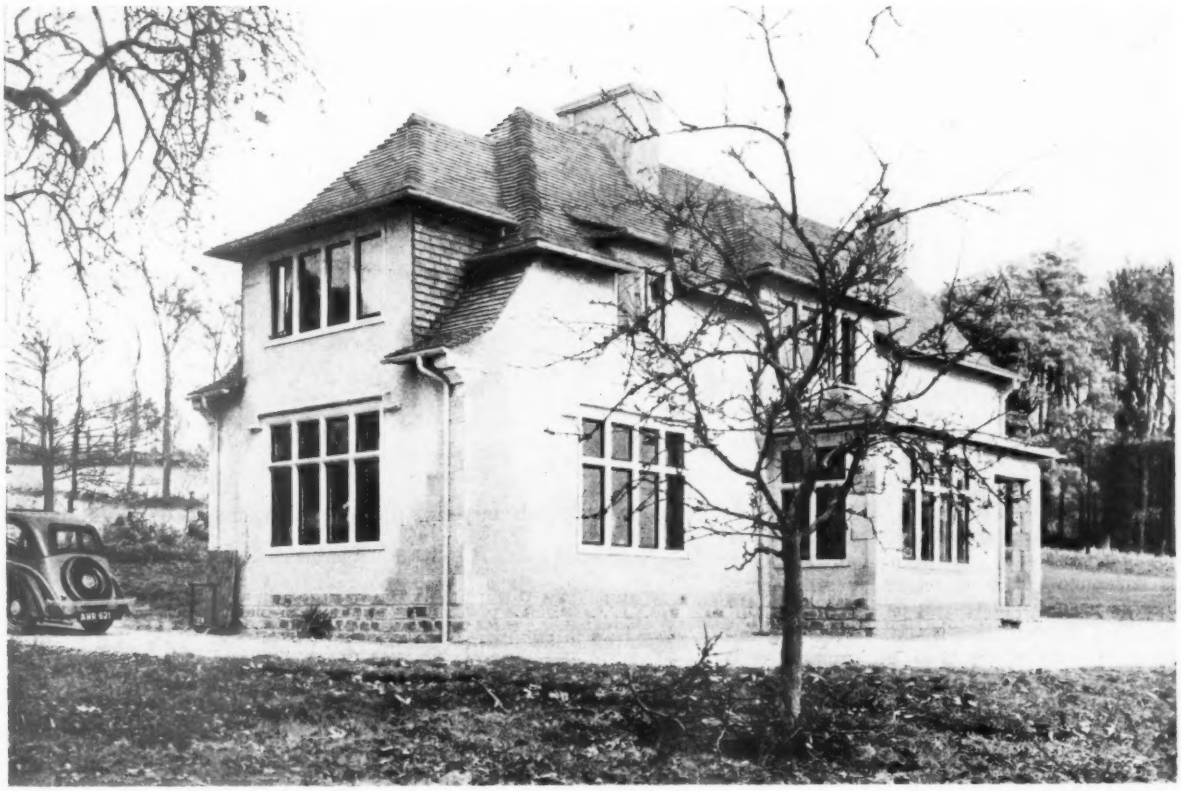


Bannerdown Estate, Batheaston, Bath. Architect: Edward Procter. Contractors: T. & E. Best.

'Phorpres' Cellular bricks were specified for the 11" cavity walls with roughcast facing

"As the position was very exposed we were anxious to get a warm and water-tight wall and you will be interested to learn that we are very pleased indeed with the results which we have obtained. Most definitely we can say that the house is warmer and drier than could be obtained with the ordinary solid brick and we are convinced that the Cellular bricks give a very high insulating value which is very pronounced in the summer"

PHORPRES
(four times pressed)

LONDON BRICK COMPANY LIMITED
AFRICA HOUSE · KINGSWAY · LONDON · W.C.2

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.

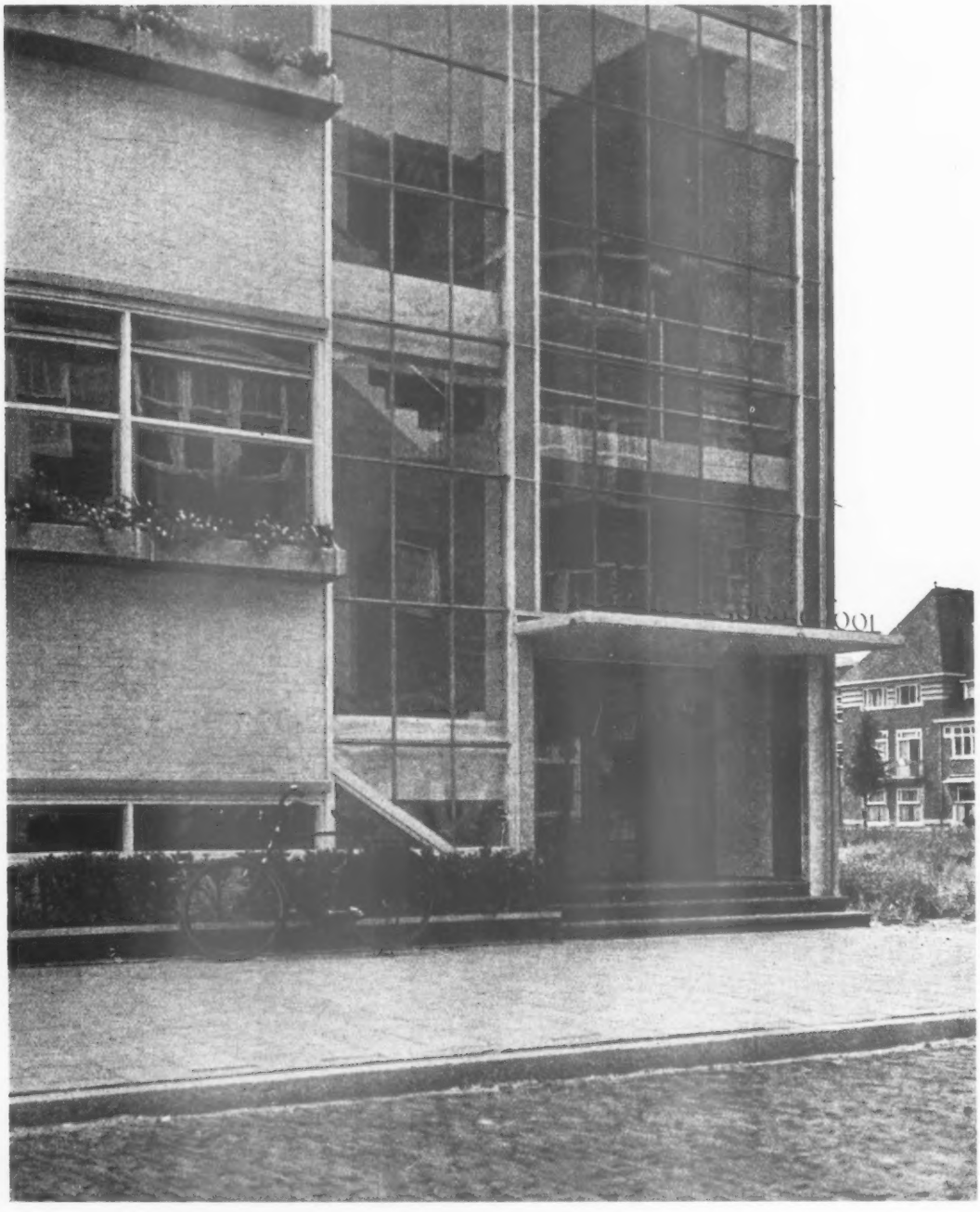
THURSDAY, February 25, 1937. NUMBER 2197 : VOLUME 85

PRINCIPAL CONTENTS

** The Working Details are temporarily suspended until the conclusion of this series.*

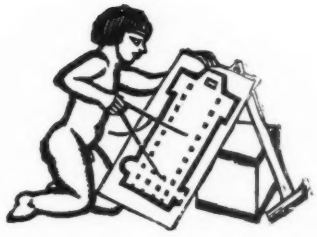
HOSPITAL CENTRE, BIRMINGHAM

A GENERAL view of the first portion—the central block—of the new hospital centre at Birmingham. The architects are Messrs. Lanchester and Lodge, whose design was placed first in a limited competition held in 1930.



THE MODERN SCHOOL

A detail of the main entrance and staircase to the Montessori School at Amsterdam, in reinforced concrete and light grey brick.



AIR RAID PRECAUTIONS

A BOOK has just been published* which demands the last treatment which it is likely to get—a calm, objective and unhurried examination. Today, when public and private feelings upon peace and war are at exceptional strength and extremely turbulent, the sight of its dust cover will be enough to release expressions of opinion beginning and ending with subjects far beyond the narrow range of facts and experiments dealt with in *The Protection of the Public from Aerial Attack*.

The expression of wider opinions which the book has caused is to some extent excused by the suggestion of bias implicit in the collective signature adopted by the authors. And that this signature is the only expression of their personal viewpoint in the book, is not calculated to be nicely appreciated by those who have been taught to believe that the only synonym for any Anti-War Group is a Communist Murder Gang. It is enough to say here that those who take the trouble to read for themselves will come to the conclusion that the authors have made and reported their experiments with what appears to be a very careful fairness.

Whatever the public as a whole thinks, or is persuaded to think, about *Protection from Aerial Attack*, however, it is of immense importance that all architects should read this very cheaply priced book for themselves and form their own conclusions. Architects, like the rest of the public, have opinions upon peace and war and on what is worth fighting for and what is not. But they have an additional need to think about aerial warfare. It is upon them and upon public service engineers jointly that the real burden will fall if it becomes necessary to protect our cities and their inhabitants, in so far as can be done, against hostile aircraft.

So far, architects in general have not been much consulted by the Air Raid Precautions Department about a matter in which they might be thought to have special qualifications. A very general address, of which the lecturer's almost gleeful pride in the destructive powers of aerial missiles was by far the most impressive feature, has been given at the R.I.B.A. For the rest, the handbooks of the Air Raid Precautions Department have been left to describe to architects interested in what way they can assist defence.

The summary contained in *Protection from Aerial Attack* of the most probable ways in which aircraft will be used against civil populations is therefore of considerable importance to them. The threats to human life are officially listed in the following order: High explosive bombs (which are heavy and expensive, and therefore likely to be used in relatively smaller quantities); incendiary thermite bombs (which are light, cheap, cannot be put out by any known chemicals, and are likely to be used in huge quantities); and gas bombs (about which opinion seems to vary: on the whole, their psychological effect when used in mass on a thickly populated area is likely to be the biggest danger; this seems likely to occur only rarely).

Protection from Aerial Attack deals only with the last two of these dangers. It describes the making of three typical "gas-proof" rooms in accordance with Home Office instructions and the testing of the resulting gas-proofness; the testing of a gas mask probably similar to that which would be available to the civil population; and some experiments with a home-made thermite bomb.

The concern of architects, as technicians, with these experiments is limited to the gas-proof room and the incendiary bomb trials. And it should be noted that the Cambridge Scientists' Anti-War Group have thought the assistance of an architect unnecessary in their experiments, with the result that the description of the construction and form of the rooms tested leaves much to the imagination.

In brief, the rate of gas leakage from a basement room in a fairly old house, from a Council house living room, and from a bathroom in a modern villa were tested; the rooms having previously been "gas-proofed" with paper strips, plywood and putty, in accordance with Home Office recommendations. No architect who has considered heating, draught and smoking chimney problems will be surprised at the results; and nearly every architect could have prophesied them without wild inaccuracy. The times taken for the concentration of gas to decrease by one half were respectively $2\frac{1}{2}$, $3\frac{1}{2}$ and $9\frac{1}{4}$ hours. By more complicated calculations the authors have arrived at the conclusion that if the concentration of poison gas outside the rooms was enough to kill an adult in half an hour, and remained constant, it would be fatal to unprotected persons inside the "gas-proof" rooms in about $1\frac{3}{4}$, 2 and 4 hours. The experiments with the thermite incendiary bomb read less convincingly. The conclusions reached were largely what is already known: that 5 inches of reinforced concrete are necessary to stop them; that they will easily pierce or burn through light roofs and wood-joisted floors; that they cannot be put out and the glare and difficulty in handling them are tremendous; and that "solid" floors of any kind resist them very effectually.

With many approximations and readings from carefully constructed apparatus these are the results of the Cambridge experiment.

* *The Protection of the Public from Aerial Attack*. A critical examination of the recommendations put forward by the Air Raid Precautions Department of the Home Office. By the Cambridge Scientists' Anti-War Group. London: Victor Gollancz. Price 2s. 6d.

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

NOTES & TOPICS

CORONATION DECORATIONS

AMONGST the various ideas that I have come across for Coronation decorations some have been feeble, some pretentious, some, like Mr. Selfridge's which I referred to last week, unique. Visiting the Building Centre last Wednesday evening I found a "rehearsal" in progress in the street outside which promised something different.

*

A sample portion of the scheme devised by Mrs. Acland of the A.A. School was going up and was being floodlit. Bond Street is to have 150 white banners over its pavements, each adorned with a coloured device, all very dignified if a trifle "chaste." The three that I saw made quite a brave show, the whole street, when complete, should look really regal.

AIRPORTS AND AIRWAYS

In the meantime the £150,000 which the Government is spending on its own Coronation arrangements is a mere penny piece compared with the four hundred million defence loan. When Lord Swinton opened the Airports and Airways Exhibition at the R.I.B.A. on Friday we all emphasized the "civil" character of the show, and the Air Minister himself said that Airways must be ways of peace; but it all, somehow, seemed to ring a bit false.

*

With the exhibition itself, the Air world seemed a good deal more impressed than the Architectural world. After all we do know how to stage our stuff. So often and in so many ways, in these days, are we directed to Central Europe to see how things are done that it was quite refreshing to hear the German visitors expressing such pleasure at an English exhibition.

*

The Templehof architect told me how delighted he was with the show and the Oberburgomaster of Cologne wanted a 66 Portland Place in his own city and seemed quite surprised when I told him what a good airport *he'd* got. It was, he said, out of date, anyway, and was about to be rebuilt—and English towns are just beginning to be proud of having an airport at all.

AIR RAID PRECAUTIONS

Another side of the air business with which architects are concerned is brought to my notice by the discussion which has been aroused by a little book, "The Protection of the Public from Aerial Attack" by a group of Cambridge scientists. This group includes Dr. Bernal who spoke so well at the R.I.B.A. the other night.

*

This book, I am gratified to see, bears out what I said a week ago on the subject. Apart altogether from the very vital matter of the preservation of essential services, my scepticism with regard to the gas proofing of rooms has been put to the test in a number of ordinary Cambridge rooms. It must have been rather fun—grim fun.

*

The important point is, however, that the majority of the people in this country live in slums which consist of rooms which could not possibly be made gas proof at all. Of course one guessed all this, but we may as well know the truth and avoid wasting our time by going to lectures for architects organized by the Home Office.

FINANCIAL ASPECTS

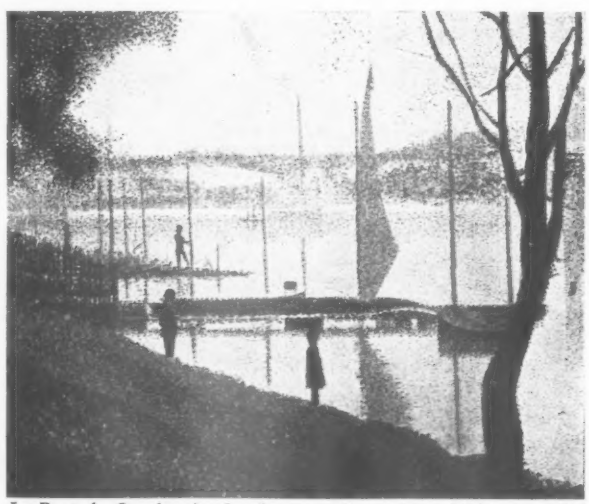
"H'm" said the man next to me, "Mr. Bennett is giving nothing away." And despite Mr. T. P. Bennett's precisely clear reading of a masterly paper on "Building Finance," I knew what my neighbour meant.

*

An audience, of which latecomers had to stand, did not even laugh at some of the dry humour hidden in the thousand different factors which were shown to affect the cost of buildings. "This man," everyone seemed to be saying as they watched Mr. Bennett's short grey side-whiskers, "is a master. Let us hear him."

*

At the end we all realized how much Big Business there was in Big Buildings. But we hadn't been told what is the best way, for the architect, for building finance to be arranged; we had not learnt what return is expected, and



Le Pont de Courbevoie, by Seurat. From the exhibition at the Wildenstein Galleries.

Lord Swinton, who opened the R.I.B.A. Exhibition of Airports and Airways last week, looking at the model of the Gatwick Airport.

got, from a flat block today; and we had not learnt why business men are continuing to put money into flats.

THE M.A.R.S. EXHIBITION

The M.A.R.S. Exhibition of modern architecture, which has been on the horizon for some while, is now taking concrete (and most promising) shape. Or so I understand.

*

For those to whom news of it has not yet circulated by word of mouth, the following is now fixed : Date, the middle or end of June and into July. Place, the New Burlington Galleries. By then the architecture exhibition now on view not a hundred miles from the New Burlington Galleries will be forgotten. The M.A.R.S. Exhibition, from what I hear of it, should be remembered for many years after.

*

One function that it will try to fulfil (so simple, but still so necessary) is just to explain to the public what a modern building really is and how it gets like that.

*

I wonder what fraction of the general public (which has not the opportunity of reading the continental magazines that illustrate examples of modern building or the curiosity to travel to Bexhill at the news of one) has ever seen a modern building.

*

If the M.A.R.S. Exhibition does no more than clear up some of the public confusion between the modern, the " modernistic " and the *moderne* it will have justified itself.

THE MUSEUM MIND

We have said so often that England must be intelligently utilized, not preserved, that it is most depressing to find the old museum mentality pervading the whole of the recent parliamentary debate on " amenities."

*

By all means let us keep our English countryside beautiful, but we must understand once and for all that we cannot do so by conscientious preservation of picturesque examples of rustic architecture. The countryside and its architecture is the result of continuous and progressive development, and we cannot suddenly stop that development and substitute this entirely modern idea of isolating the past.

*

The development, in any case, will go on. Is there really any reason why it should not go on as decently and constructively as in the past ? The debate in the Commons implies that modern architects are simply not capable of producing architecture to take its place as the contemporary equivalent of the old English architecture. That is why we must look back to the past.

*

And as the most horrifying example of this mentality, let me quote the following (from the Ministry of Transport's new " Memorandum on the Lay-out and Construction of Roads "). One subsection deals with " amenities," and the gist of it is contained in this sentence :

" *The beauty and interest of the countryside depend largely upon the preservation of ancient cottages and other picturesque wayside buildings.* . . . "

*

This from so " progressive " a minister—and what a reflection of his own estimate of his capabilities.

*

We are hoping for something better than this from the Trunk Roads Bill when it comes into operation.

BELISHA MARCHES ON

What is this latest Belisha inspiration ? Are we going to be encouraged to impale ourselves rather than become traffic victims ?

*

Returning down Regent Street from Portland Place on Monday, I found my way on the pavement being barred by a railing at each intersection of a side street. This railing, extending from just short of the kerb to within 5 ft. of the shop fronts, compelled pedestrians to pile up and pass one-at-a-time-through-a-stile-fashion through the remaining open space.

*

And a nice (as yet) unprotected end of 2 in. tubing was shrewdly placed to catch the hips of the unlucky.

GERMAN EMBASSY

Three hundred German workmen have been going strong at 9 Carlton House Terrace and the two neighbouring houses which have been acquired owing to an increase in diplomatic activities. I sympathize, personally, with the British operatives who feel that they have been deprived of a job, but they can console themselves with the fact that the Embassy will now have a really truly Aryan interior.

*

We can imagine the ghosts of Carlton House Terrace smiling at this nordic nonsense, Gladstone rather superciliously and George Curzon with a real patrician sneer; but then he, of course, knew some really great diplomats.

*

For myself I cannot but suspect some very deep dyed and sinister plot. What is the secret that makes impossible the employment of honest British workmen ? Why was Lord Beaverbrook hustled off to Canada ? What is there to show that *tunnelling* is not going on ? A tunnel from the Embassy to the House of Commons via Downing Street, a few barrels of T.N.T., and . . . . I suppose there is *no* hope of the War Office ?

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

OFFICIAL OPENINGS

The new headquarters of the London Fire Brigade on the Albert Embankment is to be opened by H.M. the King on July 21.

H.M. Queen Mary will, on April 1, open the new maternity home, ante-natal clinic and nurses' hostel built at Stoughton, near Guildford, at a cost of £16,000.

The Princess Royal is to lay the foundation stone of the extensions to Sheffield Cathedral on April 23.

FORTHCOMING EXHIBITION

"Science and Building" is the title of an exhibition which is to be held at the Building Centre, 158 New Bond Street, London, W.1. It is being arranged at the invitation of the Building Centre, by the Department of Scientific and Industrial Research and will be opened by Mr. Percy Thomas, P.R.I.B.A., on March 1, and will remain open until March 25.

The object of the exhibition is to illustrate the work being carried out by the various organizations controlled by the Department, or associated with it, of interest to the building industry not only in the solution of general building problems, but also in the solution of some of the more specialized problems which the industry is, not infrequently, called upon to face.

Many of the exhibits will be amplified by cinema films which will be shown during the course of each day. Lectures have also been arranged to take place at 8 p.m. on March 3, 10, 17 and 24. These lectures will deal with subjects of interest to architects and builders.

THE LEEDS SCHOOL OF ARCHITECTURE

Mr. Richard Thompson, a research student in the Town Planning Department of the Leeds School of Architecture, has been awarded the Lewis's Scholarship in Planning. This scholarship, which has been established by Sir Frederick Marquis, is awarded for the study of planning and is open to a graduate of the School of Architecture. This is the first award to be made under the terms of the scholarship.

Mr. Thompson, who is twenty-three years of age, is at present attending the Diploma Course in Planning. He completed the five-year Diploma Course in Architecture in July last and was awarded the Diploma with distinction.

THE ARCHITECTS' DIARY

Thursday, February 25

R.I.B.A., 66 *Portland Place, W.1. Exhibition: Airports and Airways, to be opened at 3 p.m. by Viscount Swinton. Until March 24. 10 a.m. to 8 p.m. (Saturdays, 10 a.m. to 5 p.m.).*

ROYAL ACADEMY, *Burlington House, W.1. Exhibition of British Architecture. Until March 6, 10 a.m. to 6 p.m. (Thursdays, 10 a.m. to 8 p.m.).*

ELECTRIC ILLUMINATION EXHIBITION. *At the Science Museum, South Kensington, S.W. Until April 25. Weekdays, 10 a.m. to 6 p.m. Sundays, 2.30 to 6 p.m.*

BRITISH INDUSTRIES FAIR. *London and Birmingham. Until February 26.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At the Institution of Mechanical Engineers, Storey's Gate, S.W.1. "Strength Tests for Cement." By Dr. W. H. Glanville. 6.30 p.m.*

SOCIETY OF ANTIQUARIES, *Burlington House, Piccadilly, W.1. "Maiden Castle and After." By Dr. R. E. M. Wheeler and Lt.-Col. C. D. Drew. 8.30 p.m.*

ARCHITECTURAL ASSOCIATION. *36 Bedford Square, W.C.1. Exhibition of examples of Industrial Planning throughout the World. Arranged by the A.A. School of Planning. Until March 12.*

INSTITUTION OF ELECTRICAL ENGINEERS, *Savoy Place, W.C.2. "Applications and Construction of On-load Tap-changing Gear on Transformers." By H. Diggle. 6 p.m.*

Friday, February 26

INSTITUTION OF STRUCTURAL ENGINEERS, *Midland Counties Branch. At the James Watt Memorial Institute, Gt. Charles Street, Birmingham. "Soil Mechanics and Concrete Pile Driving." By M. J. C. McCarthy. 6.30 p.m. South Wales and Monmouthshire Branch. Annual Dinner. At the Angel Hotel, Cardiff.*

LONDON SOCIETY. *At the Royal Society of Arts, John Street, Adelphi, W.C.2. "The Early Posts." By Colonel G. C. Wickins. 5 p.m.*

Saturday, February 27

GARDEN CITIES AND TOWN PLANNING ASSOCIATION. *Conference to be held at the Housing Centre, 13 Suffolk Street, S.W.1: "Planning and Decentralization." First session: 10.15 a.m. Second session: 2.30 p.m. Third session: 5.30 p.m.*

ST. PAUL'S ECCLESIASTICAL SOCIETY. *Visit to the Courtauld Institute of Art, 20 Portman Square, W.1. 2.30 p.m.*

Tuesday, March 2

CHADWICK TRUST. *At the R.I.B.A., 66 Portland Place, W.1. "On Choosing Materials and Methods of Construction for Modern Buildings." By R. Fitzmaurice. 6 p.m.*

Wednesday, March 3

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. *At the Institution of Mechanical Engineers, Storey's Gate, S.W.1. "Engineering Equipment in Modern Flats." By W. W. Nobbs. 7 p.m.*

Thursday, March 4

ARCHITECTURE CLUB. *Supper-Discussion. At the Florence Restaurant, Rupert Street, W.1. Subject: "Is there a Modern English Architecture?" Speakers: John Gloag, Geoffrey Boumphrey, J. M. Richards, E. Maxwell Fry and A. D. Connell. 8.30 p.m.*

CONFERENCE

A Conference on planning and decentralization is to be held at the Housing Centre, Suffolk Street, S.W.1, on Saturday next, under the auspices of the Garden Cities and Town Planning Association. The programme is as follows: First Session: 10.15 a.m. (chairman, Mr. Cecil Harmsworth). Speaker: Mr. G. L. Pepler, F.S.I. Subject: "Garden Cities and Town Planning." Speaker: Dr. Norman MacFadyen, D.P.H. Subject: "Health in the Satellite Town."

