

THE ELECTIONS

AN R.I.B.A. election in which only about a fifth of the total membership voted ought to be worth noticing by the individual member. Democratic institutions are essentially loosely-knit affairs. Individualists find it useful to arrange for a few to keep the ring for the rest; and the majority, after being careful to emphasize their right to replace their delegates at short notice, do not expect extreme efficiency, are inclined, indeed, to resent it, and in general do not want to be bothered about anything whilst keeping up a steady low-grade grumble.

The individual member of the R.I.B.A. would not, therefore, be reasonable in expecting a full vote at an election, not even in looking for a 75 per cent. of completed papers. But he may wonder why it is that not even a quarter of a great profession can bother to spend twenty minutes in voting once a year. So large an apathy is certainly odd. The average architect may be a busy man who probably does more for smaller rewards than any of the rest of his acquaintances. There may be times when very short views are necessarily the only views he has time for. But it cannot always be so; it obviously is not so; and the intervals between busy periods seem just the times when he ought to insure himself, from the very crudest motives of self-interest, against the consequences of taking short views.

There is only one way in which the average member of the R.I.B.A. can do this at present. When work is slack he can look about at the circumstances of his particular architectural practice, at the changes which seem to be impending, and singly or in collaboration draw the attention of the Institute to them and ask for advice, help, or for R.I.B.A. influence to be exerted. And, once a year, he can vote for what seems to him to be the best men—or for a local representative who can put forward a special case for him. This would seem, at present, a reasonable minimum of co-operative exertion which might be expected from the architect who hopes to keep his livelihood one of interest, influence and reasonable profit.

But he does not do it. In a logical world the reason for his not doing might be expected to be that he is fully satisfied with his lot in a profession likely to remain static. The reason becomes more difficult when it is seen that the average architect is far from fully satisfied with his prospects and that his circumstances are changing extremely quickly.

The thoughtful member of the Institute, can most

easily understand this contradiction at a Conference like that held last week in Leeds; particularly if he has not attended a Conference for some years.

At Leeds, where the Conferring, though very real, did not appear on the agenda, it could be seen with clearness last week how it is the rate of change which has caught the average member unprepared. Even fifteen years ago the architect outside London was almost in the position of a vicar in a parish; and his relationship with his local society and the R.I.B.A. closely paralleled that of parish priest with rural dean and church assembly. Competition there was, but only local, and nearly all private competition.

Fifteen years, especially measured in one and two year jobs, is not a long time; but it has changed the provincial scene astoundingly. Competitions, chain-stores and quicker transport have resulted in "outside" architects popping up with jobs throughout the whole country. Everywhere municipalities are setting up architects' departments, the articulated pupil system is diminishing, and new materials and methods are the rule in almost every district.

To some extent these changes have bewildered every architect, and very substantially affected a great many. Every architect, naturally, wonders what their effect will be upon himself. And no one at the moment can tell him.

But there are two things which the average member can do to make a reassuring final answer more probable. He can realize that for twenty years at least architecture is going to pass through very queer transitions and developments, and that in that period the worst thing that can happen to him is to become narrow-minded; Town planning, pre-fabrication and salaried architects are certain to increase in numbers and importance; and he will be almost certain to be compelled to follow Professor Adshead's lead and learn his building construction twice over.

And the second thing he can do is to realize that his relations with the R.I.B.A. must also change. He must realize that the R.I.B.A. must increasingly turn into something much more than a social and cultural centre; that it must become, increasingly, a sorting-house for the ideas of all its members in matters which will directly affect their livelihood. The R.I.B.A. can only do this if all its members take an interest in everything that it does and offer when necessary to carry out some of its work.

This is not what is happening now.



The Architects' Journal
 Westminster, S.W.1
 Telephones: Whitehall
 9 2 1 2 - 7
 Telegrams
 Buildable
 Parli
 London

NOTES & TOPICS

CONFERENCE

LEEDS Central Station is impressive; but appeared amongst other people's welcomes to have no exit. Luggage, Buffet, Gentlemen, Staff Only, Booking.

I tried Booking. I appeared to be partially right and loitered in a courtyard with an eye lifting for a taxi. Only a Rolls-Royce was waiting.

Out of Booking in a hurry came a most unexpected member of the architectural world. "What!—I didn't expect to see *you* at the conference." "Conference?—Oh, really, how interesting. . . . No, I hadn't heard. I'm up to see a relative here who isn't at all well."

More bravely I walked round the Rolls-Royce still looking for a taxi. From the courtyard entrance a porter led me back to the Rolls-Royce. Inside it I realized that there are some cars in which, somehow, I feel spiritually at home.

DANCE

Cuthbert Brodrick's substantial classicism in the Town Hall ballroom was draped with a centrepiece and maypole streamers of Chinese lanterns. Several hundred predecessors had not diminished Mr. Thomas's apparent pleasure at seeing me on Thursday night.

The West Riding had turned out in force; and a very distinguished lot we all looked. A former supervisor of the municipal buildings had decorated Brodrick's frieze with 2-ft. high exhortations in Roman lettering. And as one danced—and there was very considerable inducement to dance—the shyer visitors were encouraged in moving up the room with the command "FORWARD."

Coming down, those who were not shy received the hint: LOYALTY. Later in the evening "MAGNA CHARTA" and "AUSPICUM MELIORIS ÆVI" could be taken almost any way.

CELEBRITIES

Mr. R. H. A. Livett was there to be seen by the visitors; and it is only by going to Leeds that one can realize the size of his responsibilities. The Leeds housing schemes are

amongst the largest in the country—but only when actually at Quarry Hill can one appreciate the extra responsibility of introducing a constructional system in which everyone from the general contractor downwards had to learn their job from the start. During the tour of Quarry Hill on Thursday one visitor was perhaps especially interested. M. Mopin himself had come over to see the progress of the Drancy idea.

Also at the dance were Mr. Norval Paxton, on whom fell much of the organizing of the conference; Mr. Allen who demonstrated by two exhibitions of school drawings, that the Leeds School is now a power in architecture; and Mr. Soutar, the president of the Royal Incorporation of Scottish Architects, whose distinction had the addition of easily the most excitingly involved pectoral adornment in the room—of brass, of considerable weight and extraordinarily richly wrought.

THE DINNER

The honours for the speeches at the dinner were divided between the first six minutes of the Vicar of Leeds and the Lord Mayor.

His worship is one of those to whom Leeds owes much of its greatness. Exactly to the point and splendidly outspoken, he told us that Leeds had been glad to see us; and we felt he meant it.

Then he turned to another subject—a leading article in this JOURNAL for June 17, and left his audience in no doubt at all after several quotations that he disliked it intensely. His worship maintained that the article stated that the Leeds of today was a barbarous place from which civilization had retreated.

It happened that I had read that article and I was sure, and still feel, that it meant to mean something quite different—that it tried to pay a tribute to Leeds. His worship obviously differed.

From my position I could not see the member of the JOURNAL's staff who attended the dinner—but I am told a kindly neighbour suggested police escort.

It was a most enjoyable conference.

ISLAND ROADS

It seems to me that an island, particularly if it depends



H. John Phillips, joint author of the design placed first in the Hackney Competition.



Harry Gibberd, joint author of the design placed first in the Hackney Competition.

on its visitors for its existence, ought to make the most of its sea and stress the fact that it is an island and not an ordinary bit of coast. So I was very disappointed the other week-end with the Isle of Wight, where I haven't been since I was six months old and where the roads rush straight inland and you only see the sea at long intervals.

The reason being, I suppose, that the cliffs are none too reliable and that any road may find itself in the sea before very long, though the military have produced a most dramatic arterial effort that cuts slap through all the chalk along the south coast from Freshwater.

Architecturally I found a small percentage of bogus shopfront modernism, but the high spot of the visit was Seaview Pier, an enchantingly light and airy structure, built as a suspension bridge, but with arched spans. Designed, so its custodian told me, in 1874, but I couldn't find out who the designer was, though I feel very ignorant for not knowing already. It looks earlier than the seventies, but perhaps somebody can tell me some more about it. Timber, but for its cables and suspension straps, it will probably go the way of all piers and catch fire before very long, in spite of the notices warning everyone to be careful with cigarette ends.

PRACTICAL PRESERVATION

The cause of amenity has now a genuine martyr, for Mr. Harold Ronald Nash has been fined £2 by the Steyning bench for damaging "a hoarding advertising a building estate." Mr. Nash was "outraged by a desecration of the country," but the cutting does not make it quite clear whether he was objecting to the hoarding itself or to the idea of building on an unspoilt site.

But whichever it was the results show a most admirable public spirit—often I have had an overwhelming urge to do the same thing, but lacked the necessary hammer and the even more essential moral courage.

I know that it is probably in "restraint of trade," and I daresay clauses of the Incitement to Disaffection Bill could be made to apply as well, but I could wish all the

inhabitants of this country simultaneously afflicted with the same frenzy.

DESIGNERS' REGISTER

Last year's show of inn signs at the Building Centre was obviously far too good propaganda to be allowed to vanish after a few weeks, and I am delighted to hear that there are now two large volumes of sample work for brewers to look at if they feel that their signs aren't all that they might be.

I have complained before about the stupidity of the standardized enamel monstrosity which more than one firm affects; doubtless they will fail to reform, probably they don't even realize that reform may be necessary, but the machinery is ready and waiting if ever they do.

EPSTEIN IN THE NEWS AGAIN

Not so long ago one of the heads of Epstein's figures on the old British Medical Association building in the Strand fell off and just didn't kill someone. And now rumour has it that, in response to the L.C.C.'s very reasonable demand that the figures shall be made safe, the High Commissioner for New Zealand, who occupies the building now, is to remove the whole lot.

There would seem to me to be no reason why the figures shouldn't be repaired. After the outcry of thirty years ago I don't think the public resents or even notices the fact that the figures aren't naturalistic, but I should like them preserved as an example of enterprise on the part of Mr. Holden and of broadmindedness in the B.M.A. during a pretty drab period of English architecture.

But if the worst should happen there is plenty of precedent for it. Given something worth keeping most quasi-governmental departments pull the whole thing down, with no weakminded nonsense about scraping off mere sculpture.

LEARNING EARLY

The North and South-West St. Pancras Groups of that very go-ahead concern, the St. Pancras House Improvement Society, are opening a new block of flats and a nursery school on June 30.

London's private housing societies have always had my admiration for the enormous amount they continue to do with, for the most part, very limited resources; and especially am I a supporter of the St. Pancras Society, which depends entirely on a continuing public interest in its work.

Nowadays, merely explaining how valuable a work is being done may not be enough to unloose purse-strings; it is probably not nearly enough. Still, I think that there are ways which a society should not adopt in seeking for support.

On June 30, for instance:—

A charming feature of the Opening will be a Procession of Children through the courtyard and gardens of the flats up to the roof nursery school. Mr. and Mrs. J. B. Priestley's little boy, Thomas, will unlock the nursery school door, and amongst the other children taking part in the Procession will be those of Sir Cedric Hardwicke, the Hon. Mrs. Cullinan, and Mrs. David Davies (Miss Margaret Kennedy).

Some people may say this is a charming touch, others that it is perfectly sweet. And a small minority of those sincerely interested in housing are no doubt free to feel that it is perfectly horrible.

ASTRAGAL

NEWS

POINTS FROM
THIS ISSUE

- Suggested police escort at Leeds for a member of THE ARCHITECTS' JOURNAL staff* ... 4
- Mr. Herbert J. Rowse has been appointed architect of the British Pavilion at the Empire Exhibition to be held at Glasgow next year* ... 6
- Winning designs in two competitions—Hackney and Macclesfield* ... 7
- "Example of Collaboration. A statue has been produced by a talented family, each female member of which posed until she felt too cold, when she put on her clothes and took a turn at the sculpture with someone else as model"* ... 17

OFFICIAL OPENINGS

On Friday last H.M. Queen Mary laid the foundation stone of the extension to the Bodleian Library, Oxford, which is estimated to cost £250,000. The architect is Sir Giles Gilbert Scott, R.A.

Lady Luke of Pavenham laid the foundation stone of the new Bedford Girls' Modern School on Thursday last. The architect is Mr. Oswald P. Milne.

BRITISH EMPIRE EXHIBITION

Mr. Herbert J. Rowse, of Liverpool, has been appointed by the Department of Overseas Trade to design the British Government Pavilion for the British Empire Exhibition at Glasgow next year.

The British Government pavilion will include an entrance hall on a monumental scale, a long gallery, off which will run four or five exhibition halls, each some 50 by 100 ft. in area, and, outside, a terrace overlooking a sheet of ornamental water.

SIR KINGSLEY WOOD ON
RURAL HOUSING

Sir Kingsley Wood, the Minister of Health, last week addressed the Annual Conference of the Rural District Councils Association at Scarborough.

Sir Kingsley Wood said he would much prefer to see rural cottages where possible repaired and reconstructed rather than demolished, but it was important that when such repair and reconstruction was effected dwellings should be made in all respects fit for habitation.

In all their new housing work it was important wherever possible to employ persons who had proved their ability to produce houses worthy of their setting. The Ministry would be glad also to give help and advice to the local authorities on such questions, and the architectural staff of the Ministry had recently been enlarged for this purpose.

CHANGES OF ADDRESS

Mr. Erich Mendelsohn has transferred his offices from No. 17 Berkeley Square, W.1, to No. 32 Davies Street, W.1. Telephone: Mayfair 2151.

Mr. F. E. Bromige, L.R.I.B.A., has removed his offices from Imperial House, Regent Street, W.1, to No. 3 Kingly Street, W.1. Telephone: Regent 4227.

THE
ARCHITECTS'
DIARY

Thursday, July 1

ROYAL ACADEMY EXHIBITION. At Burlington House, W.1. Until August 7.

INTERNATIONAL REUNION OF ARCHITECTS. In Paris. Until July 5. 10 a.m.: Third meeting ("New Materials"). Afternoon: Visit to the Exhibition. 5.30 p.m.: Reception given by the Union of Modern Artists at their Pavillon. 9.30 p.m.: Reception at the Louvre Museum by the "Poros" Society.

HOUSING CENTRE, 13 Suffolk Street, S.W.1. Annual General Meeting. 4.50 p.m.

INSTITUTION OF ELECTRICAL ENGINEERS. Conversation. At the Natural History Museum.

ARCHITECTURAL ASSOCIATION, 36 Bedford Square, W.C.1. Exhibition of work by Members of the A.A. Students' Art Club. Until July 16.

Friday, July 2

ARCHITECTURAL ASSOCIATION, 36 Bedford Square, W.C.1. Whole day excursion to interesting constructions, monuments and buildings of Paris. 5.30 p.m.: Tea offered by the Society of Modern Architects.

Saturday, July 3

R.I.B.A., 66 Portland Place, W.1. Exhibition of Designs submitted in the final competition for the Rome Scholarship in Architecture. Until July 10. 10 a.m. to 7 p.m. (Saturdays, 10 a.m. to 2 p.m.).

Monday, July 5

INTERNATIONAL HOUSING AND TOWN PLANNING CONGRESS. In Paris. Until July 11.

SOCIETY OF CHEMICAL INDUSTRY. Fifty-sixth Annual Meeting and Conference. At the Hotel Majestic, Harrogate. Until July 11.

Wednesday, July 7

INSTITUTION OF ELECTRICAL ENGINEERS. Savoy Hill, W.C.2. Conversation to members from Overseas.

NEW COMPETITION:
WOOD GREEN

The Wood Green Borough Council has decided to hold an open competition for designs for new municipal offices and petty sessional courts on the site of the existing town hall or immediate vicinity. The Council is offering premiums of £300, £200 and £100. The Town Clerk has been asked to approach Messrs. C. H. James, F.R.I.B.A., and S. Rowland Pierce, A.R.I.B.A., to act as assessors.

KEIGHLEY: SCHOOL

The Keighley Education Committee has interviewed Mr. Harold A. Dod, M.A., F.R.I.B.A., the assessor of competition of plans for the proposed Guard House Council School, and fixed the following prizes in connection with the competition: 1st prize, 150 guineas; 2nd prize, 100 guineas; 3rd prize, 50 guineas.

ON THE AIR

Thursday, July 1. National Programme. 2.5 p.m. "Your Home and Mine: The Homes that May Be." By Geoffrey Boumphrey.

R.I.B.A.: ELECTION OF MEMBERS

At a recent meeting of the Council of the R.I.B.A. the following members were elected:—

As Hon. Fellow (1): The Rt. Hon. the Earl Bessborough, P.C., G.C.M.G. (London).

As Hon. Associates (5): Sir Muirhead Bone, LL.D. (Oxford), Sir William H. Bragg (London), and Messrs. H. J. Griffin (London), George Hicks, M.P. (London), and D. Knoop (Sheffield).

As Fellows (12): Messrs. A. H. Chatterley (Birmingham), C. A. Cole-Adams (London), A. A. Foote (Edinburgh), C. W. Fowler (London), C. W. Lemmon (Simla, India),

A. H. Powell (London), L. Grahame-Thomson (Edinburgh), R. F. Wheatly (Truro, Cornwall), T. W. Wood (Birmingham), E. S. Clarkson (London), F. N. Pinder (Preston, Lancs), and F. J. Watson-Hart (London).

As Associates (15): Messrs. B. S. Archer (London), P. A. Cornish (London), J. A. Dorin (Stoke-on-Trent), G. B. Drewitt (Penzance), L. B. Fletcher (St. Helens, Lancs), (Miss) L. Granger (Beltingwe, Southern Rhodesia), H. P. Hall (Penarth, Glamorgan), (Miss) H. L. Jackson (Glasgow), T. F. Orpen (Rondebosch, South Africa), J. A. Platts (Scarborough), T. J. Pope (London), E. J. Steen (Barking, Essex), D. J. Ward (Burwood, Victoria, Australia), F. J. Warren (Slough, Bucks), and R. R. Young (Blairgowrie, Perthshire).

As Licentiate (7): Messrs. W. V. Meek (Southampton), J. S. Munce (Belfast), W. F. Pippet (London), D. N. Roy (London), R. W. Symonds (London), C. D. Taylor (Armagh), and L. A. Webbe (London).

LETTERS

FROM

READERS

EDWARD CARTER, R.I.B.A. Librarian
COLIN PENN

J. W. DENNINGTON

Request from Belgium

SIR,—The R.I.B.A. Foreign Relations Committee has received a request from a Belgian whose son is an architectural student who wishes to spend part of his vacation in England, staying with an English architect's family and getting some experience as a student (without pay) in an English office. He is twenty, and is a third-year student.

If this proves impossible, Mr. Van Lier would like his son to be with an English architect's family for two or three months, simply to improve his English, and he offers in exchange to receive a young Englishman or girl at their seaside house and later in Brussels. Mr. Van Lier has given various references to the R.I.B.A., and if anyone would like to consider either of these alternatives, would he please write to me.

EDWARD CARTER

R.I.B.A. Librarian Editor.

Salaried Architects

SIR,—Everyone knows that the present composition of the R.I.B.A. Council is grotesquely unrepresentative of the membership as a whole, and it is therefore no matter for surprise that a census has not been taken which would enable the extent of this misrepresentation to be indicated by figures.

All one can say with certainty is that salaried men form the majority of the membership, but less than 2½ per cent. of the Council.

The remedy is in the hands of the sufferers themselves: they must see that sufficient salaried members are nominated at the next election and vote for them and for no one else.

It will be said that this would deprive the Institute of the services of many men

with valuable and specialized abilities. But the Constitution is such that it would probably take several years to alter the present complexion of the Council, and on searching for the results of these specialized abilities during the last few years one is at a loss. What has the R.I.B.A. done about the questions which are really important to the profession? It has appointed committees!

The Housing, Town Planning and Slum Clearance Committee is surely an important one, but what has it done? What is it doing? On matters such as the armament programme and its effect on the building industry the attitude of the Council seems to consist of a blind trust in the National Government. In the æsthetic field, all sincere modern architects know that the R.I.B.A., in its exhibitions and official pronouncements, shows an almost complete ignorance of what they are working for. Not only that, but it shows a partiality for modernistic *pastiche* of the most distressing kind.

If salaried members wish to see this state of affairs remedied, they must shake off their apathy. The R.I.B.A. can still be made into a living force.

COLIN PENN

SIR,—I notice in a recent issue of the JOURNAL another spurt is made concerning the salaried man. All the points, however, raised by Mr. Bent in his letter have been declaimed on many previous occasions without the slightest effect on those concerned. I have often wondered why.

The offering of a ridiculous and inadequate salary in numerous advertisements, one of the conditions being that applicants must be a member of the R.I.B.A., is, I think, an insult to the Institute, but it seems that those in authority think otherwise, possibly because any action might adversely affect their own market.

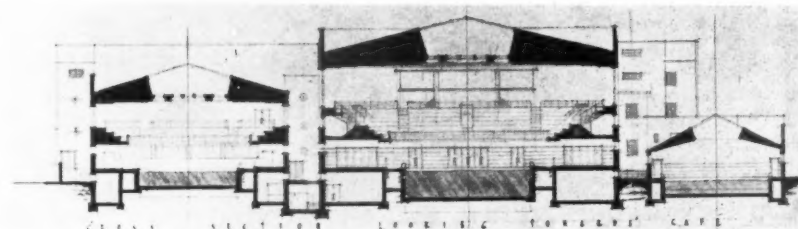
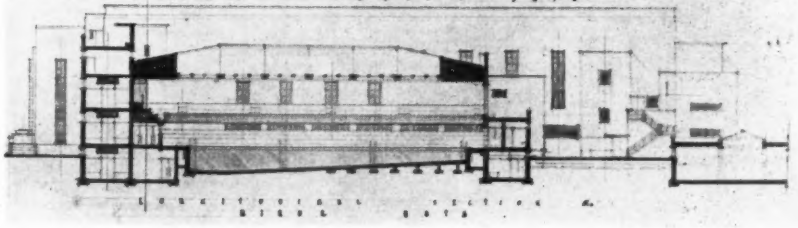
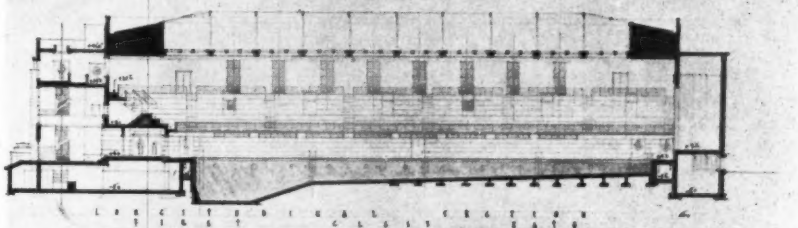
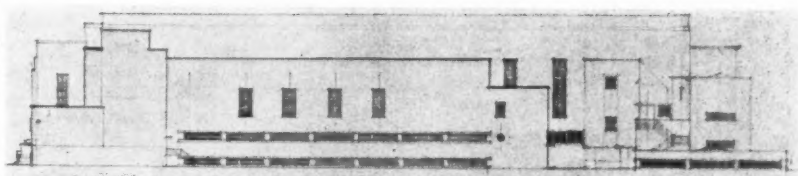
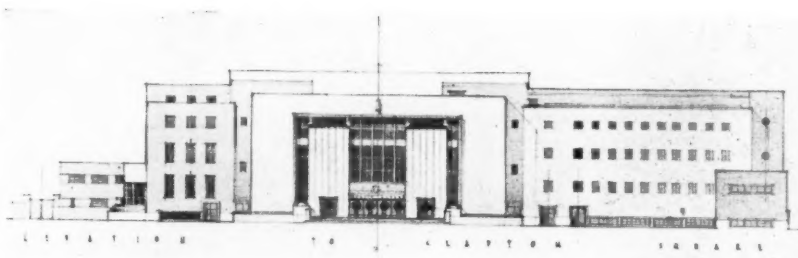
I believe the Salaried Members' Committee attempted some time ago to ascertain by a questionnaire issued to the members, how many were in a salaried position, but the result was a fiasco. Was the salaried man ashamed to disclose his position, or was it pure slackness? The Council no doubt have the interest of the salaried man at heart, provided it does not materially affect the members in private practice. Consequently, the two interests being entirely opposed, there is nothing doing, and never will be.

I quite appreciate Astragal's suggestion with regard to the reduction of profits to the advantage of the assistants. Finally, what is the A.A.S.T.A. for, if not to do what the Institute will not do?

The Salaried Members' and the Junior Members' Committee, I think, are all eye-wash.

J. W. DENINGTON

THE HACKNEY COMPETITION PROPOSED CENTRAL BATHS



DESIGN PLACED FIRST: BY H.
JOHN PHILLIPS AND HARRY GIBBERD

Mr. F. J. Horth, F.R.I.B.A., the assessor of the competition for central baths, Clapton Square, Hackney, for the Hackney B.C., has made his award as follows:

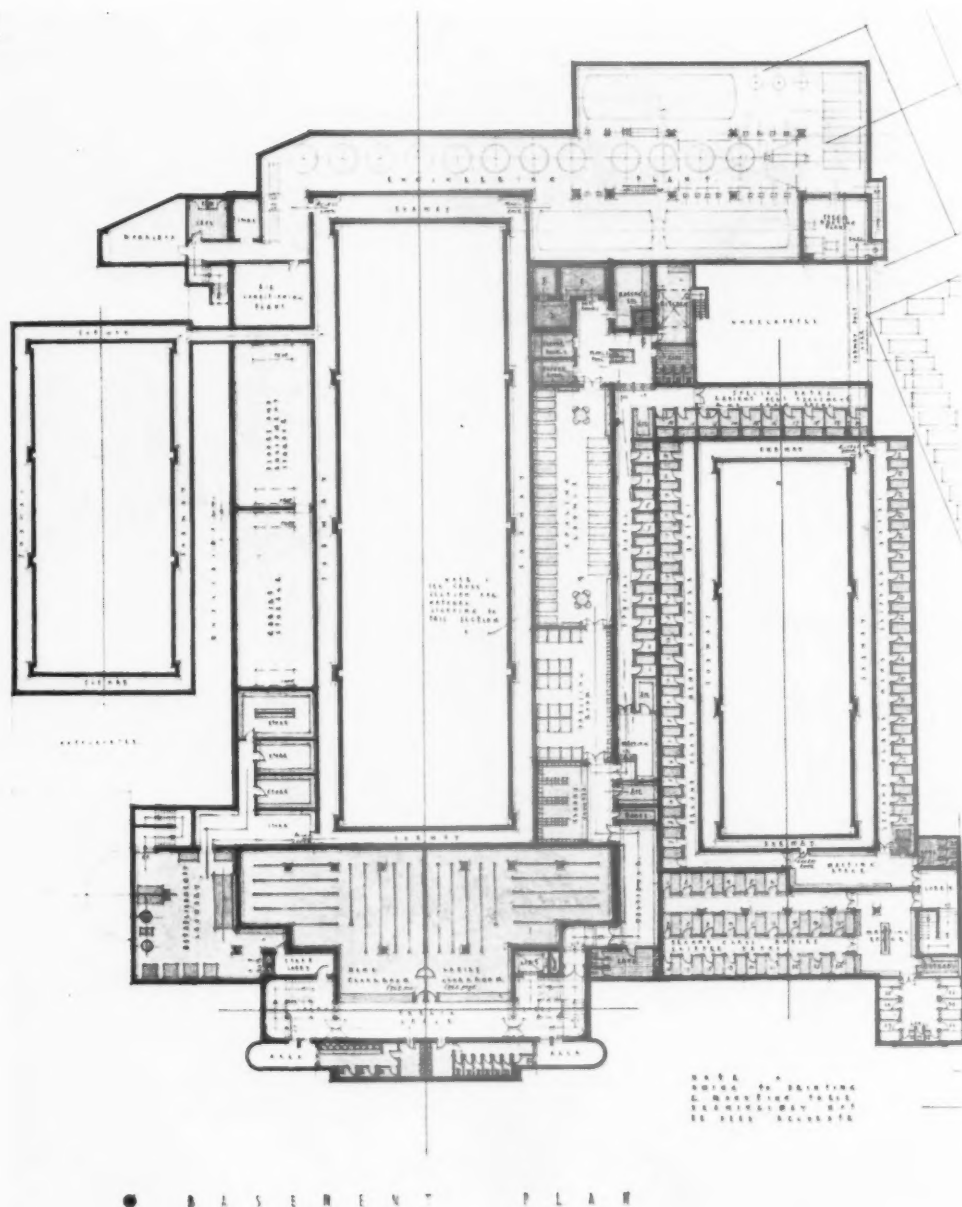
Design placed first (£500): Messrs. H. John Phillips and Harry Gibberd, of 71 Edmund Street Birmingham, 3.

