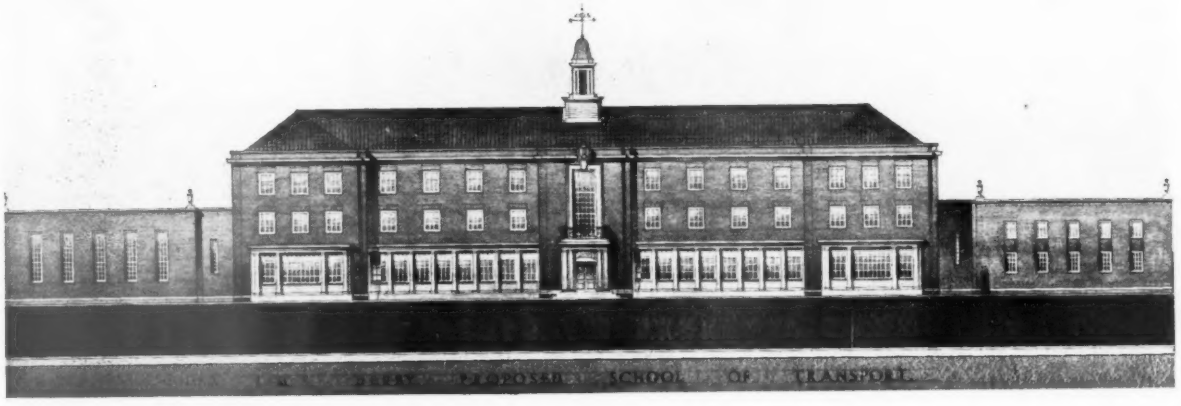
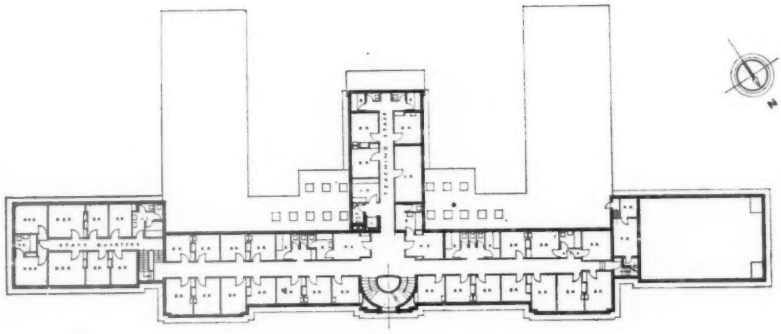
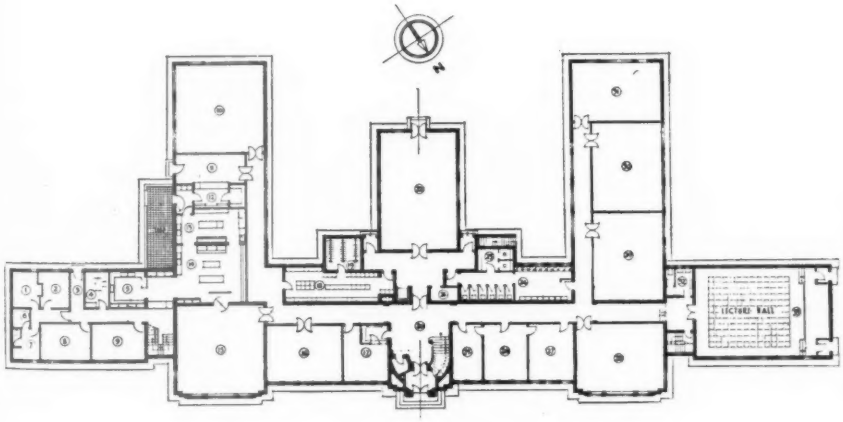
PROPOSED L.M.S. INSTRUCTIONAL CENTRE

TO BE BUILT AT OSMASTON PARK, DERBY





FIRST FLOOR PLAN



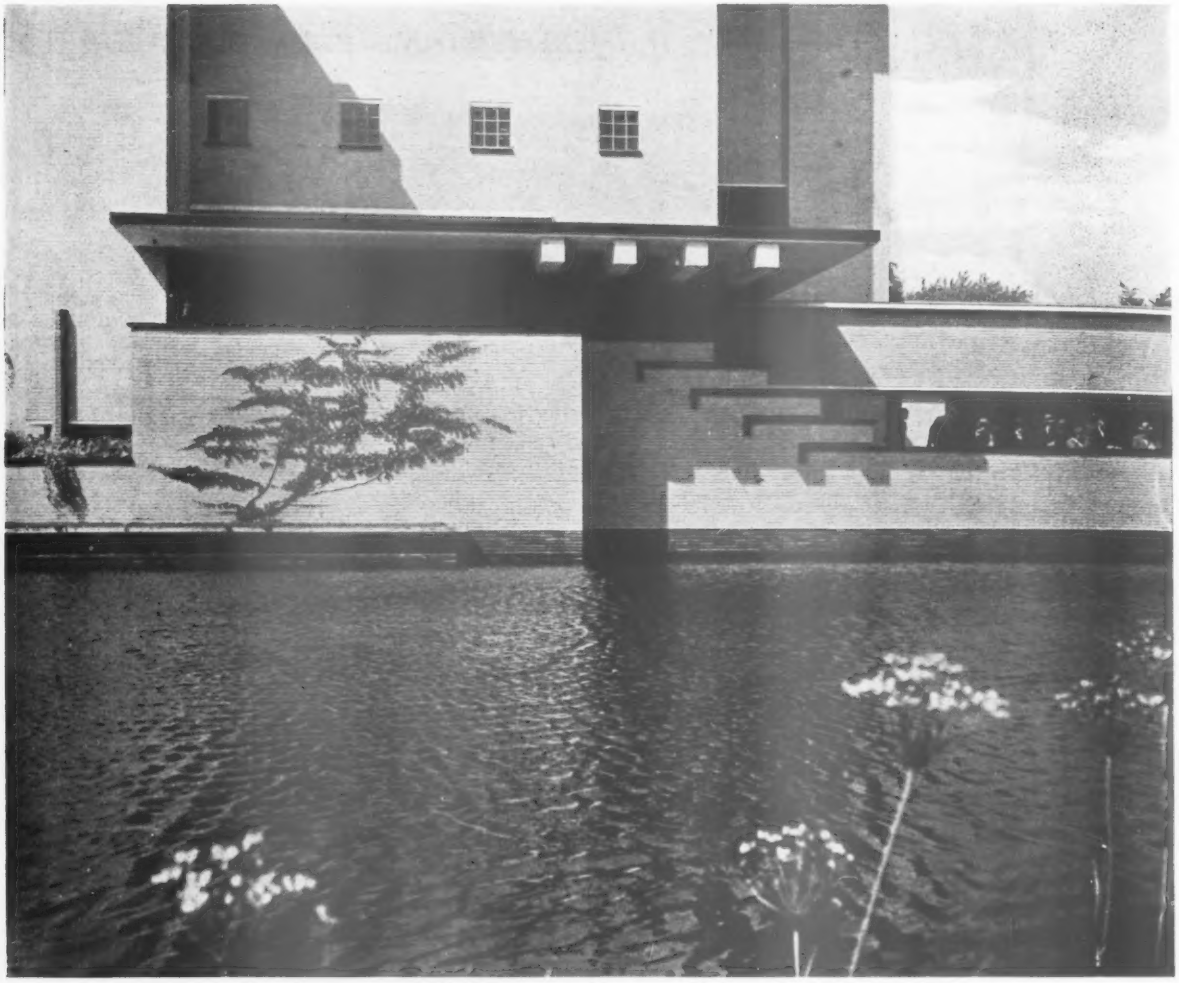
GROUND FLOOR PLAN

BRITAIN'S first railway staff college for the training of all its staff is shortly to be established at Derby by the L.M.S. Railway Co. The college will be of a residential character, with accommodation for 50 members of the staff for periods of training from a fortnight upwards and they will receive instruction in the best practices of railway work.

Above we reproduce an elevational drawing, and, on the left, the ground and first floor plans. The architect for the building is Mr. W. H. Hamlyn, the Company's architect.

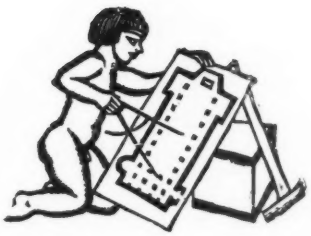
Key to ground floor plan: 1, staff bedroom; 2, staff bedroom; 3, staff entrance; 4, housekeeper's office; 5, washup; 6, male staff bathroom; 7, male staff lavatory; 8, staff sitting room; 9, staff dining room; 10, lounge; 11, bar; 12, bar service; 13, larder and preparation; 14, kitchen; 15, dining room; 16, library and writing room; 17, office; 18, locker room; 19, drawing room; 20, entrance hall; 21, cleaner; 22, games room; 23, showers; 24, lavatories; 25, vice-principal; 26, principal; 27, lecturers; 28-31, class rooms; 32, lecturer's lavatory.

Key to first floor plan: B, bathroom; BR, bedroom; DBR, double bedroom; SR, sitting room; VS, visitors' suite; VPS, vice-principal's suite; HBR, housekeeper's bedroom; HB, housekeeper's bathroom; HSR, housekeeper's sitting room; SL, staff lavatory; LN, linen; L, lift; PR, projector room; RR, rewind room.



