Architect: Maxwell Fry, A.R.I.B.A. Contractors: W. H. Gaze & Son

House at Frognal Way, Hampstead, of reinforced concrete construction. The bricks used were 'PHORPRES'.

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THE ARCHITECTS' JOURNAL

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

THURSDAY, January 21, 1937. NUMBER 2192 : VOLUME 85

PRINCIPAL CONTENTS

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

A CHANGING SKYLINE

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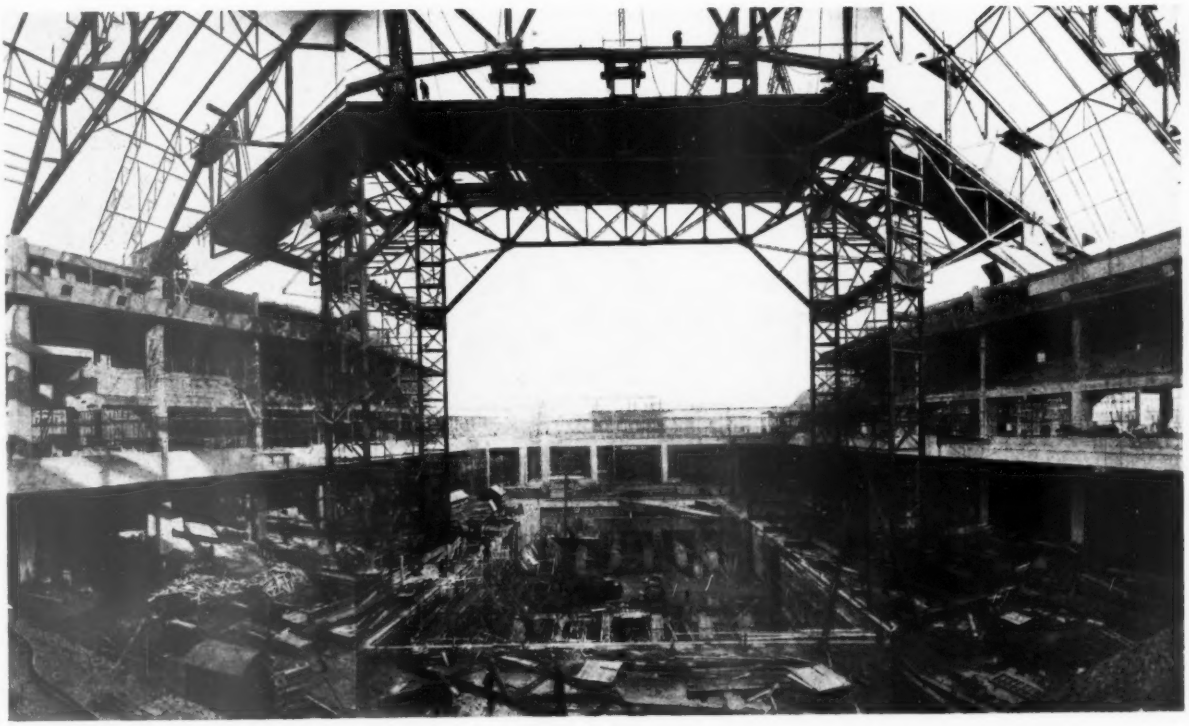
Advertisement of The Association of Steel Conduit Manufacturers, 25 Bennetts Hill, Birmingham 2

UNDER CONSTRUCTION: EARL'S COURT EXHIBITION



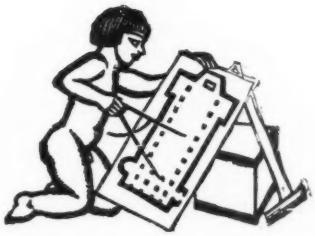
A PROGRESS photograph of the main hall of the new Earl's Court Exhibition Building on which 3,700 men are now employed. The arched lattice roof of this hall will span 250 ft., and the illustration shows the travelling platform used in the roof assembly.

REPAIRS IN THE ROYAL MILE

Acheson House, Edinburgh, being repaired for the Marquess of Bute. Dated 1633, this courtyard town house was built by one of the judges of the Court of Session, Sir Archibald Acheson, Bt.; and his initials and those of his wife, Dame Margaret Hamilton, can be seen in the dormer pediments.

Before restoration started the house was occupied by 14 families. In future it will be occupied as a private house by a single family. The dressed stone is Ravelston for the chimney heads and crowsteps, and Doddington for the window lintels where new stones are necessary. The roof is being covered with Arbroath slates.

The architects for the restoration are Messrs. Neil and Hurd.



CUSTARD-PIE COMEDY

THERE is a kind of film, at one time exported from the U.S.A. in large quantities, which used to appeal very strongly to the more easily amused sex. Generally, and after what might be said to be its leading character part, this type of film was known as a custard-pie comedy.

The causes of its popularity are too complex to be listed here, even if this were the place to do so. But after the joyous crunch of broken glass has been respectfully noted, there is one possible cause of custard-pie success which seems to affect wider, if not more important, human affairs than box office revenues. This ingredient of the comic and almost certain side-splitter is the misapplication of human effort.

A man growing potatoes on a railway line, or passing along a crowded street, carrying one hundred and eleven plates poised on either hand seems funny to nearly all of us. He seems funny partly because of the humour of the strikingly inappropriate ; and partly because the observers know that the usual run of happenings in the circumstances depicted will certainly, if they wait a few minutes, liven up the proceedings very considerably. And they are never disappointed.

It has been said that these entertaining films are now more rare. Even apart from the loss of a good laugh this seems a pity. While they were still common there was always the chance of one of the audience remembering what he laughed at on the way home, and even of wondering why he laughed. And if he did that he was in a fair way to get a bigger laugh or a bigger shock than any he had had in the Andover Kursaal.

He might on his homeward way have found himself thinking that when two thousand families are living in two thousand houses within a square half-mile or so they want to move about ; to go to shops and on visits and their children have to go to school or to the church hall. And ruminating gently and discursively our solid citizen might have moved on to the question of motor car traffic near cities ; of how jams are presumably caused by delay and cured by wide, unobstructed roads along which cars can move at a high speed and in an even flow.

On celluloid a man growing vegetables on a railway line is funny by reason of his refusal to recognize the line's other and totally different function. But in real life an identical acceptance of the inappropriate on the part of the community and its Government is not found to be so hilarious in its inevitable result. Far from it ; after all, to laugh we must live.

A meandering road through a country town, which citizens have strolled or toddled across for centuries, is straightened, smoothed and widened to help motor traffic to travel easily. And is the result of this imposition of two antagonistic uses upon the same road space considered ludicrous ? Not a bit. It is called a grave national problem, the toll of the roads, to-day's slaughter and a social menace.

Sometimes, of course, we have thought of another way—a new road, *round the existing town*, expressly designed for easy and fast motor travelling. And naturally the former use of a road (as a surface on which the local population, the aged, perambulators, mothers and children can move to and fro without danger) is prevented from establishing itself on these new roads. Naturally ? No such thing. Why, it would be an outrage to the most primary conception of individual freedom and individual rights. Having created the modern road for modern uses, nothing remains but to let the ancient uses of a road add themselves to the new uses.

What then is gained ? Nothing at all. But do the new roads (plus old uses) bring no advantages to the community over those of the old roads (modernized here and there) ? Certainly ; they have a considerably larger number of accidents on them.

Is the whole situation ludicrous?

Not a bit ; look at Westway. Westway is an arterial road designed to help traffic move swiftly in and out of London. It, therefore, has no speed limit.

But naturally it has by now been lined with houses (the old use of a road) and accidents occur on it.

What happens ? The Minister of Transport, after a personal inspection, recommends : 1 : guard rails, pedestrian crossings, pedestrian-operated traffic lights, and bridges (i.e. he hampers the old use of the road) ; 2 : pedestrian crossings, pedestrian-operated traffic lights *and a speed limit of 30 m.p.h.* (i.e., he hampers the new use of the road).

Does not the road then become inefficient for both its purposes ? Come, come—that is like asking people to stop growing vegetables on the railway line.

The Architects' Journal
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NOTES & TOPICS

CROSSING THE LINE

STANDING there by the door, it did seem to me a sad business. He was still so young, had shown so many signs of the sanity which is called promising. And now, with the evening light on ruffled hair, he sat idly moving one finger above a paper on which were two circles and six lines.

*

Beside him a plan lay neglected, and his eyes held the sullen glow of one far outside himself.

*

"What is it, dear boy?" I tried to keep my voice matter of fact. He shook himself and his eyes fell to his circles and lines; and at length he spoke.

*

"The sun," he murmured, "—in Australia." A silence. "If," he went on, heavily, "it travels northwards from rising to setting, does it rise in the west (our west) and set in the east (our east); is our sun, as it were, just turned round; or is it turned inside out?"

*

I can never refuse to help anyone in real trouble. So we got down to it together. And I fancy we settled that sun fairly permanently; and well inside thirty minutes

*

On my way home, though, I thought that Professor Thornton White would have all my sympathy at the moment when he crosses the line on the way to Capetown's Chair of Architecture.

*

As they soap his distinguished imperial with all the high spirits of shipboard—think of the mental *volte-face* taking place behind the Professor's twinkling eye.

*

No longer must larders face north, no longer must the lounge face south. But (here is the catch) he can't just turn his northerly houses round. Breakfast must still face east, and the library west.

MORE GEOGRAPHY

The pitfalls of geography ought perhaps to be heavily emphasized for those of us who are over fifteen. I felt this very profoundly when I discovered that I was quite wrong over the Dawlish Competition.

*

When I first read this advertisement of a hospital competition (open to architects of British nationality practising within 200 miles of Dawlish), I thought it was a misprint for 20 miles; then that it was designed just to exclude London architects. But apparently it isn't; and certainly doesn't.

*

The *Architect and Building News* last week took up the problem in a scientific spirit. Who, they said, can compete and who can't? Let us look at their map. Cambridge can, but Ely can't; Bridgnorth, Harlech and Liverpool (a bad slip there?) are among the chosen. Huddersfield and Tadcaster are out of it.

*

But are we sure that our contemporary sees the affair in proper perspective? Are they not being Little Englanders to a regrettably narrow degree?

*

Personally (see *my* map), I am sure the intended winner is an Irishman, or a British architect practising in Northern France. In Caen, St. Malo and St. Brieuc there *must* be exiles longing to win an English competition. And Dawlish Cottage Hospital, with real British fairness, has now given them their chance. Up Falaise! En avant Lavaux! *Remember Mitchelstown.*

TRANSPORT ARCHITECTURE

The vast sum of £40,000,000 is to be spent on the improving of railway facilities around London. The L.P.T.B. is to work in collaboration with the L.N.E.R. and G.W.R. on a five-year programme.

*

New tubes, renewed tubes, new electrification, trolley buses for trams . . . and of course a considerable amount of building and civic furnishings.

*

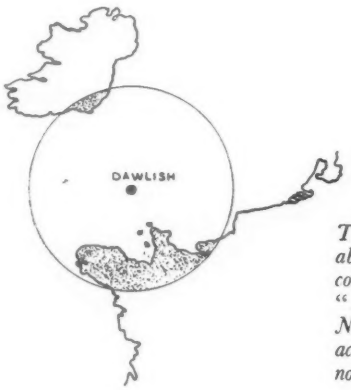
The L.P.T.B. has shown us what they can do in this direction already. Its standard is as high as that of any comparable body throughout the world—and what is more important, as broad.

*

Its building and equipment problems are, when facts are faced, solved with balanced judgment. Thinness for the sake of thinness, bulk for the sake of bulk, brick for the sake of brick, concrete for the sake of concrete . . . all these mannerisms have remarkably little place in the work of the L.P.T.B.

*

The L.M.S., not to be outdone, has decided to build a whole series of new stations, and it has been hinted that these are to be on equally sensible lines. I hope that this is true, the more so because the L.M.S. was recently joint promoter in a successful little competition for Receiving Offices, and what is sound in principle for the smaller scheme should be sound for the larger. That they were appreciative of the new stations of the L.P.T.B.



The Dawlish Competition: above, where the winner may come from according to the "Architect and Building News"; left, possibilities according to Astragal (see note on the opposite page).

was proved by the companies' choice of Mr. Holden as one of their assessors.

*

The Receiving Offices competition was welcomed as a sign that the railway companies had entered the architectural fold: rather was it a case of the prodigal returning after an absence of nearly a century. In their Victorian prime the railways were good, one might almost say, great architectural clients, and the country is littered with architectural jewels which have never been properly documented.

*

My own choice in stations would be Huddersfield. Mr. Robert Atkinson, I believe, is very partial to the Midland at Lincoln, which I have long been wanting to see. Should any reader have a snapshot of it, I'd be glad if he'd send it along.

ARCHIEPISCOPAL RESONANCE

Materials fail in these bustling times for many weird and remote reasons, and amongst them vibration from external or mechanical causes plays its insidious part.

*

Perhaps vibration felt a little put upon by having its possible origins so limited; at any rate, a story now runs that the Archbishop of York has introduced a brand new risk into house ownership.

*

His Grace is a large man, and upon occasions proper to joviality, he can be excellently jovial—with a slow, powerful and resonant laugh.

*

And the tale is told that the Archbishop was dining recently in a private house in London and chuckled several times. The candelabra trilled, the windows twittered, and though hair cracks opened to visible fissures, the ceiling still clung on for the good name of the house.

*

But at last His Grace of York was amused and laughed, and, if the tale has not improved in the telling, a large portion of the Victorian ceiling decided that it had stood enough from the twentieth century and silently and dramatically descended upon the diners.

WHO WINS THESE PRIZES

A visit to the exhibition of work submitted by students for the large sum distributed annually by the R.I.B.A. in prizes and studentships prompts one to wonder if full value is now being obtained for all this money.

*

Admittedly this year is a poor year, at any rate so far as the major competitions are concerned. Most of the Soane competitors have worried so much about minor technical details that they have often overlooked major issues.

*

The Tite winner walked away well ahead of the field, though the results this year generally show less appreciation than ever of Italian architecture, in spite of the fact that that description includes "from Vitruvius to Mussolini."

*

The real meaning of the Owen Jones still appears in some doubt and there is a tendency to return to timid tints which gloss over colour mistakes.

*

The Pugin continues to encourage vast areas of vaulted detail, most of it measured, but with little of the real freedom which is the essence of mediæval work.

*

It would be interesting if some willing analyst could tabulate what sort of student nowadays enters for these prizes, how they stand in the merit lists of the schools—and really discover if there *is* some change of attitude towards prizes.

MYSTERY DEEPENS

The great St. George's Hospital mystery deepens. I have already sympathized with Mr. Elcock in the matter; and, as the competition passes into its third vicissitude, the appointment of Messrs. Lanchester and Lodge, as assessors, is announced.

*

A year ago Mr. Stanley Hall's name was being freely mentioned for this job, and with his vast knowledge of modern hospital work there could, perhaps, have been no more suitable choice. Messrs. Lanchester and Lodge, however, are, collectively, old enough to have had an even longer experience and we shall, in all probability, get a façade which will be thoroughly in keeping with the historic site.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

NEW MUNICIPAL CENTRE FOR KENSINGTON

"We have reached the conclusion that new municipal buildings and library are necessary, and they should be erected on or near to the site of the present Town Hall and the Central Library." This is an extract from a report presented to the Kensington Borough Council by the Improvements Committee. The Committee recommended, and the Council agreed, that Mr. Percy Thomas, O.B.E., P.R.I.B.A., be appointed to advise the Council in connection with the redevelopment of the existing site at a fee of 250 guineas. The Council will not, however, be bound to proceed with his, or any other scheme, and it is pointed out that he would not necessarily be appointed architect for the new buildings, nor assessor if it were decided to hold a competition.

PLANNING

The question of reviving the Greater London Regional Planning Committee is in active consideration by the Ministry of Health. Only last week-end heads of the appropriate departments were in consultation and it is believed that a new scheme to carry on the work that was abandoned last autumn will shortly be announced.

The committee, which had surveys made first by Sir Raymond Unwin and later by Major Hardy-Syms, was supported by more than 150 local authorities, but the withdrawal of the London County Council's grant of £1,500 a year meant the cessation of its activities.

INCREASED WAGES IN THE BUILDING INDUSTRY

Wages in the building industry will be increased as from February 1 next, by ½d. per hour for craftsmen (bricklayers, carpenters, plasterers, plumbers, painters, slaters and tilers, etc.) and proportionately for labourers. The new rates will be 1s. 7d. per hour for craftsmen and 1s. 2¼d. per hour for labourers. This national increase was decided by the annual review of wages at the statutory meeting of the National Joint Council for the Building Industry, held on January 14, and is consequent upon the increase in the cost of living during the past twelve months as measured by the official index number.

The building industry, which employs more male labour than any other industry in this country, has 1,020,000 insured workpeople of whom 482,000 are craftsmen 398,000 labourers, and 140,000 belong to other occupations, including office staffs.

THE ARCHITECTS' DIARY

Thursday, January 21

R.I.B.A., 66 *Portland Place, W.1. Exhibition of the drawings submitted by students of recognized schools of architecture for the competition for the design of traffic roundabouts with converging roads, including the treatment of street furniture, signs, lighting, etc. Until Saturday, January 23.* 10 *a.m. to* 8 *p.m. (January* 23 : 10 *a.m. to* 5 *p.m.). Also, exhibition of the designs submitted for the prizes and studentships. Until Saturday, January* 30. 10 *a.m. to* 8 *p.m. (Saturdays,* 10 *a.m. to* 5 *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.*

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.)*

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. *Manchester and District Branch. "Historical Notes on Pumps and Methods of Pumping: Past and Present." By C. S. Yoxall and W. Cranston.* 7 *p.m.*

LONDON SOCIETY. *Visit to Museum of Fire Appliances, Bryant and May's Works, Fairfield Row, Bow, E.3.*

L.C.C. HAMMERSMITH SCHOOL OF BUILDING AND ARTS AND CRAFTS. *Exhibition of Students' Work. Until January* 22. 10.30 *a.m. to* 9 *p.m.*

Monday, January 25

R.I.B.A., 66 *Portland Place, W.1. Presentation of medals and prizes by the President. Address to Students by T. A. Darcy Braddell.* 8.30 *p.m.*

CHARTERED SURVEYORS' INSTITUTION, *Great George Street, S.W.1. "Air Raid Precautions." By Colonel W. Garforth.* 6.30 *p.m.*

ELECTRIC ILLUMINATION EXHIBITION. *At the Science Museum, South Kensington, S.W. "Luminescence and Fluorescence." By L. J. Davies.* 5.30 *p.m.*

Wednesday, January 27

ROYAL SOCIETY OF ARTS, *John Street, Adelphi, W.C. "Luminescence and Its Application." By J. T. Randall.* 8.15 *p.m.*

ST. PAUL'S ECCLESIOLOGICAL SOCIETY. *Annual meeting in the Crypt of St. Paul's Cathedral.* 6 *p.m.*

EXHIBITION OF BRITISH ARCHITECTURE. *At the Royal Academy, Burlington House, S.W. Second of a series of lectures: "The Retrospective Section." By E. J. Carter.* 3 *p.m.*

REIMANN SCHOOL

The Reimann School whose exhibition opened last week is a venture new to this country, though its prototype, the Reimann School in Berlin, has been established for 32 years. Its object is to bridge the gap existing at the moment between the art schools and the manufacturers, and the curriculum has been drafted so as to overlap as little as possible existing facilities. The Principal will be Mr. Austin Cooper, whose experience and reputation as a poster artist will be of the greatest value, and direction of policy will be in the hands of an advisory council which includes, among others, Mrs. Grace Lovatt Fraser, Mr. E. McKnight Kauffer, Mr. H. G. Dowling, Mr. Howard Robertson and Mr. F. R. Yerbury. The school and studios themselves have been altered and partly rebuilt by Mr. Howard Robertson.

The school aims at a comparatively short but intensive specialized training in the following departments: Display and exhibition design; commercial art; fashion and dressmaking; photography.

The studios will be equipped to undertake commercial work and salaried work will be found there for the more promising students graduating from the school. In this way students will gain practical experience of applied design under the guidance of experts as well as obtaining an academic training, and the manufacturers will have the benefit of specialized designers who have already had a practical training for the work required.

ARCHITECTURAL ASSOCIATION

The first of a series of five non-technical lectures on present-day building in Europe was given by Mr. Howard Robertson, F.R.I.B.A., at the Architectural Association on Friday last. The lecturer dealt with "French Architecture." Extracts from his address are printed below: "Recent progress in France has been rapid. The now much disparaged 1925 Decorative Arts Exhibition gave an enormous fillip to design, and the Perrets, followed by Le Corbusier and his school, have stimulated the functional and structural side. So to-day we have in France first rate modern buildings in which steel and concrete framing predominate, while the exteriors are inspired very frequently from the structural material, and in any case are treated with a formal serenity relieved by a surface treatment and touches of enrichment which are beginning to belong in character to the basic form. Amongst work of this type may be cited government and municipal buildings, such as archives and storehouses, post offices, schools, railway stations, and hospitals; while a few private houses and apartments are amongst the most interesting and soundly designed to be seen anywhere in Europe to-day.

"The extreme 'all-glass school' of modernism, with the horizontal emphasis, is to-day somewhat at a discount. Its rather limited formula has caused a reaction towards the vertical, with a return to a modified classic rhythm. And that is the note which, so far as present progress indicates, will be predominant in the 1937 Paris Exhibition, at least as far as the more monumental buildings are concerned. French architecture to-day, as in every country, is still seeking the expression of present-day materials and needs. Both of these are still in a fluid state; but it is safe to say that France is artistically on the up-grade once more, and will again contribute a strong lead to the world in structural resource, fertility of invention, and decoration which, with all its grace and verve, can only be described as 'typically French.'"

ANNOUNCEMENTS

Mr. E. Brander Musman, B.A., F.R.I.B.A., has taken into partnership his Chief Assistant, Mr. W. Norman Worrall, A.R.I.B.A. The practice will be carried on under the title of Messrs. Musman and Worrall and will continue as before at 7 Carteret Street, Westminster, S.W.1. Telephone No.: Whitehall 8735 (2 lines).

Messrs. Kenneth A. H. Bayes, A.R.I.B.A., and H. Lowdon Bishop, P.A.S.I., M.R. SAN. I., of 6 Pownall Gardens, Hounslow, have opened an additional office at 44 Great Russell Street, London, W.C.1. Telephone No.: Museum, 4307. Mr.

The late Professor Tonks: a caricature by H. F. Hoar

Bayes will be in charge of the London office, where trade catalogues are required.

Messrs. Lanchester and Lodge are taking into partnership Mr. E. E. Davis, A.R.I.B.A., who has been an assistant to the firm for the past nine years. The designation of the firm will, however, remain as hitherto—Messrs. Lanchester and Lodge.

Messrs. Helsby, Hamann and Samuely, Consulting Engineers, have dissolved their partnership. Mr. Cyril Helsby will continue to practise at 625 Grand Buildings, Trafalgar Square, W.C.2. (Telephone No.: Whitehall 7283); and Messrs. Felix J. Samuely and Conrad W. Hamann will continue their practice at 641 Grand Buildings, Trafalgar Square, W.C.2. (Telephone Nos.: Whitehall 5955–6.)

ART AND INDUSTRY

Design and the Designer in Industry, the new report for the Council for Art and Industry, was published yesterday (January 20) by the Stationery Office, price 1/-.

THE LATE BERTIE CREWE

We regret to record the death, at the age of 74, of Mr. Bertie Crewe, who was responsible for the design of a large number of cinemas and theatres in London and the provinces.

Mr. Crewe received his architectural training in the office of Mr. Clement Dowling, of London, and in Paris. His works included:—London: London Opera House, Kingsway (now the Stoll Theatre); Lyceum Theatre (reconstruction); Tivoli Theatre, Strand, W.C.; Prince's Theatre, Shaftesbury Avenue, W. also the Manchester Palace of Varieties; Alhambra Theatre, Paris; Mogador Palace, Paris: Alhambra Theatre, Brussels, and, in collaboration with Messrs. T. P. Bennett, Edward A. Stone and Cecil Masey, he also designed the Saville, Piccadilly and Phœnix theatres, London.

