
½" Vertical dampcourse	"	7	9
¾" paving or flat	"	6	3
1" paving or flat	"	7	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2½
Rounded angle	"		2½
Cesspools	Each	5	6

MASON

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

SLATER AND TILER

		£	s.	d.
Slating, Bangor or equal to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	2	16	0
" " " " " " " (green)	"	4	15	0

CARPENTER AND JOINER

		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	2	6
Shuttering to sides and soffits of beams	F.S.			7
" to stanchions	"			7
" to staircases	"		1	6
Fir and fixing in wall plates, lintols, etc.	F.C.	3	9	
Fir framed in floors	"	4	6	
" " roofs	"	6	6	
" " trusses	"	7	6	
" " partitions	"			6
¾" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " " "	"	1	17	6
1½" " " " " "	"	2	3	0
¾" × 2" fir battening for Countess slating	"		9	6
Do., for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting fixed on, and including grounds plugged to wall	F.S.		1	6
1½" do.	"		1	9

CARPENTER AND JOINER—*continued*

		s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅜" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " " "	"	3	10
Extra only for moulded horns	Each		6
1½" deal four-panel square, both sides, door	F.S.	2	0
2" " " " " "	"	2	8
1½" " but moulded both sides	"	2	4
2" " " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " " "	"	1	4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1¼" deal moulded wall strings	"	2	1
1½" " " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER

		s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	18	6
Riveted plate or compound girders, and hoisting and fixing in position	"	1 6	6
Do., stanchions with riveted caps and bases and do.	"	1 2	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	1 4	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.		11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10	0

PLUMBER

		£	s.	d.
Milled lead and labour in flats	cwt.	1	18	0
Do. in flashings	"		1	6
Do. in covering to turrets	"	2	7	0
Do. in soakers	"	1	12	9
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

		½" s.	d.	¾" s.	d.	1" s.	d.	1¼" s.	d.	2" s.	d.	4" s.	d.
Lead service pipe and fixing with pipe hooks	F.R.	1	2	1	4	1	8½	2	7	3	6	—	
Do. soil pipe and fixing with cast lead tacks	"	—		—		—		—		—		7	3
Extra, only to bends	Each	—		—		—		—		2	3	7	6
Do. to stop ends	"	6½		8		9		11		1	0	—	
Boiler screws and unions	"	3	3	3	9	5	0	8	0	—		—	
Lead traps	"	—		—		—		8	0	11	6	—	
Screw down bib valves	"	6	9	9	6	11	0	—		—		—	
Do. stop cocks	"	7	0	9	6	12	6	—		—		—	
4" cast-iron ½-rd. gutter and fixing	F.R.											1	0
Extra, only stop ends	Each											1	0
Do. angles	"											1	6
Do. outlets	"											2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.											1	7
Extra, only for shoes	Each											1	3
Do. for plain heads	"											5	6

PLASTERER AND TILING

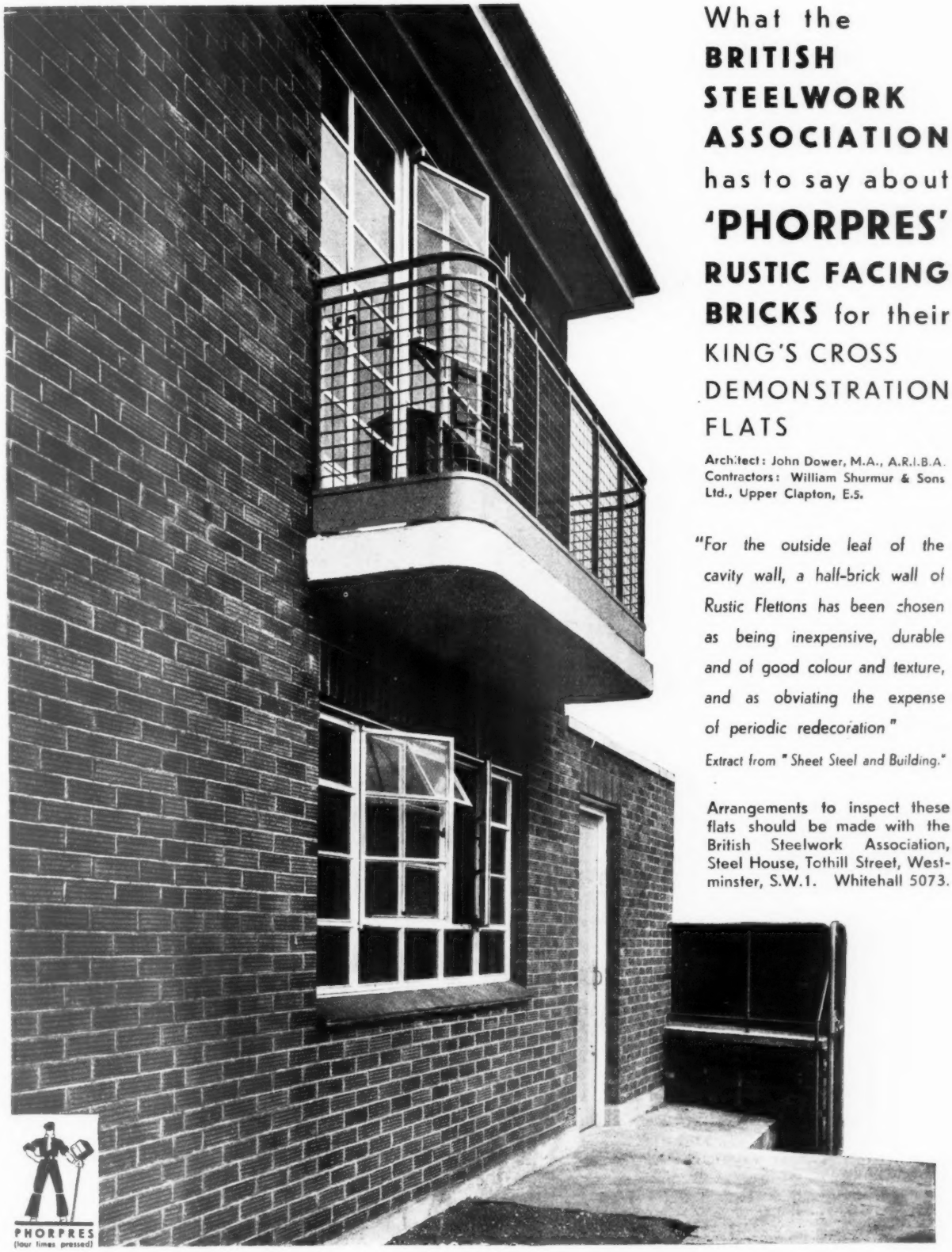
		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand or tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough under on walls	"	1	2½
Render, refloat and set in lime and hair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

