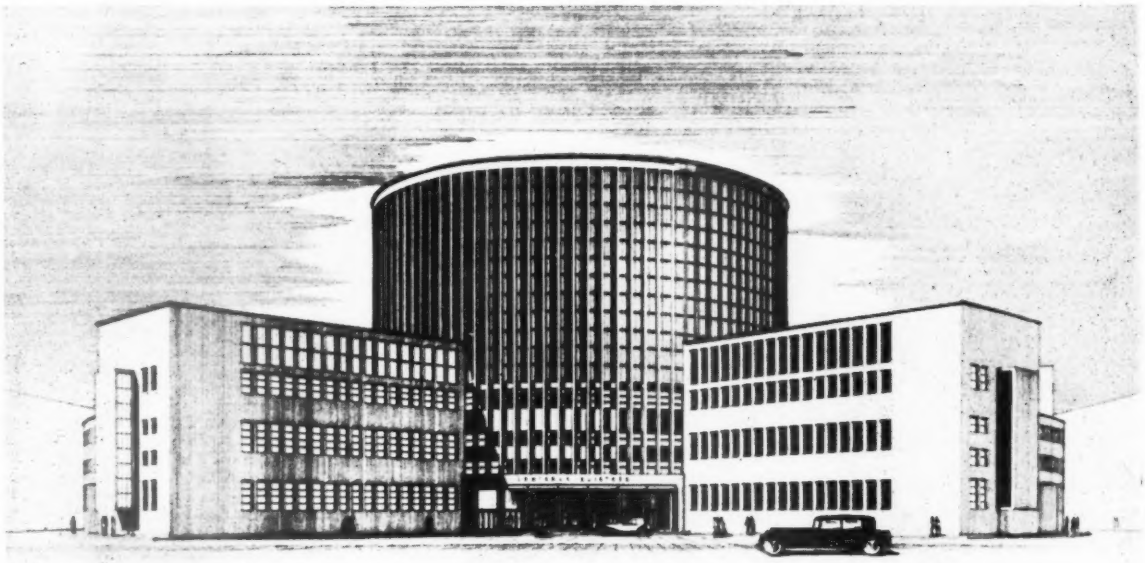
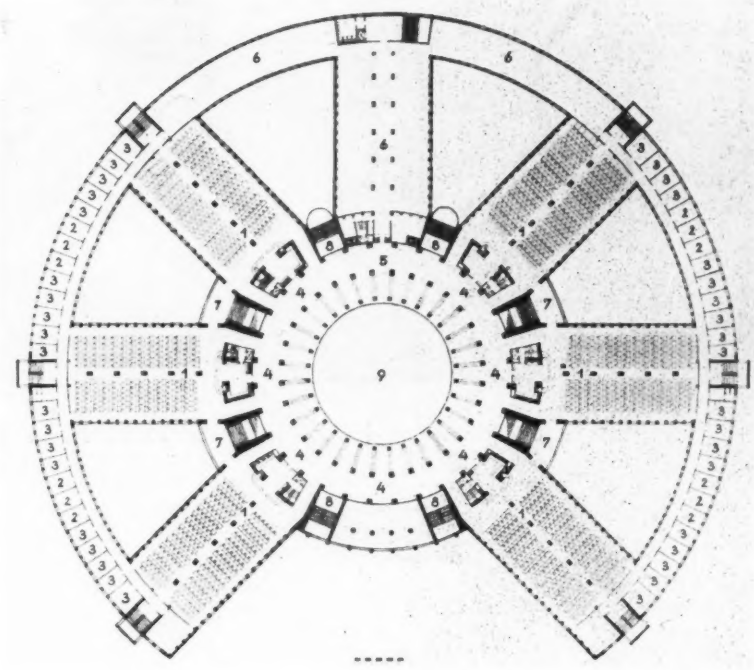
CENTRAL LIBRARY AT VIENNA

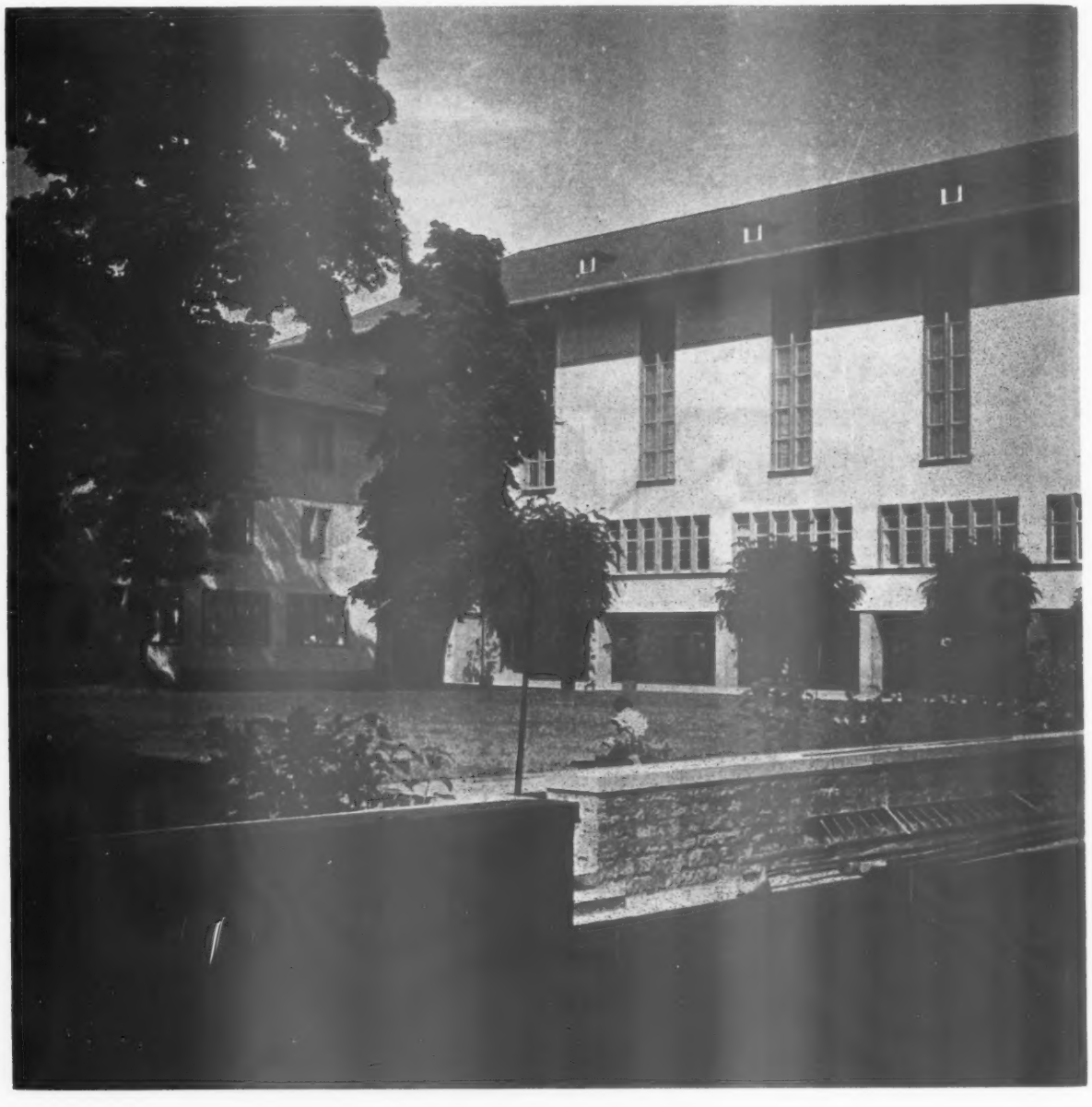




SCHEME for a new Central Library at Vienna by Dr. Werner Theiss. The key to the first floor plan illustrated is :—

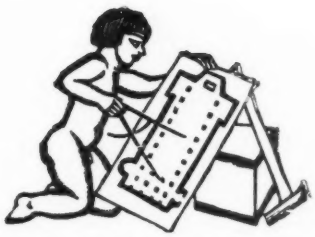
1, Reading rooms ; 2, Professors' reading rooms ; 3, Research rooms ; 4, Catalogues to special subjects ; 5, Subject index ; 6, General catalogue ; 7 and 8, staircases ; 9, well over entrance hall.

The drawing shows the principal elevation.



HEIDELBERG

A detail of the new University Buildings at Heidelberg designed by Karl Groben. The materials are white stucco, wood frames to windows and tiled roof. The photograph shows the garden court behind the main front.



TRUNK ROAD PRESERVATION

NOT very long ago, in commending the Trunk Roads Bill to the House of Commons, the Minister of Transport made use of the following form of words : " he would endeavour to ensure that the road (of the future) will enhance and not detract from the natural beauty of the countryside."

At the moment the Bill in question looks as though it might very soon become an Act. So that if those who will use the trunk roads of the future feel inclined to ponder over whether the Minister of Transport meant anything by his words, and if not, what he should have meant—now is the time for them to do it.

And it is possible that to those to whom the appearance of things means quite a lot the Minister's phrasing may seem peculiarly unfortunate. A determination to enhance the natural beauty of the countryside only needs the addition of a desire to preserve all local amenities to bring to mind the ghastly results which this announcement has heralded in the past.

Yet the road user, who always likes to think the best of his fellow men, can be thankful for one concession : the Minister of Transport did not state that local traditions in road building and materials would be adhered to wherever possible. In roads, if not in houses, it is by now considered reasonable to use the most efficient materials which contemporary transport can bring to the site.

So much, for the moment, concerning that ill-omened word amenity. How much the wayfarer will probably suffer, and how much under the right Minister he might have to be proud of in our trunk roads, can be better appreciated after considering the strong points of the Bill.

The towns and cities of this country are fairly closely and evenly spaced over all that part of it which has ever been sufficiently fertile for agriculture. On a sparing framework of Roman roads and customary trade routes, local tracks between villages and the access to landholdings provided by the enclosure Acts have been superimposed in a close network of local roads. The development of the highways in time of stage-coaches naturally followed the line of least resistance, and sometimes using Roman roads and sometimes local tracks, built up tolerable routes between the various towns. But they were still local roads between two points, which happened rather than were designed to be continuous. The motor age adopted such roads, put them in repair, straightened out corners, and even now and then put in short lengths or indulged in a few miles of by-pass.

The efforts made, however, were still too local. Strange things happened at the boundaries between different authorities' areas and many a spring was broken on a bridge owned by a railway company.

As regards over 4,000 miles of through roads the Bill we are now considering intends to put an end to this state of affairs. The Ministry will be able to survey all such roads, and to regulate improvements and new construction in accordance with the needs of the traffic on them ; without any modification or distortion to satisfy local finance, politics or prejudices. These are large advantages, and when there is added to them the greater power and resources of the Ministry in dealing with the problems of the safe road junction and of by-pass around towns, a most necessary and progressive Bill may be thought to be almost in the statute book.

And then one comes back to the things in which another national failure will almost certainly be registered by the Bill. In a leading article last week, *The Times* took optimism as far as the boundaries of unintentional satire by saying :—

> A firm application of the Ribbon Development Act ; the planting of strips of pleasant shrubs or trees down the centres or along the verges of dual carriage ways ; the elimination of existing disfigurements of the countryside adjoining the roads—these are all steps which the Minister clearly had in mind. . . .

The Minister may have had such things in mind. We believe and hope that he had. But just as the Restriction of Ribbon Development might have been a Ribbon Development Act for all the good that its large gestures and absence of effect are likely to do the appearance of the land, so the thoughts of the Minister of Transport, without a resolute determination by the Government to give them effect, are likely to result in trunk roads looking in the future exactly the same as the Great West Road. Trees and shrubs along main roads are well enough, but it is what lies behind the trees and shrubs that will make the road. And what has happened under the powers already conferred upon local authorities does not increase confidence in the results of the Trunk Roads Bill.

If the Ministry is prepared to stand the strain of claims for compensation and the outcry of developers, it is possible that the half-timbered edging to our main roads may in the future be pushed back some few hundred feet ; though even this is hoping for a lot. And how is " the elimination of disfigurements to the countryside adjoining the road " going to be possible without any power to prevent roadside advertising ?

The disapproval felt for Germany's methods of getting things done under the present *régime* should not prevent an appreciation of good results. The State motor roads now under construction there are more than a great engineering achievement. They are an example of a sustained unity of design for one purpose—the purpose of all roads, that of safe and, if desired, swift travelling.

Unless the development on either side of a trunk road, not for two hundred feet but if necessary for two miles, is made a matter in which the Ministry of Transport can have a very large say, we can have no hopes of having such safe roads, or roads which so finely " preserve " the countryside, in this wealthy country of motorists.

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

NOTES & TOPICS

TELEVISION

LAST week I had a chance to visit the Alexandra Palace and observe the use of the television studios for the broadcasting of architectural topics—for which use, as I have said on many occasions, they are eminently suitable.

*

A television studio has something in common with a film studio, but is much more intimate and holds a greater number of neat and precise-looking instruments and apparatus, all in charge of specialists who stick to their own particular job and work as a thoroughly organized team.

*

I was fortunate enough to see the rehearsals of the Gloag-Chermayeff talk about "The Modern House"—a cross-talk impishly reminiscent of a Laurel and Hardy film, especially when John G. and Serge C. appeared for the final performance complete with powder and rouge, eyebrow pencil and lipstick.

*

Large numbers of lights having been adjusted so that nothing cast a disturbing shadow over anything else—and Mr. Gloag mounted on a cushion and a further light adjusted to correct any tendency to obesity—the two speakers sat before a model of a house and by the side of large-scale plans of the same house.

*

One camera took in the whole scene, while a second camera made close-up shots of each speaker, the model and the plans in turn. And here one realizes the great advantage of television over all other means of public education—the speaker can point out exactly what he means with the aid of those close-up shots of model, plan and indeed photograph of the actual work.

*

Mr. Cecil Lewis, who produced this broadcast, told me of his pleasure at the whole idea of architecture through television, especially with the use of models—having now made the initial experiment he certainly wants some more.

*

And I'm sure that he is right. To see a full orchestra televised is just boring after the first few seconds, but to walk through a building plan and model with a camera and have the whole thing explained at the same time is to realize that here is something for which television is supremely suited.

*

Later, with the necessary network of cables, we shall be able to walk through some actual buildings.

THE P.M.G. COMPLAINS

Everybody feels so kindly towards the Post Office since it started to tell us all its secrets and offered to help us out (with Cupids complete, if desired) in the most delicate of our own, that a polite request from Fairy Godmother for a little help—especially this week—naturally arouses all our chivalry.

*

What can we do for Major Tryon's great-hearted organization ?

*

We can make letter-boxes a decent size.

*

Postmen have walked a very long way several times in an attempt to deliver a sample briquette at *Mon Abri*, and householders have been got out of their baths and their beds to take delivery of the Co-operative's Kalendar—all because of letter-boxes measuring 6 by 1.

*

The P.M.G. wants us all to concentrate on 8 inches by $1\frac{3}{4}$ inches. We ought to try to please him.

*

And if anyone thinks this size invites other insertions besides letters, I suggest that a sheet-metal flange to force greetings on to the floor will keep a loop of wire off the night-latch.

THE PUBLIC PRESENTS . . .

"Since 1896," begins a booklet I received last week, "the Daimler and Lanchester Motor Companies have been building motor cars to suit the particular desires of their users." And with thoughts of 1938 models in mind they want to know what the public prefers. So they have sent me an illustrated questionnaire.

*

There are pictures of different bonnets, dashes, wheels and windows, and I am to tick off my preferences, and tell them what seat, horse power and headlight I like.

*

Such statistics, if they are obtained on a large scale, may be valuable for reference. But what about a whole car designed by counting the noses of the great motoring public ?

*

Yes, it is a saddening thought. Daimler and Lanchester have kept themselves free, so far, from any of that silly bulging business. What is to happen now ?

*

Daimler and Lanchester, if they take my advice, will pay attention to the public on practical points ; but in matters of appearance will continue to give them what D. and L. think best. It is the only way to keep any sort of standard.

Major T. Cecil Howitt, who has been awarded the first prize in the Newport Civic Centre Competition. See pages 835-839 of this issue.

WOODMAN SPARE THAT TREE

Leicester Square's trees are to come down, or at least they soon will unless there's a more than usually noisy chorus of protest. And all because of the unfortunate habits of the birds therein, or so I hear.

*

Low's suggestion that it would be equally logical to root up the grass because it may harbour worms has my whole-hearted approval.

FOUNDATION WORK

I remember that, some years ago, when excavations were going on for the foundations of Thames House, plenty of prehistoric and other remains were found, for the site of the old Horse Ferry must have been inhabited for heaven knows how many hundreds of years.

*

More or less "current" remains are, of course, found often enough during deep excavations almost anywhere, and very little notice seems to be taken of them. Only a few days ago I was going round quite a large job with a most charming and learned Clerk of Works who knew all about the history of his site and the surrounding street layouts back about as far as the eighteenth century. He, too, had found a skeleton, which was, so far as I can make out, left "wrapped round the base of number two stanchion."

*

It's not *so* many hundred years since your ancestors and mine used to build in an odd slave or two just for stability's sake, so that our present-day habits are really quite traditional

A.A. PANTO.

In the entirely traditional panto. manner, the A.A. students this year gave us an untraditional view of the history of the A.A., with mixed success. Everyone seems to have had a hand in the writing of the book : students and members, past and present.

*

There were half a dozen outstanding performers, and the real fault of the production seemed to be that those half-dozen had not been used sufficiently.

*

And then that occasional lapse into propaganda, listlessly recited in dully mechanical voices—not dull enough to be really pantomime funny and yet without the dullness which seriousness would demand.

*

But

"We'll plan the Earth,
"We'll plan the Sun,
"We'll plan the Moon
and the Planets and the little Stars—
"Each one . . .

. . . . .

"But don't forget we utterly refuse to plan your homes."

HELPING HORE-BELISHA

Trunk roads designed, built and maintained under the direct superintendence of the Ministry of Transport are now soon to be with us.

*

That these trunk roads are still to be local concerns when they pass through towns may seem to most of us to be a piquantly regrettable example of a British compromise (at least for ninety-nine towns in the hundred). But for the moment I will, on conditions, take Mr. Hore-Belisha's word that it is better so.

*

My condition is that the Ministry rigidly controls the design and placing of every object which can be clearly seen from the road and which is manifestly intended to convey information of any kind to any person using the road, or to facilitate the safe using of the road.

*

This is a large order and not a new appeal. But nothing less will prevent the universal incitement to road casualties which has grown up round, on, and above our main roads.

*

The western approaches to London at night may not possess the world's record for accidents, but they deserve it. Point lighting of great intensity and no diffusion; winking, reflecting, sparkling, twittering, and defective signs (all advertisements) in most colours; "Show House" arrows and best-bedstead-ever puffs—all meant to be read by the motorist and all with their reflections and counter-reflections turning a wet black road into a Brock's Benefit.

*

If our grand new trunk roads are going to be allowed by the Ministry to hold rival, or even conquering, displays of similar attractions, those who value their sanity and safety will go by the by-roads—which, dullish white in colour and lighted by headlights, make the safest night motoring in the country.

NEW WHITEHALL

A week or so ago a small gang of labourers started the job of building the new Whitehall Government offices by digging a few trial holes in Whitehall Gardens.

*

And that for the moment is about all there is to say about the largest of Government building schemes, now that the block plans and perspectives have been seen by everyone.

*

— Except that it must be nice for Mr. Vincent Harris to contemplate a single scheme that will provide him with satisfying problems for ten years of steady and unhurried work.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

LONDON HOUSING PROGRESS

The Housing and Public Health Committee of the L.C.C., in a report presented at a meeting of the Council on Tuesday last, said that since the war up to November 28, 1936, nearly 68,000 houses and flats have been completed on L.C.C. housing estates. In the seven weeks since the last progress report was submitted 881 houses and flats (an average of 126 a week) were completed on various estates. The work done since April 1, 1934, is equivalent to nearly 14,700 complete dwellings. There are about 7,000 houses and flats in course of erection, and the average number of workmen employed during the week ended November 28, 1936, was about 6,340.

AERODROME SURVEY

A national survey to determine the proper size, type and location of aerodromes is urged by the County Councils' Association in a report to the Inter-Departmental Committee on the Development of Civil Aviation. The report states that an examination of the problem on a county or regional basis would be entirely inadequate.

EXHIBITION OF BRITISH ARCHITECTURE

The private view of the Royal Academy Exhibition of British Architecture will be held on Friday, January 8, 1937, and the exhibition will be open to the public on the Monday following.

The exhibition has been organized in order to give a comprehensive view of British architecture in all its aspects, from the beginning of this century down to the present day.

The exhibition will comprise the following sections :—

1 : Civic. Town halls, hospitals, streets, art galleries, libraries, baths, and public buildings connected with civic affairs and administration.

2 : Commercial. Shops, stores, factories, banks, offices and warehouses.

3 : Domestic. Houses of all kinds, from the large country house to the cottage, flats, housing and slum clearance schemes.

4 : Ecclesiastical : Churches and other places of worship.

5 : Monumental. Public monuments and memorials.

6 : Gardens. Designs for gardens will be included.

THE ARCHITECTS' DIARY

Thursday, December 17

CHADWICK TRUST, *Meeting at 66 Portland Place, W.1. "The Construction of the Modern House." By Herbert A. Welch.* 6 p.m.

SOCIETY OF ANTIQUARIES, *Burlington House, W.1. "Medieval Paintings from Castle Acre Priory." By Dr. Tancred Borenius. "English Alabaster Carvings." By Dr. W. L. Hildburgh.* 8.30 p.m.

BUILDING CENTRE, 158 *New Bond Street, W.1. Exhibition of designs submitted in the Timber Development Association's Competition for designs for a tourist camp.*

INSTITUTION OF CIVIL ENGINEERS. *At the Hotel Metropole, Leeds. "Road Research." By E. A. Dyer.* 7.30 p.m.

Friday, December 18

LONDON SOCIETY OF ARTS, *John Street, Adelphi, W.C.2. "Costume and Armour as Illustrated in Westminster Abbey." By Martin Holmes.*

ARCHITECTS' REGISTRATION COUNCIL, 68 *Portland Place, W.1. Nineteenth Ordinary Council Meeting.*

Saturday, December 19

LONDON SOCIETY. *Visit to the United Glass Bottle Factory, Charlton, Kent.* 2.30 p.m.

7 : Bridges. Designed by architects in conjunction with engineers.

A retrospective exhibition of designs, dating from the sixteenth century to the end of the nineteenth, will be shown and will include designs by Inigo Jones, Wren, Hawksmoor, Gibbs, Chambers, Robert Adam and well-known architects of the nineteenth century. This will illustrate the continuity of design since the Renaissance.

Short addresses, in connection with the work shown in the exhibition will be given by well-known authorities.

NEW C.P.R.E. BRANCH

A Leicestershire branch of the Council for the Preservation of Rural England was formed at Leicester last week. Sir Arthur Hazlerigg, Lord-Lieutenant of the county, who presided, said that in the last ten years much of its beauty had been spoiled by injudicious building and road-making.

DARLINGTON MUNICIPAL OFFICES

The Darlington Town Council has decided that new municipal offices shall be built on Feethams, the estimated cost being £90,000.

SATELLITE TOWN FOR GLASGOW

At a meeting of the Glasgow Institute of Architects last week a scheme for the provision of a satellite town for Glasgow was discussed by Baillie Mrs. Mann in a speech dealing with the housing problems which confront the city.

We should jump the boundaries, she contended, and form a minor Glasgow on the outskirts, self-contained as far as possible, but dependent on the larger area, where there should be zoning for industry, and every encouragement given to attract fresh work, and where the housing needs of the people, at present unable to find suitable accommodation, would be met on reasonable terms. An area to the west, represented very roughly by Erskine Ferry, Houston, and Langbank, had been suggested by one writer, a region possessing all the essentials for such a town—rail, road and river—but she did not care so much for the site, as that there should be a good relation between housing and industry.

Glasgow's greatest need at the moment, she affirmed, was a city architect.