DUTCH CIVIC CENTRE

A detail of the main entrance to Hilversum Town Hall designed by W. M. Dudok.



THE OPERATION OF ORDER 1089

IN its issue for October 29 the JOURNAL made some comments on the Ministry of Health's Order No. 1089 (1936) which confers certain powers on the L.C.C. in connection with the interference to traffic which may be caused by new buildings. These new powers relate both to large buildings and also to any building of " public resort "—whether such building types are being newly built or rebuilt.

Briefly, the additional duties of the L.C.C. from January 1 next year will be to see that provision is made for passengers to be taken up or set down at the buildings mentioned with the least possible interruption of traffic flow in adjoining streets.

The necessity for such precautions is beyond dispute. Every boast of motor manufacturers that another hundred thousand vehicles are on the roads, each huge increase shown in a traffic census, each annual summary of road casualties shows that the general traffic problem is becoming steadily more uncontrollable.

But are the powers for treating individual buildings granted under the new Order, is this comfortable unloading of the problem by the Ministries of Transport and Health on to the overworked L.C.C., going to help very much to reduce road congestion? The JOURNAL doubts it.

It may be maintained that even without any detailed description of the remedies which the L.C.C. is now asked to enforce, the Order will at least do some good. The fact that the Order is taken under the Restriction of Ribbon Development Act, is an indication that, at least for a beginning, it is aimed at suburban schemes. In future the proprietors of roadhouses, hotels, and petrol stations will not be able to save money by forcing their patrons to use adjoining roads as parking places and queuing positions. In addition, very large buildings, either in the suburbs or in central London, will probably have to provide entrances in forecourts or central courts where vehicles can halt without obstructing a traffic stream.

These are undoubtedly advantages and, despite extra work and discussion for L.C.C. officials and architects and more delays for building owners, will be generally considered as increasing public safety and convenience, though only in a small degree.

But such palliations and reliefs can have no real effect on the problem of London's traffic, or on the large section of it which is bound up with the carrying of passengers and goods from building to building in the central areas; and responsibility for solving this section is now apparently to be left to the L.C.C. in consultation with the City and metropolitan boroughs.

What do the Minister of Health and the Minister of Transport (whose energy was so recently rewarded with a seat in the Cabinet) expect the L.C.C. to do?

Police regulations are pressing more and more heavily on the motor drivers in London, large stores are paying large sums to secure parking space for their patrons' cars—but in spite of these things, 55,000 people were injured and 1,100 killed in street accidents in London last year, and traffic delays are becoming worse. And in place of any scheme to create new thoroughfares or to rebuild existing streets on a scale suited to modern traffic, the L.C.C. is now requested to solve the problem by small tinkerings with individual buildings.

In the case of large buildings it is probable, as we have said, that traffic obstruction can be lessened by measures within the L.C.C.'s powers under the new Order. But not in the case of places of public resort—a building type which attracts at least five times as much vehicular traffic as a large office or flat building; and attracts it during certain periods of time which, though short in themselves, affect the general traffic flow for an hour or more after they have ceased. In addition, many of these buildings are so small in size, or have so limited a frontage to important streets, that any provision of " forecourts " is out of the question.

Let us take a typical example of an area in which there are several of these buildings and speculate over what the L.C.C. can do to prevent the obstruction of traffic caused by them: the first 150 yards of Shaftesbury Avenue from Piccadilly Circus, together with 50 yards of Great Windmill Street on either side of its junction with Shaftesbury Avenue. In this 300 odd yards of street there are thirteen places of public resort, at least ten of which are far too small to allow of the provision of traffic entrances on forecourts.* Yet the obstruction caused by them to traffic both can and does result in twenty-minute delays. And the area mentioned has at least a hundred other places of public resort within three hundred yards of its limits.

Of these thirteen buildings none are very new and it may be reasonably assumed that four of them will merit rebuilding during the next ten years.

In such an event the attitude of the L.C.C. under its new powers will be of considerable interest, and the choice before it will be difficult. It can either ease traffic congestion by saying " No " to the proprietors of a restaurant who wish to rebuild on a site amply large enough, and extremely well placed for its purpose, and thus cause a catastrophic drop in site values for the moment, and eventually forcing places of public resort into sharing a few huge and specially designed " centres "; or it can do what it probably will do—wring its hands, suggest a trivial setback here and there, and allow redevelopment much on the same lines as at present. And by that time the traffic problem will have become even worse.

In fact, if the L.C.C. is wise, it will waste no time in asking the Ministries of Health and Transport what their own suggestions are concerning entrance and egress to buildings in central London.

* See sketch plan on page 658.

The Architects' Journal
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NOTES & TOPICS

FAIR AND ABOVE-BOARD

NO-ONE minds very much when the local surveyor takes on a small private commission for his friends, especially when the likely alternative is no professional man at all.

*

But when he accepts a private commission to erect an important local job, as has occurred more than once recently, then we have a legitimate grumble.

*

When, again, the local potentate, as has recently been alleged, uses his position of scrutinizer of plans to relax the byelaws for the benefit of his private client, then a most disgraceful position arises. Business minds of an over-sharp type might even consider it an advantage to give their private commissions to the local man.

*

Enquiry at the L.C.C. reveals that London, at any rate, has tackled the problem. The L.C.C. has no objection to its employees accepting private commissions, provided that the work is outside the L.C.C. area and does not entail any approval of the plans by the L.C.C.

*

This is a perfectly straightforward and honest ruling, and the sooner it is applied to the rest of the country the better for everyone concerned.

THE "NEWS CHRONICLE'S" SCHOOLS

Some of the best and brightest of architects have been saying very nice things about the *News Chronicle's* competition for an urban and a rural senior school. And since I neither want to be, nor of course ought to be, left out of so distinguished a unanimity, I must emphasize my agreement with all of them.

*

Full-throated cries were heard a year ago in Government circles about the need to do something about our schools. But more recently there has been something suspiciously like a waver in those cries. The *News Chronicle* will, we can now hope, keep schools firmly in the news till something is really done.

*

The only drawback, and the only potential danger, in the present competition is that no buildings are to result immediately from the winning plans, and that in consequence both competitors and assessors may tend (just a little) towards cocking a snook at too sober realism.

*

It is a glorious temptation—the designing, for once, of the Best Possible School. But I think, in the long run, the finest results will be obtained from the *News Chronicle's* public spirit only if the winning schemes can really be built for about £50 a place. Or at least if any extra accommodation shown in them should be urgently desirable for all schools.

*

Local education committees' first test of a school is usually cost; if the winning schemes pass this test, great things may follow the *News Chronicle's* competition.

LONDON LEADING

Mr. Lewis Silkin, spearhead of L.C.C. Housing, has been on tour. Wishing to see for himself where London stood amongst the rehousing programmes of Europe, he visited during the autumn of last year eleven Continental cities, including most of the capitals which one thinks of first.

*

He has now published a report on what he saw* and though it is necessarily a sketchy survey (he averaged 2½ days in each city, with no allowance for transit), it is obviously a very determined effort to point out where Britain leads and where it doesn't.

*

In total volume of rehousing work London leads easily, but in size of individual schemes the Continent has it. In structure no new method yet shows decided advantages over brick walls and concrete floors; and reinforced concrete is still being found equally expensive and far more of a nuisance. Balcony access has now become as unpopular abroad as it is here.

*

Points in which the Continent leads are: the much greater public care for the gardens and general attractiveness of the open spaces around housing schemes; the higher standards of internal finish in flats; the greater amount of communal services available (laundries, clinics, nursery schools, etc.); and the enhancement of external effect due to the absence of external soil and rainwater pipes.

*

And since this last made a great impression, British architects may yet have their whims treated more kindly by local authorities.

HELPFUL ADVICE

There are plenty of architects who appeal to the Building Research Station for help and advice when they get into a tangle—generally with very excellent results, though the replies are, of necessity, sometimes a little vague.

*

But my heart goes out to the latest unfortunate, whose soft brickwork is being steadily eaten away by mason bees;

* *Housing.* Report by Mr. Lewis Silkin, M.P. No. 3219. P.S. King and Son, Ltd. Price 1s.

Scene from Francis Molnar's play, "Liliom," to be produced by John Burrell for the R.I.B.A. Dramatic Society, on Thursday, November 26, Friday, November 27, and Saturday, November 28, at 8.30 p.m. each evening.

and nothing can be done, apparently, except to wait as long as possible before rendering the whole face.

*

A pathetic but faintly amusing state of affairs; for mason bees, I gather, never perform any useful service for the tenants. I regret this sad state of affairs all the more because last week-end I stayed in an old mill house in Sussex where bees had not only been welcomed, but alterations had actually been carried out for their convenience.

*

The house was substantial, with a large dining-room outside which was a chimney stack penetrating the timber-framed, tile-hung upper storey. Some time ago it was noticed that whenever an extra large log was flung on the dining-room fire the result was a strong smell of burning honey.

*

The fireplace has now been blocked, the plan reversed so that the room becomes a billiard room with an oil stove, and the inner lining to first floor and roof has been re-secured with brass cups and screws for easy access.

*

Honey flows to the extent of several stones a season, and there is some talk of the family abandoning that wing entirely to the bees.

STUDENT ART

On Monday night Professor Jowett opened a unique exhibition at the A.A.—an exhibition of drawings and paintings by students of schools of architecture. Manchester, Liverpool, the Polytechnic, Bristol, Sheffield, Birmingham, Edinburgh, Leeds, all sent work to the show and many a student to Bedford Square to attend the opening ceremony.