R. I. B. A.

ELECTION OF MEMBERS

At a recent meeting of the Council of the Institute the following members were elected:

As Fellows (4).—J. C. James (Watford); L. L. Sloot (London); J. Leech (Watford); and S. Tiltman (Brighton).

As Associates (27).—G. G. Albert (Architectural Association) (East London, S. Africa); H. Bailey (Leeds School of Architecture) (Bingley, Yorks); W. G. Bell (Architectural Association) (Harrow, Middlesex); E. Brown, DIP. ARCH. (Leeds) (Leeds School of Architecture) (Dewsbury, Yorkshire); R. H. Francis (Architectural Association) (London); J. H. Hargrave (South Perth, Western Australia); R. C. Hodge (Sydney, New South Wales); P. W. Jeffries (Birmingham School of Architecture) (Walsall, Staffordshire); S. P. Jewitt (Bartlett School of Architecture, University of London) (London); J. C. Jones (Architectural Association) (London); J. P. Lomas (Liverpool School of Architecture, University of Liverpool) (Onchan, I.O.M.); L. H. Lung (Liverpool School of Architecture, University of Liverpool) (Hong Kong); E. W. Mallows (Architectural Association) (London); B. L. Moir (Liverpool School of Architecture, University of Liverpool) (Isle of Anglesey); J. R. Sheridan-Shedden (Welsh School of Architecture, The Technical College, Cardiff) (Rhiwbina, Cardiff); J. E. Smith (Harrogate); J. C. Smyth (Bartlett School of Architecture, University of London) (Paignton, S. Devon); A. L. Spencer (London); W. G. Sweet (Welsh School of Architecture, The Technical College, Cardiff, and the Architectural Association, London) (London); F. W. Thorn (Leeds School of Architecture) (Rotherham); G. L. Townsend (Architectural Association) (Upminster, Essex); L. J. Tucker (Leeds School of Architecture) (Harrogate, Yorks.); S. Turner (Beckenham, Kent); F. B. Ward (Junr.) (Architectural Association) (London); N. C. Westwood (Architectural Association) (Weybridge, Surrey); W. G. Wilson (Liverpool School of Architecture, University of Liverpool) (Bridlington); and D. S. Wright, DIP. ARCH. (Edin.) (School of Architecture, Edinburgh College of Art) (Edinburgh).

As Licentiates (7).—Wells Coates (London); J. Feltham (Chelmsford); P. F. Lester (Sudan); H. Rhodes (Manchester); L. Tattersfield (New Addington, Surrey); A. H. Walker (Manchester), and C. G. White, (Hampton, Middlesex).

TITE PRIZE AND THE SOANE MEDALLION, 1937

The Preliminary Competitions for the Tite Prize and the Soane Medallion will be held in London and at centres in the provinces on Thursday, March 4, and Friday, March 5, 1937, respectively.

Forms of application for admission to the Preliminary Competitions may be obtained at the R.I.B.A., 66 Portland Place, London, W.1. The closing date for the submission of forms of application is Thursday, February 4, 1937.

R.I.B.A. COMPETITION BETWEEN STUDENTS OF RECOGNIZED SCHOOLS OF ARCHITECTURE

The Jury appointed to consider the designs submitted in the above competition have made the following awards:—

Subject No. 1 (a right-angle crossing formed by the intersection of two principal roads of equal traffic importance): Design placed first, A. M. Graham (Edinburgh College of Art); Design placed second, J. N. Pollock (Edinburgh College of Art); Design placed third: R. A. Furlong (Welsh School of Architecture, The Technical College, Cardiff).

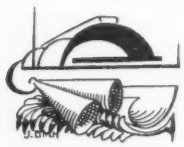
Subject No. 2 (a five-way crossing): The Jury consider that the standard of the designs submitted does not justify any award.

Subject No. 3 (a crossing in which a major road is intersected at right angles by a minor road). The designs submitted by the following two competitors tied for first place: G. A. Lyall (Edinburgh College of Art); and R. Thompson (Leeds School of Architecture).

Subject No. 4 (a crossing formed by the intersection of a circumferential boulevard and a principal radial road): Design placed first, G. A. Lyall (Edinburgh College of Art).

The Jury appointed to adjudicate upon the designs submitted is as follows: Professor

Patrick Abercrombie, M.A., Mr. Christian Barman, Professor L. B. Budden, M.A., Major F. C. Cook, D.S.O., M.C., M.INST.C.E., Mr. G. L. Pepler and Mr. Stephen Welsh, M.A.



EXHIBITIONS

[*By D. COSENS*]

To say that, in spite of seventy odd years, Sickert holds his place as the outstanding English portraitist of this generation is to invite controversy, but an inspection of his work now on view at the Adams Gallery does much to confirm that view. Most of this work dates from his Venetian period, and one would have liked to see, by the side of his portraits of that date, some of his masterly treatments of Saint Mark's and the Salute. For he sums up with equal insight the essential character and personality of a model or a building, and his lovely colour redeems equally an ugly person or a sad dark interior. A pupil of Whistler and friend of Degas, he has had strangely little influence on English painting, and one thinks of him inevitably as part of the French impressionist movement.

All the work he is showing is of a very high level of achievement, and his "Cecily No. 1" and his "Music Hall" are magnificent. Hanging beside them, in the same room, are works by living French painters. The Derain and the Bonnards are in themselves rather disappointing examples of these artists' work, but even the Matisse and a rather lovely Vlaminck make one turn again to the Sickerts with a feeling that it is they that dominate the show, not by force of numbers, but by merit.

In complete contrast is the Tissot exhibition at the Leicester Galleries. Also a friend of Whistler and Degas, and a contemporary of the great French impressionists, Tissot remained unmoved by their influence—almost. But look first at the two early works, numbers 9 and 10, painted before he left Paris and settled in London, and was spoilt by popularity and success. In them he uses a different palette and a different vision. Then look at the others with their slick, dangerously competent technique. Every picture tells a story—as much as façades can tell. His work undoubtedly has charm and a certain anecdotal value as a comment on the eighteen-seventies, and to the historian he will perhaps take a place with Zoffany and Frith.

•

At the Redfern Gallery there is a very interesting collection of Ian Fairweather's paintings. His technique is lively and individual, and has much improved since his last exhibition two years ago. All are of China or the Philippines, and they depend for their success on a design that is subordinated to atmosphere and illumination.

At the same gallery there is a collection of contemporary English portraits of sufficiently wide range to satisfy all schools of thought. But Modigliani's "Portrait du Peintre Hubert," as a study of character, which, after all, is the function of a portrait, puts most of the others into a rather different category.

Amongst the contemporary English paintings there are a number of Christopher Woods, mostly the more satisfactory works of this very unequal artist, and a good collection of the work of modern painters of the naturalistic school.

•

Agnew's show is almost entirely abstract, with a distinctly surrealist trend in some of the work. There is a lovely John Piper (number 22), and extremely interesting examples of Robert Medley, Ivor Hitchens, Francis Bacon, and others.

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Sickert, Adams Gallery, 2 Pall Mall Place, King Street, St. James', till February 4.

Tissot, Leicester Galleries, till January 30.

Ian Fairweather, Contemporary English Paintings, and Portraits, Redfern Galleries, 20 Cork Street, W.1, till January 30.

Pisarro, Sisley, British and French Paintings, Lefèvre Galleries, 1a King Street, St. James', till February 6.

Contemporary Paintings, Agnew's Gallery, 43 Old Bond Street, till January 23.

Contemporary Paintings, Storran Galleries, 106 Brompton Road.

Moholy-Nagy, London Gallery, 28 Cork Street, W.1, till January 31.

From the Sickert Exhibition at the Adams Gallery.

LETTERS *FROM* READERS

The R.A. Exhibition

R. MYERSCOUGH-WALKER

EDMUND J. THRING

SIR,—That mysterious and rather dogmatic Astragal is guilty in the issue of January 14, 1937, of giving misleading information and of passing destructive criticism on a matter where the alternative is hard to come by.

He says: "I am convinced that the conventional perspective is a big obstacle between architecture and its realistic understanding by laymen." He further gives one the impression that the current R.A. show is smothered with awful perspectives.

In the first place, the catalogue shows approximately 264 perspectives as against 1,375 exhibits—roughly one-fifth of the whole.

And what would Astragal like as an alternative explanation to the layman, remembering that nine buildings out of ten will not bear analysis and that architects of real intelligence rarely use a perspective unless they have good reason to do so.

An elevation is misleading to any but the architect. It indicates no form and a model takes a long time to execute: all drawings must be detailed to help the model-maker who is not an architect, and the result is expensive.

You must realize, Astragal (whoever you may be), that perspectives are done for Councils who insist on them; for the R.A., who will exhibit little else; for Committees who cannot comprehend a scheme in any other way; and, most importantly, for an architect who does not wish to have his designs altered in detail by a client who, on seeing a model (prepared from working drawings), decides that a few *minor* alterations might be done before the job goes too far.

A speculator cannot move without a perspective. An architect frequently cannot move without a speculator.

As for that embroidery-poker-work simile, I wonder at what high form of art Astragal spends his life. The job requires ability, it requires a facile mind, it is a good training for the sincere designer who learns the reasons, good or bad, underlying the most successful architect's work.

I realize the point you are driving at and I will agree to the extent of stating that I never, under any circumstances, prepare perspectives of my own architecture. But, and this is a mighty but, Astragal should learn to write in a manner precise, accurate and to the point; as opposed to expressing the loosely-formed ideas that surge through one's mind on viewing that show at the R.A. R. MYERSCOUGH-WALKER

SIR,—As an ex-supporter of your publication, I feel compelled to reply to the objectionable criticism directed at perspective drawings by "Astragal."

Luckily, the most reasonable architects do not hold the same view.

It should be unnecessary to have to explain that after models, these perspective drawings are the nearest approach to a view of the completed building; helping both the architect to amend the design and the layman to read it (which he is entitled to do if he is the client).

If it has nothing whatever to do with architecture, the critic named should not be in a position to criticize.

EDMUND J. THRING

Astragal replies:

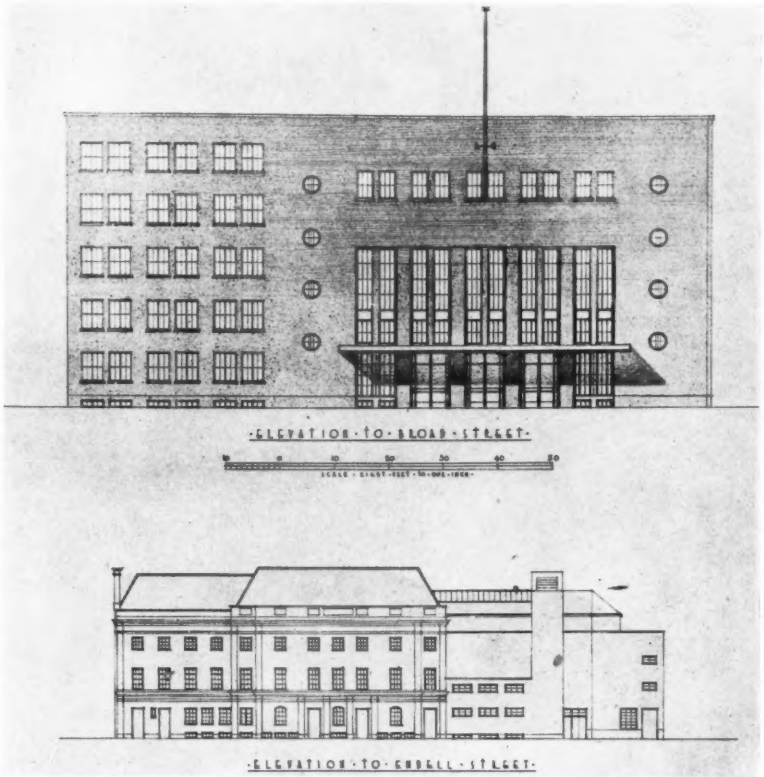
SIR,—Both your correspondents mistake me in reading a total condemnation of architectural perspectives into my note. They both define quite lucidly the uses of a perspective when a new building is projected, but the point is that the R.A. exhibition is an exhibition of actual buildings, and when a building is completed the perspective becomes no longer operative (is often not even true) and a photograph logically takes its place.

As for Mr. Walker's remarks about poker-work, I can only take them as quite unjustified criticism of that well-established minor art. Ability, a facile mind, good training indeed! Has he ever tried to draw a *really elaborate* coaching scene, for example, in poker-work, without any assistance?

ASTRAGAL

HOLBORN BATHS COMPETITION

WINNING DESIGN: BY K. H. WACHTER



Mr. K. M. B. Cross, M.A., F.R.I.B.A., the assessor in the competition for new swimming baths and other offices for the Holborn Borough Council, has made his award as follows: Design placed first (£300): Mr. K. H. Wachter, of 32 Argyle Square, W.C. Design placed second (£200): Messrs. Acworth and Montague, L. and A.R.I.B.A., of 37 Gower Street, W.C.1. Design placed third (£100): Mr. A. H. Neave, A.R.I.B.A., of 55 Fellows Road, Hampstead, N.W.3. Highly commended: Messrs. F. J. Horth and H. Andrew, FF.R.I.B.A. Commended: Messrs. E. W. N. Mallows and A. R. Meadley, AA.R.I.B.A.; and Messrs. P. M. Powell, A.I.A.A., and W. C. Kain.

The first and second premiated designs are illustrated on this and the three pages following.

COMPETITION NEWS

ST. GEORGE'S HOSPITAL COMPETITION

Following the announcement that an open competition is to be held to decide who should be appointed as architect for the new St. George's Hospital, the Plans Committee for the rebuilding of St. George's Hospital has arranged for the firm of Messrs. Lanchester and Lodge to act as assessors for the competition.

The conditions of the competition, it is understood, will be made known before the end of March.

THEATRE, KING'S LYNN

The premium of £150 offered by the King's Lynn Corporation for the best design for the borough's new Theatre Royal has been won by local architects, Messrs. Allflatt and Courtney.

A NEW COMPETITION

The Town Council of the Borough of Weymouth and Melcombe Regis invites architects to submit designs in competition for a proposed bandstand enclosure on the sea-front. Professor H. S. Goodhart-Rendel, F.R.I.B.A., has been appointed assessor; and the following three premiums are offered: £150, £100 and £50. The last day for questions is February 19; and the date for submission of designs is May 14. Conditions are obtainable from Mr. Percy Smallman, Town Clerk, Weymouth (Deposit £1 1s.).

LAY-OUT OF KINCORTH

A competition, which will be open to architects and town-planners and in which prizes totalling £850 will be offered, is to be held for the development of Kincorth as a communal centre.

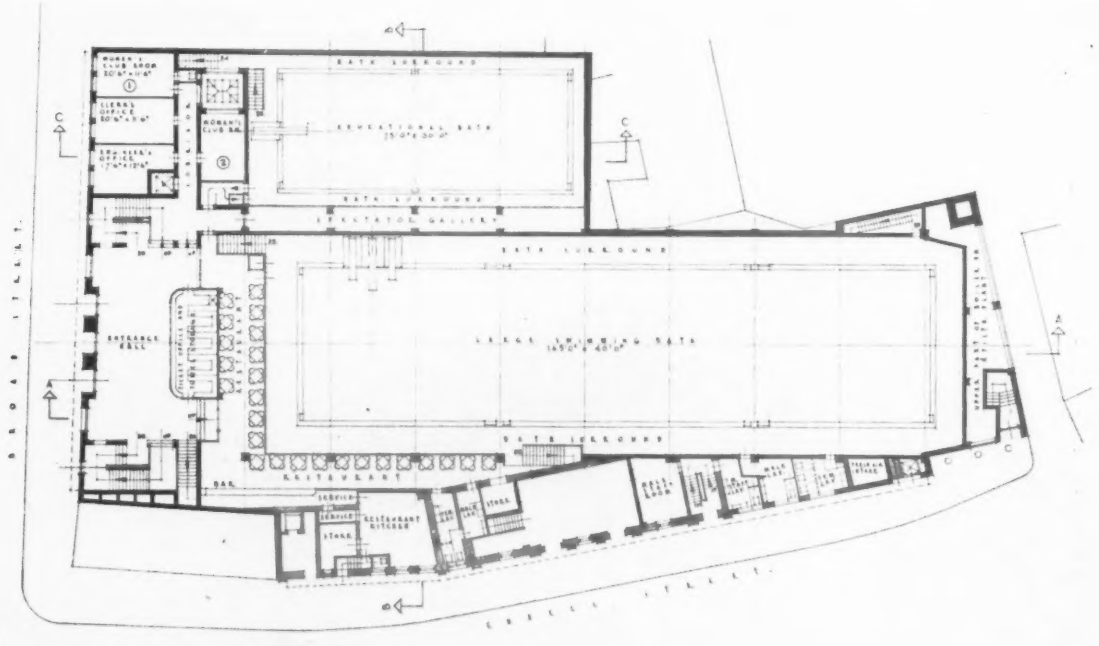
TOWN HALL, FRIERN BARNET

Mr. C. Cowles-Voysey, F.R.I.B.A., of Gray's Inn Square, London, has been nominated assessor in connection with the competition for the most suitable design for the new town hall at Friern Barnet.

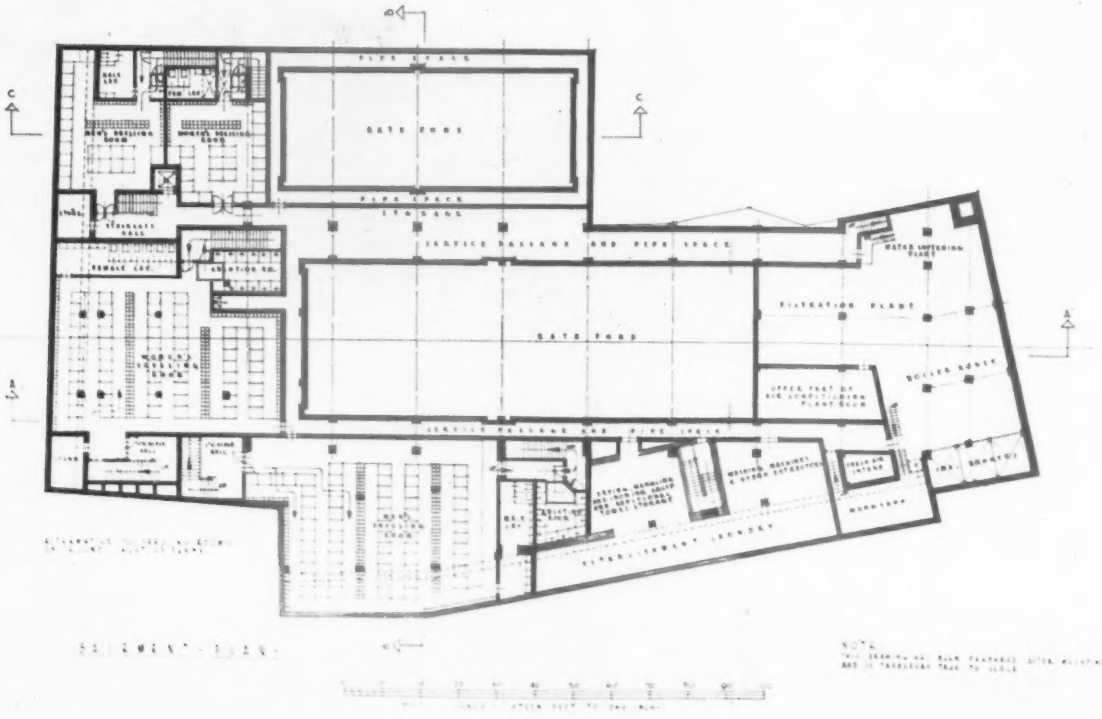
PROPOSED PROMENADE, ETC., NORTH BEACH, TENBY

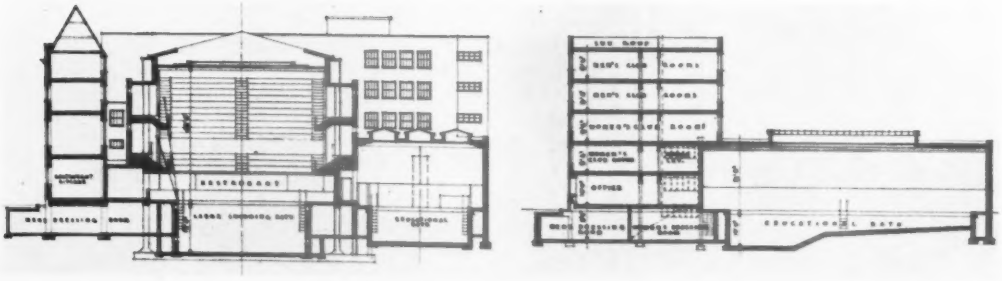
Information has been received from the Town Clerk, Tenby, that the proposal to hold a competition for proposed promenade, etc., North Beach, Tenby, has been abandoned.

THE HOLBORN BATHS COMPETITION: DESIGN



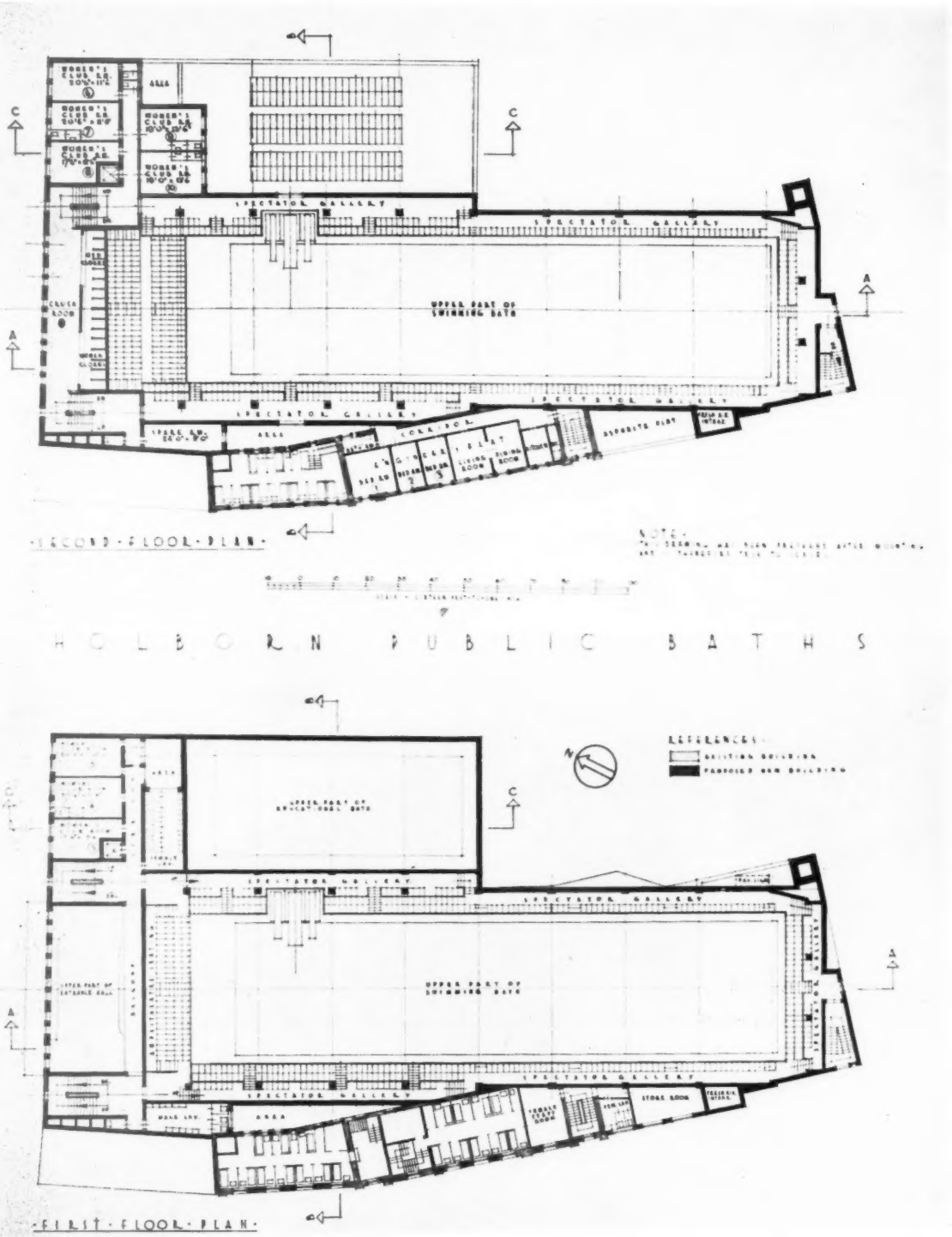
·GROUND·FLOOR·PLAN·

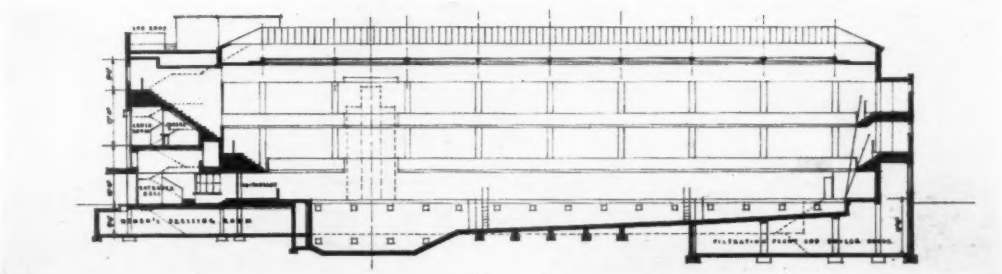




Cross sections and basement and ground floor plans.