GLAZIER

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

PAINTER

		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper	from "	2	9



What the **BRITISH STEELWORK ASSOCIATION** has to say about **'PHORPRES' RUSTIC FACING BRICKS** for their KING'S CROSS DEMONSTRATION FLATS

Architect: John Dower, M.A., A.R.I.B.A.
Contractors: William Shurmur & Sons Ltd., Upper Clapton, E.5.

"For the outside leaf of the cavity wall, a half-brick wall of Rustic Flettons has been chosen as being inexpensive, durable and of good colour and texture, and as obviating the expense of periodic redecoration"

Extract from "Sheet Steel and Building."

Arrangements to inspect these flats should be made with the British Steelwork Association, Steel House, Tothill Street, Westminster, S.W.1. Whitehall 5073.

PHORPRES
(four times pressed)

LONDON BRICK COMPANY LIMITED

HEAD OFFICE: AFRICA HOUSE, KINGSWAY, W.C.2. TELEPHONE: HOLBORN 8282
BIRMINGHAM DISTRICT OFFICE: PRUDENTIAL BLDGS., ST. PHILIP'S PLACE, BIRMINGHAM 3. TEL.: COLMORE 4142

THE ARCHITECTS' JOURNAL

THE ARCHITECTS' JOURNAL
WITH WHICH IS INCORPORATED THE BUILDERS' JOURNAL AND THE ARCHITECTURAL ENGINEER, IS PUBLISHED EVERY THURSDAY BY THE ARCHITECTURAL PRESS (PUBLISHERS OF THE ARCHITECTS' JOURNAL, THE ARCHITECTURAL REVIEW, SPECIFICATION, AND WHO'S WHO IN ARCHITECTURE) FROM 9 QUEEN ANNE'S GATE, WESTMINSTER, S.W.1

*

THE ANNUAL SUBSCRIPTION RATES ARE AS FOLLOWS :
BY POST IN THE UNITED KINGDOM £1 3 10
BY POST TO CANADA £1 3 10
BY POST ELSEWHERE ABROAD £1 8 6
SPECIAL COMBINED RATE FOR SUBSCRIBERS TAKING BOTH THE ARCHITECTURAL REVIEW AND THE ARCHITECTS' JOURNAL : INLAND £2 6s. ; ABROAD £2 10s.
SUBSCRIPTIONS MAY BE BOOKED AT ALL NEWSAGENTS

*

SINGLE COPIES, SIXPENCE ; POST FREE, EIGHTPENCE.
SPECIAL NUMBERS ARE INCLUDED IN SUBSCRIPTION ; SINGLE COPIES, ONE SHILLING ; POST FREE, 1S. 3D.
BACK NUMBERS MORE THAN TWELVE MONTHS OLD (WHEN AVAILABLE), DOUBLE PRICE

*

SUBSCRIBERS CAN HAVE THEIR VOLUMES BOUND COMPLETE WITH INDEX, IN CLOTH CASES, AT A COST OF 10S. EACH. CARRIAGE 1S. EXTRA

*

9 Queen Anne's Gate, Westminster, London, S.W.1.
TELEPHONE : WHITEHALL 9212-7 (OWN EXCHANGE)
TELEGRAPHIC ADDRESS : BUILDABLE, PARL., LONDON

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, NOVEMBER 18, 1937. NUMBER 2235 : VOLUME 86

PRINCIPAL CONTENTS