*

The work is of high standard, higher indeed than that of the A.A. Members' show, recently concluded. And the level of attainment seems to be curiously consistent over the whole country.

*

Professor Jowett took a great deal of pains over his criticisms, grasped the peculiar difficulties of the architect in exercising a freer art, and ended up by instilling keen enthusiasm into us for future exhibitions of this inter-School kind.

*

There are some notable absentees from the list of "those present" among the Schools—I can only think that some clerical slip has made them forget the date and miss taking their place in this inaugural exhibition of the A.A. Students Art Club.

NIGHT LIGHTS OF LONDON

Piccadilly Circus is getting more and more like Times Square, New York, every year. There is a florid exuberance about the night-signs now; and there are so many of them that architecture has vanished in the jewelled haze of lettering, symbols, and devices.

*

As in New York, the multiplicity of illuminated advertisements gives an all-over impression of light; a lucent mosaic, which is poured over the façades of the buildings, but a mosaic that moves and flutters and yawns blackly as the lights change. The individual meaning of the advertisements disappears in this dazzling competitive array.

*

Nobody can deny the fierce gaiety of this fabric of coloured light. Neither Times Square nor Piccadilly Circus are thronged with architectural masterpieces, and they are certainly more exciting to look at by night than by day.

LONDON TRAFFIC

Recently the Minister of Transport has been deciding to prohibit vehicles standing in certain London streets: Wigmore Street and Great Portland Street, for example. Nobody is now allowed to stop in these streets and leave a car while they go into a shop or call at an office. This, of course, may seem very reasonable to people who do not use those streets, but it must be an extremely serious matter for the people who have shops in them.

*

The hardship of the shopkeepers is not, however, the chief objection to this and other similar measures. The real grouse is that an endeavour is being made to solve the traffic problem of London by adding one restriction after another, all negative things, instead of endeavouring to provide a really positive solution.

PRESERVATION GOES PRECIOUS

"Colour in the West does not enter into life," said that great architectural critic, Lisle March Phillipps. It didn't very much when that was written in 1915; and those who give such loving care to amenities in the Lake District seem determined that it never shall.

*

In Grasmere, where everything is so tidy that they only just resist the temptation to hemstitch the sides of the roads, "dried blood" is the favourite colour for paintwork; and some nervous person has even painted a telephone kiosk a dull, dirty green. Surely not with the connivance of the Postmaster-General? It looked dowdy and wholly ridiculous.

*

This sort of antics brings the whole movement for preservation out of line with modern life. Nobody in Grasmere had insisted on painting letter-boxes green, I noticed.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

THE KING GEORGE MEMORIAL

" On June 3 last . . . I launched an appeal for the National Memorial Fund to commemorate the reign and memory of His late Majesty King George V. It is a source of great satisfaction to me that before I lay down my office as Lord Mayor I am able to announce that the successful completion of the objects of this memorial is assured." This statement was made by Sir Percy Vincent following a meeting of the Executive Committee of the King George National Memorial Fund at the Mansion House on November 4. Sir Percy continued : " As I stated at the time of my appeal, the Memorial is to take two forms. In the first place it is proposed to set up a statue to His late Majesty on a site facing the Houses of Parliament and adjoining Westminster Abbey. . . . The final arrangements for carrying this Memorial into effect have now been made. As regards the site, it has been decided to acquire and demolish the houses surrounding the Jewel House, opposite the Victoria Tower. Although it has not been found possible to carry out the full scheme, a very dignified and satisfactory position for the Memorial Statue will thus be provided. . . . Subject to the approval of Parliament, His Majesty's Government has agreed to hand over as a free gift to the Memorial Fund certain properties in the above area, which are in the ownership of the Commissioners of Works. Allowing for contingencies, the maximum figure which will be required from the Fund for the site and Memorial should not exceed £125,000.

" The second form of the memorial is to consist of playing fields throughout the country, each to be known as ' King George's Field ' and to be distinguished by a memorial gateway or other prescribed emblem. At the time of the appeal an undertaking was given that not less than one-half of the sums received by the Memorial Fund should be utilized for this purpose. The sums already received at the Mansion House amount to £318,267 11s. 5d., of which only small amounts are specially earmarked either for the statue or for playing fields. After deducting the provision for the statue memorial a sum in the neighbourhood of £200,000 is thus assured for playing fields."

THE ARCHITECTS' DIARY

Thursday, November 12

HOUSING CENTRE, 13 *Suffolk Street, S.W.1. Exhibition :* " *Forbidden Houses.*" *Arranged by the Ex-Servicemen's Group of the Hundred New Towns Association. Until November* 21.

BUILDING CENTRE, 158 NEW BOND STREET, W.1. *Exhibition of Inn Signs. Until November* 28. 10 *a.m. to* 6 *p.m. (Saturdays,* 1 *p.m.).*

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.C.1. Exhibition of Drawings and Paintings by Students in English Schools of Architecture. Organized by the A.A. Students' Art Club. Until November* 20.

GEFFRYE MUSEUM, *Kingsland Road, Shoreditch, E.2 :* " *Good Craftsmanship in Lettering.*" *By H. Warren Wilson.* 7.30 *p.m.*

SOCIETY OF ANTIQUARIES, *Burlington House, Piccadilly, W.1.* " *An Eleventh-Century Boxwood Casket.*" *By Dr. Philip Nelson ; and* " *Queen Elizabeth's Astrolabe,*" *By R. T. Gunther.* 8.30 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At the Institution of Civil Engineers, Gt. George Street, S.W.1.* " *The Stress Analysis of Continuous Frames : A Comparison of various Methods.*" *By E. H. Bateman.* 6.30 *p.m.*

A.T.O. HOUSING EXHIBITION. *At the Limehouse Town Hall. Until November* 14. 2.30 *to* 9.30 *p.m.*

Saturday, November 14

ASSOCIATION OF ARCHITECTS, SURVEYORS AND TECHNICAL ASSISTANTS. *Visit to the new Fire Brigade Headquarters of the L.C.C., Lambeth, S.E.* 2.30 *p.m.*

Sunday, November 15

A.T.O. HOUSING EXHIBITION. *At the Limehouse Town Hall. Lectures :* " *The Working-Class Home.*" *By Dr. Hector Munro ;* " *Nursery Schools and Working-Class Housing.*" *By Isbel MacDonald ;* "*The Tenant's Rights.*" *By W. S. Sedley.* 8.15 *p.m.*

Monday, November 16

R.I.B.A., 66 *Portland Place, W.1.* " *Rehousing from the Slum-Dweller's Point of View.*" *By Elizabeth Denby.* 8 *p.m.*

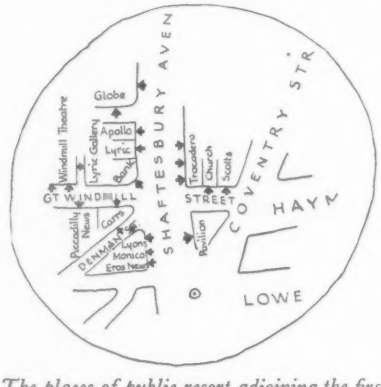
PUBLIC HEALTH EXHIBITION AND CONGRESS. *At the Royal Agricultural Hall, Islington, N. Until November* 21. 10 *a.m. to* 7 *p.m.*

Wednesday, November 18

INSTITUTION OF STRUCTURAL ENGINEERS. *South Wales and Monmouthshire Branch. At the Baltic Lounge, Swansea. Chairman's Address.* 7.30 *p.m.*

RIBBON BUILDING

The question of ribbon building is referred to in the text, issued last week, of the Government's Trunk Roads Bill, which makes the Minister of Transport responsible for 4,500 miles of major roads. It states



The places of public resort adjoining the first 150 yards of Shaftesbury Avenue and referred to in this week's leading article.

that while amenities will continue to be in the care of local authorities, the Minister will secure control over new buildings and access by requiring these authorities either to consult him or to comply with specified conditions.

LIVERPOOL STUDENTS' SOCIETY

In an address to the Students' Society of the Liverpool School of Architecture, Mr. Denis Winston, senior lecturer and a former winner of the Commonwealth Scholarship, gave some interesting views on America. Mr. Winston, whose scholarship took him to Harvard University, commented on the false impression which was created in this country by American films, " gangsters and Garbos, and the worst forms of jazz." The real America, he said, had made and was making great contributions to art, literature and science. He illustrated by lantern slides some of their more outstanding contributions to architecture, and dealt in particular with their long-sighted view of town planning. In a general reference to the traffic problem he emphasized how much better the Americans dealt with it than we did (and despite the very much increased volume of traffic they controlled it with far fewer beacons and signs, and restrictions).

BUILDING SOCIETIES AND ROAD CHARGES

The Council of the Building Societies Association recommend the general adoption of the practice, already operative among a number of societies, of retaining a sum estimated to be enough to cover road charges in cases where houses on which advances have been made stand in roads not yet taken over by local authorities.

Changes in the amounts of advances to builders, recommended by the Co-operation Advisory Committee of the Building Societies Association, are recommended by the Council of that Association, who say that where advances are made to builders, they advise that 70, 72½ and 75 per cent. should be substituted for the figures of 80, 85 and 90 per cent. respectively in the Code of Practice.

HOUSING REFORM

In reply to a Labour motion affirming that the capitalist system had failed, Sir Kingsley Wood, the Minister of Health, in the House of Commons last week, made a strong defence of what the Government had done in the way of social reform. He declared that vigorous action for the provision of housing accommodation was being well maintained. Nearly 500,000 slum dwellers had gone to better dwellings and today they were going at the rate of some 6,000 every week.