LONDON MASTER BUILDERS' ASSOCIATION

The annual dinner of the London Master Builders' Association was held at the Dorchester Hotel, Park Lane, W.1, on Thursday last, under the chairmanship of Mr. Eric Burt (President). Some 500 members and guests were present.

Mr. Burt, in responding to the toast of "The Association" (proposed by Lord Snell, Chairman of the L.C.C.), sta ed that the joint committee of London architects and builders had reached satisfactory solutions of problems which had been bothering them for some time. Considering the enormous amount of building activity in the London area the number of labour disputes was small, and that showed that the individual operative was not only prepared to carry out his share of the working-rule agreements, but that he had been wise in the choice of his leaders.

Major Leslie Shingleton, in proposing the toast of "The Guests," said that every young architect should spend at least a year on a building contract. He would then appreciate some of the builders' difficulties, and would be able later to reduce costs which could be avoided. It would, he stated, also help him a great deal in his future career.

Mr. Percy Thomas, P.R.I.B.A., in responding to the toast, said that the problems of rebuilding the congested areas, the preservation of the countryside, the replanning of slum areas, and the redistribution of industries would involve building operations which he did not believe all of them realized. It was also necessary that architects and builders should pool their knowledge, so that they would not be caught unawares when the task was asked of them. Mr. Thomas concluded by emphasizing the need for sound building. "We should," he said, "take every opportunity to impress upon public authorities and upon the general public that quality and not cheapness is the real economy in building."

FACULTY OF ARCHITECTS AND SURVEYORS

Mr. E. J. Michaux, President, speaking at the ninth annual dinner of the Faculty of Architects and Surveyors, held at the Hotel Victoria, Northumberland Avenue, W.C., on Friday last, pointed out that the syllabus of examinations for the Association's degree of Associate and Fellow Architect and for the degree of Incorporated Surveyor would soon be ready for submission to the members. He also expressed the hope that the Association would soon be recognized by the Architects' Registration Council of the United Kingdom as an examining body under the provisions of the Registration Act.

Mr. Michaux also referred to the Housing Act, 1935, and made special reference to the overcrowding survey recently carried out by local authorities. He particularly emphasized the fact that proper provision had not been made by local authorities to check the measurement of rooms, in accordance with the specific provisions of the Act. He deplored the fact that the survey had been carried out by casual labour rather than by qualified surveyors.

Other speakers included : Sir Clement Kinloch-Cooke, Councillor H. H. Ward,

Captain C. P. Norman and Miss Ivy M. Dunford. Among those present were: Messrs. Sydney Tatchell, F.R.I.B.A., H. Langford Moyle, A. S. Cook, A. E. Sockett, H. H. Murray, F. W. Field and H. B. Whitfield (Secretary).

THE LEEDS SCHOOL OF ARCHITECTURE: COLLEGE OF ART

The following candidates have been successful in the final examination leading to the diploma in Town and Country Planning and Housing at the above school: J. A. Bent, W. Brown, H. C. E. Curtis, G. Kenyon, A. Saint, and M. Tetlow.

This is the first final examination to be held since the formation of the department two years ago. The course requires a minimum attendance of two evenings per week extending over two sessions, and is fully recognized by the Town Planning Institute for purposes of exemption from the final examination leading to Associate Membership.

The announcement of the first awards of the scholarships set up under the will of the late Mr. Hoffman Wood, the Leeds quantity surveyor who practised in Leeds for many years, has been made. The successful candidates are Messrs. K. J. Caton and G. V. Robertshaw, who are fifth-year students at the Leeds School of Architecture (College of Art). The scholarships as awarded this year are of the value of £250 and £150, respectively, and have been founded for "the advancement of architectural training, either by study or travel in ancient or modern cities, of any boy or girl born within Yorkshire of one or two Yorkshire parents."

A DIARY FOR 1937

Messrs. Collins, of London and Glasgow, have just published their "Architects' and Builders' Diary for 1937" (price 2s. net). This diary, which measures 5¼ ins. by 3 ins. and contains three days to the page, presents, in a simple practical form, the generally accepted principles of design as applied to buildings. Recognized standards of the building trades, plasterers, plumbers, glaziers, etc., have been followed in the compilation of each section. An index is incorporated, which enables the user to obtain quick reference to any given subject.

APPOINTMENT

Messrs. T. N. Mitchell, B.ARCH. (Liverpool), A.R.I.B.A., and R. F. Fairhurst, DIPL. ARCH. (Liverpool), A.R.I.B.A., have been appointed senior architectural assistants under Mr. C. H. Aslin, F.R.I.B.A., M.I.STRUCT.E., borough architect, Derby.

ANNOUNCEMENT

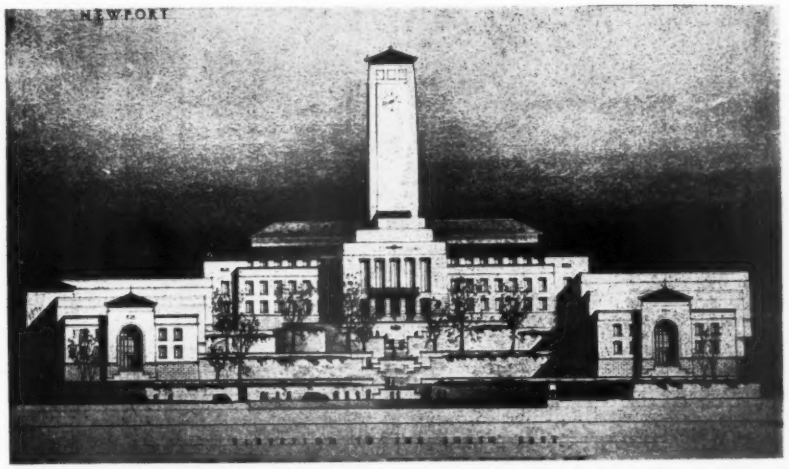
Professor J. Husband, M.INST.C.E., Vice-President, I.Struct.E., has retired from the Chair of Civil Engineering at Sheffield University and has removed to offices at 388 Glossop Road, Sheffield 10, where he will continue the practice of consulting engineer in partnership with Mr. H. C. Husband, B.ENG., ASSOC.M.INST.C.E., and Mr. A. H. Clark, B.ENG., ASSOC. M.INST.C.E., under the title of Husband and Clark.

A CORRECTION

The London Brick Co., Ltd., ask us to make the following corrections to the particulars published in their advertisement illustrating the Rigid Containers' Factory at Desborough, which appeared on page XXV of THE ARCHITECTS' JOURNAL for December 10. The architects' names should be: Sir John Brown and A. E. Henson, F. & L.R.I.B.A., and the contractors were Messrs. A. Tailby and Son.

THE NEWPORT COMPETITION

WINNING DESIGN: BY T. CECIL HOWITT



The result of the competition for new civic buildings, Newport (Mon.), for the Newport Corporation was announced on Monday last as follows:—

Design placed first (£750): T. Cecil Howitt, F.R.I.B.A., of Exchange Buildings East, Nottingham.

Design placed second (£500): Connell, Ward and Lucas, of 25 Grosvenor Place, London, S.W.1.

Design placed third (£300): C. B. Pearson and Son, F. & A.R.I.B.A., of 18 Dalton Square, Lancaster.

Design placed fourth (£200): H. V. Ashley and Winton Newman, FF.R.I.B.A. of 14 Gray's Inn Square, London, W.C.1.

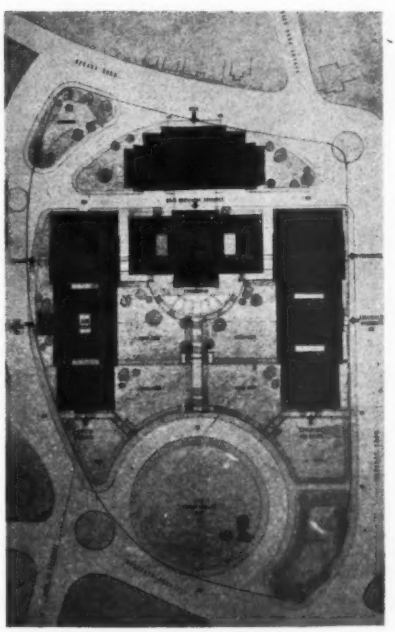
The assessors were E. Berry Webber, A.R.I.B.A., and C. F. Ward, F.R.I.B.A.

THE WINNER'S REPORT

General

The following main ideas have influenced the scheme.

A balanced lay-out scheme in both cases either with or without the proposed Museum.



Site Plan

A new service roadway across the site where it is naturally level.

A central court open to the south-east to retain many of the existing trees, and to give stepped terraces down to the lower levels of the site.

Adjustment of new building line (within the prescribed limits) to suit traffic.

A heavily planted shrubbery at the east corner of the site to hide the rather dull portion of adjoining ground that contains the railway cutting and small property.

The stepping down of the new buildings in height to suit levels and to give quick public access to the main rooms of the various departments. A large percentage of these departments thus being next pavement level.

A mezzanine level for the floors of the Main Centre Block to allow through ways from the service road to the centre court.

Lay-out Scheme

Central islands and shrubberies are introduced to define traffic routes.

The Museum site is arranged as a circular planned level lawn until the Museum is erected. The new level cross roadway would give car access to the main Municipal Quarters, and would be in easy touch with the garage.

The open centre court is divided into three terraces with level lawns retaining many of the existing trees, introducing planted rose beds to the highest terrace, and planted beds as a stepped feature next the retaining walls.

The outer boundary edges next the new improvement line would be in dwarf walls to give slightly raised forecourts. The whole of the retaining walls in the lay-out would be in natural rock faced, irregular coursed, snecked sandstone, the wide paths and steps

COMPETITION FOR CIVIC

to the ceremonial approach being in York stone paving.

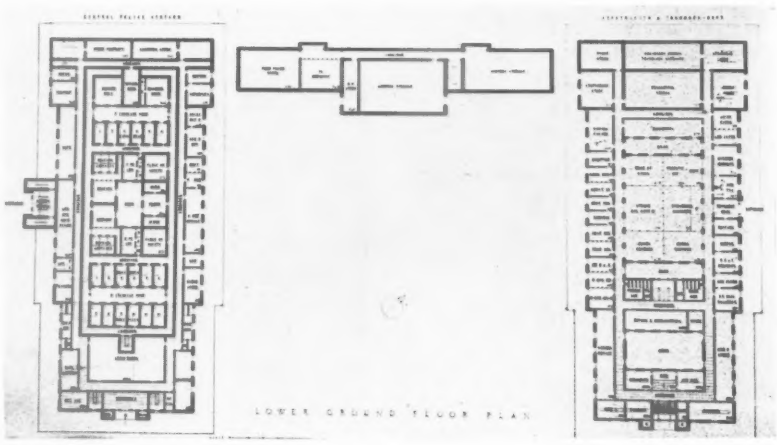
Architecture

After providing a suitable commercial office window of good size, the general treatment has been kept as simple as possible without waste in mouldings, or large cornices, but with ample drips to ensure a clean, dry face to the stonework. The Roman pantile roofs in a broken brown colour are introduced to add colour, and to lead up to the Tower feature.

The base of the various blocks introduced to overcome irregular levels, would be in a natural rock faced sandstone, as a contrast to the Portland stone facing over.

The tower is arranged on the high ground to add dignity to the group of civic buildings. This tower would contain tank room, clock room and belfry. A small spiral staircase in artificial stone would be included in one internal angle so that the top of the tower could be made an observation point.

Many of the main rooms are designed as cubes or double cubes, and a special feature is made of the grand staircase to introduce a naturally lighted raised ceiling in daytime, which would be artificially flood-lighted at night time.



Lower ground floor plan

Construction

The main large rooms and features would be steel framed to allow an economical thickness for walls, but a complete steel frame would not be required to the simple two-storey buildings. The floors would be fire-resisting construction in hollow tiles to carry light office loads.

Internal partitions would be in 3-in. Pioneer slabs or Moler blocks.

False ceilings at beam soffite level would be introduced to allow partitions to be placed in any position without beam interference, and to ensure complete silence from occupied rooms over.

External Materials

The main fronts would be in Portland stone on a base of rock faced sandstone.

All internal courts would be in cream facing bricks. The pitched roofs would be in Roman pantiles of a brown tone, whilst flat roofs would be rock asphalt.

The windows would be in steel with opening portions at the top and bottom for ventilation, and opening parts in the centre for cleaning.

The glass for the most part would be clear with special features and engraved glass to rooms such as the council chamber, reception room, refreshment room and assize hall.

The patent glazed roofs of the large public offices would have a steel laylight underglazed in pale amber semi-obscured glass with easy cleaning access.

Internal Materials

The walls to the assembly hall, entrance foyer, vestibule, and refreshment room, would be finished in plastic paint with dwarf dado and doorways to the hall in veneered waxed hardwood.

The hall floor would be sprung and finished in oak strip parquet with the foyer and vestibule in biscuit colour marble or terrazzo tiles.

Portions of the frieze to the side and back walls of the hall would be treated acoustically.

The hall ceiling would be coffered, and this ceiling and the foyer would be in fibrous plaster.

There would be a special feature of four fibrous plaster coves to the sides and head of the choir to form concealed extract ventilation, and concealed interchangeable lighting and voids from the organ chambers.

The council chamber would have biscuit coloured marble paving to the floor with heavy fitted carpet surrounding the seats. The fittings and dwarf dado would be divided into large panels with wood moulds for a plastic paint treatment. The large panels would be fitted with cabot quilt or paxfelt and a plain canvas cover. The ceiling would be coffered with fibrous plaster with a small amount of artificial extract ventilation.

The entrance hall and grand staircase floor would be in marble or terrazzo tiles of a light tone, with a fibrous plastic paint treatment to walls and a fibrous stepped ceiling. The balusters and staircase would be in bronze metal and clear plate glass, whilst the steps would be faced with marble treads and risers. The reception room, the rooms of the Mayor and Mayoress, and the two main committee rooms would have large veneered panels in waxed walnut for the doors and wall surfaces, with a simple fibrous treatment over, a special feature being the engraved glass to the spandril ends of the reception room.

The assize hall finishings would be similar to the main entrance hall of the civic suite, whilst the various courts would be treated in a similar manner to the council chamber.

The cells would have hardwood block floors, glazed brick walls and be fitted with a bunk and w.c.

Private rooms of heads of departments and the secondary committee rooms would have plastic paint walls and floors in carpet, and flat paint to ceilings, with a small cornice.

The circulation corridors would have rubber paved floors to the 4 ft. 6 in. centre portion with margins in waxed hardwood blocks. The walls would be flat painted plaster and there would be a low fibrous ceiling to allow cross ventilation over.

The main large offices would be similarly treated with rubber paving to the public space and lino to the clerks' portion. The screens in these large offices would be waxed hardwood kept to 5 ft. 9 in. high with the upper portion glazed, in order to give scale to the rooms.

The offices generally would have lino floors, distemper plaster walls and ceiling, enamelled slate window cills over radiators with waxed hardwood flush veneered doors and deal frames and cover fillets.

The lavatories would have Adamantine brown tile floors, tiled walls to the principals, and painted walls to the staff, with painted ceilings.

The staircases would be concrete, rubber faced to match the corridor floor.

Heating and Ventilation

The heating scheme would be arranged with automatic stokers for solid fuel for low-pressure hot water.

The heating generally would be by flush radiators recessed underneath windows. Additional ceiling heating panels would be added to rooms such as council chamber, reception rooms, refreshment room, assembly hall and courts, and a small amount of extract ventilation would also be introduced to these rooms.

Cross ventilation would be given to all offices by air grates in the void over low-ceiled corridors.

Equipment

The building would be completely equipped with electric light, power, bells, synchronized clocks, vacuum-cleaning points, hose reels, and dictograph systems between various departments.

Cost

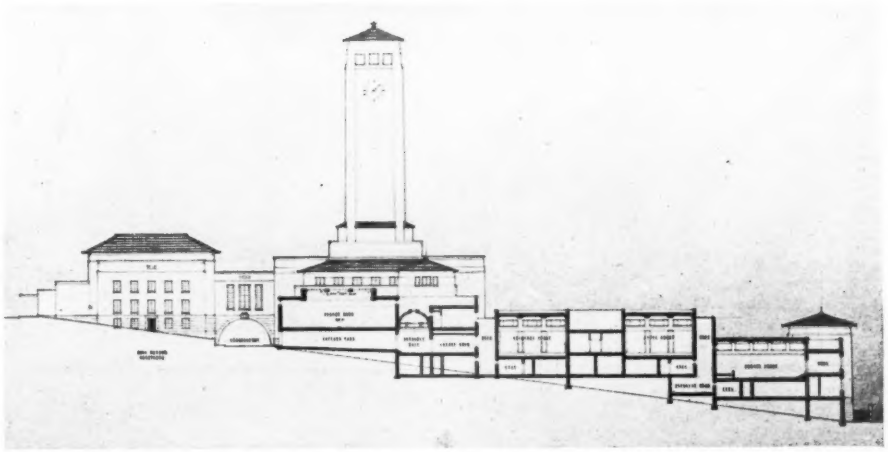
Having regard to the amount of accommodation and floor space required, and reviewing the expenditure of £300,000 the Corporation has in mind, the specification for the greater portions of the scheme (except the main ceremonial rooms) would have to be kept as inexpensive and commercial as possible. Taking this into account, it is estimated the scheme could be carried out as follows :—

	£
Municipal Buildings, £8,051 at 1/8 per ft. cube	161,020
Lower Courts and Police Station, £4,381 at 1/8 per ft. cube ..	87,620
Assembly Hall and Garage under, £4,140 at 1/1 per ft. cube ..	53,820
	£302,460
Say	£300,000

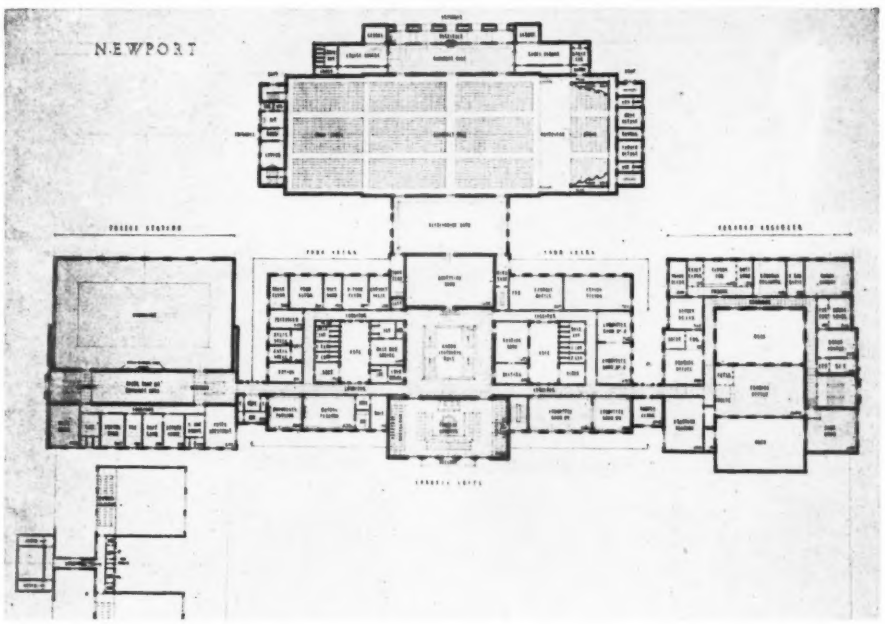
These estimated costs include the items enumerated under Clause No. 28 of the conditions. The details of the proposed lay-out are given elsewhere in this report, and it is estimated this development, comprising the whole of the work within the new improvement line but excluding any main roads surrounding the site, would need a capital expenditure of £19,000 or thereabouts.

BUILDINGS, NEWPORT: THE WINNING DESIGN

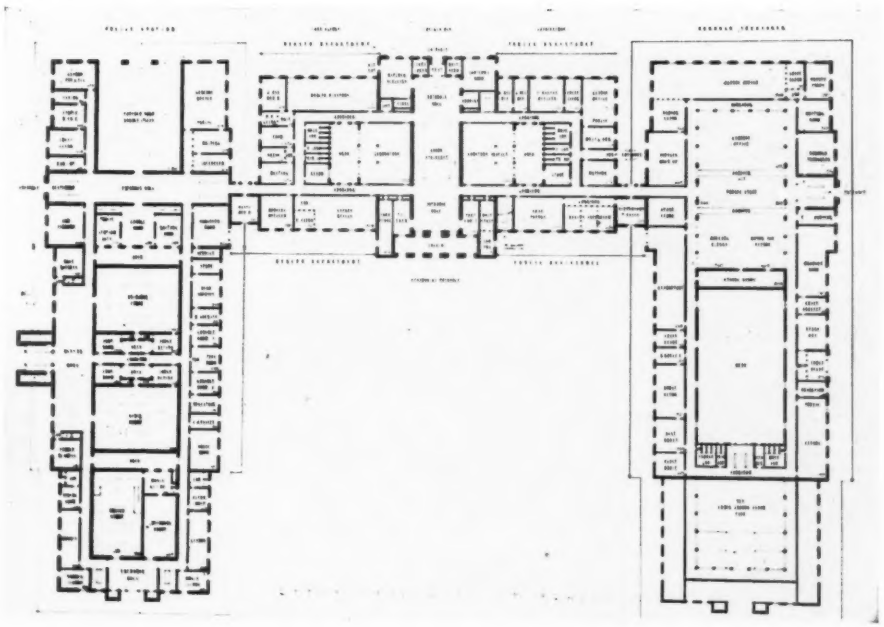
BY
CECIL
HOWITT



Longitudinal section through Law Courts.

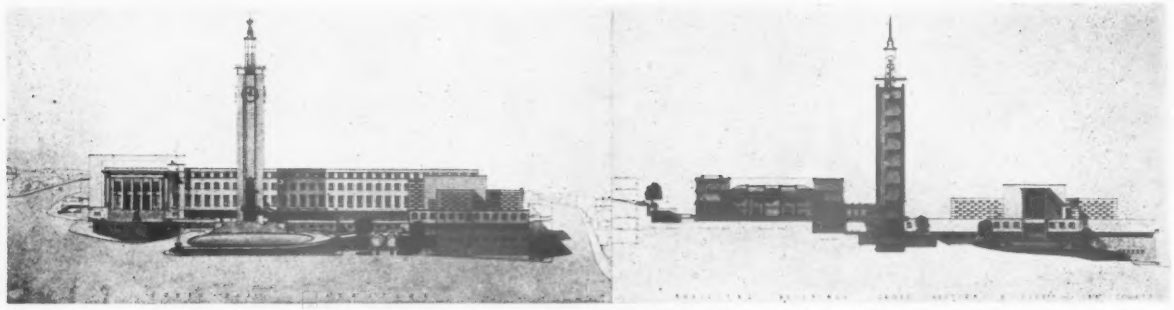


First floor plan.

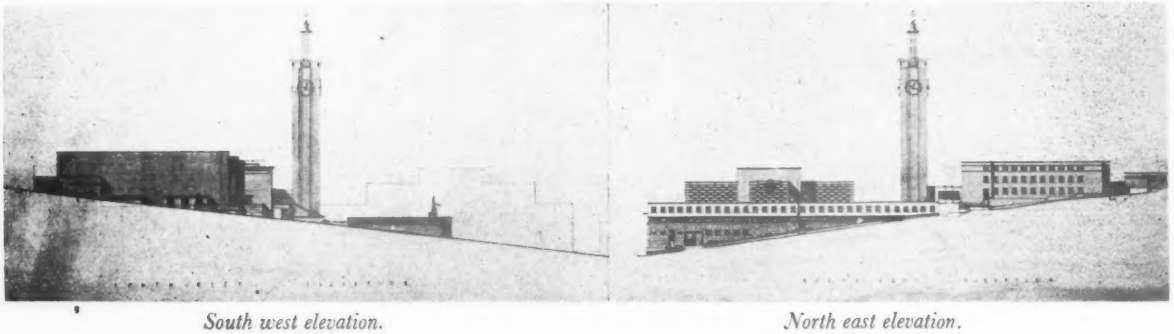


Upper ground floor plan.