Design placed second (£300): Messrs. Bowden, Son and Partners, of 118 Cromwell Road, S.W.7.

Design placed third (£200): Mr. G. L. Torack and Messrs. Marshall and Tweedy, of Gwydir Chambers, 104 High Holborn, W.C.1.

A perspective of the winning design is reproduced on page 1; and elevations, sections and plans on this and the following three pages.

THE HACKNEY BATHS COMPETITION: DESIGN PLACED



THE WINNERS' REPORT

Following are some extracts from the winners' report:

GENERAL

In preparing the scheme, the lay-out of site and requirements of the conditions have been carefully considered, and it was evident that the arrangement of the building would be influenced by the comparatively restricted area, in view of accommodation required and the nature of the proposed building.

The arrangement and disposition of the various apartments would give a practical working circulation and a good architectural treatment to street frontages.

The façade exterior is of restrained design in face brickwork to main, with parapet walling, and Portland stone dressings, copings, plinth, etc. The important elevation to Clapton Square has been carefully designed, and although asymmetrical, gives a three-dimensional façade somewhat individual in treatment.

BUILDINGS

Generally, the construction, other than actual swimming pools, is steel frame, with necessary heavy stanchions, lattice principals and girders to main spans, balcony rakers and gallery cantilevers, and joists and carcase members, with fireproof "Kleine" type flooring and concrete work and enclosures.

Roofing to main swimming pools to be timber purlins and boarding, with untearable felt and slate covering to areas not glazed. Suspended plastered-type ceiling, gallery and balcony soffits, and part wall finish in special plastic paint surfacing—lay light and grill over all pools. Condensation would be minimized with this construction. Flat roofs to remaining blocks at varying levels to be in suspended concrete, with asphalt covering. External walling to be flush brickwork with cavity. Internal panel walls in brickwork. Basement and pools to be constructed in concrete and "tanked" and made watertight.

Joinery and finishings to be in hardwood (teak) to main blocks where used, but other finishes of more permanent nature where possible. Pools—

glazed brick flooring and lining with guide lines scum trough and nosing, etc.

First-class bath hall provision has been made for removal of dressing boxes when desired for dancing, meetings or functions, and the pool could be covered with spring maple floor for dancing.

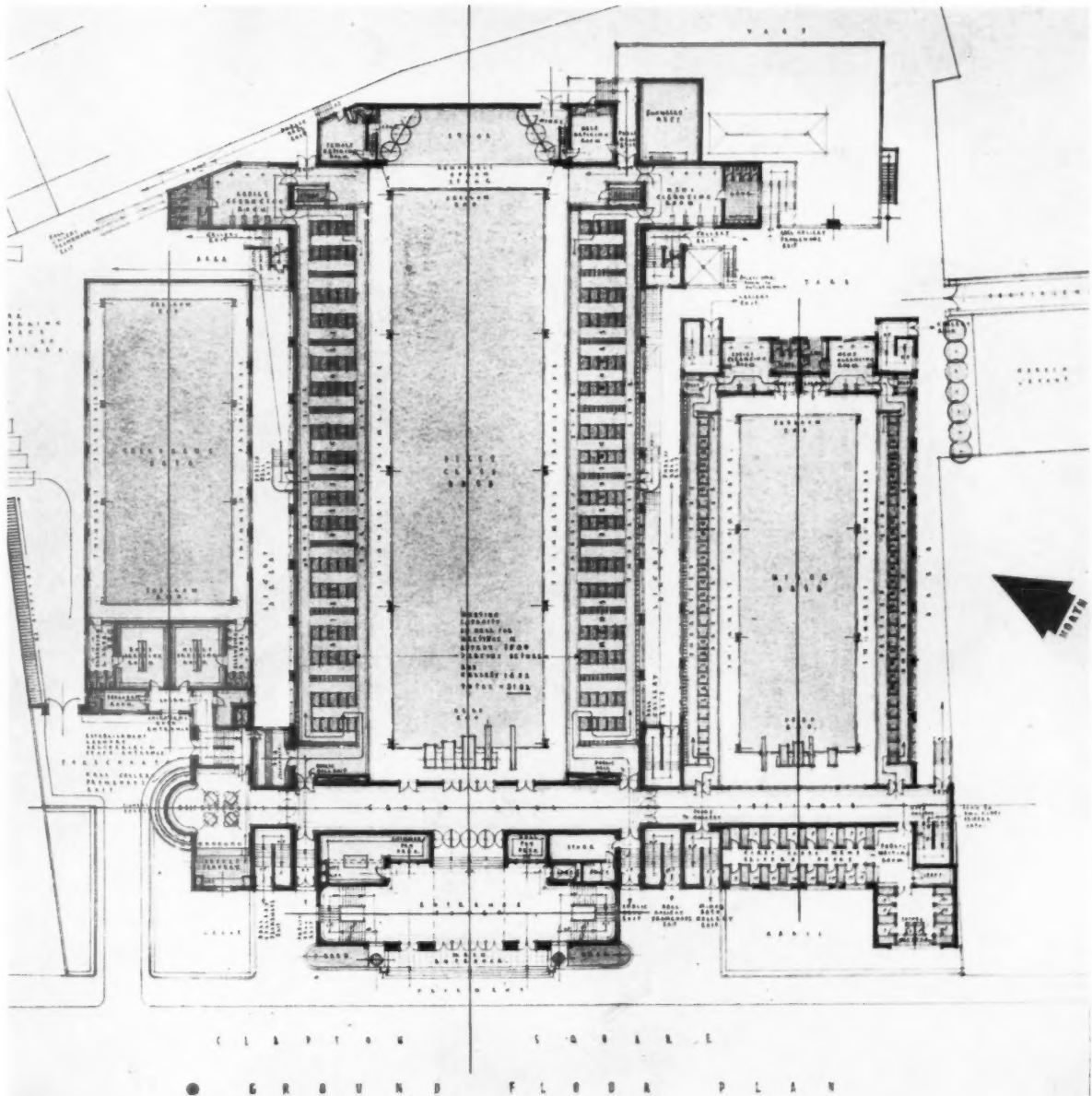
Alternatively, if whole area is not required, it is suggested that dressing boxes remain, and removable hardwood panel screens could be fixed to same to enhance the appearance of hall for letting purposes, with necessary exit doors in screens.

Stage has been designed with detachable apron stage for use when required, and stage flanks have vertical pivoted hardwood leaves (for reflective treatment) and general stage adaptability, with lighting effects and flood lighting usual.

ACCOMMODATION

The main entrance to building, as the conditions suggest, is from Clapton Square. Basis disposition of scheme precludes the main service yard being placed on the north-west corner of site, but ample air and light has been allowed to

FIRST: BY H. J. PHILLIPS AND H. GIBBERD



St. John's flats adjoining. Entrance foyer with staircases and lights are provided to all apartments and offices, and bath halls and public galleries.

Intercommunication for all purposes—swimmers, bathers, public and staff—has been adequately provided by main and auxiliary staircases and lifts.

Ventilation and lighting is natural throughout the building, except to three bath halls and Turkish baths and cloak rooms, where air conditioning will be provided.

Electrical lighting and equipment and permanent built-in and designed fittings for direct and indirect lighting, and under-water lighting to first-class baths. External flood-lighting, if required.

PLANT

It is proposed to install interconnected unit plants throughout, utilizing where considered advisable the existing apparatus. The unit plants to be so designed and cross coupled to give the maximum adaptability in case of breakdown of more than one section of apparatus.

Heating by means of plenum system, with

auxiliary panel radiant heating system. Water heating by means of electric thermal storage system, complete with electrode heaters, pressure storage boiler and pumps, etc.

Kitchen, etc., will have individual hot-water heaters.

Water purification by filtration, aerators, chlorinators worked under pressure, and dealing with the total quantity of water in the pools every three hours.

Water softening has been embodied in the provision.

Circulating pumps for water-treatment plant, heating systems, hot-water service systems.

COSTS

Total cubical contents of the buildings :
2,336,795 cub ft. at 1/11¹/₂d. per ft. :
equals approximately £ 131,445

Add : For paving of yards, forecourts, etc., 14,745 sq. yds. at 5s. a yard : equals 3,700

Add : For the lay-out of the grass, complete with gravel and stone curbing thereto : equals : 5,613 sq.

yds. at 5s. a sq. yd. : equals £ 1,403

Add : The complete engineering plants required in the buildings, for which the following provisional sums have been allocated :

Lighting (including under-water lighting, internal floodlighting, and any architectural lighting elsewhere), say	£ 4,000
Laundry equipment, say	2,500
Heating plant, say	15,000

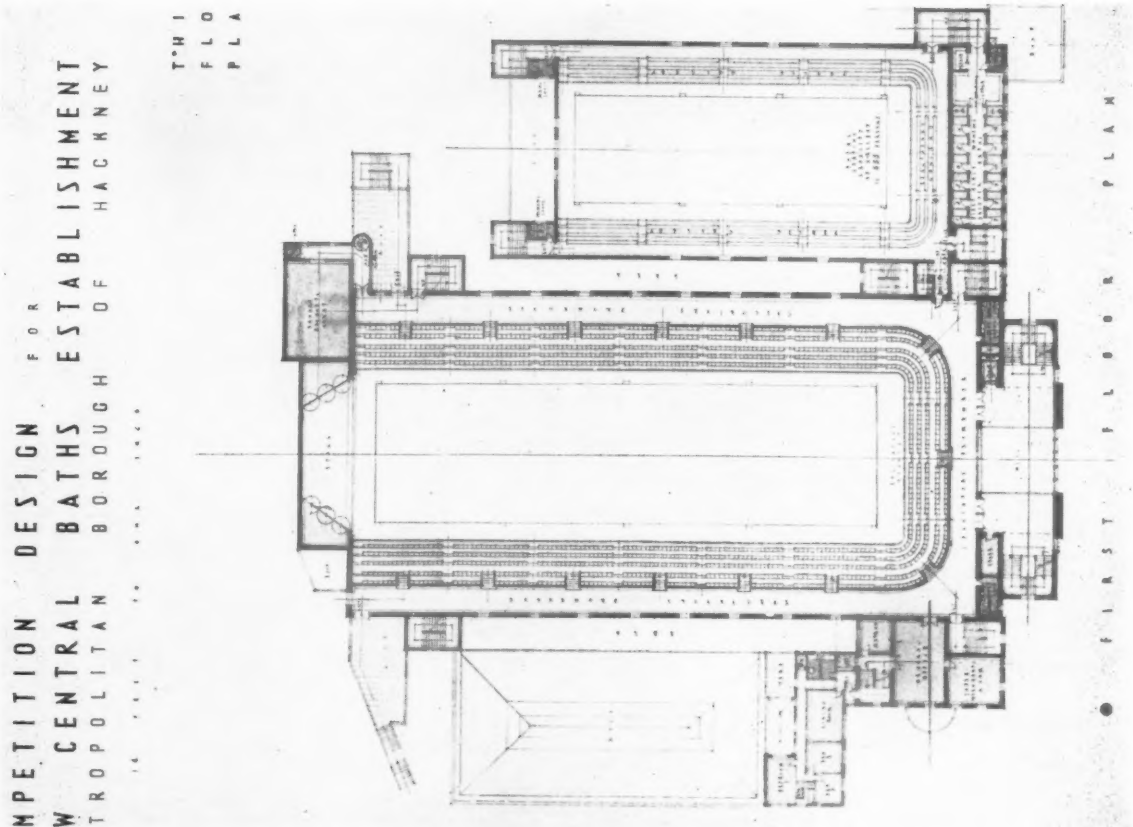
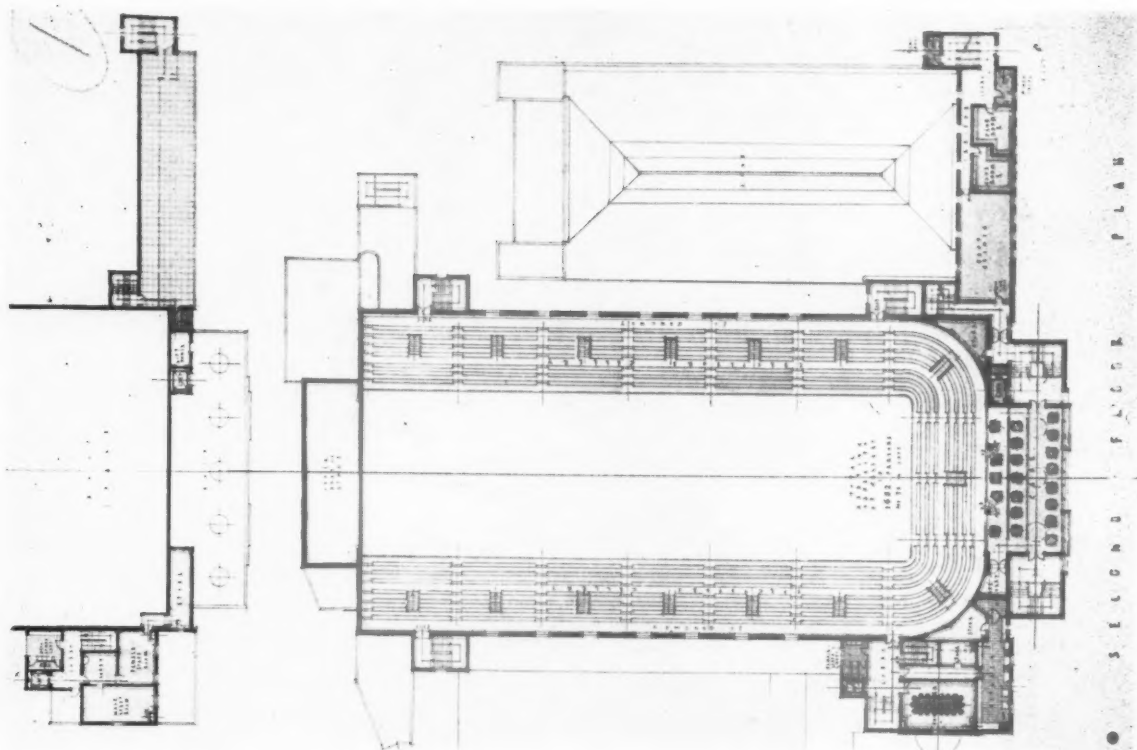
(This figure includes all filtration, aeration and water purification equipment, and allows for existing plant re-used).

Hot-water service, say	3,000
Air conditioning, say	2,000
Artesian well, say	500

Total 27,000

Grand Total cost, irrespective of architects', quantity surveyors' and consultants' fees £ 163,548

THE HACKNEY BATHS COMPETITION



DESIGN PLACED FIRST: BY H. J. PHILLIPS AND H. GIBBERD

COMPETITION FOR NURSES' HOME, MACCLESFIELD

DESIGN PLACED FIRST:
BY FREDERICK GIBBERD

THE WINNER'S REPORT

The assessor's award in this competition was printed on page 1083 of our last issue. On this and the two following pages we publish the winner's report and design, and the design placed second. We are informed that a meeting has been arranged between the Governors of the Infirmary and the Architect of the Winning Scheme to suggest minor modifications of the elevations.

PLAN

To ensure privacy and ease of running, the building is planned in four distinct zones: Maids' bedrooms, bathrooms and sitting room; nurses' bedrooms and bathrooms; sisters' bedrooms and bathrooms; recreation and sitting rooms. All of these lead directly off a common staircase hall.

Aspect: The building is planned parallel to the road running north to south, so that east or west aspect is obtained for the bedrooms.

Bedrooms: Each bedroom zone or suite is self-contained with its own bathrooms, W.C.s, and H.M.C.s. The allocation of bathrooms and W.C.s to each zone are: Maids, two; nurses, six; sisters, two. Bedrooms are placed back-to-back, so that two rooms share common services contained in a duct.

Bedrooms are planned to give the following: space at the side of the bed for a table, lavatory basin and mirror next to the window where there is a maximum of light, space for dressing table under the window, storage cupboards facing the widest effective part of the room for dressing and undressing.

The nurses' and maids' bedrooms are identical, the sisters' are wider but of the same length, so that the wardrobes, lavatory, plumbing, and heating units are identical throughout.

Sitting rooms: The nurses' and sisters' recreation and sitting rooms are planned together on the south west, and have glass doors on to a common terrace for use in summer, and forming one large leisure unit.

The maids' sitting room is planned with their bedrooms, as maids do not mix socially with nurses.

Access: The access path to the main entrance is at right angles to the building so that no rooms are passed. To ensure further privacy, it is suggested that the existing path running parallel to the building is closed, particularly as it serves no useful purpose.

Access to the boiler house and fuel store is on the north, with the existing path diverted, so that this is well away from the main entrance, and is close to the road for coal carts.

Circulation: The main staircase gives access to corridors, each of which serves its own particular suite, so that nurses do not pass sisters' or maids' rooms, and *vice versa*.

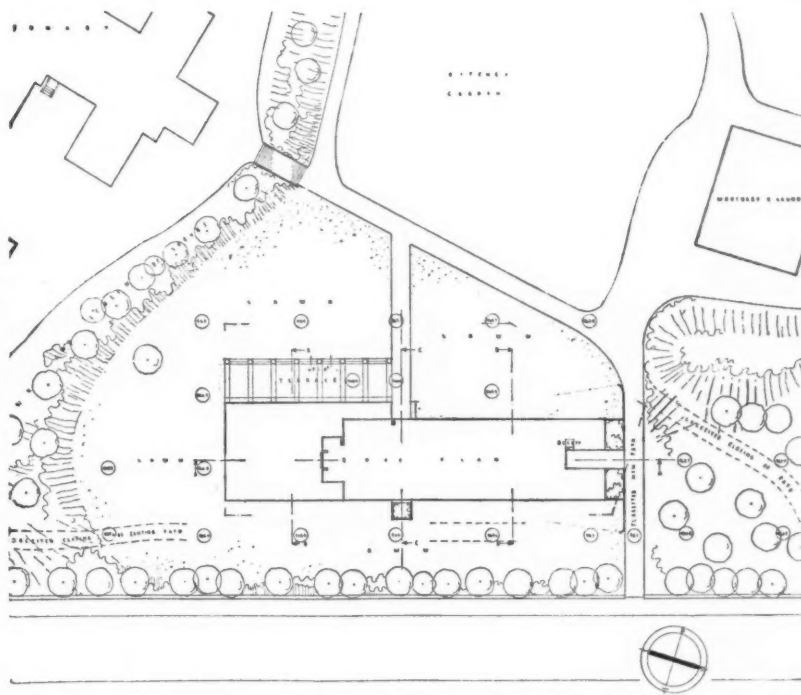
All occupants and visitors to the building must pass through the vestibule controlled by the enquiry office, and assistant matron, when leaving or entering the building.

A secondary staircase is placed on the north for access to nurses' bedrooms by housemaids when cleaning, and for means of escape through a fire exit only on the north.

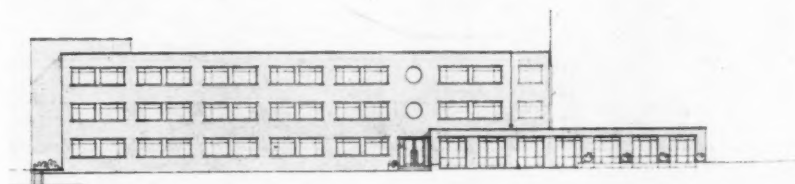
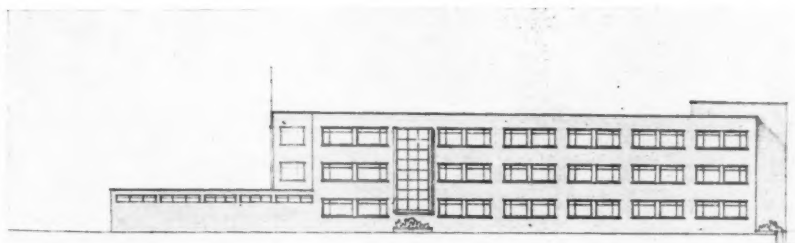
Lighting to the corridors is by large windows at either end, from windows in the staircase halls, and from glazed hopper lights above each bedroom door.

SECTIONS

Room heights: The building is limited to three storeys, as above this height a lift is necessary. The floor height from floor to floor is 8 ft. 9 ins.,

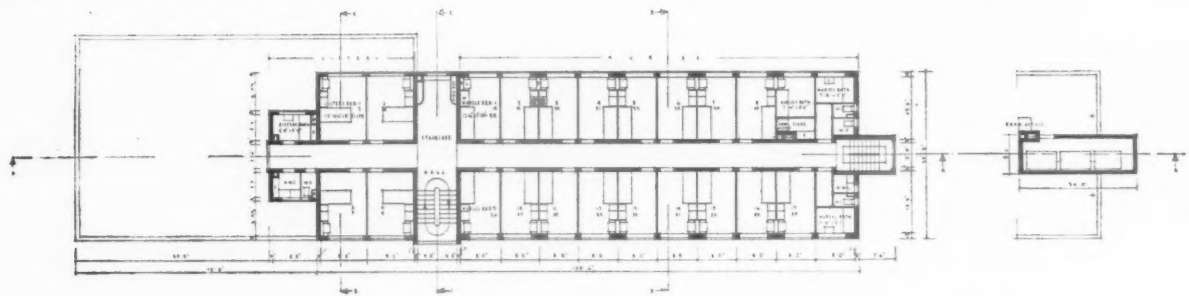


SITE PLAN

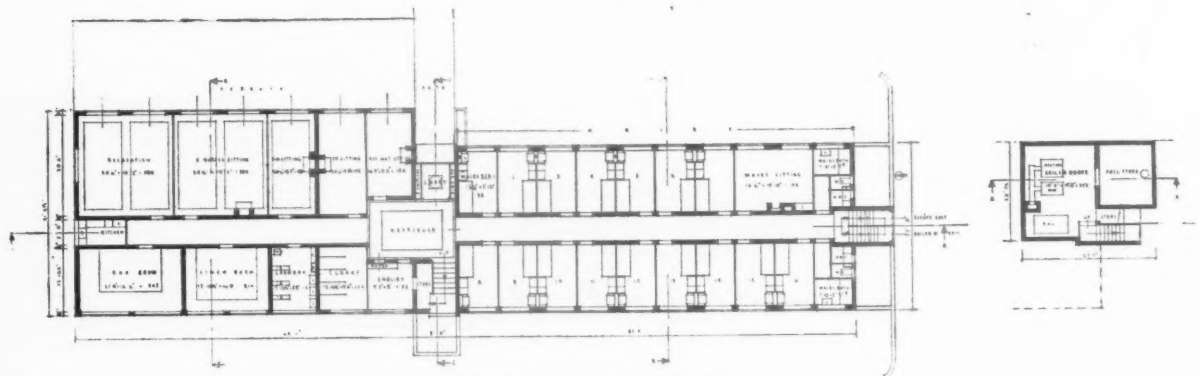


Top: east elevation; centre, west elevation; bottom: left, north elevation; right, south elevation.

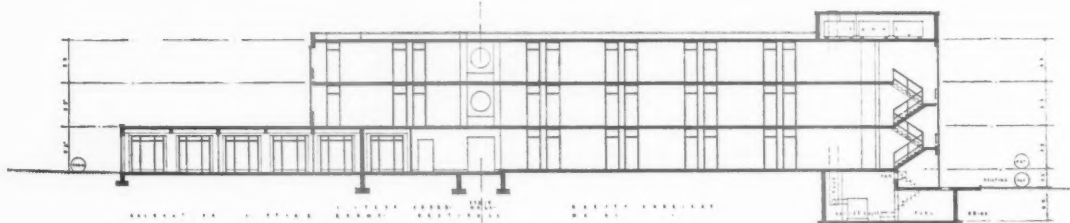
COMPETITION FOR NURSES' HOME AT



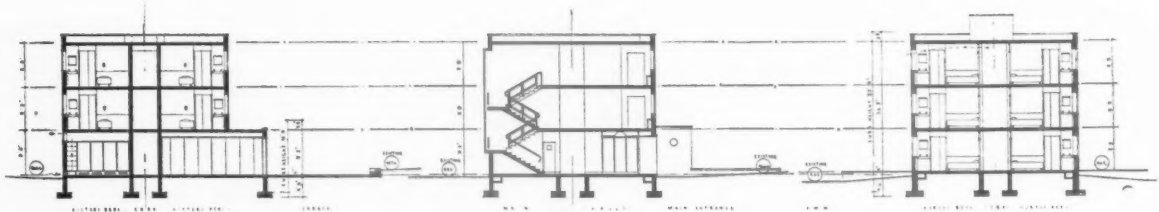
FIRST FLOOR PLAN



GROUND FLOOR PLAN



LONGITUDINAL SECTION



CROSS SECTIONS

DESIGN PLACED FIRST: BY FREDERICK GIBBERD

making a room height to plaster ceiling of 8 ft. 1½ in., which is adequate for rooms up to 200 square feet in area.

The floor to the sitting zone is 6 ins. below maids' bedroom floor, making the height from floor to ceiling 8 ft. 7½ ins. in the large rooms, which will contain several people.

Levels: The building is arranged so that existing site levels are largely preserved.

The ground is level against the building—the slope from north to south being taken up in the length of the building by making the access path on the north 4 ft. below ground level, and banking the earth up against the building and

a wing wall; and excavating the ground on the south side and banking it up to form a screen from the infirmary.

Advantage is taken of the existing levels by placing the boiler house on the north where only 7 ft. of excavation is required for 10 ft. head room.

ELEVATIONS

The elevations are in light golden brown sand-faced bricks with pale beige stone dressings, the metal windows are painted white, and the entrance door is cellulosed ultramarine blue.

The elevations express the major functions of

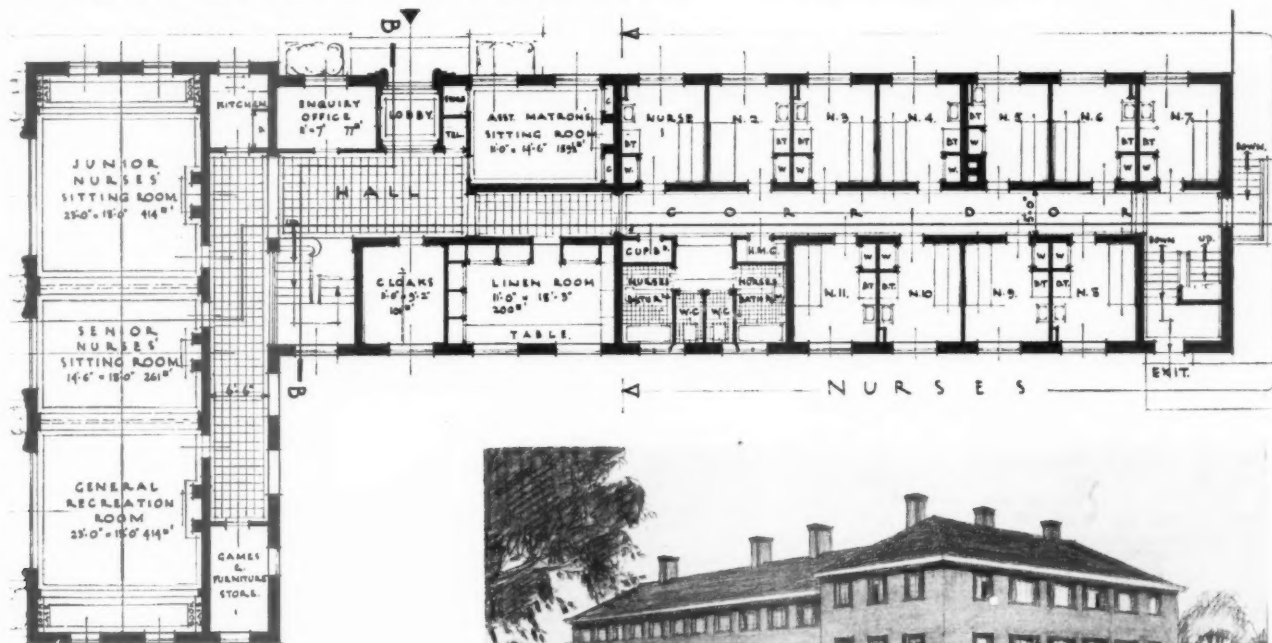
the building: those of sleeping, leisure, and storage; and the back-to-back planning of the bedrooms.

CONSTRUCTION

The constructional system has been devised to ensure that building operations take place in the simplest and most direct manner and that maintenance charges are reduced to a minimum.

Walls: External and internal structural walls are of 9-in. brick; except to maids' and nurses' bedrooms, which are 13½ ins. to eliminate 9-in. cross walls which would upset the standardization—the bye-laws will allow the top floor to be

MACCLESFIELD INFIRMARY: PREMIATED DESIGNS



GROUND FLOOR PLAN



DESIGN PLACED SECOND : BY MINOPRIO AND SPENCELY

9 ins., but the extra cost of making the wall 13½ ins. is more than saved in the exact standardization of room sizes, fittings, and equipment.