The October figures for slum clearance showed that, so far from there being any retarding of the work, the opposite was the case. During October there were, in relation to slum clearance—declarations made, 4,308; houses in submitted orders, 4,805; houses in confirmed orders, 5,604. The number of houses approved during October was 5,828; houses under construction, 58,409; and houses completed, 6,804. The two latter figures were again a record for this country.

It was also satisfactory to know, and a useful testimony to the system under which

we lived, that we had been able since the Armistice to build 3,000,000 new houses in this country, most of them for the workers. It was equally satisfactory to know that we were still building at the rate of 300,000 new houses a year. One of the weaknesses of our housing achievements used to be the provision made for houses to let. According to the latest figures we were now building houses to let, mostly of the smaller type, at the rate of 100,000 a year.

When he went to the Ministry he found that no record was kept of rents; but he was now obtaining particulars of the rents charged for these small houses. In many parts of the country the rents of such houses were now coming more within the means of the poorer paid workers.

Under the new Housing Act financial provision was made by which methods of pooling could be adopted to deal with the question of rents. In the past private enterprise had very largely concerned itself with the building of houses for sale, but it was gratifying to know that private enterprise was now returning to the business of building houses to let—not houses in Mayfair, but houses of the smaller types. That was the type of house included in this figure of 100,000 a year, and half of that total was being built by private enterprise.

PUBLIC HEALTH ACT, 1936

The Minister of Health, Sir Kingsley Wood, has sent a communication (Circular 1576) to all the principal local authorities in England and Wales outside London, dealing with the Public Health Act, 1936. This Act received the Royal Assent on July 31 last, and comes into operation on October 1 of next year.

The new Act consolidates with amendments most of the principal statutes relating to the public health. It brings into a single volume the law contained in some sixty existing Acts, and dealing with such diverse subjects as sanitation, buildings, nuisances, water supply, the prevention and treatment of disease, nursing homes, hospitals, maternity and child welfare, baths, wash-houses and bathing places.

The Minister's communication draws attention in particular to some of the more important changes made by the Act. There are some new provisions, notably one enabling local authorities to control by byelaws the conditions in swimming baths and bathing pools under private management, a power which has previously existed only in a Hertfordshire local Act. The law with regard to building byelaws has been extended and brought up to date. Obsolete byelaws have sometimes been found to be a hindrance. The Act ensures their elimination by providing that all the existing building byelaws will cease to have effect at the end of July, 1939, and future byelaws will require periodical revision, since they will lapse ten years after they are made. The Minister has set up an advisory committee to assist him in preparing a new model code of building byelaws for the guidance of local authorities. There is no immediate urgency for local authorities who already have byelaws to revise them; but, as the communication explains, those who have none will require to take up the question of making byelaws.

NO BELLS AT BURTON HASTINGS?

By F. R. Jelley

" O Warwick woods are green, are green,
But Warwick trees can fall :
And Birmingham grew so big, so big,
And Stratford stayed so small.
Till the hooter howled to the morning lark
That sang to the morning star;
And we all became, in freedom's name,
The fortunate chaps we are,
The fortunate chaps, the felicitous chaps,
The fairy-like chaps we are."

G. K. C.

IF you should chance to be a native of one of those parts of England that are alleged to be unknown, you will doubtless have noticed a series of very fast motor cars tearing along the main roads of your home county.

They contain investigators, who are discovering you.

In due course, by kind permission of the B.B.C., these intrepid explorers will tell the world about you and, after making a few rather pathetic attempts to imitate your provincial accent and colloquialisms, they may even give you a spot of advice on the correct pronunciation of your native language.

Fortunately, it is one of the characteristics of England and the English that the more they are discovered, the more they recede from view. For instance, every man of intelligence from the Midlands is, in his heart, immensely proud of the fact that from that small but delectable quarter of this earth came Shakespeare and Simon de Montfort and George Eliot and Lady Godiva and Joseph Chamberlain. Yet civic pride is so localized and intense that, if a citizen of Leicester is asked the way to Shakespeare's Arden or the George Eliot Country, he will wave a hand in deprecatory fashion and may lead the enquirer, almost forcibly, to the city museum, where the shirt of Daniel Lambert, the fattest man who ever lived, is carefully preserved in a glass case for inspection by any who dare to doubt the assertion that men of Leicester are the very stoutest of fellows.

It is clear, therefore, that anybody who wants to go to Burton Hastings should not be decoyed by hearty invitations to contemplate counter-attractions at Birmingham or Leicester or Coventry. He must shun the appeals of enthusiasts from neighbouring shires who offer such rival exhibits as the shirts of very fat men, the chairs in which famous pedagogues have sat, or pulpits that have reverberated to the thunder of eminent divines, and follow with care and exactitude the directions given by one who has some connection with that remote and unpolluted bit of Arden.

* * * *

At a point where Watling Street crosses the Fosse Way, the Romans established the important station called Bennones. They proclaimed the place to be the centre of England, but for the past fifteen hundred years or so all sorts of rival claimants in Wales, Scotland, Manchester, Leeds and Devon have been busily engaged in proving the gross inaccuracy of that assertion. Discoverers in motor cars whizz past this unobtrusive spot, for it is now marked only by an enamelled tin plate bearing the superscription HIGH CROSS and attached, if I recollect aright, to a telegraph pole.

Yet, to those who know their Chesterton and take the road to roundabout that rambles around the shire, first bearing west, then north-west and finally due north, Burton Hastings is easily accessible from that historic crossing. The very existence of the place is conclusive proof that there is no such thing as the typical English village.

For, despite the assertions of playwrights and other erudite men skilled in research among the folk-lore of our land, every village in England is unique. In contemporary musical comedy and pastoral drama the action —if any—centres on the village inn or roadhouse where the prince, carrying a cardboard axe and heavily disguised as a woodman, woos the innkeeper's lovely daughter in full view of a large concourse of villagers, troubadours, soothsayers and secret service men who usually insist on bursting into song and dance on the slightest provocation.

There is no inn or roadhouse at Burton Hastings. There is no railway station. There is not even a multiple store or a cinema or a colliery. You will find there just a mill, a small stream, lush meadows and mazy lanes, a few farms and cottages, a canal, an old vicarage and a beautiful little church on a knoll. For all I know to the contrary, the place is town-planned, and sites may already be allocated for factories and shops and offices and twelve-to-the-acre residences. There may even be schemes for street widening and road straightening and levelling up and flattening out the gentle undulations of that pleasant spot in the Hundred of Arden.

If such is indeed the case, the inhabitants make no mention of these

proposals. It is credible, of course, that they have been sworn to secrecy. On the other hand, it may be that Burton Hastings, with two thousand years' experience of reform, refuses to betray any visible sign of emotion on learning of the latest plans for pulling the old country together. For something of that sort occurred a very long time ago when the Romans arrived, accompanied by the usual collection of poles and planks and night-watchmen and braziers, and suddenly started public street works and estate development on land belonging, it is said, to the Cassivellauni family.

Burton Hastings simply went on using its own trackways and still persists in doing so, for it is just the kind of place where even Mr. H. G. Wells, seated at the controls in the cockpit of his own Time Machine, could be put completely out of gear by local atmospherics. At Burton Hastings, it seems only a few months since the Lady Godiva created a sensation over at Coventry : only a week or so since Master John Wycliffe created an even greater sensation just across Watling Street by daring to translate the Bible into English : and only a day or two since Rupert dashed through on his way from Edgehill and one of his troopers came back and married a girl of the village. A community honoured by personal visits from Shakespeare himself may be permitted a certain broadmindedness and detachment of outlook.

When it has also known Mary Ann Evans (who called herself George Eliot in case learned men in London might doubt the ability of a Midland girl to write good English), an attitude of unusual tolerance towards visitors of lesser eminence is assured.

After a lapse of fifteen hundred years or so, however, invaders with resounding Latin names and predatory habits have descended once again on Burton Hastings, and this time they have barged their way right in to the old church belfry.

I have it on good authority that legions of *Anobii Tessellata* are, at this very moment, busily eating their way through the timbers, and there is a distinct possibility that the bells of Burton Hastings may not ring on Coronation Day next year. There is no lack of campanologists, but there *is* a lack of cash.

Three hundred pounds is the figure quoted for ejecting the death watch beetle, but I should never have mentioned the subject were I not firmly convinced that when that young trooper of Rupert's Horse passed through Burton Hastings and decided it was just the sort of spot and she was just the sort of girl he had always been looking for, he was no bad judge.

As a matter of fact, any criticism of his judgment would be highly improper on my part, for if he had passed another way, I should not exist.

[*This is a true story, and those who feel that they would like to help the bells to ring at Burton Hastings should write to the Rev. A. Mostyn Robinson, Wolvey Vicarage, Hinckley, Leicestershire, who will be glad to receive contributions or to tell them how other efforts can be best applied.—Ed.* A.J.]

R. I. B. A.

CHRISTMAS HOLIDAY LECTURES ON ARCHITECTURE

The tenth series of Christmas Holiday Lectures on Architecture will be given at the Institute by Mr. G. A. Jellicoe, F.R.I.B.A., on Monday, December 28, Wednesday, December 30, and Friday, January 1. The talks, which will be illustrated by lantern slides, will be held at 3.30 p.m. on each day. Mr. Jellicoe has selected as his subject "The Planning of Towns." 1 : Cities of to-day. 2 : Cities of the Past. 3 : Cities of the Future.