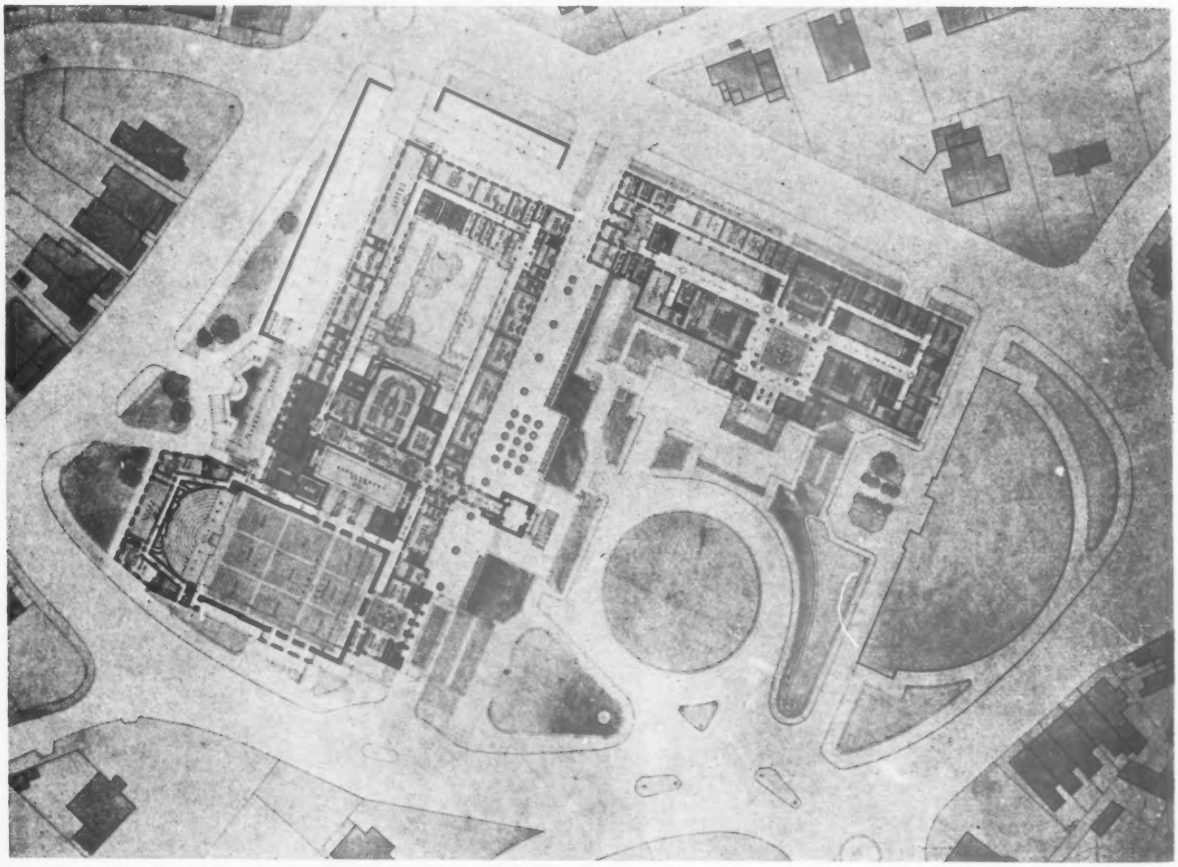
COMPETITION FOR PROPOSED CIVIC



Above : South east elevation ; right, cross section, Municipal buildings, and elevation to Law Courts.

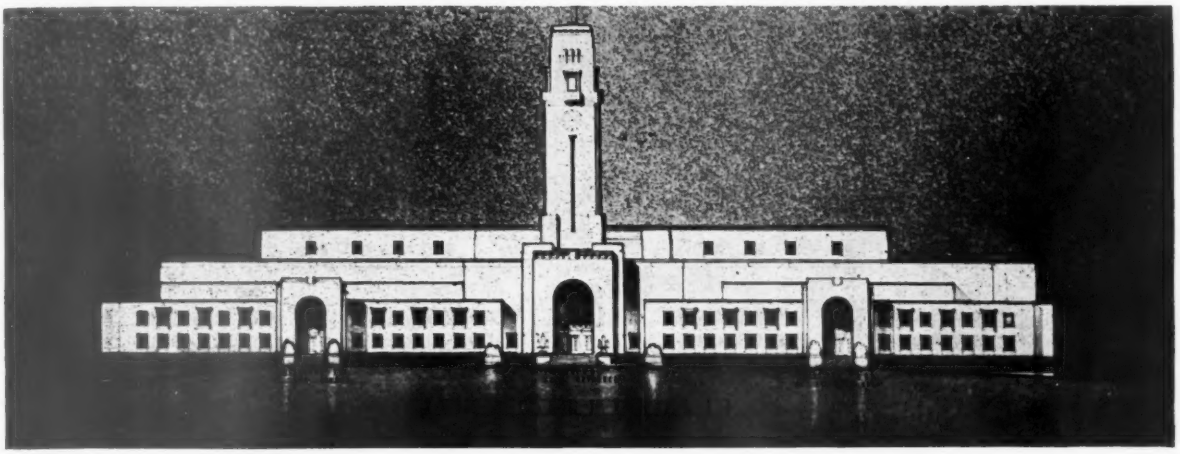


South west elevation. *North east elevation.*

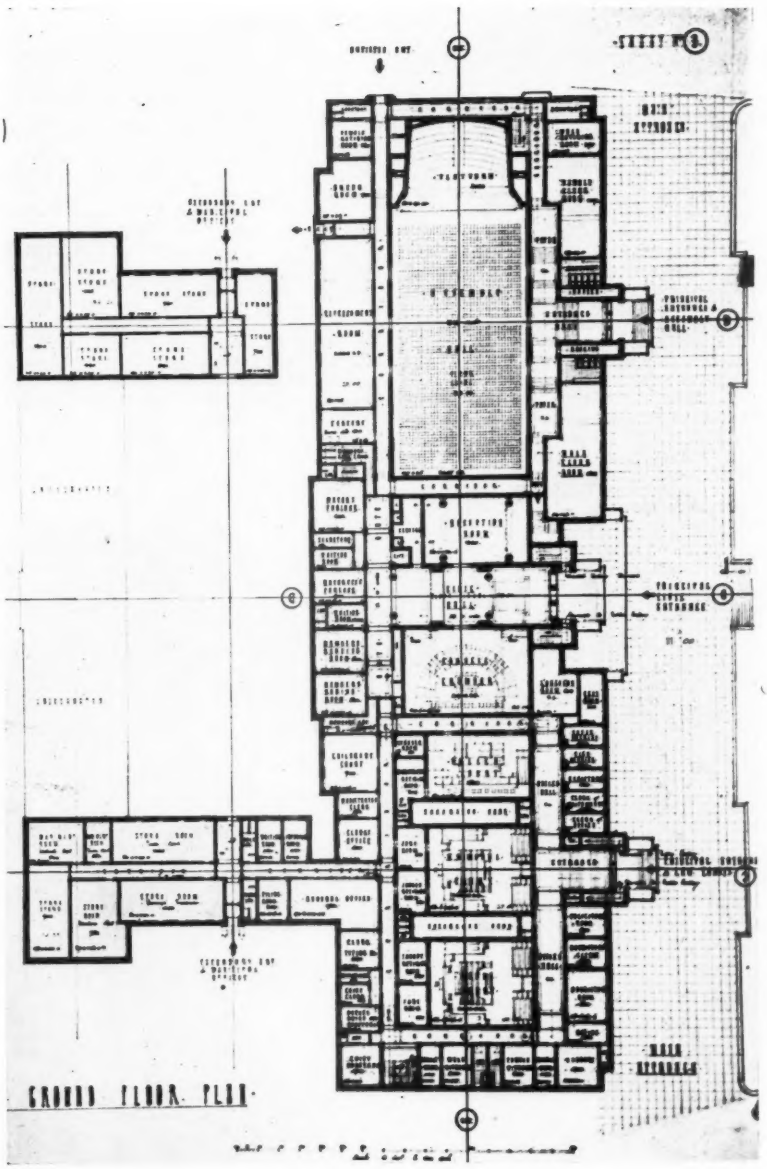


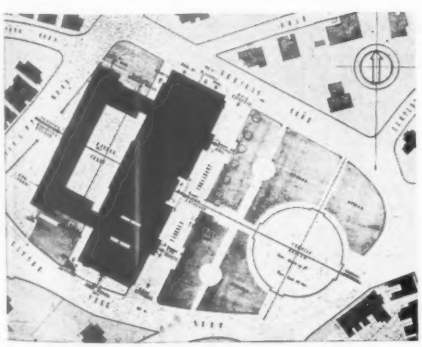
DESIGN PLACED SECOND: BY CONNELL, WARD AND LUCAS

BUILDINGS, NEWPORT : PREMIATED DESIGNS

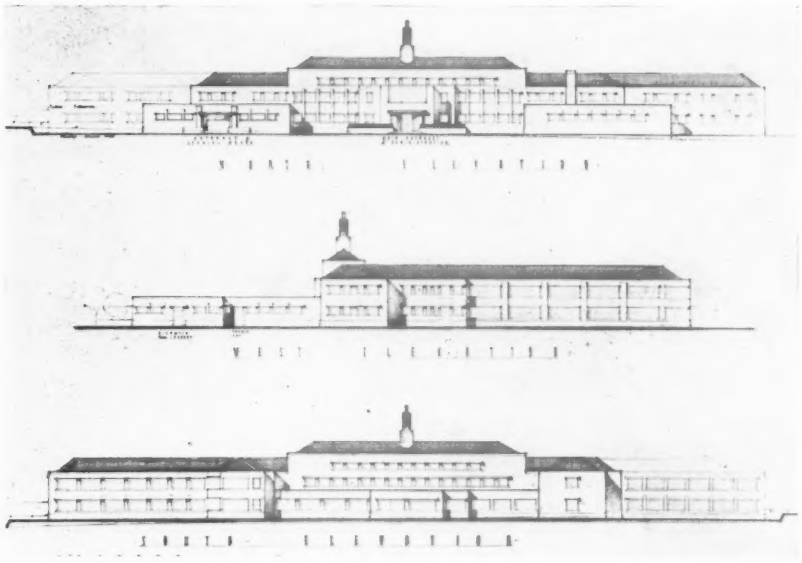


DESIGN PLACED THIRD BY C. B. PEARSON AND SON





COMPETITION FOR PROPOSED HOSPITAL



Mr. R. Norman Mackellar, F.R.I.B.A., the assessor of the competition for a new hospital at Llandudno, for the Committee of the Llandudno and District Hospital, has made his award as follows :—

Design placed first, No. 2 (£250) : C. B. Pearson and Son, F./A.R.I.B.A., of 18 Dalton Square, Lancaster.

Design placed second, No. 27 (£150) : Minoprio and Spencely, AA.R.I.B.A., of 18 Seymour Street, London, W.1.

Design placed third, No. 32 (£75) : Wallace Marchment and Anthony T. Flutter, F./A.R.I.B.A., of 11 Stanley House, Larkhall, London, S.W.8.

The designs submitted will remain on exhibition at the Ritz Café, St. George's Place, Llandudno, until December 19, between the hours of 10 a.m. and 6 p.m.

THE ASSESSOR'S REPORT

The competition has brought out that the problem has not been easy to solve, the difficulties being to provide the accommodation compactly with an open type of plan, to come near the proposed cost, particularly in view of the special sections required, and adequate solution of provision for the future extensions.

The cost figure of £42,250, as I explained previously, was low, especially considering the fact that two extra beds were added, which, working on the broad basis of £650 per bed, would have made the total approximate cost £43,550.

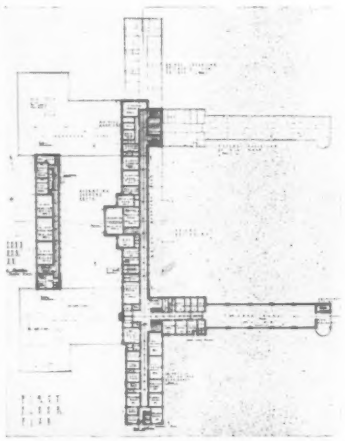
Design No. 2, First Premium, is in my opinion the best plan and elevation scheme combined. It gives the accommodation desired very compactly, and should provide a hospital with the minimum running costs. In detail, criticisms could be made in connection with the position of the lighting of the kitchen stores and the position of the nurses' and maids' dining rooms, but I have no doubt that these can be remedied by further discussion between your Committee and the successful architect.

I consider the specification of materials generous in view of the cube rate quoted. Modifications can be made, however, without affecting the quality of finish expected in a hospital of this type. The cube rate is an overall one without separating the under building. The future extensions are satisfactorily arranged in duplicate wings with only a small portion to the south as vertical extension.

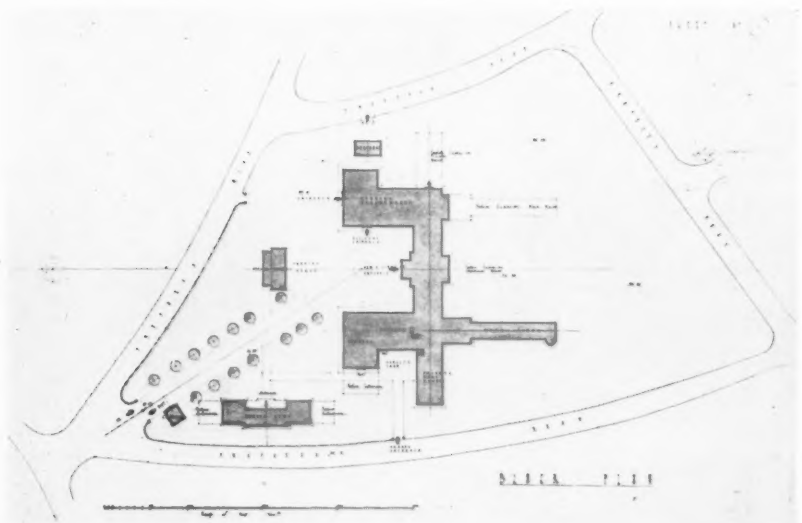
Design No. 27, Second Premium, is also a good open-type design on similar general principles to that of No. 2, but not so compact, and the elevations have less distinction. The arrangement of the single-bed ward group with the future extensions over is not quite so satisfactory. The main extensions form a duplicate wing.

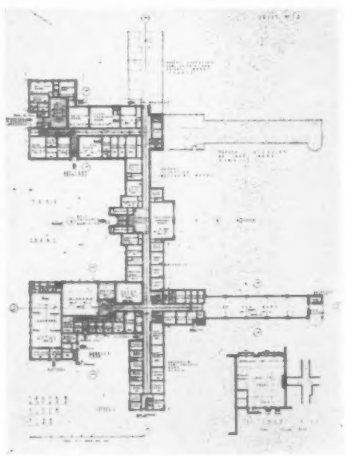
No. 32, Third Premium, is a very compact plan. The detailed working out is not quite so good as the others, and the placing of the single-bed ward group on a second floor (an expedient no doubt adopted to come near the stipulated cost) makes future extension of this section difficult. The cube rates, comparatively, appear higher than the others, but I am of opinion that the ceiling heights of the principal sections are too low, and when these are adjusted on a common basis, the rates would be lower.

On the whole, I consider the response to the competition has been very satisfactory, providing some excellent schemes, but too many are lavish in their disposition on the site and in detail.



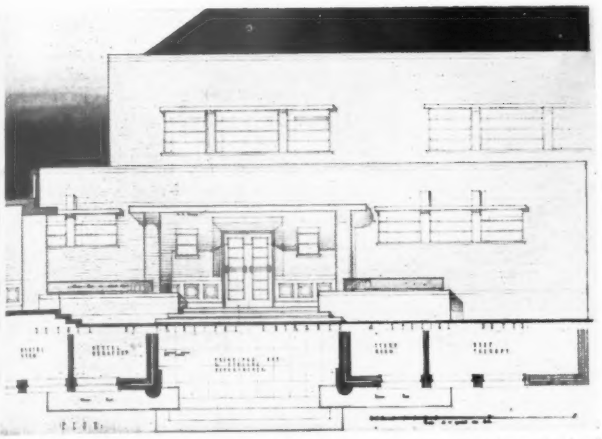
First and ground floor plans





Ground floor plan

AT LLANDUDNO: THE WINNING DESIGN



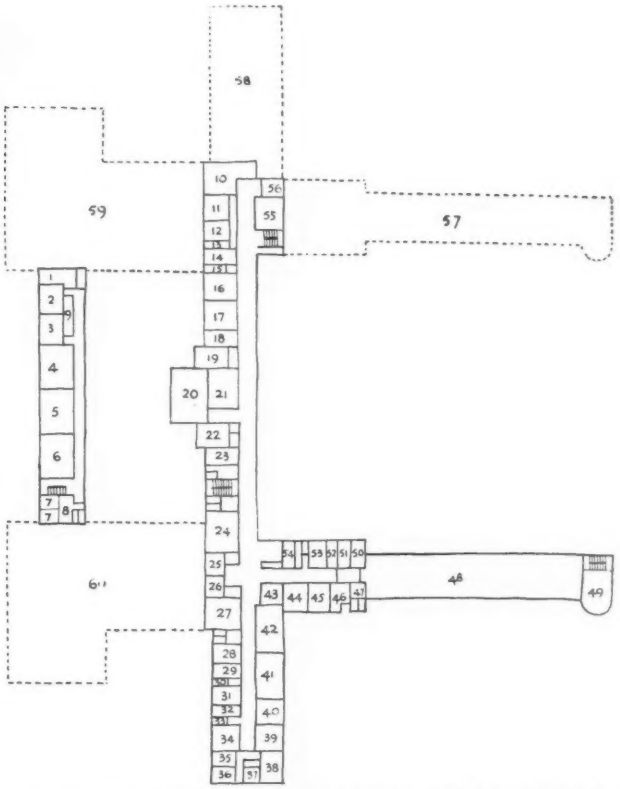
On the right are key plans showing the arrangement of the principal accommodation on the Architects' ground and first floor plans reproduced on the facing page

FIRST AND SECOND FLOOR PLANS

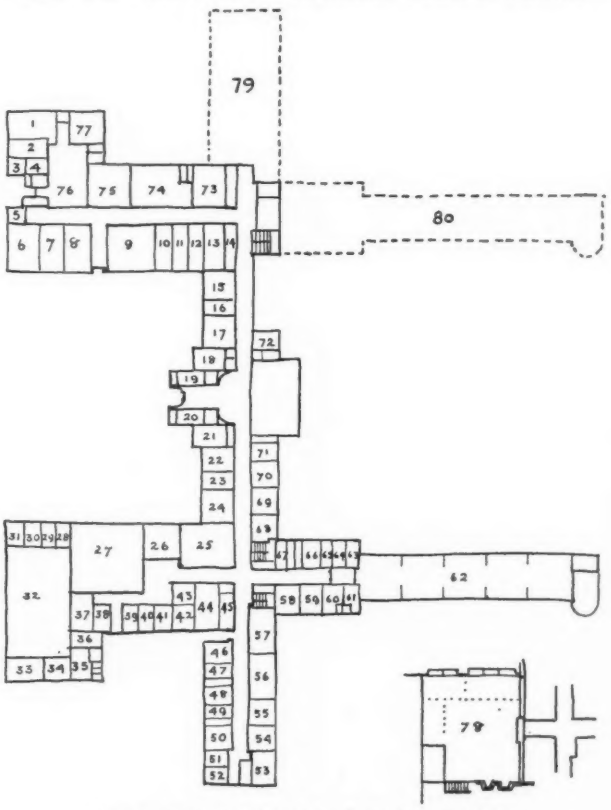
1 : Bedroom
2 : Cook's bed-sitting-room
3 : Laundress' bed-sitting-room
4 : 4-bed dormitory
5 : " "
6 : " "
7 : Bathroom
8 : Lobby
9 : Linen
10 : Sitting-room
11 : Bedroom
12 : Bathroom
13 : W.c.
14 : Sisters' rest-room
15 : W.c.
16 : Nurses' dressing-room
17 : Plaster room
18 : Sterilised dressings
19 : Sterilising-room
20 : Operating theatre
21 : Anæsthetic-room
22 : Wash-up
23 : Surgeons' dressing-room
24 : Nurses' dining-room
25 : Service pantry
26 : " "
27 : Maids' dining-sitting-room
28 : Ward kitchen
29 : Sink-room
30 : W.c.
31 : Bathroom
32 : Bathroom
33 : W.c.
34 : Observation-room
35 : Sink-room
36 : " "
37 : Bathroom
38 : Isolation ward
39 : Private ward
40: " "
41 : Semi-private
42 : " "
43 : Bed lift
44 : Treatment-room
45 : Testing-room
46 : Sink-room
47 : Lavatory
48 : 25-bed room
49 : Sun balcony
50 : Bathroom
51 : " "
52 : Test-room
53 : Ward kitchen
54 : Clothes store
55 : Store
56 : Bed lifts
57 : Future extension : 20-bed ward
58 : Future extension : private and semi-private wards
59 : Asphalt flat
60 : " "

GROUND FLOOR PLAN

1 : Eye-test-room
2 : Dental room
3 : Workshop
4 : Offices
5 : Store
6 : Therapy
7 : Pill store
8 : Accidents
9 : X-ray room
10-11 : X-ray offices
12 : View room
13 : Dark room
14 : Store
15 : Matron's office
16 : Lavatory
17 : General stores
18 : Secretary
19 : Porter
20 : Telephone
21 : Consulting room
22 : Secretary
23 : Lavatory
24 : Writing-room
25 : Board room
26 : Scullery
27 : Kitchen
28 : Staircase
29 : Cook's store
30 : Soap store
31 : Lavatory
32 : Laundry
33 : Patients' dispatch
34 : Staff dispatch
35 : Patients' receiving-room
36 : Staff receiving-room
37 : Vegetable : Preparation room
38 : Vegetable : Store
39 : Bread store
40 : Milk store
41 : Dry goods
42 : Provision store
43 : Cold store
44 : General store
45 : Linen store
46 : Ward kitchen
47 : Sink room
48 & 49 : Bathrooms
50 : Observation ward
51 : Sink-room
52 : " "
53 : Isolation ward
54 : Private ward
55 : " "
56 : Semi-Private ward
57 : " "
58 : Treatment-room
59 : Sister's office
60 : Sink-room
61 : Lavatory
62 : Female 28-bed ward
63 : Bathroom
64 : "
65 : Test-room
66 : Ward kitchen
67 : Clothes store
68-70 : Single-bed wards
71 : Bathroom
72 : Storeroom
73 : Dispensary
74 : Light treatment-room
75 : Exercise-room
76 : Waiting-hall
77 : Consulting-room
78 : Boiler-house
79 : Future extension. Semi-private and private wards
80 : Future extension. 20-bed female ward

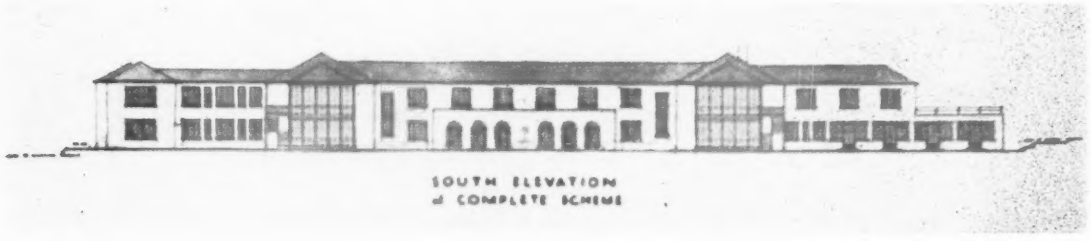


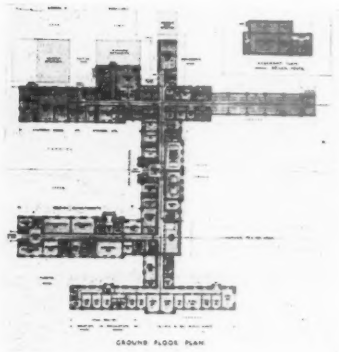
KEY TO FIRST AND SECOND FLOOR PLANS

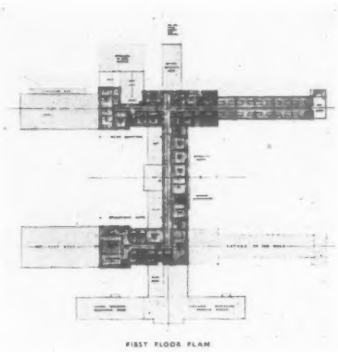


KEY TO GROUND FLOOR PLAN

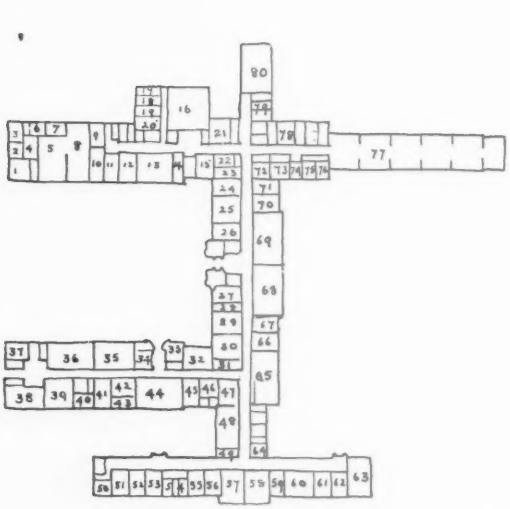
COMPETITION FOR HOSPITAL AT LLANDUDNO

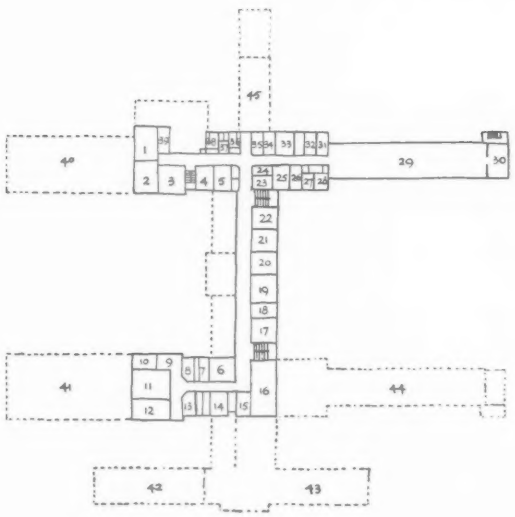






DESIGN PLACED SECOND: BY MINOPRIO AND SPENCELY





Key plans showing the arrangement of the principal accommodation on the above plans.