Common bricks are good local stock bricks, and the facing bricks are light golden brown sand-faced, 110s. a thousand. Boiler house flue is of Fosalsil flue bricks. Stone copings, cills, and mullions between paired windows are Darley Dale, Derbyshire, stone of light beige colour.

An average depth of foundations of 4 ft. 6 ins. is taken as directed in the Conditions. As the heaviest part of the building is on the north side, where there is little filling, it is probable that an average depth of 3 ft. is all that will be necessary.

Walls to the basement and coal store are of 9-in. waterproofed reinforced concrete. Partitions between bedrooms are 2-in. Pioneer blocks.

Lintols : Lintols over the window openings are of reinforced concrete hung from the floor slab and have a 3-in. deep concrete nib at the bottom to carry their brick facing. Lintols over door openings are obviated by carrying all door frames up to ceiling height and providing extra reinforcement to the floor slab over the opening.

Floors and roof : Reinforced concrete hollow tile floors span from external walls to the corridor spine walls, a dimension which in no case exceeds 13 ft., allowing an economical floor thickness of 5½ ins.

The roof over the recreation and sitting rooms is carried on beams at 9 ft. 7 in. centres spanning from the corridor spine wall to the brick pier between the windows.

The 9-in. external walls of the sisters' bedrooms are carried on a 9 ins. wide reinforced concrete upstand beam, which is carried on the cross beam of the sitting rooms.

Ground floor slab is of 6-in. waterproofed concrete on 6-in. hardcore, except over basement, which is reinforced concrete.

Main staircase and secondary staircase are of reinforced concrete construction.

All flat roofs are covered with ½-in. fibre board for heat insulation, and finished with three ply laminated bituminous roofing, covered with ½ in. of tar macadam, and carried up over fillet and flashed with copper to form a skirting.

D.P.C. : Ledcore damp proof course 6 ins. above ground level. 2-in. lap into concrete. 9-in. external walls sprayed on the inside with R.I.W. No. 232 bituminous damp proofing composition.

Drains : Drains are in tested salt glazed stone-ware pipes, except where under building which are cast iron, on 6-in. concrete beds with benchings, those under buildings to have 6-in. cover; all in accordance with the local bye-laws. Sanitary fittings are grouped together so that a minimum number of manholes are required.

The existing drains running across the site will be run into the new drains running parallel with each side of the building.

EQUIPMENT

Equipment has been selected or designed to give a minimum amount of trouble and thus reduce maintenance charges to a minimum; for example, no chromium plating, copper, or similar tarnishing materials are used, cupboards are structural and not of light plywood construction, and plumbing branches are of short and immediately accessible lengths.

FINISHES

Finishes throughout have been selected to give the building a definite domestic and homely character, so that it offers a complete mental rest from the surroundings in the infirmary; and to reduce maintenance costs to a minimum.

Floors : Floors to staircase halls, corridors, bathrooms, W.C.s, H.M.C.s, laundry and kitchenette are in cream terrazzo. The treads and risers to the staircase have a non-slip abrasive surface, and the corridors are divided up into rectangles, 3 ft. 6 ins. by 4 ft., with ebonite

expansion strips. The vestibule has an insert of terrazzo tiles.

Floors to the recreation and sitting rooms are 7-in. Jarrah dowelled blocks polished and laid in basket pattern with a plain margin in a lighter colour, on a ¾-in. screed.

Floors to bedrooms, enquiry, box and linen rooms are ¾-in. Austrian oak dowelled blocks, polished, and laid in basket pattern on ¾-in. screed.

Floor to the boiler house is finished in granolithic; and to the fuel store, concrete trowelled smooth.

Walls and ceilings : Walls and ceilings generally are plastered two-coat Pioneer or similar plaster. Staircase halls, soffit of stairs, corridors, bathroom, enquiry, and laundry walls and ceilings are painted matt three coats.

Recreation and sitting rooms are painted matt three coats.

Bedrooms are distempered with two coats of washable distemper.

Linen and box room have distempered walls and W.C.s and H.M.C.s have painted walls with distempered ceilings.

Boiler house and fuel store have walls and ceilings finished against smooth shuttering, and are rubbed down and twice whitened.

COST

Cubical contents	161,520 cu. ft.
Cost at 1s. 6d. per foot cube ..	£12,114 0 0
Terrace	138 0 0
Diversion of drain, including grubbing up of old, and increased size of drain to new block to take infirmary ..	120 0 0
Contingencies	£12,372 0 0
	300 0 0
	£12,672 0 0

R. I. B. A. CONFERENCE AT LEEDS

On this and the following three pages we publish a report of the speeches made at the annual banquet; the inaugural address, by Mr. Percy Thomas and the papers read by Professor Patrick Abercrombie and Mr. H. S. Goodhart-Rendel.

THE BANQUET

MR. JAMES R. ADAMSON, proposing the toast of "The City of Leeds," said:

Yorkshire hospitality is known and acclaimed the world over, and in Leeds this week we have had definite and tangible proof that that hospitality has lost nothing of its savour or of its heartiness to-day.

Not only is it famed for its trade, but it has contributed its share to culture through its University, whose fine buildings were designed by distinguished members of our Institute, and in music, medicine and surgery. In civic enterprise, too, it has made its mark on our times. Nor would the catalogue be complete without reference to the city's share in the cricket fame of the County. Its cricket team is the pride as well as the despair of its opponents.

THE LORD MAYOR, responding to the toast, said:

For this great city of ours I offer no apology for the past, over which we have no control, but I do say that we have to realize that we have a serious responsibility for the future. And this city is realizing this responsibility in a first-rate fashion.

Now my attention has been called to a journal which claims to speak for your great profession. I cannot say whether it does or not, but the first thing in it is an article in which the writer draws a comparison between the mentality of your great profession in a line drawn between the Severn and the Wash and between those on the north of that line and those on the south. The inference is that the greater intellectual capacity and culture resides with those on the south of that line. Now, I resent any possible aspersions being cast on those with whom I have broken salt. I like to stick up for my friends, and I make no distinction between the North and the South. I don't intend to express myself in regard to any paragraphs in this very weird and wonderful article. Probably some phraseology of some very capable newspaper editor has been paraphrased by the writer of this article, because it is rather in this wonderful style. Here is a paragraph from it:

"While reform was in the air, while the Great Exhibition dazzled the country, while the Indian Army marched to and fro in front of the Russian legation, and Egypt slid gracefully into Cromer's ap, Leeds went on paying for most of it. The mills of Yorkshire gave place to steam-driven looms, sheep vanished from the hills, and the landowners, the established church, the government, the universities, and civilisation left Leeds and places like it to look after themselves, and with their patrons, architects also washed their hands of Leeds."

Now, I wish that some of the architects had continued to keep their hands off Leeds, and I don't think Leeds would have been any the worse off. I just want to say a word. I don't think I have any right to speak as a champion of the Church of England, but here is a statement that the Church of England left Leeds to look after itself. Just imagine the gross ignorance of a statement of that description, when this city of Leeds within fifty years has given an Archbishop to Canterbury, and has supplied more Bishops than any other city in the country. Sitting on my right is the Lord Bishop of Wakefield, born in this city and whose education for ten years of his life was received in Leeds Grammar School. The article suggests that the city of Leeds is uncultured, though it possesses an intellectual giant like Sir James Bailey as head of its own University. In the last few years Sir James has raised £600,000 for Leeds University, and within the last fifty years for

the old Yorkshire College and the University considerably over one million and a quarter pounds have been raised.

I hope that you who represent this great profession have enjoyed your stay in Leeds, and I hope you will have a different opinion of Leeds. If Leeds, in the fulness of time, is again favoured with a visit from you, those of you who are spared to come again will then be able to judge whether we have made good our boast that we are tackling the great problems in front of us with expedition and with ability, and as well as, if not better than, any other city in the kingdom.

THE VICAR OF LEEDS (Canon W. Thompson Elliott), next proposed the toast of "The Royal Institute of British Architects and its allied societies." He said:

I have a personal satisfaction in being asked to propose this toast because I have had a good deal to do with architects lately, and I am bound to say to you that I like architects as compared with members of certain other professions.

We are engaged, as some of you may know, in a campaign for building churches in the vast new housing areas which surround this city, and the building of something like eight new churches in the last few years has brought me into contact with architects. However profoundly architects may differ from one another in their personal and professional qualities they have at least this in common, they are very nice fellows.

The Lord Mayor has said that we are not responsible for the past, but we are responsible for the present, and also in a great measure for the future, because within limits its products are permanent. You can easily destroy the products of some arts, but to destroy the production of the art of architecture costs money and is very rarely done except under pressure. The pressure of the present time I gather, is considerable. Architecture, again, is the art of designing buildings which are suited both inwardly and outwardly to their specific purpose, while conforming also with their surroundings.

The Lord Mayor, in extolling the merits of Leeds, seemed to me to evade the subject of its architecture. I don't know whether this was deliberate or by accident, but I hope my friends of the R.I.B.A. have found Leeds architecturally quite an interesting city to visit. We are not really such a dud lot north of the datum line as some of you would suppose. We have got some ideas, and we do put them into practice. What puzzles me is that people who want to build commercial things, like banks, have any amount of money to spend on them, whereas we who have to put up buildings which really mean something, like churches, have to do the job with the strictest economy. The great opportunity of architecture to-day, the thing which to my mind makes architecture supreme among the arts, is that it has got a far greater opportunity of expressing the intangibles and imponderables on the mind of the general public than any other art whatever. The public are not interested in pictures or music, but they all see your buildings, and it is the great opportunity of the architect that he can express the aspirations, the hopes and the endeavours of mankind in ways that are beautiful and significant and lovely in the eyes of the multitude. That is the real reason why I count it a privilege to propose this toast, coupling with it the names of your President, and of my very good friend George Atkinson, the President of the West Yorkshire Society of Architects.

MR. PERCY THOMAS. The President responding, said:

The impression still survives that we are only artists and dreamers. I hope we are artists, and if we are not dreamers I think we can contribute very little to the advancement of civilisation.

But what I do want to emphasize is that we are practical men living in a practical age, and if we are going to put our dreams into execution we must take advantage of all the resources of science and industry which have been placed at

our disposal. And even with all this, there remains one essential requirement, and that is the co-operation and encouragement of our national and municipal leaders.

We are at the dawn of a new era when planning will be the keynote of human progress and when the whole system of roads, towns, and industries will be planned not only in themselves but in their relation to the needs of the people and the preservation of the countryside. We may even see new towns designed instead of the haphazard development and extension of the large ones we see to-day.

All this perhaps is one of our dreams, but it is a dream which, granted peace and prosperity, can very easily become a fact.

MR. G. W. ATKINSON: Mr. Percy Thomas, Our President, has been the bricklayer, and has made the response, and all I have to do is to second it. I have one little story to tell you. A doctor and an architect were discussing together the respective values of their professions, and the architect said to the doctor: "You have a great advantage over me, you bury your failures while ours last a dickens of a long time."

INAUGURAL ADDRESS

By Percy E. Thomas

IN these days we are all talking of planning—planning in almost every form: town and country planning, regional planning, industrial planning—and I want to call your attention to the fact, not realised by so many, that in all these forms of essential planning the architect has to play a part which cannot be ignored or omitted without more or less disastrous results.

The business of the architect is not simply to plan and supervise the erection of buildings. That is, in itself, a big enough task, but his skill and knowledge are essential factors in a far wider field. He deals—or should deal—with the relations of buildings to one another, the planning of the streets and the layout of the town, the proper disposition of its various elements—residential, industrial, civic, recreational and so on. We have recently had a remarkable example of the public recognition of the architect's part in a great industrial and social development. One of the methods which have been adopted by the Government for dealing with the terrible problem of the "Special Areas" has been the creation of what are called "Trading Estates" in these areas. It is a modest name for a big thing. It proposes to create in a depressed area a complete new industrial unit, with its factories, its transport, its homes, its schools, churches and places of recreation.

One of the first, if not the very first, of these enterprises is the Team Valley Trading Estate and in this case the authorities set an example which will, I hope, be followed all over the country. They decided that from the first they must have an architect and town planner of outstanding ability and energy and I am glad to say that they enlisted the help of the R.I.B.A. in securing the services of Professor Holford, Professor of Civic Design in the University of Liverpool, who is now busy in his great and hopeful task. Under his direction we shall see the development of the ideal industrial unit of the twentieth century.

Our Conference is, perhaps, a suitable opportunity for pointing out to the general public and to the Press, as well as to the authorities who serve the public, that the architectural profession is now organised and equipped as never before for giving to the community the skilled service which it needs. No one with his eyes open can go through any of our cities and the areas surrounding them without realising how badly such services are needed.

We have in the R.I.B.A., with its allied societies

in every part of the country, a vigorous organisation which is ready and anxious to play its part in creating those better, healthier and more beautiful conditions which we hope will be the mark of the twentieth century as compared with the disorder and ugliness that were the mark of the nineteenth.

Our architects are trained and tested as they have never been before by a system of education in architecture and town planning which is turning out every year fresh contingents of young and eager professional men and women who want only to be given the opportunity to show what they can do.

The machinery of the R.I.B.A. and its allied societies has been overhauled and tightened up in order to make it more effective for its purpose of service to the profession and the public. We are doing our utmost to bring home to the public what we can do for them if they will give us the chance.

We have organized and we are sending all over the country a series of exhibitions (open freely to the public) which illustrate the architectural solution of one problem after another—the better planning of schools, the possibilities of planning for air transport, the planning of civic centres and municipal buildings and even the improved design of the little “everyday things” that we all use, from tea-cups to carpets. The attendances at these exhibitions have already reached several hundred thousand.

We are developing our service of illustrated lectures for all sections of the community from the children in the schools to the mature citizens in their clubs and societies. We are helping the work of rational preservation of beauty wherever it exists. The Council for the Preservation of Rural England only a few weeks ago gave expression to its gratitude for the help which it had received from the R.I.B.A. from the day of its foundation.

But I want to emphasise the fact that “preservation” in the narrow sense of the word is only a small part of our task. “Creation” is our main duty, and if the two ideas are correctly interpreted there is no conflict between them. We have to create new efficiency, new order and new beauty, and in doing it we have to see that we do no needless injury to the best that our forefathers have bequeathed to us.

THE DEVELOPMENT OF A GREAT INDUSTRIAL CITY

By Professor Patrick Abercrombie

YOU observe the title of my paper is “The Development of a great Industrial City,” not the preparation of a town-planning scheme for a great industrial city. I want to make it quite clear that of the threefold stages through which every community must pass in connection with this planning—the preliminary survey, the development plan and the statutory scheme—I am this morning only going to talk about the development plan stage. My reason for doing that is partly because that is the title given you and also because I think that is really the special sphere of the architect's contribution to the subject of planning. I do not say, for an instance, that the architect cannot help and does not and should not help in the preliminary scientific survey, the collection of data, etc., upon which the scheme or plan is to be based. The bare bones of an Act of Parliament if they were only interpreted by lawyers would remain extremely bare. We have to put something of the flesh and blood on to those bones. But in the middle stage the development is the point where the architect naturally comes into the scheme more completely. What we require at that stage are two things. First of all, imaginative vision in planning—the ability to foresee the future in some way or other. And the other principal quality that is so essential in this middle stage is that of design—again a word which requires very careful definition.

Though I am especially refraining from saying anything about the local aspect of town planning I must confess that one of the objects of my speaking to you this morning is to point out what a lot there is that it is possible to do today

in our towns without really waiting for the legal powers in the Town and Country Planning Act. We have to remember that an English city at least cannot be wholly scrapped, much as many of us would like to see that done, but not, of course, in the case of this beautiful town of Leeds.

There are two factors which Sir Ernest Simon has in his mind when he says the opportunity of the present will not recur and which give opportunity and force us into bold action; these are slum clearance, which is affecting almost every town, and the equally important factor is the increase of traffic. The first is freeing an enormous quantity of land that was before covered with dwellings either in the centre or in the immediate circumference of the centre of our towns, and we have to make up our minds what is to be done with those spaces. The increase in traffic has had two opposite effects: while increasing the power mobility it is also tending almost to create immobility. I would like to point out to every town the enormous value of the freed spaces. Here are some of the uses to which that space can and should be put. There is first of all, central traffic improvements. We have heard and talked a great deal about ring roads round our towns and by-pass roads. The central by-passes are just as essential. There is next the need for parking space; I know of several towns where cleared areas have been temporarily used as parking places, and every one of them occupied fully by cars, showing the absolute necessity for parking spaces scattered throughout the central area, so that people do not have to walk too far from their cars when they leave them. Next is the need for the bus station. It is only just being realized that a bus station is as important as a railway station.

There is then the railway terminals problem. Most people will agree that not only do we need the railways to be remodelled, but we should like to see the amalgamation of the railways carried out on the amalgamation of stations. I know that is a need in many towns. Manchester, for example, has the most fantastic arrangement of stations. Every railway used in Manchester uses every station, so that you never know which station a train is going from.

Now, I come to another aspect of central improvements equally useful and necessary, namely, the creation or the completion of your civic and other centres.

Next we have the need for open spaces in the central area. In this respect, I think we may congratulate Leeds on being a pioneer city in providing open spaces in the centre of the town. Cities have provided an enormous amount of space in parts for the recreation of their inhabitants, but we spend a great amount of our time in the city.

Then there is the markets question. Most towns are saddled with out-of-date markets. Markets are a most essential aspect of every big industrial town, and there is a complete middle generally between the several types of markets. There is the wholesale system and the retail system. The retail market is the prototype of the modern store. Markets are one of the things that require remodelling. Then we have the very delicate subject—that most sensitive of all central improvements—the increase of the shopping area. The layout and the planning of a new shopping street is the most hazardous thing any town can embark upon because no one can gauge where the shopper will go. It depends almost entirely upon the caprice of the ladies. Finally, I think I may say you have the industrial or warehouse area. So many of these areas are themselves in or near the centre.

Here, I think, there is enormous scope for the architect's skill in replanning those central areas. There is need for replanning on a bold scale.

The redevelopment for housing has its counterpart to the industrial development. It may be necessary for a city to buy buildings or land not included in areas at present cleared. I believe it would be very good business if they did so, and I hope the question of providing better planned sites for industries which require skilful design is not being neglected.

On the general question of housing, I would like to remind ourselves that there is a major

and a minor aspect of housing. There is the sociological aspect which has been referred to this morning. As to where we shall place our population, there is that inner ring of the town which, I think, generally will not be used for housing. There is the immediate outer ring which requires radically remodelling. Some of it back-to-back houses. There is the rehousing in an outer ring, the filling up of the suburban areas, and there is the planning of completely new areas. The minor questions are the actual way we are going to carry out the rehousing. We have a three-fold method of building—in little groups, the terrace formation, and flats—highly controversial subjects all of them. I am not going to say a word about flats or cottages today in a controversial way. I am merely going to say that, in my view, the use of high flats should not be for the purpose of increasing density. There is, of course, a limited increase which is permissible. If you take housing at the normal suburban standard of twelve to the acre, and you are going to put these people in ten-storey flats to obtain the same amount of light and air, you should only increase your density by 50 per cent.—only 18 or 20 per acre at the most. The difference between 12 and 18 or 20 in the increased space required by them is extraordinarily small. There is nothing in it. In other words, the use of flats has a very little effect on the area covered by a city.

Zoning has three functions. One is directive, the second corrective, the third protective. Directive zoning says where new industries, new shops and new buildings should go. Corrective zoning deals with the older part of the city which requires putting into shape. Protective zoning is the one which affects the architect very much. It has been suggested recently that the protection of the leafy beauty of our outer suburbs is snobbishness. It is not snobbish at all. That beauty is a common possession of all of us and to suggest that you should cut down most of the trees and cover their gardens with houses at high density or even at a low density would destroy the beauty of our suburbs. The corrective, by eliminating things which are discordant—it is only by degrees that we can do this—industries or houses in the wrong place cannot indefinitely be left there.

There is another interesting aspect which has been given attention recently. The civic centre should have its corresponding centre in the housing areas. Housing schemes form the centres of these focal points. What should be the size of the smallest unit I am not prepared to say, but the whole site should be gone over carefully with a view of the essential of focussing public life at certain definite centres. A small group of shops may give you an indication of what is the focal point.

Open spaces should be regarded as important. They are an introduction of nature into the town. Most of the towns are very well off for parks. There is also an essential need of playground areas. Many towns are very badly off for the smallest playground for small children. Finally, there is the most popular of open spaces—the green belt. This is to be obtained partly by purchase and also by the reservation of farm lands. I hope that every city is going to plan its green belt. The question of the open belt around the town brings me to the point of general policy with regard to the limitation of the size of your town. This is the most difficult thing of all because the whole question is bound up with the local authorities. It is a question for co-operation between local authorities as to what is the best areas for efficient growth.

The last problem is that of communications in your great city, and if I leave it to the last it is partly because this is generally settled and decided on first, although we do know the various Ministers of Transport seem to change their ideas of what they require more rapidly than anybody else. From the very beginning of the control stages the advice of the architect is absolutely essential, and I hope that people will learn from the dreadful results of the past in not consulting the architect sufficiently early. One of the new roads out of London, the extension of Cromwell Road passed by Parliament, is an example of everything that should not be

done in the creation of a new road leading out of the city. I would say, finally, that it is essential for the good of the community that the architect himself should contribute his share towards the making of this development plan.

THE ARCHITECT TODAY

By H. S. Goodhart-Rendel

THE practical ability an architect should have is of two kinds, ability to conduct building operations without wasting time, labour or materials, and ability to prescribe the kind of building that will best meet particular needs, circumstances and methods of construction. Practical ability in the conduct of building operations is what the public is most conscious of needing from him, since the power of recognizing what is appropriate in building—or even what is useful—is not yet widespread. The streets of our cities and the suburban roads surrounding them prove that you used to be able to build almost anything for the business man to work or live in without his realizing how much better he might have been served. Architecture nowadays is being emancipated from many traditional inconveniences, but is in danger of forming a new tradition of inconveniences scarcely less deplorable than the old. The public that for so long wasted its footsteps in the great open spaces of unscientific planning is now often congested in quarters where every human movement must be worked out beforehand to avoid bruises. The public that for so long worked and lived in the dark is now often exposed to the glare of the glasshouse. The public that for so long had its money wasted upon needlessly costly ornament is now often made to pay for needlessly costly engineering—for surprising cantilevers where stanchions would bring no disadvantage, for girders of dramatically long spans where those of shorter would do, for mushroom stanchions used so as to cause not less but more expense and obstruction than would be caused by normal stanchions normally placed.

The power of recognizing what is appropriate and useful comes with that quality so many people claim and so few possess, the quality of common sense. Common sense, let me remind you, is common not as a cold in the head is a common cold or a vulgarian a common man, but is what bad writers prefer to call communal, the generalized sagacity of the human community. Few individual people have it because in most people sagacity is all messed up by fads and prejudices, but mankind in general has it because fads and prejudices cancel out. Individual people can have it if they train themselves to use their reason in small things and in great and if they strive to remain always conscious of the legitimate needs and desires of their fellows.

In the 'nineties of the last century, when Norman Shaw wrote the essay I have already referred to, the artist-architects were mostly busy making picturesque compositions of leaded casements and commercial magnates, of Jacobean fireplaces and ladies in bustles, of free Gothic churches and ritualistic curates on bicycles. The magnates, the ladies, and no doubt the curates, were content enough with their part in the whole, since going as the new architects pleased was considerably more comfortable than had been going as nobody really pleased in the days of earlier Victorian conventionality. Moreover, being "artistic" provided it fell short of being "aesthetic," had become quite the thing; it was disagreeable to be called "philistine."

In those days, therefore, architects did show themselves conscious of the legitimate needs and desires of their fellows because it is perfectly legitimate to want to be both comfortable and in the fashion. In so far as they led the way to comfort, they were influential for good, they were inculcators of common sense. In so far as they led a fashion they were influential perhaps but in a much less degree, because it takes two to make a fashion, the leader and the follower, and it is often difficult to determine who is which. My own view is that the public was hungering for Dutch gables and white balconies



The new president of the R.I.B.A.: Mr. H. S. Goodhart-Rendel.

before the Norman Shavians arrived to provide them, just as I believe that more recently a particular public was hungering to expose its private life in glass-walled houses like showcases before it occurred to architects to build in a way to satisfy this desire. The question here of priority between supply and demand is a psychological one that in a paper necessarily short I cannot even begin to investigate.

I cannot, however, pass over a question nearly allied to it, a question that must touch the conscience of every provider of necessary things. How far should such a provider seek to create a public appetite for work in which his own personality is strongly exploited, for work that only he can supply? How far should he set up as the man whose buildings, to adopt the odious slang of advertisements, are "different"? In painting and sculpture I do not see how he can avoid doing this, but painting and sculpture have ceased with the coming of printing and photography to be necessary things, and the grand artistic commerce of mediæval days has degenerated into a lot of little one-man booths at a fair trying to attract a public chiefly intent upon swings and roundabouts. Painters and sculptors, except in the matter of portraiture, cannot count upon being employed at all; in order to live they must attract attention, and must each try to provide something that the others cannot, something unmistakable that critics can recognize and dealers profiteer in. Architects are placed otherwise. As long as mankind needs artificial shelter they are bound to secure some employment, even if not so much as they feel that they are entitled to. When they are artists they are bound to express their personalities and the world will be the richer for it, but I do not think their personalities should ever be exploited, that they should ever say, as an eminent architect of the last generation was once heard to say in his office, "Give me that drawing and I'll just make it *me*." Buildings are not very appropriate vehicles for

the display of this kind of egotism, the men who pay for them generally care a great deal more about their own "me's" than about the "me's" of their architects, and although an auctioneer occasionally advertises a "Norman Shaw house" or a "Voysey house" or a "Lutyens house" I do not imagine that the sale value of the property is greatly enhanced, except by the general presumption that such a house will be well designed of its kind and properly built.

I am afraid that the tenor of my remarks so far may have seemed unduly professional and inæsthetic, but I claim for it that it is realistic and I do not think we need ever be afraid of reality. I remember once when I ventured to suggest in a committee that a certain issue could be contested better on utilitarian than on æsthetic grounds an indignant elder jumped to his feet and demanded that as a body of artists we should not be frightened of standing for Beauty. I envied him for being so sure what beauty is, but felt impetuously that utilitarianism might be a better approach to it than any he was likely to recommend. Usefulness alone cannot make beauty, every thinking person knows that. But beauty often does arise from usefulness, and there are twenty people that will agree upon what is useful for every two that will agree upon what is beautiful.

"Standing for Beauty" is what we all should do in our own hearts, but can only result in a collective and practical stand at those rare times when a particular notion of beauty is generally agreed upon. The eighteenth-century Palladians stood for beauty in days when no culture was thought possible that did not spring from Rome. The Romantic Movement brought them to disorderly rout. The Arts-and-Crafts people stood for beauty in days when the average thinker was inwardly rather ashamed of machinery. A change of public mood revealed them as standing with their backs turned to all the especial opportunities of their age. Post-war discontent led many to make a stand for a

notion that beauty could consist solely in the performance of function without any really æsthetic element at all. Whilst the memory of much ornamental uselessness was still fresh this notion was widely accepted, but now that the irritating past is lapsing into harmless history we realize that no art can be made by negation.

I think Beauty with a big B is best left out of any question we do not want to become a vexed one. I think it is a thing to be watched for, to be prayed for, to be worked for, but not to be dogmatized about. I do not think that usefulness can be dogmatized about either; at the present moment everything that looks queer is said to be useful, but experience does not always justify the claim. If we do not dogmatize about usefulness, however, we can, nevertheless, pursue it wholeheartedly, and this pursuit seems to me particularly the business of the architect today. In leading research towards usefulness he can perform a social function that no one ought to be so well qualified to perform as he.

His particular qualification for this should arise from his training and from his habits of thought. Designing buildings should teach a man, as few other tasks can teach him, to put conflicting requirements in the order of their relative importance, to foresee and provide for development and change, to organize the work of many towards a common end. These are capabilities that should also characterize the civil engineer, and I often think that if architects and civil engineers could become either identical or very closely and harmoniously related they could govern the world. Unfortunately, things are not yet nearly as good as they ought to be in either profession or in their mutual relation; the engineer is called in to construct a design that has already gone too far before he came on the scene, the architect is called in to clothe a design whose construction has been settled without his advice, and in consequence engineering tends to become more and more unimaginative architecturally and architecture more and more unimaginative constructionally. When the engineer tries to do the architecture as well as the engineering and the architect tries to do the engineering as well as the architecture, the results, in this country at least, are almost always execrable. I need not say that I include in the meaning of the term architecture the science of planning, because engineers can scarcely be blamed for not realizing that this branch of design, in which their co-operation is seldom sought, is a science at all. It must be said in fairness that a great many architects fail to realize this also.