COUNCIL MEETING

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

Science Standing Committee : The Science Standing Committee reported that under the power given by Bye-law 52 it had co-opted Dr. R. E. Stradling (Hon.A.) as an additional member of the committee.

British Standards Institution Committees : The Science Standing Committee reported that it had appointed the following additional R.I.B.A. representatives to serve on Technical Committees and Sub-Committees of the British Standards Institution with Mr. H. D. Searles-Wood :—

(i) Technical Committee B/1, Paints and Varnishes, Mr. O. P. Bernard, O.B.E., M.C. (L)
(ii) Sub-Committee B/1/2, Ready Mixed Paints, Mr. O. P. Bernard O.B.E., M.C. (L).
(iii) Sub-Committee B/1/3, Varnishes, Mr. O. P. Bernard, O.B.E., M.C. (L).
(iv) Sub-Committee B/9/1, Cast Iron Air Bricks and Gratings, Mr. A. F. Hooper (F).
(v) Technical Committee ME/28, Pipe Threads, Mr. P. M. Fraser (F).

The Committee also reported that Mr. Walter Goodesmith (A) had been appointed to represent the R.I.B.A. at a Conference called by the British Standards Institution to consider the preparation of a British Standard list of Structural Sections in Light Aluminium Alloys, and on the Technical Committee which will be formed should it be decided by the Conference to proceed with the work.

The London Building Act, 1930, Tribunal of Appeal : The Council appointed Mr. Percival M. Fraser (F) as a temporary member of the Tribunal of Appeal in place of Sir Banister Fletcher, who is unable to act in connection with the hearing of a particular appeal.

Anti-Gas and Air-Raid Precautions : Mr. Thomas E. Scott (F) was appointed to represent the R.I.B.A. on a Committee which has been set up by the Annual Hospitals, Nursing, Midwifery and Public Health Exhibition and Conference to organise a section in the Exhibition dealing with anti-gas and air-raid precautions.

Ninth National Conference of the Council for the Preservation of Rural England : The secretary reported that Sir Guy Dawber, R.A. (Past-President) had agreed to represent the R.I.B.A. at the Ninth National Conference of the Council for the Preservation of Rural England.

R.I.B.A. Architecture Bronze Medals : New South Wales : Professor Leslie Wilkinson (F) was appointed as the R.I.B.A. member of the jury for the award of the R.I.B.A. Architecture Bronze Medal in New South Wales.

Scheme for Establishing Good Housebuilding Standards : Sir Raymond Unwin (Past President), Mr. Stanley C. Ramsey (F) and Mr. G. E. S. Streatfield (F) were appointed as the three R.I.B.A. representatives on the National Housebuilders' Registration Council.

Coronation Planting Committee: The appointment of Mr. G. A. Jellicoe (F) as the R.I.B.A. representative on the Coronation Planting Committee was approved and confirmed.

Proposed Building Bye-laws of the London County Council : The Science Standing Committee reported the action taken in conjunction with representatives of the Chartered Surveyors' Institution, the Institution of Civil Engineers and the Institution of Structural Engineers in submitting a memorandum of objections to the Minister of Health on the proposed building bye-laws, which had been received from the L.C.C. during the recess.

The action taken by the committee was approved and confirmed, and on the recommendation of the Practice Standing Committee it was agreed to add representatives of the Practice Committee to serve on the Joint Committee appointed to meet representatives of the County Council.

Smoke Abatement : The Science Standing Committee reported the arrangements that it had made with the National Smoke Abatement Society in connection with the meeting to be held on October 26 at the Science Museum. The action taken by the committee was approved and confirmed.

Ordnance Survey Maps : The Science Standing Committee reported upon its negotiations with the Director General of the Ordnance Survey with reference to the revision of Ordnance Survey Maps, and to the difficulty of obtaining the latest editions owing to stationers wishing to dispose of their old stocks. The action taken by the committee was approved and confirmed.

The Burma Society of Architects.—The decision of the Council to determine the alliance of the Burma Society of Architects with the R.I.B.A. was confirmed.

Fellowship : The Council, by a unanimous vote, elected the following architect to the Fellowship under the powers defined in the Supplemental Charter of 1925 : Mr. Frederick McIntosh Glennie (Cape Town).

Reinstatements : The following ex-members were reinstated : As Fellow : Mr. Frederic Glyn Gilling.

As Associates : Messrs. Walter Brown,

Robert H. Cameron, James S. Dawson, Francis H. Norbrook Crew Kemp, Andrew Mitchell, Robert L. Townsend, and Llewellyn E. Williams.

As Licentiates : Messrs. William Beeston and Walter Ernest Jefferiss.

As Retired Licentiate : Mr. George Palmer Smedley.

HENRY L. FLORENCE BURSARY

The last date for the receipt of applications for the Bursary is December 1, 1936. Candidates must be members of the R.I.B.A. The Bursary is offered in alternate years, and is of the value of £350. The general object is the study of the Greek and Hellenistic architecture of the Mediterranean basin, with a view to making available for architects, from an architectural standpoint, the results of the more recent archaeological researches.

The holder of the Bursary is required to spend a period of not less than six months in travel and research.

Applications must be made in writing, accompanied by testimonials, and a brief outline of the candidate's intention regarding his proposed studies must be included. Candidates should state their qualifications, age, architectural training, works executed and publications, if any. Applications should be sent so as to reach the Secretary of the R.I.B.A., 66 Portland Place, London, W.1, on or before December 1, 1936.

COMPETITION NEWS

THE *NEWS CHRONICLE'S* SCHOOLS

THE CONDITIONS REVIEWED

By R. Gardner-Medwin

It is recognized that this world-wide attempt to produce bright, modern schools for British children by inviting architects to apply themselves to the problem of design is of importance to the nation.—*The News Chronicle*, November 5.

There cannot be too much interest in making our schools emblems of fitness for purpose rather than monuments for the adverse comment of posterity.—Mr. Herbert Morrison, M.P., quoted in the *News Chronicle*, same day.

OF overwhelming importance in this competition is the fact that it is promoted by a widely-read daily newspaper; what is more, by a newspaper with a conscience. Competitions of one kind and another are not rare in a national daily, but usually their object is to increase sales circulation. The *News Chronicle* may hope by this competition to do so in the long run, but those of us who have faith in its pages believe that its motives are more purely altruistic. This is a rare development in journalism, and the most encouraging that has appeared in twenty years.

Architects know how pathetically small has been the effect of their pleading for better-planned schools. The *News Chronicle* now appears as an ally. If the results of this competition are successful, the propaganda possibilities are enormous. And this overshadows one fact we must bemoan : the two schools are to be designed for ideal sites and are not actually to be built. But it would have been an impossibly splendid thing if two real sites had been selected and the winning designs were to have materialized. This is something for the Board of Education to do.

Only one ambiguity seems to be present in Conditions about which no Questions will be allowed : and that is the extent of co-education implied by the word " mixed." At present, some mixed senior schools are almost completely separate boys' and girls' departments, with only the hall, science rooms and gymnasium (if provided) used by both sexes; in others, the classes are mixed on a full co-educational basis. The term " mixed senior school," I am told by the Board of Education, covers both types. And neither the Conditions of this competition, nor Pamphlet No. 107 to which competitors are referred, appears to make clear what degree of co-education is favoured by the Assessors.

* * *

As announced in last week's JOURNAL, the competition is in two sections for two types of schools. Competitors can enter for one or both sections.

1 : A large senior mixed elementary school for 480 children in an urban district.

2 : A smaller senior mixed elementary school for 160 children in rural surroundings.

Possibly this competition might have been made even more effective if the three definite grades—Nursery-Infant, Junior and Senior—had been represented, each planned for a typically urban area. To ask for the three grades in a rural area also would be too much in one competition.

But I refuse to throw water on the flames of idealism already lashing about the stolid, far too solid, walls of our schools.

The conditions are excellent. The first impressive thing about them is the statement that the competition is " open to the world." This suggestion of international architectural co-operation to solve a national problem is in itself encouraging in a world of ingrowing nationalist States. Second impressive thing is the choice of assessors. They are :—

W. G. Newton, M.A., F.R.I.B.A.

G. E. Kendall, O.B.E., F.R.I.B.A. (Architect to the Board of Education).

Brian O'Rorke, M.A., A.R.I.B.A.

The paragraph describing the purpose of the competition is worth quoting : " To test the possibilities of improvement in the planning and design of Elementary School buildings. It is intended to illustrate those types of schools which are likely to be familiar objects of everyday life in the near future; types, which in the next two or three years, will be built in the largest numbers and take the heaviest toll from public funds."

Under " objects and aims " we joyfully read that " new ideas and fresh lines of thought will be welcomed and competitors may consider themselves unfettered by tradition or convention of plan, elevation, interior finish, materials and methods of construction."

The awards are as follows : Section (*a*) for first, second and third places, £500, £200, £100. Section (*b*) for first and second places, £300, £100.

There is freedom from general restriction, but designs must very wisely fulfil the present functions of a school, and maintain accepted standards of safety and health, with due regard to economy. They must also encourage an appreciation of fitness and beauty. One clause in particular is brimful of enlightenment :—

" Freedom of choice of materials and of methods of construction is left to competitors, but it is suggested that the possibilities of employment of methods and materials other than those in common use might be explored, still having in mind ' the functions enumerated,' but a useful life of only 40 years for the building."