GROUND FLOOR PLAN

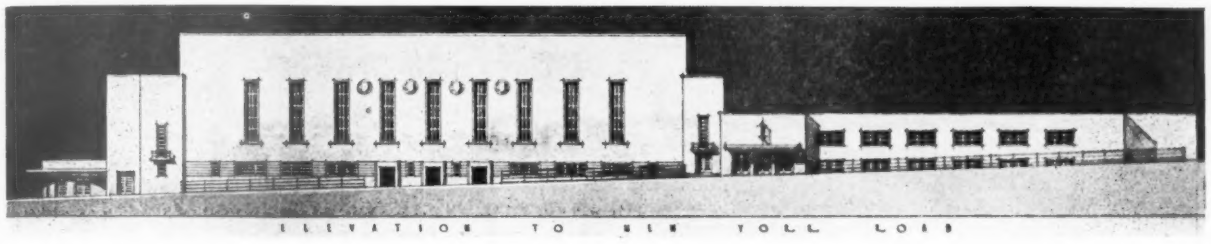
1 : Soiled linen room
2 : Clean " "
3 : Store
4 : Patients' dispatch-room
5 : Washing-room
6 : Staff dispatch-room
7 : Drying-room
8 : Ironing-room and drying grill
9 : Patients' laundry
10 : Staff laundry
11 : Store
12 : General store
13 : Nurses' dining- and sitting-room
14 : Service
15 : Linen
16 : Kitchen
17 : Vegetable preparation
18 : Vegetable store
19 : Dry goods
20 : Cold store
21 : Scullery
22 : Examination
23 : Store
24 : Laboratory
25 : Consulting-room
26 : Waiting-room
27 : Secretary
28 : Store
29 : Secretary
30 : Dispensary
31 : Store
32 : Surgery, accidents
33 : Dressings
34 : Lavatory
35 : Exercise-room
36 : Light treatment
37 : Dental room
38 : Ophthalmic
39 : Consultant
40 : Staff changing-room
41 : Dark room
42 : Transformer-room
43 : View-room
44 : X-ray
45 : Consultant
46 : Dressing-room
47 : Waiting-room
48 : Therapy
49 : Store
50 : Bathroom
51-53 : One-bed wards
54 : Bathrooms and w.c.
55-56 : One-bed wards
57-58 : Two-bed wards
59 : One-bed wards
60 : Two-bed wards
61-62 : One-bed wards
63 : Two-bed wards
64 : Bathroom block
65 : Sun room
66 : Staircase
67 : Matron
68 : Board-room
69 : Dining-room
70 : Pantry
71 : Service
72 : Bed lift
73 : Treatment-room
74 : Nurses' room
75-76 : Bathrooms
77 : 20-bed ward (men's)
78 : Ward services
79 : " "
80 : Children's ward

FIRST FLOOR PLAN

1 : Dormitory
2 : "
3 : "
4 : Maids' bed-sitting-room
6 : Plaster-room
9 : Wash-up
10 : Sterilizing-room
11 : Operating theatre
12 : Anæsthetic-room
13 : Surgeon's changing-room
14 : Nurses' changing-room
15 : Store
16 : Sun-room
17 : Matron's bedroom
18 : Bathroom
19 : Matron's room
20 : Single-bed ward
21 : " "
22 : " "
23 : Bed lift
24 : Linen cupboard
25 : Treatment-room
26 : Sisters' office
27 : Bathroom
29 : 20-bed female ward
30 : Sun balcony
31 : Lavatory
32 : Sink-room
33 : Kitchen
34 : Test-room
35 : Store
36 : Bathroom
37 : Lobby
38 : Bathroom
40 : Flat roof
41 : Flat roof
42 : Future observation wards
43 : Future private wards
44 : Future 20-bed ward
45 : Future maternity ward

COMPETITION FOR CENTRAL PUBLIC BATHS, LEEDS

WINNING DESIGN: BY J. C. PRESTWICH AND SONS



ELEVATION TO NEW YORK ROAD

Mr. Kenneth M. B. Cross, M.A., F.R.I.B.A., the assessor of the competition for new Central Public Baths, Leeds, has made his award as follows :

Design placed first (£350) : J. C. Prestwich and Sons, Bradshawgate Chambers, Leigh, Lancs.

Design placed second (£200) : Victor Bain, of 38 Albion Street, Leeds.

Design placed third (£100) : Chorley, Gribbon and Foggitt, of 3 Park Place, Leeds.

Commended : H. S. Davidson and Ronald S. Shapley, of Leeds ; and Harbron and Hick, of Hull.

THE ASSESSOR'S REPORT

The competition for the new Central Public Baths establishment initiated by the Corporation of the City of Leeds has met with an excellent response from the architectural profession. Thirty-five sets of competitive drawings, each set consisting of from four to six sheets of drawings were submitted, and a variety of solutions of a problem which was by no means a simple one, was put forward.

It is stated in the conditions of the competition that an estimated cost below the figure of £110,000 would receive favourable consideration, and it may be of interest to the Committee to know that of seven designs which received final consideration, four were estimated to cost between £107,000 and £109,998, and three between £120,631 and £125,495. The estimated cost of the winning design is £109,978 5s. 6d.

I have made a careful examination of each of the designs submitted and, in some instances, a very high standard of planning has been reached, and there is evidence that great care and thought have been expended by many competitors in dealing with a complex building scheme on a site whose surrounding levels require constant consideration. Many otherwise admirable schemes are handicapped for lack of sufficient technical experience in a special subject, and some schemes that from an engineering standpoint are admirable are deficient in architectural qualities.

The problem involved the planning of the large swimming bath in a position close to the junction of New York Road and Eastgate, so that it could be easily adapted for use as a public hall, and at the same time so disposing the remaining buildings that the baths entrance in New York Road, though unavoidably at a higher level, could readily serve the swimming baths, slipper baths and other departments in the building.

Several competitors placed the large swimming bath at the lower level, which necessitated flights of stairs down from the baths entrance level.

The Winning Design

The winner, J. C. Prestwich and Sons, by arranging the floor level of the large bath 4 ft. above the pavement level in Eastgate and about 4 ft. 6 ins. below the pavement level at the baths entrance, has overcome the difficulty of the difference in levels with the minimum of inconvenience. A long and spacious entrance hall provides access to the various sections of the public baths department, and it is to be noted that all sections of the department to which the general public has access are planned on the ground-floor level.

The large swimming bath-hall is admirably planned, contains the pond 150 ft. by 42 ft., complete with all necessary facilities and equipment, and when the dressing-boxes are removed, would provide the maximum floor area for public hall purposes. The arrangement of the bathers' circulation to and from the dressing-boxes is particularly good.

The public hall entrance is well planned, the cloak-room arrangements are satisfactory, and the exits to the gallery seating are well arranged. It is possible that on further consideration a rearrangement of the gallery seating may be made, as the construction of a further gallery directly over the public hall entrance might provide a more even distribution of spectators around the bath.

The dressing-rooms in connection with the second-class swimming bath are compactly and directly planned, and the ranges of slipper baths for men and women adjoin. These latter might be slightly rearranged in order to improve the waiting-room accommodation. The Russian bath suite is conveniently placed and well arranged. The manager's room is shown on the first floor, but the competitor states that this can be placed on the ground floor if preferred.

The provision for café and buffet counter is made at the end of the entrance hall, and a further buffet counter is provided on the terrace connected by a service lift with the buffet in the entrance hall below. Whilst this arrangement is workable, and in fact has certain advantages, it is not in my opinion quite as satisfactory as the arrangement proposed by other competitors. The accommodation of the engineering services generally has been carefully considered, and the lighting and ventilation of this department are good. The car park and cycle store are conveniently arranged, and access from the car park to the entrance halls of the main building is provided.

The treatment of the elevations is simple and direct, costly ornamentation is avoided, and with the selection of good materials a highly satisfactory and dignified result should be achieved.

The author of the winning scheme No. 23 has evolved an excellent solution to the problem. The plans are simple, direct and workmanlike, and in my opinion a very serviceable and efficient public baths establishment will result.

Design placed second

Another good scheme is No. 14 (by Victor Bain), placed second, the planning of the slipper baths department and the small swimming bath being excellent. The treatment of the large bath is, however, not quite so satisfactory as that shown in the case of No. 23, and the same criticism may be offered in respect of the public baths and public hall entrance arrangement.

The planning of the establishment laundry, filtration plant and boiler house are admirable. The connection between the establishment laundry and the ticket office for purposes of the speedy supply of towels, etc., is not as good as in some other schemes. The estimated cost of this scheme is £120,631.

Design placed third

Scheme No. 32 (by Chorley, Gribbon and Foggitt) is placed third in order of merit, and has many points to recommend it. The elevations are perhaps rather heavy in character, and some of the detailed planning is not so good as in schemes Nos. 23 and 14. The arrangement of the ticket office in relation to the establishment laundry is not satisfactory for efficient working, and this emphasises the need for a towel store. The estimated cost of this scheme is £109,233.

Other Schemes

Scheme No. 12 (by H. S. Davidson and Ronald S. Shapley), which is commended, is cleverly worked out on asymmetrical lines ; details of the planning are not entirely satisfactory. The cloak-room accommodation to the public hall is insufficient, and though the gallery seating to the large bath is well arranged, and there are many attractive features in the scheme, the elevations are not entirely suited to the purpose. The estimated cost of this scheme is £125,495.

Scheme No. 20 (by Harbron and Hick) is also commended for its general planning and arrangement. The detailed planning and structural design do not appear to be as good as in the case of some of the schemes already referred to. The estimated cost of this scheme is £109,998.

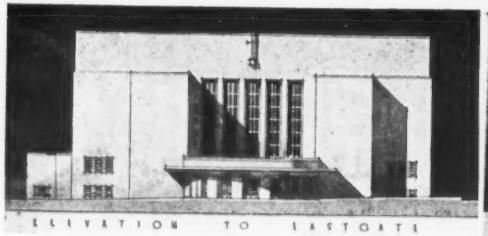
Other schemes containing features of considerable merit are Nos. 1 and 18, which are estimated to cost £107,000 and £123,092 respectively.

•

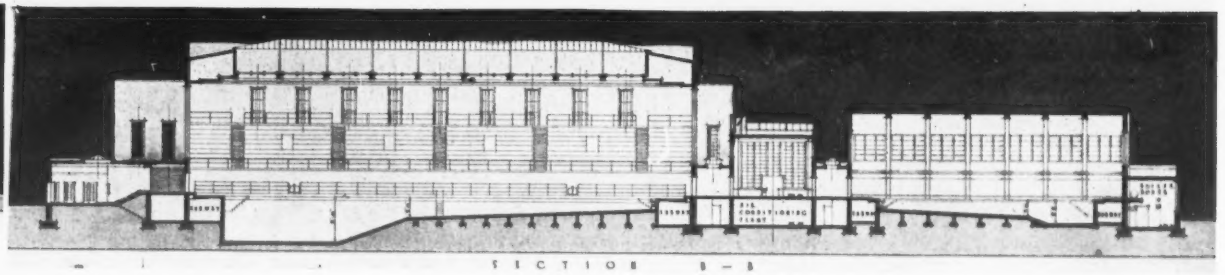
Competition for Swimming Pool

The Don Laoghaire (Co. Dublin) Corporation has decided to hold a competition, open to architects and engineers practising in the Irish Free State, for designs for a new municipal swimming pool, baths, café and bandstand. The estimated cost of the scheme is £100,000, and premiums totalling £750 will be offered to the authors of the designs placed first, second and third.

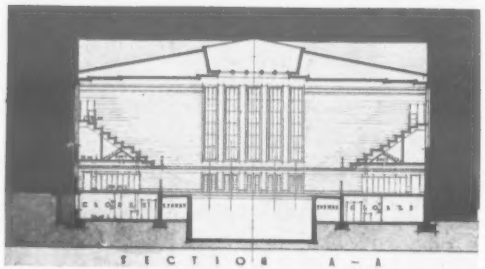
COMPETITION FOR CENTRAL PUBLIC BATHS, LEEDS



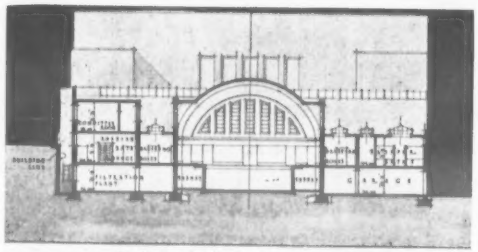
ELEVATION TO EASTGATE



SECTION B – B



SECTION A – A



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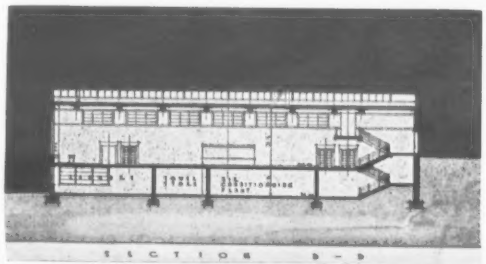
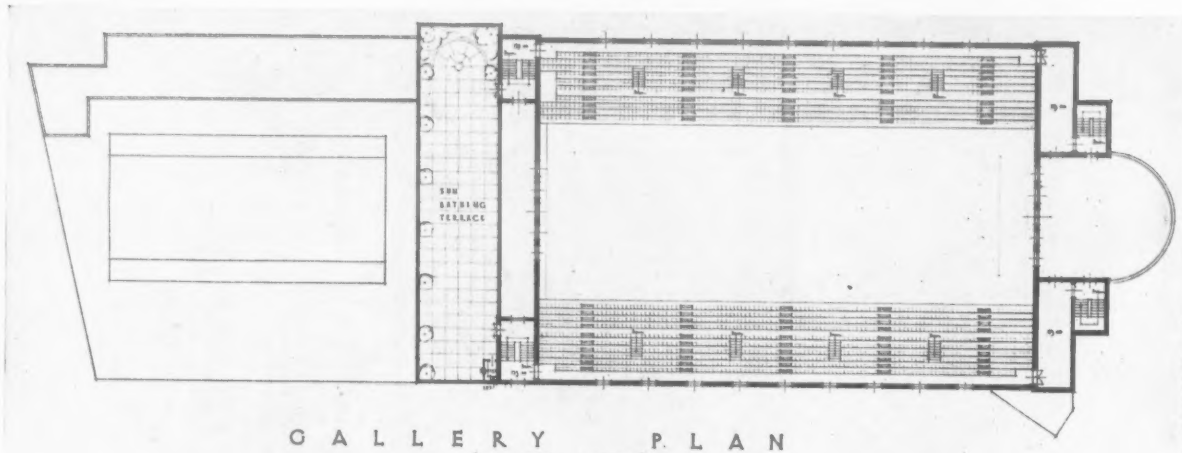
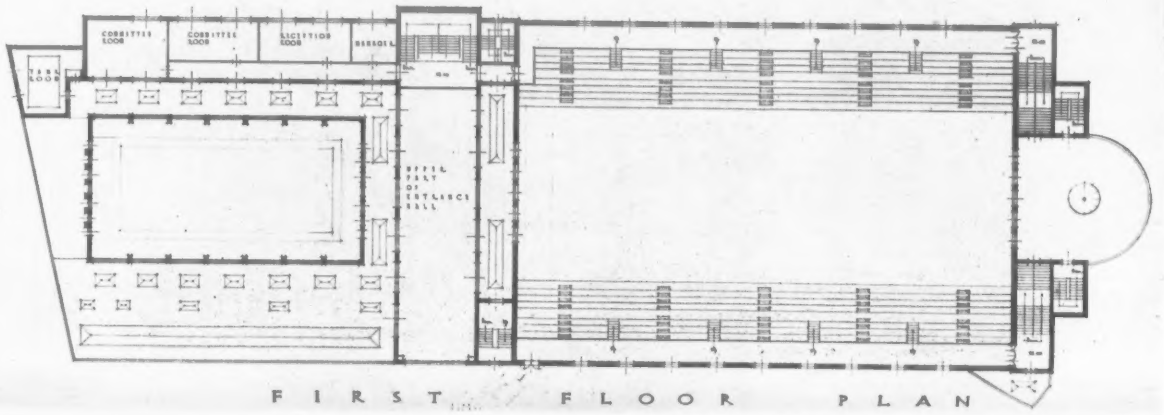


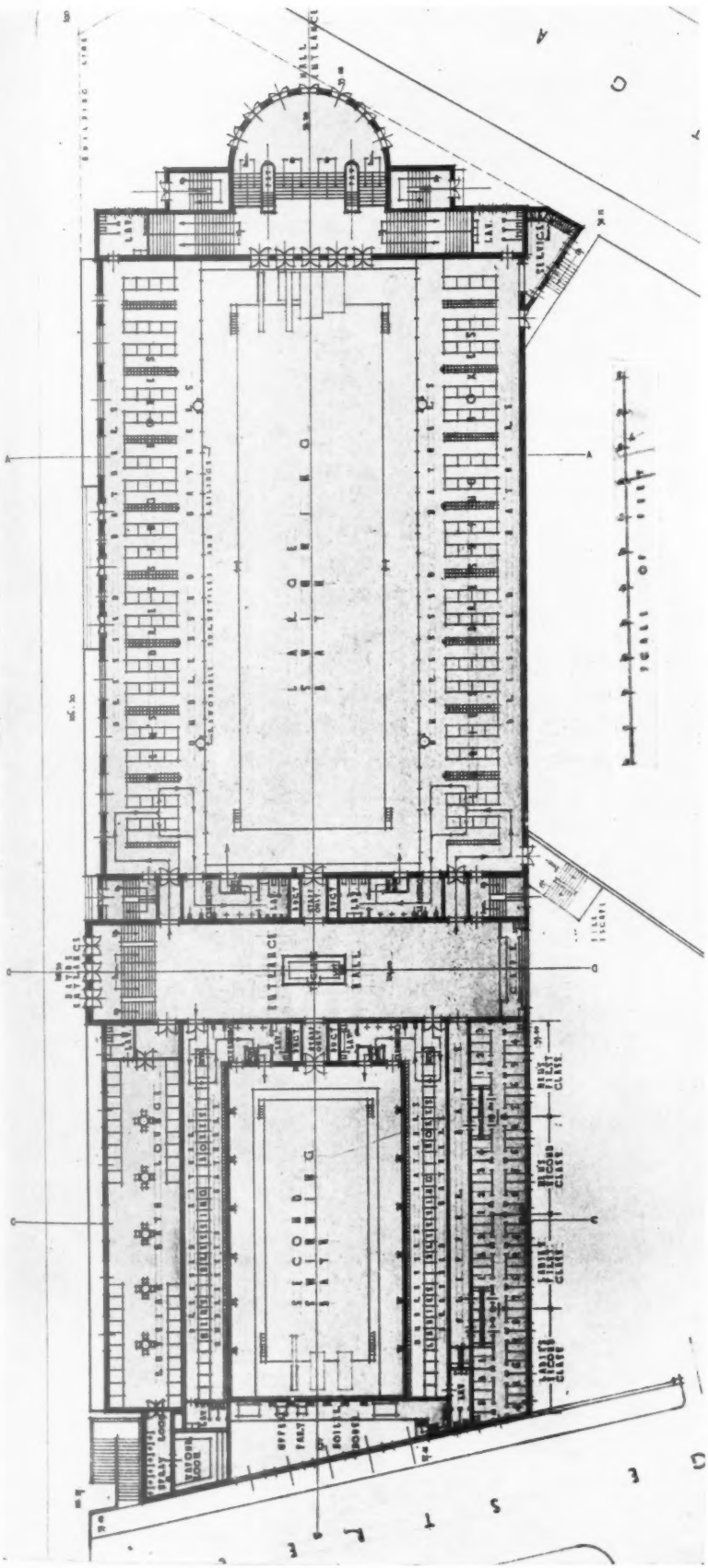
SECTION D – D



GALLERY PLAN
(No. 1952 SEATS)



FIRST FLOOR PLAN



WINNING DESIGN

BY J. C.

PRESTWICH AND SONS

Above: ground floor plan; right, basement plan.

CHURCH OF MIKAEL AGRICOLA

PROBLEM AND SITE—*A Lutheran church on a triangular site on a hill outside Helsingfors. The main approach from the city is from the angle of the site remote from the church, and the foreshortening caused by the uphill approach had to be considered in the design of the spire. The accommodation comprises a church, clergy-house and suite of social rooms.*

ELEVATIONS—*Multi-coloured brickwork with high pink granite plinth. Steps are also of granite. Roof and spire are both of copper.*

The photograph is taken from the south.