The best remedy for neighbours that poach each other's preserves is for them to form a shooting syndicate together. These would be low grounds for recommending to a collaboration that might be of the greatest benefit to the public, and I do not suggest for a moment that cases of undesirable poaching are common enough to call for any general remedy. What I do suggest is, whereas in our architectural works the engineer, and in our engineering works the architect, is now usually called in when a design is half made he ought to be called in at the very beginning. At present it would not often be practicable in England that authority should be divided equally between them; their functions have been too long specialized, their visions limited too narrowly. It ought to become practicable, however, as the standpoints of the two professions approach each other, and in the symptoms now observable of this approach I see the brightest hope to be found anywhere for the improvement of both.

When the average architect shall have learnt that the structural skeleton of his building should be the framework around which his earliest conception of its design should be shaped, when the average engineer shall have learnt that a structural skeleton can be a thing capable of infinite varieties the choice among which is a problem of great intellectual delicacy, the two together will have acquired a mental technique, a real power of creation, far in advance of that possessed by most of the people who control our legislation and strive for our social improvement. Nevertheless, I hold strongly that

architects and engineers should stick to architecture and engineering, and refrain from plunging into activities that are purely sociological. Some sociological study is a necessary means to the end of any well-balanced architectural education, and when that education is directed towards a specialized study of town-planning and housing the part that sociological study plays in it will be large. Nevertheless, although in a large sense the proper study of mankind is man, in a specialized sense the proper study of the architect is the architecture he is to make for man's use. When he is very young he may think that he can change man by the architecture he gives him, but he will soon find that except under a dictatorship nobody will consent to pay for something that may change him perhaps in a way he does not greatly fancy. If he should wish to be changed he is more likely to put himself in the hands of a prophet—or even of a surgeon—than of an architect.

I hope that in Leeds the name is not forgotten of that patron and amateur practitioner of architecture, Sir Edmund Beckett, the first Lord Grimthorpe. It is not forgotten at St. Albans, would that it could be! In Leeds, however, a city with which he had many connections, the memory of his practical misdoings might reasonably be outweighed by the memory of the two books he wrote about our art, books into which, for all his bad temper and self-assertiveness, he put much that was valuable and true. A sentence from one of them it will be convenient here to quote: "People," he says, "may talk and write fine language about the philosophy of art and theories of architecture, and may call it the expression of a people's wants and many other things which sound well and mean anything or nothing: but the long and short of the matter is (as I said just now)—[he had several times]—that architecture or architects want only two things, expressible in two short words, taste and knowledge." Knowledge he goes on to define as "practical and scientific knowledge of building and all that belongs to it," and taste he also defines, but in a much less satisfactory way. It is a word even more dangerous to handle than beauty and his test of it—"that things in good taste are admired in the long run permanently"—does not elucidate its essence. Yet I think that *taste* is no worse a word than any other to describe what I have already claimed as an attribute of common sense—the power of recognizing what is appropriate.

Appropriate practically, and appropriate emotionally—for please never forget that body and mind cannot be separated and that what disturbs the mind often does a nervous disservice to the body. Every doctor will tell you that a dyspeptic digests his worst when he is bored and it is useless to humanity to supply it with perfectly useful things it hates the sight of, because humanity will not use those things but will break them and throw them away. Now, the pleasure to be got from the sight and the use of a thing that is completely appropriate, that neither contains nor suggests any element irrelevant to its destination, may be a pleasure undreamt of by the public that admires Tudor filling stations, and I think that even among professed art lovers it is not widely felt. It is keenly relished in France, but only partially understood in Germany, America and—I am afraid I must add—England. Yet the contrary pain caused by obvious inappropriateness when it does happen to be experienced causes warm resentment. People are content enough that a barracks itself should look like nothing in particular, but they do not at all approve a block of flats "looking like a barracks."

The science of planning, upon which time forbids that I should dilate, is obviously included in what Beckett meant by *knowledge*: he thought that he possessed it himself and in the book I have quoted gave two plans that prove he did not. What Beckett meant by *taste* was no doubt in the main what everybody is apt to mean by *taste*, his own irrational likes and dislikes, but through all his crotchety writings there is a strange bias in favour of the appropriate that gives them real value. The laughable, it is often said, is usually the incongruous, and I think the crank differs from the sensible

man chiefly in his lack of the sense of humour that would show him when his theories were out of scale with particular occasions. There is something really very funny in cinemas made like churches, in sitting-rooms made like operating theatres, in department stores made like ancient temples. If we call the avoidance of these absurdities "taste" we do no great violence to our language.

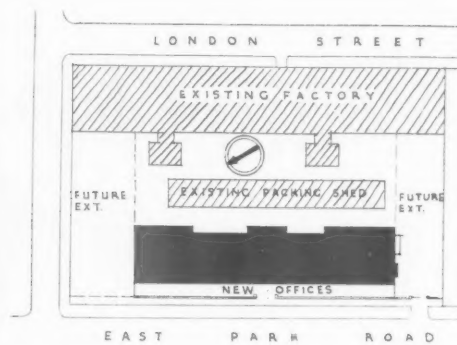
A great deal of building nowadays is still done without any architect, and an increasing amount is being done under architectural departments or staffs in which it is difficult to discover and isolate any master mind. Even among private practitioners there are being formed groups, the members of which not only pool their various specialized abilities but collaborate in the initial work of actual designing. The results of such collaboration seem to me rather like a statue I remember in my youth. This statue had been produced by a talented family, each female member of which posed until she felt too cold, when she put on her clothes and took a turn at the sculpture with someone else as model. It was not a bad statue, but it was not a very good one.

Whether we like it or not, however, we are bound to have a good deal of this kind of work in the future, and the occasions upon which I believe it will be harmless—perhaps even desirable—are those arising when stock requirements call for nothing better than an article from stock. Patent medicines have their uses—one does not get a prescription from a doctor when one needs only a disinfectant or a mouth wash or something for chapped hands. Some wants in building need no expert diagnosis, simple methods of supplying them are common property and can be used in mass production. It is no good telling a man who buys a stock pattern motor car, ready-made clothes, and mass-produced furniture, and is perfectly content with all of them, that his house ought to be the expression of joint idiosyncrasies of himself and his architect. He knows that a house specially cut to fit him will probably be more expensive than a standardized one, and he prefers to spend his money otherwise. It is doubtful whether the architectural profession, having never succeeded in getting bricks made to a uniform size and shape, could succeed in completely standardizing the little buildings that now are designed over and over again with only small and ineffectual variations, but I do not think it would do any harm if they tried to do so. Such stock patterns ought obviously to be as little individual as possible, and for designing them a group of architects would actually be better than a single one. The danger of admitting any standardization at all is, of course, that laziness or officialdom may carry it too far, that people may have to make their wants fit the available patterns rather than have patterns made to fit their wants.

I have considered the architect in relation with the engineer, and if time had allowed I should have liked to consider the architect in relation with the decorator. All I can say of that relationship now is that the average architect needs the decorator's assistance more often than he is inclined to admit and that the average decorator needs the architect's assistance all the time. As with the engineer so with the decorator, collaboration should begin at the earliest possible moment instead of being deferred until one of the collaborators has decided alone what both ought to have consulted about. Architect and decorator may be united in one man, just as architect and engineer may; indeed, it is ideal that they should be. Men with these double capacities, however, are rare at present, and not to be generally expected.

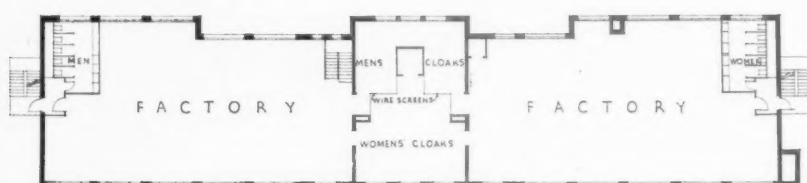
The architect I have been speaking to you about, the typical architect of today, knows, or should know, enough about engineering to see that his engineering is properly done and enough about decoration to see that his decorating is properly done. He is under no greater obligation than that. I will not recapitulate the social services he should perform, I have spoken of them as well as I am able. I shall, however, repeat as the final words of this somewhat cursory lecture the axiom round which it has all revolved. The architect, above all else, must be a man with common sense.

OFFICES AND FACTORY, EAST

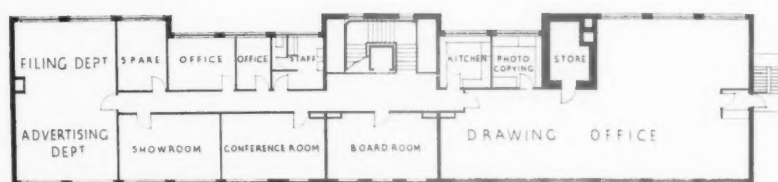


SITE PLAN

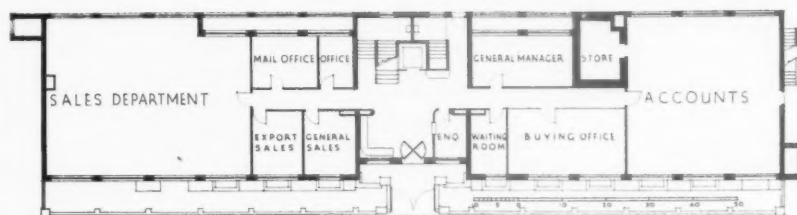
B Y P I C K , E V E R A R D ,
K E A T A N D G I M S O N



SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN

PROBLEM—Office and factory building in East Park Road, Leicester. The office staff, numbering 150, is accommodated on the ground and first floors, and the workpeople, numbering 200, engaged in light typewriter assembly, occupy the second and third floors.

CONSTRUCTION—Steel frame, faced with mixed brindle bricks, with reconstructed stone dressings; and entrance doors in stainless steel and bronze. The sign is in bronze and enamel. The cantilevers over the sign are for hanging light scaffolding for cleaning purposes.

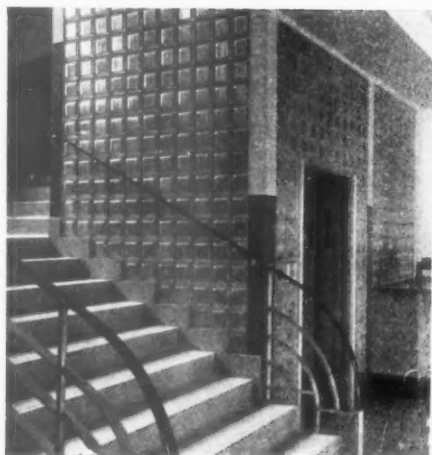
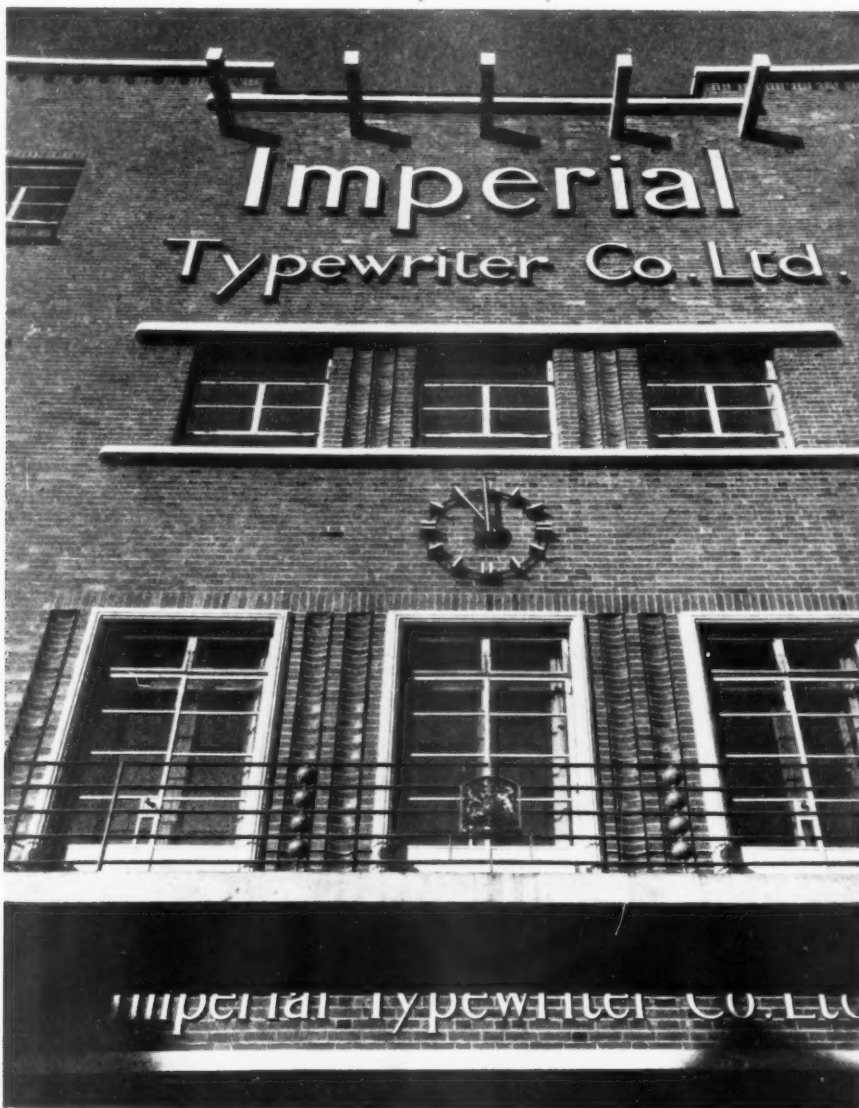
INTERNAL FINISHES—The ground and first floor finishes are 12 in. compressed cork tile squares, and, on the second and third floors, teak blocks. Office partitions are glazed steel, with Australian walnut dados and ebonized capping, and the boardroom is panelled in weathered sycamore and has Australian walnut furniture. Walls generally are finished in plaster and painted matt ivory with glossy grey dados. The entrance hall has a Hopton wood floor and dado with Swedish green marble banding. The staircase balustrade is executed in stainless steel, with a green plastic finished handrail.

Above is a view of the main front.

For list of general and sub-contractors see page 40.

P A R K R O A D , L E I C E S T E R

*The photographs are :
right, a detail of the
main front ; below,
the entrance hall, show-
ing the main staircase
and glass lift enclosure ;
and the conference room
on the first floor.*



OFFICES AND FACTORY, LEICESTER



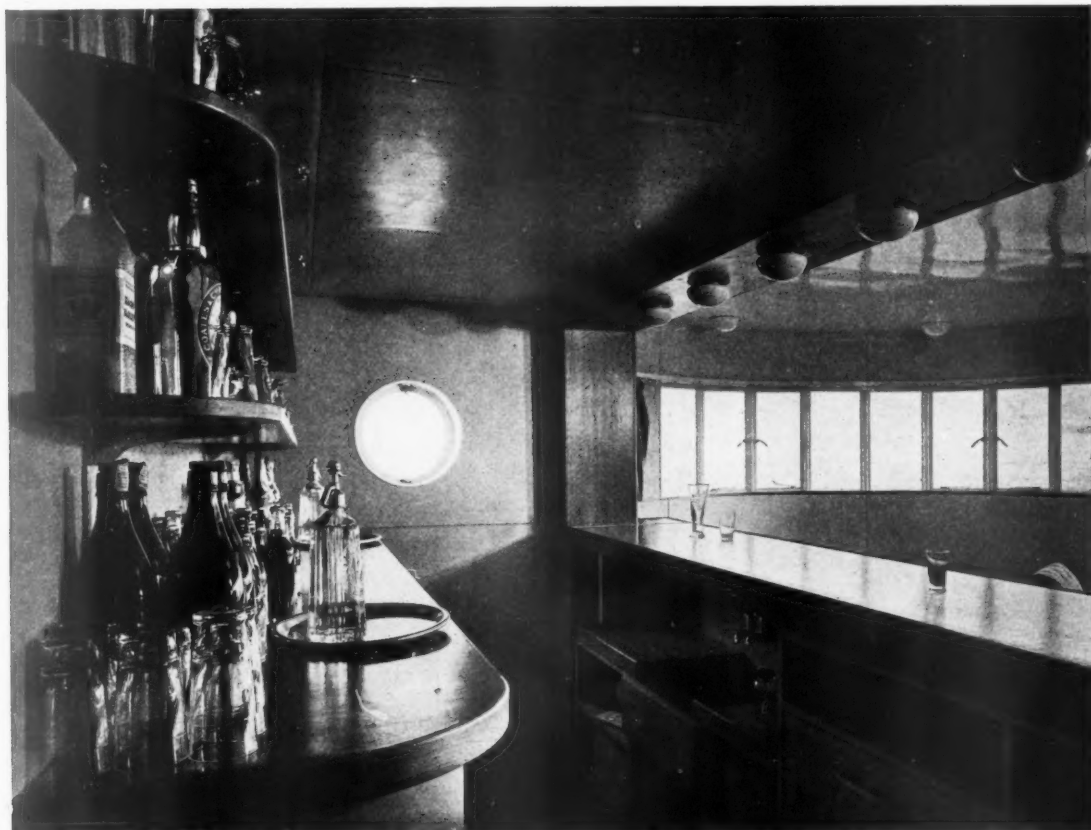
The photographs are : above, the demonstration rooms ; below and right, two views in the board room.



*B Y P I C K , E V E R A R D ,
K E A Y A N D G I M S O N*

WORKING DETAILS : 559

BAR • LONDON GLIDING CLUB, DUNSTABLE • CHRISTOPHER NICHOLSON



The bar counter is faced with wallboard, painted light blue on the clubroom side, with built-in sink and drawers on the service side. The counter top is covered in black lino, while the opening reveals and soffit are faced with walnut ply.

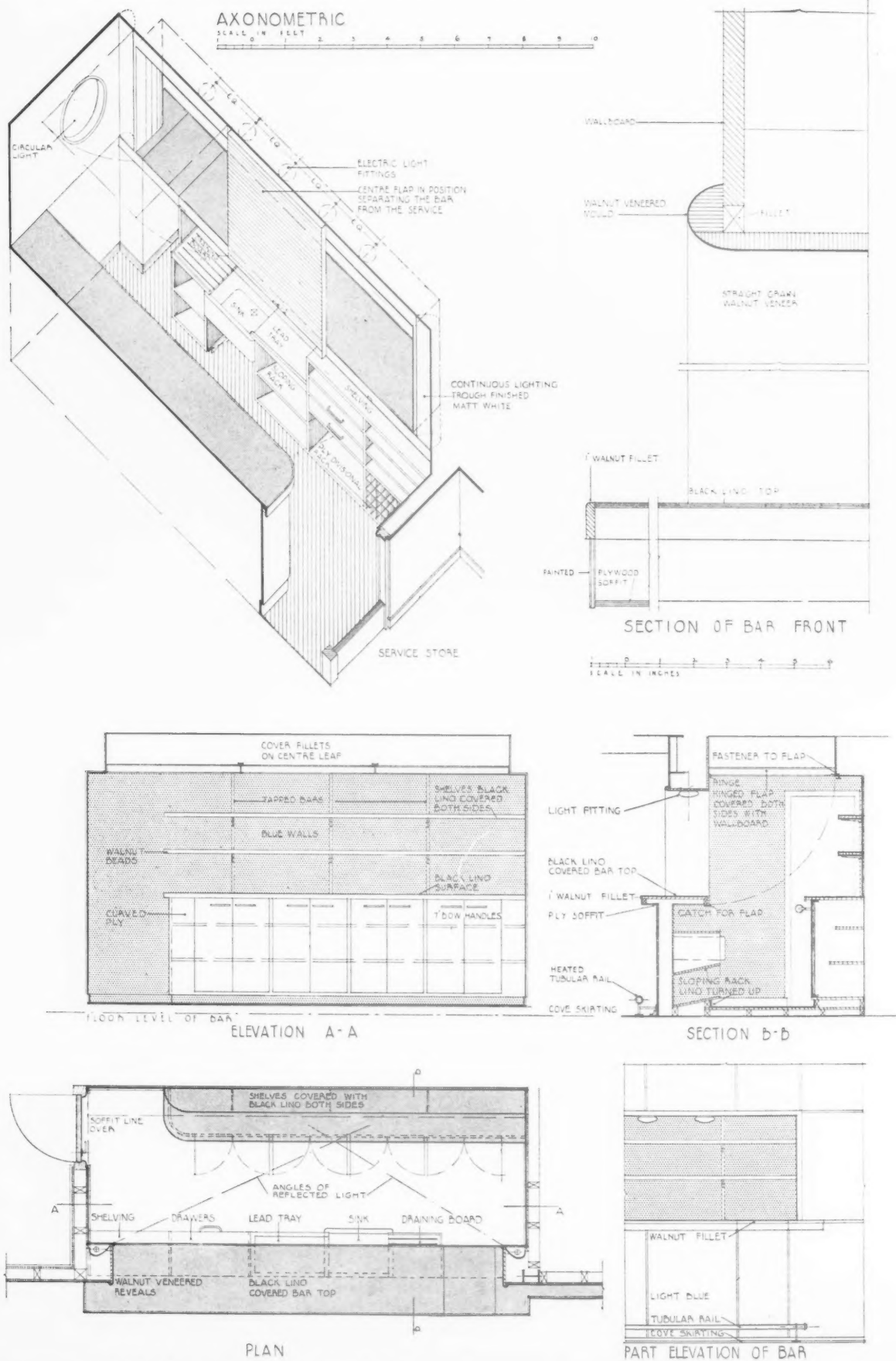
On the back wall of the bar service are a series of shelves and cupboards, the tops being covered in black lino, as is also the floor. The walls on the service side are painted a darker blue, while the ceiling is made up of three flaps, set flush, which can be lowered to act as shutters above the counter when the bar is not in use.

Axonometric and details are shown overleaf.



WORKING DETAILS : 560

BAR • LONDON GLIDING CLUB, DUNSTABLE • CHRISTOPHER NICHOLSON



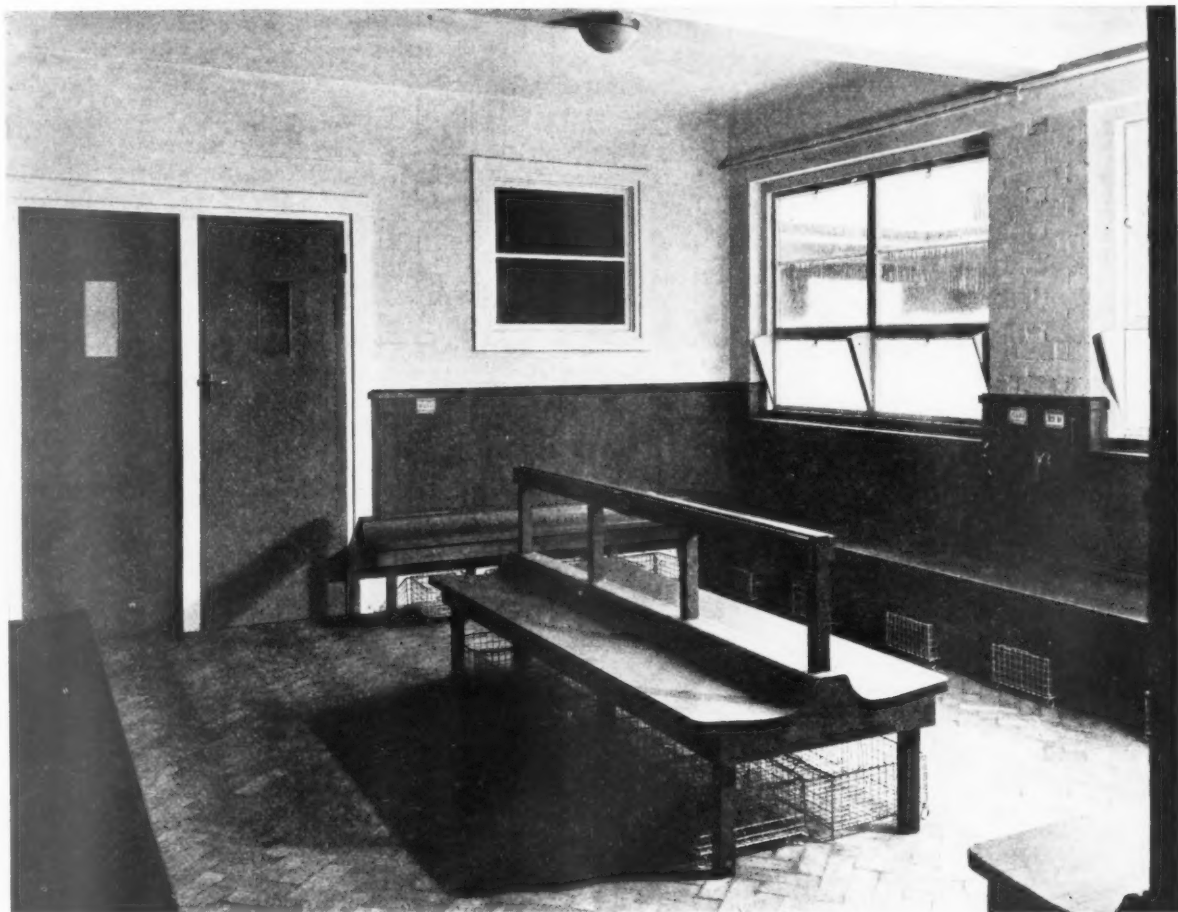
Axonometric and details of the bar illustrated overleaf.

WORKING DETAILS : 561

CHANGING ROOM

• BATTERSEA GRAMMAR SCHOOL, S.W. •

J. E. K. HARRISON



The walls are finished, up to dado level, in birch faced ply. Above the dado the brick walls are whitewashed, and the metal windows have tiled cills. The seating is carried out in Douglas fir and the floor finish is wood block.

The lavatory walls are faced with quarry tiles, with a granolithic floor.

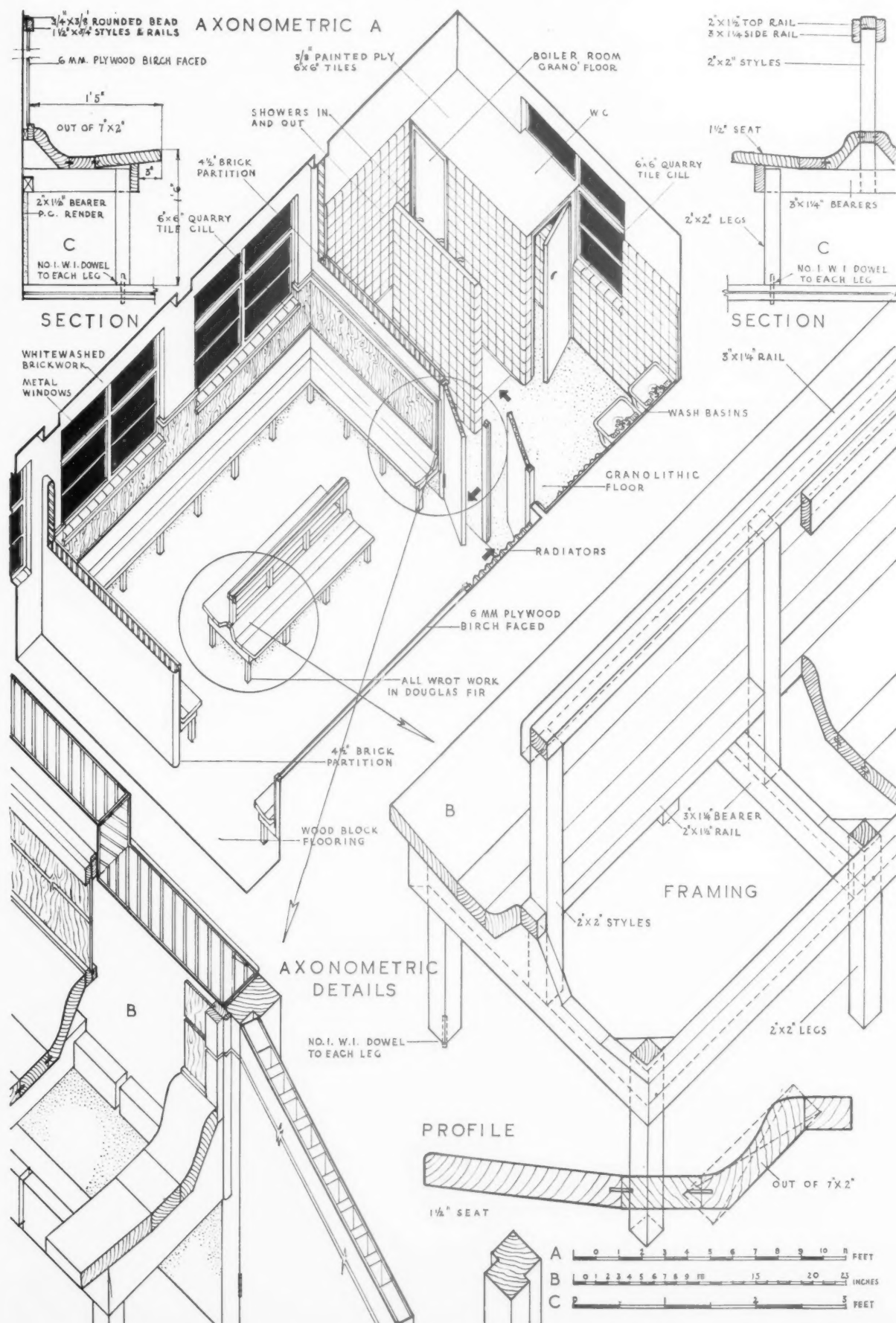
Axonometric and details are shown overleaf.