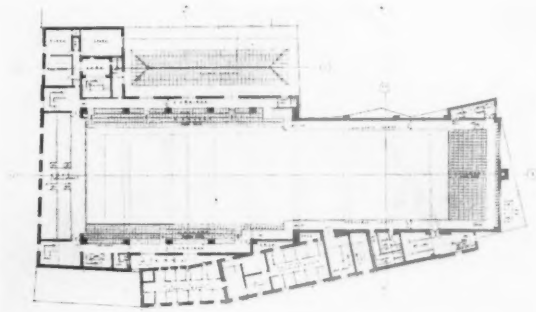
PLACED FIRST: BY K. H. WACHTER

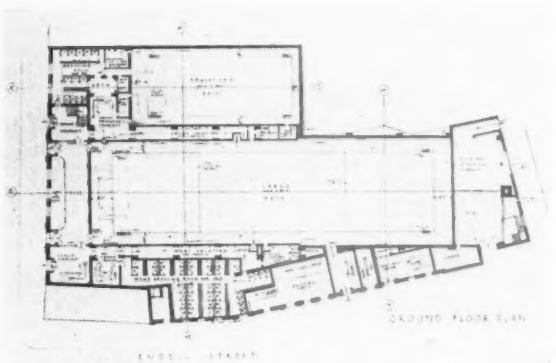




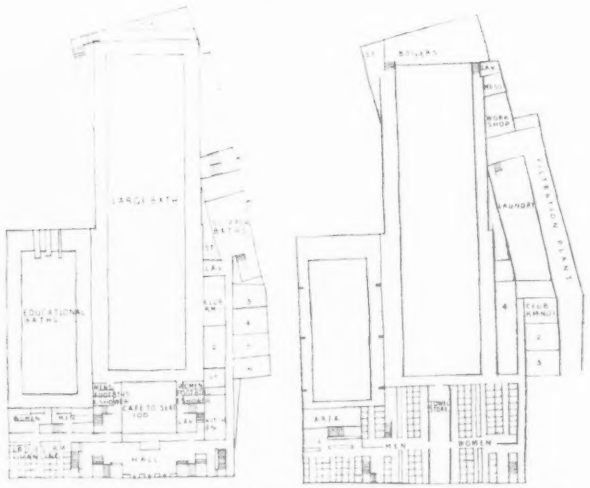
Longitudinal section and first and second floor plans.

THE HOLBORN BATHS COMPETITION

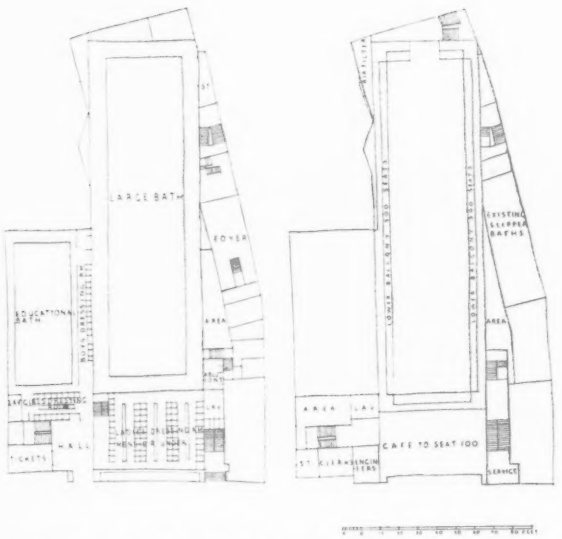




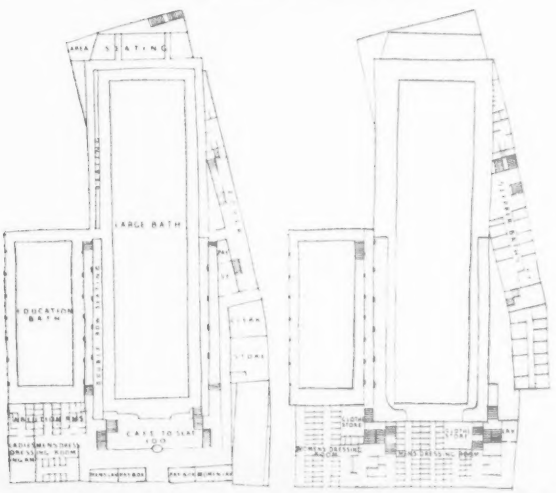
Elevation and ground and first floor plans of the design placed second. By Acworth and Montague.



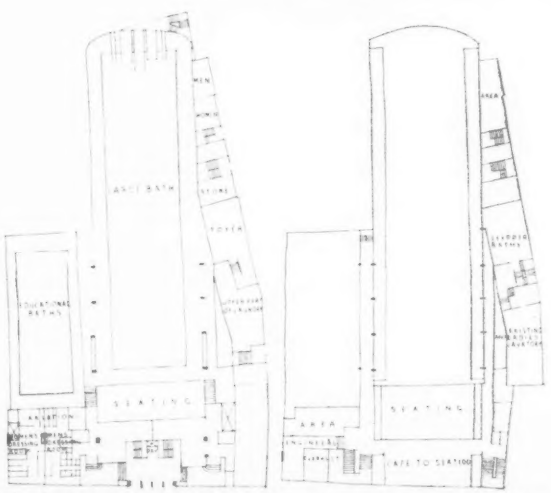
Sketch plans of the ground and first floors of the design placed third. By A. H. Neave.



Sketch plans of the ground and first floors of the design submitted by F. J. Horth and H. Andrew.



Sketch plans of the ground and first floors of the design submitted by P. M. Powell and W. C. Kain.



Sketch plans of the ground and first floors of the design submitted by E. W. N. Mallows and A. R. Meadley.

BURLINGTON SCHOOL FOR GIRLS, HAMMERSMITH

DESIGNED BY SIR JOHN BURNET, TAIT AND LORNE

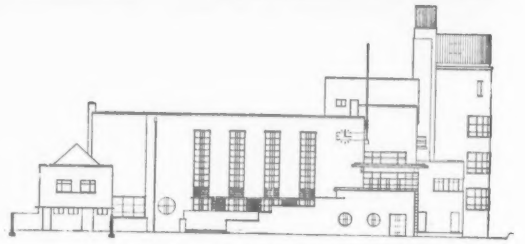
The school is a secondary one, and was originally founded in 1699 through the Society for the Promotion of Christian Knowledge. It is the oldest girls' school in London. The original building was in Carnaby Street. In 1725 a new site was obtained in Boyle Street and a school-house was erected to the designs of Colin Campbell. In 1905 it was reorganized to become a day-school only, the foundation of the school hitherto having included the maintenance of boarders. In 1929 it was decided to rebuild the school in another part of London, and the new buildings at Hammersmith are the result. Accommodation is for 500 pupils, including a small junior section for both boys and girls.

The photograph is taken looking from the pupils' entrance on the south front towards the wing containing the dining hall and assembly hall.

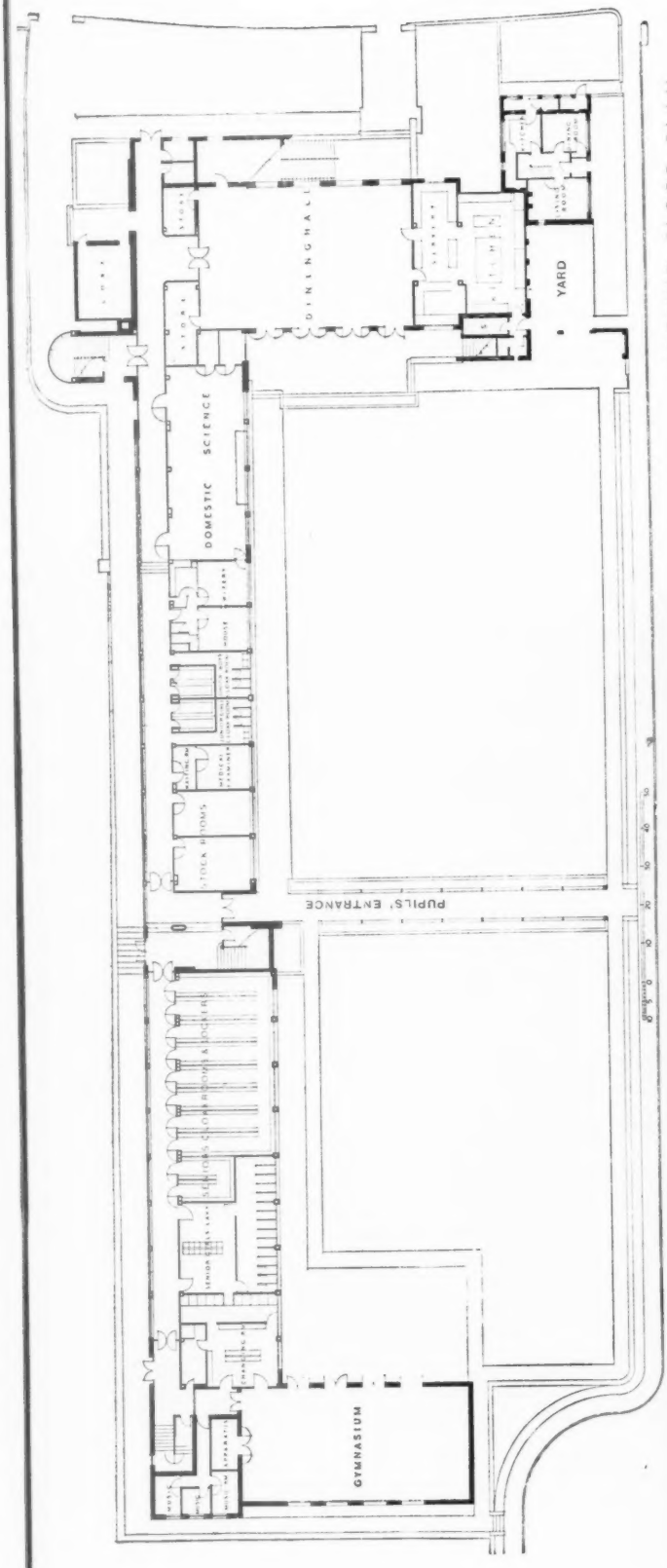
BURLINGTON SCHOOL FOR GIRLS, HAMMERSMITH

DESIGNED BY SIR JOHN BURNET, TAIT AND LORNE

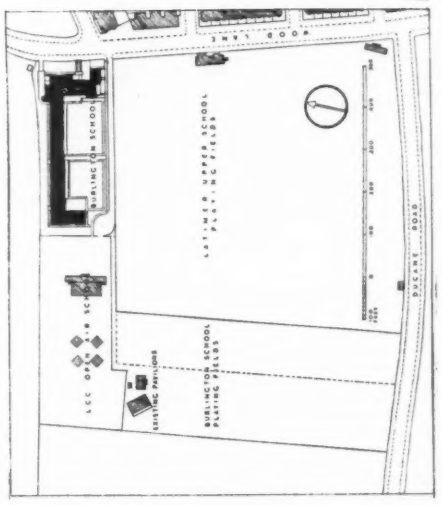
SITE —*Although the site itself is restricted in size, it is open to north and south, to Wormwood Scrubs and to another school's playing fields, respectively. It has its own playing fields adjoining. The building is planned with the assembly hall and dining hall unit parallel to the road to shield the teaching portions from the road, which is rather a noisy one. A slight fall in the length of the site has been used to give greater ceiling height in the dining hall at one end of the building than in the cloakrooms and other offices at the other. The classroom block, four storeys high, and the laboratory block, three storeys high, face south, with the gymnasium at right angles at the west end. The pupils' entrance is in the centre between the classroom and laboratory blocks, approached from a private roadway. Adjoining are the cloakrooms, etc., and a staircase giving access to each floor. A lunch-time play space is provided on the flat roof of the laboratory block. The main approach to the administration portion, the assembly hall, etc., is direct from Wood Lane, a large open staircase leading to a foyer at first-floor level. The photograph above is of the south front; that on the facing page is of the same front looking in the opposite direction.*



EAST ELEVATION



GROUND FLOOR PLAN

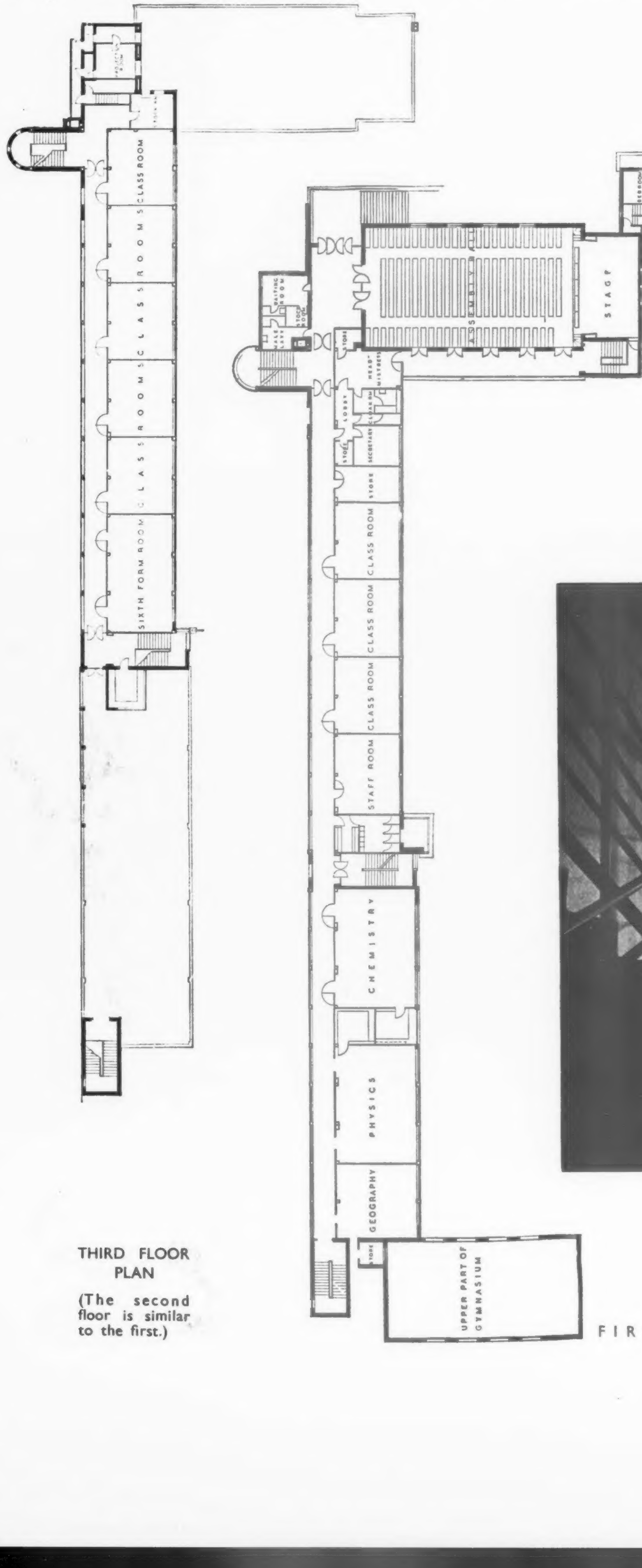


SITE PLAN

BURLINGTON SCHOOL FOR GIRLS, HAMMERSMITH:

ELEVATIONAL TREATMENT — *The building is faced with 2 in. light yellow bricks; the bell pier, flower-boxes and plinth being in 2 in. dark brown bricks. The bell, suspended from a reinforced concrete cantilever, is electrically operated. The piers between the windows are faced with egg-shell glazed tiles in a buff colour.*

The photograph is of the centre staircase landing. The glazed metal screen is painted pearl-grey.

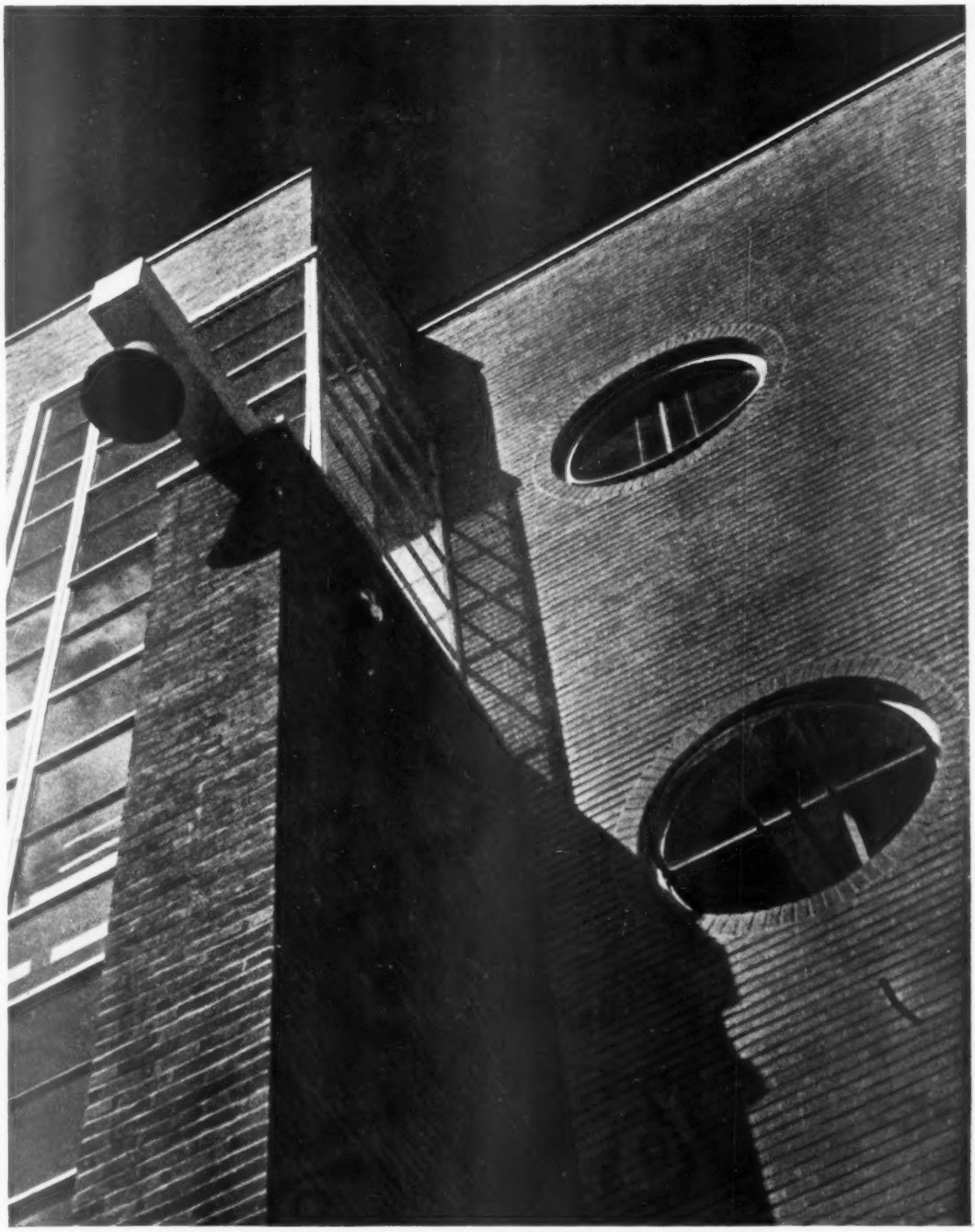


THIRD FLOOR PLAN

(The second floor is similar to the first.)

FIRST FLOOR PLAN

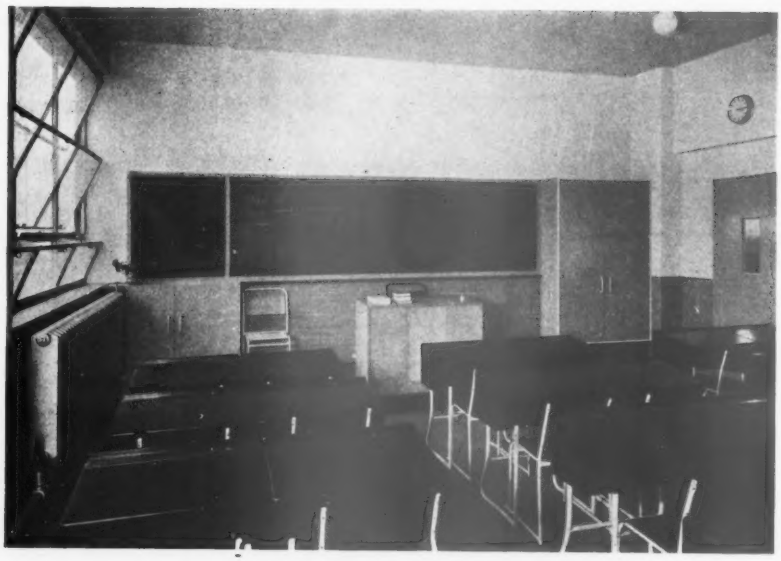
BY SIR JOHN BURNET, TAIT AND LORNE

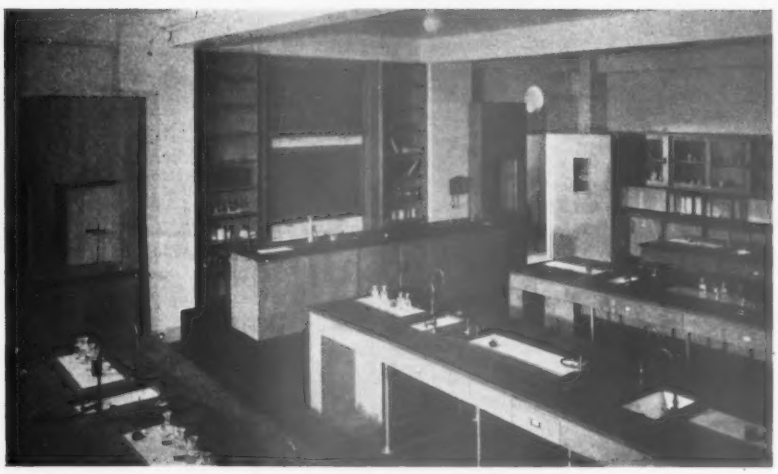


INTERNAL FINISH—*In the assembly hall the front of the balcony and the frieze under and above it are finished in 12 ins. square acoustic tiles, left unpainted. The balcony rail is anodized aluminium; walls are distempered ivory colour; the floor is Austrian oak blocks; and the curtains and the metal-work of doors are turquoise colour. Classroom walls and ceilings are lime plaster distempered ivory; floors are green linoleum with dado, 3 ft. 6 ins. high, of pale brown linoleum with small metal cappings. Pupils' desks and chairs are black cellulosed wood with yellow enamelled tubular standards. The library is panelled in Australian walnut plywood, with V-joints, gilded. The shelving is in the same wood. The electric fireplace has a stainless steel reflector and marble surround. In the chemistry laboratory, the pupils' benches are supported on tubular metal standards and have solid ends which serve as pipe ducts and receiver cupboards.*

The photograph is of the bell pier in the centre of the south front.