DESIGNED BY LARS SONCK

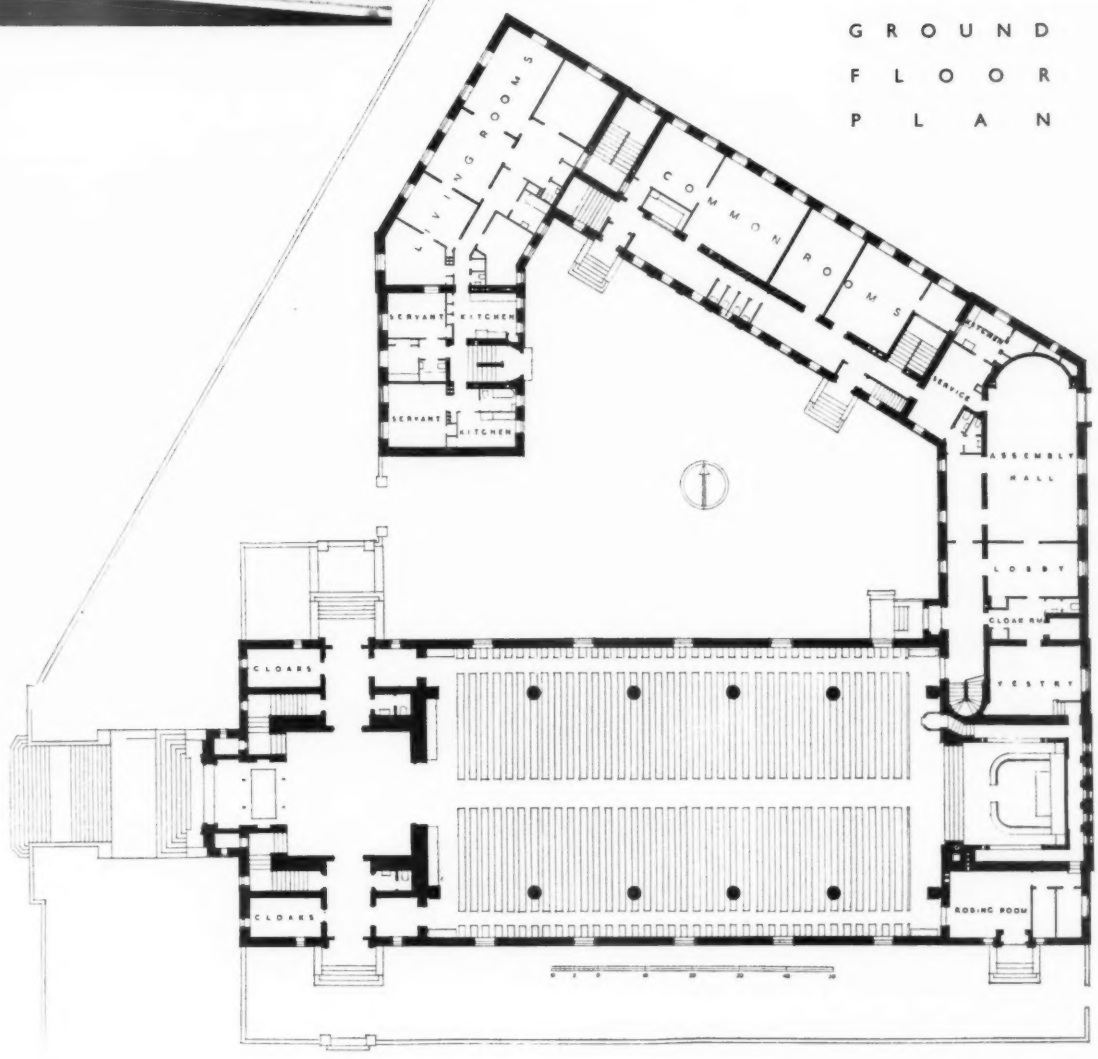
HELSINGFORS, FINLAND

INTERIOR—*The vestibule is lit only through the entrance doors and has walls of polished dark grey composition, floor of light and dark grey rubber, and ceiling of golden yellow with figures picked out in white.*

The walls and R.C. ribs in the nave are of white, radiator grilles and candelabra are silvered bronze, and the column caps are highly varnished with a dark grey enrichment on a slate-blue ground. Floor is of rubber. Pews are bent plywood with varnished birch finish.

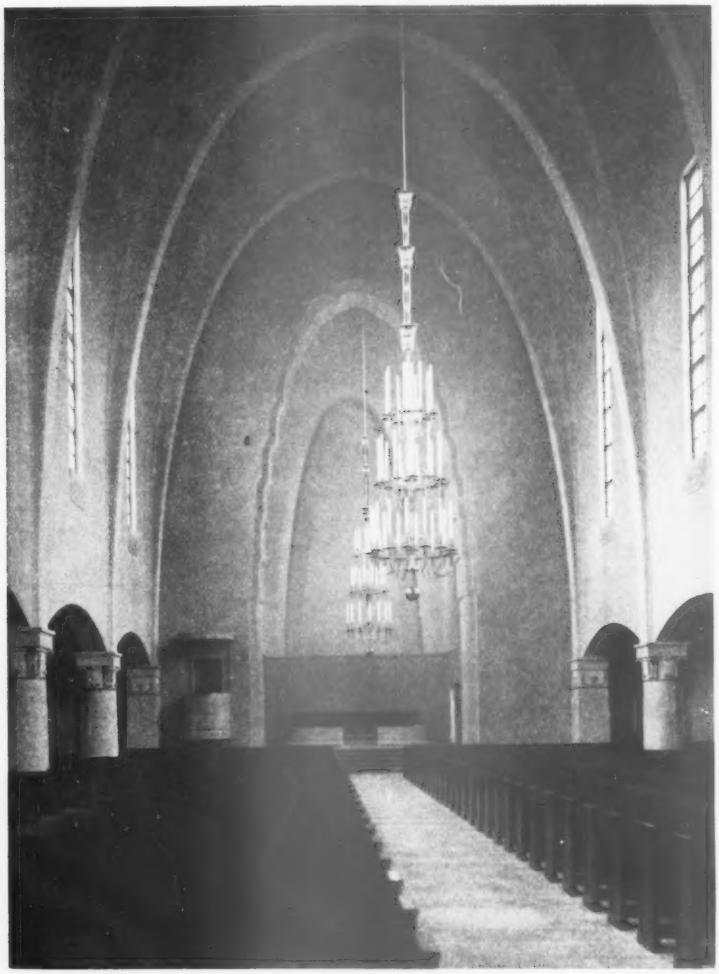
On the left is a view of the east end.

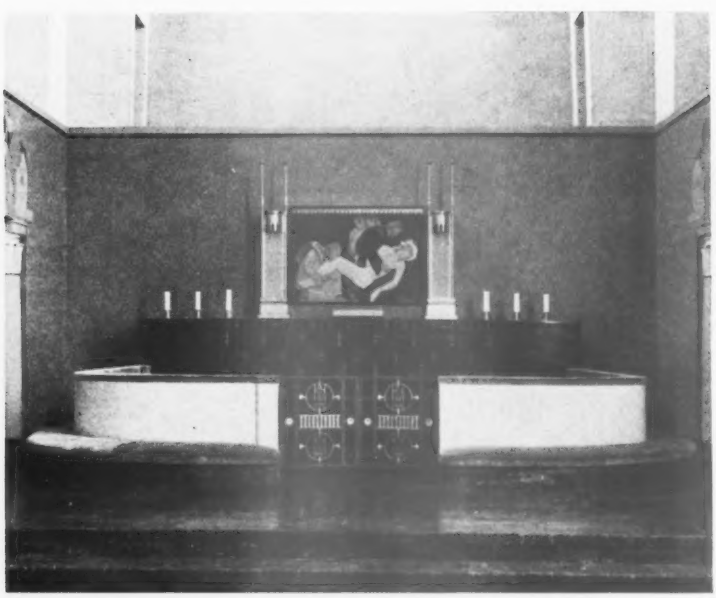
GROUND FLOOR PLAN



CHURCH OF MIKAEL AGRICOLA, HELSINGFORS

DESIGNED BY LARS SONCK





Above is the west end of the nave and organ gallery, the latter being patterned in various shades of grey. Top, left, is a general view of the east end. Pulpit is cream with dark-grey base, and canopy is grey and silver. Left, the sanctuary: steps are of dark-green marble, and walls a matt blue-green; altar rail is white, cushion dark-grey, and gates bronze and silver-gilt. Reredos is red, blue and purple on a black ground.

The Architects' Journal Library of Planning

SHOPS

Elements of the Plan

[By Bryan Westwood and Norman Westwood]

THE functions of a shop are—
To receive in bulk;
To sell in smaller quantities;
To dispatch;
of which the second must be predominant. These main functions, with subdivisions, dictate the internal planning. Below, these are dealt with more fully.

Goods Receiving

It is particularly necessary to plan this section of the shop with a view to ease of supervision. In larger shops particularly, losses are a serious problem, due to employees passing goods to accomplices outside. Sometimes automatic devices are installed so that certain doors cannot be opened at the same time, but if an atmosphere of trust and service towards customers is to be maintained, losses have to be accepted even to the extent of 2 per cent. of total stock.

As a matter of interest petty theft does not seem to vary much in times of prosperity or depression, but it steadily increases. (Recently, a firm, "A," heard that its goods were being sold in the East End, and sent a representative down to investigate. In answer to an enquiry he received the reply: "Sorry, Sir, we have none of 'A's' goods to-day, but we shall be having a new batch on Monday. Can we offer you 'B's' or 'C's'?"—firms in the same line of business.)

It is important to separate the other departments from the selling part of even a small shop. Apart from difficulties of circulation, which can sometimes be avoided by careful arrangement of times of delivery, the handling of goods in any sort of packing is an untidy business and one which does an unexpected amount of damage to finishings of all kinds. Both this and the dispatch department in the kind of shop we are considering are so subordinate to the selling sections that in most cases they just have to be fitted in where they are least likely to be in the way. But given proper consideration at the start much can be done to mitigate the effect of their intrusion into potentially good selling space.

If there is a basement, in normal circumstances the packing space would naturally be placed there. This is a source of difficulty in moving goods, but leaves the ground floor clear for selling.

If goods cannot be lowered through open flaps in the pavement outside, bulky articles must be slid down the stairs. The old arrangement of flaps formed of boards hinged to the wall and balustrade, which drop on to the nosings and form guides, still remains the best alternative to a special lift, the expense of which is hardly likely to be justified in small shops such as we are considering.

The essential equipment of the goods receiving and dispatching space is—

A strong bench with provision for paper of

An exclusive furniture shop in Baker Street, W., in which simple surfaces of granite, marble and Portland stone are used to set off the goods sold.

various kinds and string under. The height varies from 2 ft. 6 ins. to 3 ft. 2 ins. according to the size of the packages generally dealt with; small parcels necessitate a high bench.

Rolls of paper are usually 30 ins. or 15 ins. wide.

Sheets of tissue paper are 21 ins. by 15 ins. folded.

Balls of string are kept in boxes except in large packing departments where string is on rollers above the bench. Adhesive paper is now used a good deal in place of string.

Receptacles for labels in the form of small racks on the bench, and weighing machines showing railway or postal charges, must also be accommodated.

Selling

The selling space must be inviting whatever the trade. Nowadays thrift on the part of the shopkeeper is not appreciated. Whatever other faults are made meanness in general treatment must be avoided.

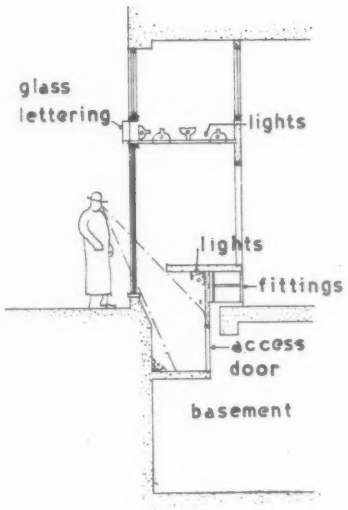
It is in the arrangement of the selling space that each trade dictates its own modification of general principles. It must be trade requirements and not just the whim of the designer which postulate a certain type of expression.

Under this heading come decisions as to whether counters or "open access" is to be the method of selling. The latter system would appear desirable wherever possible as giving an atmosphere of generosity to the shop. It has, however, an intrinsic weakness, because the moment a customer can handle all the goods they lose the subtle quality of value which is given them by the protecting glass walls of a display case.

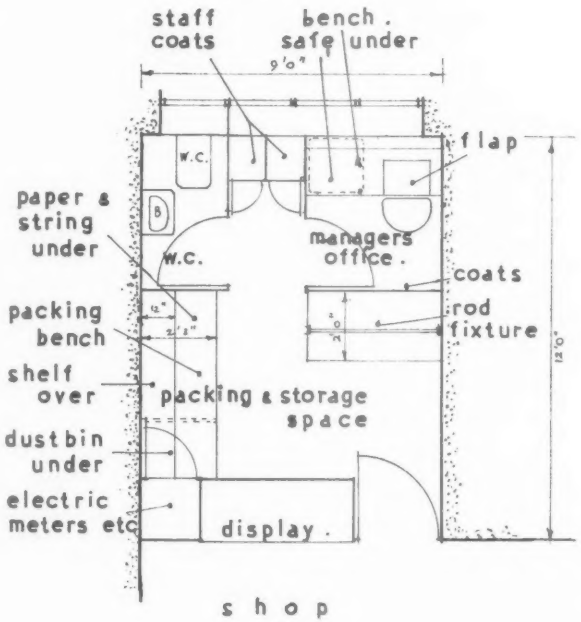
Another basic consideration of the same kind is whether the interior of the shop should act as the show window, whether there should be only a small so-called intimate window and a general air of privacy, or whether there should be a window back, movable screens or entirely open treatment.

An American estimator makes the statement that display windows are responsible for one-third of all sales in small shops. Such a figure is difficult to verify, but it serves to indicate the importance which should be attached to their design.

The accompanying diagrams show various arrangements of windows and doors, all with the same end in view: to provide the maximum effective display. Often the placing of the entrance is prejudiced by the necessity of providing access to flats or offices above. Various compromises are shown, but it is important to remember that police regulations usually enforce the provision of gates across a lobby at night, to prevent loitering: hence the private entrance should be off the street direct and not off the lobby.

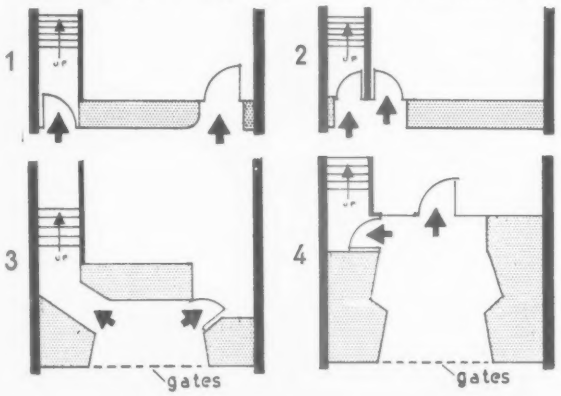


A double-deck window. Part of the basement is utilized to house the lower part of the display window. The lower window can easily be lit with concealed lighting and the sight lines are quite good. As normal windows are seldom dressed right up to the glass, display space in the upper window is not materially reduced. Below: Suggested lay-out of limited space generally available at rear of small shop.



Fronts

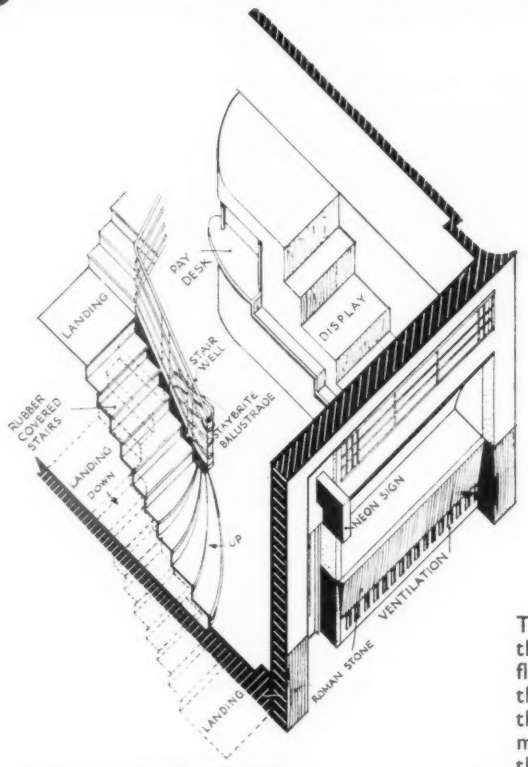
The very open treatment of façades has proved unprofitable in many cases, and a return to the normal window with a back has increased trade. This may be due partly to some peculiar trait in the English character; but generally speaking, the open treatment has proved suitable for trades which sell quite impersonal goods such as hardware, or large objects such as motor cars,

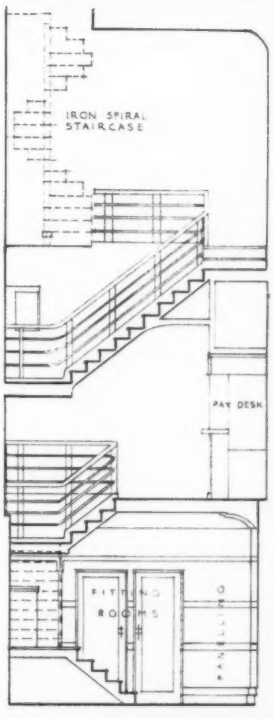


Diagrams showing methods of access to premises over shops. 1 and 2 are the most usual types as the access is direct from the street, making the use of collapsible gates unnecessary. The grouping of the two doors, as in 2, probably makes a better elevation when the frontage is narrow. 3 and 4 can be used when the premises over are used by the same firm as the shop below.

SHOPS

MEN'S SHOP, OXFORD STREET, W. • *By P. J. Westwood and Sons*

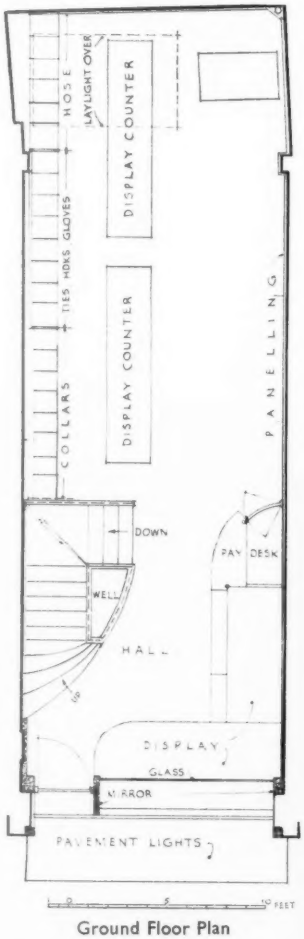




The shop was designed to use the front part of the ground floor for display. It was therefore necessary to use the basement and first floor more than would have been the case otherwise, and, in turn, the staircase was openly designed to attract customers to these floors.

The ground floor chiefly sells small articles from "quick service" cases; suits are in the basement and pyjamas and underwear on the first floor. The cash desk is placed to command exits from all floors.

The exterior is of Staybrite metal, Roman stone and black granite, the splays to the first floor window covering existing steelwork. Internally all fittings are veneered in Australian walnut. Metalwork generally is chromium-plated, and floors are of rubber.



Ground Floor Plan

The First Floor Selling Space

for which it has proved highly successful, especially when non-reflecting windows are used. Perhaps a natural desire to be seen buying a car and not to be seen buying pants has something to do with this.

There is little doubt that most small articles show up better with a good background behind them, and much of the extra appeal brought about by an attractive view of the interior is lost if the goods themselves look insignificant. The shop must remain a frame to the goods to be sold. On the other hand it must be attractive and arresting. Lettering of itself is usually an adequate decoration. [The treatment of façades, including illustrations and diagrams of lettering, will form the subject of later articles.] The use of colour should be very carefully borne in mind; neutral colours being employed for the general areas where coloured goods are displayed, with small features, such as lettering or window frames picked out more brilliantly. Where goods displayed are always the same colour, a background of complementary colour helps to make the display more arresting.

Display windows on the first floor in streets where buses run have been tried out, but are not really successful. They waste valuable floor space and diminish light.

Because of these disadvantages it has been considered worth while to remove existing first floor display windows and they are now seldom incorporated in new premises.

Another way of increasing the display area in a small shop with a basement is shown in an accompanying drawing. Lighting can be placed in the corners, which are out of view of the spectator; the lower portion being dressed from the basement and the upper from the ground floor of the shop. This idea has been utilized with success in Belgium.

Bound up with the question of open treatment is the question of utilization of more than one floor in small premises.

It is found that customers do not readily penetrate to a basement, and are even less keen about a first floor unless the means of access is attractive in itself and part of the other floor can be seen. The most effective way of achieving this is to treat the front part of the ground floor as a lobby and display space, fully visible from the street.

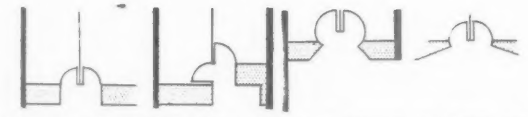
To make up for loss of the best selling space the stair must be generous and some sort of a well provided to give a good view above and below.

Cash Handling

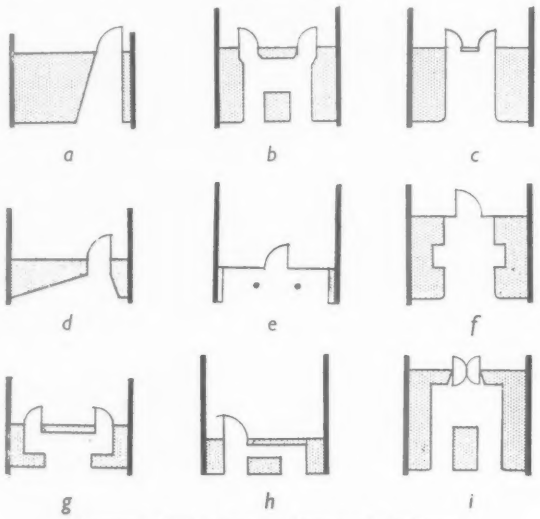
The method of cash collection is another basic factor determining the general layout of the shop.

The day of the little boxes running about on wires is now past and the only choice is between the pneumatic tube with a central cashiers' room or the ordinary cash register.

The latter is to be preferred, except in large shops. As the customer can see what is being done with his money there is less temptation for the assistant to put it in his pocket, and there is not the awkward pause which occurs while the cash is being dealt with in the central office.



Diagrams of pairs of shops showing treatment of doors and showcases.



Diagrams showing various layouts of shopfronts.

The general aim underlying the layout of shopfronts is to obtain the maximum run of show-window.

(*a*) Shows an arrangement suitable for a furniture shop where objects of varying sizes are displayed.

(*b*) Semi-arcade type with isolated showcase. If the frontage is narrow congestion occurs as customers are entering or leaving the shop.

(*d*) Splayed windows are more easily seen by the approaching customer.

(*e*) By setting the windows back from the building line a space is formed where the potential customer can stand without being jostled by the passers-by. Small showcases at right angles to the pavement are visible to the approaching customer.

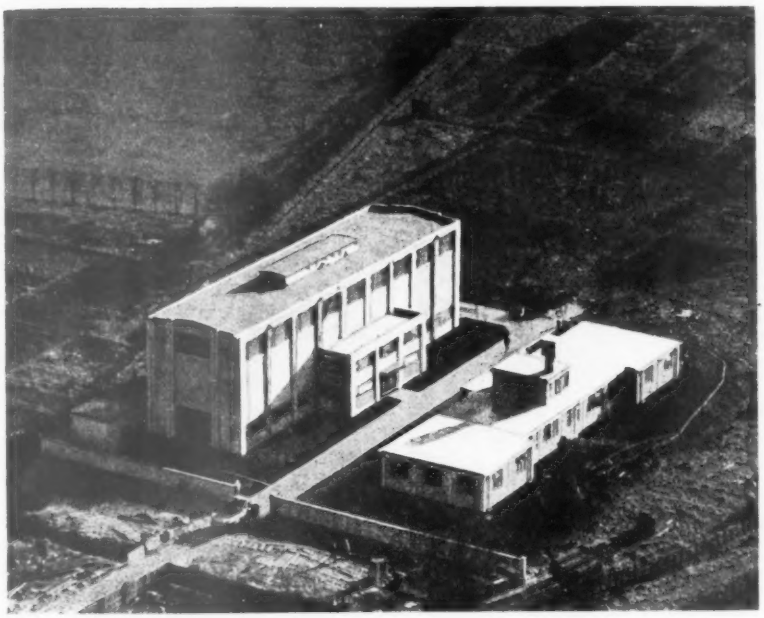
(*f*) Where the door is set well back it should be clearly visible from the pavement.