WORKING DETAILS : 562

CHANGING ROOM

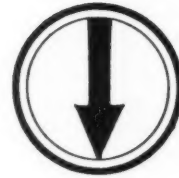
BATTERSEA GRAMMAR SCHOOL, S.W.

J. E. K. HARRISON



Axonometric and details of the changing room illustrated overleaf.

The Architects' Journal Library of Planned Information



INFORMATION SHEET

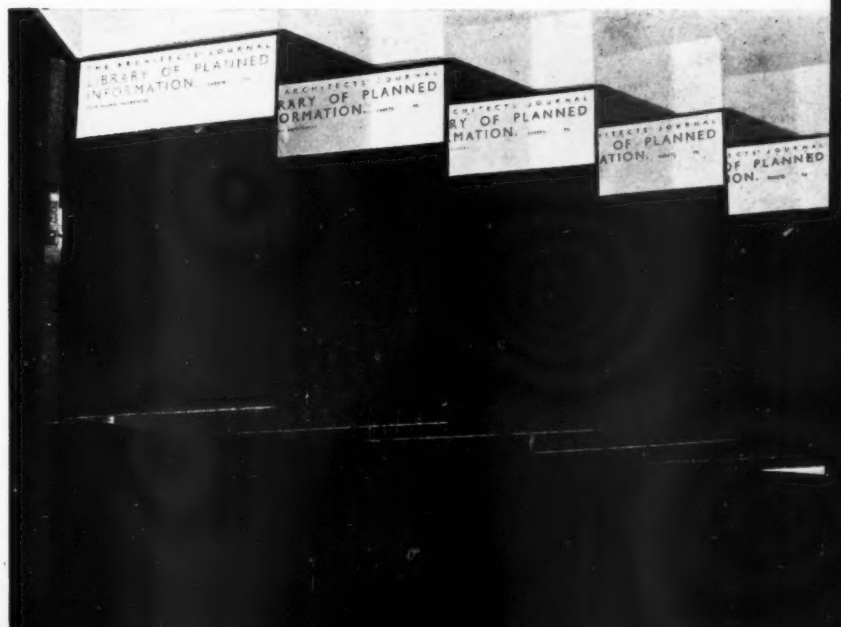
S U P P L E M E N T

S H E E T S I N T H I S I S S U E

5 2 9 Kitchen Equipment

5 3 0 Asbestos-Cement Corrugated Sheets

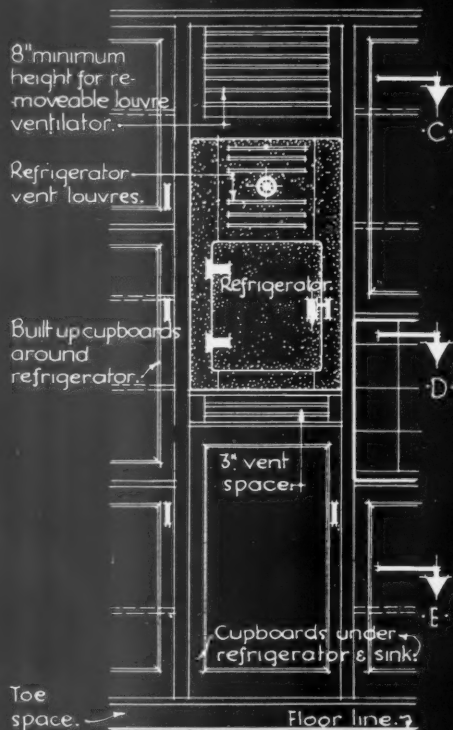
5 3 1 Plumbing



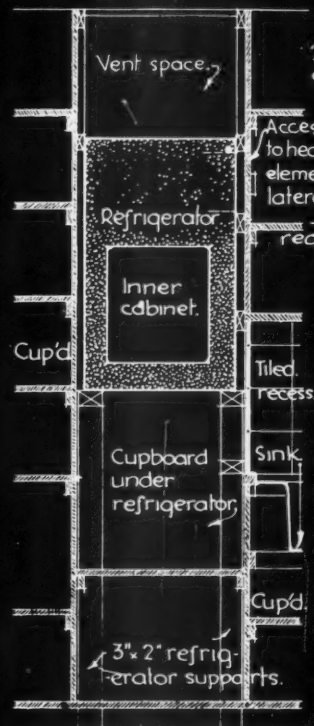
Sheets Issued since Index :

- 501 : Aluminium
- 502 : Fixing Blocks
- 503 : Approximate Estimating—XII
- 504 : Aluminium
- 505 : Aluminium
- 506 : Approximate Estimating—XIII
- 507 : Plumbing : Jointing of Copper Pipe
- 508 : Roofing—Valley Flashings
- 509 : The Equipment of Buildings
- 510 : Aluminium
- 511 : Elementary Schools—II
- 512 : School Lighting
- 513 : Approximate Estimating—XIV
- 514 : Air Conditioning
- 515 : Insulation of Buildings
- 516 : Cycle Parks
- 517 : Cycle Parks
- 518 : Plumbing Systems—II
- 519 : Kitchen Equipment
- 520 : Roofing—Flashings
- 521 : Motor Cycle Parks
- 522 : Reinforced Asbestos-Cement Roofing Tiles
- 523 : Poison Gas Precautions
- 524 : Kitchen Equipment
- 525 : Metal Reinforced Asbestos Cement
- 526 : Leadwork to Photographic Developing Tanks
- 527 : Asbestos Cement Corrugated Sheets
- 528 : Cycle Parks

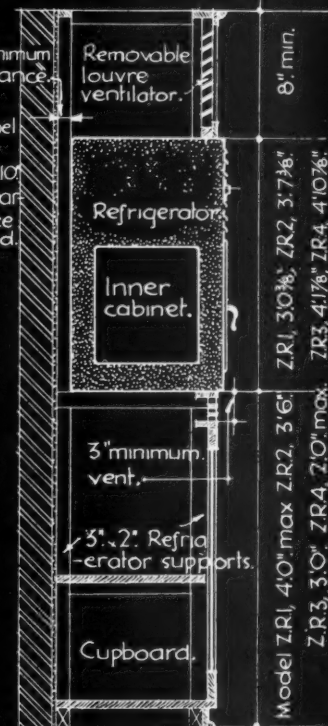
662. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

THE BUILDING IN OF ZEROS MOTORLESS REFRIGERATOR MODELS: Scale. $\frac{1}{2}" = 1'0"$ 

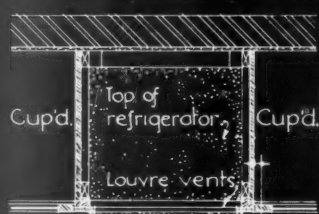
PART FRONT ELEVATION OF FITMENT.



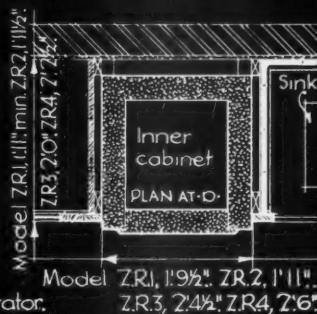
VERTICAL SECTION AT A.



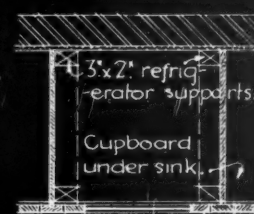
VERTICAL SECTION AT B.



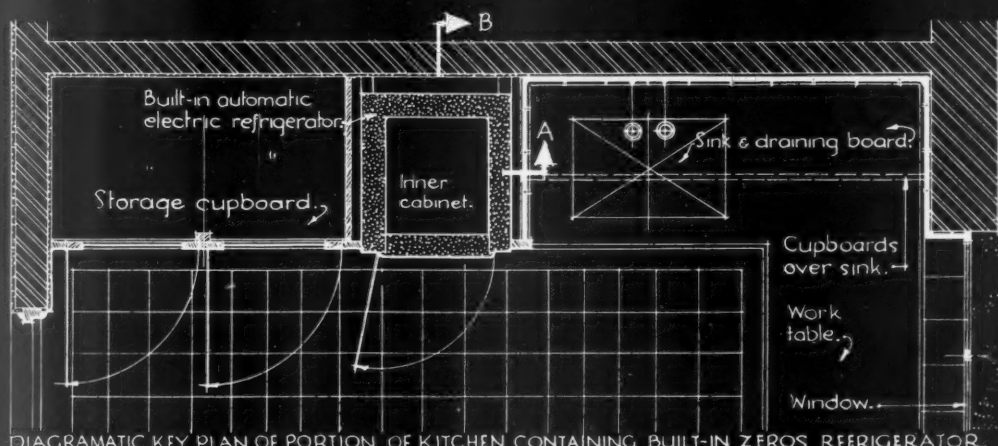
PLAN AT C:
 $\frac{1}{2}"$ wooden linings to sides of cupboards kept 1" clear of refrigerator.



Model ZR1, 1'9 1/2"; ZR2, 1'11";
 ZR3, 2'4 1/2"; ZR4, 2'6".



Cupboard door:
 PLAN AT E.



DIAGRAMATIC KEY PLAN OF PORTION OF KITCHEN CONTAINING BUILT-IN ZEROS REFRIGERATOR.

Information from the Ismay Refrigerating Co. Ltd.

INFORMATION SHEET: AUTOMATIC ELECTRIC REFRIGERATORS: No 3.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WCI Oscar R. Bayne

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 529 •

KITCHEN EQUIPMENT

Product : Zeros Automatic Electric Refrigerators

General :

This is the third Information Sheet dealing with Zeros automatic electric refrigerators, and illustrates a typical method of building the units into kitchen fittings. The first sheet of this series detailed the four standard Zeros models of the free-standing type, and any of these may be built in as shown overleaf, provided that for this purpose the capping member and the supporting legs are not incorporated in the design.

Clearances :

All Zeros models require a back clearance of at least 2 ins., and for ventilation purposes a minimum of 3 ins. is recommended immediately below the unit, with an outlet over the top of not less than 8 ins. The cupboards adjacent to the refrigerator need not necessarily be lined, although the provision of lining as shown permits easier fixing of supports for the cupboard shelving.

Construction :

The refrigerators are formed of a heavy gauge steel outer framing around the inner metal cabinet, the space between being adequately insulated to prevent penetration of heat from the room. There is no motor, compressor, or moving machinery of any description incorporated in the structure.

Control :

The production of cold within the cabinet is obtained by use of an ordinary electric heating element. This is contained in a hollow cylinder positioned in the upper part of the refrigerator, and the electric loading of which is controlled to suit varying weather conditions by means of a variable switch on the face of each model. The element itself is automatically switched on for 1½ hours in every eight, by means of a time clock also actuated by the electric supply.

Operation :

At the commencement of any one of the three eight-hourly cycles, the heat generated by the element acts upon the ammonia saturated calcium chloride, contained in the

hermetically sealed absorber generator, and releases the ammonia in the form of gas.

The heated ammonia gas is immediately led to a separate and air cooled condenser, where cooling and liquefaction take place. In the liquid form the ammonia flows down by gravity to the storage container cylinder and thence by coils to the cold storage box within the inner refrigerator cabinet. The liquid ammonia storage is sufficient to feed the evaporator coils for six and a half hours.

Cold Storage Box :

This box becomes a solid, permanent ice block during cold production, and provides a reserve of cold sufficient to cater for normal temperature variation inside the cabinet and at the same time to maintain a constant low temperature therein.

Vaporisation :

Upon the extraction of heat from the cabinet, the ammonia vaporises, bubbles back through the liquid ammonia and is immediately re-absorbed by the calcium chloride in the absorber generator. A constant temperature is maintained inside the cabinet by means of a tank holding a liquid which surrounds the evaporator coils. This system of refrigeration therefore dispenses with all moving mechanical parts, and eliminates wear and tear.

Power :

Models up to and including 3 cu. ft. capacity require a 5 amp. A.C. supply power point, and models above 3 cu. ft. capacity, require 10 amp. points. All models are designed for A.C. supply, but may be adapted for D.C. current at a small extra charge.

Guarantee :

The Company gives a guarantee against repairs and replacements over a period of six years, excluding only the electrical fittings.

Prices :

Model Z.R.1 (storage capacity 2½ cu. ft., shelf area 4 sq. ft.), 25 guineas.

Model Z.R.2 (storage capacity 3 cu. ft., shelf area 5½ sq. ft.), 28 guineas.

Model Z.R.3 (storage 4½ cu. ft., shelf area 7 sq. ft.), 34 guineas.

Model Z.R.4 (storage capacity 7½ cu. ft., shelf area 10 sq. ft.), 50 guineas.

All models may be purchased by instalments.

Previous Sheets :

The first two sheets in this series dealing with Zeros automatic electric refrigerators are Nos. 519 and 524.

Manufacturers : The Ismay Refrigerating Co., Ltd.

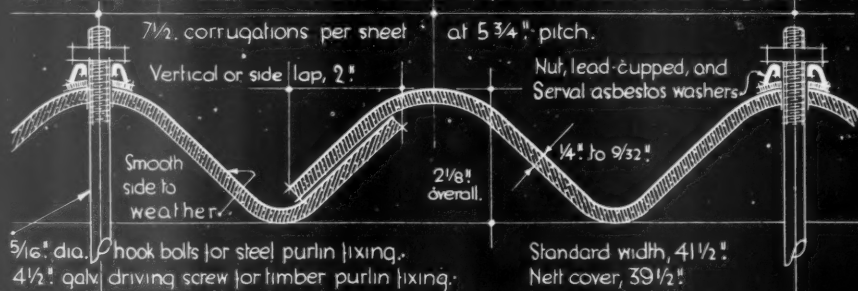
Address : Zeros Works, Dagenham, Essex
Telephone : Seven Kings 2801

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

EVERITE · BIGSIX · ASBESTOS-CEMENT CORRUGATED SHEETS: DATA & LAYING.

Note: For details of the roofing accessories for use with the sheets, see Information Sheet 3 of this series.

3/8" SCALE PART SECTION ACROSS SHEETS SHOWING STANDARD VERTICAL LAP.



PARTICULARS: For notes on weights, laying, mitring, curved work etc., see notes on the back of this Information Sheet.

SECTION ACROSS PURLIN.

Standard colours, grey, red, & russet-brown.

Standard lengths 3' 0" to 10' 0" in 6" rises.

Steel Purlin.
Two fixings to each end of tiles.

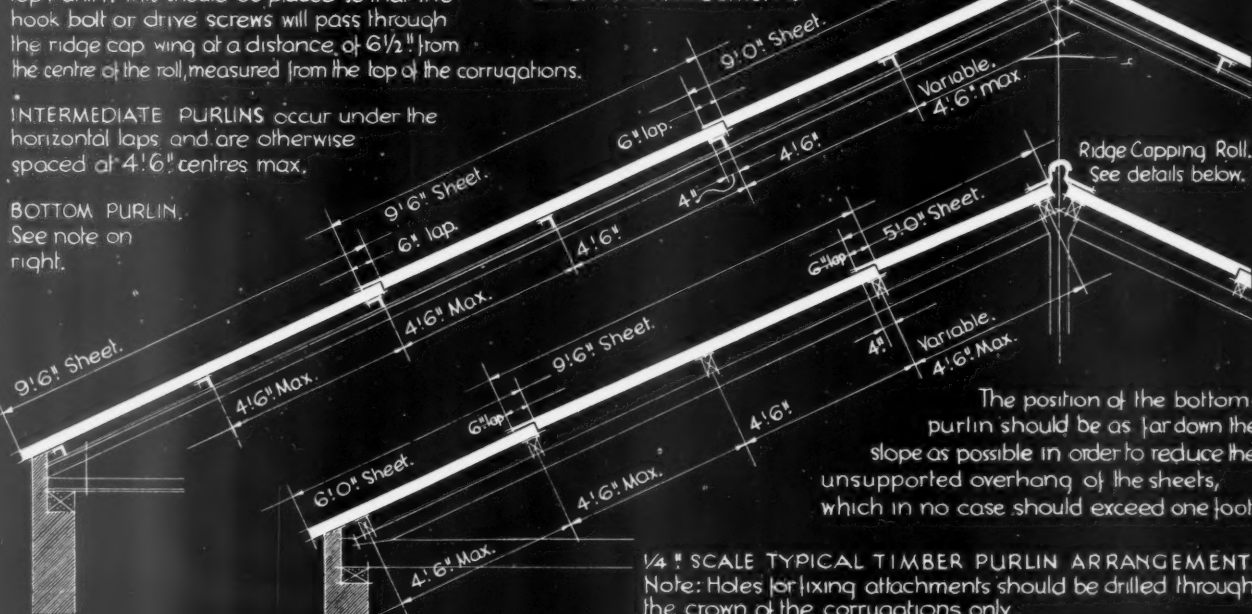
TYPICAL PURLIN SPACING DETAILS.

Top Purlin: This should be placed so that the hook bolt or drive screws will pass through the ridge cap wing at a distance of 6 1/2" from the centre of the roll, measured from the top of the corrugations.

INTERMEDIATE PURLINS occur under the horizontal laps and are otherwise spaced at 4' 6" centres max.

BOTTOM PURLIN.
See note on right.

1/4" SCALE TYPICAL STEEL PURLIN ARRANGEMENT.



1/4" SCALE TYPICAL TIMBER PURLIN ARRANGEMENT.
Note: Holes for fixing attachments should be drilled through the crown of the corrugations only.

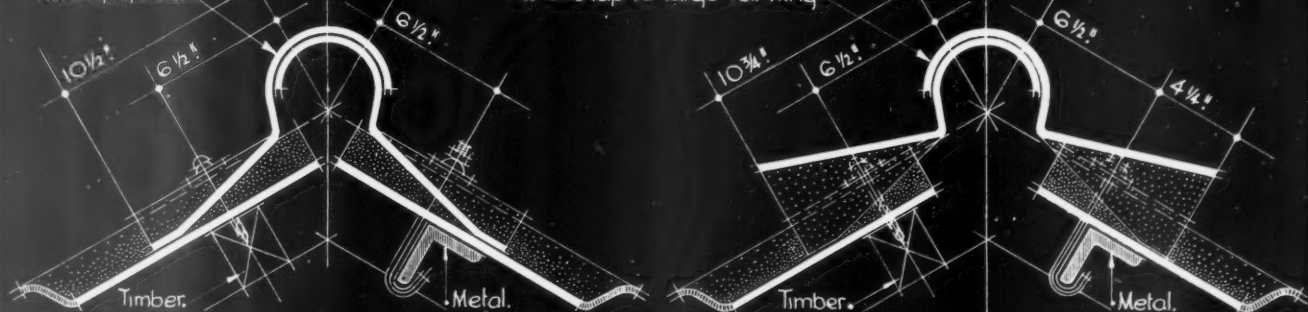
EVERITE · BIGSIX · ADJUSTABLE RIDGE CAPPING DETAILS: Scale, 1 1/2" = 1 Foot.

(a) Close-fitting type fits the corrugations along its entire length, & is adaptable for almost any roof pitch.

(b) Ventilating ridge capping. Only one corrugation at each end is close-fitting. N.B. Adjoining length may be close-fitting type.

Net lengths, 3' 3 1/2".

4 1/2" end lap to large roll wing.



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

INFORMATION SHEET: ASBESTOS-CEMENT CORRUGATED SHEETS: NO. 2.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C1. *Over A. Lupton*

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION INFORMATION SHEET

• 530 •

ASBESTOS - CEMENT CORRUGATED SHEETS

General :

This is the first of two Information Sheets dealing with "Everite" "Bigsix" asbestos-cement corrugated sheets, and sets out general data and the method of laying for roof work. A second Sheet will describe the various roof accessories for use in conjunction with this form of asbestos-cement covering.

Description :

"Everite" "Bigsix" corrugated sheets are composed of built-up layers of non-burning mineral rock fibre in conjunction with Portland cement. The sheeting is extremely tough and durable, and suitable for any climatic conditions; the sheet cover of 95.18 per cent. and the light weight when laid enable reductions to be made in the size of the supporting members and roof sub-structure generally. The material may be readily cut to any shape and size by the use of a hand saw, and will not warp, flake or disintegrate.

Curved Work :

Curved sheets can be made to any radius from 4 ft. 6 ins. upwards. Curved-end sheets for mansard, ventilator and abutment work are also available.

Size and Lap :

The sheets are manufactured in a standard width of 41½ ins., in standard lengths from 3 ft. to 10 ft. in 6-in. rises, and have a constant thickness of ½ in. to ¾ in. Each sheet has 7½ corrugations at 5¾-in. pitch with an overall depth of 2½ ins., and is designed for a nominal fixed side or vertical lap of 2 ins. (one-half corrugation) and an end or horizontal lap of 6 ins. The loss of material in vertical laps amounts to 4.82 per cent. The weight of 100 sq. ft. of laid roofing is approximately 311 lb.

Purlin Spacing :

As shown on the typical truss sections overleaf, the maximum purlin spacing, either in metal or timber construction, is 4 ft. 6 ins. When the sheets are used as side cladding to walls, however, the side or gable rails may be spaced up to 6-ft. centres. In roof work, sheets of different lengths may be utilised to suit the particular length of roof slope, but the position of the top purlin in relation to the apex of roof slope remains constant for all pitches and sizes of sheet.

Roof Glazing :

When glazing is incorporated in the roof covering, the purlin at the bottom of the light may be built up of two angles or timbers back to back, stepped 2½ ins. minimum to provide a rebate to take the top end of the corrugated sheeting. A special galvanized W.I. clip is used in this position for fastening the sheets to the steel purlin, and is seam-bolted to the corrugation only.

At the top of the glazing an angle purlin with a smaller angle attached is used to provide the seating for the astragal bars.

Fixing Accessories :

The fixing attachments for "Everite" "Bigsix" corrugated sheets are similar to those used on "Turnall" Trafford Tiles, see previous Information Sheet No. 400. Corrugated sheets should, under normal conditions, be laid with a vertical lap of half a corrugation and be fastened on each side of the vertical lap as shown. This method of fixing allows the sheets to take up expansion and contraction of the roof framework, and eliminates the necessity for expansion joints.

Vertical laps should be kept as close as possible so that the ridge will fit correctly.

The sheets should not be fixed too rigidly to the purlins, and great care should be taken not to deflect the sheet at intermediate purlins in an attempt to give it a bearing.

Laying and Mitreing :

The laying of the sheets is commenced at the eaves, either on the right- or the left-hand end of the roof, according to which is opposite to the direction of the prevailing wind, and is continued upwards to the ridge in single lines till the whole surface is covered. Mitreing has been described on previous Information Sheet No. 397, dealing with "Turnall" Trafford Tiles. In the case of corrugated sheeting, however, the correct diagonal or mitre cut is from 6 ins. (or the amount of the horizontal lap) up the vertical edge of the sheet to a point 2 ins. along the horizontal edge.

Adjustable Ridge Cappings :

(a) Close-fitting type

This asbestos-cement capping is made in two wings as shown. The smaller roll wing is laid first and has a length of 3 ft. 6¾ ins., one end of the roll of each length being spigoted to fit under the roll of the next overlapping length. The large roll wing is 3 ft. 8 ins. long, having one roll end socketed to overlap the normal end of the next length. The net covering length of each wing is 3 ft. 3½ ins. The capping is fixed with hook bolts or screws through the corrugations as shown, the accessory being used also to secure the top end of the top course of sheets.

(b) Ventilating Ridge Capping

This type of ridge capping is also made in two wings and ¼-in. thickness, and is interchangeable with the close-fitting type, enabling ventilation to be arranged as required. Both types of capping are obtainable in the three standard colours of grey, red, and russet-brown.

North-Light Adjustable Ridge Capping :

By using either type of ridge wing on the unglazed slope in combination with a plain wing on the glazed slope, a suitable north-light ridge may be obtained. This application of ridging is shown on previous Information Sheet No. 426, number four of the series dealing with "Turnall" Trafford Tiles. It should be noted that in this form of assembly, seam bolts are required along the ridge roll of steel roof construction.

Hips :

(a) Adjustable Hip Capping

This type of hip capping is in two wings as is the ridge capping, with the addition of a 3¼-in. unserrated apron extension on each wing. The aprons are scribed and notched out on the site to fit the corrugations of the roof. The wings are made in standard lengths of 4 ft., and are laid with an end lap of 4 ins. The laying is commenced at the eaves, the corners of the two end lengths being trimmed as required. Ordinary fixing attachments are used. The 8-in. wings of the capping are adaptable to suit all pitches.

(b) Asbestos-cement "Half-Round" Hips

This type consists of a segmental asbestos-cement outer sheet, 15½ ins. long by 12½ ins. wide and 4 ins. deep, with the underside specially treated to key with cement mortar. The pieces are bedded on to the hip on hair-cement-mortar, with butt joints, and pointed.

At the junction of the hips and ridge, the three cappings are mitred and lead covered.

Ridge Finial :

A 9-in. diameter asbestos-cement plug end is made for closing the gable ends of ridge cappings. The plug is inserted into the hollow ridge roll and fixed with a standard seam bolt.