Second Session: 2.30 p.m. (chairman: Mr. L. T. M. Gray, PH.D.) Symposium. "Research on the Subject of Decentralization." Leaders: Mr. Colin Clark and Dr. D. H. Smith.

Third Session (for Members only): 5.30–6.30 p.m. (chairman: Mr. Herbert Warren). Speakers: Mr. F. J. Osborn and Mr. Gilbert McAllister, M.A. Subject: "A Programme of Work for the Association."

ANNUAL LUNCHEON

The annual luncheon of the British Electrical Development Association is to be held at the Savoy Hotel, W.C.2, on Friday, March 19, at 1 p.m.

FIRST ALL-UNION CONGRESS OF ARCHITECTS

The First All-Union Congress of Architects will be opened in Moscow at the end of April. The subjects of discussion appearing on the agenda include problems of Soviet architecture, architectural education and the training of skilled building personnel. The Congress is also to adopt the constitution of the Soviet Union of Architects.

CHILTERNS FACTORY PROTEST

A vigilance committee has been formed by residents of High Wycombe to protest against the proposal to erect factories at Booker, a Chilterns hamlet just outside the town. In a petition to the Ministry of Health, the Committee describes the scheme as an act of vandalism that would blot the landscape for miles in every direction.

EXHIBITION OF TOWN PLANNING

Under the auspices of the Royal Scottish Society of Painters in Water Colours, an Exhibition of Town Planning is on view in the Sculpture Hall of the R.S.A. Galleries, Edinburgh. The Exhibition, which will remain open until March 6, incorporates the preliminary survey of Edinburgh during the past three years by several Andrew Grant Fellows of the Edinburgh College of Art, and shows the effect of haphazard development on the many aspects of civic life, and the necessity for a planned scheme for controlling future development.

£10,000,000 SCOTTISH EXHIBITION

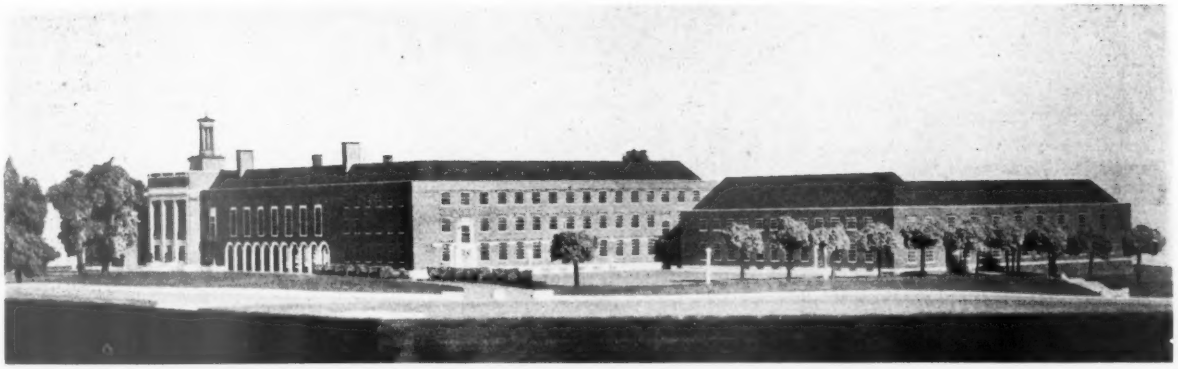
Work has begun in Glasgow on the £10,000,000 Empire Exhibition, Scotland, to be held next year. It will be the biggest of its kind since Wembley, occupying 150 acres in Bellahouston Park. Dominating the Exhibition will be an observation tower nearly 300 ft. high. The architect for the scheme is Mr. Thomas S. Tait.

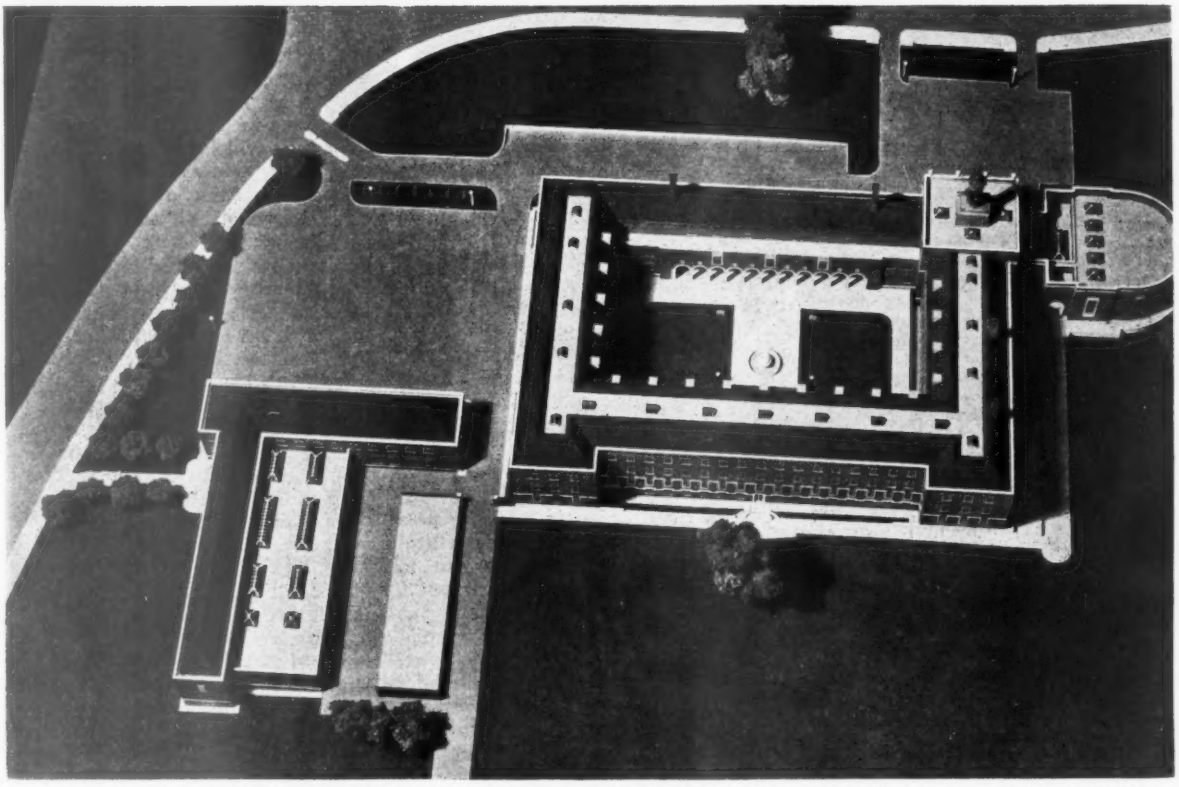
INTERNATIONAL EXHIBITION, CAIRO

The International Exhibition of Architecture, which it was proposed to hold in Cairo in April, 1937, has been, owing to the Paris Exhibition, postponed until April, 1938, in order to allow those engaged in the Paris Exhibition to participate in the Cairo one. All applications to submit designs will be accepted until February 28, 1938.

SHOW HOUSES

Speaking last Friday at the opening of the Show House of Messrs. John Laing & Co., at Mount Royal, Oxford Street, Sir Kingsley Wood, the Minister of Health, said that housing since the Armistice had been a partnership between the State, the local authorities and the building industry. Out of some 3,150,000 houses built since the war, 2,250,000 had been built by private enterprise, and over 1,800,000 of them without any form of direct State assistance. As the





Two views of a model of Hertford Municipal Buildings. The architects for the scheme are C. H. James and S. Rowland Pierce.

demand for ownership was being met, private enterprise was building for letting in ever larger numbers; a very welcome recruit to the field in which the State was more directly interested. There was every reason to think that, with the improved standards of housing that were everywhere in demand today, there was ample room for all agencies to work together.

L.C.C.

At a meeting of the London County Council on Tuesday last the Hospitals and Medical Services Committee recommended the Council to authorize it to engage an architect in private practice to plan and supervise the construction of the new hospital proposed to be erected within the curtilage of St. Benedict's Hospital, Tooting. This work would normally be entrusted to the Council's Architect, but he could not undertake it at the present time without interference with the Council's existing programme of important hospital extensions and improvements. In order, therefore, that there should be no delay either in the execution of existing schemes for the provision of hospital accommodation or in the construction of the much needed new hospital, the Committee suggested the course of action mentioned above. At the same meeting the Parks Committee recommended the Council to make a contribution of £50,000, instead of £45,000, as originally proposed, towards the cost of the acquisition by the Surrey County Council of Nonsuch Park, Ewell, Surrey, for preservation as an open space under the Green Belt Scheme.

The Housing and Public Health Committee submitted a scheme for the construction of about 230 dwellings in Savona Street, Battersea, accommodating some 1,100 persons, at an estimated cost of £123,800.

NORTHERN ARCHITECTURAL STUDENTS' CONGRESS

Following is the programme of the Northern Architectural Students' Congress which is to be held at Leeds next Friday and Saturday. Friday, February 26, 11.30 a.m.: Council meeting in the West Yorkshire Society of Architects' rooms. 1 p.m.: Luncheon at the invitation of the West Yorkshire Society of Architects (official delegates only). 3 p.m.: Official Opening of the Congress and Exhibition of work done in the Leeds School of Architecture, by the Lord Mayor at the Leeds City Art Gallery. 4.30 p.m.: Tea, in the School of Architecture. 5 p.m.: Announcement of prize winners in the Associations' Competitions, followed by the presentation of the prize money. A short criticism of the designs will be given by Mr. J. Needham, DIPL. ARCH., A.R.I.B.A. 6.30 p.m.: An Address will be given by Sir E. Owen Williams, K.B.E., the title of which is "Nothing Changes," in the Philosphical Hall, Park Row. 8.40 p.m.: Arrangements have been made for a party to visit the Empire Theatre to see a Variety Show.

Saturday, February 27, 9.30 a.m.: Two visits (A): Leeds flats and housing schemes; (B) New buildings in the City. 1.30 p.m.: Lunch in the Hotel Metropole. 3 p.m.: Annual general meeting, Lecture Theatre, School of Architecture. 4.15 p.m.: Tea, in the Leeds Institute Café. 5 p.m.: Debate. The motion being that—"National Individuality in Architecture should not succumb to an International Uniformity." 7.30 p.m.: "Congress Dance" at the Scala Ballroom.

WORSHIPFUL COMPANY OF CARPENTERS

The Worshipful Company of Carpenters held a Dinner in its Hall in Throgmorton Avenue, E.C., on Thursday last, under the chairmanship of the Master, Sir Banister Fletcher. Those present included: Sir E. Guy Dawber, Sir W. Goscombe John, Sir William Llewellyn, Sir Ian MacAllister, Sir Eric Maclaglan, Sir Charles Peers, Sir Giles Gilbert Scott, Sir Raymond Unwin, Sir Percy Worthington, Professor Stanley Adshead, Professor W. G. Constable,

Professor A. B. Knapp-Fisher, Professor A. E. Richardson, and Messrs. W. H. Ansell, H. V. Ashley, T. A. Darcy Braddell, Martin S. Briggs, H. M. Fletcher, W. H. Godfrey, E. Stanley Hall, Stanley Hamp, Charles Holden, R. M. Holland-Martin, H. M. Robertson, Sidney Tatchell, Percy E. Thomas, Maurice E. Webb and G. Grey Wornum.

Sir Banister Fletcher, proposing the toast "Arts and Crafts," referred to the destruction of historic buildings. "Many historic buildings of this country have," he said, "been thoughtlessly destroyed and can never be replaced. Now, however, we realize their value, and the Ancient Monuments Board of the Office of Works has been responsible for the sympathetic repair of many an old castle, abbey church and manor house. It flatters our altruistic sense that in preserving these ancient buildings we, as architects, are denying ourselves the opportunity of erecting new ones in their place. A few years ago an attempt to destroy 19 of our City churches was foiled, when the City Corporation and the R.I.B.A. successfully opposed the scheme.

The Bishop of London has now brought about the demolition of All Hallows, Lombard Street, although the City and various Societies, including the R.I.B.A., have appeared before the Privy Council to oppose the destruction of this fine Wren Church."

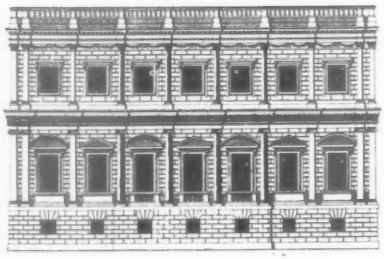
"It seems to me," he continued, "that the only method of protecting our ancient City churches is to have them scheduled as 'Historic Monuments.'"

He pointed out that the National Trust and the C.P.R.E. had done much to arouse a love for the old country buildings, but that much remained to be done if they were to preserve buildings of interest in our towns. The House of Commons seemed fully alive to the necessity for preserving our national heritage, but that more power was required to ensure preservation was indicated in the debate introduced by Mr. Alfred Bossom, which clearly showed the need for compulsory preservation.

Sir Banister Fletcher then discussed present-day architecture. "Since the War, waves of so-called 'art' had been dashing against the shores of England and, under the name of 'functionalism' and other horrid appellations, have been foisted on to the public. The new forms thus introduced consist in throwing aside tradition and revelling in horizontal bands of glass and solid balconies, shutting out the sunlight. Indeed, many of the new houses dotted over parts of England have the appearance of a combination of cardboard and glass, out of keeping with our countryside. This wave of Continental novelty, like jazz music, will take no lasting root in this country, but it may do some good in urging us to eliminate useless ornament, and enable us to find suitable forms for reinforced concrete. Personally, I prefer to keep to tradition with the necessary modifications to fulfil the purpose for which the building is designed."

Sir Banister then referred to the lack of skilled labour in the building industry, which had now become acute. It was amazing that, with the unemployment which existed, skilled workmen could not be found in sufficient numbers to carry out the works which architects were designing. The Worshipful Company of Carpenters and other City companies were doing much for the various crafts by maintaining the Trades Training School at Great Titchfield Street, where instruction was given in all the building crafts to the 400 students attending their classes. He thought, however, that it was of the greatest importance that the training of skilled craftsmen should be undertaken more fully by the Government, both for the good of architecture and the welfare of the State. Some of the vast sums spent on education should be available for reviving the old system of apprenticeship which, with the additional instruction at evening craft schools, was the only efficient way of training craftsmen.

The toast was responded to by Sir William Llewellyn, Mr. Percy Thomas, and Mr. R. Holland-Martin.



SELLING IDEAS

By John Gloag

The following article is a reply to that called "Ideas for Sale" by John Michael which appeared in last week's issue.

IF ever I am worth an obituary notice in any paper when I die, I hope it will be written by John Michael, for his article called "Ideas for Sale" showed such a masterly and kindly grasp of inessentials that I should be certain of the right misconceptions being put over about my life, works and character. Mr. Michael is the typical layman discussing that extraordinary subject, propaganda, and he has an architectural bias which raises his strictures to a reasonable level; for no intelligent persons can escape a lucid ordering of their ideas if they have enjoyed an architectural training or have the good fortune to be in frequent contact with architects. But I'm sorry that he has met only the very old-fashioned type of propaganda expert, practitioner in advertising, or, as this sunny creature is sometimes called, ad. man—I know the type well. Its mind moves in a semi-luminous mist, in which the vague outlines of good intentions loom promisingly here and there; and it is devoted to guff about good fellowship, and it has hands like turtle flippers, specially adapted to the act of back-slapping; also it suffers from "starch-heaviness," and four out of five call everybody "old boy."

Every profession suffers from members that take a lot of living down, even the architectural profession; but it is Mr. Michael's misfortune that outside the professional classes, in that large field of activity labelled business, he has apparently only met people of sub-human aspect whose mouths are the most efficient part of their heads. Reading between the lines of his amalgam of protest and prejudice, I suspect that he is just a teeney-weeney bit left wing, or, shall we say, generously impatient of the present economic system. Generous impatience has a way of editing the facts. Out come the good old bits of tabloid thinking—"brutal bedrock of blood-thirsty, unscrupulous competition; a savage, sordid struggle for a place in the market. . . ." Now this isn't going to degenerate into a political discussion. Bertrand Russell once wrote that if the heating of rooms was a political issue "one party would maintain that the best temperature is the absolute zero, the other that it is the melting-point of iron." The present economic system works at least as well as the average motor-car; but if it is kept short of that essential lubricant, goodwill, it may seize up; in due time England and America may produce new models. Meanwhile the possibilities of propaganda and the needs of architecture should be considered in relation to the world as it is, not in relation to a world we either dislike or distrust.

If Mr. Michael and those who support him agree for a moment to be realists, then they will be twice as effective as reformers. Now Mr. Michael falls into the class that a great industrialist once described as "the useless 5 per cent." 95 per cent. of the people don't know what they want, and can be sold many things by the employment of certain forms of persuasion; the rest know what they want, they are the "choosey" crowd, as they'd be called in America, the people with critical faculties, very snooty and high-hat. But "the useless 5 per cent." includes the people with powers of specification and recommendation and with public influence; persuasion of a special kind has to be devised for them, and Mr. Michael's article indicates how brilliantly it works sometimes. (Incidentally, that Wellsian peep into the future provided by the concrete advertisements is not the first of its kind: in the early 'twenties, Greys Cigarettes ran a series of advertisements showing London of the far future. Stimulating and memorable drawings they were—adventurously ahead of their time. A few years ago a technical product was advertised to the building industry by two views of the same London scene, side by side, one contemporary, the other a century hence.) This suggestion of the brave new concrete world that awaits England, according to the advertisements, creates a mental background of acceptance for concrete as the building material of the future.

Mr. Michael imagines that experts in propaganda might suggest for the popularizing of architecture methods applicable only to certain forms of branded and packaged products, nationally distributed over counters or bars; but that part of his article is an obvious leg-pull, and it reminds me of a light but illuminating discussion recently conducted by Mr. Anthony Bertram and myself on the advertising of art. One of Mr. Bertram's slogans, on which he naturally reserved world copyright, was "Goya is good for you!" Of course one can carry the joke into architecture: for example:

"You've got to be a hero to live in a home that isn't architect-built!" or: "Ask an architect!" But laymen often think that advertising (which is only a part of the much larger operation called propaganda) is all slogans and posters, as laymen are apt to think that architecture is something expensive which builders manage to avoid because they're good business men and can cut costs.

It is this attitude of mind about architecture that propaganda for employing the services of an architect would have to change. This is a tough problem. Let me explain just how tough it is by drawing a commercial parallel, explaining first that propaganda must always be based upon knowledge of people.

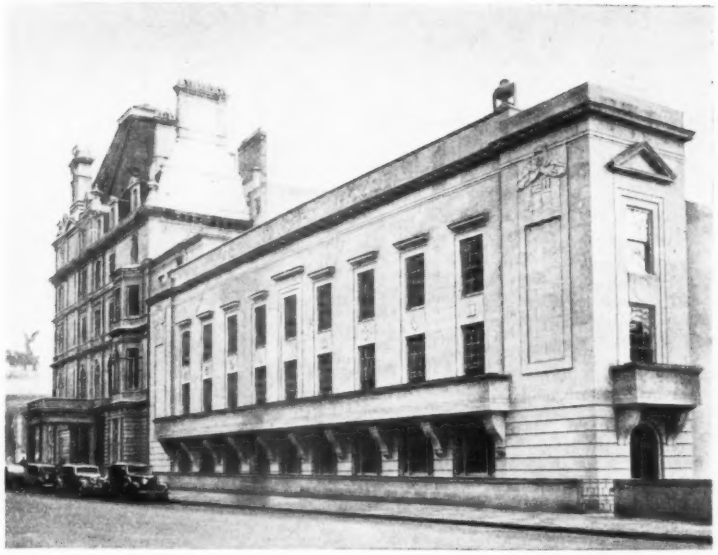
The big stores drum into their staff the retailer's golden rule: "The customer is always right." They'll even change a sardine if you complain about its appearance or its bouquet. They don't want dissatisfied people spreading the wrong ideas about their business. They know enough about selling and serving to refrain from cramming into the customer's unreceptive sconce a lot of irrelevant hooey about politics, social progress and emotional uplift. How refreshing it is to turn from these commonplace realists to a profession that seems to run its business on the assumption that "The customer is always wrong."

Now, as a layman, I sincerely believe that architects are not only excellent company, individually and collectively (and of what other profession can that be said?); but that they enjoy a higher level of constructive intelligence than most other professions, and that they are endowed with a deep sense of civic and social responsibility. But why, when a prospective client approaches them and says: "I want a house, but I can't spend more than £3,500, inclusive of the site," do so many architects immediately prepare plans for a house that cannot be built for a penny less than £4,500? And why, when you tax architects with this in public, do they always laugh? Isn't there an answer?

Another part of the tough problem is Second-lieutenant Blimp. He serves in the Red Army, and, confident that the client is always wrong and is anyway a petty bourgeois, tries by force of plan to convert him to a way of life that is wholly incompatible with his gently muddled ideas of homely English comfort. "Temperature is a matter of mathematics," cries young Blimp, and that ends the plea for a fireplace; he adds: "you want sun and air and light, lots of light."

And that ends the protest against enormous windows that make the poor wretch feel like a dry but draught-racked goldfish. Unlike the shop-keepers young Blimp doesn't know a thing about people, except his own crowd who are always in a state of armed agreement.

I have concentrated on the private client and his contact with the architect: the private client is often the public man, or the component part of a public body. Unless the individuals that compose public bodies, from parish councils to the governments of Empires, are convinced that the employment of the architect is a "Good Thing," and that the architect isn't either a missionary, cynically superior about things as they are, or hopelessly unreliable about such sordid matters as costs and estimates, then the profession that by training and outlook is best equipped to change the background of civilization will be debarred from noble opportunities. Effective propaganda for architecture would have to explain what the architect does; what wisdom and knowledge he possesses, and it would have to explain why it is difficult to keep within the building cost the client names. Maybe there's a reason. "The client is always wrong!" isn't the answer.



Gas Industry House, Grosvenor Place, S.W., which was opened by the Rt. Hon. Walter Runciman, M.P., on Friday last. Formerly the Wellington Club, the building has been converted and modernized by Maurice E. Webb; the architect for the decorations was G. Grey Wornum.