(*g*) A type frequently used for shoe shops where a great deal of display is required.

(*h* and *i*) Centre showcases must be kept low, otherwise the entrance doors will be obscured.

A further advantage is obtained by placing the cash desk so that customers have to pass plenty of displayed goods on the way to the desk, but it is more important to place it in view of the entrance door so that the cashier can watch the entrance and perform two jobs.

Post Office at Abö, Finland. A forbiddingly blind entrance, but interesting lettering.



TESTING STATION AT ELSTREE

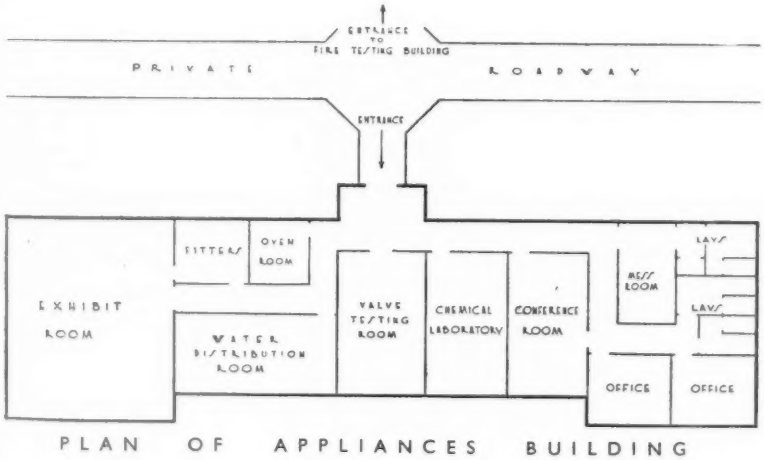
FOR THE FIRE OFFICES COMMITTEE

THE Fire Offices Committee is an association of all the tariff fire insurance companies, who, in view of the reductions in premium which they grant for approved fire protection apparatus, are compelled, for self-preservation's sake, to conduct independent tests on various types of appliance. The testing station has grown during the last 40 years from two basement rooms in Manchester to the building at Elstree illustrated above, which has been designed by the officers of the Committee in conjunction with R. T. James and Partners as consulting engineers, and in close co-operation with the Department of Scientific and Industrial Research.

The station consists of two separate buildings ; the smaller is the appliances building and the larger the fire testing building.

Appliances Building

In this building are situated the chemical and electrical laboratory and rooms for sprinkler testing, water distribution, valve testing, and for the storage and display of sprinklers, valves and extinguishers ; a conference room, offices, and a mess room for employees have also been provided.



PLAN OF APPLIANCES BUILDING

Sprinklers are tested both for temperature sensitivity and for water distribution, the ceiling of the latter room being divided into three sections, one for testing single distributing sprinkler heads for panel ceilings, another for testing multiple-jet sprinklers, used mainly for the protection of open-joisted ceilings, and a third portion is flat and marked in squares so that a chart can be made showing the actual spread of water at the ceiling. As the water falls to the floor it is collected in a semi-circular tank divided into sections and by this means the distribution of the water and its uniformity over the floor area are shown. These tests can all be made at varying water pressures.

Fire Testing

To allow for the testing conditions required by the British Standards Institution, equipment had to be designed for :—

1. The erection of test structures to the specified size.
2. The heating of the test structures under load according to a specified time-temperature curve, the maximum temperature varying between 1,000° and 2,300°F. and the period of exposure from half an hour to six hours.
3. The application, under test, of one-and-one-half times the design load.
4. A water test, to be applied if necessary, immediately after heating.

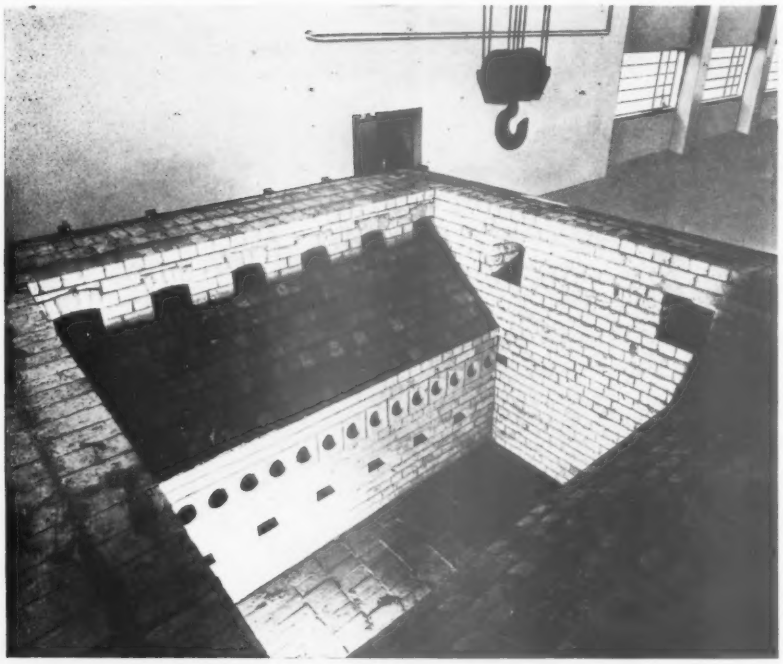
Two bays are provided at the end of the building where test structures may be built into the necessary frames and properly conditioned.

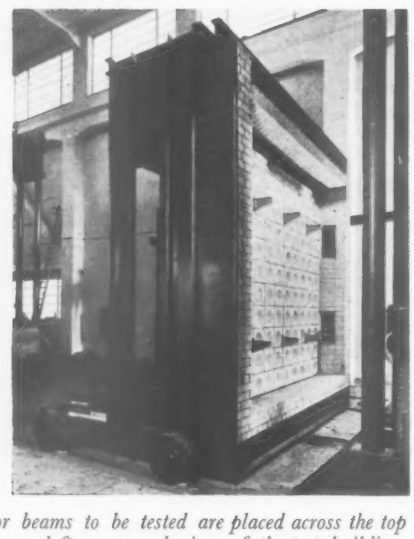
Furnaces

Three gas-fired furnaces are provided, each of a different design, to deal with the three main types of structural elements—a floor, a wall and a column furnace.

The general structure of the furnaces is governed by the principle laid down in British Standards Specification No. 476 that elements required to resist fire from one direction only shall be tested accordingly. Floors, walls and similar structures come within this category, and the floor and wall furnaces, therefore, apply heat to one surface of the specimen only. In the former the specimen is laid horizontally on the furnace, and in the wall furnace the specimen is placed vertically in front of it. The wall furnace will also be used for the testing of fireproof doors and shutters.

Columns would normally be exposed to fire from more than one direction, and, to provide for the appropriate heating test, the column furnace is constructed in two halves which, when brought together, encircle the specimen. Hydraulic machinery is provided for loading the specimens under test.





Top: the floor furnace, gas fired and subjected to heat from below. Floor beams to be tested are placed across the top. Below: left, a general view of the test building, with the floor furnace in the foreground and the wall furnace behind it; right, the wall furnace.

Construction

The framework of the buildings consists of reinforced concrete columns, beams and roof, with non-load bearing panels of "foamed slag" concrete blocks covered externally with a two-coat rendering, which has been applied with a new technique devised to overcome the tendency to crack which is common in most renderings. This form of construction was chosen on account of its high heat-insulating properties, which are essential to the special work to be carried out. In this connection it may be as well to review the question of lightweight aggregates, which has been the subject of a recent Building Research Bulletin.*

Lightweight Concrete Aggregates

The demand for lightweight concrete in modern building is increasing and several novel materials can be used for making it, in place of pumice mainly imported from the volcanic deposits near Coblenz in Germany, or furnace clinker and coke breeze. One of these products, the production of which is new to this country, is "foamed slag" made by rapidly chilling molten slag from blast furnaces manufacturing pig iron. Foamed slag is extensively used in Germany and competes seriously with pumice even in the vicinity of the pumice quarries. Building blocks are made of various sizes and shapes so that it is not necessary to cut blocks during construction. It is claimed in Germany that blocks 50 per cent. larger in size than ordinary clay bricks are only half the weight, and for the same volume are only half the price of clay bricks.

Production has also been begun in this country of a light material obtained by rapidly heating clays and shales, while the Building Research Station has found that certain slates when heated expand to many times their original thickness. The resulting concrete is cellular in structure and will float on water.

The table on p. 855, giving figures for the various lightweight concretes, shows that those made from foamed slag and expanded slate compare very favourably with those made from other materials.

In this country lightweight concretes have been used mainly for internal work. As regards external work various failures, the Bulletin states, that have occurred in Great Britain owing to lack of knowledge of the properties of the concretes have prevented a more extended use of these materials in external walling. "It is felt, nevertheless, that any consequent general restriction of the use of lightweight concretes is unnecessary, since much fuller information on the properties of these materials and the precautions necessary in their use is now available. Lightweight slag aggregates and pumice have been extensively and most successfully used in Germany in external wall construction, while in France lightweight concretes are freely used for the inner leaf of hollow walls in framed structures. In view of the great economies in weight and the enhanced thermal insulation afforded by walls of this kind, it would be unfortunate if their rational development were to be prejudiced."

For many of the purposes for which lightweight concretes are required, a very modest mechanical strength is adequate and it is felt that undue importance may have been given to strength requirements in using similar materials in Great Britain, with the result that shrinkage troubles have been common.

The strength of concrete increases with the proportion of cement used in it, but the expansion and contraction of the concrete as it picks up and loses moisture with changing weather conditions also increases, and this may cause cracks and other troubles. Mixes with only 1 part of cement to 12 parts of lightweight material are used for

* *Lightweight Concrete Aggregates.* Building Research Bulletin No. 15. H.M.S.O. 4d.

panel fillings for external walls in Germany and the use of such lean mixes may be an important factor contributing to the successful work which has been carried out abroad in lightweight concretes.

It is pointed out that porous concretes cannot be expected to afford any high degree of protection to embedded steel from external corrosive agencies, so that some additional protection will be necessary. All lightweight concretes, it is stated, appear to take normal plasters quite satisfactorily, provided the concretes do not contain an appreciable quantity of salts soluble in water which may dissolve out of the blocks and pass into the plaster, so causing slight unsightly stains or complete disfigurement of decorations. Owing to the presence in lightweight concretes of air-filled cavities, these concretes allow heat to pass through them to a much smaller extent than normal concrete.

Dealing with the transmission of noise through partitions, the Bulletin states that in simple structures, lightweight partitions are not likely to be very effective as sound insulators since it is generally agreed that sound insulation increases with mass per unit area of the partition. Work at present in progress, however, indicates that by breaking structural continuity it is possible to obtain high values of sound insulation with relatively light materials. It seems likely, therefore, that the trend of development of sound-proof partitions will lie in the direction of special forms of cavity construction in lightweight materials.

Fire Resistance

As regards fire resisting properties, little first hand information is available owing to the absence in the past of larger scale testing facilities in this country, though this has now been remedied by the erection of the station at Elstree.† The Bulletin refers, however, to tests carried out in the United States of America on hollow concrete walls, in which certain types of lightweight aggregate, notably expanded clay and slag, showed a marked superiority to ballast aggregates in respect of both heat resistance and residual strength after exposure. Tests on concrete protection for structural steel columns, on the other hand, indicated that clinker concrete was less effective than some of the dense concretes—a result which supports the recommendation that clinker aggregate should not be used for this purpose.

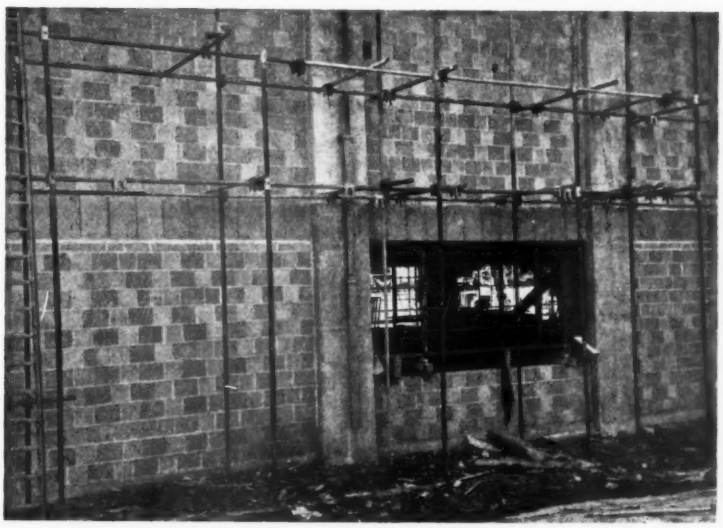
† After test at the station a panel of foamed slag 3 ins. thick, with half an inch of hardwall plaster on each side, was placed in Grade C of the fire resistance scale, as providing protection against fire for two hours.

THERMAL CONDUCTIVITIES OF LIGHTWEIGHT AGGREGATES

	Pumice concrete		Clinker concrete		Foamed slag* concrete		Expanded slate concrete		Ham River gravel concrete	
Mix (by vol.) ..	1 : 6	1 : 10	1 : 6	1 : 10	1 : 6	1 : 10	1 : 6	1 : 10	1 : 1 : 2	1 : 2 : 4
Approximate density lb./cu. ft.	48	41	105	95	80	69	68	55	147	151·5
Thermal conductivity B.Th.U. per sq. ft. per hr. per 1 in. thickness per 1° F. difference in temperature between surfaces	1·4	1·1	2·8	2·3	2·2	1·7	2·1	1·7	6·7	7·0

Note.—The above figures represent the results of tests on specimens stored for 3 to 4 weeks in air at 65° F. and 65 per cent. relative humidity before testing.

* A comprehensive series of tests on the thermal conductivity of foamed slag concrete is being made in connection with a co-operative research undertaken by the station in conjunction with the British Iron and Steel Federation and Messrs. Holland & Hannen and Cubitts, Ltd. The figure given was obtained from a foamed slag concrete specimen prepared some time ago and it is felt that the improved technique of manufacture of the material may have helped in the production of material of lower thermal conductivity than the value shown.



Above, the Fire Testing Station under construction, showing the reinforced concrete frame and the panel infilling of foamed slag blocks. On the right is a close-up of the blocks before rendering, showing the good key provided.

TRADE NOTES

[EDITED BY PHILIP SCHOLBERG]

Luxury Cooking

EVER since the introduction of thermostatic control for oven temperature, cookers, particularly electric cookers, have been sprouting more and more equipment, most of it quite useful.

●

The latest design to come to my notice is the one shown at the head of these notes, and while it is possible to quarrel with a few of the details, the result nevertheless shows that the manufacturers have made quite a praiseworthy attempt to remove unnecessary frills and produce something that is pleasant to look at. The standard cooker is normal good class practice, with good large ovens, properly insulated, and the usual controls, and the detail work is good, large oven door springs well away from heat, and a series of warming compartments for plates on some of the models.

●

The amount of additional equipment available is positively staggering: built-in toasters, lamps over the cooking area, time switches combined with clocks for switching things on and off at predetermined times—all these fittings are simply designed and obviously useful, but I can find little reason for the inclusion of a built-in radio set and still less for a monogram of the owner's initials ("a good-will offering from the maker") though presumably the public instinctively likes this sort of thing without bothering to consider whether it is really worth having or not.

When is a Bell not a Bell?

In an attempt to evolve a system which will do all that a bell does without the essential noise, there has recently been evolved a silent bell unit which can be connected up to the lighting system and the bell pushes, and which, during the day, will cause the lights in any selected room or rooms to flash on momentarily, and at night will cause them to dim for not more than a second or so.

●

For the deaf this system has obvious advantages, and it may well be essential in some contemporary flat blocks where a single bell anywhere in the building brings nearly every tenant to his front door. All that is necessary is a single relay unit, which can readily be connected to existing bell and lighting circuits, and the only control is a change-over switch from night to day use.

●

The same unit, or modifications of it, can be used as a time switch for lights on the stairs of flat blocks, for working the "staff locating" coloured signalling systems that are used so much nowadays in hospitals and factories, or for the control of signalling lamps which will remain on permanently until re-set by hand.

Addresses

Orme, Evans & Co., Ltd., Wolverhampton.
A. L. Cianchi, 72 Greencroft Gardens, London, N.W.6.

Manufacturers' Items

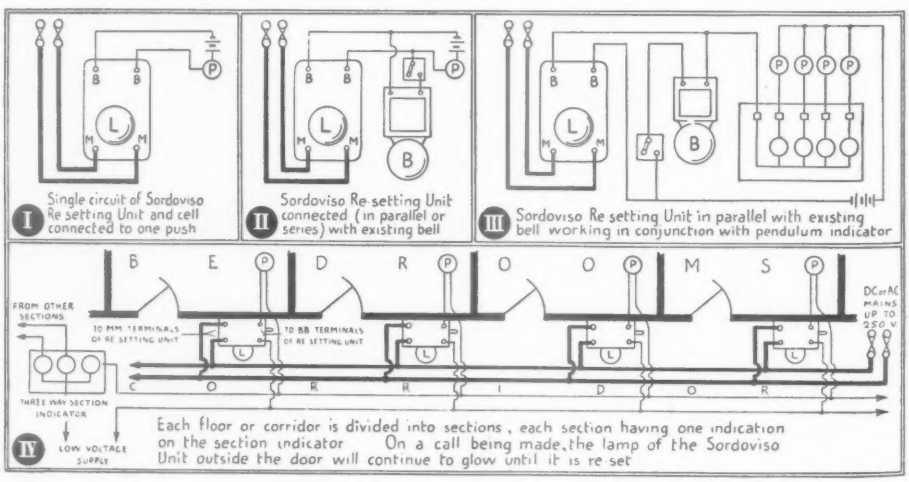
Messrs. E. Pollard & Company, Ltd., have declared payment of interest on the 4½ per cent. first mortgage debenture stock. The interest will be calculated on the amounts paid on application and allotment, and the first and second calls from the due dates of these payments to December 31, 1936, in accordance with the terms of the issue. The warrants will be posted on January 1, 1937.

●

Mr. Guy Campbell has joined the Board of Directors of Messrs. Holophane, Ltd.

●

Messrs. Reinforcement Constructions Co. (Inc. John Liversedge & Co.) announce that they have decided, owing to a greatly increased growth in the firm's activities in all departments of reinforced concrete design, reinforcements, and constructions, and for the greater convenience of internal administration, to conduct their business as a limited liability company as from January 1, 1937. The company will continue to be conducted under the personal supervision and direction of Mr. John Liversedge, and it will be known as The Liversedge Reinforced Concrete Engineering Co., Ltd., with offices at the Field House, Breams Buildings, E.C.4. Telephone Nos.: Holborn 3718, 6467.



Wiring diagrams showing the arrangement of fixed relay and time relay signalling systems.

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICT (15 miles radius)

CAMBERWELL. *Crematorium.* The Camberwell B.C. has approved plans for the crematorium at the new cemetery at a cost of £20,745.

CATERHAM. *Houses, etc.* Plans passed by the Caterham U.D.C.: Rebuilding Horse Shoe Public House, Warlingham, for Messrs. Mann, Crossman and Paulin; six houses, Farleigh Road, for Messrs. A. Simmons, Ltd.; eight houses, Tupwood Lane, for Messrs. R. S. Taylor, Ltd.

COULSDON. *Houses.* Plans passed by the Coulsdon U.D.C.: Five houses, Chaldon Way, Mr. P. D. Sullivan; six houses, The Glade, Mr. A. E. Hendra; ten houses, Chaldon Way, Messrs. Wylie and Berlyn, Ltd.; eight houses, Lyndhurst Road, Mr. W. H. Gorham.

DEPTFORD. *Pumping station.* The L.C.C. is to construct a pumping station at Earl Outlet, Deptford, at a cost of £150,000.

EAST HAM. *Baths.* The East Ham Corporation has approved plans by the borough engineer, for the erection of baths in Romford Road, at an estimated cost of £30,000.

EAST HAM. *Houses.* The East Ham Corporation is to erect 74 houses by direct labour in the cleared areas at a cost of £36,637.

EWELL. *Developments.* Messrs. Davey and Sotham are to develop the Poplar Farm estate, Ewell, Surrey.

LEWISHAM. *Houses, etc.* Plans passed by the Lewisham B.C.: 76 houses, St. Mildred's Road Estate, Mr. B. G. Utting; 162 flats, Bellingham Housing Estate (extension), Southend Lane, London C.C.; block of flats, Dartmouth Road, Mr. P. R. Wisdom; flats, Lewisham Road, Messrs. Dyer, Son and Creasey; flats, Hither Green Lane, Lewisham, Mr. E. W. Palmer; houses, Verdant Lane, Mr. F. Donovan.

ST. PANCRAS. *Reconstruction.* The L.C.C. is to reconstruct the Chapel Yard area, St. Pancras, at a cost of £12,000.

STEPNEY. *Commercial buildings.* The L.C.C. has leased the site of 67-9 Commercial Street and 3-13 Shepherd Street, Stepney, to Mr. M. Cohen, for the erection of commercial buildings.

STEPNEY. *Re-Housing.* The L.C.C. is to clear the James Street area of Stepney and provide re-housing at a cost of £46,000.

SOUTHERN COUNTIES

BEXHILL. *Extensions.* The Bexhill Corporation has asked the borough surveyor to submit plans and estimates for the construction of new cubicles and administrative block with a view to a complete scheme of extensions being approved which will include connections to the main drainage system at the isolation hospital.

BEXHILL. *Baths.* The Bexhill Corporation General Purposes Committee has again considered the question of purification plant for the baths, and in view of the present position in connection with the matter has not felt justified in recommending the Council to incur any further expenditure on the existing structure. It therefore recommends that a complete scheme with estimate be prepared with a view to dealing with the whole of the site of the existing baths and museum to include the provision of covered bath, slipper baths, medicinal baths, etc., and for this purpose that a fully-qualified architect be engaged to work in conjunction with the borough surveyor on the preparation of plans, etc.

BROOKWOOD. *Hospital.* The Surrey C.C. has approved plans for the provision of a hospital and other accommodation for patients and staff at Brookwood, at a total cost of £80,000.

EASTBOURNE. *Offices.* The Eastbourne Corporation has approved plans, by the borough surveyor, for the erection of a new block of offices at the corner of Churchdale and Southbourne Roads, for the transport department.

HASTINGS. *Houses.* Plans passed by the Hastings Corporation: Ten houses, Greville Road, Messrs. Jeffery and Wyatt; eight houses, King Edward Avenue, St. Leonards, Mr. George Fryer; 58 houses, Oakleigh Park Estate, St. Leonards, and ten houses, Edmund Road, Mr. T. E. Relfe; 32 houses, off Hollington Old Lane, St. Leonards, Hollington Estates, Ltd.

KENLEY. *Factory.* The Korect Depth Gauge Co., Ltd., propose to erect on the site of "Garston House," Godstone Road, Kenley, premises for the purpose of manufacturing delicate aeroplane instruments, the work to be carried out being entirely of a light engineering nature.

LINGFIELD. *Small Holdings.* The Surrey C.C. is to provide small holdings at West Park Estate, Lingfield, at a cost of £15,000.

PLYMOUTH. *Dwellings.* The Plymouth Corporation is preparing plans for 719 dwellings to be erected on various Estates.

PLYMOUTH. *Houses and flats.* Plans passed by the Plymouth Corporation: 12 houses, Dunstone Road, St. Budeaux, Mr. A. Jackson; eight houses, Merrivale Road, and 69 houses, Swilly, Mr. F. Westcott; house, Cranmere Road, Mr. A. Lawson; six houses, Blandford Road, Mr. J. Baskerville; welfare clinic, St. Michael's Terrace, Stoke, Alexandra Nursing Home; 12 houses, Compton Park Villas Road, Messrs. Bewes and Dickinson; 32 flats, Mount Street, Devonport, and sub-station, Sutton Road, City of Plymouth.

PORTSMOUTH. *Telephone Exchange.* H.M. Office of Works is to erect a telephone exchange at Southampton Road, Cosham, Portsmouth.