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

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

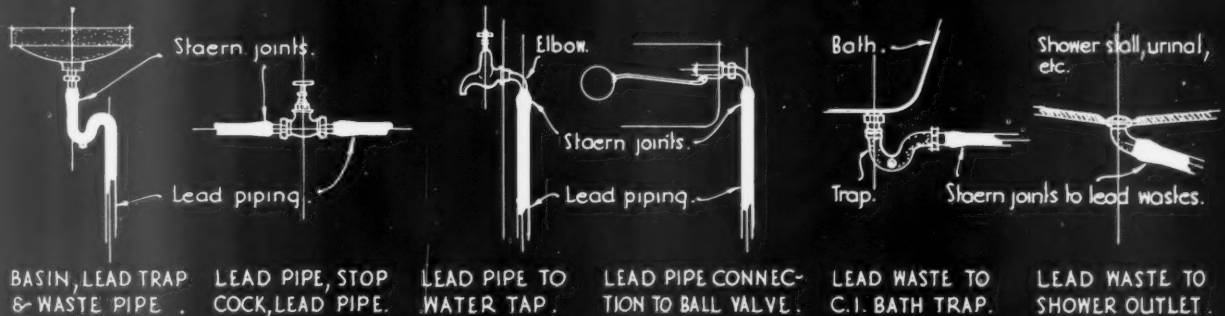
Telephone : Trafford Park 2181 (8 lines)

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

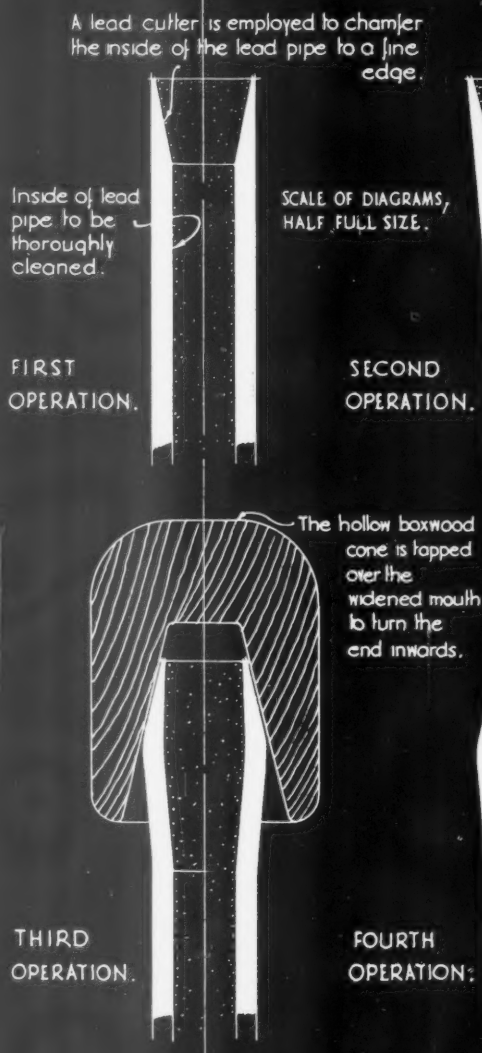
Telephone : Waterloo 4041

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

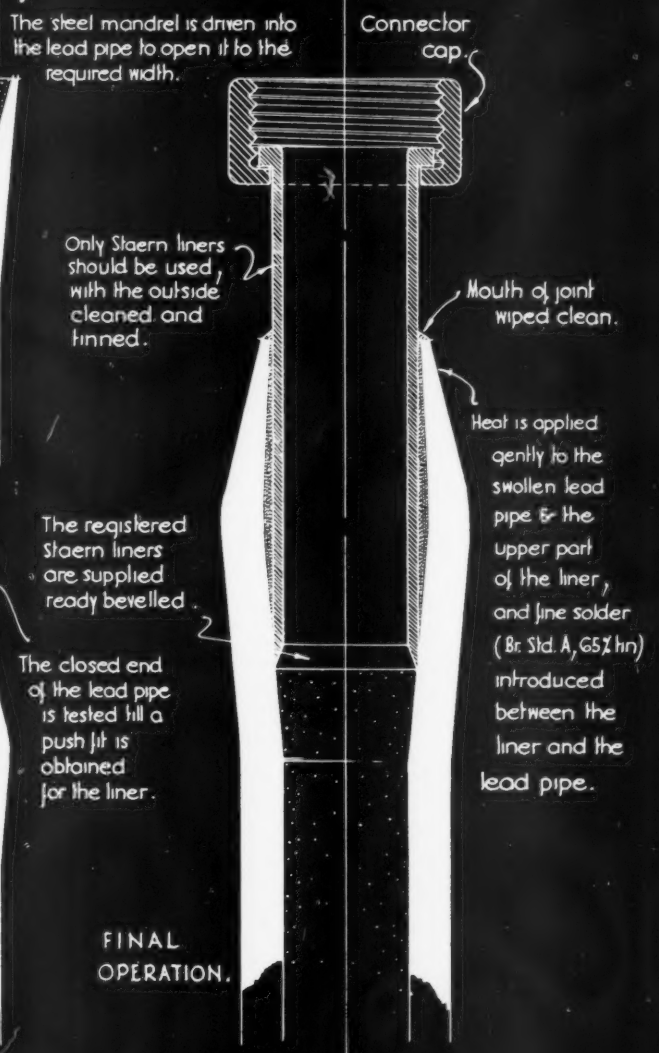
THE PATENT STAERN JOINT FOR JOINING LEAD PIPE TO LEAD OR OTHER METAL. The joint is suitable both for water supply and wastes. Mandrels and cones are supplied for all commercial pipe sizes. Diagrams showing typical application of STAERN joints to plumbing work. Drawings are not to scale.



TYPICAL DIAGRAMS SHOWING METHOD OF MAKING THE JOINT.



TYPICAL SECTION OF COMPLETED JOINT. SCALE: FULL SIZE.



Information from The Staern Engineering Co. Ltd.

INFORMATION SHEET: THE JOINTING OF LEAD PIPE. SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WCI • *Oran A. Bayne*

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 531 •

PLUMBING

Subject : Jointing of Lead Pipes

General :

The Staern patent joint is used for jointing lead pipes to piping of equal internal diameter of lead or any other metal used in the plumbing trade. The method is an alternative to the ordinary wiped joint and may be applied to any weight of lead pipe. Its advantages are saving in cost and the amount of solder used, improvement in appearance and ease of operation. The joint is equally suitable for water supply and wastes, and owing to the saving in plumber's metal is particularly economical in pipes of large diameter. The appliances used in the actual making of the joint are available to suit all commercial sizes of lead piping. Diagrams showing the application of the joint to various plumbing fittings are arranged at the head of the Sheet. The half full-size details of the tools are diagrammatic and the clearances have been slightly exaggerated for the purpose of illustration.

Application :

First Operation. The lead-cutter is employed to remove the inside of the pipe until it is tapered to an edge. The inside of the pipe is then thoroughly scraped to the full depth of the joint.

Second Operation. The specially shaped steel mandrel is inserted into the end of the lead pipe and gently hammered in until the pipe is opened to the required width. The lower end of the mandrel is $\frac{1}{32}$ in. less in diameter than the bore of the pipe and splays gently upwards. It is this splay which swells the end of the lead pipe to the required shape. For pipes of $1\frac{1}{4}$ in. diameter and over boxwood mandrels are used.

Third Operation. A hollow boxwood or lignum vitae cone is tapped down over the widened pipe to turn the end inwards.

Fourth Operation. The third operation is continued until, on testing, the tail piece or liner can be readily but not loosely inserted.

Fifth Operation. Before the liner is finally placed in position its outside surfaces are thoroughly cleaned and tinned. Heat is then gently applied to the swollen end of the lead pipe and to the liner, and fine solder is introduced between the liner and the lead pipe. Finally the mouth of the joint is wiped clean so that the solder forms a neat finish.

It must be emphasised that to ensure a satisfactory job a fine solder should be used containing 65 per cent. tin conforming to Grade A of British Standards Specification 219—1932. This may be obtained conveniently made into 12-in. sticks of approximately 4 ozs.

The Staern process is the patent of the Staern Engineering Company and may only be used with Staern registered liners.

Information from : The Staern Engineering Company

Address : 109 Kingsway, London, W.C.2

Telephone : Holborn 7666

L I T E R A T U R E

DESIGN AND FORM

[By R. FURNEAUX JORDAN]

Design. A Treatise on the Discovery of Form. By Percy E. Nobbs. Oxford University Press and Humphrey Milford. Price 30s.

DESIGN is a strange book to write about, either in the form of criticism or of praise; it is completely outside the normal run of contemporary writings on aesthetics and not necessarily the worse for that. It is extremely long judged by the standard of any modern treatise of the usual superficial and "amusing" type—over four hundred pages of close print to which the rather scanty little line drawings do not provide much relief. Mr. Nobbs is in love with words and does not, he says, really believe in illustrations at all, he only included them half-heartedly on the advice of the late Mr. Batsford, and I must say they look a little like that.

The sheer overwhelming mass of theory and knowledge which go to make up this volume compels respect and serious attention; yet one cannot help feeling that the mentality of the modern student being what it is, and his or her time being so very fully occupied, that Mr. Nobbs would have stood a better chance of effectively taking the bushel off his light had he but been brief. Everything he had to say, and in its essence it is good stuff, could have been said, not only as well but probably better, in a hundred pages.

The author's style is alarmingly diffuse and very often pompous, and his metaphors are as involved as they are ingenious—what, for instance, of this:

Croce's schematic diagram of the four steps of spiritual (or mental) activity can be left standing; but it seems necessary to extend the area of the lowest step till it becomes a very wide platform; his steps would then conform to the aesthetic here enunciated. On this wide platform carpets may be laid. The platform is expression, the carpeting is art. The platform has been investigated and the carpets as well. These carpets, we find, can only be trodden when unrolled upon the platform, of which they then become an integral part. The expression of emotion remains mere ejaculation, when unsupported by expressional exposition of something else.

That is a very fair sample of what Mr. Nobbs has to offer to his rather bewildered reader.

Often he shows a genuine understanding of beauty as that something more which must be added to the purely functional, as when he compares—"Waiter, a pint of Bordeaux . . ." to—"Go, fetch me a pint of wine, and fill it in a silver tassie"; and then becomes oddly personal, for a book of

this sort, when he tells us that "Proud cities, raw townships, quiet villages in the old world and the new, have harboured him in the study and practice of his trade," and oddly uninteresting when he tells us that he once flirted with a lady old enough to be his mother. What I mean is, why in a Treatise on Form . . . ?

To be fair—the substance of the book in view of the author's three decades of teaching experience should be investigated by all art teachers—there is lots of wheat in the chaff; its essentials are best indicated by a few chapter headings, of which there are twenty-eight in all; "Nature of Colour Vision," "Realization of Form," "Precept in Proportion," "Materialization of Ornament," "The Graphic Arts," and so on. Finally, a clue is given to Mr. Nobbs' approach to his subject by his dedication to Professor Baldwin Brown and to Sir Robert Lorimer.

HILL LANDS

[By PHILIP H. MASSEY]

The Hill Lands of Britain. By R. G. Stapledon. London: Faber and Faber. Price 6s. net.

QUITE a large proportion of the thinking section of our urban population is beset by a continual consciousness of guilt about the eating up of the country by the town. Professor Stapledon is concerned with an evil of which the urban population, and probably the rural population too, is much less conscious. The hill lands of Britain, some eighteen million acres above the 700 ft. contour, are not merely made little use of, but are actually degenerating. Hill land has been exploited for minerals (often causing the poisoning of meadow land, fish and animals, and generally making an unnecessary mess) and for water. It contributes little to the nation's food, health or recreation.

Professor Stapledon desires not the "preservation" of the countryside, but the improvement of what is reasonably improvable. He is concerned equally with the farmer and grazier, the forester, the sportsman and the urban holiday maker. He points to the continuing decline in utilization of the uplands, especially in the Scottish Highlands and in Wales, in a period when the creation of soil fertility and facilities has become easy. He produces a striking set of estimates of actual and potential meat production from various types of land. He tells us of the small proportion of Great

Britain which is under intensive agriculture and the higher proportion of permanent pasture and of rough and partially used grazing lands. He shows that "sporting" use of hill land is not incompatible with farming use, that the failure to utilize hill land for production does not make it a better playground for our urban population, but a worse one. In short, he demonstrates that there is plenty of room for all, that the intensification of agriculture and the creation of a more effective playground should proceed as one co-ordinated enterprise. In any case he does not propose to tackle the whole area of our rough grazings but only about one-third of it. Agricultural improvement is to be carried out, above all, on the land which has actually been lost by the invasion of gorse and bracken—"our hills would be no less beautiful and nobody would be any the wiser if the bracken area were decreased by 30 per cent."

What, then, is wanted? In the first place, more and better meteorological and agricultural statistics. In the second place, the legal machinery to create new holdings, to decrease the size of some of the existent holdings, and to alter boundaries. In the third place, tractors for the initial work of ploughing up bracken and gorse, etc., and lime and phosphates and seeds, increased stocking, increased fencing, and increased facilities.

The opening up of the hill country, necessary both for recreative and agricultural purposes, must precede land improvement and the building of hostels and hamlets and summer schools. This opening up does not demand wide roads for speedy movement. It does necessitate the creation of safe minor roads and of tracks and paths. And it necessitates signposts and maps.

The inevitable conclusion is that State ownership and central responsibility are essential. This would not lead to standardization if the right sort of people were in control, and it does not involve the nationalization of all land. In concluding the main section of his book the author shows a clear sense of the muddled way we work in anticipating that we may, instead of establishing on a regional basis one authority to control the utilization of rough and hill lands, first add a national parks authority to the already existing Forestry Commission and then start to think about land improvement, so creating "three watertight authorities all browsing over the same country and all in acute rivalry with each other, both for funds and for land." The country, he says, is quite mad enough to allow such a position to develop, and how right he is! He returns to this point again in emphasizing the desirability of planning on a regional basis

when he expresses his view that the greatest handicap to such planning has been the prior establishment of *ad hoc* national authorities possessing drastic powers within limited terms of reference.

CHURCH ARCHITECTURE

Burrow's Glossary of Church Architecture, Furniture and Fittings. Compiled by E. A. Beasley. London: Ed. J. Burrow & Co. Price 2s. 6d.

THIS compact little handbook originally formed part of Mr. Hobart Bird's posthumous book *Old Warwickshire Churches*, which accounts for the unusual form in which it is now presented to the public.

Undoubtedly, it will supply a need to the large number of holiday makers and others who take a delight in visiting old churches.

Frequently the only source of information available is the description by the Verger, whose words pass from the memory as soon as another building is visited, and a study of this little book will do much to render such impressions more lasting.

An object of unusual interest such as an "Easter Sepulchre" or a "Vinegar Bible" often distinguishes a particular church, and takes first place in subsequent recollections when the style and design of the building are forgotten; but to describe details before outlining the architectural styles—a method adopted in this book—does not appear at first sight to be in the right order of things; however, in this case, it has the justification of being in the popular fashion.

The pen and ink sketches with which the book is illustrated and the knowledge of the author of unusual features, contribute to make an interesting and instructive guide book which is well worth the small price asked for it.

G. E. C.

A.A.S.T.A.

The following foreign tours have been arranged by the A.A.S.T.A.: (1) Paris, week-end (July 30 to August 3). Cost: members, £3 14s. 6d.; non-members, £4. (2) Paris, Avignon, Bandol-sur-Mer (September 4 to 18). Cost: members, £13; non-members, £13 10s. (reduction for third-class travel). (3) Paris (September 4 to 8). Cost: members, £5; non-members, £5 6s. 6d. Full details are obtainable from the Secretary of the A.A.S.T.A., 113 High Holborn, W.C.1.

Liverpool Housing

Since the war, Liverpool Corporation have built 27,164 houses, 6,074 flats, 214 shops and three public halls, according to a statement on municipal housing issued by the city's housing director, Mr. L. H. Keay.

AIRPORT GARAGE, HOUNSLOW:



SITE—Junction of Bath and Great West Roads.

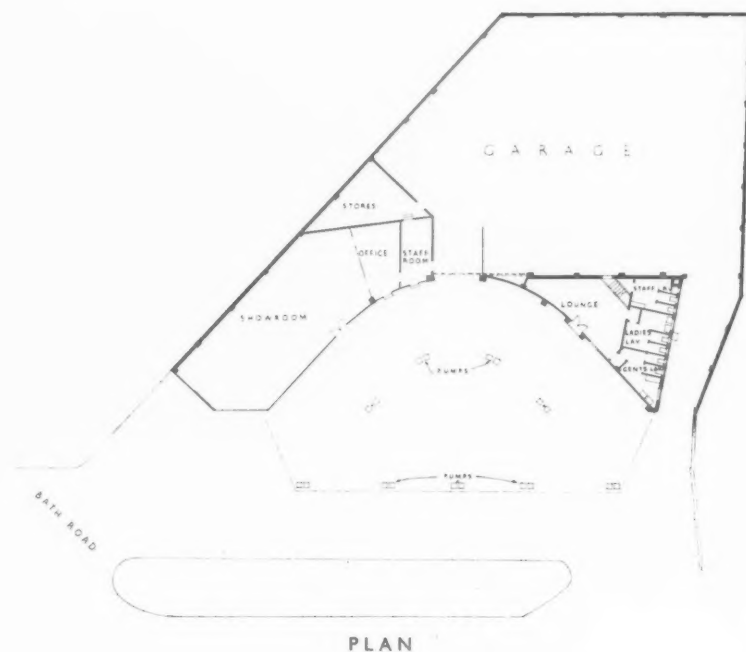
PROBLEM—Garage and filling station with showroom, large workshop and pumps under cover.

PLAN—Plan arranged to suit awkward shape of site and positions of entrances laid down by the authorities. Pumps are arranged so as to give turning space to cars.

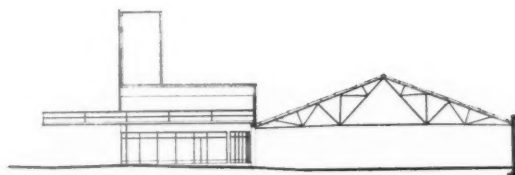
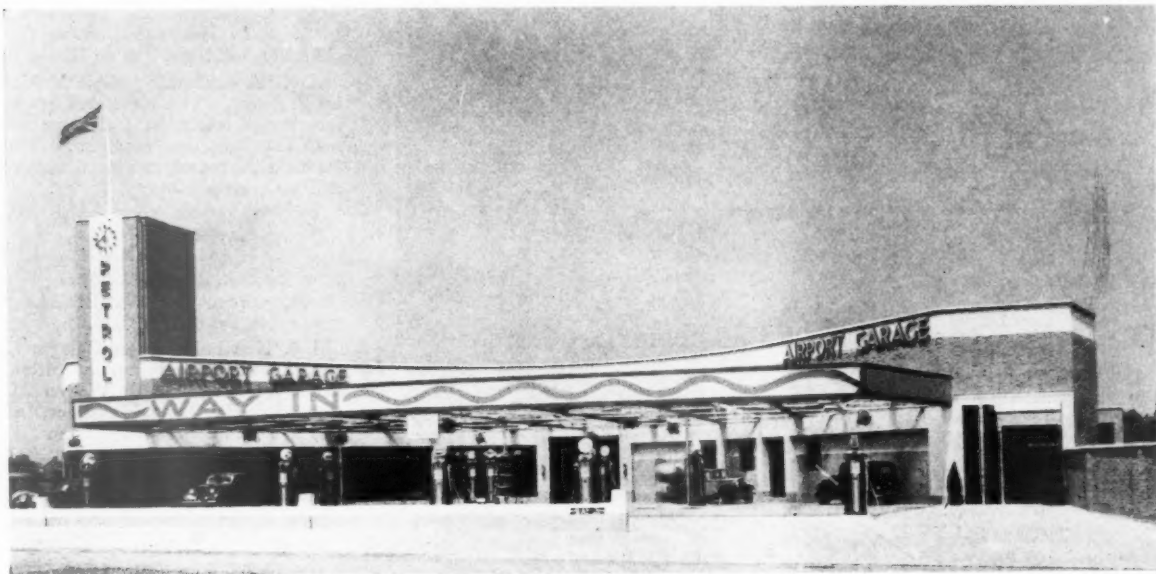
ELEVATIONAL TREATMENT—The workshop is lit by a glazed gable. The tower is used for an advertisement sign, and that and other signs are combined as architectural features. The exterior finish is of facing bricks and artificial stone.

CONSTRUCTION—Steel framed with 9 in. brick filling. The workshop roof is of asbestos sheeting and patent glazing, other roofs are of timber covered with asphalt. The front canopy is of steel cantilever construction, covered with patent glazing.

Above is a view of the showroom.



BY ROPER, SON AND CHAPMAN

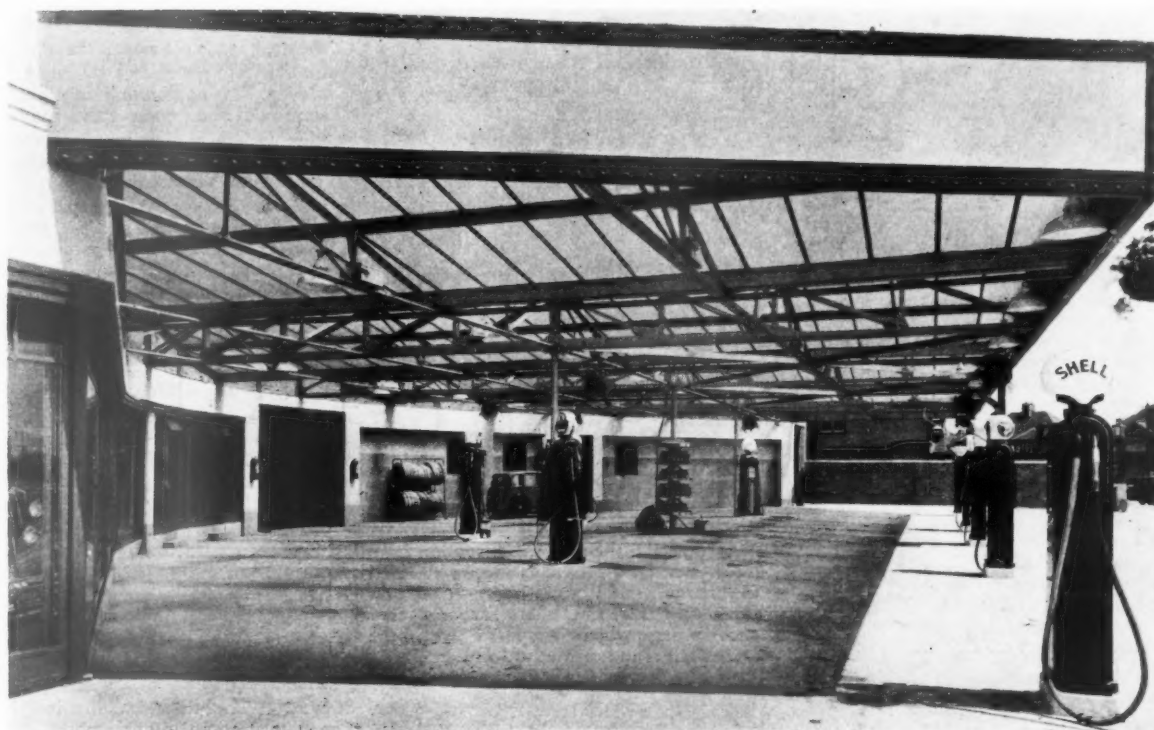


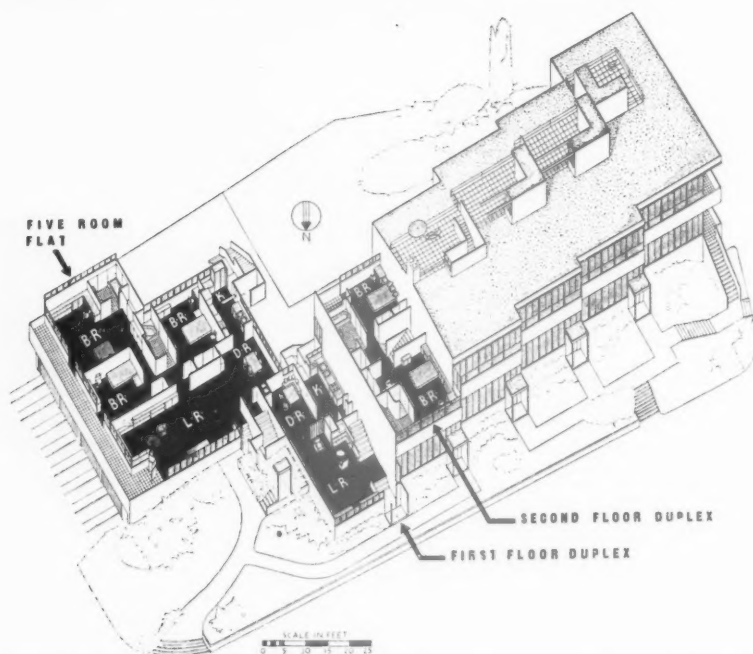
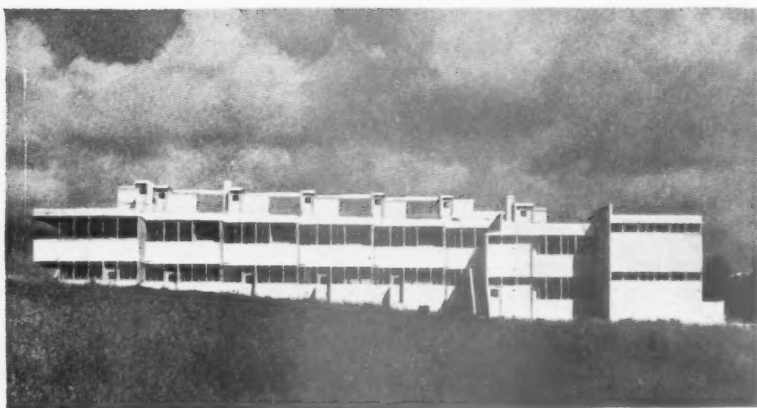
SECTION

INTERNAL FINISHES—The lounge is in plastic paint, the office and showroom are distempered.

LIGHTING—Lighting consists of the following :—under the canopy : 13 diffusers with 150-watt lamps and 10 diffusers with 200-watt general service lamps. These were designed and so arranged as to give a high efficiency re-direction of light over the whole working zone. Showroom : 5 fittings for general lighting and 8 elliptical angle reflectors.

The photographs show : above, the main front ; below, the drive-in.





Elevation and plan of a flat block in Westwood, California, by Richard Neutra and Peter Pfisterer. [From the "Architectural Forum."]

PERIODICALS

MAY ANTHOLOGY

AMERICA

Architectural Forum

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

MAY. The apartment house, several schemes by various architects, including one by Richard Neutra and Peter Pfisterer (see illustration), the Columbia Broadcasting Studios at Chicago, by William Lescaze. Planning technique notes include ten pages on cafeterias and quick-lunch bars.

Architectural Record

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

MAY. A short and extremely modest article by Dr. Gropius on his new Harvard appointment. The Building Types supple-

ment contains data on land subdivision for investment or speculation.

Pencil Points

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

MAY. Since the A.I.A. Convention is to be at Boston, the issue is largely devoted to New England architecture—past and present; the recent efforts are not very encouraging when compared with the seventeenth- and eighteenth-century work.

FRANCE

L'Architecture

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

MAY. The Lycée Marie Curie, by E. Brunet, a school for 1,000 to 1,200 girls,

a municipal health centre at Sèvres, a complicated layout on a steeply sloping site; the work of J. and M. André at Nancy.

La Technique des Travaux

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

MAY. A sunbathing clinic at Vallauris, by P. Souzy. The elevations are stepped for proper insolation and there is also a subsidiary rotating solarium. The new Pont du Carrousel, constructional drawings and progress photographs.

GERMANY

Baukunst und Städtebau

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

MAY. New buildings for Cologne University, by Adolf Abel (see illustration), two country houses, one by Werner Harting, the other by Lyonel Wehner, and an article by Emil Schuster on the alteration and modernization of large country houses, both houses and the article were also published in the weekly paper *Bauwelt* during April.

Baumeister

(Monthly, 3 m. Georg Callwey, Munich)

MAY. Recent flying schools or, literally translated, aerial warfare schools, photographs of hangars, canteens, barracks and officers' quarters.

Bauwelt

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

MAY 6 and 13. Cologne University (see *Baukunst* above).

MAY 20. Display at the "Next Four Years" exhibition in Berlin, the exhibition also contains an admirably simple cinema hall, by Egon Eiermann.

MAY 27. Houses near Berlin, by Wilhelm Doll.

Deutsche Bauzeitung

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

MAY 5. A re-planning scheme for the centre of Berlin; competition results.

MAY 12. A timber housing scheme, by Paul Beckert; photographs and notes of the "Next Four Years" exhibition.

MAY 19. Progress photographs of the new Berlin airport; result of the Oldenburg Town Hall competition—layouts only, no detail plans.

MAY 26. Photographs and notes on the Dusseldorf Exhibition.

Innen Dekoration

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

MAY. Several pleasant traditional houses, by Hermann Werner; current tableware (cutlery and china); a long well-illustrated article on the work of Jean Royère.

HOLLAND

Bouwkundig Weekblad Architectura

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

MAY 1. Current industrial design in Denmark, an illustrated article by Sten Møller.

MAY 8. Traditional building in Friesland, good illustrations and brief notes.

MAY 15. The De Jongh memorial at Rotterdam.

MAY 22. The new town hall at Uithorn, by Molière, Verhagen and Kok.

de 8 en opbouw

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

May 8. Offices at Zutphen, by van Tijen and van den Brock.

May 22. The outlook of the 8-group demonstrated, largely by implication.

ITALY

Architettura

(Monthly, 18 lire. via Palermo 10, Milan 1°)

April. Advance details of the 1941 Universal Exhibition in Rome; a villa at Lecco, by Mario Cereghini, several small Sicilian jobs, by Giuseppe Marletta and Vittorio Ugo; competition results.

SWEDEN

Boet

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

No. 5. Week-end and holiday houses, their planning and furnishing.

Byggmästaren

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

No. 13. Competition results.

Nos. 14 and 15. Foundation problems, article by G. Chatillon-Winbergh.

SWITZERLAND

Schweizerische Bauzeitung

(Weekly, 1 fr. Dianastrasse 5, Zürich)

May 1. A bandstand at Beel, by Walter Sommer; a house, by Otto Senn (see illustration).

May 8. Several swimming baths, existing jobs and one proposed scheme.

May 15. Recent Swiss aerial ropeways.

May 22. Civil engineering schemes.

May 29. Hospital developments in the Lucerne canton.

Werk

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

May. Nineteenth-century modernity.



New buildings for Cologne University, by Adolf Abel. Under the 12-hour clock is an astronomical clock. [From "Baukunst und Städtebau."]