BURLINGTON SCHOOL FOR GIRLS, HAMMERSMITH:

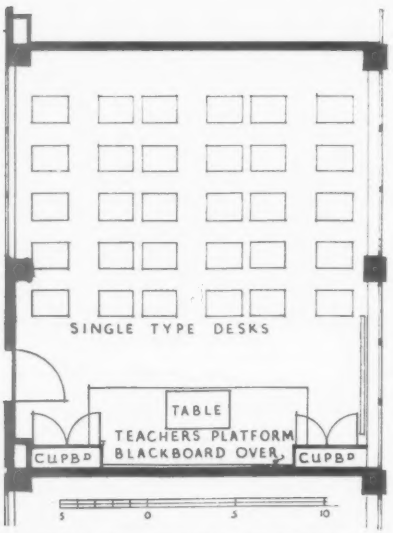




The photographs show : top, the library ; centre, a typical classroom ; bottom, the chemistry laboratory.

On the facing page the photographs show : top, the assembly hall ; bottom, left, the staff study ; right, the dining hall.

For list of general and sub-contractors, see page 166.



PLAN OF TYPICAL CLASSROOM

BY SIR JOHN BURNET, TAIT AND LORNE

HOUSE-BUILDING

REGISTRATION COUNCIL

Following is the official description of the scheme for improving the standard of house-building, which is to be administered by the National House Builders Registration Council.

MEMBERS OF THE COUNCIL

Following are the members of the Committee: Lord Dudley (hon. president); Lord Askwith, K.C.B., K.C., the Rt. Hon. Sir Leslie Scott, Sir Giles Gilbert Scott, R.A., and Sir Harold Bellman (hon. vice-presidents); Sir Raymond Unwin (chairman); Messrs. A. J. Belton, J. F. Bushell, Holroyd F. Chambers, F.S.I., R. Coppock, David Edwards, Geo. Elmer, A. Francis, H. H. George, L. A. Gerrard, E. B. Gillett, J. G. Gray, Dr. J. Greenwood Wilson, M.D., E. C. Harris, George Hicks, M.P., C. Hoare, G. E. Jackson, John Laing, S. Pointon Taylor, S. Ramsey, H. R. Selley, M.P., Andrew Stewart, G. E. S. Streatfield, Norman Wates and Ald. A. W. Wills.

DESCRIPTION OF SCHEME.—This scheme for establishing good standards for houses built by private enterprise has received careful consideration from various aspects, with a view to ensuring that it will provide in the fullest sense a public utility service. The original proposals as outlined to the Ministry of Health some 18 months ago have, with some slight modification, been found to stand the test of exhaustive examination, and the scheme, as finally approved by the Central Housing Advisory Committee of the Ministry, and officially by the Minister himself, comprizes:—(*a*) The formulation of a minimum standard specification for ordinary houses; (*b*) The registration of builders who undertake to build houses in conformity with this standard; (*c*) The certification of houses so built; (*d*) The establishment of a National Council to deal with registration and certification.

In addition it is hoped it will prove practicable to arrange for a system of insurance whereby, in the event of failure on the part of the builder, the house-purchaser would be able to secure the costs of remedying defects ascribable to non-compliance with the specification.

STANDARD SPECIFICATION.—The National Housing Standards Board set up under the chairmanship of Sir Raymond Unwin, and comprizing representatives of the R.I.B.A., the Chartered Surveyors' Institution, and an observer (Mr. S. Pointon Taylor) from the Ministry of Health, the British Standards Institution, Building Societies and builders federated and unfederated, has completed the task of drawing up a model specification.

This body was intended to be, like the Registration Council, so composed as to command the complete confidence of the public. Fears have been expressed that strict compliance with this specification will unduly increase building cost and so hinder the production of the kind of house for which there is likely to be the largest demand in the immediate future. Such fears are groundless. The Minister of Health would naturally never have given his approval to any scheme which tended to increase costs or slow down production. The builder representatives on the Standards Board have been as vigilant as the Minister's observers in guarding against any such possibility. The specification has been drawn up as a minimum standard of safe and sound construction. It represents the normal practice of reputable builders at the present time. It can, therefore, safely be said that general observance of its provisions would only increase the production costs of a builder who had previously been in the habit of doing work of the "jerry" class. The effect of the scheme will not be to increase the costs of the reputable builder but to enable him to get full credit for the quality of his work.

REGISTRATION.—Registration of house-builders and certification of houses will be dealt with by a Council, to be known as the National House-Builders' Registration Council. This Council will be established on a basis which provides for broad representation from the building industry, and nominations will be invited among others from the Ministry of Health, the Royal Institute of British Architects, the Chartered Surveyors' Institution, the National Association of Building Societies and the National Federation of Building Trades operatives.

The conditions for registration will include:—1: Being duly proposed and seconded by registered house-builders and approved by the Council (the Council may, in their discretion, dispense with the requirement of a proposer and seconder); 2: Undertaking that all houses built shall be up to the standard laid down in the model specification; 3: Agreement to permit representatives of the Council to inspect works during progress and after completion; 4: Undertaking to apply to the Council in respect of each house built for a certificate that the specification has been complied with; 5: The giving of a guarantee to the house purchaser that the builder will make good at his own expense all defects arising out of non-compliance with the specification which occur during a period of two years; 6: In case of any dispute arising as to liability under this guarantee, the builder shall undertake (if the owner shall also undertake) to abide by the decision of an assessor or tribunal appointed by the Council.

Applicants will, in the first instance, be admitted to a register of probationers, but their names will be transferred to the Register of House-Builders immediately they receive certificates in respect of 20 houses built to the satisfaction of the Council. Registration will only be granted for a year at a time and will be renewable annually at the discretion of the Council.

CERTIFICATION.—With a view to protecting the public from exploitation by vendors of unsound houses, the Registration Council will issue certificates in respect of houses built by registered builders. These certificates will state: (*a*) that the builder is a registered house-builder; (*b*) that his work has been open and subject to periodical inspection on behalf of the Council; (*c*) that there is appended the guarantee of the builder to make good any defects that appear within a period of two years due to non-compliance with the specification; and (*d*) (when insurance is incorporated in the scheme) that there is also appended an undertaking by a specified assurance company to guarantee the purchaser's rights in case of the builder's default or insolvency.

It should be observed that the guarantee referred to under (*c*) above is not in any sense a maintenance guarantee. It is in plain language only a guarantee that the builder has done what he has said he has done, and that if by inadvertence or for some other cause he has not in fact been as good as his word, he will make good his undertaking without cost to the purchaser.

NATIONAL HOUSE-BUILDERS' REGISTRATION COUNCIL.—In order that the hall-mark of sound construction in the form of a certificate should carry the complete confidence of the public, and be regarded by every potential purchaser as an indisputable assurance of honest value, it is necessary that the body in whose name and under whose auspices such certificates are granted should be so composed as to put its *bona fides*, its competence and its impartiality beyond doubt in the eyes of the public and of the industry and of all persons and organizations connected with the industry. A constitution has therefore been drawn up which confers upon the National House-Builders' Registration Council the greatest possible dignity and autonomy. This Council will be a body numbering approximately between 30 and 40 (exclusive of certain honorary offices, e.g. hon. president and a number of influential hon. vice-presidents). The following bodies are entitled to nominate members to this Council, namely: Ministry of Health (two observers); R.I.B.A.; Chartered Surveyors' Institution; National Federation of Building Trades Employers; Building Societies' Association; National Federation of Building Trades Operatives; C.P.R.E.

It is further provided that others may be invited to serve on the Council.

LOCAL COMMITTEES OF HOUSE-BUILDERS.—For the facilitating of the administration of the scheme it is proposed to appoint in every appropriate locality Regional and Local Committees of House-builders. The functions of these committees will be various. They would discharge a useful function, and would greatly assist the Registration Council, whose inspectors would be keyed up to a proper pitch of efficiency and honesty by the knowledge that their inspection and activities were thus subject to constant local supervision. These Committees will assist to secure that the scheme does not anywhere fall into disrepute through corruption or evasion of its principles and standards. Above all, they will perform at the extremities the function of keeping the Central Body in close touch with the operation of the scheme.

FINANCES OF THE SCHEME.—The following scale of charges for services rendered has been adopted, namely:—

Registration: First year—3 guineas per member.
Renewal: 1 guinea per annum.
Certification:—

			Per house
Houses below	£350	.. ..	1½ gns.
,, between	£350 and £450	..	1 25/32 ,,
,, ,,	£450 ,, £600	..	2 ,,
,, ,,	£600 ,, £900	..	2½ ,,
,, over	£900	.. ..	2 29/32 ,,

If and when it is found practicable to implement a scheme whereby the builder's guarantee can be underwritten at a reasonable premium, as previously mentioned, an appropriate addition to the cost of certification will be for this purpose. Builders who desire to obtain the benefits of the scheme should communicate with the Secretary, National House-Builders' Registration Council, 13 Russell Square, London, W.C.1.

●

BROADCASTS TO SCHOOLS

A series of Broadcasts to schools entitled "Your Home and Mine" will be given by Mr. Geoffrey Boumphrey in the National Programme during January–March. The talks will be given on the following days between 2.5–2.25 p.m.

January 21. I: "How shall we build our House?" January 28. II: "Walls of all Sorts." February 4. III: "Roofs of all Sorts." February 11. IV: "Windows of all Sorts." February 18. V: "Doors of all Sorts." February 25: VI. "The Story of the Chimney." March 4. VII: "The 'Works' of a House." March 11. VIII: "Tables and Chairs." March 18. IX: "How Machine Power Changed England." March 25. X: "Back to Better Towns."

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

460 Expansion Joints

461 Roof Pitches, etc.

462 Gas Refrigerators

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

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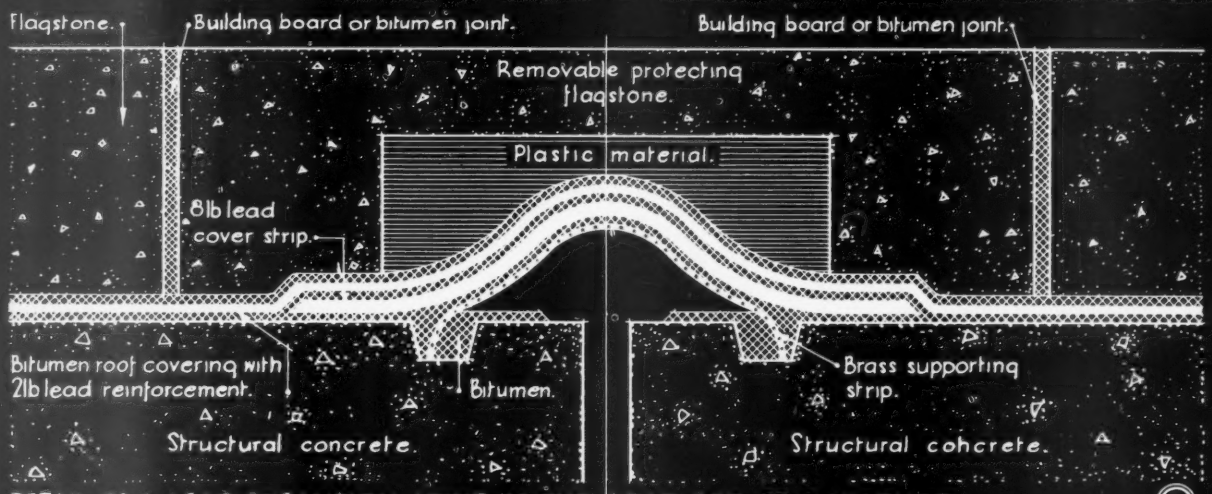
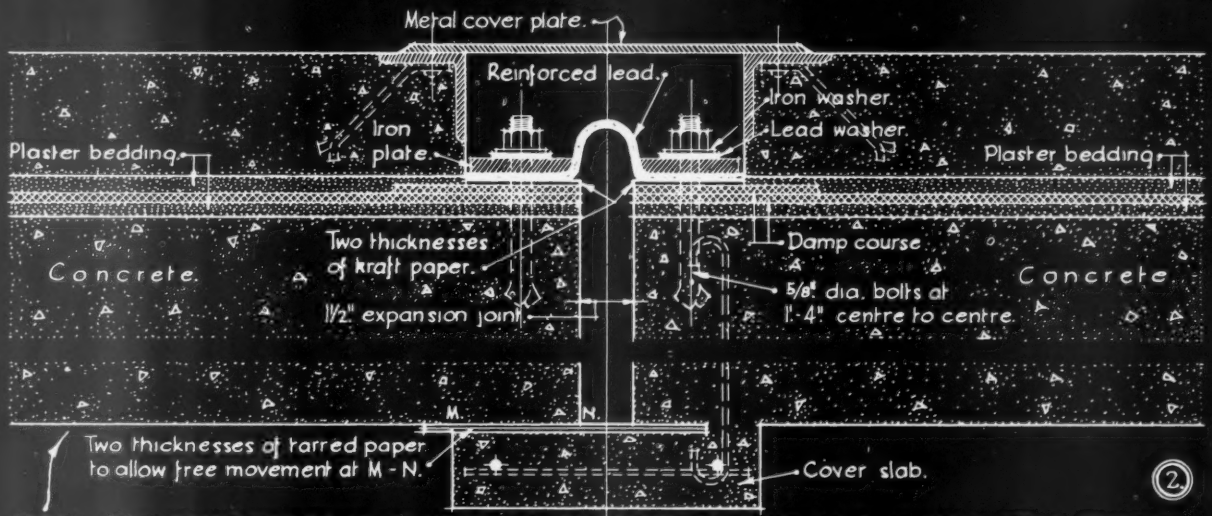
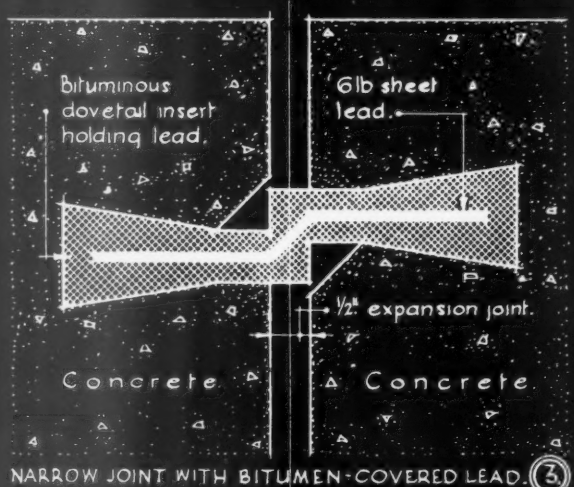
TYPICAL SECTIONS OF EXPANSION JOINTS IN CONCRETE & MASONRY CONSTRUCTION.



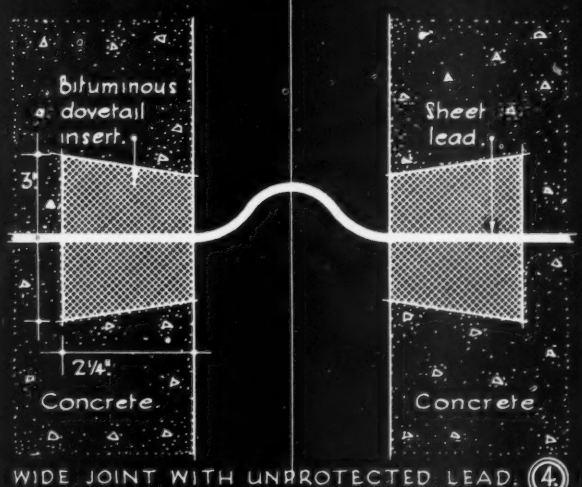
DETAIL OF A LEAD EXPANSION JOINT IN THE ROAD BED OF A VIADUCT. (1.)



DETAIL OF A REINFORCED LEAD VERTICAL EXPANSION JOINT IN THE WALL OF A TUNNEL. (2.)



NARROW JOINT WITH BITUMEN-COVERED LEAD. (3.)



WIDE JOINT WITH UNPROTECTED LEAD. (4.)

Information from Lead Industries Development Council.

INFORMATION SHEET: WATERPROOF LEAD EXPANSION JOINTS: N° 30

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

INFORMATION SHEET • 460 • EXPANSION JOINTS

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 460 •

EXPANSION JOINTS IN STRUCTURAL WORK

Subject : Lead Waterproofing to Expansion Joints.

This Sheet shows details of the formation of waterproof expansion joints in concrete or masonry structures.

Such joints are frequently found to be necessary in large buildings, particularly in framed structures, where the expansion due to rises in temperature may become an appreciable factor.

The width of the joint required depends upon the type of construction used in the building, the materials of the structure and a number of lesser factors.

Lead :

Lead has been found to be particularly suitable for this work owing to its permanence, and its ductility ; while ordinary commercial lead is frequently used, it has been found advantageous to use one of the antimonial-lead alloys.

Protection of lead :

Lead should be protected from attack by limes and cement, by a protective wrapping, or by a coating of bitumen. Bitumen used in contact with lead should be natural bitumen or good quality soft petroleum pitch.

Natural bitumen, and asphaltes composed of limestone and natural bitumen are neutral, and have no effect on lead.

Other bitumens or soft petroleum pitches, which are distillates of petroleum oils, may be used only if they have been freed from acid and blown, and do not contain either phenol or paraffin.

Coal tar pitch, which always contains phenol, should not be used.

Detail 1 :

This detail shows an expansion joint in the road bed of a viaduct waterproofed with sheet lead and bitumen. The general waterproofing material consists of bitumen reinforced with 2 lb. sheet lead.

A small trench is dug each side of the joint and a brass supporting strip spanning the joint is bedded in the trench and covered with bitumen. Over this is placed a strip of 8 lbs. sheet lead, which can move freely in all directions. The normal waterproofing material is then carried over the joint without interruption. Over the whole is placed a quantity of plastic material, and finally a cast protecting flagstone.

Detail 2 :

In this detail, lead is used to form the expansion joint. As the joint is vertical, the strength of the lead is increased by casting it round a metal reinforcement of fairly wide wire mesh. The lead is clamped to the structure by a metal plate and bolts, with lead washers under the nuts.

Details 3 and 4 :

These details show simple forms of lead expansion joints. In detail 3, the lead is completely enclosed in bitumen, and is cranked to allow free movement. In detail 4, the lead is not enclosed, but the edges of the strip are set in bitumen.

Issued by : Lead Industries Development Council

Address : Rex House, 38 King William Street, E.C.4.

Telephone : Mansion House 2855 (3 lines)

509.

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The diagram shews the relationship between three methods of indicating the slope of a roof:
(a.) Number of degrees,
(b.) Rise and run ratio,
(c.) Fraction of one pitch.

Example:
For any known pitch, the rise as a fraction of the run is given on the central division, & the equivalent number of degrees may be read off the scale at the left hand side.

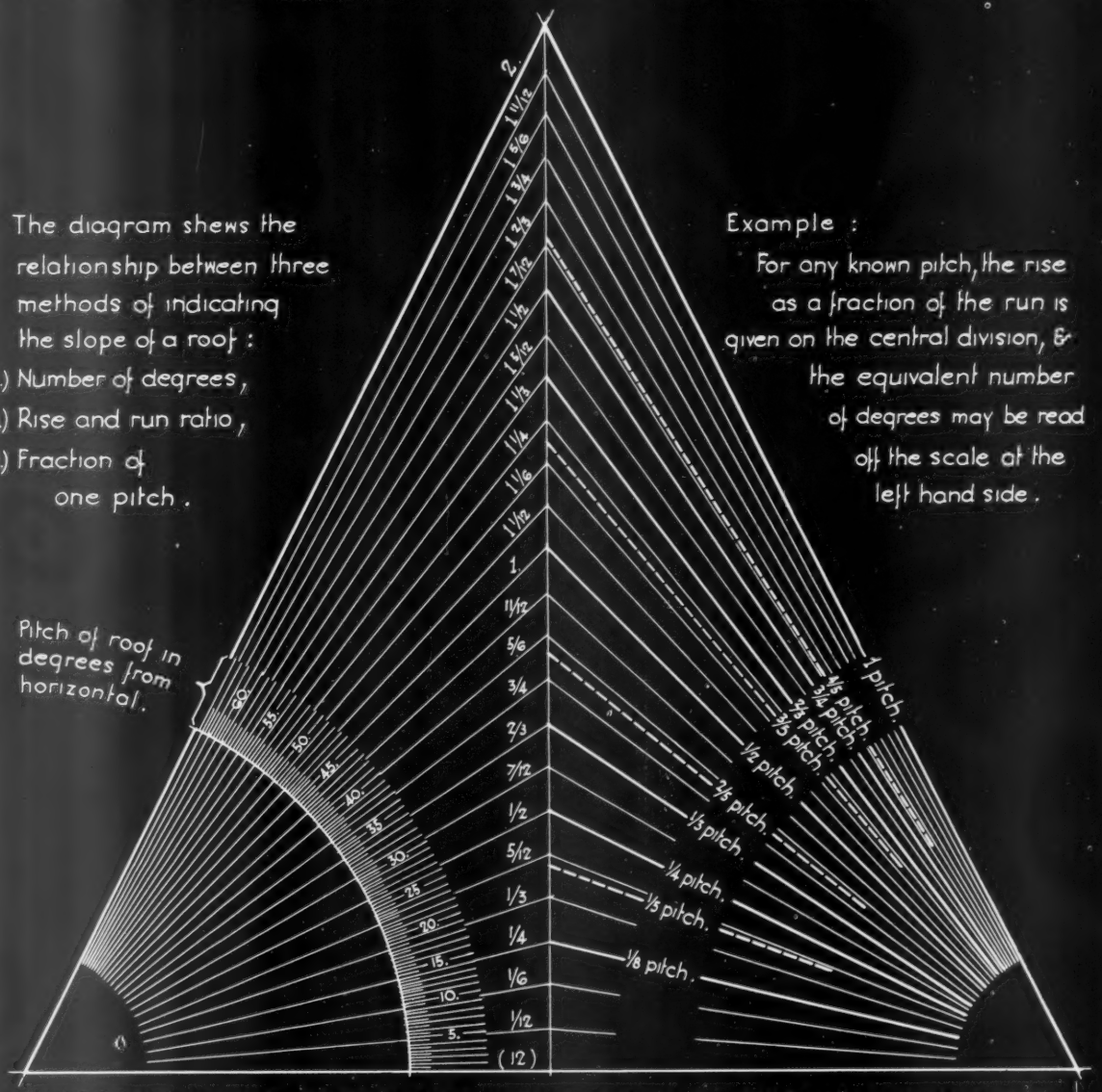

DIAGRAM SHOWING ROOF SLOPES IN RUN AND RISE, PITCHES AND DEGREES.

RUN.

YARDS.	0.	220.	440.	660.	880.	1100.	1320.	1540.	1760. YARDS.
ONE MILE		1/8	1/4	3/8	1/2	5/8	3/4	7/8	ONE MILE.
FEET.	0.	660.	1320.	1980.	2640.	3300.	3960.	4620.	5280. FEET.

This diagram shows one mile divided into eight equal parts, with the total number of yards and feet given at each successive division.

Fractions of one inch.

0. 1/16 1/8 3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1. INCH.

·00 ·05 ·10 ·15 ·20 ·25 ·30 ·35 ·40 ·45 ·50 ·55 ·60 ·65 ·70 ·75 ·80 ·85 ·90 ·95 1·00 INCH.

Hundredths of one inch.

The diagram above shews the relationship between the decimal and the fractional divisions of one inch.

Diagrams from Architectural Graphic Standards.

INFORMATION SHEET: DATA REGARDING MISCELLANEOUS MEASUREMENTS.

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

THE ARCHITECTS' JOURNAL
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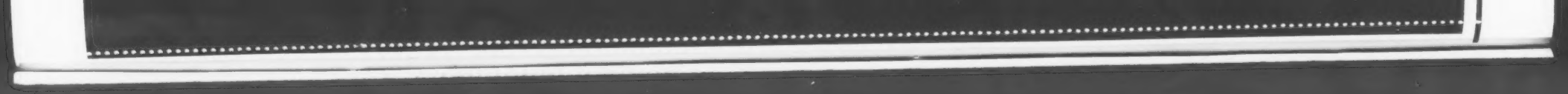
ROOF PITCHES

The relationship between the various methods in current use for expressing the pitch of roofs is set out on the upper diagram on the face of this Sheet. For any known pitch the rise, as a fraction of the run, is given on the central division and the corresponding number, in degrees, may be read off on the left hand side.