PORTSMOUTH. *Houses.* Plans passed by the Portsmouth Corporation: Seven houses, Military Road, Mr. F. D. McLaren; 18 houses, off Lower Drayton Lane, Mr. V. H. Dye; 18 houses, Southdown Road, Mr. W. W. Ekers.

SOUTH-WESTERN COUNTIES

BRISTOL. *Licensed Premises.* Bristol Corporation is to sell a site on the Hillfields Park Estate to the Bristol United Breweries, Ltd., for the erection of licensed premises, at a cost of not less than £12,000.

CHELTENHAM. *Houses.* Plans passed by the Cheltenham Corporation: six houses, Priors Road, Messrs. J. D. Bendall and Sons; six houses, Lansdown Road, Mr. S. C. Morris; 73 houses, Cleeve Mount Estate, Mr. G. A. M. Hall; ten houses, New Barn Lane, Prestbury, Mr. W. H. Bowd; 24 houses, near Bentham House, Cheltenham-Painswick Road, Badgeworth, Messrs. Baldwin and Bishop.

SWINDON. *Houses.* Plans passed by the Swindon Corporation: 74 houses, Bessemer Road, for Messrs. E. W. Beard, Ltd.; 135 houses, Burford Avenue, for Colbornes Estates, Ltd.; 166 houses, Churchward Avenue, etc., for Messrs. E. H. Bradley and Sons; development, Gorse Hill Estate, for Messrs. Stanford & Co.

EASTERN COUNTIES

SOUTHEND. *Children's home.* Southend Corporation has approved plans of the proposed children's homes to be erected on the Old Rectory site at Shoeburyness.

WESTERN COUNTIES

CARDIFF. *Hall.* The Cardiff Corporation has agreed to lease a site on the Ely Estate to the Salvation Army for the erection of a hall.

MIDLAND COUNTIES

BEESTON AND STAPLEFORD. *Municipal Offices.* The Ministry of Health has approved the scheme of the Beeston and Stapleford U.D.C. for the erection of municipal offices at a cost of £16,790.

BIRMINGHAM. *Municipal Aerodrome.* The Birmingham Corporation has obtained sanction to borrow £25,076 for the lay out of the municipal aerodrome.

NORTHAMPTON. *Municipal Aerodrome.* The Northampton Corporation is to consider the provision of a municipal aerodrome.

NORTHAMPTON. *Market.* The Northampton Corporation is to erect a covered market in Bradshaw Street, at a cost of £23,000.

OLDBURY. *Engineering Factory.* The Oldbury Corporation has sold land in Seven Stars Road to Mr. H. Robinson for the erection of an engineering factory.

OLDBURY. *Houses.* Plans passed by the Oldbury Corporation: 24 houses, Foley Road, Mr. Geo. Hunter; 34 houses, Moat Road, Mr. A. G. Woodall; 26 houses and four shops, off Bristnall Hall Road, Messrs. Burke and Newstead.

NORTHERN COUNTIES

HULL. *School.* The Hull Education Committee is, by direct labour, to erect a senior mixed department of the Pickering Road school, at a cost of £21,040.

ILKESTON. *Houses.* Plans passed by the Ilkeston Corporation: 40 houses, off Corporation Road, Charnos Hosiery Co., Ltd.

KEIGHLEY. *Houses, etc.* Plans passed by the Keighley Corporation: Six houses, Exley Crescent, Messrs. Hird Bros. & Co., Ltd.; cinema, Alice Street, The Union Cinema Co., Ltd.

LEEDS. *Extensions.* The Leeds Corporation has appointed Mr. Ernest Griffiths as consultant heating engineer in connection with the scheme for the extension of the nurses' home and alterations and improvements to the operating theatre, etc., at St. James's Hospital.

LEEDS. *Police Divisional Headquarters, etc.* The Leeds Corporation is to appoint an architect in connection with the erection of buildings in Regent Street for use as police divisional headquarters, ambulance station and an omnibus station.

MANCHESTER. *Houses.* The Manchester Corporation is to erect 340 houses on the Crossacres Estate, Wythenshawe, by direct labour.

MANCHESTER. *Extensions.* The Manchester Corporation Electricity Committee is seeking sanction to borrow £214,000 for extensions at the Stuart Street power station.

MANCHESTER. *Developments.* The Manchester Corporation is to acquire land for the development of the Wythenshawe estate, at a cost of £157,538.

MANCHESTER. *Hangar.* The Manchester Corporation has approved plans of a hangar to be erected at the Ringway Airport by the Fairey Aviation Co., Ltd.

NORTON. *Re-housing.* The Norton R.D.C. has appointed Mr. W. M. Jackson of Normanton as architect in connection with the re-housing programme.

SHEFFIELD. *Public Houses.* The Sheffield Corporation is to lease five sites on council estates for the erection of public-houses.

SHEFFIELD. *Houses, etc.* Plans passed by Sheffield Corporation: Six houses, Newbury Road, Mr. G. Jackson; six houses, Wingerworth Avenue, Messrs. J. & H. Wheen; 24 houses, High Storrs Crescent, Messrs. M. J. Gleeson, Ltd.; 16 houses, Balfour Road, Mr. S. Dencher; 10 houses, Ryegate Road, Mr. C. B. M. Wilson; seven houses, Ringstead Crescent, Messrs. T. A. Knowles and Sons; swimming bath, Chadwick Road, Education Committee; cinema, Southey Green Road, Mr. T. F. Macdonald.

SOUTHPORT. *Houses, etc.* Plans passed by the Southport Corporation: Eight houses, Gainsborough Road, Mr. John Howard; covered tennis court, Everard Road, Mr. John Ball.

WARRINGTON. *Houses.* Plans passed by the Warrington Corporation: 12 houses, off Irwell Road, Messrs. Walton & Woosey.

ISLE OF WIGHT

NEWPORT. *Schools.* The Newport (I. of W.) Education Committee is considering schemes for new schools at a cost of £37,100.

NEWPORT. *Police Station.* The Isle of Wight C.C. is to purchase premises at Quay Street, Newport, for use as a police station.

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_2	Abingdon ...	S. Counties	1 5	1 0½
A	Accrington ...	N.W. Counties	1 6½	1 2
A_2	Addlestone ...	S. Counties	1 5	1 0½
A	Adlington ...	N.W. Counties	1 6½	1 2
A	Airdrie ...	Scotland	*1 6½	1 2
G	Aldeburgh ...	E. Counties	1 2½	11
A	Altrincham ...	N.W. Counties	1 6½	1 2
B_1	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 0½
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 5	11½
	Birkenhead ...	N.W. Counties	*1 7½	1 2½
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 0½
A_2	Bournemouth...	S. Counties	1 5½	1 1½
B_2	Bovey Tracey	S.W. Counties	1 3½	11½
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_1	Bridlington ...	Yorkshire	1 6	1 1½
A	Brighouse ...	Yorkshire	1 6½	1 2
A_2	Brighton ...	S. Counties	1 5½	1 1½
A	Bristol ...	S.W. Counties	1 6½	1 2
B	Brixham ...	S.W. Counties	1 3½	11½
A	Bromsgrove ...	Mid. Counties	1 5½	1 1½
B	Bromyard ...	Mid. Counties	1 3	11½
A	Burnley ...	N.W. Counties	1 6½	1 2
A	Bursiem ...	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	Carnforth ...	N.W. Counties	1 6½	1 2
A	Castleford ...	Yorkshire	1 6½	1 2
A_2	Chatham ...	S. Counties	1 5	1 0½
A	Chelmsford ...	E. Counties	1 5	1 0½
A	Cheltenham ...	S.W. Counties	1 5	1 0½
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_1	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_2	Denbigh ...	N.W. Counties	1 5	1 0½
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	Driffield ...	Yorkshire	1 5	1 0½
A_2	Droitwich ...	Mid. Counties	1 5½	1 1½
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_2	FELIXSTOWE	E. Counties	1 5	1 0½
A	Filey	Yorkshire	1 5	1 0½
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	11½
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_2	Grantham ...	Mid. Counties	1 5	1 0½
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_2	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	Kendal ...	N.W. Counties	1 5	1 0½
A_2	Keswick ...	N.W. Counties	1 5	1 0½
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	11½
A_2	Lichfield ...	Mid. Counties	1 5½	1 1½
A	Lincoln ...	Mid. Counties	1 6½	1 2
	Liverpool ...	N.W. Counties	*1 6½	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 2½
A	Long Eaton ...	Mid. Counties	1 6½	1 2
A	Longhborough	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_2	Maidstone ...	S. Counties	1 5	1 0½
A_2	Malvern ...	Mid. Counties	1 5	1 0½
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 0½
A_1	Merthyr ...	S. Wales & M.	1 6	1 1½
A	Middlesbrough	N.E. Coast	1 6½	1 2
A_2	Middlewich ...	N.W. Counties	1 5½	1 1½
B_2	Minehead ...	S.W. Counties	1 3½	11½
B_2	Monmouth	S. Wales & M.	1 3½	11½
	& S. and E. Glamorganshire			
A	Morecambe ...	N.W. Counties	1 6½	1 2
A_2	NANTWICH ...	N.W. Counties	1 5½	1 1½
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	Nottingham ...	Mid. Counties	1 6½	1 2
A	Nuneaton ...	Mid. Counties	1 6½	1 2
A	OAKHAM ...	Mid. Counties	1 5	1 0½
A	Oldham ...	N.W. Counties	1 6½	1 2
A_2	Oswestry ...	N.W. Counties	1 5	1 0½
A_1	Oxford ...	S. Counties	1 6	1 1½
A	PAISLEY ...	Scotland	*1 6½	1 2
B_2	Pembroke ...	S. Wales & M.	1 3	11½
A	Perth	Scotland	*1 6½	1 2
A_1	Peterborough	E. Counties	1 6	1 1
A	Plymouth ...	S.W. Counties	*1 6½	1 2½
A	Pontefract ...	Yorkshire	1 6½	1 1
A_1	Pontypridd ...	S. Wales & M.	1 6	1 1½
A_2	Portsmouth ...	S. Counties	1 5½	1 2½
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 0½
A_1	Rhondda Valley	S. Wales & M.	1 6	1 1½
A	Ripon	Yorkshire	1 5	1 0½
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	11½
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 1½
A_2	Skipton ...	Yorkshire	1 5½	1 1½
A_2	Slough ...	S. Counties	1 5½	1 1½
A_1	Solihull ...	Mid. Counties	1 6	1 1½
A_2	Southampton	S. Counties	1 5½	1 1½
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 2½
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 0½
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	11½
A_2	Tunbridge Wells	S. Counties	1 5	1 0½
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 1½
A_2	Whitby ...	Yorkshire	1 5½	1 1½
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 0½
A	Wolverhampton	Mid. Counties	1 6½	1 2
A_2	Worcester ...	Mid. Counties	1 5½	1 1½
A_2	Worksop ...	Yorkshire	1 5	1 0½
A_2	Wrexham ...	N.W. Counties	1 6	1 1½
A_1	Wycombe ...	S. Counties	1 5	1 0½
B	YARMOUTH ...	E. Counties	1 4½	1 0½
B	Yeovil ...	S.W. Counties	1 4½	1 0½
A	York	Yorkshire	1 6½	1 2

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

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

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

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

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

BRICKLAYER

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

MASON

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

SLATER AND TILER

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

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

CARPENTER AND JOINER

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

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

		d.
Scotch glue	lb.	8

SMITH AND FOUNDER

Tubes and Fittings

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

		¼"	⅜"	½"	¾"	1"
Tubes, 2'–14' long	per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"–23" long	each	10	1/1	1/11	2/8	4/9
" 3"–11¾" long	"	7	9	1/3	1/8	3/–
Long screws, 12"–23¾" long	"	11	1/3	2/2	2/10	5/3
" " 3" M–¼" 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. Per cent.		Per cent.
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, ¾"	"	10	6
" " ½"	"	10	3
" " ⅜"	"	10	0

SMITH AND FOUNDER—*continued*

		s.	d.
Mild steel reinforcing rods, ¼"	cwt.	9	6
" " ⅜"	"	9	6
" " ½"	"	9	6
" " ¾"	"	9	6
" " 1"	"	9	6
" " 1¼"	"	9	6
	¼"		4"
Cast-iron rain-water pipes of ordinary thickness metal	F.R.	8	10
Shoes	each	2	0
Anti-splash shoes	"	4	6
Boots	"	3	0
Bends	"	2	7
" with access door	"	—	6
Heads	"	4	0
Swan-necks up to 9" offsets	"	3	9
Plinth bends, 4½" to 6"	"	3	9
Half-round rain-water gutters of ordinary thickness metal	F.R.	5	6
Stop ends	each	6	6
Angles	"	1	7
Obtuse angles	"	2	0
Outlets	"	1	9

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

PLUMBER

		£	s.	d.
Lead, milled sheets	cwt.	26	3	
" drawn pipes	"	25	9	
" soil pipe	"	28	9	
" scrap	"	16	9	
Solder, plumbers'	lb.		5½	
" fine do.	"		1	0
Copper, sheet	"			8½
" tubes	"			11

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.	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
¼" rough cast; rolled plate	"					5½
¼" wired cast; wired rolled	"					9½
¼" Georgian wired cast	"					11
¼" Polished plate, n/e 1 ft.	"	†10	to	‡1	1	
" " 2 "	"	†1	2	"	‡1	4
" " 4 "	"	†2	3	"	‡2	6
" " 8 "	"	†2	9	"	‡3	2
" " 20 "	"	†3	1	"	‡3	9
" " 45 "	"	†3	3	"	‡4	0
" " 100 "	"	†4	0	"	‡4	10
Vita glass, sheet, n/e 1 ft.	"				1	0
" " " 2 ft.	"				1	3
" " " over 2 ft.	"				1	9
" " plate, n/e 1 ft.	"				1	6
" " " 2 ft.	"				3	0
" " " 5 ft.	"				4	0
" " " 7 ft.	"				5	0
" " " 15 ft.	"				6	0
" " " over 15 ft.	"				7	6
"Calorex" sheet 21 oz., and 32 oz.	"	2	6	and	3	6
" rough cast ¼" and ½"	"				8½	1 0
Putty, linseed oil	lb.					3

* *Colours, 1d. F.S. extra.*

† *Ordinary glazing quality.* ‡ *Selected glazing quality.*

PAINTER

		£	s.	d.
White lead in 1 cwt. casks	cwt.	2	8	6
Linseed oil	gall.		2	3
Boiled oil	"		2	9
Turpentine	"		4	1½
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.		15	0
Flat varnish	"		14	0
Outside varnish	"		16	0
White enamel	"	1	15	0
Ready mixed paint	"		13	6
Brunswick black	"		7	6

CURRENT PRICES FOR MEASURED WORK

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

EXCAVATOR AND CONCRETOR

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

DRAINLAYER

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

BRICKLAYER

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

ASPHALTER

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

MASON

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

SLATER AND TILER

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

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 2 6
Shuttering to sides and soffits of beams	F.S.	7
,, to stanchions	,,	7
,, to staircases	,,	1 6
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	,,	4 6
,, ,, roofs	,,	6 6
,, ,, trusses	,,	7 6
,, ,, partitions	,,	8 6
½″ deal sawn boarding and fixing to joists	Sqr.	1 14 6
1″ ,, ,, ,, ,, ,,	,,	1 17 6
1¼″ ,, ,, ,, ,, ,,	,,	2 3 0
½″ × 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.
1½″ deal moulded sashes of average size	F.S.	1 9½
2″ ,, ,, ,, ,,	,,	1 11½
1½″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ⅝″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3 7
2″ ,, ,, ,, ,,	,,	3 10
Extra only for moulded horns	Each	6
1½″ deal four-panel square, both sides, door	F.S.	2 0
2″ ,, ,, ,, ,,	,,	2 8
1½″ ,, but moulded both sides	,,	2 4
2″ ,, ,, ,, ,,	,,	3 0
4″ × 3″ deal, rebated and moulded frames	F.R.	1 0
4½″ × 3½″ ,, ,, ,, ,,	,,	1 4
1¼″ deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2 6
1¼″ deal moulded wall strings	,,	2 1
1½″ ,, outer strings	,,	2 4
Ends of treads and risers housed to string	Each	1 9
3″ × 2″ deal moulded handrail	F.R.	1 3
1″ × 1″ deal balusters and housing each end	Each	2 0
1½″ × 1½″ ,, ,, ,,	,,	2 9
3″ × 3″ deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	,,	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	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 0 3
Do. in flashings	,,	2 3 9
Do. in covering to turrets	,,	2 9 3
Do. in soakers	,,	1 14 9
Labour to welted edge	F.R.	3½
Open copper nailing	,,	3
Close ,, ,,		4

		½″ s. d.	¾″ s. d.	1″ s. d.	1½″ s. d.	2″ s. d.	4″ s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	,,	—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	,,	6½	8	9	11	1 0	—
Boiler screws and unions	,,	3 3	3 9	5 0	8 0	—	—
Lead traps	,,	—	—	—	6 3	8 9	—
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 6

PLASTERER AND TILING

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

GLAZIER

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

PAINTER

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

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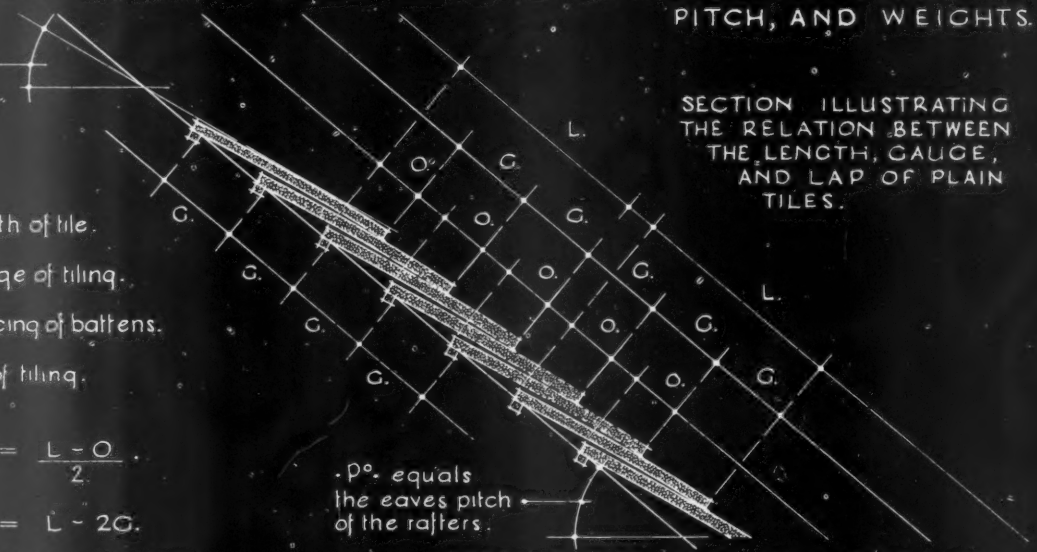
CLAY PLAIN ROOFING TILES: LENGTH OF TILE, GAUGE, LAP, PITCH, AND WEIGHTS.



SECTION ILLUSTRATING THE RELATION BETWEEN THE LENGTH, GAUGE, AND LAP OF PLAIN TILES.

·L· = length of tile.

·G· = gauge of tiling. = spacing of battens.

·O· = lap of tiling.

Gauge ·G· = $\frac{L - O}{2}$.

Lap ·O· = L - 2G.

THE LAP OF PLAIN TILING:

– is of prime importance in assuring watertightness.

– on normally pitched roofs should never be less than 2½".

– for exposed positions, on subnormal pitches, and for best practice, greater laps are requisite, as indicated on the back of this sheet.

The laps of various sized tiles laid to different gauges are given in the following table:

SPECIFICATION OF GAUGE AND/OR LAP.

As will be seen from the above section, the lap resulting from any given gauge depends on the length of the tile.

In specifying, either the lap, or the gauge and the length of the tile must be given: gauge alone is insufficient.

See Sheet N° 2 of this series for types of subconstruction.

LAP, NUMBER, AND AVERAGE WEIGHT PER SQUARE (100 SQ. FT.) OF CLAY PLAIN TILES, AND AVERAGE WEIGHT PER THOUSAND TILES.

Tile dimensions.	Standard. 10½" x 6½"				11" x 7"				10" x 6"				Unit.
Gauge.	4.	3¾.	3½.	3¼.	4¼.	4.	3¾.	3½.	3¾.	3½.	3¼.	3.	Inches.
Lap.	2½.	3.	3¼.	4.	2½.	3.	3½.	4.	2½.	3.	3½.	4.	Inches.
Tiles per square.	550.	590.	635.	680.	485.	515.	550.	590.	640.	685.	740.	800.	——
⊛ Weight per square:													
Hand made.	⊛12·7.	13·6.	14·7.	15·7.	13·0.	13·8.	14·7.	15·8.	12·6.	13·5.	14·5.	15·7.	Cwts.
Machine made.	⊛11·6.	12·5.	13·4.	14·4.	11·9.	12·6.	13·4.	14·5.	—	—	—	—	Cwts.
⊛ Average weight per thousand.	Hand made : 23·0. Machine made: 21·1.				26·0. 23·8.				19·6. —				Cwts. Cwts.

⊛ Derived from data given in Appendix A, page 24, B.S.S. 648–1935, Unit Weights of Building Materials, the main text of which (page 13), however, gives rounded figures of:
14½ lbs/sq. ft. (12·9 cwt/square) for hand made tiles laid to a 4" gauge.
13 lbs/sq. ft. (11·6 cwt/square) for machine made tiles laid to a 4" gauge.

THE PITCH. (Pitch and lap in relation to exposure).

The conditions of exposure obtaining on the site are the main determinants of the pitch. In general the eaves pitch ·P°· should never be less than 40°, and, as the severity of exposure increases, the pitch and/or the lap must be suitably increased.

On the back of this Sheet are given tentative recommendations as to the minimum pitch and lap suitable for various degrees of exposure, taking into account the type of sub-construction used.

NAILS AND NAILING: see the back of this Sheet for information on nails and nailing.

Information from Clay Products Technical Bureau of Great Britain.

INFORMATION SHEET: THE TILING OF PITCHED ROOFS WITH PLAIN TILES: N° 3.

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

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INFORMATION SHEET

• 445 •

ROOFING

Subject : Pitch, lap and nailing of Clay Plain Tile Roofing

Watertightness as a function of Pitch and Lap :

The steeper the pitch of a plain tiled roof the less able are slanting winds to lift tiles or to force dust or precipitation up under them, and the more effective is gravitation in draining the roof and in dislodging snow loads. Accentuation of pitch, however, involves extra cost in timber, tiling and labour, and, moreover, may not be architecturally acceptable. For these reasons, except where very high winds or heavy snow loads are common, the modern tendency is to maintain the pitch somewhere near 40 degrees, and to provide against abnormal occasions by increasing the lap above the minimum 2½ inches or by introducing a waterproof layer immediately below the tiles (as shown in Details 3, 5 and 6, Sheet No. 442). Increasing the lap increases only the tiling and battens used, and the economy on rafters can well be utilized to provide extra thermal cover in the form of close boarding (Detail 6, Sheet 442). Given a suitable sub-roof construction the problem of wind-lift is most conveniently handled by increased nailing. However, where heavy snow loads are common, steep pitches are preferable in order both to avoid heavy loading of the structure and to minimise the period over which the tiles are exposed to the freezing action of the snow. This second consideration is probably of minor importance, since, as has been pointed out in Sheet No. 440, clay tiles of reasonable quality normally contain a sufficient proportion of unfillable micropores as to render them immune to frost action.

Recommendations as to Pitch and Lap :

Careful analysis of both traditional and modern practice has lead to a general consensus of opinion as regards the lowest pitch and smallest lap which, used together, may be expected to be watertight under the worst conditions likely to arise on a sheltered site. These general minima, given overleaf, are :—

minimum eaves pitch of rafters, $P° = 40°$
minimum lap ... ... $O = 2\frac{1}{2}$ ins., and assume the simplest form of sub-roof construction.