IN THAT CONTINGENCY

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

Lifting of Wood-block Flooring

WOOD-BLOCK floors laid in offices attached to a factory were proving unsatisfactory a few months after laying owing to blocks becoming loose. Those concerned with the work wished to know whether the failure was due to the quality of the screeding, the quality of the mastic used for bedding, or thermal or moisture movement of the floor. The construction was stated to be as follows: Hollow-tile floor. Screeding of cement and

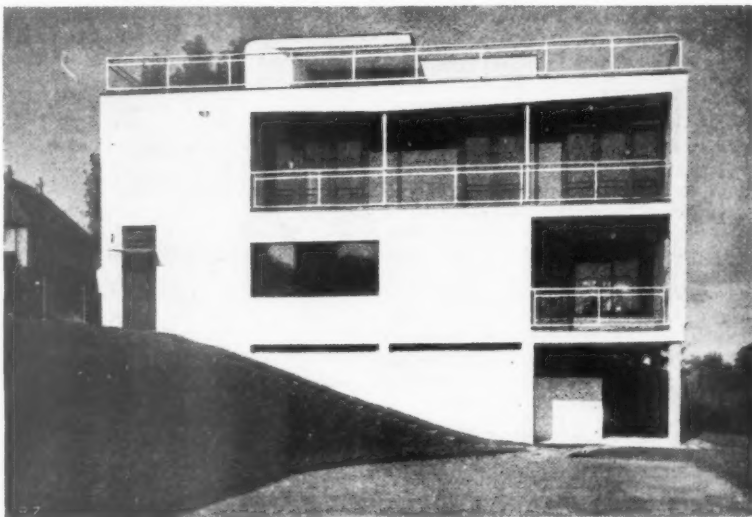
sand in proportions of 1 : 3. Wood blocks bedded in bitumen. Samples of the blocks, mastic and screeding, together with a copy of the specification for the floor, were submitted.

Examination of the samples showed that the adhesion of the mastic to the blocks was excellent, so that the quality of the mastic cannot have affected the case.

The screed, however, was more friable than would be expected from a 1 : 3 cement sand mix. Possibly the proportions had not been adhered to, or the screed had dried out more quickly than is desirable; a complete analysis would be necessary to confirm the former point.

Moreover, there was present on the surface of the mastic adhering to the blocks a certain amount of material resembling soil and fine dust, which suggested that the screed had not been properly cleansed before the wood blocks were laid, although, in view of the condition of the screed, it appeared doubtful whether in fact all loose material could be removed satisfactorily. The conclusion was that the screed, in itself liable to produce dust, had been subjected to the traffic of workmen and that a layer of soil and dust from the screed had formed upon the surface. According to the specification, the surface of the screed should have been suitably primed, but the samples submitted showed no evidence that this had been done. It would appear that the blocks were merely dipped in the hot mastic before laying.

Slight movements of the blocks and screed due to drying shrinkage may have occurred, but their effect cannot be considered so important as the condition of the surface of the screed and the apparent omission of a priming coat. In any case, the mastic would permit slight movements of the



A house near Basle, by Otto Senn. [From "Schweizerische Bauzeitung."]

screed or blocks without causing lack of adhesion.

When a cement screed is porous, it is especially advisable to prime it before laying the mastic, but a friable or dirty screed, in any event, is unsuitable as a base for wood-block flooring.

Tests on Fibrous Wallboards

¶ *AN* inquirer wanted to know the standards by which the suitability of a fibrous wallboard for use as a building material might be judged.

No British Standard Specification exists for wallboards, nor has the Station adopted any standard series of tests for application as a matter of routine to wallboards. The tests used depend on the conditions of use and the situation. Following, however, is a list of various tests applied from time to time to fibrous wallboards, either by the Building Research Station direct, or, where indicated, through the National Physical Laboratory or the Forest Products Research Laboratory, together with some notes on them:—

- (a) Weight and density.
- (b) Transverse strength.
- (c) Moisture absorption.
- (d) Permeability.
- (e) Moisture movement.
- (f) Thermal conductance.
- (g) Sound absorption.
- (h) Resistance to decay.
- (i) Non-inflammability.
- (j) Nail-holding capacity.
- (k) The value of highly-pressed boards as shuttering for concrete.
- (l) Adhesion of softer boards to concrete, when used as shuttering.

(b) *Transverse Strength*.—It is obvious that transverse strength tests have practical significance only where fibre-board is used structurally.

Twelve specimens (12 ins. by 6 ins. by $\frac{1}{2}$ in.) are cut with the long side (12 ins.) in the direction of the grain of the material, and a further 12 specimens are cut with the long side (12 ins.) perpendicular to the direction of the grain. All the specimens are tested by supporting them at 10 in. centres, and loading at a constant rate of 55 lb. per minute at the centre of the span. The modulus of rupture is computed, and the results, together with the deflection under a load of 30 lb., are given.

(c) *Moisture Absorption*.—The heat-insulating value of a porous material is appreciably decreased by increased moisture-content. In selecting a fibre-board for use in certain situations it is well, therefore, to keep in mind the amount of water it is likely to absorb. Moisture absorption also has a bearing on the question of fixing of fibre-boards, since a board fixed dry may tend to expand and buckle if subsequently exposed to the influence of moisture.

In the moisture absorption test, three sets of specimens 8 ins. square have their edges waxed to confine absorption to the faces. One set is then exposed to moisture-saturated air; one put in water; and the third set is alternately wetted (as in the second case) and dried. Measurements are made of the increases in weight and these expressed as percentages of the dry weight. The range of results for boards tested is as follows:—

I. Continuous exposure to moisture-

saturated air: Percentage increase in weight after 30 days, 7.3–11.0.

II. Continuous exposure to water: Percentage increase in weight after 6 days, 10.0–183.5.

III. Alternate wetting and drying: Percentage increase in weight after 25th wetting, 2.7–9.0.

(d) *Permeability*.—This test is similar in character to the moisture-absorption test, but differs in that the rate of flow of water through the specimen is measured. The test is carried out in the standard apparatus described in British Standard Specification No. 402 for plain clay roofing tiles. Specimens 4 ins. square are cut from the board, and after having been dried to constant weight at 50° Centigrade, are exposed on one face to a head of water of 20 cm. The results are expressed as the number of cubic centimetres of water per square centimetre per second flowing through after 24 hours. Figures from .0000003 to .0023 have been recorded.

(e) *Moisture Movement*.—The tendency of fibre-boards to expand when wetted has already been mentioned, and in the moisture movements test measurements are made of the actual changes in length occurring with exposure to atmospheres of different humidities. The cycle of tests is as follows:—

- 1: Specimens 6 ins. by 3 ins. stored in air at 70 per cent. humidity.
- 2: Transferred to air at 40 per cent. humidity.
- 3: Transferred to air at 100 per cent. humidity.
- 4: Dried in an oven and desiccator.

In each case the exposure is continued until equilibrium is reached, and measurements made both along and across the grain of the specimens. Changes in length are expressed as percentages of the length of the specimens when dry. A range of results for a number of different boards is given below:

Change in Humidity	Percentage Change in Length
70–40	.078–.292
40–100	.049–.639
100–40	.181–.926

(f) *Thermal Conductance*.—Fibrous wallboards are commonly employed as heat-insulators, and a low thermal conductance is in many cases important. In the thermal conductance test a direct measurement is made of the heat transmitted through a specimen of the board and the results are expressed as the number of British Thermal Units transmitted through 1 square foot of material for a temperature difference of 1° Fahrenheit between opposite faces. Comparison is thus possible with other elements of structure such as brick walls and concrete slabs. Thermal conductance tests are carried out at the National Physical Laboratory, and the method is as follows:

Two sheets of the board are placed one on each side of a hot plate surrounded by a guard-ring, the whole being clamped between two cold plates maintained at a constant temperature by water circulation. The temperatures of the hot and cold faces are measured by means of thermocouples. When equilibrium conditions are attained, the heat input to the hot plate is a measure of the heat passing through the specimen.

This is determined by recording the amount of electrical energy dissipated in the heating coil.

The variation in thermal conductance values for the examples of the “insulating” type of fibre-board which have been tested (as distinct from the “hard boards”) is not great. An average value for a board $\frac{1}{2}$ in. thick is 0.78 B.Th.U. per sq. ft. per degree F. difference in temperature between faces, roughly equivalent to the conductance of a typical 9 in. brick wall.

(g) *Sound Absorption*.—The sound absorption of a wallboard may be significant when it is used as a lining or exposed in any way (without surface treatment) in a room in which adjustment of the reverberation period is required. The sound absorption value, however, has no relation to the transmission of sound through the material.

Measurements of sound absorption are made in a reverberation chamber at the National Physical Laboratory. Specimens of wallboards to be tested are nailed to battens on one wall of the test chamber and instrumental measurements made of the reverberation time of the room. From these observations sound-absorption coefficients for four different frequencies of sound are derived by the Sabine formula (as modified by Eyring).

(h) *Resistance to Decay*.—Boards consisting of wood fibre or pulp, or other organic material, are subject to fungal attack if untreated, in the same way and under the same conditions as timber, i.e. if used in damp and unventilated situations.

Tests on a number of proprietary fibre-boards have been made at the Forest Products Research Laboratory to determine their resistance to fungal attack. Generally, the resistance to decay by the “dry rot” fungus, *merulius lacrymans*, is examined.

Samples of the board to be tested, measuring approximately 3 by 1 ins., are placed upon cultures of the fungus, growing actively on malt agar medium in culture flasks. The flasks are kept in an incubator for three months at about 20° C. The loss in dry weight of the samples resulting from the fungal decay is determined, and is expressed as a percentage of the original dry weight.

(i) *Non-inflammability*.—The non-inflammability test is made in accordance with British Standard Specification No. 476, 1932.

Tests (j), (k) and (l) are designed to observe under controlled laboratory conditions the behaviour of the boards from the standpoint of nail-holding capacity and as shuttering for concrete. The conclusions drawn from these observations are, however, only qualitative or comparative, and only a few such tests have so far been made.

Staining of White Paintwork

¶ *A* FIRM of builders reported a case of staining of white paintwork on the internal woodwork of a house which they had recently redecorated. The original painted finish, which was brown in colour, had been burnt off in some parts, such as doors and windows, and in others had been rubbed down before redecoration. The new treatment consisted of two coats of flat white undercoating and a finishing coat of enamel. During the progress of the work a pink stain appeared on the white enamel

finish. A small specimen of the wood which had been rubbed down before repainting was submitted.

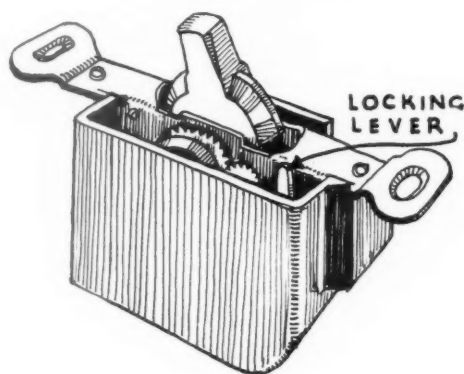
In an examination of the sample of painted wood submitted, it was possible to separate the following portions of the paint coating: (1) the stained finish; (2) the brown coating which presumably was the original finish of the work which the enquirer was called upon to redecorate; (3) an underlying pink coating, presumably the original primer. From each of these separate portions it was possible with an organic solvent (chloroform) to extract a red dye. Ordinary paint solvents would be expected to have a similar effect. It appeared therefore that the trouble was due to this dye which was contained either in the original primer or the old brown coating. Cases have been recorded (and one has, in

fact, been examined at this Station) in which a cheap pink priming paint has been made from pigments consisting of barytes tinted with a dye, instead of white lead and red lead, and subsequent coats of white paint have, naturally, become discoloured.

It would appear from the description that some of the dye had penetrated the wood itself, and hence remained to give trouble after the whole of the coating had been removed.

To prevent further staining, it will certainly be advisable to burn off the old paint and so remove the main source of the stain.

Where such "bleeding" occurs, two coats of a pure shellac knotting are usually sufficient to overcome the trouble, but if in the present instance this is not found to be successful, use might be made of a proprietary sealer.



TRADE NOTES

[EDITED BY PHILIP SCHOLBERG]

Time Lag Switches

NEARLY every ordinary dwelling-house that has been converted into flats seems to have time-lag switches to control the staircase lighting. Generally of the oil-controlled dash-pot type, which work reasonably well, but which are also liable to vary in their time lag according to atmospheric conditions, slowing down in the winter when the oil gets sluggish and working too quickly in summer. To get over these difficulties the M. H. Rhodes Corporation of Hartford, Connecticut, have evolved a clock type of escapement to do the work of switching off and a whole range of their switches is now being marketed in this country by Goodliffe Electric Supplies.

As can be seen from the sketch at the head of these notes, the escapement mechanism is entirely enclosed within the box, the external appearance of the switch being quite normal except for a small lever which projects through the front of the plate at the side of the ordinary toggle arm. With this lever in one position the switch works in the ordinary way on and off, with the lever in the downwards position the time lag mechanism is brought into operation, the toggle mechanism winding up the spring automatically. The escapement is audible but not offensively so—about the same as an ordinary clock.

Prices (5-amp.) vary from 8s. 3d. to 12s. according to the length of time lag required.

In the types referred to above, the length of time lag is not adjustable, but there are other types in which the lag may be varied from 3 to 30 minutes, each flip of the switch adding three minutes to the time interval. Other more elaborate types are also available for switching apparatus on or off after an interval of anything up to ten hours, and the duplex version of this last model is arranged so that it can be set to switch on after an interval of several hours and then off again after several more hours. Both these last types seem to me excellent for shop window lighting, the duplex type probably being the best.—(Goodliffe Electric Supplies, Ltd., 8 Eagle Street, High Holborn, W.C.2.)

Hints for Model-Makers

During the last few years the model habit has been growing rapidly among architects, not only when it comes to arguing with local councils over amenities cases, but as an alternative to the more usual perspective, either for clients or for competitions; I can think of at least one firm of architects who habitually send a model instead of a perspective for all their competition schemes and the assessors don't seem to mind. In fact, they should, I think, be grateful, for a model, though cumbersome, is bound to

give a lot more information than can be got from any perspective, even if it's only a question of showing what the other side looks like.

But models, if made in fairly full detail by a specialist, are not at all cheap, too expensive, certainly, to be made for every competition, and I know of several firms of architects who make their models in their own offices, the work generally being done by an assistant who is interested in that sort of thing. And very good models they often are, seldom up to the real superfine professional standard, but full of ingenious ideas for representing building materials closely enough yet with simple products easily available from the stationer round the corner.

For those who are thinking of making their own models, Mr. Edward W. Hobbs has just published a new edition of his *Pictorial House Modelling* under a revised title.* The book gives a very fair description of the technique of simple model making with Bristol board, seccotine and general oddments. Anybody who has made a few models already will not learn much that is new, for the book is definitely intended for the novice and starts by telling him how to fill a pen, but the information given is sound and reliable, and rightly stresses the argument that care and accuracy are the most important ingredients of success, while there are plenty of useful hints on simple ways of doing rather complicated things. From the title it will be seen that the book is intended for builders and estate agents, and the illustrations bear this out, for many of the small houses are unbelievably horrible in design. But that is not Mr. Hobbs's fault, nor does it mean that the book is no good to architects, who will probably enjoy it for its horrors while profiting by its advice.

Protection against Corrosion

For years red lead paint has been looked upon as the best form of protection for ferrous metals, but it suffers from the disadvantage that it does not stop corrosive action, so that the surface has to be freed of all rust before painting, otherwise the treatment is useless. And freeing it from rust is likely to be an expensive process. On these grounds a new paint called Rust-Eater, evolved by Thomas Parsons, sounds as though it may be the means of a considerable saving both in time and cost. This paint is composed of a base of chlorinated rubber which forms the protective coat and "certain chemicals" which "digest the rust present on the surface and convert it into part of the protective film," the result being a film of a dark blue colour, which gradually becomes black. The paint is brushed on (or sprayed if you order the right kind) over the rust so that it is only necessary to remove scale and grease.

Exactly what the "certain chemicals" are I do not know, nor would I like to hazard a guess, but the manufacturers claim that single coats of this paint applied in 1932 were undamaged in 1936 and that no trace of corrosion could be detected. I know nothing of this paint beyond what is stated above, but it occurs to me that Parsons have been making paint for a good long time and ought to know what they are

* *House Modelling for Builders and Estate Agents.* By Edward W. Hobbs. London: Technical Press, Ltd. Price 7s. 6d.

talking about. Assuming that all their claims are justified they have got a certain winner for every day of the year. (*Thos. Parsons and Sons, Ltd., 315-317 Oxford Street, London, W.1.*)

Teddington Party

But, strictly speaking, not a party, rather the Annual Inspection by the General Board of the National Physical Laboratory, an occasion on which various notabilities are asked and the press is allowed to ask stupid questions as well. Apart from the very natural curiosity which leads one to spend too much time looking at the moving toys such as the William Froude ship model tank, it is none the less possible to find plenty of research going on in the various different departments which touch some facet of the building industry.

Double windows, for instance; common enough in the colder countries but more often used here for the purpose of noise reduction rather than heat insulation. But now the fashion for displaying food in refrigerated show cases is leading to the serious consideration of the best ways of overcoming heat losses, and the N.P.L. has been doing thermal conductivity tests on double windows and determining the best spacing, not to mention the possibility of using more than two sheets of glass.

And, amongst other things, the Laboratory has recently evolved a direct reading daylight factor meter using two photo-electric cells so that it is entirely automatic in action and the results are not subject to errors of judgment on the part of the user.

IN PARLIAMENT

A strong plea for the greater preservation of the countryside was made, during the discussion on the Ministry of Health Estimates in the House of Commons by Mr. H. G. Strauss, who accused the Ministry of failure to deal with a public scandal and a national shame—the destruction of urban and rural beauty. He said that the virtues of both town and country were being destroyed, and in their place was being established a universal, hideous, formless suburbia without the charm of city or country, or, indeed, any charm at all. English beauty, he declared, was being threatened mainly by two things, buildings where no buildings should be, and unworthy buildings. The greatest curse of the country was the almost unbelievable worship of “ye olde things.” The other day he saw “Ye Olde Wireless Shoppe.” This piece of lunacy was characteristic of most buildings that were being put up. Crescoted logs, gables, and all the bogus additions that made houses tawdry, foolish, vulgar and ill-designed did not make houses cheaper or easier to build. They only made England a poorer place by desecrating the places where they were put.

People sometimes spoke as if what was wrong in building was uniformity. But no speculative builders were worse than those who offered twenty different designs. In no period of great architecture had people been afraid of uniformity. No one complained of the uniformity of the terraces at Bath, or of Nash's London, or of the Bloomsbury squares. In the countries that had made the best working-class houses there might be many different designs, but they were never afraid of making one house the same as its neighbour to get an orderly street. He did not say that uniformity could not be horrible; a uniformity of horrors was, of course, horrible; but no better result was obtained by breaking the uniformity to get a variety of horrors. What was wrong with architecture was not uniformity but bad, unworthy and ill-designed building.

In conclusion, Mr. Strauss referred to ribbon development and said that both sides of new roads were so quickly covered with buildings

of the “jerrybethan” style that there was, in a short time, a demand for a by-pass to by-pass the by-pass. The process had been only partially checked; the right thing to do with ribbon building was to stop it, not to put the ribbon a little farther from the road. The Town and Country Planning Act was not acting fast enough to save the beauty of England. England was being destroyed before their eyes and it was the duty of the Minister to stop it. The matter could not be left to the impoverished amenities societies. This country was already losing thousands of potential visitors from other countries by the destruction both of its architectural glories and of its rural beauty. In advertising the beauty of England abroad this slogan should be used: “Visit England now. No other country is destroying its beauty so quickly. A visit postponed may be too late.”

Sir Kingsley Wood, the Minister of Health, in his reply, said that even if Mr. Strauss had pitched his speech a little high, it awoke in his (Sir K. Wood's) mind a great deal of sympathy. With regard to the English Downs, by the joint efforts of East and West Sussex, and the valuable co-operation of the landowners, the whole of the ridge of the Sussex Downs would be saved from building. Another example was the action of Buckingham in regard to the Chilterns. While he did not desire to give further instances nor to detract from the appeal which Mr. Strauss had made, a great deal was being accomplished in this connection. It was largely a question of compensation in a good many cases, but he hoped that they would, with the co-operation of landowners and by the work of the local authorities, be able to do far more in this direction.

With regard to houses, since the war they had built 3,250,000 houses, which had not been exceeded by any other country, and the number of houses had risen steadily from 194,000 in 1931, of which 129,000 were built by private enterprise without assistance, to 345,000 last year, and of these 274,000 were built by private enterprise without assistance. He recognized that a great deal more had to be done, particularly with regard to rural housing. In the two years since the Overcrowding Act had been brought in a great deal of the preliminary work had been done in taking the necessary steps to put the Act into operation. Inquiries he had made showed that already, without putting the penalty clauses into operation, there had been a reduction in overcrowding of some 20 per cent.

Sir G. Mitcheson asked the Minister of Health if he could state whether the decrease in building plans approved by the local authorities which make returns on this subject from £12,476,000 in May, 1936, to £9,015,000 in May, 1937, was due to special and temporary causes; and did the information in the possession of his department indicate the likelihood of any further decline in respect of June.

Mr. Bernays said he was aware of the figures to which his hon. friend referred, but the Minister was not in a position to assess the causes of the decline. The figure of £12,476,000 for May, 1936, was the highest figure reached for two years. The average for the year commencing May, 1935, was £9,390,000 and for the year commencing May, 1936, £9,644,000.

Mr. Kirby asked the Minister of Health whether he was aware that, in spite of the fact that Liverpool Corporation had built over 30,000 houses in Liverpool since the war, tens of thousands of registered applicants still shared housing accommodation with other families, and that few of these had any hope of proper accommodation except in the case of those now occupying condemned property or living in clearance areas; could he cause a special inquiry to be made into housing requirements in Liverpool with a view to satisfying the needs of present applicants and those young people contemplating marriage; and could he expedite the building of small flats to accommodate old-age pensioners, spinsters, and others with very limited incomes.

Mr. Bernays said he was aware of the housing situation in Liverpool. The Corporation's building proposals were not limited to houses required for slum clearance, though the magnitude and urgency of this problem would, in the

opinion of the Minister, make it necessary for them to continue to concentrate their main efforts on this problem for the present. The Minister was satisfied the Corporation were operating as rapidly as the difficulties of the situation and the available resources of the building industry permitted, and that provision was being made for the building of small flats referred to.

Haig Statue

Mr. Thurtle asked the First Commissioner of Works if he would refrain from taking any steps to have the equestrian statue of the late Field-Marshal Earl Haig erected, in view of the lack of unanimity regarding the merits of this work and also of the fact that there was no general public demand for a memorial in this form. Sir P. Sassoon said he would not.

Radnor House

Mr. Harvey asked the First Commissioner of Works whether his attention had been called to the threatened destruction of Radnor House, Twickenham; and whether he would take steps to prevent the demolition of a building of such interest.

Sir P. Sassoon said he was not aware that a decision had been taken to demolish this building, but he proposed to communicate at once with the local authority on the question of its preservation.

Old Temple Bar

Sir N. Grattan-Doyle asked the First Commissioner of Works whether, in view of the historic interest of the old Temple Bar, he would cause the present owners to be approached as to their willingness to transfer it to London for erection upon some suitable and convenient site in one of the royal parks under his control.

Sir P. Sassoon said that there was no site in any of the royal parks which would be appropriate for old Temple Bar, and, though he sympathized with his hon. friend's wish that Temple Bar might return to London, the question of the site on which it should be re-erected would be a matter for much consideration before it would be justifiable to ask the present owners to transfer it from its present site, where, he would add, it was already scheduled for protection under the Ancient Monuments Act.

Sir W. Davison asked whether the First Commissioner of Works would consider the place where there was a recent temporary gate on the north avenue of Hyde Park, immediately opposite the end of Albion Street. Only a small entrance was needed, and already there was a stone monument close by.

Sir P. Sassoon: “As I say, Temple Bar is at present scheduled, and not for sale.”

Granite Kerbs

Mr. McKie asked the First Commissioner of Works if he would state the reason for the architects to His Majesty's Works and Public Buildings, Edinburgh, issuing schedules specifying Norwegian granite kerbs for a new telephone exchange in Glasgow.

Sir P. Sassoon said that the drawings for the Central Telephone Exchange, Glasgow, specified “Whinstone Kerbs,” but by an error in compiling the schedule from the drawings “Norwegian granite kerbs” were put into the specification. The error would be rectified and foreign material would not be used.

THE BUILDINGS ILLUSTRATED

IMPERIAL TYPEWRITER BUILDING, LEICESTER (pages 18-20). The general contractors were: J. Chapman and Sons, Ltd., who were also responsible for the excavations, foundations and dampcourses. The sub-contractors and suppliers included: General Asphalt Co., asphalt; Caxton Floors, Ltd., hollow tile and concrete floors; Constone, Ltd., artificial stone; Banister Walton & Co., Ltd., structural steel; D. Anderson & Co., “Macasfelt” roofing; Crittall Manufacturing Co., Ltd., partitions; Plumbers, glass and sanitary fittings; Hollis Brothers & Co., Ltd., woodblock flooring; Cork Insulation Co., Ltd., flooring (cork tiling); Sika Francois, Ltd.,

waterproofing materials; Young, Austen and Young, central heating and ventilation; Gent, Hurley and Orringe, electric wiring; Troughton and Young, Ltd., electric light fixtures; Wm. Freer, Ltd., plumbing; Dryad Metalworks, door furniture; Ferodo, stairtreads; Henry Hope and Sons, Ltd., casements; Milners Safe Co., Ltd., safe doors; Haywards, Ltd., iron staircases; Samuel Elliott and Sons, Ltd., revolving doors; W. Herbert, plaster; Dryad Metalworks, Birmingham Guild, signs and metalwork; J. Chapman and Sons, Ltd., joinery; J. and H. Patteson, Ltd., marble; Gordon Russell, Ltd., textiles and furniture; Perkins Brothers, textiles; Sankey Sheldon & Co., Ltd., cloakroom fittings; Express Lift Co., and Gimson & Co., lifts; Gent & Co., clocks; J. A. Tyler & Co., "Dulux" painting; En Tout Cas Co., Ltd., shrubs and trees; Imperial Chemical Industries "Pioneer" partitions and plaster.

AIRPORT GARAGE, HOUNSLOW (pages 34-35). The general contractors were F. D. Hidden & Co., Ltd., who were also responsible for the demolition, excavation, foundations and dampcourses. The sub-contractors and suppliers included: Ragusa Asphalte Co., Ltd., asphalte roofing; Square Grip Reinforcement Co., Ltd., reinforced concrete; Impervious Stone and Construction Co., Ltd., artificial stone; Dawneys, Ltd., structural steel; Chas. Arnold (Isleworth), Ltd., workshop roof—Super-six sheeting; Hills Patent Glazing Co., Ltd., glass and patent glazing, window furniture and casements; Hollis Brothers, woodblock flooring; Brown Brothers, Ltd., electric light fixtures; Alfred Goslett & Co., Ltd., sanitary fittings and door furniture; Hills Patent Glazing Co., Ltd., casements, window furniture; Claude General Neon Lights, Ltd., signs; R. Langston-Jones and Co., electric wiring.

WEST BROMWICH. Houses. Plans passed by the West Bromwich Corporation: 14 houses, Church Lane, Mr. L. E. Hewitt.

NORTHERN COUNTIES

BIRKENHEAD. Schools. The R.C. Trustees are to erect a Central School for the senior girls of St. Joseph's, St. Laurence's and St. Werburgh's schools, Birkenhead.

BIRKENHEAD. Hospital Extensions. The Governors of the Birkenhead General Hospital are to raise £25,000 for the erection of a new surgical block.

BIRKENHEAD. Cinema, etc. Plans passed by the Birkenhead Corporation: New cinema, Park Road East, on site of the existing Park Cinema; new casualty ward, General Hospital, Park Road North.

BLACKPOOL. Houses, etc. Plans passed by the Blackpool Corporation: 18 houses, Birchway Avenue, etc., A. Wilson and others; 16 houses, Kelvin Road, Mr. W. Spencer; 72 houses, Cheddar Avenue, R. Fielding and Son; 10 houses, Henson Avenue, Yates and Walsh; cinema, Hippodrome, Church Street, Associated British Cinemas, Ltd.; 52 houses, Elaine Avenue, etc., Senior and Son; 30 houses, Doncaster Road, etc., Boardman & Co., Ltd.; four houses and shops, Preston New Road, Mr. H. Best; library, clinic and house, Hawes Side Lane, Blackpool Corporation; eight houses, Wilson Square, etc., Kennard and Mills; ballroom, "Kimberley" Private Hotel, South Promenade, Mr. J. Nichols; eight houses, Lakeway, J. Gregson and Son; public garage, Squires Gate Lane, Mr. G. Woodhead.