This mention of a deliberately short life for the school of the future is one of the most suggestive remarks in the conditions.

As for costs, there are no actual limits, but competitors are reminded that the average costs of recently built schools of this type have been £50 per head for a school of 480 and £55 per head for a school of 160, exclusive of equipment and playing fields. This in buildings of normal construction.

Drawings required are :—

To a scale of 32 ft. to the inch.

(1) Block plan showing the buildings

and surroundings, the layout of the hard playgrounds, pitches in the playing fields, school gardens and outbuildings.

To a scale of 8 ft. to the inch.

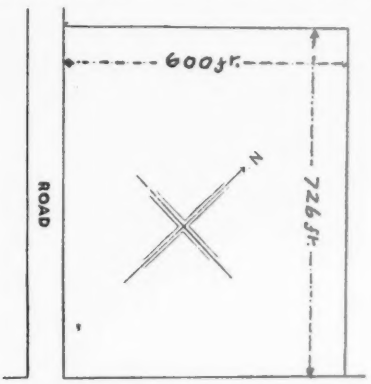
(2) Plan of each floor (no roof or foundation plans are required).

(3) Elevation of four façades of the buildings.

(4) Sufficient sections to illustrate the design, one section passing through the School Hall.

(5) A drawing in perspective.

"At the discretion of competitors plans may have colour washes and elevations and perspectives may be rendered." The suggestion of rendered drawings is somewhat inconsistent in a



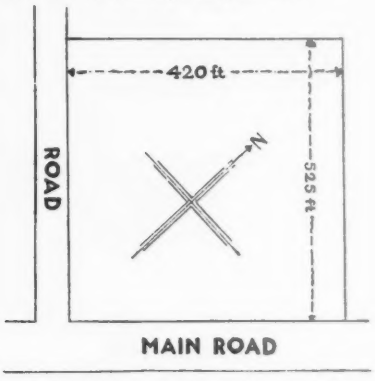
SITE PLAN (A)

competition of this kind, but there is the qualification that drawings are to be as simple as possible. The *News Chronicle* obviously wants to publish the designs as soon as results are announced, so the perspective, though it will be unpopular, is excusable.

Reports accompanying the drawings must describe the design in general, materials, construction and finish, heating, ventilation and lighting, and also contain an estimate of the cost based on cubic contents.

*

Conditions are obtainable from: Schools Architectural Competition, "News Chronicle," Bouverie Street, E.C.4. Deposit 10s.



SITE PLAN (B)

LETTERS FROM READERS

L. W. THORNTON-WHITE, A.R.I.B.A.
(Hon. Sec. of the R.I.B.A. Science Standing Committee)

EDWARD BANKS

Smoke Abatement

SIR,—Mr. William R. Gordon's letter appearing in your issue for November 5 complains that Dr. Fishenden has no right to suggest that "something must be done to reduce the smoke emission from coal grates," because there is "actually" on exhibition an automatic firelighter which, using gas from the mains, helps to consume the excess of smoke given off by the newly-lighted fire (that is, if you leave the gas burning long enough).

On enquiry at the C.U.C., nothing is known of the cost of such gas equipment nor where it can be obtained—is it possible that Dr. Fishenden has not yet had an opportunity to examine this appliance? As to the work being done in collaboration with the Fuel Research Station, would it not be as well to let us know what actual progress is being made? Obviously, some very special design of grate will be necessary to give us open coal fires without smoke-blackened cities. Will the cost of such equipment be at all reasonable, and what real inducement will be given to householders to pay for the installation when this perfect grate at last appears?

If and when it does arrive, it will surely be the activities of the Smoke Abatement Society that will encourage its use, in conjunction, no doubt, with the suggestion which architects made at their special session of the Conference—that rebate in rates or taxes be given to all who instal smokeless heating.

If a council of experts does not keep us all a little more aware of what they are doing and trying to do, other people besides Dr. Fishenden must be excused for voicing a popular grievance without realizing that a remedy has already appeared. But do I understand Mr. Gordon to say that the remedy is already obtainable, or only that a search is still being made? If Mr. Gordon wants our sympathy, he should tell us much more.

L. W. THORNTON-WHITE,
Hon. Sec., R.I.B.A.
Science Standing Committee.

Lighting of Roads

SIR,—I fear your correspondent, Mr. Falkner, would create as many problems as he attempts to solve, for, like our politicians who would put us all in gas-masks, he would put all pedestrians in coloured-glass goggles to withstand the glare of floodlights they would have to parade in! Under this system pedestrians will also require to be supplied with torches, since, when they wish to cross the road they will step out into utter darkness. . . .

We possess but few towns worthy of such floodlighting, in fact some of my more sensitive brothers in crime tell me they only go out at nights (like cats) to avoid being hurt by the sight of the buildings!

The Falkner System at cross roads will come unstuck, I fear, for the motorist who wishes to turn at right angles will have to look into the glare of the floodlights on the inside of the transverse pavements. Of course, these lights could be kept away for, say, 50 ft. from cross roads, and let the motorist rely upon his headlights to negotiate these turns, but your old headlight-glare problem would be right back again. . . .

As to white kerbs and rear lights to bikes, these are truly worthy discoveries. No, I fear I shall be unable to recommend Mr. Falkner as lighting adviser to the Minister of Transport.

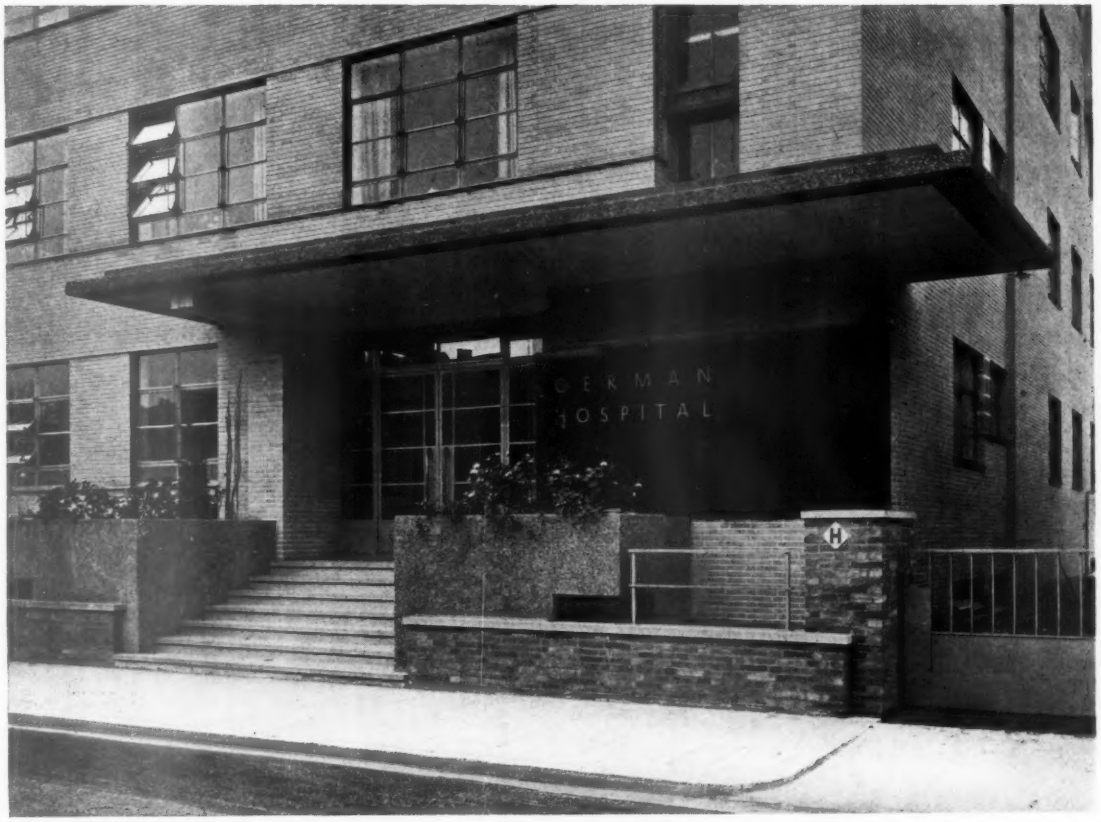
EDWARD BANKS.

Building Proposals, Moscow

Preparatory work has been commenced in Moscow on the construction of a Palace of Athletics. The Palace is estimated to cost two million roubles, and will be completed by November, 1937. Facilities will be provided in the building for boxing, wrestling, weight-lifting, etc. One wing will contain training rooms with all the necessary equipment, massage rooms, a reading room and café, another wing will contain a circus. The present Moscow Circus in the Tsvetnoi Boulevard, adjoining the site on which the Palace is being built, will be used as an auditorium. The Palace will also contain a large restaurant and dance hall.

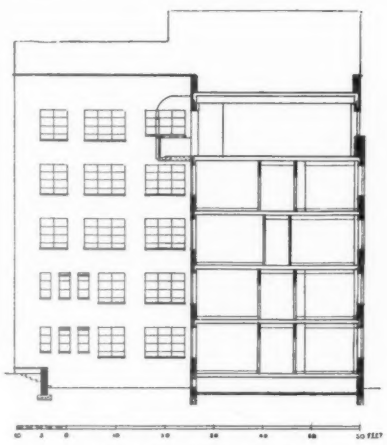
We are also informed that a medical centre, which will include the All-Union Institute of Experimental Medicine, the institutes of the State Health Department, the Second Moscow Medical University and a traumatological institute, will be built on the outskirts of Moscow, between Pokrovskoye-Streshnievo and Khoroshevsky Serebrianny Bor, in 1937.