COMPETITION NEWS

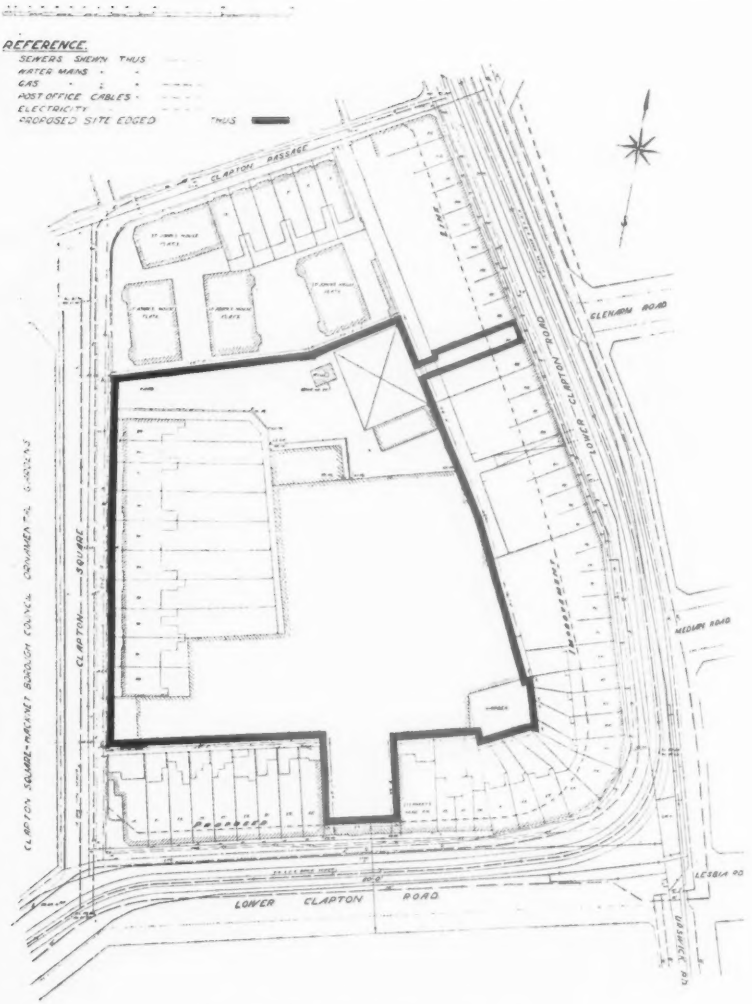
HACKNEY BATHS COMPETITION

The Conditions Reviewed

HERE is another international competition which aims at a building "in advance of the type usually built in this country," so if there are left any young architects whose zeal is not all spent on the *News Chronicle* Schools competition, now comes the chance for them to show the world what an important city recreational centre should look like.

In spite of the soporific effect of most public baths as soon as the turnstile is passed, this type of building really has fine imaginative possibilities: a modern Caracalla for Hackney. There is to be one large pool, convertible to a dance and entertainment hall in the winter, two smaller pools, a spectators' gallery and restaurant overlooking the main pool, and a spacious entrance hall.

Though the site is not one of the city's most inspiring, the entrance side of it does at least face an open space, at present known as the "Hackney Borough Council Ornamental Gardens." I have not seen the gardens, but if they are what I suspect they are, there is always the hope that one day



The Hackney Competition : Site Plan.

they will be transformed into some broadly planned setting, unguarded and airy, for the New Central Baths.

"The conditions are to be freely interpreted, and are meant simply as a guidance to competitors for the accommodation required." The promoters apparently have the idea that architects will be at their most imaginative when not bound by precise requirements. Whether this is true is doubtful, but it is encouraging to see a Borough Council having such firm faith in architects that it does not consider it necessary to suggest even the approximate number of seats required for the general public to watch gala events and championships. This does not leave the architects free as might be imagined : it gives them more research to do.

Summary of Accommodation.—Spacious entrance hall, offices, club-rooms, etc. ; first-class bath, 50 metres by 45 ft. ; dressing-rooms to provide for 250, American locker system ; balcony for spectators ; balcony café ; minor bath, 100 by 35 ft., used for galas, schools and clubs ; children's bath, 90 by 38 ft., to have separate entrance ; foot clinic; slipper baths ; Turkish and vapour baths ; superintendant's flat and staff rooms ; filtration plant, laundry, engineer's workshop, etc.

Drawings must be to one-sixteenth inch scale, mounted on boards.

Line drawings are asked for, and it is sensibly specified that elevations are to be without colour or shading, except for a neutral tint in door and window openings. No perspective is allowed.

Drawings required are : Plans of each floor ; sections sufficient to show the scheme ; elevations to Clapton Square and Lower Clapton Road.

In the report is to be a description of the building, materials to be used and fittings to be installed. It is suggested that the outline specification for the engineering installation should be drawn up by a consulting engineer.

An estimate of cost, based on cubic contents, is required. Competitors are not bound by cost, but the Council "have in mind" an expenditure of £150,000 for building and equipment.

The assessor of the competition is Frederick J. Horth, F.R.I.B.A., of Hull.

The premiums : £500, £300, £200.

The last day for questions is March 18. Conditions are obtainable from R. H. R. Tee, Town Clerk, Town Hall, Hackney, E.8. (Deposit £1 1s.)

SCHOOL AT REDDITCH

The Worcestershire Education Committee has decided to hold a limited competition for the new senior council school at Redditch. The competition is to be limited to not more than five and not less than three selected architects, and a fee of £50 will be made to each unsuccessful architect.

MUNICIPAL BUILDINGS, FRIERN BARNET

The Friern Barnet U.D.C. invites architects to submit designs for proposed municipal buildings. Mr. C. Cowles-Voysey, F.R.I.B.A., has been appointed assessor ; and the following premiums are offered : 150 guineas, 100 guineas, and 50 guineas. Applications for the conditions and site plan should be made to Mr. G. T. Fletcher, Clerk of the Council, Council Offices, The Priory, Friern Barnet, N.11. (Deposit £1 1s.). The latest date for submission of designs is 5 p.m. on June 21 next.

PHYSICAL TRAINING CENTRE, MANCHESTER

The Management of the Manchester Building Trades Exhibition (to be held from April 6 to 17 next) invites architects who are British subjects to submit designs for a physical training centre. The assessors are Messrs. W. A. Johnson, F.R.I.B.A., Francis Jones, F.R.I.B.A., and R. A. Cordingley, M.A., F.R.I.B.A. ; and the following premiums are offered : £75, £50 and £25. Conditions (free) of the competition from Provincial Exhibitions, Ltd., City Hall, Deansgate, Manchester 3. All designs must be addressed Competition Manager, "Architectural Competition," City Hall, Deansgate, Manchester 3, and be delivered not later than Saturday, March 27 next.

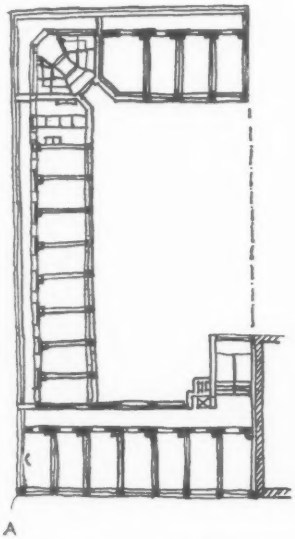
HOUSING AND HEALTH EXHIBITION, GLASGOW

The Glasgow Corporation is, in connection with the Housing and Health Exhibition, 1937, to promote a competition among architects for designs for houses suitable for housing scheme purposes, and houses demonstrating alternative methods of construction, and the Director of Housing is to appoint a member of his architectural staff as one of the three assessors for the competition and to undertake the construction of the prizewinning designs of houses at the Exhibition.

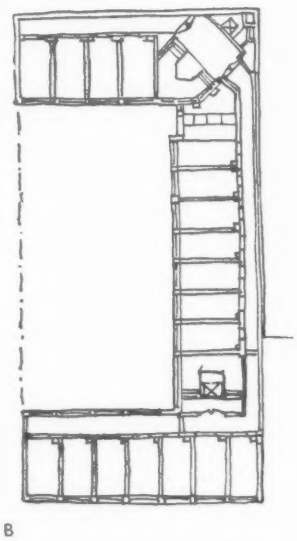
TECHNICAL COLLEGE, ETC., BIRMINGHAM

We are informed by the promoters of the Birmingham Technical College competition that, in response to a number of requests received from intending competitors for an extension of the time for the preparation of designs, arising from special circumstances created by the influenza epidemic, it has been decided to alter the last date on which designs will be received from 4 p.m., Friday, March 12, to 4 p.m., Friday, April 30.

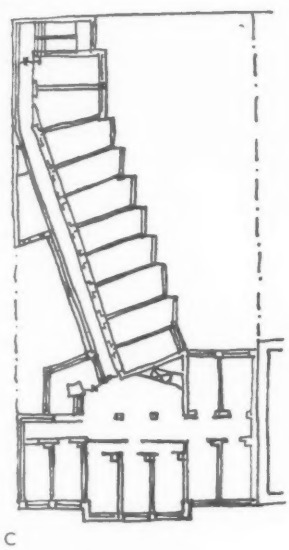
OFFICE BLOCK IN BERLIN



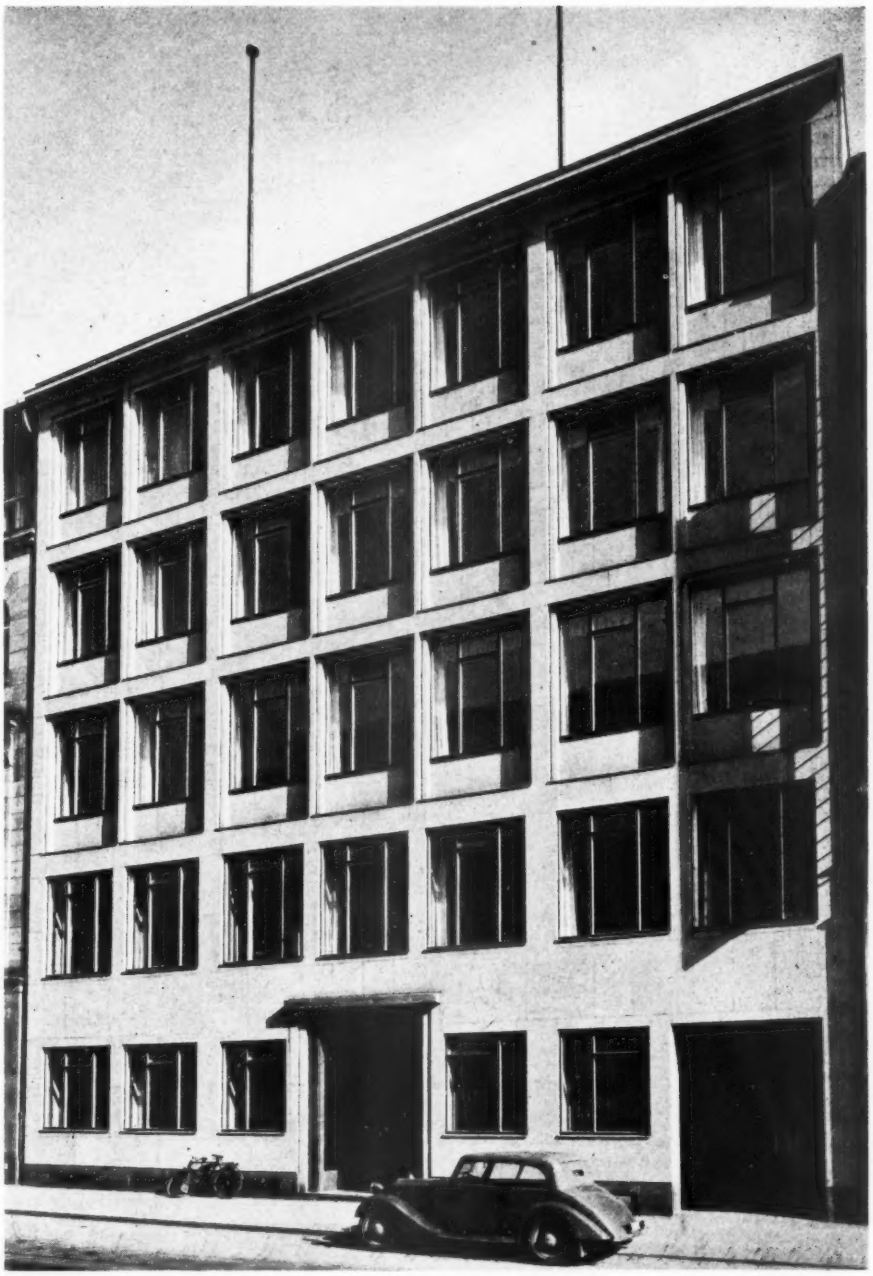
A



B



C



DESIGNED BY WILLIAM KELLNER

PROBLEM—*A building on a restricted site in Berlin in which the owners desired to be able to let well-lighted office accommodation from one room up to the whole building.*

PLAN—*The units of the plan, two entrances and stairways, lavatories and office accommodation, were very simple ; but their arrangement on the available site with really good lighting to each room proved a difficult problem ; especially as any internal court plan would have caused poor lighting on lower floors.*

The accompanying sketches show three of the many solutions tried out, and the final plan (see page 341) provided office space approximately equal in area to any other solution and excellently lighted ; an additional court to light the main stairs ; and cross ventilation for lavatories.

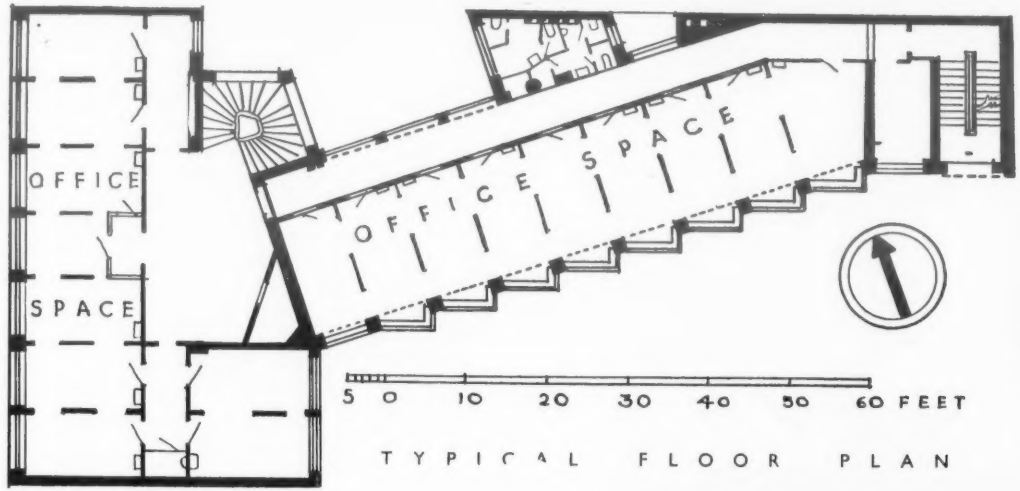
The photograph shows the principal entrance on the west front.

OFFICE BLOCK IN BERLIN

ELEVATIONS—*Front elevation of 3½ in. tuff stone wired to steelwork with brick backing. Other elevations 2½ in. sandstone, similar. Windows are double-glazed steel.*

The photographs show: left, the façade to the courtyard, taken from the roof; above, the rear elevation.

The photographs show: left, the façade to the courtyard, taken from the roof; above, the rear elevation.



TYPICAL FLOOR PLAN

DESIGNED BY WILLIAM KELLNER

CONSTRUCTION—*The building is steel-framed; the floors are R.C. hollow tile, screeded with ¾-in. concrete composition containing sawdust, cork and leather shreds for sound proofing, and finished with good quality lino. Roofs are R.C. hollow tile with 1½-in. cork insulation with three sheets bituminous felting, gravel finished. Partitions are two leaf pumice block with bitumen board between.*

INTERNAL FINISH—*Main entrance hall walls are in Italian yellow marble, floors of grey and red marble, ceiling grey distempered plaster. Staircase of black and white rubber with black reconstructed stone. Staircase wall of travertine and hand rail of aluminium, the first known to be worked to a continuous ramp.*

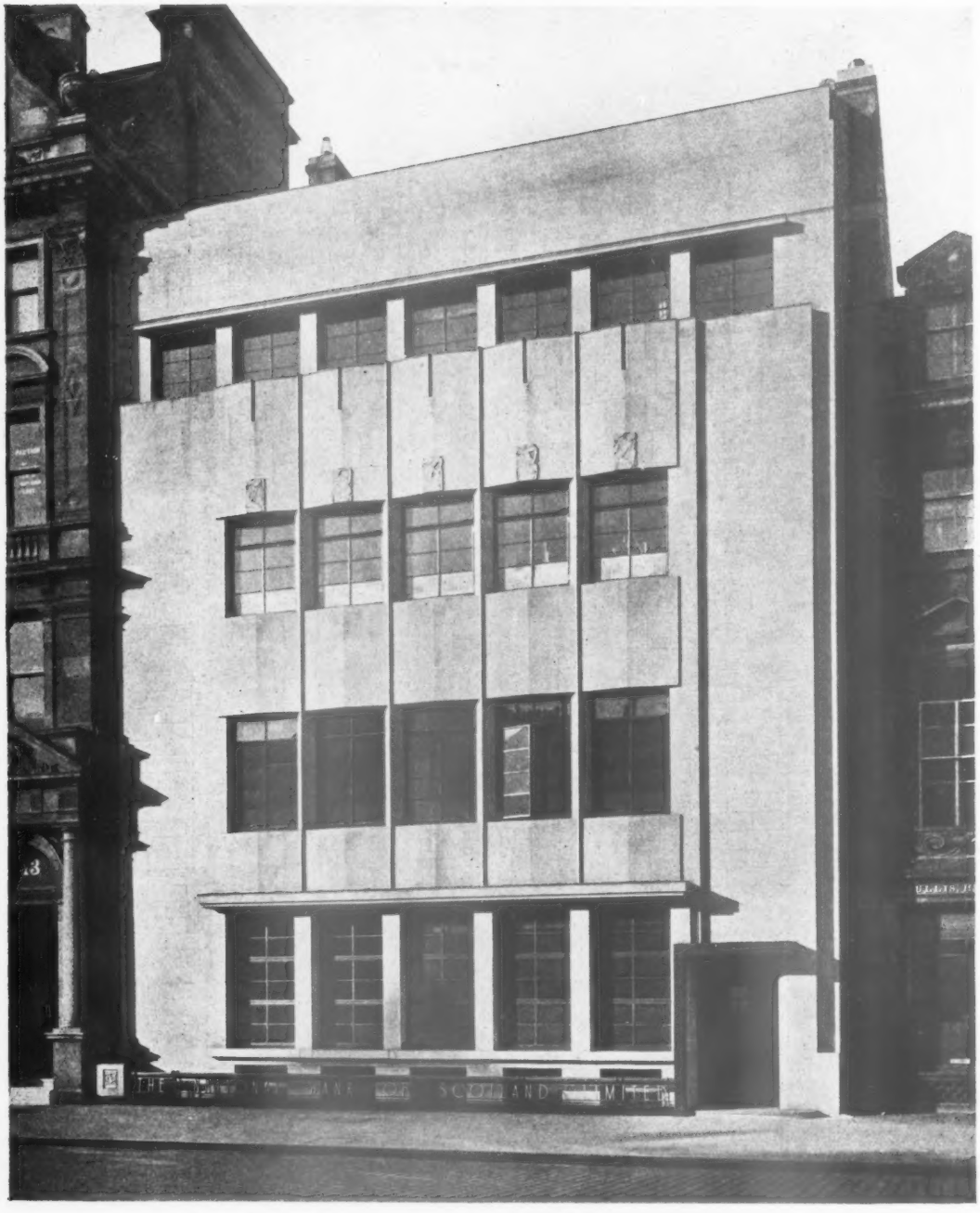
Rear staircase is of yellow tiles, with wrought-iron balustrade and blue linoleum steppings.

SERVICES—*Every bay of office accommodation is fitted with lavatory basin and telephone; heating is by radiators behind grilles. All services are run in ducts above the corridors.*

COST—*About 1s. 5d. a cubic foot complete.*

The photographs show: top, a view of the facade to the courtyard; right, the principal entrance hall.

TEMPORARY HEAD OFFICES, NATIONAL



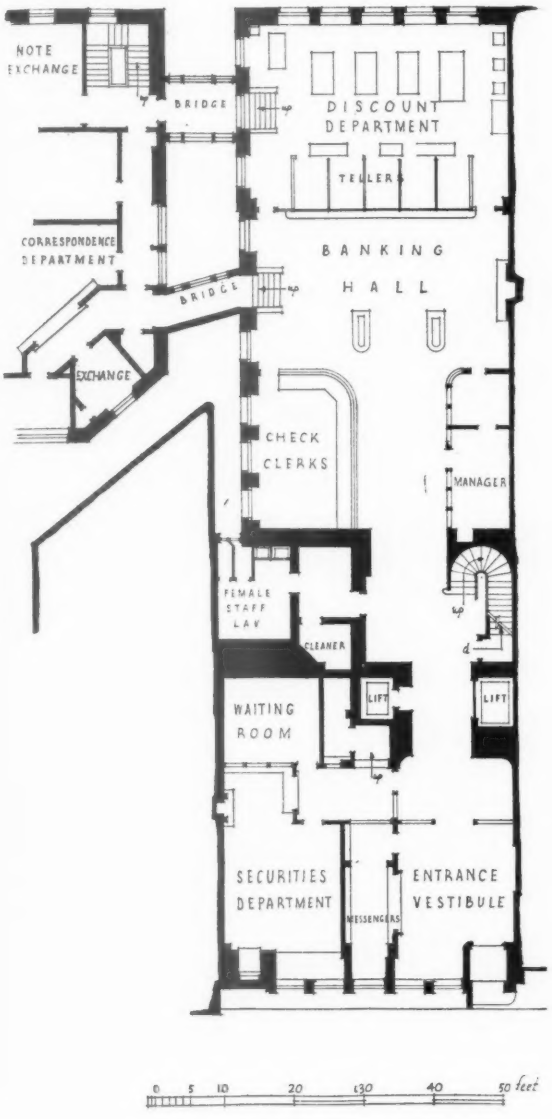
GENERAL PROBLEM—*Temporary premises in George Street, Edinburgh, for the occupation of the National Bank of Scotland, Ltd., during the rebuilding of its headquarters in St. Andrew Square. The main elevation is faced with stone, and over the second floor windows are five plaques by Thomas Whalen. Portions of the original structure have been retained in the new building.*

INTERNAL FINISH—*In the banking hall the fireplaces are of Italian and German travertine and Swedish black granite. Walls are finished in Indian red gum veneer, applied to plaster, three-ply and wallboard; the floors in linoleum, with patterns in varying tones to emphasise the circulation; and the ceiling panels in the banking hall are finished with texture paint, applied direct to the wallboard, V lines being picked out in colour. The strip lighting is concealed in the ceiling soffits. Most of the furniture is mahogany blockwood, walnut finished; the remainder ebonised wood, upholstered in dark green corduroy or natural hide. Desks and table tops are inset with green rubber. In the lavatories the walls are finished in yellow tiles; the floors in coloured asphalt with aluminium metal division strips, except in the basement where the floors are in black tiles. Figured glass is used extensively in the building. The glass is tinted, obscured and velvet finished.*

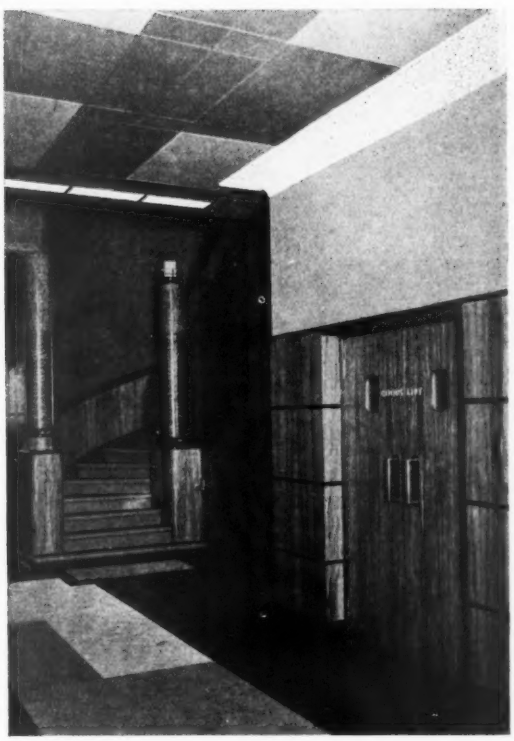
The photograph shows the George Street front.