It should be noted that any reduction of pitch below the recommended minimum diminishes the effective pitch (E° in diagram overleaf) and hence the rate of natural drainage, as well as increasing the hazard of windlift. As regards lap, preliminary mathematical analysis carried out at the Bureau confirms practical conviction that 2½ inches must be regarded as an absolute minimum.

Suitable Pitches and Laps for various Degrees of Exposure. Tentative Recommendations:

The minimum pitch and lap specified above are applicable only to roofs exposed to weather of minimum severity, and, so far, no attempt seems to have been made to suggest similar minima applicable to more exposed sites, although traditional usage in exposed areas must be based on such minima.

In the table below an attempt is made to correlate conditions of exposure to pitch, lap and sub-roof construction, the last factor being introduced because, where waterproofed fabric and boarding are introduced, increase of pitch or lap to handle infiltration is, in many cases, unnecessary.

Nails and Nailing :

The frequency of nailing is dealt with in the preceding table. The expedient sometimes adopted of using but one nail per tile cannot be recommended.

Material.—The metal used for nails should have as long a life as the tile. Unprotected iron nails must not on any account be used ; they quickly corrode and the swelling corrosion products may cause fracture of the tile through the nail hole. Galvanised iron or steel nails, zinc-coated by dipping in spelter (molten zinc) are suitable for inland rural districts and non-industrial towns. Elsewhere, either zinc, copper or cast yellow metal (63 per cent. copper, 36 per cent. zinc, 1 per cent. tin) should be used, except that, near the sea coast and certain chemical factories, zinc is unsuitable. Yellow metal nails being harder, and hence more easily driven, are preferable to copper.

These recommendations do not cover special cases such as gas and chemical works.

Dimensions, Length and Thickness of Nails:

Nails should have substantial heads and never be less than 12 s.w.g. (·104 in.) thick. On close-boarded roofs nails should not be less than 1½ ins. long, but where the sub-roof construction is open, or consists merely of waterproof fabric, to avoid splitting the batten (hence loosening of the nail) and penetration of the fabric by projecting nail points, the length of the nail is limited by the thickness of the batten, so that for 1 in. battens, 1½ ins., and for ¾ in. battens, 1¼ in. nails should be used.

Previous sheets in this series were Nos. 440 and 442.

Information from : The Clay Products Technical Bureau of Great Britain
Address : 19 Hobart Place, Eaton Square, S.W.1
Telephone : Sloane 7805

Recommendations* as to Minimum Pitch and Lap to suit Type of Exposure :

Type of exposure		Type of sub-roof construction†	Minimum Pitch degree	Minimum Lap§ inches	Nailing
A. Sheltered.	As on level inland areas of S. and S.E. England.	Open (1)	40	2½	Every 5th course.
		Waterproofed (3)...	40	2½	
		Waterproofed and boarded (5) & (6)	37½‡	2½	
B. Slightly exposed.	As in S. England on multi-storey buildings or structures on marked slopes facing prevailing winds up to 50 m.p.h.	(1)	45	3	Every 3rd course.
		(3)	42½	2½	
		(5) and (6)	40	2½	
C. Rather exposed.	Coastal towns in south, and on marked slopes facing prevalent winds exceeding 50 m.p.h.	(1)	Not recommended		
		(3)	45	3	Every alternate course.
		(5) and (6)	42½	3	
D. Very exposed.	S.W., E. and W. coast of England and on exposed inland sites over 400 ft. above sea level.	(1)	Not recommended		
		(3)	47½	3½	Every alternate course.
		(5) and (6)	45	3½	
E. Maximum exposure.	High gales and snow loads prevalent as in northern England and Scotland.	(1)	Not recommended		
		(3) Thermal protection somewhat inadequate			
		(5) and (6)	50	3½	Every course.

* These recommendations are tentative and, for large roofs on very exposed sites, should be supplemented by reference to tiling specialists familiar with the locality.

† The types of sub-roof construction are designated briefly, the numbers referring to the details of various sub-roof constructions given on Sheet No. 442.

‡ Pitches slightly lower than the general minimum seem permissible on sheltered sites when good class clay tiles are used over efficient barrier construction.

§ In general, the increased laps are recommended in view of the increased wind-lift hazard.

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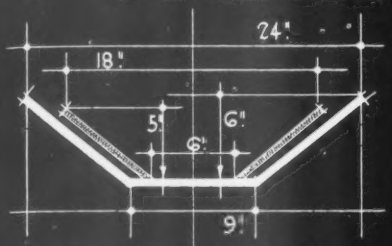
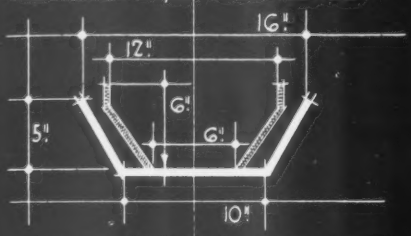
EVERITE ASBESTOS-CEMENT BOUNDARY WALL, VALLEY AND BOX GUTTERS.

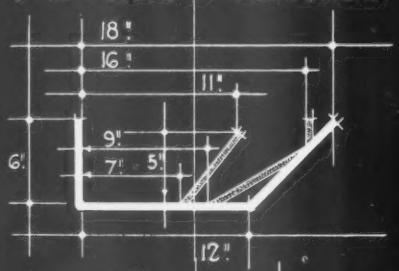
SECTIONS SHOWING TYPES & SIZES OF PATT VALLEY GUTTERS.

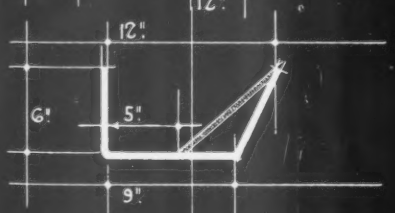


Alternative shapes shown dotted.

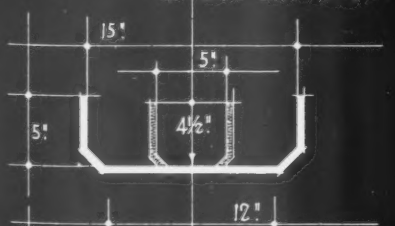


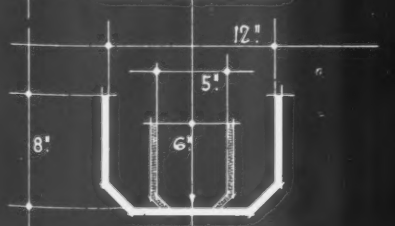
SECTIONS SHOWING TYPES & SIZES OF PATT BOUNDARY WALL GUTTERS.





SECTIONS SHOWING TYPES & SIZES OF BOX GUTTERS.

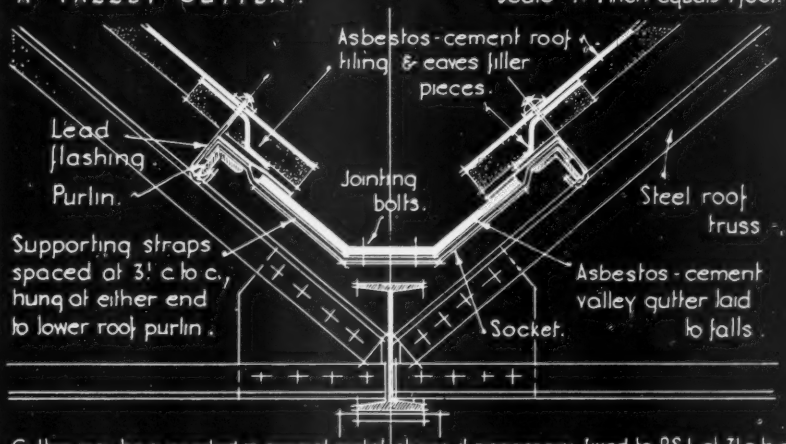




All gutters are made in standard lengths of 6'0" plus socket.

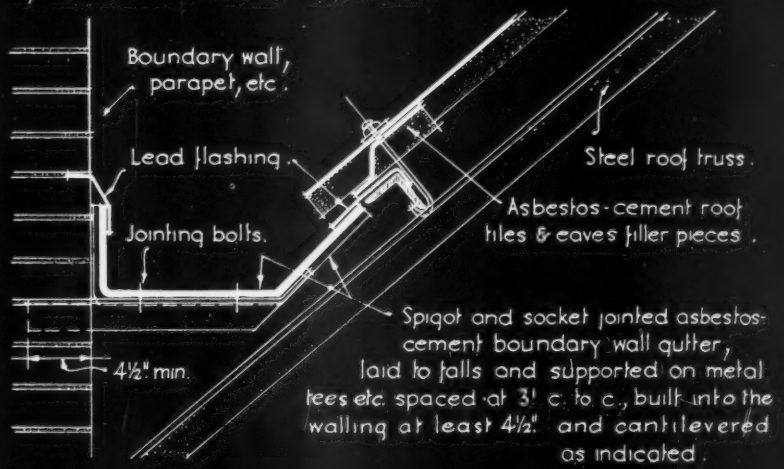
DETAILS SHOWING TYPICAL APPLICATION OF GUTTER TYPES :

A VALLEY GUTTER. Scale : 1 inch equals 1 foot.

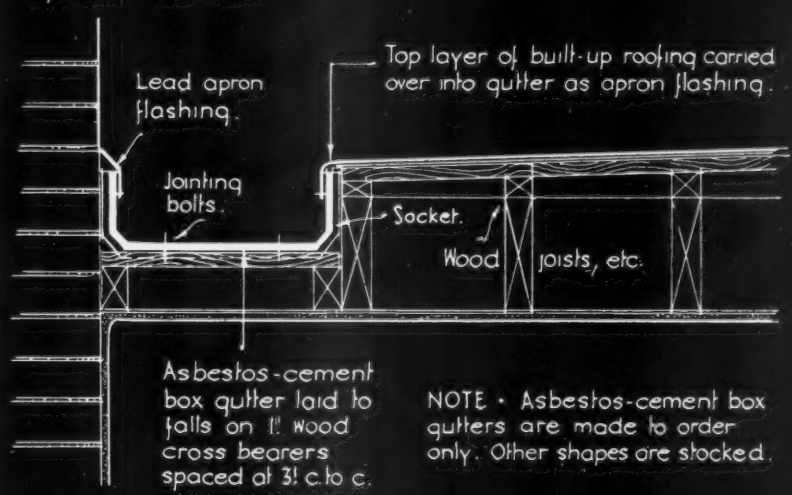


Gutter may be supported in special metal shoes if necessary, fixed to R.S.J. at 3' c. to c.

B, BOUNDARY WALL GUTTER.



C, BOX GUTTER.



NOTE : Asbestos-cement box gutters are made to order only. Other shapes are stocked.

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

INFORMATION SHEET : ASBESTOS-CEMENT RAINWATER FITTINGS : 2.

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

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INFORMATION SHEET

• 446 •

ASBESTOS CEMENT RAINWATER GOODS AND FITTINGS—II

General :

The asbestos cement of which these gutters are composed is formed of built-up layers of non-burning mineral rock fibre in conjunction with Portland cement, the whole forming an extremely tough, light and rigid structure. Any trimming required may be readily done by means of an ordinary hand saw.

The goods are manufactured in accordance with British Standard Specification No. 569/1934.

Gutters and Fittings :

All shapes of gutter are made in standard lengths of 6 ft. plus the socket, and the stocked range of boundary wall and valley gutters is shown. Examples of box gutter types are also indicated, these being made to order. Asbestos cement fittings for use in conjunction with the gutters are available, including stop ends, drop ends, nozzles and angles.

Jointing :

The gutters and fittings are jointed by means of bolted socket and spigot joints, all sockets being holed at the works for the reception of the bolts. When large gutters are used, it is advisable to use two bolts ($1\frac{3}{4}$ in. by $\frac{5}{16}$ in. for $\frac{1}{2}$ in. thick gutters) in the sole at each joint, one at either side. Greater rigidity may be obtained by the insertion of additional bolts in the sides, but this is not essential.

All spigot ends are supplied with oval holes to allow for a small amount of longitudinal movement ; excessive movement of the building, or unusual expansion and contraction of the steelwork does not, therefore, affect the gutter joints.

The joints themselves are set in Guttite jointing composition, this being a specially prepared bituminous compound which remains ductile over a long period of years, thus permitting slight movements in the socket without the development of leaks. Putty or similar material should not be used, as the oil in these compounds is absorbed into the asbestos cement and the jointing medium quickly loses its nature. The resultant contraction frequently results in the gradual percolation of water through the joints.

A good buttering of Guttite is applied to the inside of the socket, and the gutter bolt or bolts then inserted, from the underside if possible. A piece of asbestos or other cord should be placed at the outer end of the socket to prevent the Guttite from being squeezed out. The spigot end of the next length of gutter is then lowered on to the prepared socket, with the bolts kept as near as possible in the centre of the oval bolt holes. A flat galvanized metal or lead washer is then placed over the head of the bolt, and the nut screwed up gently until the Guttite begins to squeeze out on the inside edge of the joint. Finally, the bolt head and washer are covered with a layer of Guttite.

Handing :

When ordering asbestos cement boundary wall gutters, it should be clearly stated which handing is required, both in the case of the guttering and the fittings. To determine the handing of a gutter or fitting, the longer side, i.e. the splayed side, should be faced. If the socket is then at the left-hand end, it is known as a left-hand gutter or fitting.

Maintenance :

None of the gutters or fittings requires painting or any form of preservative treatment, either before or after erection ; large-size gutters and fittings are supplied bitumen-dipped, which gives them a jet-black appearance.

Information from : Turners Asbestos Cement Co. Branch of Turner and Newall Ltd.
Address (Head Office and Works) : Trafford Park, Manchester, 17
Telephone : Trafford Park 2181 (8 lines)
London Office : Asbestos House, Southwark Street, S.E.1
Telephone : Waterloo 4041

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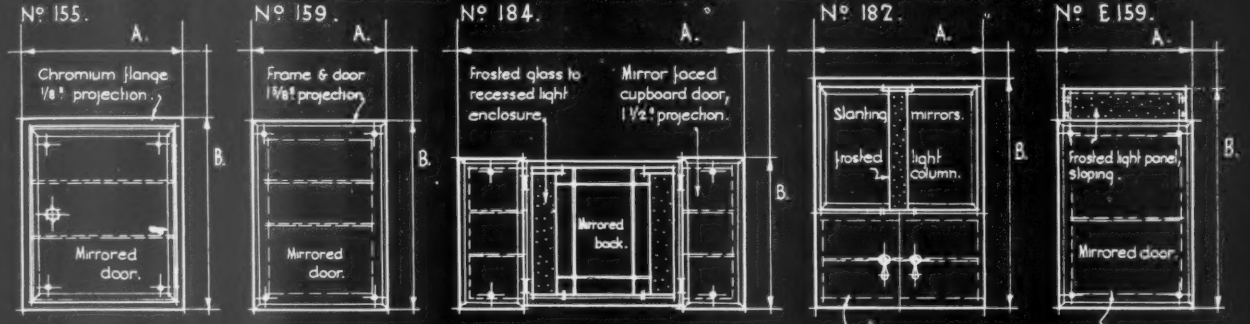
ELEVATIONS OF TYPICAL RECESSED TYPES OF VAUXALL BATHROOM CABINETS · (Not to scale.)

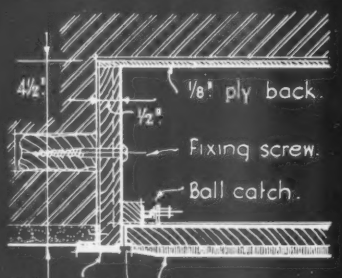


OVERALL SIZES : All mirrors are 1/4" plate glass with bevelled edges.

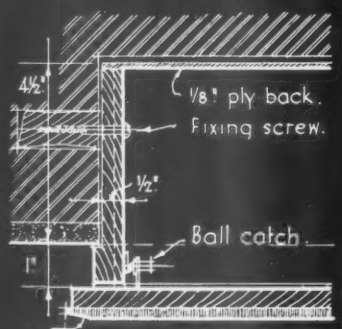
Nº 155 :	Nº 159 :						Nº 184 :	Nº 182 :	Nº E 159 :
A · 17"	A · 9"	10"	12"	14"	14"	16"	A · 33 1/2"	A · 20 1/4"	A · 14" 16"
B · 23"	B · 12"	14"	16"	16"	18"	22"	B · 18 "	B · 29 "	B · 22" 26"

Wood doors, 1 1/4" projection. 1 3/8" projection.

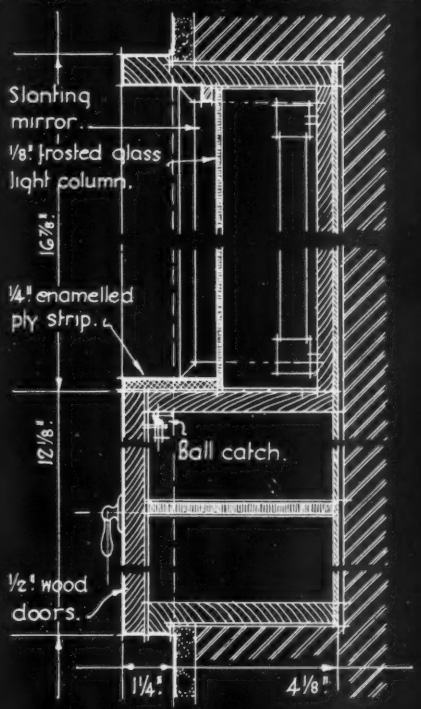
ONE-QUARTER FULL SIZE DETAILS OF PARTS OF THE CABINETS SHOWN ABOVE :



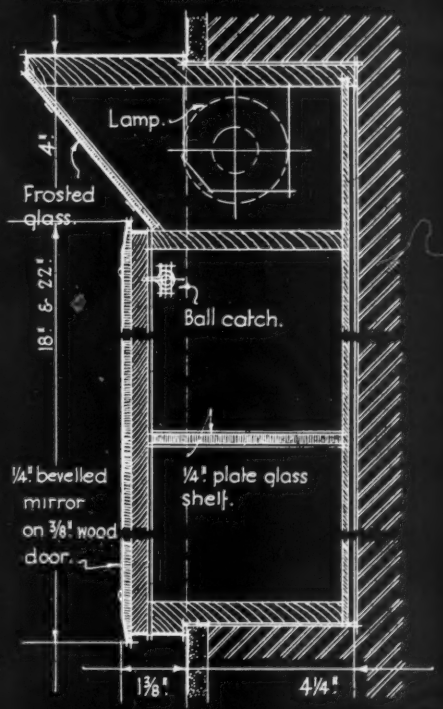
Nº 155. PLAN OF JAMB.



Nº 159. PLAN OF JAMB.



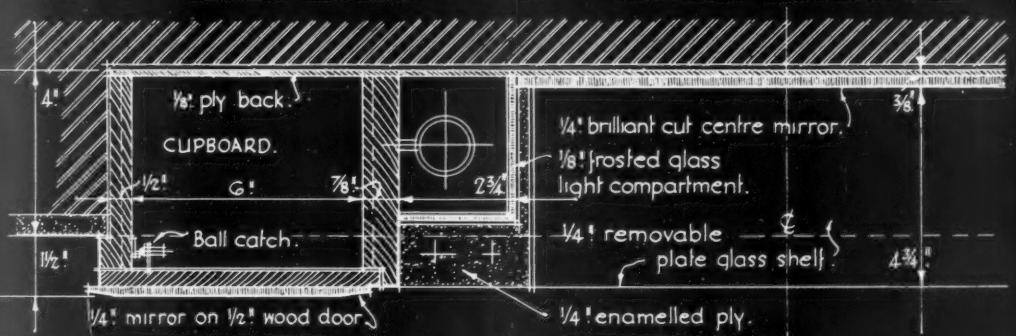
VERTICAL SECTION, Nº 182.



VERTICAL SECTION, Nº E 159.

HALF-PLAN OF CABINET Nº 184.

The side cupboard doors are hinged to give triple mirror use when open.



Information from Downham & Company.

INFORMATION SHEET : BUILT-IN BATHROOM CABINETS.

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

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INFORMATION SHEET

• 447 •

BATHROOM CABINETS

General :

On the face of this Sheet are shown five typical examples of recess type wooden bathroom cabinets. The Company also manufactures a range of mirror-fronted cabinets for hanging to walls, and these are obtainable in a variety of designs and sizes, with chromium fittings, plate glass shelves and white cellulose finish as generally for the examples illustrated.

Recess Cabinets :

(*a*) No. 155. This is a flush fitting type, the 1″ × ¼″ chromium plated surround being attached to the ½″ wooden jambs by small angle cleats spot welded at the back. The mirror door is 20½″ × 14½″, fitted with a cut glass knob handle and a combined stop and ball catch. The two removable plate glass shelves are set in metal-plated clips.

The interior is finished in white cellulose, but can be tinted to suit requirements at a slight extra cost (see table on right).

(*b*) No. 159. This cabinet is made in several sizes as noted, fitted with one or two removable plate glass shelves according to size. The ¾″ rebated wood frame gives the mirror door a projection of 1⅝″ from the wall face, and acts as the stop. A ball catch is provided. The door is opened and closed by means of the projecting edge, no handle being fitted. The cabinets can be supplied with deep flanges for thin partitions if necessary, the interior depth remaining unaltered. Standard finish, white cellulose.

(*c*) No. 184. This cabinet provides separate cupboards for use of more than one person, with the doors mirror-faced to give triple mirror use when open. The centre mirror is brilliant cut and lit from illuminated frosted glass panels at either side. The plate glass shelf below the back mirror is removable, and is set between the two ¼″ enamelled ply bases of the lighting columns. The cupboards each have two removable plate glass shelves let into grooves, and the rebated jambs act as door stops in conjunction with the ball catch, as for No. 159 previously described. Doors are opened and closed by means of the projecting edge of the mirror. Standard finish, white cellulose.

(*d*) No. 182. This design also incorporates a frosted glass lighting column as indicated, set between two slanting mirrors to give side as well as front illumination. Plate glass shelves are placed beneath the mirrors. The cupboard beneath the mirrors is fitted with a plate glass shelf and faced with a pair of ½″ wooden doors with handles. Standard finish is white cellulose, but other colours can be supplied at slight extra cost (see table).

Both No. 184 and No. 182 cabinets are supplied complete with striplite lamps to required voltage and wired for installation. These cabinets can also be supplied for surface fixing, that is, to hang on the wall.

(*e*) No. E.159. This fitting is made in two sizes, D and E, and is provided with a frosted glass top lighting compartment as shown, for which forty or sixty watt pearl bulb lamps are recommended. The wiring and lamp socket are supplied only, and the frosted panel is made to slide upward for lamp fixing.

This type of cabinet is also made for surface fixing, in two similar sizes, and a model for corner fitting is also available.

The cupboard of No. E.159D has one ¼″ plate glass shelf, and No. E.159E two plate glass shelves, removable for sliding into an interchangeable position as desired. The mirrored door is fitted with a ball catch but no handle, operation being by means of the projecting edge of the ¼″ bevelled plate glass mirror.

The standard finish of these cabinets is white cellulose, but other colours can be used at slight extra cost.

Other Models :

Special recess or surface fixed cabinets are manufactured in a wide range of designs and sizes.

Table of Prices

Catalogue Number	Overall size	Standard White Cellulose	Price Colours
No. 155 ...	23″ × 17″	93/-	100/6
No. 159 ...	12″ × 9″	16/6	10% extra
No. 159A ...	14″ × 10″	20/-	10% ,,
No. 159B ...	16″ × 12″	25/-	10% ,,
No. 159C ...	16″ × 14″	30/-	10% ,,
No. 159D ...	18″ × 14″	31/6	10% ,,
No. 159E ...	22″ × 16″	49/9	10% ,,
No. 184 ...	33½″ × 18″	120/-	129/-
No. 182 ...	29″ × 20¼″	90/-	10% extra
No. E. 159D	22″ × 14″	40/3	10% ,,
No. E. 159E...	26″ × 16″	64/3	10% ,,

Name of Manufacturer : Downham & Company
Address : 46/47 Auckland Street, Vauxhall, S.E.11
Telephone : Reliance 2628