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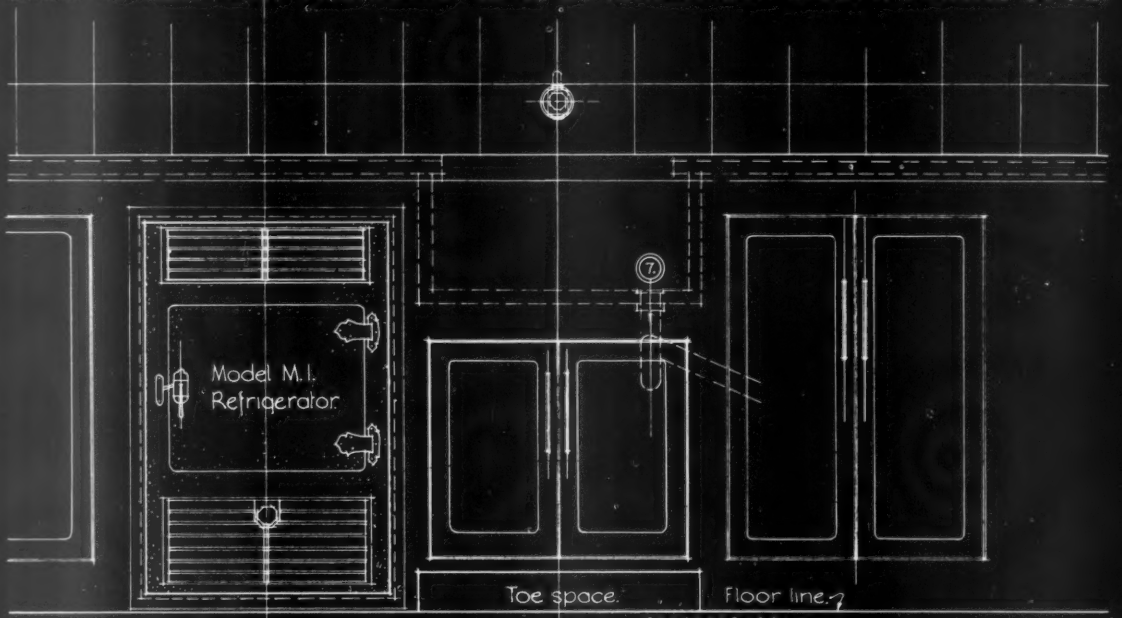
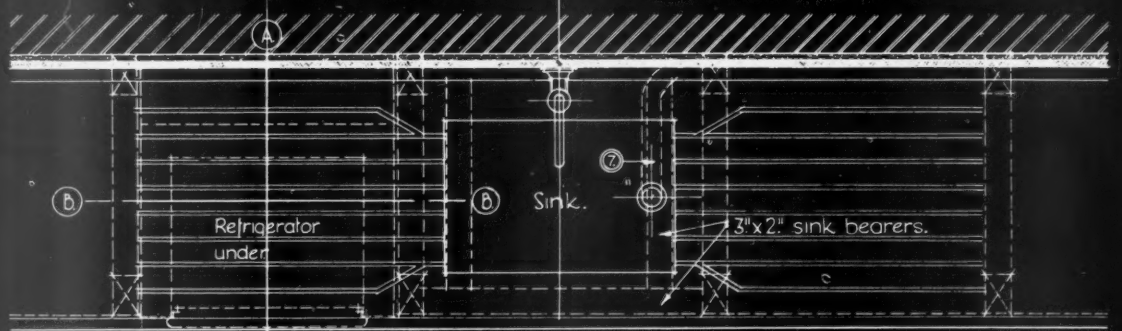
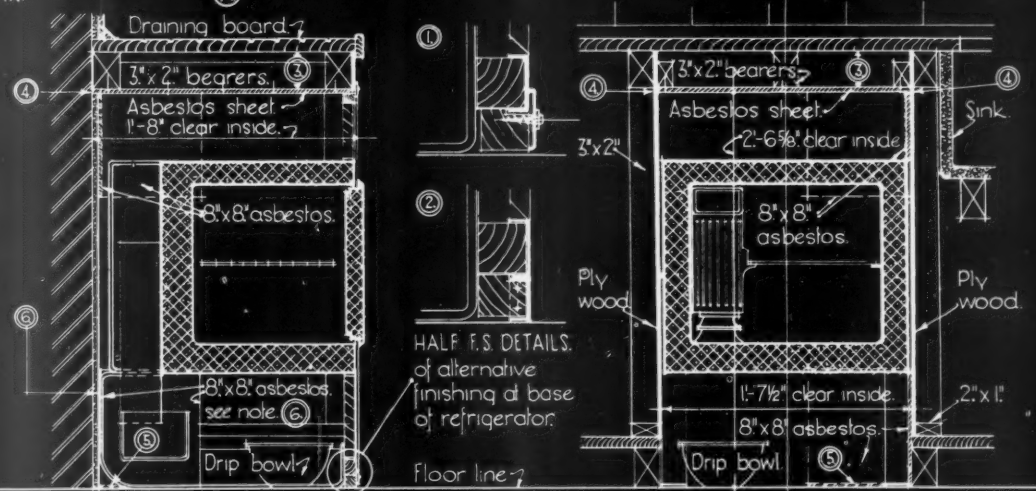
DETAILS FOR BUILDING IN "ELECTROLUX" MODEL "M.I." REFRIGERATOR UNDER A DRAINING BOARD.



FRONT ELEVATION. Scale of feet.: 12 11 10 9 8 7 6 5 4 3 2 1 0 2 INCHES. FEET.



PLAN.



CROSS SECTION ON LINE A.A. LONGITUDINAL SECTION ON LINE B-B.

Issued by The British Commercial Gas Association.

INFORMATION SHEET : THE BUILDING-IN OF ELECTROLUX GAS REFRIGERATORS. No. 1.

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

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 462 •

GAS REFRIGERATORS

Subject: The Building-in of the M.1 Electrolux-Gas Refrigerators.

This is the first of a series of Sheets dealing with the building-in of Electrolux gas refrigerators. It shows the Model M.1. fitted beneath a draining board.

The following notes refer to the key numbers given on the drawing :—

(1) This detail shows the method of fixing metal bead strips when supplied loose with the refrigerator.

(2) Alternative detail showing finish at base without loose metal bead.

(3) The air space between the draining board and the asbestos sheet to be not less than $\frac{1}{2}$ in.

(4) Care must be taken to ensure that the asbestos sheets at the back and sides are properly jointed.

(5) When floor is of wood it must be protected by an 8-in. square asbestos sheet.

(6) If the finish of the wall face is not of wood but of plaster or brick, asbestos is not required.

(7) The plumbing work to the sink must not run behind the refrigerator unless extra room has been allowed.

Air circulation :

For efficient and economical operation of the refrigerator, it is essential that a free air circulation over the cooling unit at the back of the cabinet is available, in order that the slight amount of heat extracted from the cabinet and dissipated by the apparatus itself may be readily carried away. In this and in all other schemes for building-in these refrigerators, arrangements have been made for an air flow through the louvre at the bottom front of the cabinet, thence underneath the cabinet and rising through the cooling unit. At the top of the cooling unit space is arranged immediately above the refrigerator leading out through a second louvre at the front and top.

Dimensions :

It is essential that in building-in the fitting shown, the specified dimensions should not be reduced.

It is of the greatest importance that the refrigerator should be so installed that it can slide easily in and out but there should be no excessive gaps between it and the surrounding woodwork or other fitments.

Protection of wood surfaces :

It is essential that the wood surfaces adjacent to the burner and to the flue outlet be protected by means of asbestos sheeting, as indicated in the drawing.

Issued by :	The British Commercial Gas Association.
Refrigerator Manufacturers :	Electrolux, Limited.
Address :	155 Regent Street, London, W.1.
Telephone :	Regent 6080.

The Architects' Journal Library of Planning

SHOPS

Exterior Surfaces: 2

[By Bryan Westwood and Norman Westwood]

A shoe shop in Regent Street. Thermolux glass has been used for the transome light and the metal work is brass. The glazed brickwork of the stallboard has open joint ventilation slits to the basement.

IN the previous article the materials suitable for use as a finish to different parts of the shop front were generally discussed and listed. The following notes discuss the sizes, properties and costs of these finishes in greater detail.

In an article such as this it is obviously impossible to deal with all the variants of each type of patent material. Typical examples, known to the authors, are chosen for the purpose of description. But this does not mean that there are not equally good products by other makers.

Any prices quoted are necessarily approximate and are only intended as a basis for comparing the costs of various alternatives. They represent fixed work done in small quantities, applicable to the shop of, say, 20 ft. frontage.

(Plate Glass has been dealt with under "Windows" in Article 5.)

GROUP I

Material	Max. Length	Max. Area	Thickness		Cost	Weight
			Min.	Usual		
	Ft. Ins.	Sq. ft.	Ins.	Ins.	Per sq. ft.	Cu. ft. per ton
Black Marble ...	6 0	10	¾	¾	9/-	13
Granite ...	7 0	20	2	2	17/6	13
Roman Stone ...	8 0	24	¾	1	10/-	13
Travertine ...	8 0	24	¾	1	9/-	13

Remarks:—

(*a*) *Black Marble:* Widths limited to 1 ft. 6 ins. to 1 ft. 9 ins. Upkeep—periodical oiling.

(*b*) *Granite:* Width is governed by thickness. Upkeep—washing with water only.

(*c*) *Roman Stone:* Backs and joints must be coated with waterproof compound. Upkeep—cleaning and polishing twice a year unless cellulosed.

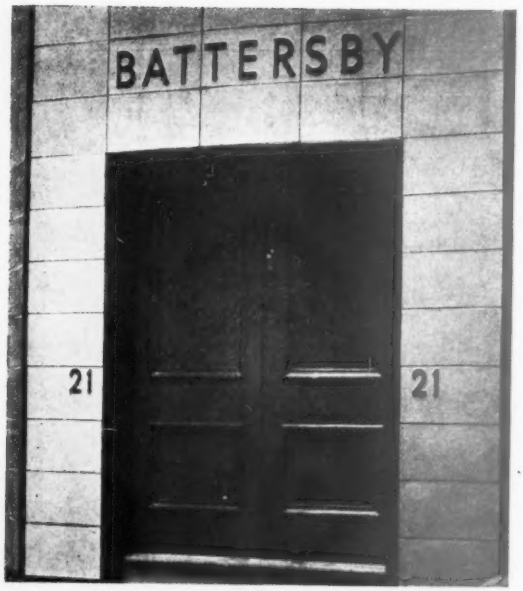
(*d*) *Travertine:* Coating and cleaning as Roman Stone. For polished work the holes should be stopped. For flooring the holes are best left unstopped to preserve anti-slip property. Specially good for lobby floors.

GROUP II

Material	Max. Length	Max. Area	Thickness			Cost	Weight
			Min.	Usual	Max.		
	Ft. Ins.	Sq. ft.	Ins.	Ins.	Ins.	Per sq. ft.	
(*a*) Faience	2 0	2	1⅛	1¼	1½	4/-	1 24-in. by 12-in. tile weighs 28 lbs.
(*b*) "Lap"	5 0	7	1	2	—	12/-	13 cu. ft. per ton.

Remarks:—

Faience is perhaps the material least affected by the weather. Misuse in the past has prejudiced



Entrance to Battersby's showrooms, London. Designed by P. J. Westwood and Sons. The facing material had to be such as could be easily cleaned. The slightly glazed faience has the lettering cast as part of the slabs.

designers against it, but nevertheless it is used considerably where low upkeep cost and freedom from interruption, due to repairs, are essential. Plain slabs 12 ins. by 8 ins. or 24 ins. by 12 ins. with eggshell finish look very well, and lettering can be cast at the same time and form part of the slab (see illustration of entrance to Messrs. Battersby's showrooms).

"Lap" is a synthetic material in which very free coloured designs can be incorporated. Suitable where a highly decorative effect is desirable.

Upkeep—periodical cleaning with oil.

GROUP III

(a) *Glass Bricks*

Sizes of glass bricks :

(1) 8 ins. by 4⅞ ins. by 3⅞ ins. Cost 1s. 8d. each.
(2) 5¾ ins. by 5¾ ins. by 3⅞ ins. Cost 1s. 4d. each.
(3) 7¾ ins. by 7¾ ins. by 3⅞ ins. Cost 2s. each.

The above sizes refer to the bricks made by Messrs. Pilkington. Being of the partial vacuum type they are not so liable to condensation and other troubles from heat transmission as solid glass, and have the further advantage that the decorative surface can be *inside*, and so leave a smooth external surface, which is essential if they are to be used for stallboards, where dirt so soon collects.

Panels over 6 ft. long require strip reinforcement in every fifth horizontal joint, and in very large panels vertical reinforcement is also necessary; but for shops such as we are considering the horizontal reinforcement should be sufficient. As mentioned before, glass bricks should not have to bear a superimposed load and must have some expansion joints of non-hardening material.

(b) *Marmorite* :

Thickness :	Min.	Usual	Max.
	5/16 in.	5/16 in.	1 in.

An expensive type of opaque glass, but having the advantage that the surface is ground and polished and thus gives true reflections. Obtainable in many colours.

(c) *Vitrolite* :

Thickness			Price
Min.	Usual	Max.	Per sq. ft.
5/16 in.	5/16 in.	1 in. Black and white. 7/16 in. Colours	(1) Fixed to builders' framework—edges as cut 2s. 6d. (2) Edges polished fixed to mastic, builders' prepared grounds, 4s. 6d.

Standard sizes of sheets : 12 ins. by 8 ins., 15 ins. by 10 ins., 15 ins. by 15 ins., 18 ins. by 12 ins., 21 ins. by 14 ins., 60 ins. by 36 ins.

The surface is not ground but is "fire" polished, giving a brilliant effect, but reflections are not "true." The whole substance is coloured and can be obtained in a wide range of tints.

Vitrolite is a hard substance, not liable to crazing and unaffected by acids or damp, and is thus a good material for external work. Washing with water is all that is required to keep it in good order.

(d) *Armourplate and "Toughened" Glass* :

Armourplate : Clear polished plate.

Thickness	Size of Sheets
3/16 in.—5/8 in.	... 51 in. by 25 in.
3/16 in.—5/8 in.	... 70 in. by 30 in.
3/16 in.—5/8 in.	... 70 in. by 52 in.

"Toughened," 5/16 in. Sizes up to 70 in. by 54 in. Cost 8s. 6d. to 12s. 6d. per sq. ft.

The properties of Armourplate are well known, but it is not so generally known that several other glasses such as "Cathedral," "Rough Cast," and coloured glasses can be obtained with a toughened surface which makes them suitable for our purpose.

Any work such as drilling or brilliant cutting must be done before the glass is treated.

The glasses mentioned above are all suitable for wall surfaces, and we have dealt with ordinary plate glass for windows, but there still remain many kinds of glass suitable for glazing transome lights, fanlights, etc. These glasses are fully described in leaflets obtainable from Messrs. James Clark and Sons and other glass factors, and they are too well known to warrant detailed description here.

Maximum Daylight, Broad Reeded and Prismatic are good decorative as well as utilitarian examples. "Anti-Fly" glass is used in Butchers' and Provision shops. It is a special yellow variety of Cathedral glass which is apparently disliked by flies. Thermolux glass is not so well known, and being particularly applicable to shop work we describe its properties in general below.

Thermolux :

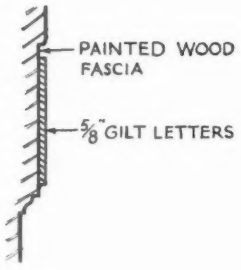
Max. Length	Max. Area	Thickness		Cost
		Min.	Max.	
Ft. Ins.	Sq. ft.	In.	In.	Per sq. ft.
10 0	60	7/32	3/8	2/6-4/3†

Remarks :

Thermolux is a glass obtainable in various colours consisting of a layer of spun glass between

† Price not including fixing. 2/6 for sizes 5 ft. super; 4/3 for sizes about 50 ft. super. Prices are for glass with inter-layers 1 mm.–1·5 mm.

EIGHT EXAMPLES OF FASCIA LETTERING



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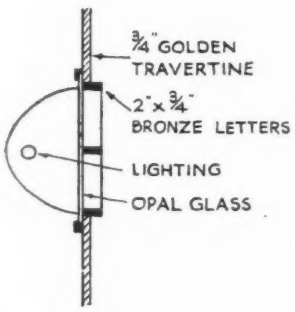

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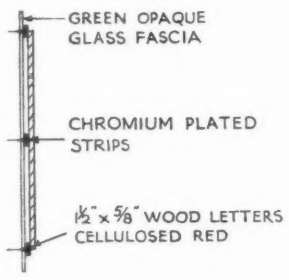

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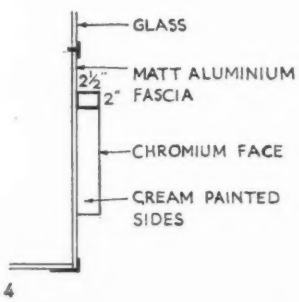
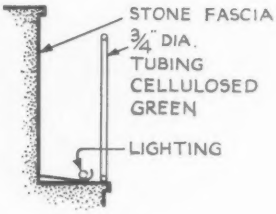


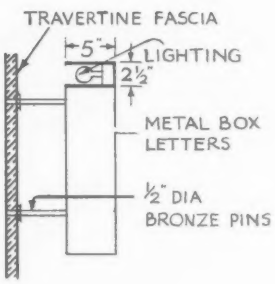
4

40 EIGHT EXAMPLES OF FASCIA LETTERING



LETTERS ARE IN SILHOUETTE AT NIGHT

5



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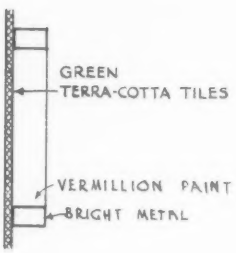

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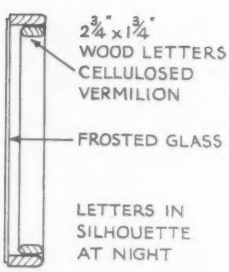
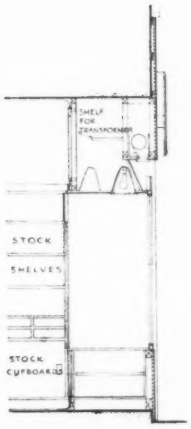


8

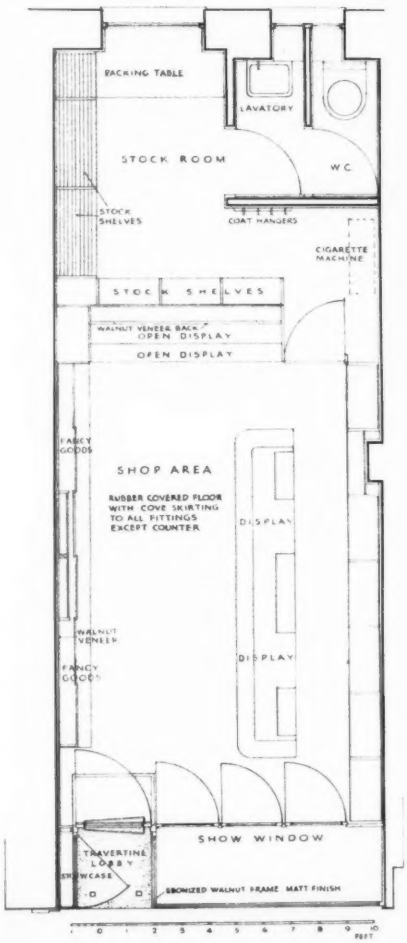
SHOPS

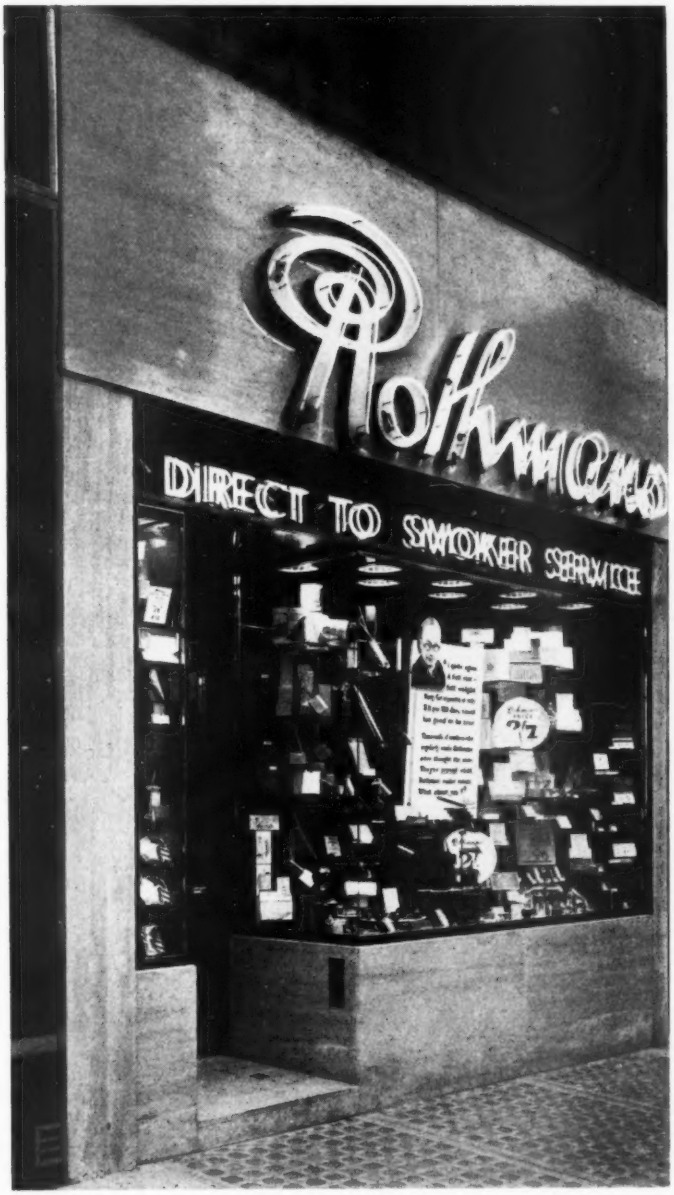
TOBACCONIST'S SHOP IN BAKER ST. • *Designed by E. C. Kaufmann*



One of several shops made to a standardized form for the same firm, and adhered to whenever existing structural conditions permit.

The wood veneers used for internal finishing are varied in the different shops.





The front is of small travertine slabs, polished ; and the lobby floor of sanded travertine. Glazing frame is of ebonized mahogany and the beads of stainless steel.

The lettering is of sheet metal with front face red and returns black, the neon lighting being red and constantly illuminated. The door is ebonized mahogany, glazed, with stainless steel beads and furniture. The blind is of slide-away type, geared and operated by a wheel inside the shop.

All internal fittings and panelling are of walnut veneer ; floor and cove skirtings are of green rubber and ceiling is off-white plaster. A tubular low temperature electric heater is recessed in the front of the counter. Main lighting is by pendant, opal semi-indirect fittings and point lighting in the showcases opposite the counter is controlled by switches on the salesman's side of the counter.

two layers of clear sheet. This arrangement results in remarkable insulating properties against both sound and heat, together with good light diffusion and transmission.*

The interlayer can be obtained in various thicknesses suitable for different purposes; for instance, 1 mm. is thick enough for ordinary purposes where considerable " obscurity " is not necessary. It is advisable to use 1.5 mm. for roof glazing exposed to the sun, and where heavy insulation against radiant is required 3 mm. is obtainable.

The great advantage of this glass for our particular purpose is that while it diffuses light it has a smooth surface both sides and does not collect dust like prismatic and other glasses, which in any case change the direction of light rather than diffuse it, strictly speaking. Furthermore, the spun glass has a pleasant appearance.

It is particularly suitable for large transome lights (see London Shoe Co.) giving good light in the shop without heat or glare in summer, or undue heat losses in the winter.