BANK OF SCOTLAND, EDINBURGH

DESIGNED BY THOMAS P. MARWICK AND SON



GROUND FLOOR PLAN

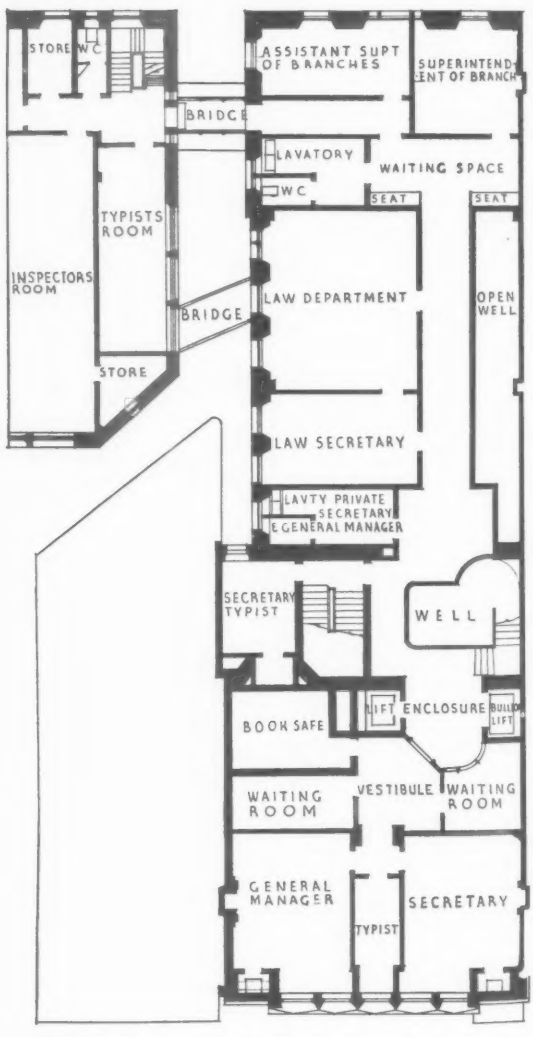


SERVICES—*These include a "calling" system of coloured lights and buzzers and intercommunicating loud-speaking telephones. Heating is by pressed steel radiators from automatically-stoked solid-fuel boilers. The domestic supply is separate. All the heating is thermostatically controlled. The photographs show : above, the entrance from George Street ; right, the lift doors and staircase.*

NATIONAL BANK OF SCOTLAND, EDINBURGH

DESIGNED BY THOMAS P. MARWICK AND SON

The photographs show: left, the banking hall, looking towards the check clerks; centre, the banking hall, looking towards the manager's office; below, the entrance vestibule. *For list of general and sub-contractors see page 365.*



FIRST FLOOR PLAN

R. I. B. A.

BUILDING FINANCE

A paper entitled "Building Finance and Architecture" was read by Mr. T. P. Bennett, F.R.I.B.A., at a general meeting of the Institute, held on Monday last. Extracts from the paper are printed on this and the following page.

PART I: COST

THE designer is faced financially with two types of problem. In one he designs a building of which the financial success is difficult to determine, for example, a church, the headquarters of a bank, a railway station, a private house.

In these cases there is no means of knowing whether the architect has built at the lowest commensurate cost or at a high cost.

There are other types of building in which the building has to be let or sold to members of the public, and, inasmuch as it is subject to competition with other buildings put up by other owners, its financial success or failure must be disclosed.

The grasp of the problem of finance centres first upon planning. A real grasp of building will dictate the shape of the plan, economy of approaches, a clear grasp of essential services, a knowledge of the precise purpose of the building and familiarity with the exact dimensions of units and their inter-relation.

Besides planning for economic usage, the architect must plan for economic construction.

To deal adequately with the money at his disposal he must have a clear knowledge of the requirements of brick construction and weight-carrying capacity, the advantages of steel framing and reinforced concrete, the spacing of units and the use of economic spans.

The materials of the elevation both internally and externally must be clearly valued in the mind. The true architect will know almost the precise variation in general cost which will be involved by a conception in stone, brick, iron, lead, bronze or glass.

An accurate estimate of cost is of paramount importance to the financial mind. In very many cases it represents the difference between comfort or bankruptcy for a number of individuals.

Financially, accurate estimates produce confidence in building. In many cases it may be desirable to give alternative estimates for different materials of construction, different methods of finish, various types of equipment.

The architectural profession as a whole is accused of being financially immoral, since its estimate of the cost of the buildings is constantly wrong and in certain cases is flagrantly wrong.

It is well known to all of us that increased cost of building arises from unknown quantities such as foundation difficulties, demands of the vast army of authorities who have control of portions of the building, the disclosure of requirements of clients at much too late a date, or constant alterations during progress of construction. What is a luxury today is often a necessity tomorrow, and as a building cannot afford to be out of date, many large schemes must of necessity be adjusted during progress.

The architectural profession's co-partner, the quantity surveyor, must produce accurate and extensive quantities. The desire for speed from quantity surveyors sometimes produces a long list of lump sums and provisional amounts to cover services which ought to be measured. These lump sums are a cause of worry and anxiety, because such items must be re-measured and re-priced before the actual cost is known.

Financially, accurate decisions are one of the principal factors which dictate the success or failure of a particular investment. The person who must make a decision or, at any rate, offer advice as the basis for a decision, in almost every case is the architect, and he must indicate or adopt :—

(*a*) Correct standard of construction.
(*b*) Grade of amenities suitable for the predetermined rent.
(*c*) Hold an accurate balance between the cost of building and the cost of upkeep.
(*d*) Determine the extent to which his clients are justified in artificially enriching the land adjacent to the building.

All these decisions involve :—

1. An accurate knowledge of land cost.
2. An accurate knowledge of building cost.
3. The rents obtainable.
4. Accommodation required to command these rents.
5. Standard of building required to demand these rents.
6. Cost of upkeep compared with cost of construction.
7. Reasonable rate of interest on the capital involved.

PART II:

1 : *Finding Money*

It is easy to pay for a building by taking from a bank a suitable amount of currency and paying this sum of money to a builder, and thus completing a financial transaction.

2 : *Loss of Interest*

(*a*) The loss of interest may never be taken into account in the case of a family budget.

(*b*) The cost may be put into the accounts of the company in the form of an annual charge calculated as interest but actually taking the place of yearly rent, and the money sunk in the building may remain a permanent liability of the company.

(*c*) The cost of the building may be written off by yearly depreciation in the accounts of the company.

(*d*) The company may, as soon as the building is complete, discount the cost and rate of interest and regard itself as housed without charge.

3 : *Partial Capital*

This method divides the transaction into two distinct portions : the first involves the provision of cash which represents the first risk on the property—the first loss in case of failure. This money represents the amount of safeguard to any other money which may be put into a venture, since, when it is discounted, the building may be so far below the value of surrounding and competing buildings that it is therefore certain of a profitable market.

4 : *First Mortgage*

On first mortgage a conservative advance is limited to a loan of approximately two-thirds of the total cost of the building, thus providing a probable safe margin.

5 : *Bank Finance*

Bank finance has certain distinguishing characteristics :—

(*a*) It is invariably temporary, i.e. it must be repaid at some fixed period after completion of the building and cannot normally remain as a permanent loan.
(*b*) It is generally an advance on personal covenant.
(*c*) It is able to be called up at any moment.

Thus, bank finance is only possible to the best class of borrower and its cost today is between 4 per cent. and 5 per cent. per annum on the amount involved.

6 : *First Mortgage other than Banks*

The method of advancing money on first mortgage is, however, used by many lenders other than banks—insurance companies, trust funds and private people are all willing to lend money on building development in this form. They will lend, however, only to people known personally to them or their surveyor or to individuals of known business capacity.

Mortgages upon Schemes as Distinct from Individuals

Mortgages can, of course, be obtained upon the securities of schemes put forward by groups of individuals who show clear profits to be earned by a speculation.

7 : *Finance Companies*

There are certain finance companies who provide finance. These companies operate upon widely differing arrangements : (*a*) They may advance to private owners who want to extend or rebuild their own premises and who can show by trading balance sheets that they have assets and potential development possibilities which form security for the loan. (*b*) They may advance merely to any of the groups indicated under headings 5 and 6.

8 : *Finance by Hire Purchase*

1. The owners or prospective developers are not always sufficiently substantial to proceed by bank loan and cash or cash and mortgage, and the state of the money market or the influence of the owner or syndicate is not always strong enough to proceed with finance by public company.

2. Finance must then proceed by other methods, such as

3. Finance by hire purchase, on which system building societies work.

9 : *Company Finance*

1. In certain cases, finance is found by means of a company flotation—
(*a*) before building ;
(*b*) after building.

2. Established companies earning substantial and regular dividends can usually raise money for extensions of their premises by means of "a public issue." This money is "underwritten," that is, guaranteed by a finance house before the public is asked to subscribe, and a prospectus is then issued to the public, who produce the money.

3. Sound active companies with substantial directorate and shareholders may raise a debenture for building without reference to underwriters or the public.

4. Many public companies are formed after the building is complete and the revenue in existence or guaranteed. In these cases, a balance sheet shows earning capacity value and division or grades of shares.

10 : *Finance by Prior Sale*

A building may be sold to an investment or other company prior to erection, the building owners carrying the risk of completion at less than agreed sale price. If the prospective purchasers are sufficiently strong, it will be possible to borrow practically the whole cost upon the strength of this contract.

11 : *Finance on Enhanced Land Value*

In certain circumstances finance can be arranged by virtue of the fact that the development about to take place creates an enhanced land value.

12 : *Finance by Interested Parties*

Whole or part finance can be secured by each interested party putting up a certain proportion of the money required.

Fees and Costs which add to the Capital

In all financial schemes there must be fees and expenses which are outside the cost of the project, but which often constitute substantial sums, i.e., fees to—

(*a*) Land agent.
(*b*) Architect.
(*c*) Quantity surveyor.
(*d*) Accountants.
(*e*) Procuration of finance.
(*f*) Management.
(*g*) Purchase of interests, e.g., sitting tenants, etc.
(*h*) Temporary housing.
(*i*) Temporary works for carrying on trade.
(*j*) Payment of unemployed staff.

Money idle during building absorbs more money as "loss of interest."

Buildings not fully in production suffer temporary loss of trade which involves waste of overheads. Partial occupation frequently incurs the cost of full services.

Financially, the architect comes into contact with expenditure in three different forms :—

1. The way in which the cost of his building is to be found.
2. The way in which the expenditure is to be controlled.
3. The precise manner in which the money is to be spent.

This is the order in which finance controls a building, but as the great majority of projects are financed apart from the architect the profession as a whole sees the order reversed and the architect is asked—

1. To prepare accurate estimates.
2. To control expenditure.
3. To spend money wisely and well.

Financially, these three items are a measure of the view of the financial world of sound architecture.

LAW REPORT

CONSTRUCTION OF EXCEPTION OF FAIR WEAR AND TEAR

Taylor v. *Webb.—Court of Appeal. Before Lords Justices Slesser and Scott and Mr. Justice Farwell.*

THIS was an appeal by the plaintiff, Mr. Charles Taylor, of the Basil Street Hotel, London, W., from a judgment of Mr. Justice du Parcq, sitting in the King's Bench Division, in favour of the defendant, Mr. W. N. Webb, of Pavilion Road, Chelsea, London, S.W.

The claim was for rent, and that was admitted by the defendant. There was a counterclaim by the defendant for alleged breach of the repairing covenant in the lease. Mr. Justice du Parcq gave judgment for plaintiff for the rent, and for the defendant on the counterclaim, and assessed the damages at £130. The present appeal was by the plaintiff in respect of the counterclaim only.

Mr. Pritt, K.C., for the appellant, said in this case the respondent, as tenant, relied on the obligation in the lease of February, 1929, to keep the outside walls and roofs properly repaired and cleansed as and so far only as was required to be done by him under the head lease. Under the head lease made between the landlord and two tenants, from whom his client derived his title, the obligation of the tenants was, by clause 3, during the term to keep the premises and the fixtures, painting, papering, and decorations in good and tenantable repair—destruction or damage by fire and fair wear and tear excepted. The respondent, when he went into possession in 1929, found the premises in a satisfactory condition. Three years later, however, trouble arose, because, it was alleged, of the failure of his client to do repairs to the roof and walls, including a skylight. When the matter came before Mr. Justice du Parcq, he held that the exception of fair wear and tear did not absolve the plaintiff from liability for damage caused to the interior as the result of not attending to the defects to the outside walls and roofs caused by the elements, and he awarded defendant £130 damages on his counterclaim.

Counsel argued that the learned judge in the court below arrived at a wrong conclusion in law and that his client was entitled to succeed on appeal.

Mr. Minty, for the respondent, argued that the judgment should stand.

Lord Justice Slesser, in giving judgment, said, in his opinion, on the uncontradicted evidence, it was impossible to say that the conditions of the walls and roofs were the result of anything other than fair wear and tear. Wear and tear, of course, arose from the operation of natural process, or through the result, direct or indirect, of human agency, and the meaning to be attached to the adjective wear might vary accordingly. He agreed with a well-known decision that the words fair or reasonable could not appropriately be used to qualify the forces of nature, and that in such a context they could only mean the normal action of the elements. Treating the word "fair," therefore, as synonymous with normal, the facts of the present case seemed to bring the absence of repair resulting in the deterioration of walls and roofs, directly within the exceptions which excluded the landlord from the obligations of reparation. Mr. Justice du Parcq, proceeded his lordship, had relied on the decision given in the Divisional Court in the case of *Haskell* v. *Marlow*. To his lordship's mind that case was distinguishable on the facts from the present case and he had purported to follow it. If it was correct law this appeal should fail. In the case of *Haskell* v. *Marlow*, Mr. Justice Salter had said that the words "fair" or "reasonable" qualified both the destructive agency and the dilapidations. But his lordship could find no authority for the view expressed by Mr. Justice Salter that the amount of the dilapidation could in itself make it unreasonable when it was occasioned by normal wear and tear, and in so far as Mr. Justice Salter based his judgment, his lordship now disagreed.

His lordship also differed with the view expressed by Mr. Justice Talbot in Haskell's case. If, as in this case, the landlord could be heard to say that he was only required to keep the outside walls and roofs properly repaired in the cases where fair wear and tear were excepted, and if there was no case against him other than for dilapidation to walls and roofs through fair wear and tear, he had committed no breach of his contract and was under no obligation. In those circumstances his lordship was unable to see how, if he was under no obligation to repair, he could be held responsible for the consequential damage which flowed from an obligation to repair walls and roofs which were not his. On the facts the landlord had no obligation whatever with regard to reparation, and in his view Haskell's case was wrongly decided.

The appeal therefore succeeded and the judgment of Mr. Justice du Parcq, giving damages on the counterclaim, must be reversed.

The appeal was allowed, with costs, Lord Justice Scott and Mr. Justice Farwell concurring.

EXHIBITIONS

TWO of the most interesting exhibitions at the moment are a collection of Picasso's drawings at Zwemmer's, and paintings by French and English artists at the Mayor Gallery.

Picasso's abstracts and colleges are too well-known to need comment, but it is perhaps not generally realized that he is the finest living draughtsman. With extreme economy of outline, and with no attempt at modelling, he can give a figure a sculptor's solidity, and translate the dynamic and plastic qualities of its three dimensions into a seemingly simple line drawing.

With the exception of a few drawings done in 1933 there is no very recent work at this exhibition, but that is because Picasso has not been drawing or painting very much lately, but experimenting in sculpture and poetry. This versatility and absorbed interest in the different mediums of expression is apparent in all his work, and is perhaps unparalleled since the fifteenth century.

The interest of the collection of paintings at the Mayor Gallery is in its wide variety, and the high standard of each of the pictures of which it is composed. It is good to find Miró's "Composition," Chirico's "Horses," Picasso's "L'Arlésienne," Utrillo's "Eglise de St. Aignan," Juan Gris' "The Bay," side by side with Alfred Jane's "Fish," and a gay "Boathouse" by Dufy.

The National Gallery has arranged an exhibition of considerable interest, and for the first time collected together a room full of late nineteenth-century French painting. There is a loan collection from the Tate, which is temporarily closed, seven pictures from the Gulbenkian collection, and Seurat's particularly lovely "Baignade," which was bought as a memorial to Roger Fry. This painting has an added interest at a moment when there is an exhibition of Seurat's work at Wildenstein's Gallery that is attracting a good deal of attention.

Ivon Hitchens' work at the Lefèvre Galleries is interesting. What at a first glance appears to be slight and decorative painting, quickly composed with swift broad strokes of the brush, actually achieves a remarkable depth and unity. His sense of colour is extremely good.

•

Fifty drawings by Pablo Picasso. Zwemmer Gallery, 26 Litchfield Street, W.C.2. Until February 28.

Paintings by English and French artists. Mayor Gallery, 19 Cork Street, W.1. Until February 26.

French Pictures from the Tate and the Gulbenkian Collection. National Gallery. Until the end of March.

Ivon Hitchens and Nicholas Bristowe. Lefèvre Galleries, 1A King Street, St. James's. Until March 2.

Seurat and his Contemporaries. The Wildenstein Galleries, 147 New Bond Street. Until February 27.

INFORMATION SHEET
SUPPLEMENT

The Architects' Journal Library of Planned Information

RECENT developments have brought up for reconsideration the question of the looseness of Information Sheets.

When the series was first started, it was felt that readers of the Journal would have some grounds for complaint if in a feature that was clearly meant for it, no facilities for filing were provided: and the Sheets were therefore inserted loose in the paper.

This method has obvious advantages for filing, but it has also obvious disadvantages, which our readers have not been slow to point out.

As a permanent feature, loose inserts are a nuisance in a paper, since they have a way of dropping out in the street or the train, if not before they get into the reader's hands (we have periodical complaints that Information Sheets for such a week have not been delivered with the paper).

Or, what is nearly as bad, they have a way of sticking out slightly, and getting bent or torn.

Furthermore, those architects who collect the sheets, and there are a great many, are often human enough to delay the act of filing for several days after receiving their copies, in which time the sheets again have a good chance to commit literary hara-kiri.

For all these reasons, it has been decided to make an obvious improvement.

By binding in the Information Sheets in the Journal so that they cannot fall out, their powers of self-destruction will be curtailed. And to insure that they can be as readily filed as before, the pages are now being perforated.

INFORMATION SHEETS

475 Asbestos-Cement Glazed Panels

476 Approximate Estimating—IV

477 Monel Metal Sink Units

D

Sheets issued since Index :

401 : Plumbing to Baths
402 : Waterproofing
403 : Asbestos-aluminium Foil—I
404 : Roofing
405 : Joinery
406 : Asbestos-aluminium Foil—II
407 : Roofing
408 : Joinery
409 : Rubber-faced Building Slabs
410 : Places of Public Entertainment—II
411 : Electric Switchgear
412 : Lead Soakers to Valleys
413 : Plumbing in Welded Copper Pipe
414 : Electric Switchgear
415 : Electric Switchgear
416 : Insulating Board
417 : Work on Glass
418 : Plumbing in Welded Copper Pipe
419 : Places of Public Entertainment—III
420 : Tentest Metal Cover Strip
421 : Wood Preservatives
422 : Welding Sheet Copper Work
423 : Garages and Drives—II
424 : Roof Glazing
425 : Places of Public Entertainment—IV
426 : Asbestos-cement Roofing Tiles
427 : Asbestos-cement Roofing Tiles
428 : Welding Sheet Copper Work
429 : Flat Roofing
430 : Asbestos-cement Roofing Tiles
431 : Automatic Boilers
432 : Plumbing
433 : Places of Public Entertainment—V
434 : Plumbing
435 : Lifts—I
436 : Lead Soakers to Hips
437 : Coloured Cement Renderings
438 : Wallboards
439 : Wall Finishes
440 : Roofing
441 : Sash Operating Gear
442 : Roofing
443 : Wallboards
444 : Rainwater Goods and Fittings—I
445 : Roofing
446 : Rainwater Goods and Fittings—II
447 : Bathroom Cabinets
448 : Roof Glazing
449 : Places of Public Entertainment—VI
450 : Telephone Cabinets
451 : Hardboard
452 : Escalators
453 : Automatic Boilers
454 : Places of Public Entertainment—VII
455 : Places of Public Entertainment—VIII
456 : Ellipses
457 : Roofing
458 : Sanitary Equipment
459 : Hoods and Canopies
460 : Expansion Joints
461 : Roof Pitches, etc.
462 : Gas Refrigerators—I
463 : Asbestos Cement Rubber Floor Tiles
464 : Approximate Estimating—I
465 : Gas Refrigerators—II
466 : Approximate Estimating—II
467 : Gas Refrigerators—III
468 : Approximate Estimating—III
469 : Gas Refrigerators—IV
470 : Stopstara Glazing Compound
471 : Gas Cookers
472 : Lead Insulation against X-Rays
473 : Electrical Equipment—I
474 : Asbestos-Cement Ventilating Ducts

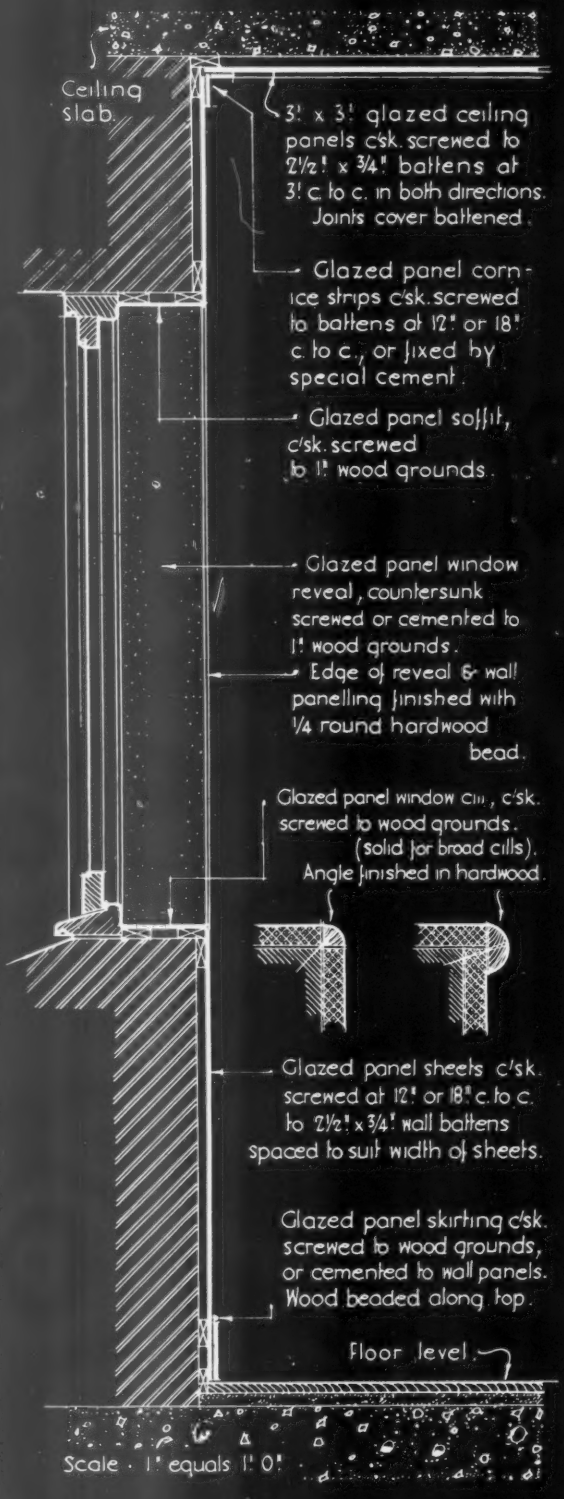
573

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

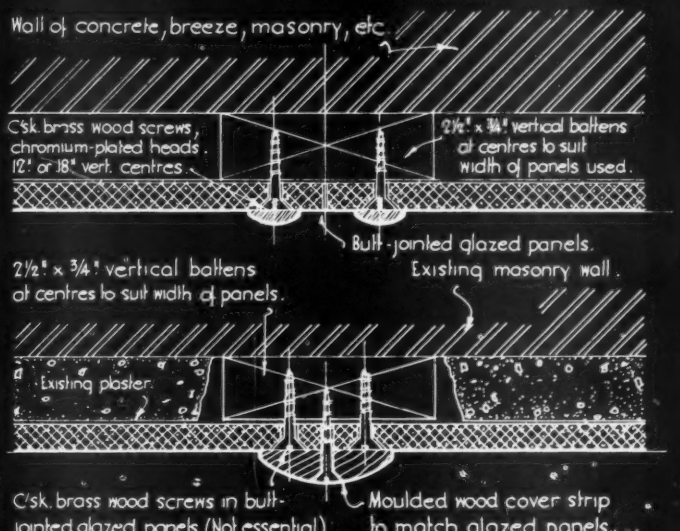
TURNALL ASBESTOS-CEMENT GLAZED PANELS : (Standard thickness 5/16" approx.)