ADDITIONS, GERMAN HOSPITAL, DALSTON, E.



CONSTRUCTION—*Steel framed, faced with yellow sand-lime bricks, and with light blue tiles on the piers between the windows on the top floor. The canopy over the street entrance and the staircases are reinforced concrete; floors are hollow tile. Partitions are either cellular flettons or hollow tile blocks. The roof is asphalt, finished with paving tiles.*

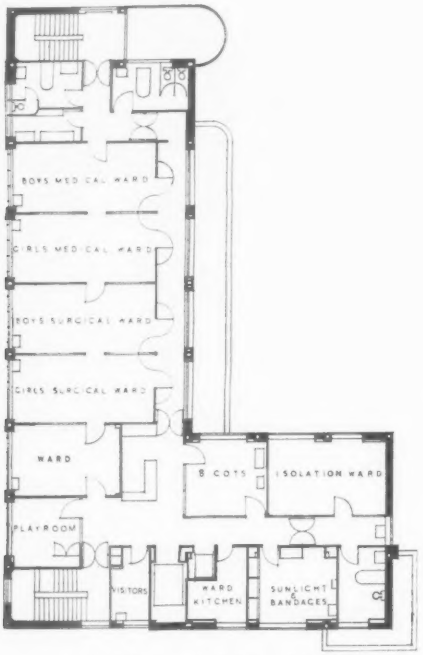
The photographs show: above, the main entrance from Fassett Square; right, the Fassett Square front.



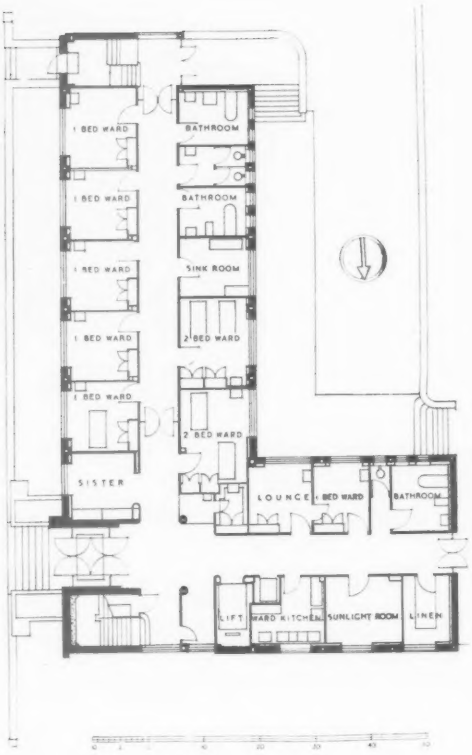
CROSS SECTION

DESIGNED BY SIR JOHN BURNET, TAIT AND LORNE

ADDITIONS, GERMAN HOSPITAL, DALSTON, E.: BY



FOURTH FLOOR PLAN



GROUND FLOOR PLAN

PLAN—*The accommodation in the addition includes maternity wards, children's wards and roof garden, and nurses' bedrooms.*

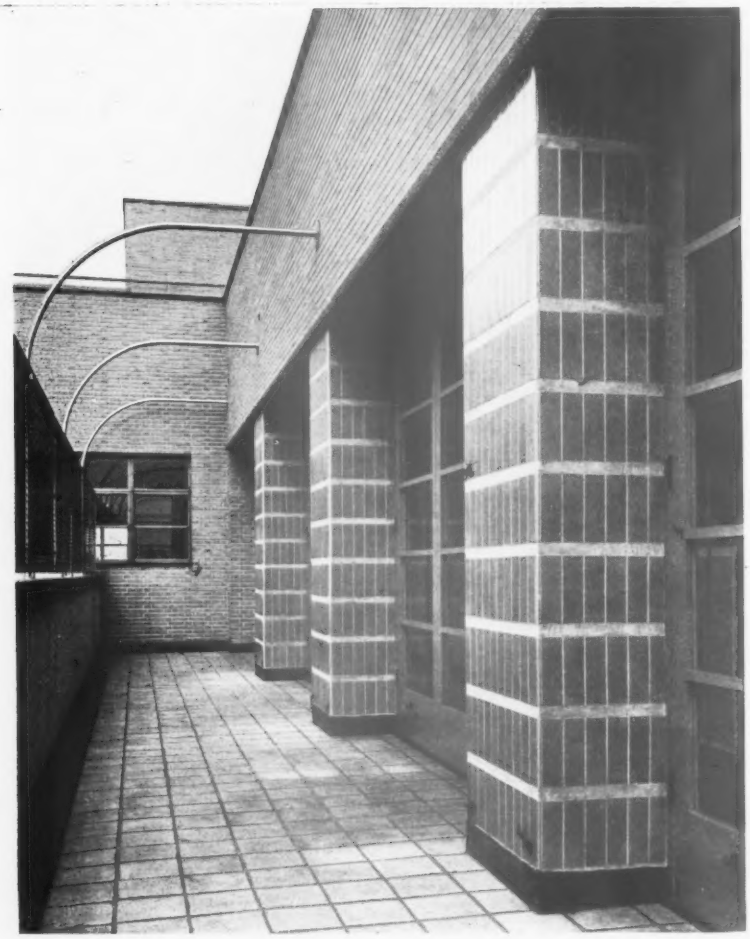
INTERNAL FINISH—*The lower portion of the walls of the corridors are tiled in primrose colour with a tiled architrave of the same colour to door openings; the upper portions of walls are plastered cream. Doors are blue with chromium-plated handles. The private patients' suites and the wards have cream walls and ceilings. The floors of the wards and corridors are finished in linoleum; other floors are terrazzo.*

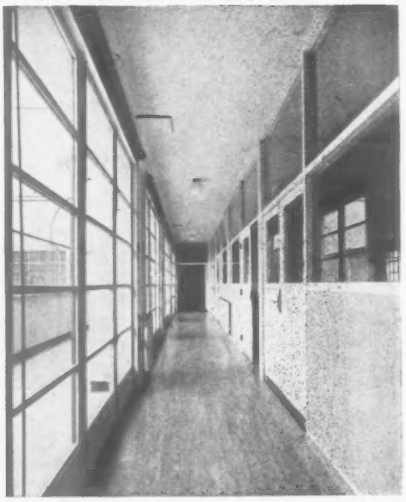
The photograph shows the balconies at the south-west corner of the hospital.

The photograph on the facing page is taken from one of the balconies, looking north.

SIR JOHN BURNET, TAIT AND LORNE

ADDITIONS, GERMAN HOSPITAL, DALSTON, E.: BY



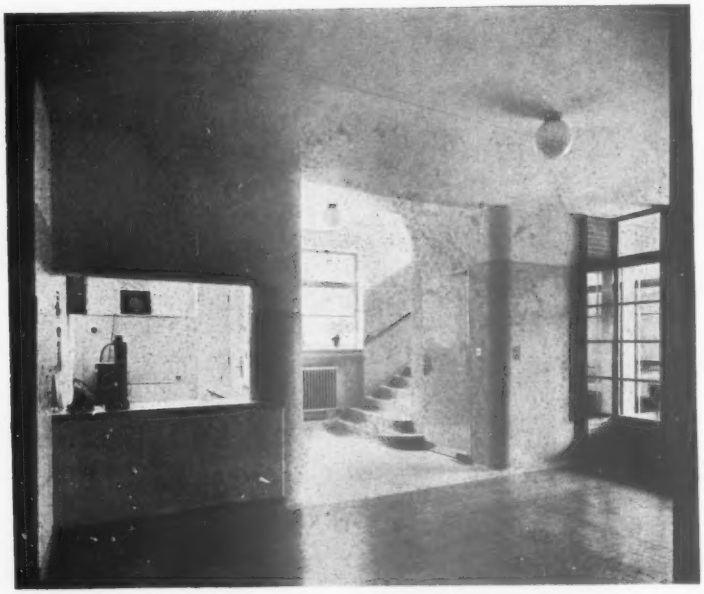


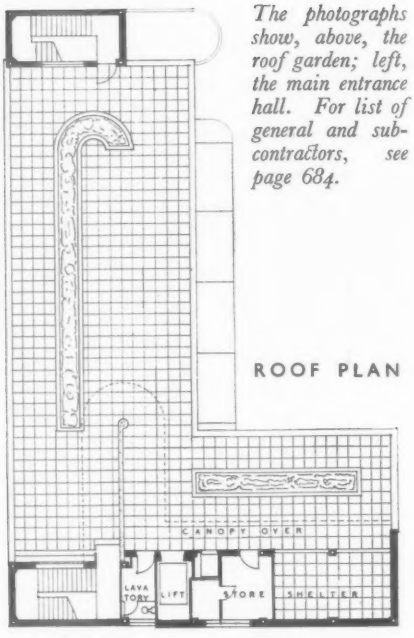
The photographs show: above, the balcony to the children's wards; top, right, the corridor to the children's wards; centre, a private patient's suite. Below, approach and duty rooms to private patients' wards; right, the double doors to a maternity ward. The photograph on the facing page is taken looking down the south staircase towards a balcony on the west front.

SIR JOHN BURNET, TAIT AND LORNE

ADDITIONS, GERMAN HOSPITAL, DALSTON, E.