GROUP IV

Plywood and Boards :

Material	Max. Lgth.	Max. Area	Thickness			Cost	Weight
			Min.	Max.	Usual		
	Ft. in.	Ft.	In.	In.	In.	Per sq.ft.	Per cube ft.
Plymax, galvanized steel single sided	12 0	36	3/16	3/4	1/4	1/5 in., 1/5	2 lbs. per sq. ft.
Masonite, tempered.	12 0	48	1/8	3/16	either	3/16 in., 11d.	3/16 in., 17½ ozs. per sq. ft.

Remarks :

Plymax.—This material has to be treated with copper sulphate before painting, and it can be painted thereafter in the usual way and finished as required. Plymax can also be obtained faced with copper, bronze, aluminium, Staybrite steel and Monelmetal, the metal being either matt or polished; double- or single-faced material can be obtained, with the edges sealed with metal if required.

Masonite.—Will stand outside if edges are protected and well painted. Treatment as described for Plymax.

GROUP V

Paints :

(*a*) *Cellulose :* Usually applied in three coats sprayed. Average cost 6d. per square ft. in small areas.

(*b*) *Ordinary Enamel :* Usually applied after two coats of oil colour and one special undercoating. Total cost about 6d. per square ft. in small areas.

(*c*) *Paint :* Usually three coats, the last coat being hard gloss or similar special finishing coat. Cost about 4d. per square ft. in small areas.

(*b*) and (*c*): These coats are, of course, in addition to the priming coat, and the prices include knotting, priming and stopping.

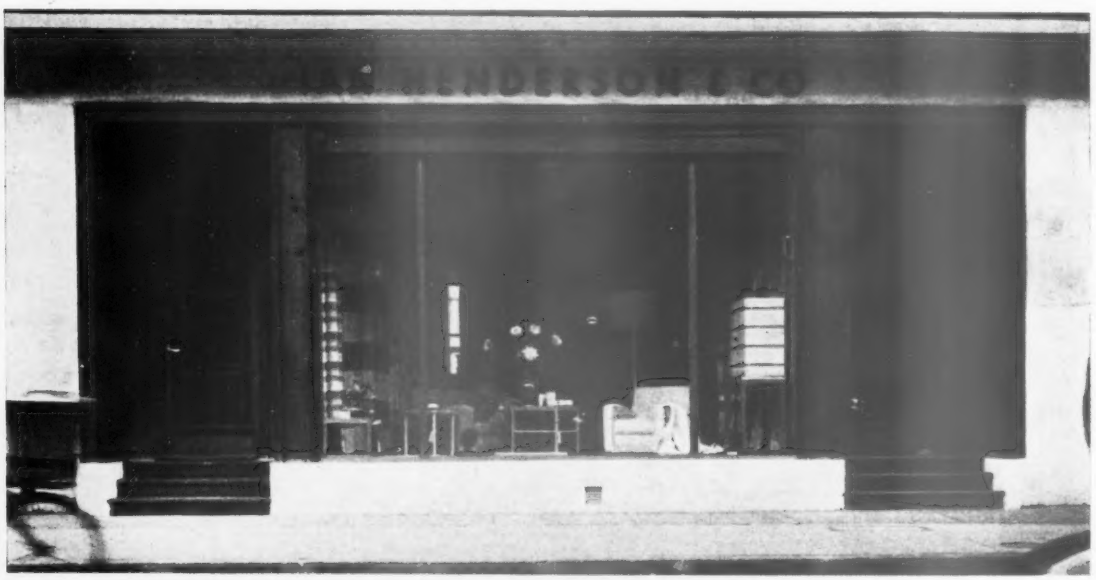
(*d*) *Synthetic Enamel or Lacquer :* The synthetic resin which forms the base of this type of paint can be specially compounded to give properties which are not obtainable to the same degree in natural resins. Generally speaking, they are very durable, can be sprayed or brushed, and have good covering power and are therefore economical in use.

(*e*) *Plastic or " Stone " Paints :* Paints of this type, such as Stic B. or Tungcrete, are useful where a cheap durable finish similar to stone is required. They are particularly useful in the renovation of old work.

On new or unpainted surfaces apply one coat of special primer and two coats of the paint. On painted surfaces, after proper cleansing, two coats of the paint are sufficient. Cost about 5d. per sq. ft.

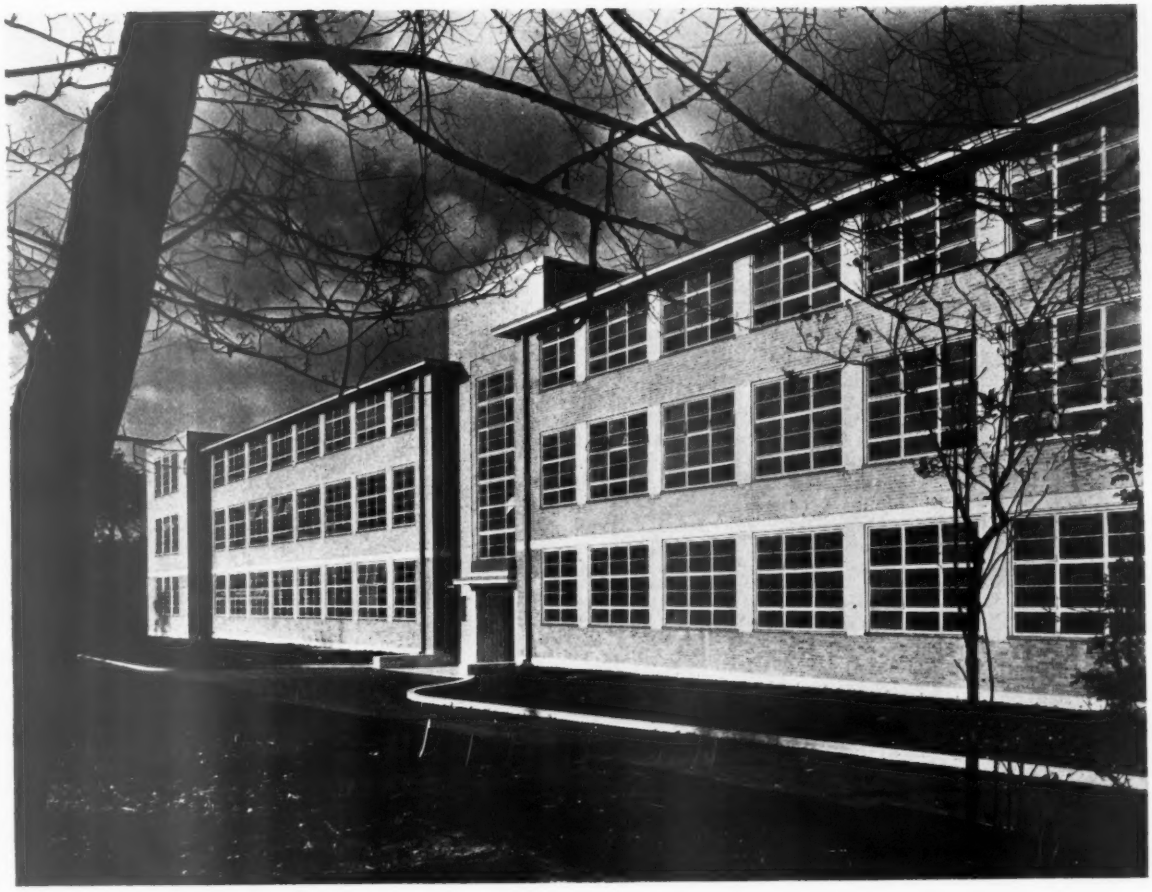
All the above prices for painting are on the high side to include for intricate work.

* Figures for heat, light and sound, compiled by the N.P.L., are set out in a leaflet on Thermolux obtainable from James Clark and Son.



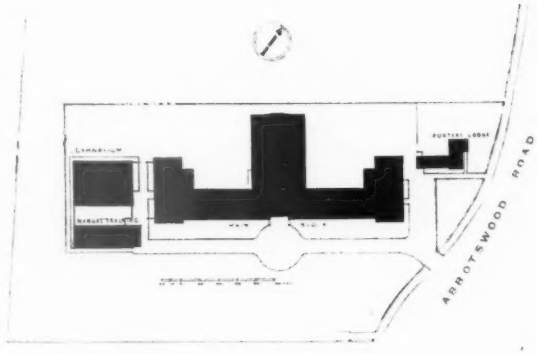
Furniture shop in Henrietta Street, W. A front which makes a single unit by combining doors and show window, and forms a frame through which to see the goods. Door and window surrounds are of stained oak and fascia and stallboard are white painted rendering.

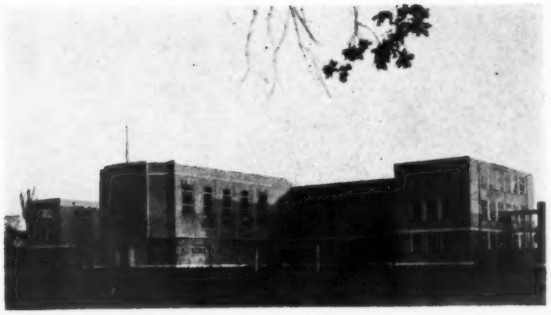
BATTERSEA GRAMMAR SCHOOL



DESIGNED BY

J. E. K. HARRISON





GENERAL PROBLEM — *School for 560 boys, with playing fields, a five-room cottage for the school keeper, additional accommodation for laundry and kitchen, and ground staff lavatories.*

The photographs show : above, the south-east, entrance, front ; right, two views of the north-west front.

BATTERSEA GRAMMAR SCHOOL, ABBOTSWOOD ROAD,

CONSTRUCTION—*The main, three storey, building has a reinforced concrete frame, with reinforced concrete floors, staircases and roof; the frame supporting 11 in. hollow brick walls. The external wall to the corridors and staircases is self-supporting and is of brick 14 ins. thick. Partitions are 4½ ins. cellular flettons; and roofs are finished with three-ply bitumen and felt roofing, laid on insulation board. The gymnasium and other single-storey buildings are ordinary brick construction. Elevational dressings are cream reconstructed stone; windows metal in deal frames with teak cills; flower balcony railings are wrought iron, the flower boxes faced with orange tiling set with wide vertical joints; and entrance gates and railings are wrought iron.*

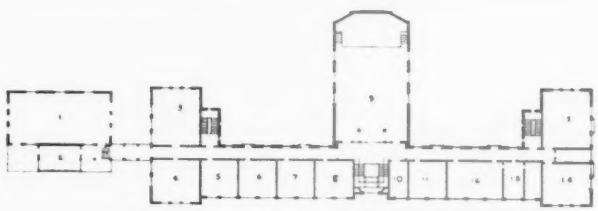
The photograph left is taken looking through the main entrance gates from Abbotswood Road. The photograph on the facing page is of the main entrance to the school on the south-east front.

PLANS: KEY TO THE ACCOMMODATION

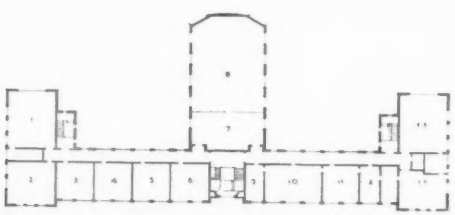
Ground floor plan: 1, gymnasium; 2, changing rooms; 3, bicycles; 4, manual training rooms; 5, clothing store; 6, staff common room; 7, lavatories; 8, cloak room; 9, headmaster; 10, secretary; 11, book store; 12, waiting room; 13-16, class rooms; 17, dining hall; 18, kitchen; 19, boys' cloak rooms; 20, boys' lavatories.

First floor plan: 1, upper part of gymnasium; 2, botanical conservatory; 3, library; 4, geography room; 5-8, classrooms; 9, assembly hall; 10, store; 11, classroom; 12, lecture room; 13, physics store; 14, advanced physics; 15, elementary physics.

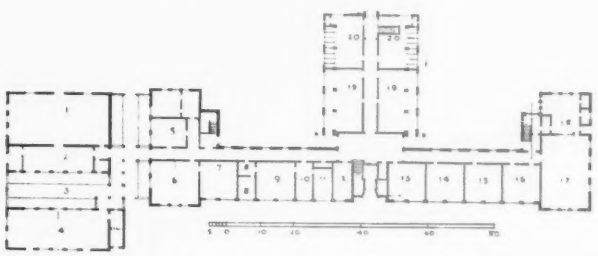
Second floor plan: 1, art room; 2-6, classrooms; 7, balcony; 8, upper part of assembly hall; 9, prefects' room; 10, biology room; 11, biology store; 12, chemistry store; 13, advanced chemistry; 14, elementary chemistry.



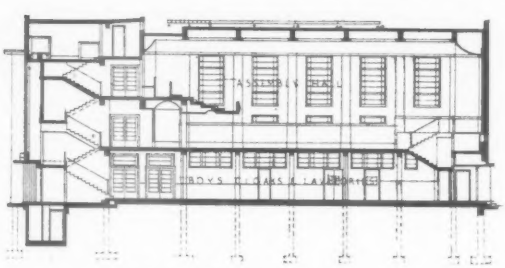
FIRST FLOOR PLAN



SECOND FLOOR PLAN



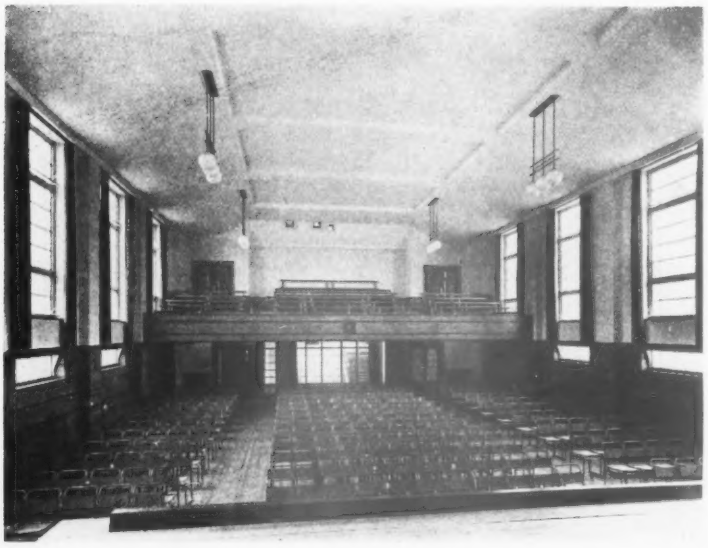
GROUND FLOOR PLAN

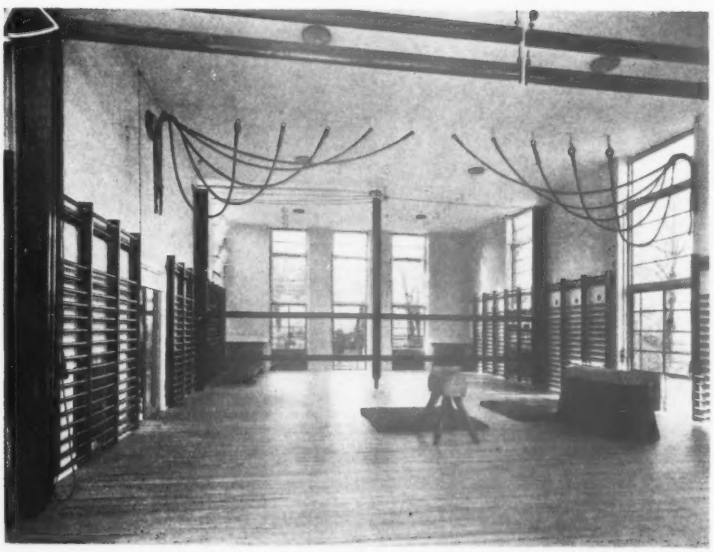


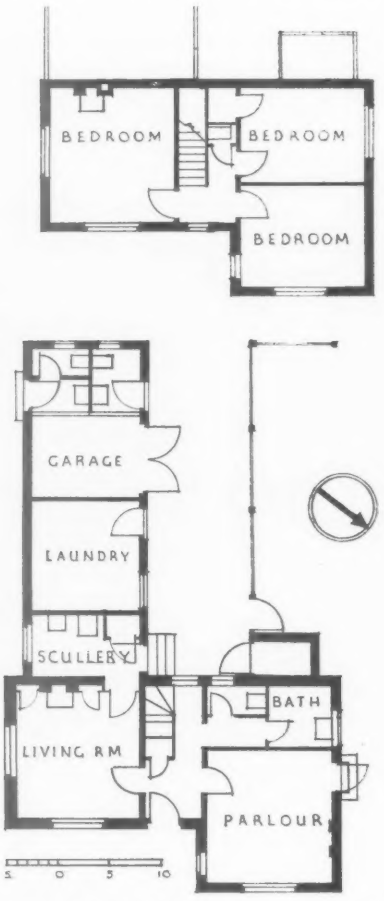
SECTION

S.W.: DESIGNED BY J. E. K. HARRISON

BATTERSEA GRAMMAR SCHOOL, ABBOTSWOOD ROAD,







PORTER'S COTTAGE: GROUND AND FIRST FLOOR PLANS

INTERNAL FINISH—*The assembly hall and the head master's room are panelled in Australian walnut, with recessed ebonized fillets; the library and dining hall have oak dadoes and the classrooms have dadoes of oak-faced plywood with birch cappings and skirtings. All walls are plastered, with the exception of the science laboratories and manual training workshop. The walls of the main staircase have a cement cold glaze finish. Corridors and east and west staircases have composition dadoes; and corridors, science rooms and kitchen have composition floors. Classroom floors are Canadian birch blocks. A special floor, a mixture of cork and rubber, is used in the showers room in the changing rooms. All laboratory benches, etc., are Douglas fir, with teak tops to the fittings in the chemistry laboratories.*

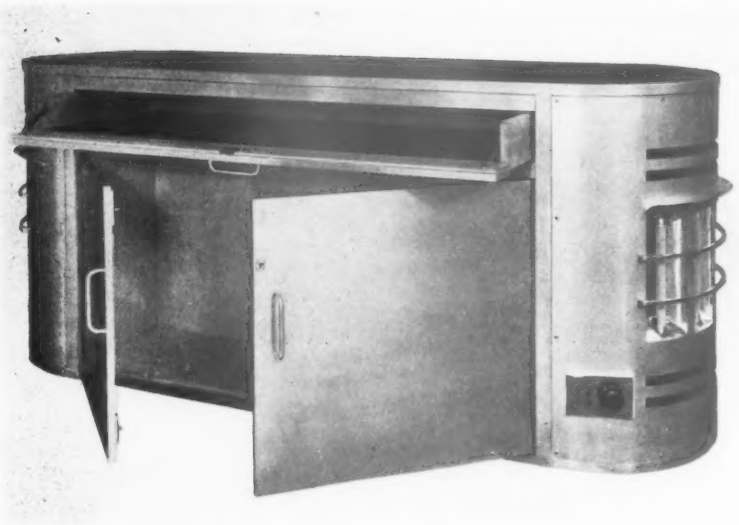
The photographs show: top, the assembly hall; centre, the library; left, the gymnasium.

S.W.: DESIGNED BY J. E. K. HARRISON

SERVICES — *Heating is by low-pressure accelerated hot-water, with coke-fired boilers, and pressed steel radiators. A separate coke-fired boiler supplies hot water. Natural ventilation is provided to all rooms, with cross ventilation to all teaching rooms. In addition to the lighting and power installation, a separate system of experimental D.C. plug points is installed in the science rooms; and wireless plug points and a combination system of call bells and fire alarms are provided.*

The photographs show: above, the dining hall; below, left, the elementary biology laboratory; right, head master's room.

For list of general and sub-contractors, see page 166.



TRADE NOTES

[*EDITED BY PHILIP SCHOLBERG*]

Hospital Ward Heating

SCARBOROUGH HOSPITAL, designed by Mr. Wallace Marchment and illustrated in this JOURNAL last week, has some interesting purpose-made ward heaters, one of which is illustrated at the head of these notes. The centre section of each ward unit contains cupboards and a pull-out writing flap, and the semi-circular ends carry the heating elements.

•

Each fitting has a total loading of 8 kilowatts, four 1-kilowatt heaters at each end, separately controlled by foot switches, and the material used is a white metal alloy which is rustless and takes a high polish. The top is covered with cork.

•

Coal Fires and Smoke

The domestic coal fire has for many years been blamed for a good many evil deeds—for London's fogs and colds—for excessive laundry bills—for the bits of stone falling off the Houses of Parliament—all of which are apparently due to smoke. Whitehall, on a cold morning, is certainly pretty dingy, and one is almost prepared to believe those rather dreary "cigarette-card" calculations which prove so conclusively that domestic smoke costs the nation I forget how many millions a year, and that London's annual soot-fall would cover the country several feet deep.

•

The gas and electricity interests have not been slow to make use of the smoke bane as credit for themselves, but the coal interests have now retorted with a smoke-reducing coal fire which does a good deal towards stealing their thunder. The device consists of a short length of tubing fixed permanently to the grate, passing through the firebrick side about 6 inches above grate level and inclined downwards at about 40 degrees. The size of the gas lead is ½ inch, and there is a ⅛ in. diameter nozzle which projects a highly turbulent 15-inch flame down over the coal in the grate.

•

The gas nozzle is a permanent fitting, visible only as a slight bulge in one side of the firebrick, and a catalyst gives automatic lighting, so that it is only necessary to put coal in the grate and turn on the tap. Gas is consumed at a rate of about 50 cubic feet an hour, and it is suggested that 15 minutes use is long enough for the fire to get well alight, though from the smoke-abatement point of view, the jet should be used for a few minutes every time fuel is added to the fire.

•

It seems that the reduction in smoke is very largely due to the turbulence of the gas jet, and the general conclusions of a D.S.I.R. test are as follows :—

The use of the coal igniter results in a reduction of the total smoke emitted from the initial charge. The reduction depends on the type of coal used, and in the tests carried out, a reduction of 24 per cent. was obtained for a caking coal and 52 per cent. for a non-caking coal.

•

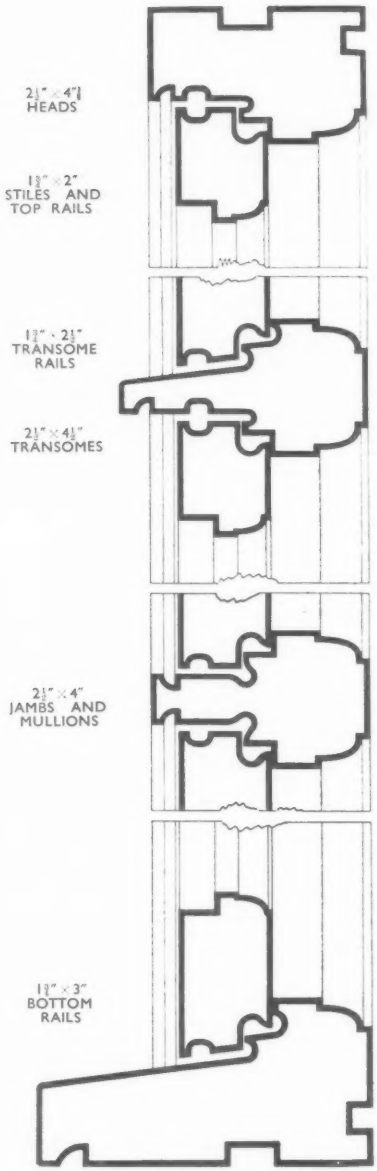
The maximum rate of smoke emission is decreased with the coal igniter, but the duration of the smoke-producing period is increased.

•

The greater part of the smoke reduction takes place during the first 15 minutes, while the gas is on. There is also a reduction during the remainder of the smoke-emission period, suggesting that the gas flame increases the rate of distillation of volatile matter from the coal.

•

The smoke-consuming action of the device appears to be closely related to the turbulence of the flame.



Weatherproof window section produced by Newsum and Sons. (*See note overleaf.*)

The fire presents a pleasant appearance from the moment of ignition, and an appreciable radiation is emitted during the first 15 minutes.

•

The fire burns up slowly after the gas is turned off as the spreading downwards of the zone of combustion by conduction and radiation is opposed by convection.

•

The fire is lit from one side, and as the fire burns up it does so asymmetrically, leaving raw coal on one side of the fire, while the other side is well advanced. This results in a prolonged smoke emission. Two igniters of smaller capacity would probably overcome this, and the rate of burning up of the fire would be increased.