Asbestos-cement sheets finished with a permanently hard, non-brittle and highly glazed coloured surfacing.

SECTION SHOWING TYPICAL APPLICATION OF GLAZED PANELS TO WALLS & CEILINGS.



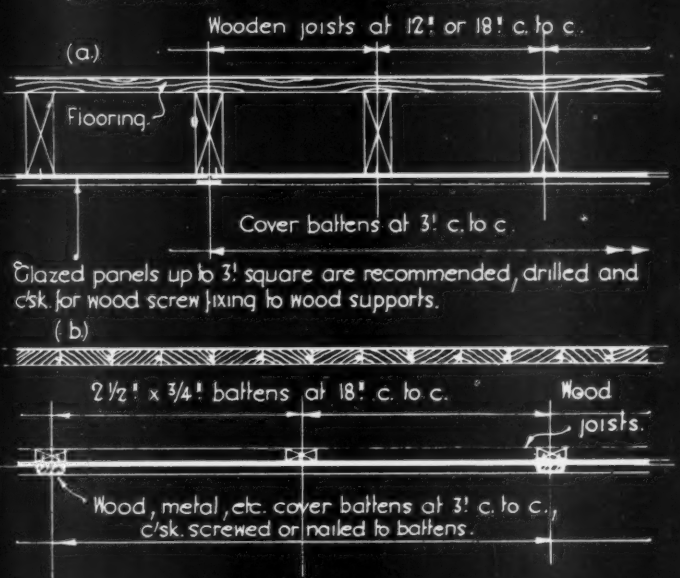
TYPICAL JOINTING & WALL-FIXING DETAILS. SCALE · half full size.



Cover strips may be of metal if desired, fixed with c'sk. wood screws.

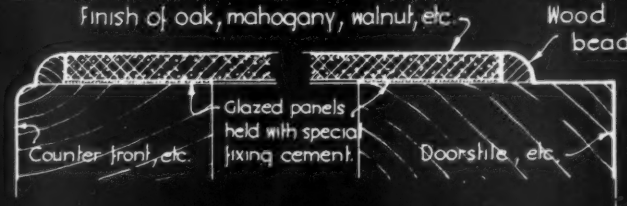
DETAILS OF FIXINGS TO WOODEN CEILINGS.

(a.) New work. (b.) Existing work.



Glazed panels up to 3' square are recommended, drilled and c'sk. for wood screw fixing to wood supports.

DOOR & FURNITURE FACING, COUNTER TOPS, ETC.



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

INFORMATION SHEET: GLAZED ASBESTOS-CEMENT DECORATING PANELS.

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

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 475 •

ASBESTOS - CEMENT GLAZED PANELS

General :

Turnall asbestos-cement glazed panels for internal decorative linings are composed of specially prepared Poilite asbestos-cement sheets finished with a permanent and highly-glazed surfacing.

This Sheet shows details of jointing and fixing.

The glazed finish is extremely hard, but non-brittle, and offers considerable resistance to the effects of heat and cold, moisture, steam, etc. The material as a whole is also fire-resisting and vermin proof.

Sizes :

The standard and maximum sizes are 6 ft. by 3 ft., 6 ft. by 2 ft. 5½ ins., 6 ft. by 21 ins., 40 ins. by 40 ins., and 6 ft. by 2 ft., depending on the pattern. Intermediate and non-standard sizes as well as special shapes can be cut at the factory. The Company also undertakes the drilling of fixing holes and edge colouring at slight extra cost.

The material is manufactured to a standard thickness of $\frac{5}{16}$ in. approximately, weighing about 2¾ lbs. per square foot. Slabs faced both sides are also supplied ; thickness approximately $\frac{11}{16}$ in.

Colours and Patterns :

Plain colours and a large variety of fancy patterns, wood reproductions, and marble designs are available. Inlaid sheets and special combinations of colours in designs and shapes are also obtainable.

The following table sets out a fairly comprehensive list of patterns and the maximum sizes in which the sheets are obtainable. Complete colour charts and samples will be forwarded upon application to the Company.

	Pattern No.		Maximum size obtainable
Fancy Patterns	5		6′ 0″ × 3′ 0″
	With joint in pattern.		
,, ,,	6		6′ 0″ × 3′ 0″
	With joint in pattern.		
,, ,,	9		6′ 0″ × 1′ 9″
,, ,,	18		6′ 0″ × 2′ 5½″
,, ,,	19		6′ 0″ × 2′ 5½″
,, ,,	26		6′ 0″ × 2′ 5½″
,, ,,	27		6′ 0″ × 2′ 5½″
,, ,,	28		6′ 0″ × 2′ 5½″
,, ,,	29		6′ 0″ × 1′ 9″
,, ,,	32	Black and Green	6′ 0″ × 3′ 0″
,, ,,	33		6′ 0″ × 3′ 0″
,, ,,	34		6′ 0″ × 3′ 0″
Plain Colours	8	Gold (light)	6′ 0″ × 1′ 9″
,, ,,	17	Black	6′ 0″ × 3′ 0″
,, ,,	21	Gold (dark)	6′ 0″ × 3′ 0″
,, ,,	22	Red	6′ 0″ × 3′ 0″
	But recommended for borders only.		
,, ,,	23	Green	6′ 0″ × 3′ 0″
	But recommended for borders only.		
Wood Reproductions	20	Walnut	6′ 0″ × 3′ 0″
,, ,,	24	Mahogany	6′ 0″ × 2′ 5½″
,, ,,	25	Oak (dark)	6′ 0″ × 2′ 5½″
,, ,,	30	Dark Gaboon	6′ 0″ × 3′ 0″
,, ,,	31	Dark Maple	6′ 0″ × 3′ 0″
,, ,,	35	Light Maple	6′ 0″ × 3′ 0″
Light Colours	36		6′ 0″ × 3′ 0″
,, ,,	37		6′ 0″ × 3′ 0″
,, ,,	38		6′ 0″ × 3′ 0″
,, ,,	39		6′ 0″ × 3′ 0″
,, ,,	41		6′ 0″ × 3′ 0″

Uses :

In addition to their use for lining walls and ceilings, glazed panels may be used as a decorative finish to doors, table and counter tops, built-in cupboards and furniture generally. Slabs faced both sides are used for lavatory partitions, etc.

Other uses include window cills and reveals, pelmets, fireplace surrounds and hearths, cornices, skirtings, bath panelling and splash-backs, etc.

Fixing : (a) *Walls*

As indicated on the typical section overleaf, the glazed panels are fixed to masonry walls on wood battens, 2 ins., 2½ ins. or 3 ins. wide by ⅝ in. or ¾ in. thick. For normal wall panelling the 6 ft. by 3 ft. size sheets are used, and the wall is first vertically battened at 1 ft. 6 in. centres. The lowest horizontal batten is usually fixed 6 ins. up from the floor, cut in between the verticals, and the second batten 2 ft. 6 ins. from the first, centre to centre. All joints should have a batten behind. The panelling is either drilled and screwed to the battens, or held in position by screwed cover fillets over the vertical butt joints as shown on the full size details. The fillets may be of wood or metal, as required, moulded or plain, and surfaced to match or contrast with the surrounding work. They may be nailed and punched if necessary, and the holes stopped in the usual manner.

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

The Company supplies special screws with chromium-plated heads for use when cover strips are not desired, and these are spaced at 12 in. or 18 in. centres around the edges of the butt jointed panels.

(b) *Ceilings*

For ceiling work panels up to 3 ft. by 3 ft. are recommended, and these should always be fixed with screws to wood supports, with open butt joints or joints covered with wood fillets or mouldings as already mentioned.

(c) *Doors, furniture, etc.*

A special fixing cement is supplied by the Company for fixing down glazed panels to doors, counter and table tops.

Cutting :

Glazed panels may be cut *in situ* by an ordinary tenon saw or hack saw which has a slight set. The glazed side of the panel should be uppermost when cutting, with the edge well supported at the start. Where precision cutting is necessary it should be done at the manufacturer's works.

Flexible Sheets :

Turnall glazed flexible sheets are available for curved work. This material is made with Poilite asbestos cement, and possesses a degree of flexibility suitable for curved surfaces such as bath panel ends, etc. The sheets are very light in weight and are resistant to moisture, while the glazing is hard and will not crack or craze with vibration. The sheets are manufactured in a range of colours and designs similar to Turnall glazed panels, and have a standard thickness of approximately $\frac{3}{32}$ in.

Cleaning :

Glazed panels and glazed flexible sheets are impervious to grease and dirt, and the surfaces require no treatment other than an occasional rub and polish with a cloth.

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

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

Telephone : Trafford Park 2181 (8 lines)

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

Telephone : Waterloo 4041

GII

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

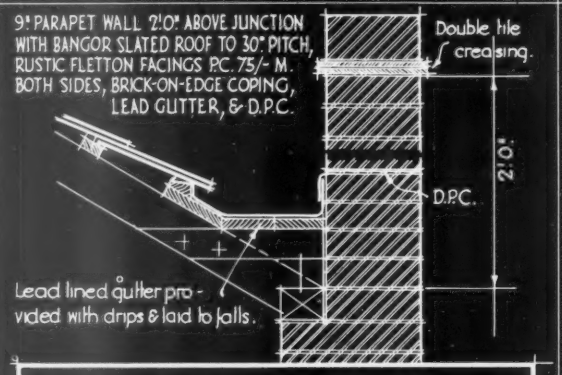
PARAPETS & EAVES.

PRICES ARE THOSE CURRENT DURING JANUARY, 1937.

APPROXIMATE ESTIMATING:

The following are approximate prices per yard run for parapet wall and eaves construction and finish complete. Prices are for a medium sized job in the London area and include for overhead charges and profit. All measurements should be taken on the centre lines of external walls.

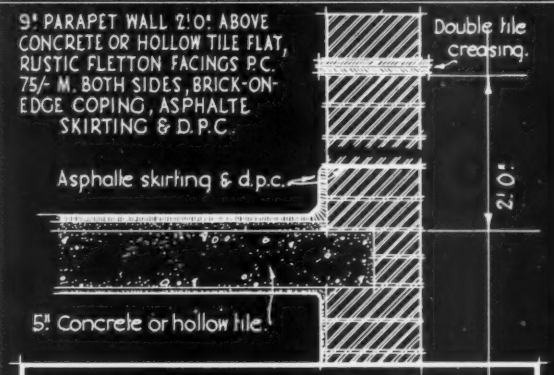
TYPE A: 52/10 PER YARD RUN.



TO TYPE A, ADD FOR: (prices per yard run).

12" extra height of parapet	6/-	Westmoreland slates, 30°:	2/0½.
10/- increase in price of facing bricks for 12" ht.	4½d.	Roof with boarding	1d.
do. in price of coping	1½d.	OMIT FOR:	
13" x 4" artificial stone coping	4/4.	M/c. made tiles 40° pitch.	2/-.
do. portland stone	22/7.	Hand made do. do.	1/10½.
		Roof with felt	4d.
		do. with counterbattens,	1½d.

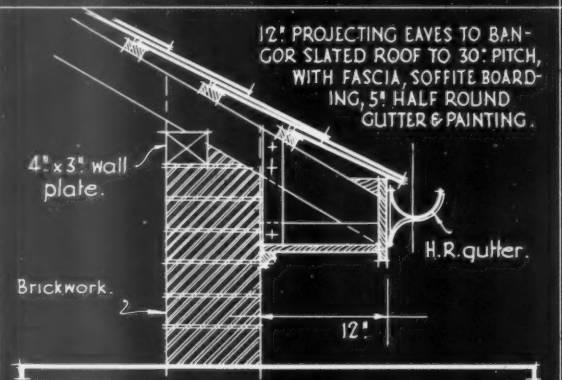
TYPE B: 29/4 PER YARD RUN.



TO TYPE B, ADD FOR: (prices per yard run).

12" extra height of parapet	6/-	Skirting & D.P.C. to built-up roofing	4/4½.
10/- increase in price of facing bricks for 12" ht.	4½d.	Skirting & D.P.C. to patent roofing	3/9.
do. in price of coping	1½d.	Flat timber roof, with boarding and asphalte	3½d.
13" x 4" artificial stone coping	4/4.		
do. portland stone	22/7.		

TYPE C: 29/10 PER YARD RUN.

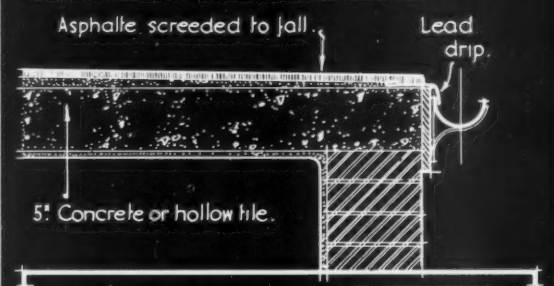


TO TYPE C, ADD FOR: (prices per yard run).

Westmoreland slates to 30° pitch	6/10.	OMIT FOR:	
Roof with boarding	2/7.	Machine made tiles to 40° pitch	2/1.
Roof with felt	1/3½.	Hand made tiles to 40° pitch	9½d.
do. counterbattens	6d.		
5" x 4" O'Gee gutter	1/6.		

TYPE D: 18/7 PER YARD RUN.

EAVES TO CONCRETE OR HOLLOW TILE FLAT ROOF WITH ASPHALTE, LEAD DRIP, ¾" DEAL FASCIA, 5" HALF ROUND GUTTER & PAINTING.



TO TYPE D, ADD FOR: (prices per yard run).

Patent roofing	9½d.	12" projection to wood flat roof with asphalte & soffite boarding	10/-
Eaves to boarded flat roof with asphalte	2/2.		
do. built-up roofing	1/1.		
do. patent roofing	2/9.	OMIT FOR:	
5" x 4" O'Gee gutter	1/5.	Built-up roofing	10½d.

Future sheets of this series will analyse the cost of various types of construction & finish for foundations, external walls, partitions, doors, windows, etc.

Figures by Davis & Belfield, A.R.I.B.A., Chartered Quantity Surveyors.

INFORMATION SHEET: UNIT SYSTEM FOR APPROXIMATE ESTIMATING, 4.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Oscar P. Taupil.

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 476 •

APPROXIMATE ESTIMATING—IV

Subject : Unit System for Approximate Estimating

Typical examples of parapet walls, eaves construction and finishes complete are dealt with on this sheet. Measurements should be taken along the centre lines of external walls, and adjustments in price for the various types of finish, etc., made in the same manner as for the previous sheets of the series.

It should be noted that in all types, except A, the price includes for that part of the eaves or parapet from the internal face of the external wall, outwards. Hence any additions to the actual type of roof finish shown in the detail will cause variations in the price.

In type A, the price includes the gutter, and therefore the trimming of tiles, slates, roof boarding, counterbattens, etc., to allow for falls, will again influence the price per yard given.

An example of the method of using this sheet is given below :—

Approximate estimate for eaves of house 40 ft. by 25 ft. internally, on plan, (with 13½ in. walls) with 40 deg. pitched roof using hand-made tiles, battens, counterbattens, felt and boarding and 5 in. by 4 in. O'Gee gutter and for separate Garage 20 ft. by 12 ft. internally, on plan, with 9 in. walls, asphalte on boarding, parapet walls on three sides and eaves gutter on one side.

	£	s.	d.
Eaves to pitched roof, type C (29/10), with hand-made tiles (9⅓d.) counter-battens, felt and boarding (4/4½) and 5 in. by 4 ft. O'Gee gutter (1/6) 45 yards run 34/11	78	11	3
Parapet to flat roof (29/4) with asphalte on boarded roof (3⅓d) 18 yards run 29/7⅓	26	13	3
Eaves to flat roof (18/7) with asphalte on boarded roof (2/2) 4 yards run 20/9	4	3	0
Total cost £109	7	6	

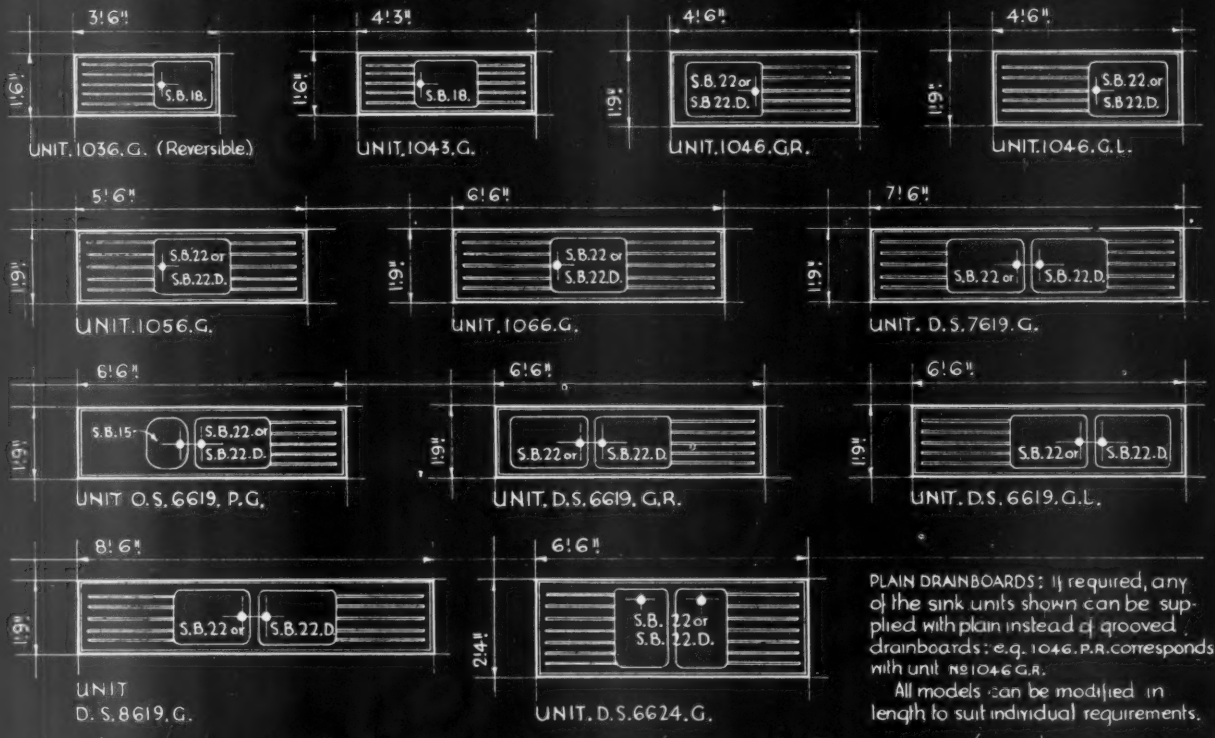
Previous Sheets :

Sheets Nos. 1, 2 and 3 of the series dealt with typical forms of construction for ground floors, upper floors, and roofs respectively, and future sheets will show the cost analysis of foundations, external walls, partitions, doors, windows, etc.

507.

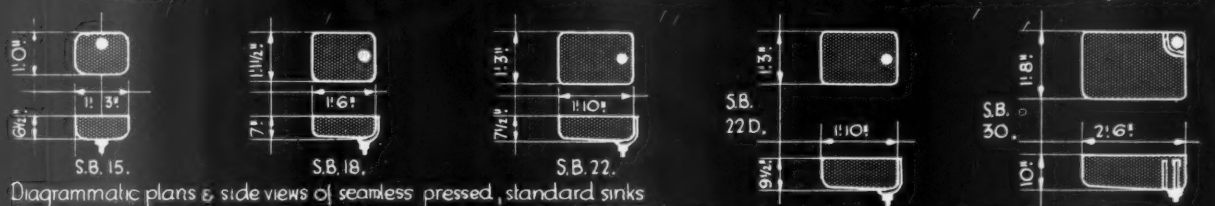
THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

PLANS GIVING OVERALL DIMENSIONS OF MONEL SINK UNITS: Scale: ¼" equals 1'0"

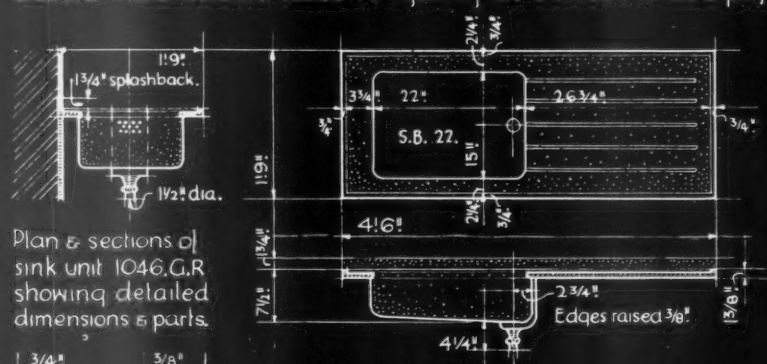


PLAIN DRAINBOARDS: If required, any of the sink units shown can be supplied with plain instead of grooved drainboards: e.g. 1046.P.R. corresponds with unit No 1046 G.R.

All models can be modified in length to suit individual requirements.



Diagrammatic plans & side views of seamless pressed, standard sinks used in all monel sink units. Scale: ¼" equals 1 foot. Bowl SB 30. has a perforated strainer, pillar outlet and overflow.



Plan & sections of sink unit 1046.G.R showing detailed dimensions & parts.

FULL-SIZE CROSS SECTION SHOWING EDGE FILLET AND UP-STAND AS FITTED TO ALL UNITS (EXCEPT Nos 1036.G. or P. & Nos 1043.G. or P.)

The upstand is shown tiled-in flush with wall.

Steel reinforcement.

Information from Henry Wiggin & Company Limited.

INFORMATION SHEET: STANDARD MONEL SINK UNITS:
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Oscar G. Bayne.

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 477 •

MONEL METAL SINK UNITS

Subject : Kitchen Equipment

Product : Monel Sink Units

Monel :

The metal from which these sink units are made is a corrosion-resisting alloy comprising approximately two-thirds nickel and one-third copper. The material has a special satin finish and appears bright and reflective, without glossiness. As there is no steel incorporated in the metal, rust cannot develop. Monel is stronger than mild steel and considerably tougher.

Drainboard :

The drainboard itself is pressed to shape and reinforced with a mild steel backing. A wooden framework is inserted solely in order to facilitate the fixing of the unit.

The upstand at the back of the unit is rigid, and may be tiled in to the wall if desired. Additional splash backs are available to requirements.

To prevent water spilling on to the floor, all units are surrounded by a raised edge and the pressed grooves in the drainboard lead the water directly back into the sink bowl.

Any of the sink units shown overleaf can be supplied with plain instead of grooved drainboards and the actual length of the boards can be modified to suit particular requirements.