CARLISLE. Reconstruction. The Carlisle Corporation is to lend £3,000 to the Carlisle Housing Improvement Society, Ltd., to enable it to proceed with the reconstruction of certain houses in Green Row and Brewery Row, Shaddongate.

KEIGHLEY. Houses, etc. Plans passed by the Keighley Corporation: Offices, Bradford Road, John Smith (Kly), Ltd.; 16 houses, Glenhurst Grove, Mr. Fred W. Phillips.

LIVERPOOL. Aerodrome Extensions. The Liverpool Corporation is to erect control buildings at the Speke aerodrome, at a cost of £80,500.

SCARBOROUGH. Houses. The Scarborough Corporation has accepted the tender of Messrs. Mollekin Bros., £36,720, for the erection of 98 further houses on the Barrowcliff estate.

SCARBOROUGH. Racing Track. The Scarborough Corporation Property Committee is to insert in the proposed Parliamentary Bill provisions to enable the Corporation to acquire compulsorily all necessary land in connection with the making of a motor-racing track; construct such track and all necessary works; enter into agreements with any body or association for the holding of motor races and other purposes, and do all other things necessary or desirable in connection with such motor races.

SCARBOROUGH. Swimming Pool. The Scarborough Corporation reports that it has considered a report by Professor Adshead regarding the construction of a public sea-water swimming bath, and recommends the site of the White House for the purpose.

SCARBOROUGH. Baths. The Scarborough Corporation has asked the borough engineer to prepare plans and estimates for the construction of baths at Peasholm, at an estimated cost of £20,000.

SCARBOROUGH. School. The Scarborough Education Committee is to obtain a site for a new senior school.

SHIPLEY. Houses. Plans passed by the Shipley U.D.C.: 12 houses, Nab Wood, Road, Messrs. W. Pitts and Sons.

SOUTHPORT. School. The Southport Education Committee has obtained sanction to borrow £28,853 for the erection of a senior school at Meols Cop.

SOUTH SHIELDS. Cinema. Plans passed by the South Shields Corporation: Cinema, Icean Road, Messrs. P. L. Brown, Son and Harding.

YORK. Extension of Public Library. The York Corporation has obtained sanction to borrow £12,234 for the extension of the public library.

WALES

RHYL. School Extensions. The Flintshire Education Committee is to enlarge the Rhyll county school, at a cost of £30,484.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICT (15 MILES RADIUS)

FRIERN BARNET. Flats, etc. Plans passed by the Friern Barnet U.D.C.: Shops and flats over, Woodhouse Road, Halliwick estate; shops and flats, The Grange, Mr. S. Messer; 27 flats, Unique Lodge, Wetherill Road, and house, Athenæum Road, Cramb Bros.; flats, Glenhurst, Friern Park, Mr. E. W. Palmer.

LEWISHAM. Flats, etc. Plans passed by the Lewisham B.C.: Flats at 25-45, Lee Terrace, Blackheath, and Thorpewood Avenue, Sydenham, Messrs. Joseph; factory, Manor Lane, Lee, Slaughter and May; flats, 2-14 Vian Street, Wright and Renny; houses, Belmont Grove, and flats, Halifax Street, Sydenham, G. T. and E. J. Harman; flats, 62-70 Loampit Hill, Mr. E. G. T. Miles; flats, 19 Ravensbourne Park, Catford, H. St. John Harrison; flats, 37 Newstead Road, Lee, Meakin, Archer & Co.; houses, Coombe Road and Bradford Road, Sydenham, Brett's, Ltd.; 160 houses, Catford Park Estate, Bromley Road, Wates, Ltd.; flats, St. Peter's College, Loampit Hill, Mr. E. W. Palmer; flats, Sydenham Park, Mr. E. R. Woodford; houses, Inglemere Road, Forest Hill, The Great Britain Property and Investment Corporation, Ltd.; premises, Parkhouse Farm, Bromley Road, Catford, City of London Territorial Association; houses, Westhorpe Avenue, Mr. A. J. Butcher; flats, Chinnbrook Road, Grove Park, Fitt and Prior-Hale; buildings, 141a-149 High Street, Burnett and Epile; flats, Queen's Road, Forest Hill, Mr. A. Higuier; buildings, 5-8 Eliot Bank, Forest Hill, Mr. E. W. Lancaster; 10 flats, Russell Street, H. B. Longley and Fairer.

SOUTHERN COUNTIES

SURREY. Mental Hospital. The Surrey C.C. is to acquire, as a site of a new mental hospital, the property known as the Merrist Wood estate, in the parish of Worplesdon, and containing approximately 608 acres.

WORTHING. Telephone Exchange. H.M. Office of Works is to erect a new telephone exchange in Mulberry Lane, Worthing.

WORTHING. Houses, etc. Plans passed by Worthing Corporation: Eight houses, Wiston Avenue, Mr. S. E. Merredew; 12 houses, adjoining Stone Lane, Sands & Co.; 11 blocks of flats, South Farm Road, Centrecourt Investment Co.; 20 houses, Nutley Crescent, Nutley Estates, Ltd.; 10 houses, Nutley Close, Duncan B. Gray and Partners; 24 houses, Southways Avenue, Sompthing Manor Estate, Ltd.

SOUTH-WESTERN COUNTIES

BRISTOL. Extension of Courts. The Bristol Corporation has obtained sanction to borrow £10,750 for the extension of the petty sessional courts.

FROME. School. Somerset Education Committee is to erect a secondary school at Frome at a cost of £32,325.

GLOUCESTERSHIRE. School. The Gloucestershire Education Committee is to erect a grammar school at Chipping Sodbury, at a cost of £28,090.

SWINDON. Houses. Plans passed by the Swindon Corporation: 212 houses, Somerset Road, Collett Avenue, E. W. Beard, Ltd.

SWINDON. Sports Stadium. The Swindon Corporation has agreed to consider a proposal by Messrs. Townsend & Co., solicitors, on behalf of clients, to develop as a sports stadium 15 acres of land situate at Tydeman Street.

TORQUAY. Cinema. Plans passed by the Torquay Corporation: Cinema, Albert Road, Webber and Stedham's brickyard; additions, The Strand, Messrs. Bobby & Co., Ltd.

EASTERN COUNTIES

CHIGWELL. School. The Essex Education Committee has obtained sanction for a loan of £45,929 for the erection of a secondary school at Chigwell.

LOWESTOFT. School. The Lowestoft Education Committee has obtained sanction to borrow £25,600 for the erection of a school in Notley Road.

SOUTHEND. Extensions to Rochford House Institution. The Southend Corporation is to proceed with further extensions at the Rochford House Institution, at a cost of £9,000.

YARMOUTH. Cinema. Plans passed by the Yarmouth Corporation: Cinema, Regent Road, Mr. A. Dudley Moore.

YARMOUTH. Additions to School. The Yarmouth Education Committee is to provide additional classrooms at the Alderman Swindell School, at an estimated cost of £3,475.

MIDLAND COUNTIES

BIRMINGHAM. School. The Birmingham Corporation is to adapt the vacant premises of the Sherbourne Road Council School for the purpose of an extension of the adjacent special school and of a school clinic, at a cost of £3,800.

BIRMINGHAM. Civic Centre. The Birmingham Corporation recommends proceeding with the erection of the Civic Centre site of approximately one-half of the eastern block of administrative offices, at a cost of £344,049.

BIRMINGHAM. Shops and Houses. The Birmingham Corporation has leased land fronting Quinton Road West, Dufton Road and Bolney Road, Moor End estate, to Mr. S. H. Davis, for the purpose of erecting eight shops and houses.

BIRMINGHAM. Extensions. The Birmingham Corporation is to provide additional accommodation in the Council House extension for the staff of the Public Health and Maternity and Child Welfare Committee, at an estimated cost of £4,700.

BIRMINGHAM. Houses. The Birmingham Corporation has acquired further housing sites where it will be possible to erect 7,204 houses.

BIRMINGHAM. Houses. The Birmingham Corporation is to erect 180 houses on the Lea Hall estate, at a cost of £58,000.

CHESTERFIELD. Flats. The Chesterfield Corporation is to erect 15 flats for firemen in New Beetwell Street.

DERBYSHIRE. Extensions. The Derbyshire C.C. is to enlarge the county offices at a cost of £27,400.

LICHFIELD. Telephone Exchange. The Lichfield Corporation has sold a site on the Friary estate to H.M. Office of Works for the erection of a telephone exchange.

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.	II.				I.	II.				I.	II.
			s.	d.				s.	d.				s.	d.
A	ABERDARE	S. Wales & M.	1	7	1	2								
A	Aberdeen	Scotland	1	7	1	2								
A ₁	Abergavenny	S. Wales & M.	1	6	1	2								
A	Abingdon	S. Counties	1	5	1	2								
A	Accrington	N.W. Counties	1	7	1	2								
A	Addlestone	S. Counties	1	6	1	2								
A	Adlington	N.W. Counties	1	7	1	2								
A	Airdrie	Scotland	1	7	1	2								
C	Aldeburgh	E. Counties	1	3	0	11								
A	Altrincham	N.W. Counties	1	7	1	2								
B	Appleby	N.W. Counties	1	3	0	11								
A	Ashton-under-Lyne	N.W. Counties	1	7	1	2								
B	Aylesbury	S. Counties	1	5	1	0								
B	BANBURY	S. Counties	1	5	1	0								
B ₁	Bangor	N.W. Counties	1	4	1	0								
A ₁	Barnard Castle	N.E. Coast	1	5	1	1								
A	Barnsley	Yorkshire	1	7	1	2								
B	Barnstaple	S.W. Counties	1	5	1	0								
A	Barrow	N.W. Coast	1	7	1	2								
A	Barry	S. Wales & M.	1	7	1	2								
B	Basingstoke	S.W. Counties	1	5	1	0								
A	Bath	S.W. Counties	1	6	1	1								
A	Batley	Yorkshire	1	7	1	2								
A	Bedford	E. Counties	1	6	1	1								
A ₁	Berwick-on-Tweed	N.E. Coast	1	6	1	1								
A ₁	Bewley	Mid. Counties	1	6	1	1								
B	Bicester	S. Counties	1	5	1	0								
A	Birkenhead	N.W. Counties	1	8	1	3								
A	Birmingham	Mid. Counties	1	7	1	2								
A ₁	Bishop Auckland	N.E. Coast	1	6	1	2								
A	Blackburn	N.W. Counties	1	7	1	2								
A	Blackpool	N.W. Counties	1	7	1	2								
A	Blyth	N.E. Coast	1	7	1	2								
B	Bognor	S. Counties	1	5	1	0								
A	Bolton	N.W. Counties	1	7	1	2								
A ₁	Boston	Mid. Counties	1	5	1	1								
A ₁	Bournemouth	S. Counties	1	6	1	1								
B ₁	Bovey Tracey	S.W. Counties	1	4	1	0								
A	Bradford	Yorkshire	1	7	1	2								
A ₁	Brentwood	E. Counties	1	6	1	2								
A	Bridgend	S. Wales & M.	1	7	1	2								
A ₁	Bridgewater	S.W. Counties	1	5	1	0								
A ₁	Bridlington	Yorkshire	1	6	1	2								
A ₁	Brighouse	Yorkshire	1	7	1	2								
A	Brighton	S. Counties	1	6	1	1								
A	Bristol	S.W. Counties	1	7	1	2								
B	Brixham	S.W. Counties	1	5	1	0								
A	Bromsgrove	Mid. Counties	1	7	1	2								
B	Bromyard	Mid. Counties	1	5	1	0								
A	Burnley	N.W. Counties	1	7	1	2								
A	Burslem	Mid. Counties	1	7	1	2								
A	Burton-on-Trent	Mid. Counties	1	7	1	2								
A	Bury	N.W. Counties	1	7	1	2								
A ₁	Buxton	N.W. Counties	1	6	1	2								
A ₁	CAMBRIDGE	E. Counties	1	6	1	2								
B ₁	Canterbury	S. Counties	1	4	1	0								
A	Cardiff	S. Wales & M.	1	7	1	2								
A	Carlisle	N.W. Counties	1	7	1	2								
B	Carmarthen	S. Wales & M.	1	5	1	0								
B	Carnarvon	N.W. Counties	1	5	1	0								
A ₁	Carnforth	N.W. Counties	1	7	1	2								
A	Castledore	Yorkshire	1	7	1	2								
A ₁	Chatham	S. Counties	1	5	1	1								
A ₁	Chelmsford	E. Counties	1	5	1	1								
A ₁	Cheltenham	S.W. Counties	1	5	1	1								
A	Chester	N.W. Counties	1	7	1	2								
A	Chesterfield	Mid. Counties	1	7	1	2								
B	Chichester	S. Counties	1	5	1	0								
A	Chorley	N.W. Counties	1	7	1	2								
B ₁	Cirencester	S. Counties	1	4	1	0								
A	Cliithorne	N.W. Counties	1	7	1	2								
A	Clydebank	Scotland	1	7	1	2								
A	Coalville	Mid. Counties	1	7	1	2								
A ₁	Colchester	E. Counties	1	6	1	1								
A ₁	Colne	N.W. Counties	1	6	1	2								
A ₁	Colwyn Bay	N.W. Counties	1	6	1	1								
A ₁	Consett	N.E. Coast	1	6	1	2								
A ₁	Conway	N.W. Counties	1	6	1	1								
A ₁	Coventry	Mid. Counties	1	7	1	2								
A ₁	Crewe	N.W. Counties	1	6	1	1								
A ₁	Cumberland	N.W. Counties	1	5	1	1								
A	DARLINGTON	N.E. Coast	1	7	1	2								
A	Darwen	N.W. Counties	1	7	1	2								
B ₁	Deal	S. Counties	1	4	1	0								
A	Denbigh	N.W. Counties	1	5	1	1								
A	Derby	Mid. Counties	1	7	1	2								
A	Dewsbury	Yorkshire	1	7	1	2								
B	Didcot	S. Counties	1	5	1	0								
A	Doncaster	Yorkshire	1	7	1	2								
B ₁	Dorchester	S.W. Counties	1	4	1	0								
A ₁	Driffield	Yorkshire	1	5	1	1								
A ₁	Droitwich	Mid. Counties	1	6	1	1								
A	Dudley	Mid. Counties	1	7	1	2								
A	Dumfries	Scotland	1	6	1	1								
A	Dundee	Scotland	1	7	1	2								
A	Durham	N.E. Coast	1	7	1	2								
A ₁	EASTBOURNE	S. Counties	1	6	1	1								
A ₁	Ebbw Vale	S. Wales & M.	1	6	1	2								
A	Edinburgh	Scotland	1	7	1	2								
A ₁	Exeter	S.W. Counties	1	6	1	1								
B	Exmouth	S.W. Counties	1	5	1	0								
A ₁	FELIXSTOWE	E. Counties	1	5	1	1								
A ₁	Filey	Yorkshire	1	5	1	1								
A ₁	Fleetwood	N.W. Counties	1	7	1	2								
B ₁	Folkestone	S. Counties	1	4	1	0								
A	Frodsham	N.W. Counties	1	7	1	2								
B ₁	Frome	S.W. Counties	1	4	1	0								
A	GATESHEAD	N.E. Coast	1	7	1	2								
B	Gillingham	S. Counties	1	5	1	0								
A ₁	Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1	6	1	2								
A	Glasgow	Scotland	1	7	1	2								
A ₁	Gloucester	S.W. Counties	1	6	1	1								
A ₁	Goole	Yorkshire	1	6	1	1								
A ₁	Gosport	S. Counties	1	6	1	1								
A ₁	Grantham	Mid. Counties	1	5	1	1								
A ₁	Gravesend	S. Counties	1	6	1	2								
A ₁	Greenock	Scotland	1	7	1	2								
B	Grimsby	Mid. Counties	1	7	1	2								
B	Guildford	S. Counties	1	5	1	0								
A	HALIFAX	Yorkshire	1	7	1	2								
A	Hanley	Mid. Counties	1	7	1	2								
A	Harrogate	Yorkshire	1	7	1	2								
A	Hartlepool	N.E. Coast	1	7	1	2								
B	Harwich	E. Counties	1	5	1	0								
B	Hastings	S. Counties	1	5	1	0								
A ₁	Hatfield	S. Counties	1	6	1	1								
A ₁	Hersford	S.W. Counties	1	5	1	0						</		

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, adjust-

ment 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.

	£	s.	d.
Bricklayer	per hour	1	8
Carpenter	"	1	8
Joiner	"	1	8
Machinist	"	1	9
Mason (Banker)	"	1	8
" (Fixer)	"	1	9
Plumber	"	1	8
Painter	"	1	7
Paperhanger	"	1	7
Glazier	"	1	8
Slater	"	1	8
Scaffolder	"	1	4
Timberman	"	1	4
Navvy	"	1	3
General Labourer	"	1	3
Loorman	"	1	6
Crane Driver	"	1	7
Watchman	per week	2	10

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

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
Test Bends		"	4	3	5	3
Single Junctions		"	3	6	3	3
Double		"	4	9	6	6
Straight channels		per F.R.	1	6	2	6
1" 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.	2	3	3	8
Bends		each	6	4	13	1
Inspection bends		"	11	5	14	4
Single junctions		"	11	2	22	10
Double junctions		"	17	2	30	9
Lead Wool		lb.	6		—	
Gaskin		"	5		—	

			£	s.	d.
Flettons	"	per M.	2	12	0
Grooved do.	"	"	2	14	0
Phorpre 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 Rubbed for Arches	"	"	12	0	0
Multicoloured Facings	"	"	7	10	0
Luton Facings	"	"	7	10	0
Phorpre 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	8	0
" Other Colours	"	"	5	10	0
2 nd Breeze Partition Blocks		per Y.S.	1	7	6
3 rd "	"	"	2	1	0
4 th "	"	"	2	1	0
5 th "	"	"	2	1	0

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

First quality Bangor or Portmadoc slates

d/d F.O.R. London station :		£	s.	d.
24" x 12" Duchesses	per M.	28	17	6
22" x 12" Marchionnesses	"	24	10	0
20" x 10" Countesses	"	19	5	0
18" x 10" Viscountesses	"	15	10	0
18" x 9" Ladies	"	13	7	0
Westmorland green (random sizes)	per ton	8	10	0
Old Delabale slates (d/d in full truck loads in Nine Elms Station :				
20" x 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	"	9		
Nails, compo	"	1	4	0
" copper	"	1	6	0

		Good carcassing timber		F.C.		s. d.	
		Birch		as 1" F.S.		2	
		Deal, Joiner's				9	
		" 2nds				4	
		Mahogany, Honduras				1 3	
		" African				1 3	
		" Cuban				2 6	
		Oak, plain American				1 3	
		" Figured				1 3	
		" plain Japanese				1 2	
		" Figured				1 5	
		" Austrian wainscot				1 6	
		" English				1 11	
		Pine, Yellow				1 11	
		" Oregon				1 11	
		" British Columbian				1 11	
		Teak, Moulinein				1 3	
		" Burma				1 2	
		Walnut, American				2 3	
		" French				2 3	
		Whitewood, American				1 3	
		Deal floorings,		Sq.		18 6	
		" 1"				1 2	
		" 1 1/2"				1 2	
		" 2"				1 5	
		" 2 1/2"				1 10	
		Deal matchings,				14 0	
		" 1"				15 0	
		" 1 1/2"				1 4	
		Rough boarding,				16 0	
		" 1"				18 0	
		" 1 1/2"				1 6	
		Plywood, per ft. sup.:					
		Thickness					
		Qualities					
		A B BB		A 1/2 BB		A 3/4 BB	
		d. d. d.		d. d. d.		d. d. d.	
		Birch 60 x 48		5 3 2 1/2		7 5 4	
		Cheap Alder		- 3 1/2		- 4	
		Oregon Pine		- 2 1/2		4 3 1/2	
		Gabeon		3 2 1/2		- 4	
		Mahogany		4 3 1/2		7 6 1/2	
		Figured Oak		6 1 1/2		8 7	
		Scotch glue				lb.	

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

	1"	1 1/2"	1 3/4"	2"
Tubes 2'-14' long	4	5 1/2	9 1/2	11 1/2
Pieces, 12'-23' long . . . each	10	11	11 1/2	18
" 3'-11 1/2' long	7	9	1 3/4	2 3/8
Long screws, 12'-23 1/2' long . . .	11	13	2 1/2	5 1/2
" 3' M-4 1/2' long	8	10	1 5/8	3 3/8
Bends	8	11	1 7/8	2 7/8
Springs not socketed	5	7	1 1/8	1 11/16
Socket unions	2 1/2	3 1/2	5/8	6/8
Elbows, square	10	11 1/2	1 1/8	2 1/4
Tees	1 1/2	1 3/4	1 1/8	2 1/8
Crosses	2 1/2	2 3/4	1 1/2	5/8
Plain sockets and nipples	3	4	6	8
Diminished sockets	4	6	8	1 3/8
Flanges	9	1 1/2	1 1/8	1 1/8
Caps	3 1/2	5	1 1/8	2 1/8
Backnuts	2	3	5	6
Iron main cocks	1 1/2	2 1/4	4 1/2	5 1/4
with brass plugs	—	4 1/2	7 1/2	10 1/2

	Per cent.		Per cent.
Gas	70	Galvanized gas	60
Water	65	" water	55
Steam	62½	" steam	50

FITTINGS		S. d.	
Gas 60	Galvanized gas 50		
Water 55	" water 47 1/2		
Steam 50	" steam 42 1/2		
			S. d.
Rolled steel joists cut to length			15 0
Mild steel reinforcing rods, 1/2"			16 6
" " " 3/4"			15 9
" " " 1"			15 3

Mild steel reinforcing rods,	$\frac{1}{8}$ "		cwt.	15	3
" "	$\frac{3}{8}$ "		"	15	3
" "	$\frac{1}{2}$ "		"	15	3
" "	$\frac{5}{8}$ "		"	15	3
" "	$\frac{3}{4}$ "		"	15	3
" "	$\frac{7}{8}$ "		"	15	3
Cast-iron rain-water pipes of ordinary thickness metal		F.R.	s. d.	s. d.	
Shoes		each	2	0	3
Anti-splash shoes		"	4	6	8
Boots,		"	3	0	4
Bends		"	2	7	3
" " with access door		"		6	3
Hoods		"	4	0	5
Swan-necks up to 9° offsets		"	3	9	6
Plinth bends, 4½° to 6°		"	3	9	5
Half-round rain-water gutters of ordinary thickness metal		F.R.	s. d.	s. d.	
Stop ends		each	6	0	6
Angles		"	1	7	11
Obtuse angles		"	2	0	2
Outlets		"	1	0	2

Lead, milled sheets			cwt.	30	0
" drawn pipes			"	29	6
" soil pipes			"	32	0
" scrap			"	16	0
Solder, plumbers'			lb.	1	1
" fine, do.			"	1	4
Copper, sheet			"	1	1
" tubes			"	1	1
L.C.C. soil and waste pipes :		3°	4°	6°	
Plain cast	F.R.	1	0	1	2
Coated	"	1	1	1	3
Galvanized	"	2	0	2	6
Holderbats	each	3	10	4	0
Bends	"	3	5	3	0
Shoes	"	2	10	4	4
Heads	"	4	8	5	12

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

Sheet glass, 24 or., squares n/e 2 ft. S. F.S.			
26 or.			
Flemish, Arctic, Figures (white)	11		
Blazoned glasses			2
Reeded : Cross Reeded	11		
Cathedral glass, white, double-rolled,			
plain, bannistered, rimpied, waterwrite	11		
Crown sheet glass (n/e 2' x 7')			2
Flashed opals (white and coloured)	11	1	o and 2
1/2" rough cast; rolled plate			
1/2" wired cast; wired rolled			
3/4" Georgian wired cast			
3/4" Polished plate, n/e 1 ft.			11 to 2 11
" " " 2 "		11	1 2 11
" " " 4 "		11	1 3 11
" " " 8 "		11	1 2 9 11
" " " 20 "		11	1 1 11
" " " 45 "		11	1 3 4 11
" " " 100 "		11	1 4 0 11
Vita glass, sheet, n/e 1 ft.			1
" " " 2 ft.		11	1
" " " over 2 ft.		11	1
" " plate, n/e 1 ft.		11	1
" " " 2 ft.		11	3
" " " 5 ft.		11	4
" " " 7 ft.		11	5
" " " 15 ft.		11	6
" " " over 15 ft.		11	7
" Calorex " sheet 21 oz., and 32 oz.		2	6 and 3
rough cast 1/2" and 1"			8 1/2, 1 1
Putty, linseed oil		1 lb.	

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

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

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

Digging over surface n/e 12" deep and cart away	Y.S.	s. d.
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep 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	"
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

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.	5 0	8 3
Extra, only for bends (cast iron)	Each	12 3	15 4

BRICKLAYER

Brickwork, Flettons in lime mortar	Per Rod	26 10	0
" " in cement	"	27 12	6
" Stocks in cement	"	34 0	0
" Blues in cement	"	50 0	0
Extra only for circular on plan	"	2 0	0
" backing to masonry	"	1 10	0
" rising on old walls	"	2 0	0
" underpinning	"	5 10	0
Fair Face and pointing internally	F.S.	1 1	1
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	"	7 1	
Weather pointing in cement	"	3	
Slate dampcourse	"	10	
Vertical dampcourse	"	1 1	

ASPHALTER

Horizontal dampcourse	Y.S.	s. d.
Vertical dampcourse	"	4 9
Paving or flat	"	7 9
1" paving or flat	"	6 3
1" x 6" skirting	F.R.	7 6
Angle fillet	"	1 0
Rounded angle	"	2 1
Cesspools	Each	5 6

MASON

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

Slating, Bangor or equal to a 3" lap, and fixing with compo nails, 20" x 10"	Sqr.	3 10 0
Do., 18" x 9"	"	3 7 0
Do., 24" x 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" x 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	2 16 0
" " " " (green)	"	4 15 0

CARPENTER AND JOINER

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
" " " " " " " "	"	5 6
" " " " " " " "	"	7 6
" " " " " " " "	"	8 6
1" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " " " " "	"	1 17 6
1 1/2" " " " " " " "	"	2 3 0
1 1/2" x 2" fir battening for Countess slating	"	9 6
Do., for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4 1
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " " " " " "	"	2 9
" " " " " " " "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10 1
1" deal gutter boards and bearers	F.S.	1 2
1 1/2" " " " " " " "	"	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
1 1/2" do.	"	2 10 0
1 1/2" do.	"	2 17 0
1" deal moulded skirting fixed on, and including grounds plugged to wall	F.S.	1 6
1 1/2" do.	"	1 9

CARPENTER AND JOINER—continued

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

SMITH AND FOUNDER

Rilled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	18 0
Riveted plate or compound girders, and hoisting and fixing in position	"	1 3 0
Do., stanchions with riveted caps and bases and do.	"	1 2 0
Mild steel bar reinforcement, 1/2" and up, bent and fixed complete	"	1 2 0
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

Milled lead and labour in flats	cwt.	2 0 6
Do. in flashings	"	2 4 0
Do. in covering to turrets	"	2 9 6
Do. in soakers	"	1 15 3
Labour to welled edge	F.R.	3 1
Open copper nailing	"	3
Close	"	4
Lead service pipe and fixing with pipe hooks	F.R.	1 2 1 4 1 8 1/2 2 7 3 6
Do. soil pipe and fixing with cast lead tacks	"	7 3
Extra, only to bends	"	7 6
Do. to stop ends	"	6 1/2 8 9 11 1 0
Boiler screws and unions	"	3 3 3 9 5 0 8 0
Lead traps	"	8 0 11 6
Screw down bib valves	"	6 9 9 6 11 0
Do. stop cocks	"	7 0 9 6 12 6
4" cast-iron 1/2-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	1 2
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 3
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

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

GLAZIER

21 oz. sheet glass and glazing with putty	F.S.	s. d.
26 oz. do. and do.	"	6 1/2
Flemish, Arctic Figured (white) and glazing with putty	"	7 1/2
Cathedral glass and do.	"	1 1
Glazing only, British polished plate	"	1 8
Extra, only if in beds	"	7
Washleather	F.R.	2

PAINTER

Clearcolle and whiten ceilings	Y.S.	s. d.
Do. and distemper walls	"	6
Do. with washable distemper	"	9
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	1 1
Do. on woodwork	"	3 3
Do. on steelwork	"	3 6
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