•

The device is a patent held by the Coal Appliance Manufacturers' Association, and

is to be standardized by all members at a cost of "a few shillings" extra per grate. What this means I do not know, but apparently nobody else knows either. A sample can be seen working at the showrooms of the Coal Utilisation Council.

•

Standard Joinery

I have just been sent a very well-produced catalogue of standard joinery by Newsum's of Lincoln. Well arranged, with all the essential dimensions of windows, doors, gates, kitchen cabinets, not to mention the many sundries that can be made so cheaply and efficiently in a good joinery works, instead of being knocked together on the site with improperly seasoned stuff.

•

One very welcome feature is that all the windows sold by this firm are made as weatherproof as they can well be. The illustration overleaf shows a typical section which is the result of a good deal of patient research, and is, incidentally, patented.

•

Addresses

Bratt Colbran, Ltd., 10 Mortimer Street, W.1.

The Coal Utilisation Council, British Industries House, Marble Arch, W.1.

H. Newsum, Sons & Co., Ltd., Lincoln.

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.

Damp Penetration of Faience

¶ *AN architect stated that in erecting a large building on a very exposed coastal site he had used faience as an external facing, considering that a material of this nature would prove immune from damp penetration. However, damp had appeared on the inner faces of some of the walls during the first winter after completion, and the penetration had steadily become worse and was spreading, the upper storeys being most affected.*

At the architect's request an inspection of the building was made. The walls were of solid construction, consisting of faience backed with brickwork. The roof was of asphalt on concrete surrounded by a solid parapet wall with a correctly positioned asphalt damp-proof course. The roof was in perfect condition.

An examination of the faience revealed that many vertical cement joints had cracked and in some cases opened, to the extent of ½ inch. The open joints occurred in the top storeys only.

Moisture has penetrated open vertical joints in the faience and saturated the brick backing. Rich cement mortar is always liable to shrinkage and consequently fine cracks may develop between the jointing and the building units when such mortars are used. However, mortar shrinkage cannot be considered to have been responsible for the larger cracks. It is thought that these may have been occasioned by differential thermal movements. The impermeable nature of the facing would cause a considerable flow of water on the wall face, and so render it possible for a large quantity of water to enter any cracks at the joints.

As a remedial measure it was suggested that the joints should be repointed with a bituminous mastic which would be waterproof, and would be sufficiently mobile to "follow up" any subsequent movement without fracture. The architect reported difficulty in getting the mastic to stick to the sides of the joints, but overcame the difficulty by priming the joints with varnish. Subsequently, it was learned that the treatment had proved entirely successful. Taking advantage of the experience gained, the following procedure was recommended in a subsequent similar case :—

Rake out to a depth of ½ in., making sure that the sides of the joints are perfectly clean, paint the sides of the joints with "outside quality" copal varnish to which a little gold size has been added and, when this becomes "tacky," point the joints with a bitumen mastic. Stains on the faience arising from this treatment may be removed by a rag soaked in benzine.

It should be mentioned that in cases of this sort, after the repair has been made, there may be a large quantity of moisture present in the walls, and owing to the impermeable nature of the facing, this must necessarily dry out internally. This may be a lengthy process, and the beneficial results of the suggested treatment may not therefore be apparent for some time.

Timber for Sawn Boards in Sewage Works

¶ *AN engineer writes : We are anxious to obtain some information regarding a suitable timber for use as scum boards, stop planks, etc., for sewage works, which will be exposed alternately to wet and dry conditions. The chief requirements are reasonable cost, freedom from warping, and durability. We should be very grateful if you would suggest a timber for the work, and also let us have your opinion concerning the value of creosoting (either applied to the surface or under pressure) for this particular case.*

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

Timbers which possess sufficient natural durability for this purpose are not cheap, and we recommend the use of pressure-creosoted timber. Either Scots pine or Baltic redwood could be used, and, properly creosoted, should last longer than any other species used in an untreated state. Brush treatment with creosote is of practically no value under such conditions, and the timber should be pressure impregnated by the "full cell" process so as to receive an absorption of not less than 12 lb. per cubic foot and complete impregnation of all sapwood. Warping depends largely on the quality of the timber, and can be minimized by the selection of straight-grained material reasonably free from knots. The presence of sapwood, provided that it is sound, is no disadvantage if the timber is to be pressure creosoted.

Brickwork in Frosty Weather

¶ *A BUILDER inquired regarding the damage likely to be caused to brickwork erected during frosty weather. The completion of the building on which he was engaged was a matter of urgency, and he wished to know by what means he could avoid interruption of the work. It had been suggested to him that certain chemicals mixed with the mortar might be effective.*

Bricklaying during frost cannot be regarded as advisable under any circumstances. It is true that a slight frost may only injure the surface of the joints, but severe frost may cause definite and deep-seated injury. Everything depends upon the severity of the conditions, and some room must be left for individual judgment.

It is recommended, however, that when there is a possibility of frost occurring, early strength in the mortar should be obtained by gauging lime mortars with Portland cement, and that during actual frost bricklaying should be discontinued unless special precautions are adopted to protect the work.

With regard to the use of chemicals in mortar, it is known that the addition of certain salts, notably calcium chloride, has the effect of lowering the freezing point of water, and an admixture of calcium chloride has been recommended as a means of preventing damage by frost. However, the method cannot be recommended.

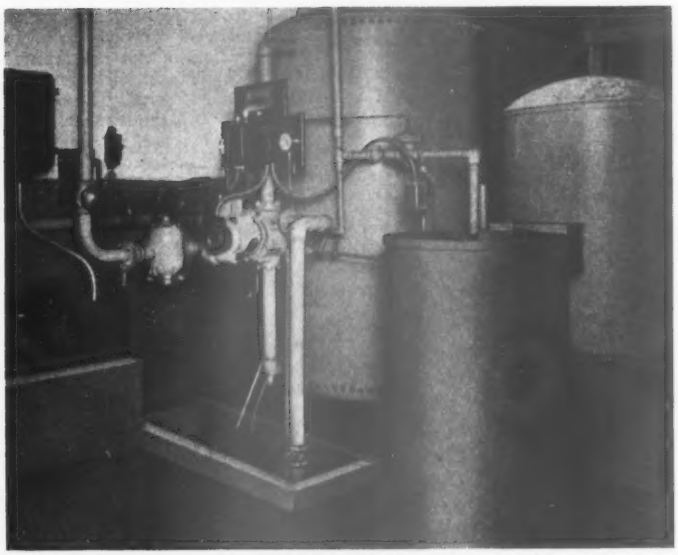
The freezing point is only lowered to the extent of a few degrees, and the benefit derived is therefore small. Moreover, the salt may be a cause of efflorescence and, owing to its hygroscopic properties, permanent dampness.

It should be mentioned that the addition of Portland cement mortars to mortars containing eminently hydraulic limes (e.g. Blue Lias lime) is ill advised and, when such mortars are properly prepared and used, is unnecessary.

Smoky Chimneys and Ventilation

¶ *AN architect asked advice concerning a smoky chimney. He stated : When the doors and windows are closed, the smoke comes into the room, but immediately the door is opened, however slightly, the smoke goes up the chimney in the ordinary way and there is no intermittent smoking. If the door is closed suddenly, a puff of smoke comes right into the room, and thereafter smoking is continuous. Wind seems to have no effect, as when the doors and windows are closed, smoking always occurs, whether a wind is blowing or not. The room is almost hermetically sealed, the carpet making an almost air-tight joint with the door.*

The trouble appears to be primarily due to the absence of ventilation. Under norma-



A Permutit automatic water softener similar to the one in Athenæum Court, Piccadilly, illustrated in last week's issue. (Photo by courtesy of United Water Softeners, Ltd.).

conditions, with a fire going in a room, there is an upward current of air, drawn from the room, in the flue, and the air thus removed is replaced by the heavier external air which enters through spaces between windows and doors and their frames, open joints in flooring or ventilators. This, in its turn, is heated and rises in the flue, and a continuous draught is maintained. If all the doors and windows are closed tightly and no other ventilation is provided, the draughts may be reduced, stopped, or even reversed. Sluggish draught and down draught are the results of such conditions.

The effect of preventing the entry of the external air is similar to cutting off the cold water supply to a domestic boiler, in which case the rise of hot water in the "flow" pipe is stopped.

It is suggested, therefore, that adequate ventilation be provided from outside the building to maintain the draught of the flue. It would appear probable that a 9 ins. by 6 ins. square metal ventilator fixed in an external wall would admit sufficient air for the purpose, and if this were inserted near the hearth or near the fireplace at ceiling level, the risk of discomfort from draught would be small.

It was subsequently learned that a cure had been effected by adopting this suggestion.

THE BUILDINGS ILLUSTRATED

BURLINGTON SCHOOL, SHEPHERD'S BUSH (pages 137–143). The general contractors were John Laing and Son, who were also responsible for the excavations, etc. The principal sub-contractors and suppliers included: Val de Travers Asphalte Paving Co., Ltd., asphalt, and roof terrace ("Valdetherm" special roofing); W. B. Simpson and Sons, Ltd., flacks marked IV blocks by staunchion casing; R. Y. Ames, bricks; Blokcrete Co., Ltd., cast stone copings, etc.; Aston Construction Co., Ltd., structural steel; Stourbridge Glazed Brick Co., Ltd., tiles; Carter & Co., Ltd., responsible for fixing of tiles; British Patent Impermeable Board Co., Ltd., roofing felt; London Brick Co., Ltd., 4½ cellular flettons; Pilkington Bros., Ltd., glass; Higginbotham & Co., Ltd., fixing of glass; Stevens and Adams, Ltd., wood block flooring; Broadmead Products Co., patent flooring; Super Cement, Ltd., waterproofing materials; Young, Austen and, Young, Ltd., central heating and boilers; Bratt, Colbran & Co., Ltd., stoves and grates; Benham and Sons, Ltd., gas fixtures; Matthew Hall & Co., Ltd., gas-fitting and plumbing; Troughton and Young, Ltd., electric light fixtures, telephones, electric wiring and school bell; Oswald Holmann, electric light fixtures; John Bolding and Sons, Ltd., sanitary fittings; Diespeker & Co., Ltd., terrazzo stairtreads; James Gibbons, Ltd., and Taylor, Pearse & Co., Ltd., door furniture; Crittall Manufacturing Co., Ltd., casements and window furniture; Eric Munday and Wm. Pickford, Ltd., gates and railings; Light Steelwork (1929), Ltd., metalwork; Edinburgh Weavers, and John Garlick (1910), Ltd., curtains; Alfred Brown & Co., Ltd., cloakroom fittings; Synchronome Co., Ltd., clocks; Shannon, Ltd., office furniture; Rippers, Ltd., wood flush doors; Celotex Co. of Great Britain, Ltd., acousti-Celotex in assembly hall; Lenscrete, Ltd., balcony pavement lights; Twisteel Reinforcement, Ltd., concrete work; Hartley and Sugden, gravicoke boilers; Tidmarsh and Sons, blinds; H. Holdron, Ltd., lino floors and dadoes; Trussed Concrete Steel Co., Ltd., Truscon-Hyrib ceilings; Christie (Decorators), Ltd., "Fortolite" cement glaze dadoes; James Clark and Son, Ltd., and Heal and Son, Ltd., mirrors and splashbacks; Educational Supply Association, Ltd., three science laboratories and certain folding partitions; Gordon Russell, Ltd., librarian's desk, teachers' desks, secretary's furniture, special filing cabinets; T. M. Gardiner, Ltd., gymnasium equipment; Wm. Whiteley, Ltd., special furniture;

BATTERSEA GRAMMAR SCHOOL (pages 159–163). The general contractors were Henry Knight and Son, and the principal sub-contractors and suppliers included: Trussed Concrete Steel Co., steel rod reinforcement to reinforced concrete frame, Hy-rib to assembly wall ceiling; Archibald Dawnay and Sons, Ltd., steel trusses to gymnasium and workshop roofs; W. H. Collier & Co., facing bricks; Ryarsh Brick and Sand Co., sand-lime bricks; Stuarts' Granolithic Co., artificial stone; Rosser and Russell, Ltd., heating and hot-water supply; the Alpha Manufacturing and Electrical Co., Ltd., electric power, lighting and bell systems, stage lighting equipment; South Metropolitan Gas Co., gas services; Henry Hope and Son, metal windows, roof glazing and rod gearing; Haywards, Ltd., "Reform" glazing to workshop roof; Limmer and Trinidad Lake Asphalt Co., Ltd., damp-proof courses; F. McNeill & Co., Ltd., "Macunite" and "Combinite" roofing; The Granwood Flooring Co., Granwood floors cove skirting and dadoes; Hollis Bros. & Co., Ltd. strip and block flooring; Cork Insulation Co., Ltd., cork flooring to library; Armstrong Cork Co., Ltd., cork-rubber flooring; Carraratile, Ltd., precast terrazzo tiling; Carter & Co., wall tiling and floor tiling and exterior tiling to entrances and flower boxes; Hoyle, Robson and Barnett, Ltd., "Glazement" wall finishes; Newalls Insulation Co., "Paxtile" acoustic tiles to assembly hall; W. N. Froy and Sons, sanitary fittings and fireplaces; William E. Farrer, "Supergloss" terrazzo urinal slabs; Doulton & Co., laboratory sinks; Baird and Tatlock, laboratory sinks; R. Cattle & Co., panelling to headmaster's room and assembly hall, and flush doors; The Merchant Trading Co., Ltd., stock doors to porter's lodge; Adrian Stokes, Ltd., wrought iron grilles, gates, balustrades, etc.; Parker, Winder and Achurch, Ltd., ironmongery; Nettlefolds, Ltd., ironmongery; P. C. Henderson, Ltd., sliding-door fittings; Haskins, Ltd., roller shutters; Haywards, Ltd., iron stairs, roof guardrail and cat ladder; Clark, Hunt & Co., coal plates; Greenwoods Ventilator Co., dark room and kitchen vents; Henry Hope and Messrs. Cashmore Art Workers, rain-water heads; Samuel Parkes, Ltd., cloak-room and cycle-shed fittings; Baird and Tatlock, Ltd., laboratory taps; Spencer, Heath and George, Ltd., gymnasium fittings; Michael Nairn, Ltd., linoleum; Peerless Kitchen Cabinets, kitchen cabinets to porter's lodge; R. Neal and Sons, Ltd., playing fields. The stonework on the gate piers was carved by J. Bickerdike; and the bills of quantities were prepared by L. A. Francis and Sons.

Manufacturers' Items

In the list of contractors for the Council Offices, Welwyn Garden City, on page 124 of last week's issue, the work executed by the Helical Bar and Engineering Co., Ltd., was incorrectly given. They were responsible for the hollow tile floors.

The directors of the Midland Bank, Ltd., report that, full provision having been made

for all bad and doubtful debts, the net profits for the year 1936 amount to £2,467,894 which, with £467,447 brought forward, makes £2,935,341, out of which the following appropriations amounting to £1,519,129 have been made: To interim dividend, paid July 15, 1936, for the half-year ended June 30, 1936, at the rate of 16 per cent. per annum less income tax, £869,129; to reduction of bank premises account, £350,000; to reserve for future contingencies, £300,000; leaving a sum of £1,416,212 from which the directors recommend a dividend payable February 1 next, for the half-year ended December 31, 1936, at the rate of 16 per cent. per annum less income tax, £869,129; and a balance to be carried forward of £547,084.

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICT (15 miles radius)

BERMONDSEY. *Flats, etc.* The Bermondsey B.C. is to erect eight cottages and 40 flats on the Elephant Lane area, at a cost of £21,614.

CROYDON. *Houses, etc.* Plans passed by the Croydon Corporation: Eight houses, "The Woodlands," Beulah Hill, Messrs. Wates, Ltd.; flats, Davidson Road, The Borough Engineer; house, Grimwade Avenue, Mr. W. Aston; 27 houses, Pinewood Close, New British Garden Estates, Ltd.

CROYDON. *Re-housing.* The Croydon Corporation is to clear the Wilford Road and Windmill Road areas, and provide re-housing at a cost of £142,150.

CROYDON. *School.* The Croydon Education Committee is to erect a school to accommodate 280 senior mixed scholars, with practical rooms, etc., 200 junior mixed and 200 infants, at Purley Oaks, at a cost of £29,800.

ENFIELD. *Houses, etc.* Plans passed by the Enfield U.D.C.: 131 houses, Westmoor Road, Mr. M. W. Edwards; 76 houses, Collinwood Avenue, Messrs. W. Goodchild & Co.; 16 flats, Chalkwell Park Avenue, Mr. H. C. Smith; 35 houses, off Green Street, Mr. A. S. Soutar; 20 flats, St. Matthew's Vicarage, South Street, Mr. E. W. Palmer.

ENFIELD. *Hospital.* The Enfield U.D.C. proposes to lease land in Southbury Road, for the erection of a hospital by the Enfield War Memorial Hospital Committee.

FINCHLEY. *Health Centre.* The Finchley Corporation has purchased land in Oak Lane, for the erection of a health centre.

FRIERN BARNET. *Houses, etc.* Plans passed by the Friern Barnet U.D.C.: House, Friern Mount Drive, Mr. F. D. Mitchell; house, Newlands, Oakleigh Park South, Mr. H. Brook; 12 flats and stores, Field House, Friern Park, Mr. C. R. Osborne; office, stores, etc., Friern Barnet Road, Northmet Co.; house, North Bank, Oakleigh Park North, Messrs. Cramb Bros.

ILFORD. *Houses, etc.* Plans passed by the Ilford Corporation: 56 houses, Eastern Avenue and Middleton Gardens, Mr. J. Aldridge; 44 houses, Wensleydale Avenue, Mr. G. W. Newman; 56 houses, off New North Road, Mr. W. M. Edwards; 32 houses, Canon Avenue, Mr. J. H. Mason; 51 houses, Fowey Avenue, Messrs. P. G. Ashton and Son; 24 houses, Caterham Avenue, 120 houses, Road No. 1; eight houses, Strafford Avenue, Mossford Park estate, and 24 houses, Cheriton Avenue, New Ideal Homesteads, Ltd.; 20 houses, Stradbroke Grove, Mr. L. E. Ansell; 28 flats, Woodford Avenue, Messrs. A. Smith and Son.

SOUTH-WESTERN COUNTIES

HEREFORD. *Houses.* Plans passed by the Hereford Corporation: 26 houses, Ross Road, Messrs. F. McConnell & Co., Ltd.

HEREFORD. *School.* The Hereford Education Committee is to erect a school for 480 senior boys at Whitecross, at a cost of £20,000.

PLYMOUTH. *School.* The Plymouth Education Committee has approved plans for the erection of a senior mixed school for 400 pupils, and a senior boys school for 400 pupils, at St. Budeaux.

PLYMOUTH. *Flats, etc.* The Plymouth Corporation is to erect 40 flats at Moon Street, 39 flats at High Street, 36 flats at Stonehouse, 16 at Waterloo Yard, 12 flats at Barne Barton, and 314 houses and flats at Efford.

PLYMOUTH. *Houses.* Plans passed by the Plymouth Corporation: 10 houses, Woodlands estate, St. Budeaux, Messrs. T. Mitchell, Ltd.; 24 houses, Camel's Head estate, Mr. A. C. Jones; 18 houses, Parker Road, Mr. A. G. Blatchford; 46 houses, Davis Estates, St. Budeaux, Davis Estates, Ltd.; 25 houses, Pike's estate, Laira, Messrs. Donald and Tucker; 12 houses, Blandford Road, Messrs. Pillar and Gill.

PLYMOUTH. *Social Centre.* The Plymouth Corporation has asked the City Surveyor to report as to the provision of a social centre, at a cost of £20,000, at the Central Park.

WEYMOUTH. *Isolation Hospital.* The Weymouth Corporation proposes to erect a new isolation hospital, at an estimated cost of £35,000.

WEYMOUTH. *Houses.* The Weymouth Corporation recommends a programme for the erection of 500 houses at a cost of £175,000.

EASTERN COUNTIES

ESSEX. *Extensions.* The Essex Education Committee has approved plans for the erection of a swimming bath, two gymnasia, pavilion, changing rooms, etc., at the South-East Essex Technical College, at an estimated cost of £26,613.

ESSEX. *Operating Theatre.* The Essex C.C. is to erect a new operating theatre at Oldchurch Hospital, Romford, at a cost of £21,760.

ESSEX. *School.* The Essex Education Committee has purchased 40 acres on the Altnacealgach estate, Colchester, as a site for a new County High School for girls

NORFOLK. *Reorganization.* The Education Committee has passed a provisional scheme for the reorganization of elementary schools in the county, which includes the erection of 23 new schools and enlargements to 37 existing schools, involving an expenditure of £500,000. Of these proposals, four new schools are at present in course of erection, and plans are being prepared by the County Education Architect, Mr. F. G. Limmer, L.R.I.B.A., County Education Offices, Stracey Road, Norwich, for the other proposed schemes.

MIDLAND COUNTIES

BILSTON. *Extensions.* The Bilston U.D.C. is to enlarge the Stonefield School at a cost of £21,223.

BIRMINGHAM. *Extensions.* The Birmingham Corporation is to enlarge the Selly Oak hospital, at a cost of £258,927.

BIRMINGHAM. *School.* The Birmingham Education Committee is to erect a school in Rocky Lane, Perry Barr.

BIRMINGHAM. *Welfare Centre.* The Birmingham Corporation is to erect a welfare centre in Kingston Road.

MANSFIELD. *School.* The Mansfield Education Committee has obtained land on the Berry Hill Estate for the erection of a school.

MANSFIELD. *Houses.* The Mansfield Corporation has approved plans by the borough surveyor for the erection of 127 houses on the Racecourse Estate.

OLDBURY. *Houses.* The Oldbury Corporation is to erect 62 houses on the Holt Farm estate, by direct labour, at a cost of £23,400.

OLDBURY. *Houses.* Plans passed by the Oldbury Corporation: 26 houses, Summerfields Avenue, and 14 houses, Garland Crescent, Messrs. J. Harper and Sons (Blackheath), Ltd.; 10 houses, Barnford Cresent, Mr. W. Massey; Birmingham-Wolverhampton Road, Titford Property Co., Ltd.; 17 houses, Birmingham-Wolverhampton Road, and Castle Road West, Mr. A. J. Grayer; 20 houses, Barston Road, Birch Farm estate, Messrs. C. Nokes and Son.

SUTTON COLDFIELD. *Houses.* Messrs. Shaw & Co. propose to erect 105 houses in Maney Hill Road, Sutton Coldfield.

SUTTON COLDFIELD. *Houses, etc.* Plans passed by the Sutton Coldfield Corporation: Ten houses, Banners Gate Road, for Mr. G. E. Clarke; 39 houses, Banners Gate Road, for Messrs. Shute and Adams; 66 houses, Bush Estate, Chester Road, for Morris Estates; six houses, Maxstoke Road, for Mr. J. H. Haywood; five houses, Rectory Road, for Messrs. E. Horton & Co.; seven houses, Sutton Oak Road, for Mr. T. A. Glynn.

NORTHERN COUNTIES

BIRKENHEAD. *Flats.* The Birkenhead Corporation is seeking sanction to borrow £16,000 for the erection of 32 four-storey tenements in Tyrer Street.

FLAXTON. *Houses, etc.* Plans passed by the Flaxton R.D.C.: 41 houses, Rawcliff Lane, Mr. A. Temple; school, Osbaldwick Lane, York Corporation.

MALTON. *Houses.* The Malton R.D.C. is to formulate proposals for the provision of a further building programme of 50 houses.

MANCHESTER. *School.* The Manchester Education Committee has reserved a site on the Booth Hall housing estate, for the erection of an elementary school.

MIDDLESBROUGH. *School.* The Middlesbrough Education Committee is to rebuild the Fleetham Street School at a cost of £21,919.

NEWCASTLE. *Swimming Baths.* The Newcastle Corporation is to construct swimming baths at Jesmond, at a cost of £20,391.

NORTON. *Houses.* The Norton R.D.C. has asked Mr. W. Martin Jackson, architect, to prepare plans for eight houses at Sherburn, six houses at Ganton and 20 houses at Willerby.

SHEFFIELD. *Swimming Bath.* The Sheffield Education Committee is to construct a swimming bath at the Woodthorpe School at a cost of £10,010.