The drainboards of all models are sound-deadened by the use of insulating material contained between the upper and lower metal coverings.

Sinks :

These are formed of the same material as the drainboards and are seamless pressings. The joint between the sink and the drainer is welded and sealed to form a permanently watertight junction, so that cupboards built in beneath the sink may safely be used for food storage if necessary.

A combined 1½-in. outlet and overflow connection has been designed with vital parts readily accessible for clearing or occasional cleaning. The tail-pipe is secured to the sink by a lock-nut which may be slacked off for dismantling without disturbing the plumbing.

Special units incorporating any combination of the standard sinks shown overleaf can be made up to individual designs.

Separate sinks :

A wide range of separate sinks is available, solid pressed from sheet alloy and provided with a narrow lip around the top edges. Internal dimensions, outlets, etc., are similar to the standard type.

Handed Units :

Units 1036G. and 1036P. are reversible and may be installed with the drainboard on the right or the left. All other single drainboard units are supplied right or left-handed according to specification.

Cleaning :

The sink units have no crevices or corners in which dirt can collect, and an occasional wipe with a damp cloth will generally be sufficient to keep them clean. If necessary, any of the ordinary household cleansers may be applied without damage.

Prices : On application

Manufacturers: Henry Wiggin & Co., Ltd.

Address : Thames House, Millbank, London, S.W.1

Telephone : Victoria 5353

The Architects' Journal Library of Planning

SHOPS

Floor and Wall Coverings—2

[By Bryan Westwood and Norman Westwood]

Treatment of Window Interiors

IT is usually advisable to have the show window back easily removable so that temporary backs, such as wall-board and trellis-work, can be used for special displays, or the back left open so that the interior of the shop can be seen.

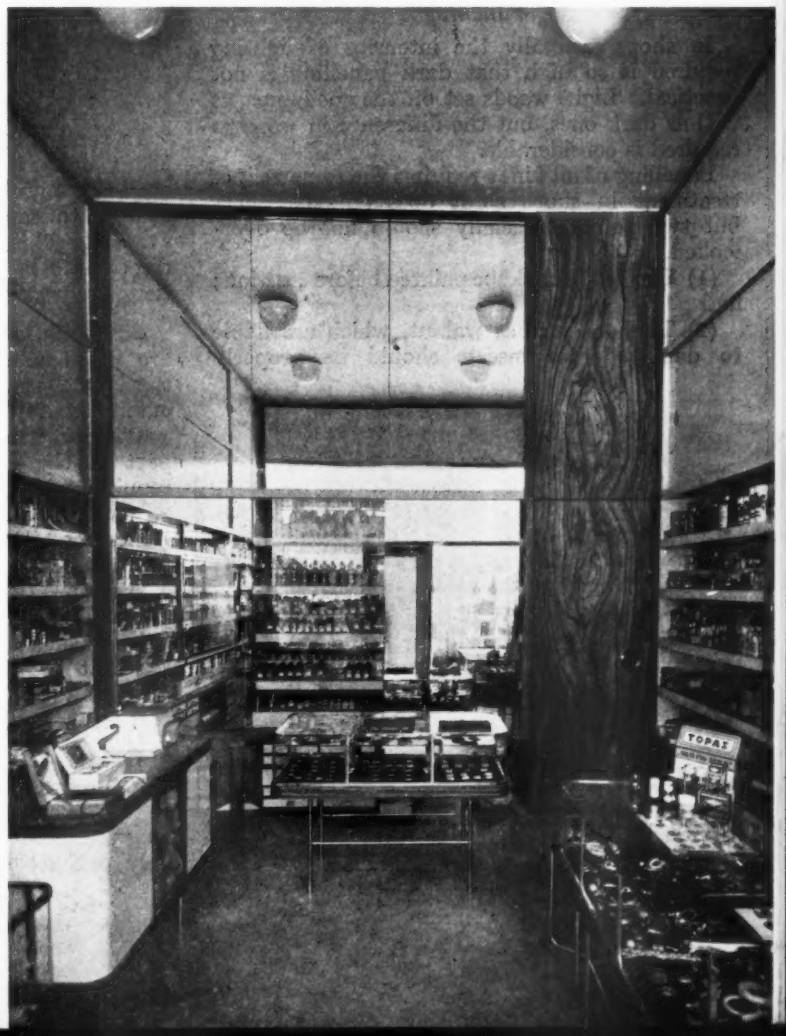
It is only in shops such as cleaners, where heat is generated and windows are liable to steaming, that really enclosed backs to the windows are absolutely essential.

Blockboard is probably the most convenient material for constructing the backs as it does not require elaborate framing. Access doors, of course, must not open towards the window.

The top of the window enclosure has become merely a support for lighting fixtures. Where great diversity of display is anticipated it is sometimes covered with some form of mesh so that lamps can be suspended at any point. Above such a ceiling it is very necessary to have a second solid one to prevent the settlement of dust.

The actual finish of the interior is one of the most important items in the whole shop. If the best results are to be obtained from the artificial lighting the colours must not be dark. The efficiency of the lighting decreases very rapidly as the tone of the reflecting surfaces is lowered. The only occasion for the use of very dark materials occurs when small highly reflecting objects are shown. Silver cups in a jeweller's window are a case in point. Neutral-coloured textiles form an excellent background for many trades because they do not detract from the articles displayed and yet are not "mean" in themselves and do not require more than the simplest arrangement of rods and rings for fixing. If a variety of such back cloths are kept they can be changed with the greatest ease to suit the particular objects in the window.

Where a solid back is required veneered blockboard is in most cases the best all-round material to use. All kinds of wood, from almost pure white to the richest dark brown, are readily obtainable and the only reason for hesitation in deciding to use them is the fact that they are so universally used; some less suitable but more unusual material being necessary to attract the maximum attention to a "novelty" trade.



Perfumery shop in Vienna by Professor Oswald Haerdtl. Cash desk is pale pink, the floor pale green composition, joinery is zebrano plywood and showcases are of stainless steel.

Interior of tobacconist's shop by E. C. Kaufmann. Fittings and panelling of walnut veneer, floor and cove skirtings of green rubber and ceiling of white plaster. Lighting in showcases opposite counter can be controlled by salesman.

Panelling

In shops generally the intensity of lighting required is so high that dark panelling is not practical. Light woods set off the goods just as well as dark ones, but the difference in wattage required is considerable.

Panelling of all kinds requires the same sort of treatment in shops as it does anywhere else, but two points especially should not be overlooked.

(1) The back should be painted before erection; and

(2) Timbers, such as walnut, which are liable to damage from insects should be properly fumigated with " Bacterol " or other preservative before being brought on the job.

Confectionery shop designed by Professor Oswald Haerdtl. Cases are in polished nut wood, panelling mahogany veneer and floor in brown artificial stone.

Veneers

In veneered work it is worth while examining the veneers in the warehouse, as all but the straightest grained woods vary very much from sample to sample even in the same bundle. Particular " flitches " or small bundles can be directed to be used in special places for which they are particularly appropriate.

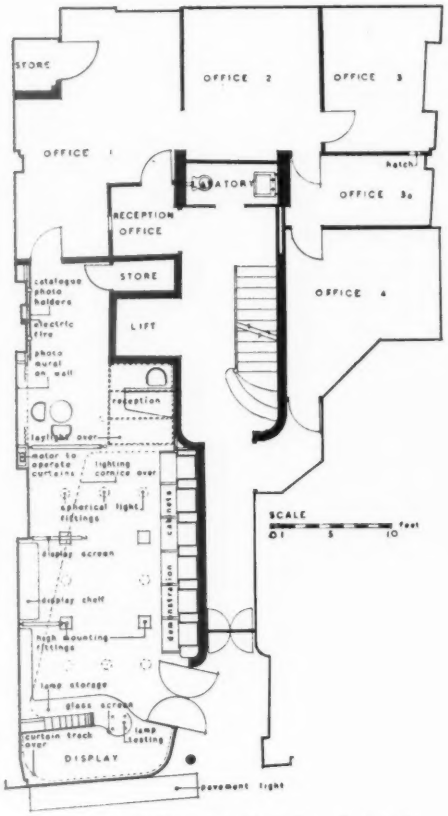
Size Limitations.—Limitations as to length are often a source of difficulty when using specially figured veneers, as the figure may not extend for any great distance in the tree.

Where a number of units of a certain size are part of the design, veneers to make up the required width should be chosen to reduce cost.

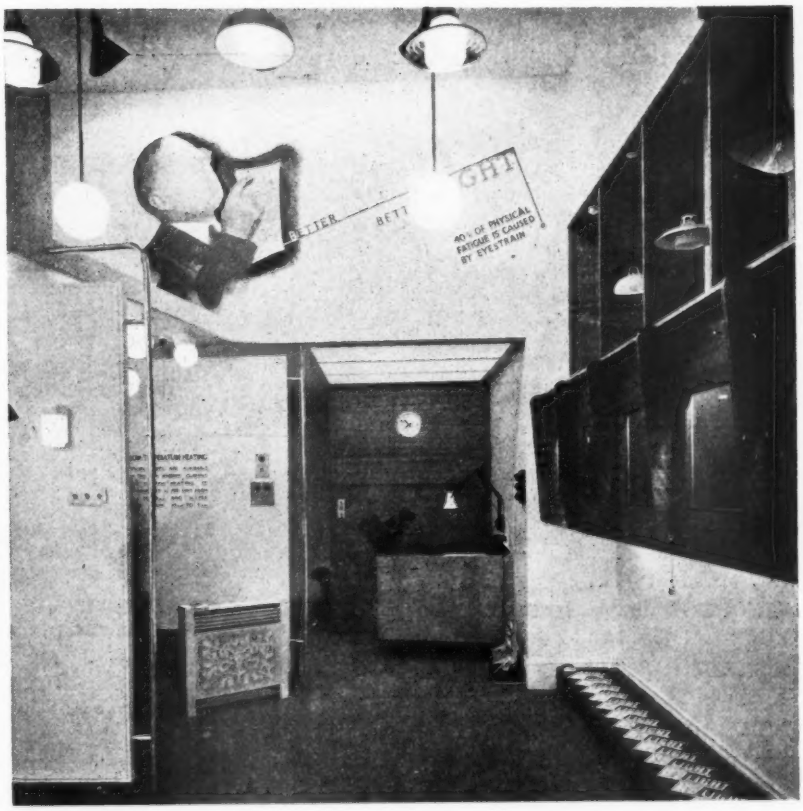
Veneers mounted on canvas, such as " Flexwood," are a cheap and useful medium for obtaining a veneered effect, especially on curved surfaces, without the use of framing and backing necessary for proper veneered work. When using such material it is important to see that the surface to which it is applied is absolutely true or the result is a travesty of the real thing.

Wallboards, with their variety of surfaces, form a good background for sprayed decorative paintwork. The disadvantage of the cover fillets can be minimized by use of large sheets so that only one set of joints is necessary, or they

SHOPS ELECTRICITY SHOWROOMS • *By Walter Gropius and E. Maxwell Fry*



GROUND FLOOR PLAN



These showrooms are in Cannon Street, E.C.

The facing is of black glass with glass-concrete stallboard and continuous metal louvres as stallboard capping in cellulosed metal.

Internally the showroom contains demonstration cabinets to display various types of lighting in relation to eyestrain. Screens are of ¼ in. plywood with hardwood edges carried on steel tubing. The outer showroom is finished in plaster and the inner with walnut ply. Floor finish generally is linoleum with rubber on raised display spaces. Reception desk is of weathered sycamore.

COMMON FLOOR AND WALL FINISHES

[Schedule prepared by Davis and Belfield, Chartered Quantity Surveyors.]

FLOOR FINISHES AND PAVINGS

[*A table of available floor finishes, with cost per yard sup. of each. The costs are comparative only and are for finishes laid or fixed complete, including* 10 *per cent. overhead charges and profit for the General Contractor, taken as for January,* 1937. *Price for the* ¾*-in. jointless flooring and prices for the ten pavings that follow in the Table, include screed under.*]

	Per yard sup. s.	d.
1. 1-in. DEAL tongued and grooved flooring in batten widths	3	7½
2. 1-in. PITCH PINE (ditto) polished complete	10	11
3. 1-in. AUSTRIAN OAK tongued and grooved flooring in narrow widths, polished complete	13	5
4. 1-in. prime CANADIAN MAPLE (ditto)	9	6
5. 1¼-in. PITCH PINE block flooring, polished complete and including screed	16	6
6. 1¼-in. AUSTRIAN OAK (ditto)	17	1
7. OAK PLYWOOD in 12 in. by 12 in. squares, polished complete, excluding sub-floor	9	0
8. AUSTRALIAN WALNUT (ditto)	21	0
9. AUSTRIAN OAK PARQUET, polished complete, with plywood base, but excluding sub-floor	14	10
10. NOEL OAK MOSAIC, polished complete, excluding sub-floor	19	3
11. LINOLEUM, 4·5 mm. thick	7	2
12. LINTILE, plain colours	17	7
13. CELLULIN, 3·5 mm., polished complete	9	8
14. CORK TILES, $\frac{3}{16}$ in. thick, polished complete	13	9
15. KORKOID, in plain colours, left clean	14	4
16. SHEET RUBBER, $\frac{3}{16}$ in. thick	14	10
17. RUBBER TILES, $\frac{3}{16}$ in. thick	15	8
18. POILITE RUBBER TILES	27	9
19. HAIR CARPETS, jointed and on felt underlay	13	10
20. PILE CARPETS (ditto)	16	1
21. GRANOLITHIC paving, 1 in. thick	2	9
22. JOINTLESS FLOORING, ¾ in. thick, polished complete	8	9
23. QUARRY TILES	13	6
24. TESSELATED TILES	17	6
25. NON-SLIP TILES	24	10
26. GLASS TILES	40	2
27. TERRAZZO PAVING, in squares with ebonite strips	18	8
28. TERRAZZO TILES	19	9
29. CERAMIC MOSAIC, in geometrical design	24	6
30. MARBLE MOSAIC, in plain paving and border	34	8
31. TRAVERTINE, in large squares	40	2
32. SICILIAN MARBLE, in simple designs	49	0

WALL FINISHES

[*A table of available wall finishes, with cost per yard sup. of each. The costs are comparative only and are for finishes laid or fixed complete, including* 10 *per cent. overhead charges and profit for the General Contractor, taken as for January* 1937.]

	s.	d.
33. Two coats LIMEWHITE (on plaster)	0	4
34. Clearcolle and two coats DISTEMPER white (ditto)	0	6
35. Clearcolle and two coats DISTEMPER coloured (ditto)	0	8
36. One coat petrifying liquid and three coats PAINT (ditto)	2	4
37. One coat petrifying liquid, two coats PAINT and one coat ENAMEL (ditto)	2	7

WALL FINISHES—*continued*

	Per yard sup. s.	d.
38. One coat primer and three coats sprayed CELLULOSE (ditto)	3	1
39. PLASTIC PAINT, self coloured, exclusive of cement backing	2	4
40. PLASTIC PAINT, painted two coats of oil colour, high lighting and glazing, exclusive of cement backing	4	4
41. Stippled CEMENT GLAZE exclusive of cement backing	8	3
42. Smooth CEMENT GLAZE, glossy finish, exclusive of cement backing	11	6
43. ENSOFLEX, exclusive of cement backing	1	6
44. WALL PAPER p.c., 3s. 6d. per piece (on plaster)	1	0
45. REXINE (ditto)	5	1
46. WHITE METAL LEAF (ditto)	49	6
47. GOLD LEAF (ditto)	69	3
48. Render float and set in lime PLASTER (on brickwork)	2	0
49. Render and set in SIRAPITE PLASTER (ditto)	2	1
50. KEENE'S CEMENT on a backing of cement and sand (ditto)	2	11½
51. Lath plaster float and set in lime PLASTER (on stud partitions)	3	4
52. Coloured CEMENT RENDERING ..	5	0
53. ¼-in. WALL BOARD (to stud partitions) ..	3	0½
54. ⅜-in. smooth faced PLASTER BOARD (to stud partitions)	3	2½
55. ⅜-in. rough faced PLASTER BOARD and skimming coat of plaster (ditto) ..	3	9
56. ¼-in. BIRCH PLYWOOD, painted (including battens plugged to brickwork) ..	11	5
57. ¼-in. figured OAK PLYWOOD, polished complete (ditto)	28	4
58. ¼-in. figured WALNUT PLYWOOD, polished complete (ditto)	29	5
59. ⅜-in. PLYWOOD veneered with BAKELITE MARBLE finish (ditto)	64	0
60. ⅜-in. PLYWOOD veneered with BEATL (ditto)	94	6
61. ⅜-in. copper PLYMAX, polished and lacquered (ditto)	68	3
62. ⅜-in. stainless steel PLYMAX (ditto) ..	91	4
63. Forssman WOOD PANELLING polished complete on plywood backing (ditto) ..	21	3
64. Jacobean OAK PANELLING, polished complete (ditto)	49	0
65. Figured Australian walnut FLEXWOOD, polished complete (on plastered walls)	33	6
66. CORK TILES, polished complete, including screed	16	6
67. RUBBER TILES, including screed ..	19	3
68. LEATHER PANELLING, including hard plaster backing	73	1
69. White glazed TILING, including screed ..	17	10
70. EGGSHELL finish TILING (ditto) ..	25	6
71. Glass TILING (ditto)	41	6
72. TERRAZZO (ditto)	19	10
73. TERRAZZO slabs (ditto)	35	3
74. LAP without metallic leaf	59	6
75. Roman travertine MARBLE	64	4
76. Rose aurora MARBLE	84	2
77. Opaque glass or VITROLITE, including screed	36	4
78. VITROFLEX, including backings plugged to brickwork	76	11
79. Coloured VITROFLEX	84	5
80. Coloured MIRRORS, including backings plugged to brickwork	80	6

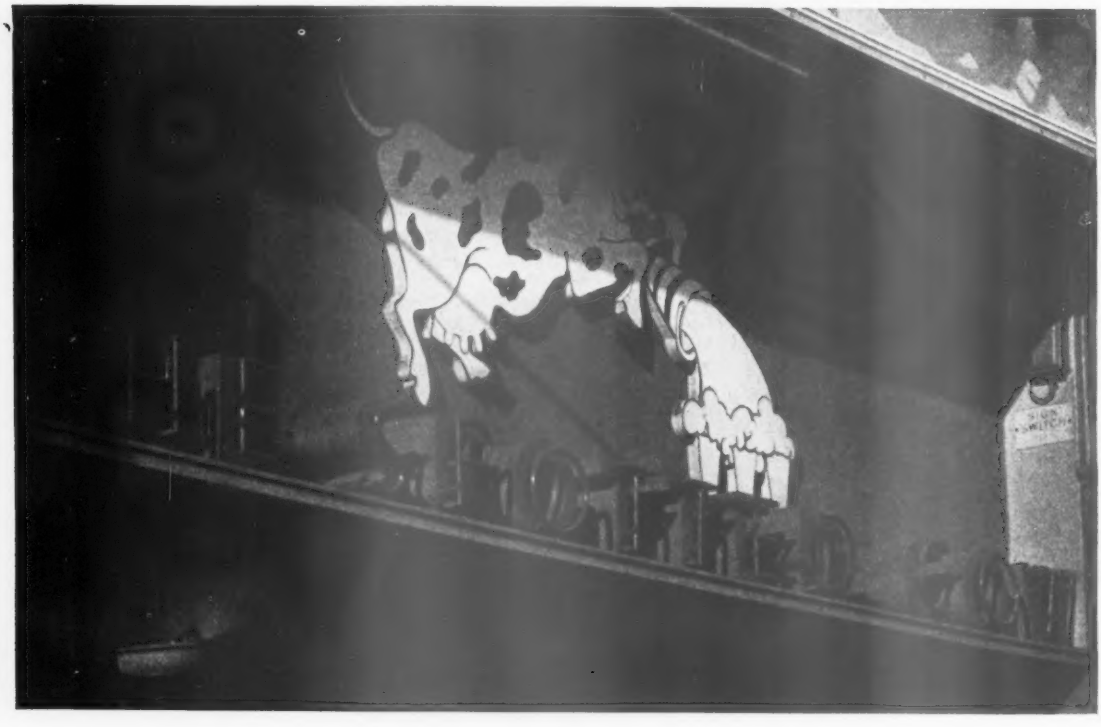
can be avoided altogether by butting the sheets and covering the joints with strips of adhesive material, or by bevelling the edges with the special tools now available.

Ensoflex.—This material, which is a flexible wallboard with a slightly corrugated surface, is particularly useful where large unbroken wall surfaces are required and especially in dealing with old and faulty plaster work. It is obtainable in rolls up to 75 ft. long and enables large walls to be covered without joints. It requires considerable skill to fix satisfactorily and takes distemper better than paint, the latter requiring very generous undercoats of size preferably applied with a sponge.

Paints, etc.

Stone paints such as "Tungcrete" or "Stic B," with their variety of possibilities for surface texture, make a good background for display and often prove an inexpensive method of obtaining a good effect.

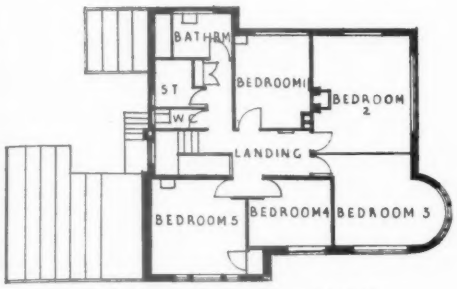
Decorative wall paintings, etc., are beyond the scope of these notes, but it is worth while mentioning photo-murals, printed directly on walls specially treated, as offering a new form of decoration with great possibilities.



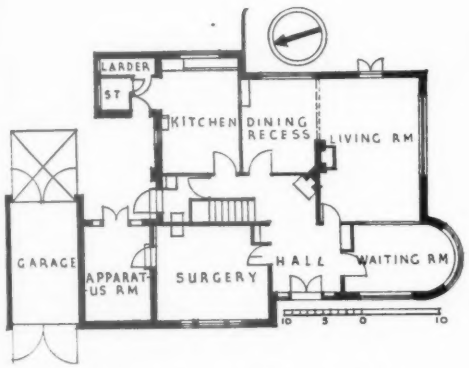
Top : The counter in a milk bar designed by Verity and Beverley, showing typical machines for mixing milk shakes. Mural painting by Miss Blundell. The lower photograph shows a milk bar version of the inn sign. Milk bars should be situated in a neighbourhood frequented by workers earning a medium salary, or places where people are usually in a hurry and have not time for a large lunch. The fact that an open frontage is thought to cheapen a high class shopping street is sometimes put forward as reason for not allowing milk bars in certain districts. The usual accommodation required apart from the bar is : Kitchen, about 120 ft. square, with washing-up sinks and a special stove for cooking soups, etc., and storage space. Small rest rooms and lavatories for both sexes. The standard equipment is all made by specialist firms.

The standard counter unit, containing milk, ice-cream, fruit essences, etc., is 8 ft. 9 ins. by 2 ft. 6 ins. by 3 ft. high. Soup warmers, 3 ft. 6 ins. by 3 ft. 3 ins. by 3 ft. high. Standard shelving behind serving space is 1 ft. 3 ins. deep and 3 ft. 6 ins. high. Counter, 3 ft. 6 ins. high, and 1 ft. wide, should be of vitrolite or an equally impervious material. A compressor, water softeners, etc., have to be provided, and can be contained in a space about 10 ft. by 3 ft. and 3 ft. high.

DOCTOR'S HOUSE AT CLIFTONVILLE

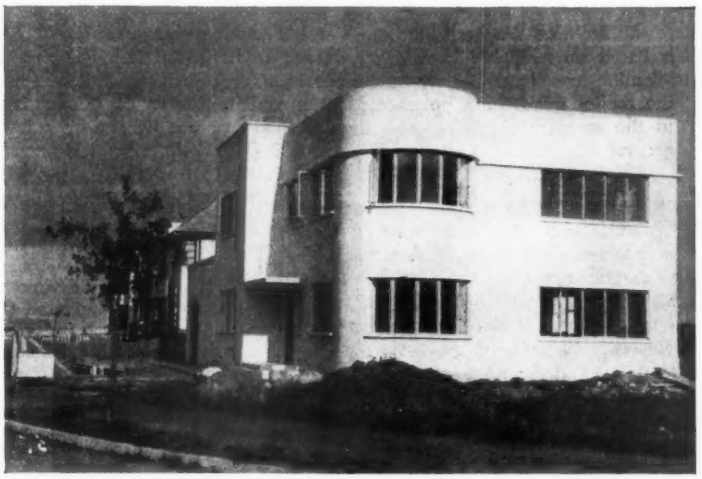


FIRST FLOOR PLAN



GROUND FLOOR PLAN

DESIGNED BY J. T. ALLISON AND J. B. DREW



PLAN—*The principal features of the plan are that the hall, waiting room and surgery form a self-contained suite. For social purposes the living room, dining room, and waiting room can be thrown into one.*

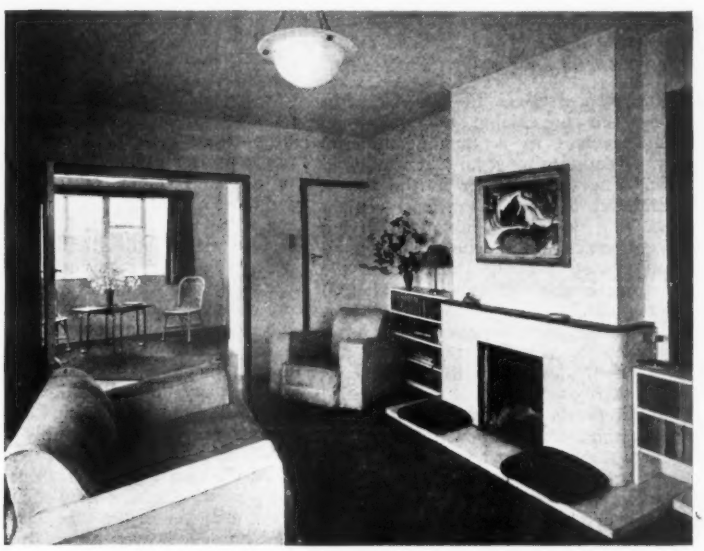
CONSTRUCTION—*The house is built in brick, the external walls being in rustic flettons, distempered. The flat roof is covered with asbestos, and is approached by an external wooden stair leading from the half landing of the main staircase. The floors are of ordinary timber construction, except that of the living, dining and waiting room suite, which has a sprung Columbian pine dance floor. The windows are standard metal throughout. The large window in the living room is a sliding and folding window.*

FINISHINGS—*The various fitments were constructed by the builders from the architects' designs. Among these are the long shelves in the living room, surgery cupboards, dining room hatch, and a tradesmen's hatch between the kitchen and back entrance. The walls internally are distempered, and the woodwork painted.*

HEATING—*The living room and main bedroom have open coal fires, and the dining room, waiting room, surgery, and small bedrooms have gas fires. There are, in addition, hot water radiators in the hall, living room and upstairs landing, and a heated towel-rail in the bathroom.*

The photographs show : Above a view, from the south-west ; below, looking across the living room towards the waiting room ; left, the dining recess.

CONTRACT PRICE : *£1,386.*



IN THAT CONTINGENCY

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

Smoky Flue to a Portable Range

¶ *TROUBLE is experienced with down-draught in a kitchen range. It is a portable range and the 4-in. flue pipe is connected to a straight 9 in. by 9 in. flue about 20 ft. long. Is this flue long enough or should it be lengthened?*

It is thought that any means taken to insulate the flue against heat losses might improve the draught. Sufficient insulation might be provided by extending the flue pipe of the portable range from four to six feet into the brick flue. The cavity between the extended flue pipe and brick flue should, if possible, be sealed at the top and bottom, thus forming a closed air space. It is not necessary to make this sealing absolutely air tight; a metal flange at the top of the pipe roughly the shape of the brick flue should be sufficient seal and will, in addition, keep the pipe in position.

It may be necessary, however, to provide a soot door above the new flue pipe to enable the flue to be swept, or alternatively to make arrangements whereby the new pipe and flange can be easily removed for this purpose.

It was subsequently learned that the method suggested had been adopted with successful results.

Gauging Lime Plaster Undercoats with Portland Cement and Gypsum Cements

¶ *THE use of gypsum (wall) plasters for gauging purposes was discussed in a note issued by the Information Bureau of the Building Research Station in October, 1934. Many plasterers, however, who are more familiar with other materials may prefer to use them. The following note has accordingly been prepared for the information of those who desire to use Portland cement or gypsum cement for gauging lime plasters.*

Gauging with Portland Cement.—Notwithstanding the undeniable advantages of Portland cement as a gauging material certain precautions must be taken to avoid trouble. The chief danger in the use of this material is that a Portland cement gauged mix is more liable to drying shrinkage cracks than one in which a gypsum plaster is used. In addition, the early strength obtained (say at 24 hours) is not as great.

Against these disadvantages can be set the advantages (*a*) that most plasterers are thoroughly familiar with the material and are therefore not liable to misuse it; (*b*) that it assists in protecting embedded steel and iron from corrosion; and (*c*) that it reduces the tendency to deterioration of lime plastering exposed to damp conditions. Furthermore, the setting properties permit working over a much longer period without detriment to the finished work than is the case with plaster gauged mixes. Indeed, mixes gauged with Portland cement may be used quite safely up to two hours after mixing. It is possible, therefore, to gauge reasonably large batches of mortar at each operation.

Precautions to be Observed with Portland Cement Gauged Undercoats.—An essential precaution is that ample time should be permitted for a first undercoat on lathing to dry out and (as far as is needed to relieve the inevitable drying shrinkage stresses) to crack up, before proceeding with the subsequent coats.

The lime used must be quite sound, since the addition of a rapid-setting gauging material shows up any unsoundness in the lime in a very definite manner. Whereas an ungauged lime mortar may be able to "give" somewhat, whilst still unset and soft, in the event of expansion arising from the presence of unsound particles, the gauged lime, on the other hand, may have hardened and become unyielding before this expansion is completed. Any dry hydrated lime, therefore, which is to be used in a gauged lime mortar should (until Standard Specifications become available) be purchased under a written guarantee of soundness.

Either lime putty, or a dry hydrated lime may be used. In the latter case it is preferably soaked (at least overnight) to form a putty, which can then be used just as putty prepared from quicklime in the ordinary manner. For overhead lathing, especially metal lathing, the addition of an adequate proportion of hair is desirable (2–5 lb. per cu. yd. of coarse stuff).

With ready-prepared lime coarse-stuff a suitable gauging is 1 : 10, viz., 1 part of Portland cement by volume, 10 parts of sanded lime coarse stuff of ordinary composition (nominally 1 : 3). This gives, with a reasonably well-graded, clean sand, adequate strength for overhead work on lathing, but a somewhat slower rate of set than a straight cement and sand mortar. For special work, for particularly high early strength, or with unfavourable sands, a gauging as high as 1 : 6 may be required.

With dry hydrated lime, unsoaked, suitable proportions corresponding closely to the above are 1 : 3 : 8 or 1 : 3 : 12 (by volume) of Portland cement : dry hydrated lime : sand. The latter proportion (1 : 3 : 12) requires a suitably graded sand if for overhead work on lathing and in a first undercoat. The leaner mixes can be employed on the solid, on a wall or as a second undercoat on ceilings. For use on expanded metal the richer mix may be preferable to avoid excessive droppings, and hair should be used in the proportion mentioned previously.

If a dirty, unduly "loamy" sand be employed the hardening of the damp mortar may be considerably retarded, as much as three days being required in some cases where a clayey, ferruginous sand has been used. Damage may then be done to keys, etc., before the mix has properly set and hardened, even although the ultimate dry strength may be adequate. The remedy is to use a cleaner sand or more cement.

Gauging with Gypsum Cement.—Certain varieties of gypsum cement are recommended by the manufacturers for the purpose of gauging undercoats and are frequently used in this way. The prolonged set of gypsum cements enables reasonably large batches to be mixed at each operation and the mixed material can be worked for a period of an hour or more without serious loss of strength. The drying shrinkage of a lime mortar is not increased by the addition of gypsum cements of this type, and the setting time of the gypsum cement is not affected by being mixed with lime and sand. On the other hand, unless the proportion of gauging material is considerable, the additional strength provided by its use is less than when gypsum plaster or Portland cement is used. Early strength is noticeably lacking even when the gauging is heavy, as, although a fast initial set is observed in some brands of this material, this is usually killed during the gauging process. Strength is therefore only obtained by the slow and continuous second set.

It may be mentioned that gypsum cements of the Keene's cement type, viz., salt accelerated, are not all suitable gauging materials. Their sand carrying capacity is low and in some cases the admixture of lime is definitely unwise. Gypsum cements which are recommended by the manufacturers for use with lime are usually suitable materials for gauging undercoats.

Preservation of Discarded Railway Sleepers

¶ *AN architect writes: It is proposed to cover a small stream for a length of 50 ft. with used railway sleepers resting on side walls of the same material. Though the load on the floor will be never more than a foot or two of earth I should be glad to know of any steps which could be taken (such as creosoting) by which the life of the sleepers could be prolonged as much as possible. The points about which I am most anxious are the vertical wall members which will be partly buried in the bed of the stream.*

The following reply was furnished by the Forest Products Research Laboratory, Princes Risborough, Aylesbury, Bucks.

In using old railway sleepers care should be taken in selection to use only those which are sound and free from decay. Decay usually commences on the heartwood face and we advise careful examination of each sleeper before use. Provided they are free from decay to start with, such sleepers should have a very long life as they will still contain a large proportion of the original creosote. If the sleepers are cut or drilled, any untreated timber exposed should be given a liberal application of creosote and in fact a coating over the whole sleeper would be beneficial. If it were desired to give absolute protection to the vertical wall members butt treatment with creosote would be advisable, particulars of which are given in Forest Products Research Records—No. 9 "Methods of applying Wood Preservatives. Part I.—Non-Pressure Methods." H.M. Stationery Office. Price 6d. net.

Prevalence of Condensation in 1936

DURING the past months many cases of dampness supposed to be due to penetration have been found on investigation to be due to condensation.

In winter a change from cold to warmer weather is almost invariably accompanied

by a considerable increase in the amount of water vapour in the air. If the rise in temperature is sudden, walls and other massive structures may remain for some while considerably colder than the surrounding air, and then condensation on their surface may occur.

In order to obtain some idea of the frequency of days on which conditions favourable to condensation occur, a study of the 9.30 a.m. readings of the "dry bulb" temperature (i.e. air temperature) for the last three years has been made, paying special attention to those occasions on which a sudden rise in temperature was recorded between successive days' readings. It is significant that during the three months October–December, 1936, there were ten occasions when a temperature rise of 10° F. occurred between consecutive readings of the morning temperatures. In the corresponding periods of 1934 and 1935 there were three and five respectively. The present winter can therefore be considered as exceptional in respect of the number of occasions when the weather has been conducive to condensation.

Dampness due to condensation can be distinguished from that due to direct penetration by the fact that the former may become evident before or immediately following the commencement of rain, whereas the latter only shows after the rain has been falling for some time, and sometimes not until the rain has ceased. Secondly condensation can occur on a wall not exposed to weather. It does not usually occur in living rooms or in rooms adequately heated; it is more likely on the external walls of unheated rooms—though partition walls are not always immune—and it usually affects the whole wall. Dampness due to penetration is often patchy, particularly in its initial stages. Adequate heating and ventilation will quickly remove dampness due to condensation.

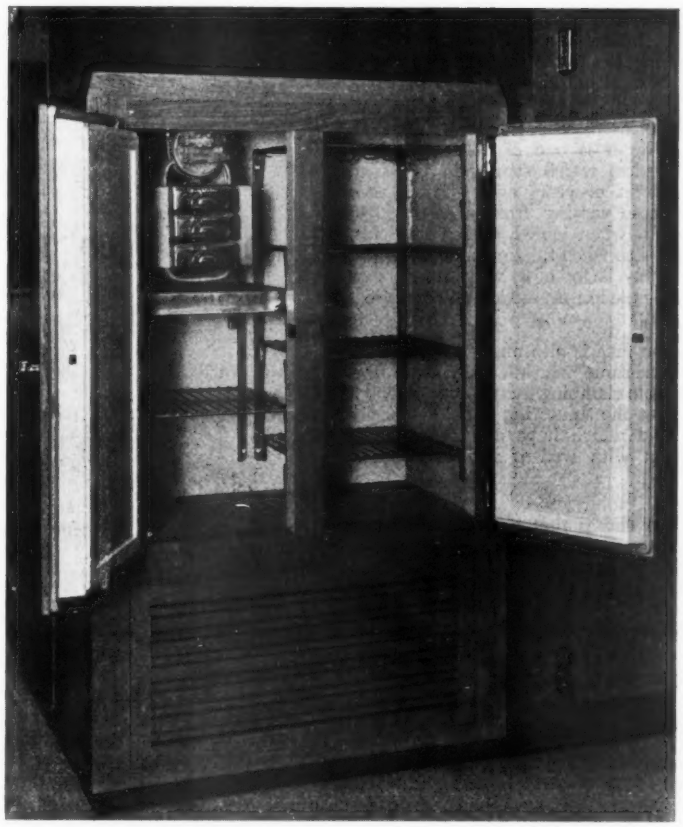
OBITUARY

R. J. THOMSON

We regret to record the death of Mr. Robert John Thomson, F.R.I.B.A., of Wimbledon. He was 72 years of age.

Mr. Thomson was educated at the City of London School. In 1894 he commenced private practice at Hill Road, Wimbledon, a practice which has been carried on continuously ever since, for the past seventeen years in association with his eldest son, Mr. J. Stewart Thomson.

Among the many buildings which have been erected to his designs are the original public swimming baths in Latimer Road for the then Wimbledon Urban District Council; the Wesleyan Church, Merton Road, South Wimbledon; almshouses in Camp Road; the Compton Hall, Compton Road; the Weir Hospital, Balham; the maternity home for Wandsworth Borough Council at Balham; the maternity wing of the Nelson Hospital; the children's ward block of the Wimbledon Hospital; and the banqueting hall of the Wimbledon Hill Hotel. In addition, he was responsible for the design of numerous business premises in Wimbledon and the provinces.



A new Frigidaire 15 cubic foot refrigerator cabinet.

TRADE NOTES

[*EDITED BY PHILIP SCHOLBERG*]

A New Refrigerator

FRIGIDAIRE have just introduced a new 15 cubic foot refrigerator, which is designed as a service cabinet for bars, restaurants, dairies, grocers, or, for that matter, any other place where a good deal of cold storage area is necessary and where floor space is limited.

•

Overall dimensions are reasonable; 3 ft. 5 ins. wide and 1 ft. 11 ins. deep, with an overall height of 5 ft. 4 ins., and the shelf area is 16 sq. ft., the shelves themselves being adjustable in the usual way.

•

As can be seen from the illustration on this page, the finish is simple and commendably free from any nonsensical applied decoration. One has come to assume a decent standard of design in most present-day refrigerators, but during the last few months there has been a thoroughly regrettable tendency to employ that *moderne* keystone-and-voussoir or laminated dangle motif which is so thoroughly unsuitable for a steel pressing, as, if anything, it makes the resultant job rather weaker than if it were left alone.

•

This may be due to the American tendency of producing a new model each year, just as the motor industry does. The interior is probably no larger and no cooler; in fact, as one of the speakers at the A.A.'s Industrial Planning meeting last week remarked (on the subject of wireless sets): "It doesn't matter if it's better, it doesn't matter if it's worse, but it's got to *look* different." So we have "sparkling new models with 18 *new* streamlined features, re-styled for a record-breaking 1937," by whoever it is.

•

All of which has nothing whatever to do with this particular model, but may be taken as an inept and perhaps rather left-handed compliment to Frigidaire for designing something reasonable and then leaving it alone.

•

The price, by the way, is £75, supplied and installed: the motor is ⅕ horse-power, and consumes about 2 to 2½ units a day. Standard finish is oak but other finishes are, of course, available.

•

Saving Contractors' Time

I have just received details of an adjustable metal prop which is apparently standard practice in Switzerland and also widely used on the rest of the Continent, and which is now being manufactured in this country and marketed by Adria, Ltd. The sketch, which is purely diagrammatic, shows how it works: the larger tube is threaded and slotted for a short distance and the smaller tube is drilled at intervals for the first approximate adjustment to size by the loose pin. Final tightening up is

by the sleeve with the handle, the whole operation taking one man a few seconds only, as opposed to the usual way of timber and wedges.

•

A square footpiece is fitted at each end, and the result is one of those extremely simple devices which somebody ought to have thought of years ago. Three sizes are available varying from 5 ft. 8 ins. to 8 ft. 6 ins. when closed, and 9 ft. 6 ins. to 11 ft. 8 ins. when fully extended. Loads, with a safety factor of 4, vary from 3 tons to 1 ton for the longest model fully extended.

•

The same firm is also marketing a trench strut on the same principles, and two forms of adjustable clamping frame, both of which ensure that the shuttering is held perfectly square and which have a wide range of adjustment with wedges and overlapping slots.

•

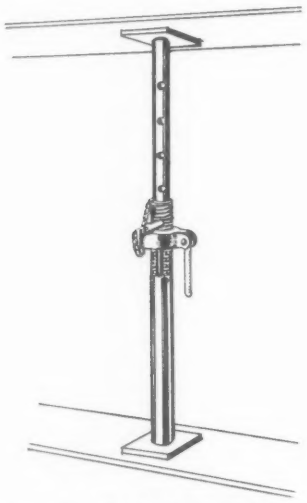
The firm claims that a large amount of time can be saved, about 85 per cent. for the shuttering of square columns for instance, and if this means, as it should, that concrete work will be cheaper, it seems to be the sort of thing architects ought to know about.

•

Addresses

Frigidaire, Ltd., Edgware Road, The Hyde, N.W.9.

The Adria Co., 159 Sloane Street, S.W.3.



Diagrammatic sketch showing the arrangement of the Adria prop. (*See note on page* 363.)

REGISTRATION

During the progress of the Architects' Registration Bill through Committee of the House of Lords, several amendments were discussed.

Lord Strabolgi moved to insert in clause 1 the following definition : "The expression architect means a person engaged in respect of the business of designing buildings and the supervision, in his capacity of designer, of the erection of buildings." He said the term architect was not defined in the Bill and it was not defined in the parent Act. Perhaps Lord Crawford would think of a better definition, but it was desirable that definition should appear in the Bill.

Lord Crawford said Lord Strabolgi was right in saying that there was no definition of the term architect in the Bill, and it was not proposed to insert one. He (Lord Crawford) was puzzled by the definition which Lord Strabolgi had evolved. What did "in respect of" mean? What was the connotation of "the business of designing"? As it stood, the author of one of the greatest architectural feats of our time would not come within the definition. That was the great work done when St. Paul's dome began to move. Sir Aston Webb did not design the building, and he had nothing to do with its erection. The definition would therefore exclude that kind of work from the denomination of architecture. But it was not on technical grounds that he asked that the amendment should be withdrawn. It was found that where registration existed definition was not possible; in the medical profession, for instance, it was impossible to define surgery. The province of a surgeon began when he rubbed a dislocated knee and it ended when he performed the major operation and removed the limb. So it was impossible to define the term architect in a way that would be inclusive and at the same time exclusive. The process of definition which the Bill adopted was oblique : it was definition by qualification, and the qualification was examination. Those who had passed and had the certificates and diplomas laid down in the Act of five years ago were now entitled to call themselves registered architects. In future, those who passed the same examinations would be entitled to style themselves architects.

Lord Aberdeen said he was sorry that Lord Crawford was resisting the amendment, since it was surely desirable to define a profession. As the noble lord had put his argument, it would appear that a man might pass his examination, and even perhaps become a member of an architects' association, and call himself an architect although he never practised. No one should be allowed to call himself an architect unless he practised as an architect. He hoped that if the amendment were not passed Lord Crawford would agree to submit some sort of definition which would meet the point when the Bill was on the Report stage. It was a mistake in the 1931 Act to have no definition, and the opportunity should now be taken to remedy that defect.

Lord Amulree said that the matter of a definition was discussed when the original Bill was before the House of Commons, and no satisfactory definition was reached. Therefore, it was agreed that no definition should appear in the measure.

The amendment was negatived without a division.

Lord Aberdeen then moved an amendment to provide that the period after the passing of the Bill into law which should elapse before the penalties should take effect should be extended from two years, as the Bill proposes, to five years. He said that two years was not a very long time to allow when an entire change was to be made from what had been the practice, to enable architects to be fully acquainted with the new regulations or rules or customs which the Bill would establish. Therefore, he asked that the time should be extended to five years. The extension of the time would not prejudice the Bill, and it would give time for those who wished to qualify to do so.

Lord Crawford said the noble lord who had proposed the amendment appeared to be under a misapprehension. The Bill would not produce new rules or regulations or customs : all it did was to ensure in future that the style and title of registered architect was to be architect *simpliciter*. The two years allowed in the Bill was sufficient. It was the period laid down in the parent Act during which a person who wished to call himself a registered architect had to make application. The Act was now working with admirable smoothness, and architects knew all about it. Six months would have been quite sufficient for all the architects, with their very excellent methods of information and their architectural journals, to make application, and the Architectural Board thought that two years should be put into the amending Bill. He should be very sorry to put in five years, because promptitude and dispatch was wanted in these things, for every day made it more and more clear how alive the public were to the necessity of better education for architects and town planners and everything that could be done to maintain the beauty of England.

Lord Strabolgi said he hoped the amendment would be pressed. If the Act was working smoothly and well, why the amending Bill? There was a great deal of resistance to it in the profession. Surely, when it was proposed to put penalties on a body of men who were generally respectable, good time should be given to them to qualify. He presumed that there were a number of British architects who were practising in foreign countries and throughout the British Empire, and five years would not be too long to give them to qualify. Architecture had been beautifying the world for thousands of years—passing at times through periods of depression such as he believed it was now passing through in this country—and it had all been done without registration and over-organization. Two countries, the United States of America and the new Germany, were vastly in advance of this country in architecture, not because British architects were inferior, but because public opinion in Great Britain did not demand beautiful buildings. The Bill would not improve British architecture.

Lord Crawford replied that in forty-one of the States of the United States there was legislation of the precise character of the legislation which was being discussed. In the majority of the forty-one States the legislation was far in excess of anything contained in the Bill or in the parent Act, and a whole series of restrictive provisions prevailed in the United States, nothing of which existed in Great Britain. It was partly because we were so uncontrolled, partly because our education was not so good, and perhaps because our legislative control was inadequate, that we suffered seriously in comparison with the United States. There were five Dominions and Colonies overseas and several European countries which had legislation more serious than ours.

Lord Strabolgi asked whether it was pretended that the Bill was going to raise the standard of British architecture to that of the United States. The reason why beautiful buildings were erected in America was not because there were regulations but because public opinion demanded such buildings. The reason why we had mean and ugly buildings in this country was because we had a sleeping public which did not demand anything better.

The amendment was negatived.

Lord Strabolgi moved the following addition to the qualifications proposed for

admission to the register : " or that, at the commencement of this Act or thereafter he had passed the examinations qualifying for associate architect membership of the Royal Institute of British Architects or of the Incorporated Association of Architects and Surveyors ; or that he possesses such diplomas and experience as will qualify him to be considered an architect." He said that the charge against this part of the Bill was that the promoters and their friends were trying to create a monopoly for one professional body against another.

Lord Crawford said that, so far from there being a monopoly to one professional body against all others, there was a number of bodies which, *pari passu* with the Royal Institute of British Architects, could and did regularly hold examinations. It was absurd to say that there was a monopoly for the R.I.B.A. examinations. The Incorporated Association of Architects and Surveyors applied for its examination syllabus to be passed, and it was not considered adequate by the Board of Architectural Education. It could send up a syllabus tomorrow if they liked, and if it conformed to the general standard of technical and academic excellence demanded by the Board it would get its examinations qualified as the other twenty authorities had got theirs. If the amendment were accepted, it would almost break down the whole of the architects' registration.