SHEFFIELD. *Elementary School.* The Sheffield Education Committee is to erect an elementary school in Beck Road at a cost of £23,198.

SHIPLEY. *School.* The Shipley Education Committee has acquired a site at Red Beck for the erection of an elementary school.

SUNDERLAND. *Extensions.* The Sunderland Education Committee is to enlarge the Bede Collegiate School, and provide a gymnasium at a cost of £22,811.

WALLASEY. *School.* The managers of the Wallasey Roman Catholic Schools are to erect a new senior mixed school, at a cost of £20,000.

WALLASEY. *Church and Hall.* The Wallasey Corporation has sold a site on the Leasowe Road Housing Estate, to the Rev. A. S. Roscamp, for a church and hall.

WIGAN. *New Depot.* The Ministry of Health has sanctioned the scheme of the Wigan Corporation for the provision of a new depot and refuse disposal plant at Frog Lane at a cost of £32,491.

WIDNES. *Reservoir.* The Widnes Corporation is to construct a reservoir at Fox Hill at a cost of £63,743.

WEST RIDING. *School.* The West Riding Education Committee has obtained sanction to borrow £19,044 for the erection of an elementary school at Rawmarsh.

WEST RIDING. *Mental Hospital.* The West Riding of Yorkshire Mental Hospitals Board is purchasing a site at Stapleton for a new mental hospital.

SCOTLAND

GLASGOW. *Houses.* The Glasgow Corporation is to erect 136 houses for aged poor persons at Crookston Home.

RATES OF WAGES

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

			I s. d.	II s. d.
A_1	**ABERDARE** ...	S. Wales & M.	1 5½	1 1½
A	Aberdeen ...	Scotland	1 6½	1 2
A_1	Abergavenny ...	S. Wales & M.	1 6	1 1½
A_3	Abingdon ...	S. Counties	1 5	1 0¾
A	Accrington ...	N.W. Counties	1 6½	1 2
A_3	Addlestone ...	S. Counties	1 5	1 0¾
A	Adlington ...	N.W. Counties	1 6½	1 2
A	Airdrie ...	Scotland	*1 6½	1 2
C	Aldeburgh ...	E. Counties	1 2½	11
A	Altrincham ...	N.W. Counties	1 6½	1 2
B_2	Appleby ...	N.W. Counties	1 3	11½
A	Ashton-under-Lyne	N.W. Counties	1 6½	1 2
B_1	Aylesbury ...	S. Counties	1 4	1 0
B_1	**BANBURY** ...	S. Counties	1 4	1 0
B_1	Bangor ...	N.W. Counties	1 4	1 0
A_2	Barnard Castle	N.E. Coast	1 5	1 0¾
A	Barnsley ...	Yorkshire	1 6½	1 2
B	Barnstaple ...	S.W. Counties	1 4½	1 0½
A	Barrow ...	N.W. Counties	1 6½	1 2
A	Barry	S. Wales & M.	1 6½	1 2
B_1	Basingstoke ...	S.W. Counties	1 4	1 0
A_2	Bath	S.W. Counties	1 5½	1 1½
A	Batley ...	Yorkshire	1 6½	1 2
A_2	Bedford ...	E. Counties	1 5½	1 1½
A_2	Berwick-on-Tweed	N.E. Coast	1 5½	1 1½
A_2	Bewdley ...	Mid. Counties	1 5½	1 1½
B_2	Bicester ...	S. Counties	1 3	11½
	Birkenhead ...	N.W. Counties	*1 7½	1 2¾
A	Birmingham ...	Mid. Counties	1 6½	1 2
A_1	Bishop Auckland	N.E. Coast	1 6	1 1½
A	Blackburn ...	N.W. Counties	1 6½	1 2
A	Blackpool ...	N.W. Counties	1 6½	1 2
A	Blyth	N.E. Coast	1 6½	1 2
B_1	Bognor ...	S. Counties	1 4	1 0
A	Bolton ...	N.W. Counties	1 6½	1 2
A_2	Boston ...	Mid. Counties	1 5	1 0¾
A_2	Bournemouth ...	S. Counties	1 5½	1 1½
B_2	Bovey Tracey ...	S.W. Counties	1 3½	11¾
A	Bradford ...	Yorkshire	1 6½	1 2
A_1	Brentwood ...	E. Counties	1 6	1 1½
A	Bridgend ...	S. Wales & M.	1 6½	1 2
B	Bridgwater ...	S.W. Counties	1 4½	1 0½
A	Bridlington ...	Yorkshire	1 6	1 1½
A	Brighouse ...	Yorkshire	1 6½	1 2
A	Brighton ...	S. Counties	1 5½	1 1½
A	Bristol	S.W. Counties	1 6½	1 2
B	Brixham ...	S.W. Counties	1 3½	11¾
A	Bromsgrove ...	Mid. Counties	1 5½	1 1½
B	Bromyard ...	Mid. Counties	1 3	11¼
A	Burnley ...	N.W. Counties	1 6½	1 2
A	Burslem ...	Mid. Counties	1 6½	1 2
A	Burton-on-Trent	Mid. Counties	1 6½	1 2
A	Bury	N.W. Counties	1 6½	1 2
A	Buxton ...	N.W. Counties	1 6	1 1½
A_1	**CAMBRIDGE** ...	E. Counties	1 6	1 1½
B_1	Canterbury ...	S. Counties	1 4	1 0
A	Cardiff ...	S. Wales & M.	1 6½	1 2
A	Carlisle ...	N.W. Counties	1 6½	1 2
B	Carmarthen ...	S. Wales & M.	1 4½	1 0½
B	Carnarvon ...	N.W. Counties	1 4½	1 0½
A_1	Carnforth ...	N.W. Counties	1 6½	1 2
A	Castleford ...	Yorkshire	1 6½	1 2
A_3	Chatham ...	S. Counties	1 5	1 0¾
A	Chelmsford ...	E. Counties	1 5	1 0¾
A	Cheltenham ...	S.W. Counties	1 5	1 0¾
A	Chester	N.W. Counties	1 6½	1 2
A	Chesterfield ...	Mid. Counties	1 6½	1 2
B_1	Chichester ...	S. Counties	1 4	1 0
A	Chorley ...	N.W. Counties	1 6½	1 2
B_1	Cirencester ...	S. Counties	1 4	1 0
A	Clitheroe ...	N.W. Counties	1 6½	1 2
A	Clydebank ...	Scotland	1 6½	1 2
A	Coalville ...	Mid. Counties	1 6½	1 2
A_2	Colchester ...	E. Counties	1 5½	1 1½
A	Colne	N.W. Counties	1 6	1 1½
A_2	Colwyn Bay ...	N.W. Counties	1 5½	1 1½
A_1	Consett ...	N.E. Coast	1 6	1 1½
A_2	Conway ...	N.W. Counties	1 5½	1 1½
A	Coventry ...	Mid. Counties	1 6½	1 2
A_2	Crewe	N.W. Counties	1 5½	1 1½
A	Cumberland ...	N.W. Counties	1 5	1 0½
A	**DARLINGTON**	N.E. Coast	1 6½	1 2
A	Darwen ...	N.W. Counties	1 6½	1 2
B	Deal	S. Counties	1 4	1 0
A_3	Denbigh ...	N.W. Counties	2 5	1 0¾
A	Derby	Mid. Counties	1 6½	1 2
A	Dewsbury ...	Yorkshire	1 6½	1 2
B	Didcot	S. Counties	1 4½	1 0½
A	Doncaster ...	Yorkshire	1 6½	1 2
B_1	Dorchester ...	S.W. Counties	1 4	1 0
A_1	Driffield ...	Yorkshire	1 5	1 0¾
A_2	Droitwich ...	Mid. Counties	1 5½	1 1¼
A	Dudley ...	Mid. Counties	1 6½	1 2
A_2	Dumfries ...	Scotland	1 6	1 1½
A	Dundee ...	Scotland	1 6½	1 2
A	Durham ...	N.E. Coast	1 6½	1 2
A_2	**EASTBOURNE**	S. Counties	1 5½	1 1½
A_1	Ebbw Vale ...	S. Wales & M.	1 6	1 1½
A	Edinburgh ...	Scotland	1 6½	1 2
A_2	Exeter ...	S.W. Counties	*1 5½	1 1½
B	Exmouth ...	S.W. Counties	1 4½	1 0½
A	**FELIXSTOWE**	E. Counties	1 5	1 0¾
A	Filey	Yorkshire	1 5	1 0¾
A	Fleetwood ...	N.W. Counties	1 6½	1 2
B_1	Folkestone ...	S. Counties	1 4	1 0
A	Frodsham ...	N.W. Counties	1 6½	1 2
B_2	Frome ...	S.W. Counties	1 3½	11¾
A	**GATESHEAD**	N.E. Coast	1 6½	1 2
B	Gillingham ...	S. Counties	1 4½	1 0½
A_1	Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 6	1 1½
A	Glasgow ...	Scotland	1 7	1 2½
A_2	Gloucester ...	S.W. Counties	1 5½	1 1½
A_2	Goole	Yorkshire	1 5½	1 1½
A_2	Gosport ...	S. Counties	1 5½	1 1½
A_3	Grantham ...	Mid. Counties	1 5	1 0¾
A_1	Gravesend ...	S. Counties	1 6	1 1½
A	Greenock ...	Scotland	*1 6½	1 2
A	Grimsby ...	Mid. Counties	1 6½	1 2
B	Guildford ...	S. Counties	1 4½	1 0½
A	**HALIFAX** ...	Yorkshire	1 6½	1 2
A	Hanley ...	Mid. Counties	1 6½	1 2
A	Harrogate ...	Yorkshire	1 6½	1 2
A	Hartlepools ...	N.E. Coast	1 6½	1 2
B	Harwich ...	E. Counties	1 4½	1 0½
B_1	Hastings ...	S. Counties	1 4	1 0
A	Hatfield ...	S. Counties	1 5½	1 1½
B	Hereford ...	S.W. Counties	1 4½	1 0½
A_2	Hertford ...	E. Counties	1 5½	1 1½
A	Heysham ...	N.W. Counties	1 6½	1 2
A	Howden ...	N.E. Coast	1 6½	1 2
A	Huddersfield ...	Yorkshire	1 6½	1 2
A	Hull	Yorkshire	1 6½	1 2
A	**ILKLEY** ...	Yorkshire	1 6½	1 2
A	Immingham ...	Mid. Counties	1 6½	1 2
A_2	Ipswich ...	E. Counties	1 5½	1 1½
B_2	Isle of Wight ...	S. Counties	1 4½	1 0½
A	**JARROW** ...	N.E. Coast	1 6½	1 2
A	**KEIGHLEY** ...	Yorkshire	1 6½	1 2
A_3	Kendal ...	N.W. Counties	1 5	1 0¾
A_3	Keswick ...	N.W. Counties	1 5	1 0¾
A_1	Kettering ...	Mid. Counties	1 6	1 1½
A_2	Kidderminster	Mid. Counties	1 5½	1 1½
B_1	King's Lynn ...	E. Counties	1 4	1 0
A	**LANCASTER** ...	N.W. Counties	1 6½	1 2
A_1	Leamington ...	Mid. Counties	1 6	1 1½
A	Leeds	Yorkshire	1 6½	1 2
A	Leek	Mid. Counties	1 6½	1 2
A	Leicester ...	Mid. Counties	1 6½	1 2
A	Leigh	N.W. Counties	1 6½	1 2
B	Lewes	S. Counties	1 3	11¼
A_2	Lichfield ...	Mid. Counties	1 5½	1 1½
A	Lincoln	Mid. Counties	1 6½	1 2
	Liverpool ...	N.W. Counties	*1 8	1 3
A_2	Llandudno ...	N.W. Counties	1 5½	1 1½
A	Llanelly ...	S. Wales & M.	1 6½	1 2
	London (12-miles radius)		1 8	1 3
	Do. (12-15 miles radius)		1 7½	1 2¾
A	Long Eaton ...	Mid. Counties	1 6½	1 2
A	Loughborough ...	Mid. Counties	1 6½	1 2
A_1	Luton	E. Counties	1 6	1 1½
A	Lytham ...	N.W. Counties	1 6½	1 2
A_1	**MACCLESFIELD**	N.W. Counties	1 6	1 1½
A_3	Maidstone ...	S. Counties	1 5	1 0¾
A_3	Malvern ...	Mid. Counties	1 5	1 0¾
A	Manchester ...	N.W. Counties	1 6½	1 2
A	Mansfield ...	Mid. Counties	1 6½	1 2
B_1	Margate ...	S. Counties	1 4	1 0
A	Matlock ...	Mid. Counties	1 5	1 0¾
A_1	Merthyr ...	S. Wales & M.	1 6	1 1½
A	Middlesbrough	N.E. Coast	1 6½	1 2
A_3	Middlewich ...	N.W. Counties	1 5½	1 1¾
B_2	Minehead ...	S.W. Counties	1 3½	11¾
B_2	Monmouth ... & S. and E. Glamorganshire	S. Wales & M.	1 3½	11¾
A	Morecambe ...	N.W. Counties	1 6½	1 2
A_2	**NANTWICH** ...	N.W. Counties	1 5½	1 1¾
A	Neath ...	S. Wales & M.	1 6½	1 2
A	Nelson ...	N.W. Counties	1 6½	1 2
A	Newcastle ...	N.E. Coast	1 6½	1 2
A	Newport ...	S. Wales & M.	1 6½	1 2
A	Normanton ...	Yorkshire	1 6½	1 2
A	Northampton	Mid. Counties	1 6½	1 2
A	North Shields...	N.E. Coast	1 6½	1 2
A	North Staffs ...	Mid. Counties	1 6½	1 2
A_1	Norwich ...	E. Counties	1 6	1 1½
A_3	Oswestry ...	N.W. Counties	1 5	1 0¾
A_1	Oxford ...	S. Counties	1 6	1 1½
A	**OAKHAM** ...	Mid. Counties	1 5	1 0¾
A	Oldham ...	N.W. Counties	1 6½	1 2
A_3	Oswestry ...	N.W. Counties	1 5	1 0¾
A_1	Oxford ...	S. Counties	1 6	1 1½
A	**PAISLEY** ...	Scotland	*1 6½	1 2
B_2	Pembroke ...	S. Wales & M.	1 3	11¼
A	Perth	Scotland	*1 6½	1 2
A_1	Peterborough ...	E. Counties	1 6	1 1½
A	Plymouth ...	S.W. Counties	*1 6½	1 2
A	Pontefract ...	Yorkshire	1 6½	1 2
A_1	Pontypridd ...	S. Wales & M.	1 6	1 1½
A_2	Portsmouth ...	S. Counties	1 5½	1 1½
A	Preston ...	N.W. Counties	1 6½	1 2
A	**QUEENSFERRY**	N.W. Counties	1 6½	1 2
A_2	**READING** ...	S. Counties	1 5½	1 1½
B	Reigate ...	S. Counties	1 4½	1 0½
A	Retford ...	Mid. Counties	1 5	1 0¾
A_1	Rhondda Valley	S. Wales & M.	1 6	1 1½
A	Ripon	Yorkshire	1 5	1 0¾
A	Rochdale ...	N.W. Counties	1 6½	1 2
B	Rochester ...	S. Counties	1 4½	1 0½
A_1	Ruabon ...	N.W. Counties	1 6	1 1½
A	Rugby ...	Mid. Counties	1 6½	1 2
A_2	Rugeley ...	Mid. Counties	1 5½	1 1½
A	Runcorn ...	N.W. Counties	1 6½	1 2
A_1	**ST ALBANS** ...	E. Counties	1 6	1 1½
A	St. Helens ...	N.W. Counties	1 6½	1 2
B_2	Salisbury ...	S.W. Counties	1 3½	11¾
A_1	Scarborough ...	Yorkshire	1 6	1 1½
A	Scunthorpe ...	Mid. Counties	1 6½	1 2
A	Sheffield ...	Yorkshire	1 6½	1 2
A	Shipley ...	Yorkshire	1 6½	1 2
A_2	Shrewsbury ...	Mid. Counties	1 5½	1 1¾
A_2	Skipton ...	Yorkshire	1 5½	1 1¾
A_2	Slough ...	S. Counties	1 5½	1 1¾
A_1	Solihull ...	Mid. Counties	1 6	1 1½
A_2	Southampton	S. Counties	1 5½	1 1¾
A_1	Southend-on-Sea	E. Counties	1 6	1 1½
A	Southport ...	N.W. Counties	1 6½	1 2
A	S. Shields ...	N.E. Coast	1 6½	1 2
A_1	Stafford ...	Mid. Counties	1 6	1 1½
A	Stirling ...	Scotland	1 7	1 2¾
A	Stockport ...	N.W. Counties	1 6½	1 2
A	Stockton-on-Tees	N.E. Coast	1 6½	1 2
A	Stoke-on-Trent	Mid. Counties	1 6½	1 2
B	Stroud ...	S.W. Counties	1 4½	1 0½
A	Sunderland ...	N.E. Coast	1 6½	1 2
A	Swansea ...	S. Wales & M.	1 6½	1 2
A	Swindon ...	S.W. Counties	1 5	1 0¾
A_1	**TAMWORTH** ...	N.W. Counties	1 6	1 1½
B	Taunton ...	S.W. Counties	1 4½	1 0½
A	Teeside Dist. ...	N.E. Counties	1 6½	1 2
A_2	Teignmouth ...	S.W. Coast	1 5½	1 1½
A	Todmorden ...	Yorkshire	1 6½	1 2
A_1	Torquay ...	S.W. Counties	1 6	1 1½
B_2	Truro	S.W. Counties	1 3½	11¾
A_3	Tunbridge Wells	S. Counties	1 5	1 0¾
A	Tunstall ...	Mid. Counties	1 6½	1 2
A	Tyne District	N.E. Coast	1 6½	1 2
A	**WAKEFIELD**	Yorkshire	1 6½	1 2
A	Walsall ...	Mid. Counties	1 6½	1 2
A	Warrington ...	N.W. Counties	1 6½	1 2
A_1	Warwick ...	Mid. Counties	1 6	1 1½
A_1	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 6½	1 2
A_2	Weston-s.-Mare	W. Counties	1 5½	1 1¾
A_2	Whitby ...	Yorkshire	1 5½	1 1¾
A	Widnes ...	N.W. Counties	1 6½	1 2
A	Wigan ...	N.W. Counties	1 6½	1 2
B	Winchester ...	S. Counties	1 4½	1 0½
A_2	Windsor ...	S. Counties	1 5½	1 0¾
A	Wolverhampton	Mid. Counties	1 6½	1 2
A_2	Worcester ...	Mid. Counties	1 5½	1 1¾
A_2	Worksop ...	Yorkshire	1 5	1 0¾
A_1	Wrexham ...	N.W. Counties	1 6	1 1½
A	Wycombe ...	S. Counties	1 5	1 0¾
B	**YARMOUTH**	E. Counties	1 4½	1 0½
B	Yeovil ...	S.W. Counties	1 4½	1 0½
A	York	Yorkshire	1 6½	1 2

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

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

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

WAGES

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

MATERIALS

EXCAVATOR AND CONCRETOR

		£	s.	d.
Grey Stone Lime	per ton	2	2	0
Blue Lias Lime	,,	1	18	6
Hydrated Lime	,,	2	8	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
1" 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
,, 7/8"	,,		1	1	6
,, 1"	,,		1	2	0
,, 1¼"	,,		1	5	0
,, 1½"	,,		1	10	0
Deal matchings, ¾"	,,			14	0
,, ⅞"	,,			15	6
,, 1"	,,		1	4	0
Rough boarding, ¾"	,,			16	0
,, 1"	,,			18	0
,, 1½"	,,		1	6	0

Plywood, per ft. sup.

Thickness	⅜"			½"			¾"			½"		
Qualities	A	B	BB	A	B	BB	A	B	BB	A	B	BB
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch 60 × 48	4	2½	2	5	3	2⅜	7	5	4	8	6	5
Cheap Alder	–	2	1½	–	3½	2	–	–	–	–	–	–
Oregon Pine	–	2½	–	3	2¼	–	4	3½	–	5	4½	–
Gaboon Mahogany	4	3¼	–	5	4½	–	7	6½	–	8	7	–
Figured Oak	6½	5	–	7½	5¼	–	10	8	–	1/–	9	–

		d.
Scotch glue	lb.	8

SMITH AND FOUNDER

Tubes and Fittings

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

	¼"	½"	1"	1¼"	2"
Tubes 2'–14' long per ft. run	4	5½	9¼	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"–⅞" 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	65	Galvanized gas	52½
Water	61½	,, water	47½
Steam	57½	,, steam	42½
	FITTINGS.		
Gas	57½	Galvanized gas	47½
Water	52½	,, water	42½
Steam	47½	,, steam	37½

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

SMITH AND FOUNDER *continued*

		s.	d.
Mild steel reinforcing rods, ¾"	cwt.	9	6
,, ,, ⅞"	,,	9	6
,, ,, 1"	,,	9	6
,, ,, 1¼"	,,	9	6
,, ,, 1½"	,,	9	6
,, ,, ¼" to ¾"			4"
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.	37	3	
,, drawn pipes	,,	36	9	
,, soil pipe	,,	39	9	
,, scrap	,,	20	9	
Solder, plumbers'	lb.		9½	
,, fine do.	,,	1	0	
Copper, sheet	,,		10½	
,, tubes	,,	1	0½	

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 0
Holderbats each	3 10	4 0	4 9
Bends ,,	3 9	5 3	10 3
Shoes ,,	2 10	4 4	9 6
Heads ,,	1 8	8 5	12 9

PLASTERER

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

GLAZIER

	s.	d.	s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.			2½
,, ,, 26 oz. ,, ,,	,,			3
Flemish, Arctic, Figures (white)*	,,			7
Blazoned glasses	,,		2	6
Reeded: Cross Reeded	,,			11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite	,,			6
Crown sheet glass (n/e 12" × 10")	,,		2	0
Flashed opals (white and coloured)	,,	1 0 and	2	0
⅛" rough cast; rolled plate	,,			5½
⅛" wired cast; wired rolled	,,			9½
⅛" Georgian wired cast	,,			11
⅛" Polished plate, n/e 1 ft.	,,	†10 to	‡1	1
,, ,, 2	,,	†1 2 ,,	‡1	4
,, ,, 4	,,	†2 3 ,,	‡2	6
,, ,, 8	,,	†2 9 ,,	‡3	2
,, ,, 20	,,	†3 1 ,,	‡3	9
,, ,, 45	,,	†3 3 ,,	‡4	0
,, ,, 100	,,	†4 0 ,,	‡4	10
Vita glass, sheet, n/e 1 ft.	,,		1	0
,, ,, 2 ft.	,,		1	3
,, ,, over 2 ft.	,,		1	9
,, plate, n/e 1 ft.	,,		1	6
,, ,, 2 ft.	,,		3	0
,, ,, 5 ft.	,,		4	0
,, ,, 7 ft.	,,		5	0
,, ,, 15 ft.	,,		6	0
,, ,, over 15 ft.	,,		7	6
"Calorex" sheet 21 oz., and 32 oz.	,,	2 6 and	3	6
,, rough cast ⅛" and ¼"	,,		8¾	,, 1	0
Putty, linseed oil	lb.			3

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

PAINTER

		£	s.	d.
White lead in 1 cwt. casks	cwt.	2	19	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 pain	,,		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	"	8 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	"	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
¾" Vertical dampcourse	"	7 9
¾" paving or flat	"	6 3
1" paving or flat	"	7 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2½
Rounded angle	"	2½
Cesspools	Each	5 6

MASON

		£ s. d.
Portland stone, including all labour, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	19 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 2
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
1¾" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅜" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " " "	"	3 10
Extra only for moulded horns	Each	6
1¾" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1¾" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
1¼" × 3½" " " "	"	1 4
1¼" deal tongued and moulded window board, 9 in and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " 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 7 6
Do. in flashings	"	2 11 0
Do. in covering to turrets	"	2 16 6
Do. in soakers	"	2 2 3
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	1 0	1 2	1 6	2 4	3 2	—
Do. soil pipe and fixing with cast lead tacks	"	—	—	—	—	—	9 0
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 6	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	8 0	11 6	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 9

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.	1
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.	9

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 3
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.	5
Do. and distemper walls	"	6
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	"	4 11
Stain and wax polish woodwork	"	4 "
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from	2 9