The amendment was negatived, and the Bill was reported without amendment to the House.

THE BUILDINGS ILLUSTRATED

THE NATIONAL BANK OF SCOTLAND (pages 342-344). New Head Office (Temporary Premises), 9/11 George Street, Edinburgh, 2. The general contractors were Scott and Brown, Ltd., and the principal sub-contractors and suppliers included : William Bain & Co., Ltd., structural steelwork ; Gray's Ferro Concrete Co., Ltd., reinforced concrete ; Concrete, Ltd., precast floors ; Tate, Brown & Co., Heworth Burn stone ; Scaffolding (Gt. Britain), Ltd., steel scaffolding ; Cement Marketing Co., Ltd., and G. and T. Earle, Ltd., Portland cement ; Niddrie and Benhar Coal Co., Ltd., common bricks ; J. and R. Howie, Ltd., and Dewar and Finlay, Ltd., flue bricks ; John Low and Son, roof slating ; Scottish Speedwell Co., Ltd., asphalt ; Expanded Metal Co., Ltd., reinforcing fabrics for concrete ; Thomas Graham, Ltd., rod reinforcement and smith work, concrete, granolithic and plastering ; Aerocrete (Scotland), Ltd., partition blocks ; Sika-Francois, Ltd., and Castor Cement Waterproofing Co., Ltd., waterproofing ; Minton Hollins & Co., Ltd., wall and floor tiles ; Korkoid Decorative Floors, stair nosings and treads and linoleum ; British Plaster Board Co., Ltd., plaster board ; Tentest Fibre Board Co., Ltd., wall boards ; Redalon, Ltd., floor clips ; Cameron and Robertson, Ltd., piping and drainage goods, etc. ; John Mitchell & Co., Ltd., creosoted timber supplies ; Allen and Sons, Ltd., marble and granite wall and floor tiling contractors ; Modern Surfaces, Ltd., condensation-proof plaster ; Thomas McGhie and Sons, Ltd., "Thistle" hardwall plaster ; Expanded Metal Co., metal lathing ; D. Anderson and Son, Ltd., and the May Acoustics, Ltd., sound absorbents and insulating materials ; Limmer and Trinidad Lake Asphalte Co., Ltd., coloured asphalt floor covering ; John Taylor and Son (Edinburgh), Ltd., and Barry Ostlere and Shepherd, Ltd., linoleum ; Henry Hope and Sons, Ltd., bronze and steel windows and glazed screens ; Charles Henshaw, bronze doors, railings, grilles, etc. ; Park and Rutherford, Ltd., and Thos. Scott & Co., door furniture and locks ; Hobbs Hart & Co., Ltd., door furniture and locks, security work ; Chance Bros. & Co., Ltd., plate glass, obscured and figured glass ; Pilkington Bros., Ltd., tinted glass ; W. H. Heywood & Co., Ltd., patent glazing ; City Glass Co., Ltd., glazing ; James H. Lamont & Co., Ltd., copper tube fittings ; Yorkshire Copper Works, Ltd., copper tubes ; John White & Co., plumbing and fire hydrants ; Cunningham, Dickson and Walker, glazing ; John S. Sinclair, painter ; Craig and Rose, Ltd., Hall Dunbar & Co., Ltd., and Thomas Parsons and Sons, Ltd., paint ; Arthur Sanderson and Sons, canvas and Japanese woven grass wall decorations ; John Line and Sons, Ltd., embossed wallpapers ; Wood Processes, Ltd., wood veneer decoration to banking and entrance halls ; Chubb and Sons Lock and Safe Co., Ltd., safes ; Minimax, Ltd., fire extinguishers ; North British Rubber Co., Ltd., fire hydrants ; John Taylor & Co., window blinds ; Whytock and Reid, Ltd., damask hangings and curtains ; Dale's, lettering ; " Turk " System Drying Co., Ltd., drying-out process ; Baxendale & Co., Ltd., A. Locke and Son, and James Gray and Son, fireplaces ; Park and Rutherford, and John Glendinning and Sons, cloakroom and lavatory equipment ; Twyfords, Ltd., sanitary fittings ; Wire and Metal Constructors, Ltd., wirework ; James Duncan and Sons, Ltd., carpentry and joinery ; Laminated Wood Products, Ltd., flush wood doors ; A. Stephen and Sons, telling counter, etc., in banking hall ; John Taylor and Sons, and John Watherston and Sons, office fittings ; Whytock and Reid, and Roneo, Ltd., furnishings in banking hall ; Thonet & Co., metal stools and chairs ; Tucker Armoured Plywood Co., Ltd., metal plywood ; John Craig and Son, handrailing ; Charles Ritchie & Co., central heating ; Muirhead Ventilators, Ltd., ventilators ; Waygood-Otis, Ltd., lifts ; J. Sibbald and Sons, Ltd., electrical contract ; Wood and Cairns, Ltd., electrical equipment ; Ascog, Ltd., Best and Lloyd, Ltd., Troughton and Young, Ltd., and Merchant Adventurers of London, Ltd., light fittings and glassware ; Craigpark Electric Cable Co., Ltd., wiring and cables ; General Electric Co., Ltd., electric bells and alarms, wiring, cables and tubular lamps ; Simplex Electric Co., Ltd., switchgear and conduit ; J. A. Crabtree & Co., Ltd., switches and switch plugs ; Edison Swan Electric Co., Ltd., electric lamps ; Magneta Time Co., Ltd., electric clocks ; Ideal Boilers and Radiators, Ltd., and David Tod, Ltd., boilers ; Mirrlees, Bickerton and Day, Ltd., automatic stokers ; Drysdale & Co., Ltd., pump ; Joseph Sankey and Sons, Ltd., radiators ; Dictograph Telephones, Ltd., intercommunicating telephone system ; Gent & Co., Ltd., signalling apparatus ; Edinburgh Corporation Gas Dept., gas installation ; Keith and Blackman Co., Ltd., and Davidson & Co., Ltd., electric fans.

HOUSE AT CLIFTONVILLE (page 361). General contractors, F. J. Doughty, Ltd.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICT (15 MILES RADIUS)

ACTON. *Swimming Baths.* The Acton Corporation has approved the principle of the construction of swimming baths in Acton Park, at an estimated cost of £26,000.

BETHNAL GREEN. *Clearance and Rehousing.* The L.C.C. is to clear the Tent Street area, Bethnal Green, and provide rehousing at a cost of £56,000.

CAMDEN TOWN. *Cinema.* The L.C.C. has passed plans submitted by Mr. Andrew Mather for the erection of a cinema in High Street, Camden Town.

FINSBURY. *Clearance and Reconstruction.* The L.C.C. is to clear and reconstruct the Percival Street area, Finsbury, at a cost of £38,000.

ILFORD. *Public Library.* The Ilford Corporation has obtained sanction to borrow £13,618 for the erection of a public library.

LEWISHAM. *Houses, etc.* Plans passed by the Lewisham B.C. : 126 houses, Catford Park estate, Messrs. Wates, Ltd. ; flats and swimming pool at the " Chesnuts " and " Woolwich House," The Drive, Sydenham, Messrs. H. F. Thoburn, Ltd. ; 161 houses and flats, Mottingham estate, London C.C., Messrs. Wilson and Lovatt and Sons, Ltd.

ST. PANCRAS. *Flats.* The St. Pancras B.C. is to erect 158 flats on the Queen's Crescent site at an estimated cost of £125,600.

WIMBLEDON. *Crematorium.* The Wimbledon Corporation has asked the borough surveyor to prepare plans for the erection of a crematorium at the rear of the Isolation Hospital.

EASTERN COUNTIES

BEDFORD. *School.* The Bedford Education Committee has obtained a site in Clapham Road for the erection of a senior school.

BEDFORD. *Gymnasium.* The Bedford Education Committee has approved plans by Mr. L. de Soissons, F.R.I.B.A., in connection with the proposed erection of a gymnasium at the Silver Jubilee Council School, at a cost of £4,500.

SOUTHERN COUNTIES

BOURNEMOUTH. *Houses, etc.* Plans passed by the Bournemouth Corporation : 10 bungalows, Huntvale Road, Mr. J. E. Dowdall ; six houses, Wallisdown Road and Ringwood Road, Mr. J. H. Schofield ; hotel, Broadhurst Avenue, Messrs. Eldridge, Pope & Co. ; 14 houses, Leybourne Avenue and Moorside Road, Messrs. Sunny Homes (Bournemouth), Ltd. ; block of flats, Boscombe Spa Road, Mrs. W. L. De Zoete ; 15 flats, Manor Road, Messrs. Rowley and Partners.

BOURNEMOUTH. *School.* The Bournemouth Education Committee has obtained sanction for a loan of £56,015 for the erection of a boys' secondary school.

BRIGHTON. *Shop Premises.* The Brighton Corporation has obtained sanction to borrow £20,882 for the erection of shop premises in connection with street widenings.

BRISTOL. *Extensions.* The Bristol Education Committee has obtained sanction to borrow £17,158 for extensions at Connaught Road School.

GUILDFORD. *Houses.* Mr. H. Ashenden is to erect 68 houses at Hill View, Aldershot Road, Guildford.

HILLINGDON. *Extensions.* The Middlesex Education Committee has obtained sanction to borrow £14,044 for the enlargement of Oak Farm School, Hillingdon.

NORTHERN COUNTIES

BOLTON. *Houses.* The Bolton Corporation has approved plans by the housing director for the erection of approximately 250 houses at Long Lane.

BOLTON. *Maisonettes.* The Bolton Corporation is to erect, by direct labour, 60 maisonettes on the Crescent Estate, at a cost of £17,706.

CHESTER. *School.* The Chester Education Committee is to erect a school at Blacon at a cost of £11,627.

CHESTER. *Extensions, etc.* Plans passed by the Corporation : Extensions, Whipcord Lane, for Messrs. J. P. Davies and Sons ; extensions and foundry, Newry Park, for Brookhirst Switchgear, Ltd. ; nine houses, Whitchurch Road, for Mr. H. Dodd.

HULL. *School.* The Hull Education Committee is to provide a school for about 520 children on the Bricknell Avenue site.

LANCASTER. *Public Baths.* The Ministry of Health has approved the new baths scheme of the Lancaster Corporation which permits of two baths at an estimated cost of £59,475.

LEEDS. *Sports Pavilion, etc.* The Leeds Corporation is to lay out a controlled games area and gardens and provide a sports pavilion in the military field, Roundhay.

LEEDS. *Cinema and Library.* The Leeds Corporation is to provide a cinema and a library at the Meanwood Park colony.

SHIPLEY. *Houses.* The U.D.C. is to erect 154 houses on the Crag End Estate and West Royds Estate, at a cost of £61,655.

WAKEFIELD. *School.* The Wakefield Education Committee has approved plans for the proposed new school of art and crafts at a cost of £30,000.

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	11½
A	Altrincham ...	N.W. Counties	1 7	1 2½
B_2	Appleby ...	N.W. Counties	1 3½	11½
A	Ashton-under-Lyne	N.W. Counties	1 7	1 2½
B	Aylesbury ...	S. Counties	1 5	1 0½
B	BANBURY ...	S. Counties	1 5	1 0½
B_1	Bangor ...	N.W. Counties	1 4½	1 0½
A_2	Barnard Castle	N.E. Coast	1 5½	1 1½
A	Barnsley ...	Yorkshire	1 7	1 2½
B	Barnstaple ...	S.W. Counties	1 5	1 0½
A	Barrow ...	N.W. Counties	1 7	1 2½
A	Barry	S. Wales & M.	1 7	1 2½
B	Basingstoke ...	S.W. Counties	1 5	1 0½
A_2	Bath	S.W. Counties	1 6	1 1½
A	Batley ...	Yorkshire	1 7	1 2½
A_2	Bedford ...	E. Counties	1 6	1 1½
A_2	Berwick-on-Tweed	N.E. Coast	1 6	1 1½
A_2	Bewdley ...	Mid. Counties	1 6	1 1½
B	Bicester ...	S. Counties	1 5	1 0½
	Birkenhead ...	N.W. Counties	*1 8	1 3
A	Birmingham ...	Mid. Counties	1 7	1 2½
A_1	Bishop Auckland	N.E. Coast	1 6½	1 2
A	Blackburn ...	N.W. Counties	1 7	1 2½
A	Blackpool ...	N.W. Counties	1 7	1 2½
A	Blyth	N.E. Coast	1 7	1 2½
B	Bognor ...	S. Counties	1 5	1 0½
A	Bolton ...	N.W. Counties	1 7	1 2½
A_2	Boston ...	Mid. Counties	1 5½	1 1½
A_2	Bournemouth	S. Counties	1 6	1 1½
B_2	Bovey Tracey	S.W. Counties	1 4	1 0
A	Bradford ...	Yorkshire	1 7	1 2½
A_1	Brentwood ...	E. Counties	1 6½	1 2
A	Bridgend ...	S. Wales & M.	1 7	1 2½
B	Bridgwater ...	S.W. Counties	1 5	1 0½
A	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	Bursiem ...	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_1	Kettering ...	Mid. Counties	1 6½	1 2
A_2	Kidderminster	Mid. Counties	1 6	1 1½
B_1	King's Lynn ...	E. Counties	1 4½	1 0½
A	LANCASTER ...	N.W. Counties	1 7	1 2½
A	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_2	Matlock ...	Mid. Counties	1 5½	1 1½
A_1	Merthyr ...	S. Wales & M.	1 6½	1 2
A	Middlesbrough	N.E. Coast	1 7	1 2½
A_2	Middlewich ...	N.W. Counties	1 6	1 1½
B_2	Minehead ...	S.W. Counties	1 4	1 0
B_2	Monmouth ... & S. and E. Glamorganshire	S. Wales & M.	1 4	1 0
A	Morecambe ...	N.W. Counties	1 7	1 2½
A_2	NANTWICH ...	N.W. Counties	1 6	1 1½
A	Neath ...	S. Wales & M.	1 7	1 2½
A	Nelson ...	N.W. Counties	1 7	1 2½
A	Newcastle ...	N.E. Coast	1 7	1 2½
A	Newport ...	S. Wales & M.	1 7	1 2½
A	Normanton ...	Yorkshire	1 7	1 2½
A	Northampton	Mid. Counties	1 7	1 2½
A	North Shields...	N.E. Coast	1 7	1 2½
A	North Staffs ...	Mid. Counties	1 7	1 2½
A_1	Norwich ...	E. Counties	1 6½	1 2
A	Nottingham ...	Mid. Counties	1 7	1 2½
A	Nuneaton ...	Mid. Counties	1 7	1 2½
A_2	OAKHAM ...	Mid. Counties	1 5½	1 1½
A	Oldham ...	N.W. Counties	1 7	1 2½
A_2	Oswestry ...	N.W. Counties	1 5½	1 1½
A_1	Oxford ...	S. Counties	1 6½	1 2
A	PAISLEY ...	Scotland	*1 7	1 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	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	Teeside Dist. ...	N.E. Counties	1 7	1 2½
A_2	Teignmouth ...	S.W. Coast	1 6	1 1½
A	Todmorden ...	Yorkshire	1 7	1 2½
A_1	Torquay ...	S.W. Counties	1 6½	1 2
B_2	Truro	S.W. Counties	1 4	1 0
A_2	Tunbridge Wells	S. Counties	1 5½	1 1½
A	Tunstall ...	Mid. Counties	1 7	1 2½
A	Tyne District	N.E. Coast	1 7	1 2½
A	WAKEFIELD	Yorkshire	1 7	1 2½
A	Walsall ...	Mid. Counties	1 7	1 2½
A	Warrington ...	N.W. Counties	1 7	1 2½
A_1	Warwick ...	Mid. Counties	1 6½	1 2
A_1	Wellingborough	Mid. Counties	1 6½	1 2
A	West Bromwich	Mid. Counties	1 7	1 2½
A_2	Weston-s.-Mare	W. Counties	1 6	1 1½
A_2	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	5	0
Portland Cement, in 4-ton lots (d/d site, including Paper Bags)	"	1	19	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags)	"	2	5	0
White Portland Cement, in 1-ton lots	"	8	15	0
Thames Ballast	per Y.C.		6	6
¾" Crushed Ballast	"		7	0
Building Sand	"		7	6
Washed Sand	"		8	6
2" Broken Brick	"		8	0
¾" "	"		10	3
Pan Breeze	"		6	6
Coke Breeze	"		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s.	d.	6" s.	d.
Straight Pipes	per F.R.	0	9	1	1
Bends	each	1	9	2	6
Taper Bends	"	3	6	5	3
Rest Bends	"	4	3	6	3
Single Junctions	"	3	6	5	3
Double	"	4	9	6	6
Straight channels	per F.R.	1	6	2	6
¾" Channel bends	each	2	9	4	0
Channel junctions	"	4	6	6	6
Channel tapers	"	2	9	4	0
Yard gullies	"	6	9	8	9
Interceptors	"	16	0	19	6
IRON DRAINS:					
Iron drain pipe	per F.R.	1	6	2	6
Bends	each	5	0	10	6
Inspection bends	"	9	0	15	0
Single junctions	"	8	9	18	0
Double junctions	"	13	6	30	0
Lead Wool	lb.		6		—
Gaskin	"		5		—

BRICKLAYER

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

MASON

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

SLATER AND TILER

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

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

CARPENTER AND JOINER

		£	s.	d.
Good carcassing timber	F.C.		2	2
Birch	as 1" F.S.			9
Deal, Joiner's	" "			5
" " 2nds	" "			4
Mahogany, Honduras	" "	1		3
" African	" "	1		1
" Cuban	" "	2		6
Oak, plain American	" "	1		0
" Figured "	" "	1		3
" plain Japanese	" "	1		2
" Figured "	" "	1		5
" Austrian wainscot	" "	1		6
" English	" "	1		11
Pine, Yellow	" "	1		0
" Oregon	" "			4
" British Columbian	" "			4
Teak, Moulmein	" "	1		3
" Burma	" "	1		2
Walnut, American	" "	2		3
" French	" "	2		3
Whitewood, American	" "	1		1
Deal floorings, ¾"	Sq.		18	6
" 1"	"	1	1	6
" 1¼"	"	1	2	0
" 1½"	"	1	5	0
" 1¾"	"	1	10	0
Deal matchings, ⅝"	"		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	⅜" A	⅜" B	⅜" BB	½" A	½" B	½" BB	⅝" A	⅝" B	⅝" BB	¾" A	¾" B	¾" BB
Qualities	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch 60 × 48	4	2½	2	5	3	2½	7	5	4	8	6	5
Cheap Alder	–	2	1½	–	3½	2	–	–	–	–	–	–
Oregon Pine	–	2½	–	3	2½	–	4	3½	–	5	4½	–
Gaboon Mahogany	4	3½	–	5	4½	–	7	6½	–	8	7	–
Figured Oak	6½	5	–	7½	5½	–	10	8	–	1/–	9	–

		d.
Scotch glue	lb.	8

SMITH AND FOUNDER

Tubes and Fittings

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

	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes 2'–14' long per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"–23" long each	10	1/1	1/11	2/8	4/9		
" 3"–11½" long "	7	9	1/3	1/8	3/–		
Long screws, 12"–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	68⅔	Galvanized gas	61⅓
Water	66⅔	" water	55
Steam	63⅔	" steam	50
	Fittings.		
Gas	61⅓	Galvanized gas	55⅓
Water	58⅔	" water	50
Steam	53⅓	" steam	46⅔

		s.	d.
Rolled steel joists cut to length	cwt.	14	6
Mild steel reinforcing rods, ¾"	"	10	6
" " ½"	"	10	3
" " ⅜"	"	10	0

SMITH AND FOUNDER—*continued*

		s.	d.
Mild steel reinforcing rods, ⅜"	cwt.	9	6
" " ¼"	"	9	6
" " 1"	"	9	6
" " 1¼"	"	9	6
" " 1½"	"	9	6

		½" s.	d.	¾" to 4" s.	d.
Cast-iron rain-water pipes of ordinary thickness metal	F.R.		8		10
Shoes	each	2	0	3	0
Anti-splash shoes	"	4	6	8	0
Boots	"	3	0	4	0
Bends	"	2	7	3	9
" with access door	"		—	6	3
Heads	"	4	0	5	0
Swan-necks up to 9" offsets	"	3	9	6	0
Plinth bends, 4½" to 6"	"	3	9	5	3
Half-round rain-water gutters of ordinary thickness metal	F.R.		5		6
Stop ends	each		6		6
Angles	"	1	7	1	11
Obtuse angles	"	2	0	2	6
Outlets	"	1	9	2	3

PLUMBER

		£	s.	d.
Lead, milled sheets	cwt.	38		3
" drawn pipes	"	37		9
" soil pipe	"	40		9
" scrap	"	25		9
Solder, plumbers'	lb.			9
" fine do.	"		1	0
Copper, sheet	"			11½
" tubes	"		1	1½

L.C.C. soil and waste pipes:	3"	4"	6"
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.
Sheet glass, 24 oz., squares n/e 2 ft. s. F.S.		2½
" " 26 oz. " " "		3½
Flemish, Arctic, Figures (white)* "		7½
Blazoned glasses "	2	6
Reeded: Cross Reeded "		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite "		6
Crown sheet glass (n/e 12" × 10") "	2	0
Flashed opals (white and coloured) "	1 0 and	2 0
⅛" rough cast; rolled plate "		6
⅛" wired cast; wired rolled "		10½
¼" Georgian wired cast "		11½
¼" Polished plate, n/e 1 ft. "	†10 to	‡1 1
" " 2 "	†1 2 "	‡1 4
" " 4 "	†2 3 "	‡2 6
" " 8 "	†2 9 "	‡3 2
" " 20 "	†3 1 "	‡3 9
" " 45 "	†3 3 "	‡4 0
" " 100 "	†4 0 "	‡4 10
Vita glass, sheet, n/e 1 ft. "		1 0
" " 2 ft. "		1 3
" " over 2 ft. "		1 9
" " plate, n/e 1 ft. "		1 6
" " 2 ft. "		3 0
" " 5 ft. "		4 0
" " 7 ft. "		5 0
" " 15 ft. "		6 0
" " over 15 ft. "		7 6
"Calorex" sheet 21 oz., and rough cast ⅛" and ¼" "	2 6 and	3 6 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.	3	4	9
Linseed oil	gall.		3	0
Boiled oil	"		3	3
Turpentine	"		3	9
Patent knotting	"		14	0
Distemper washable	cwt.	2	6	0
" ordinary	"	2	0	0
Whitening	"		4	0
Size, double	firkin		3	0
Copal varnish	gall.		13	0
Flat varnish	"		14	0
Outside varnish	"		16	0
White enamel	"	1	15	0
Ready mixed paint	"		13	6
Brunswick black	"		7	6

CURRENT PRICES FOR MEASURED WORK

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

EXCAVATOR AND CONCRETOR

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

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

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

ASPHALTER

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

MASON

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

SLATER AND TILER

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

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 2 6
Shuttering to sides and soffits of beams	F.S.	7
" to stanchions	"	7
" to staircases	"	1 6
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " " "	"	1 17 6
1¼" " " " " "	"	2 3 0
3" × 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 8
1¼" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting fixed on, and including grounds plugged to wall	F.S	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1½" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	16 6
Riveted plate or compound girders, and hoisting and fixing in position	"	1 0 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	2 8 9
Do. in flashings	"	2 12 3
Do. in covering to turrets	"	2 17 9
Do. in soakers	"	2 3 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " " "	"	4

Lead service pipe and fixing with pipe hooks	F.R.	½" s. d. 1 0	¾" s. d. 1 2	1" s. d. 1 6	1¼" s. d. 2 4	2" s. d. 3 2	4" s. d. —
Do. soil pipe and fixing with cast lead tacks	"	—	—	—	—	—	6 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	8 9	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 2
Extra, only for shoes	Each						1 3
Do. for plain heads	"						5 6

PLASTERER AND TILING

		£ s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand or tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement angle and arris	F.R.	6
Arris	"	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