DESIGNED BY SIR JOHN BURNET, TAIT AND LORNE



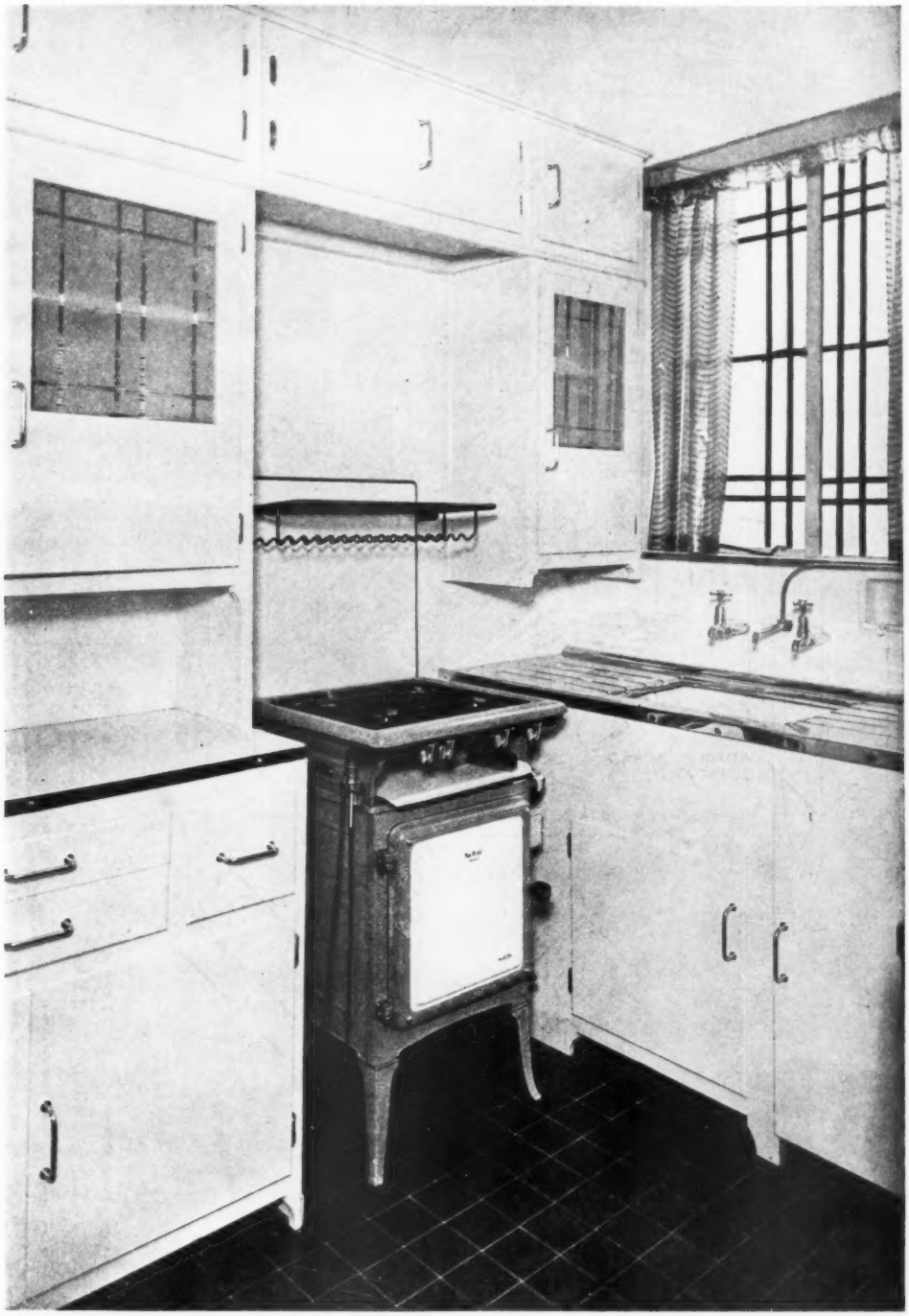


ROOF PLAN

The photographs show, above, the roof garden; left, the main entrance hall. For list of general and sub-contractors, see page 684.

WORKING DETAILS : 523

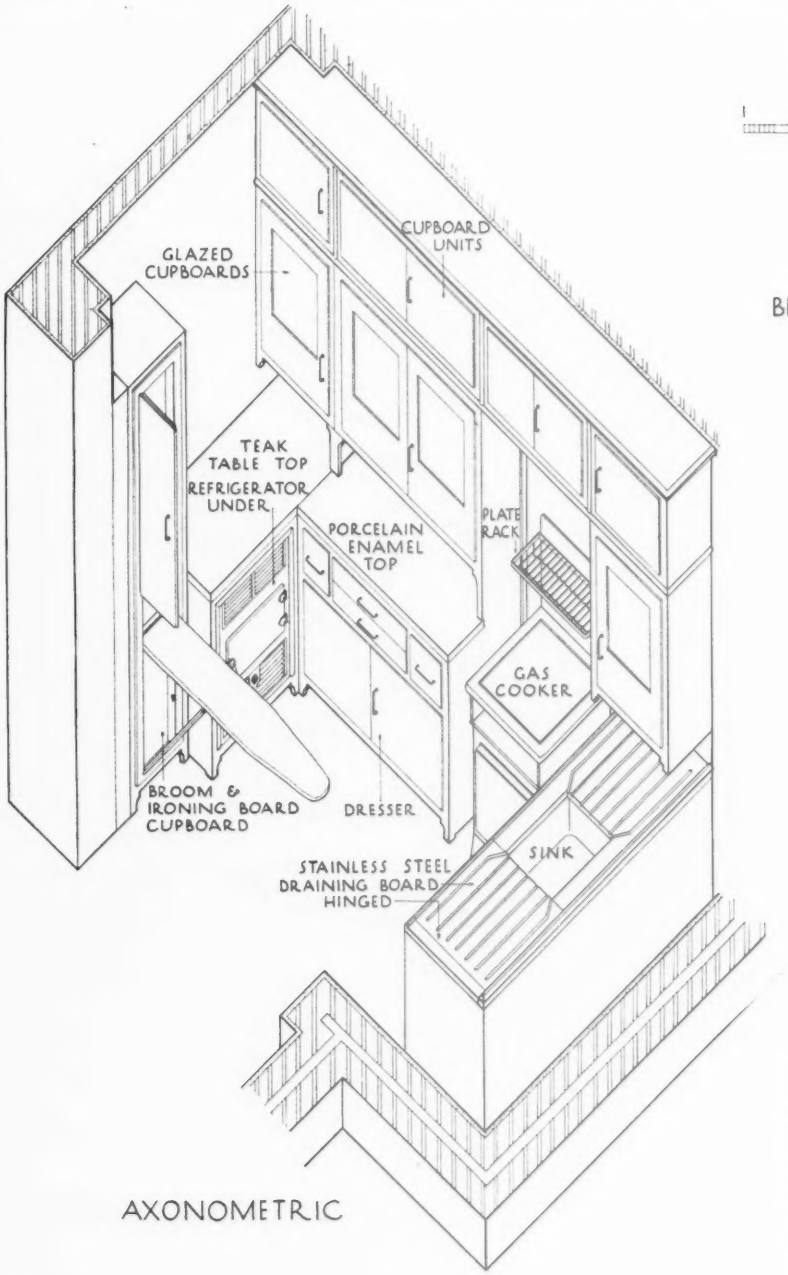
KITCHEN LAY-OUT • WANDSWORTH GAS CO. SHOWROOM, ESHER • H. W. BINNS



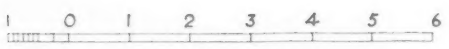
This kitchen, completely equipped for all domestic work, is planned in a space of 9 ft. 6 ins. by 5 ft. 6 ins. Gas is used for cooking, refrigeration and for heating the copper. The draining boards and sink surround are stainless steel. The plan and details are given overleaf.

WORKING DETAILS : 524

KITCHEN LAY-OUT • WANDSWORTH GAS CO. SHOWROOM, ESHER • H. W. BINNS

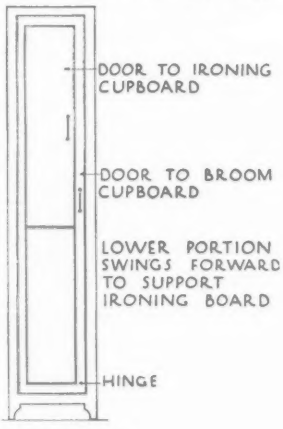


AXONOMETRIC

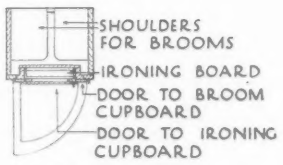


SCALE OF FEET

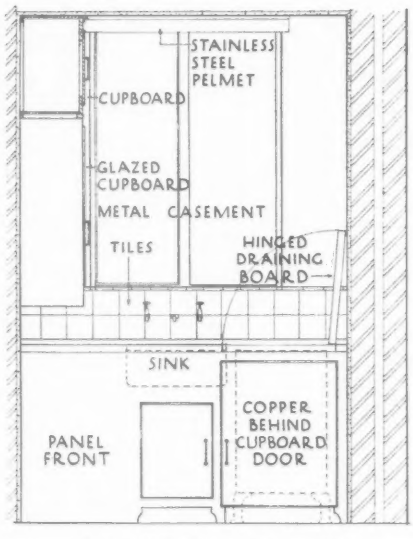
CUPBOARD FOR BROOMS & IRONING BOARD



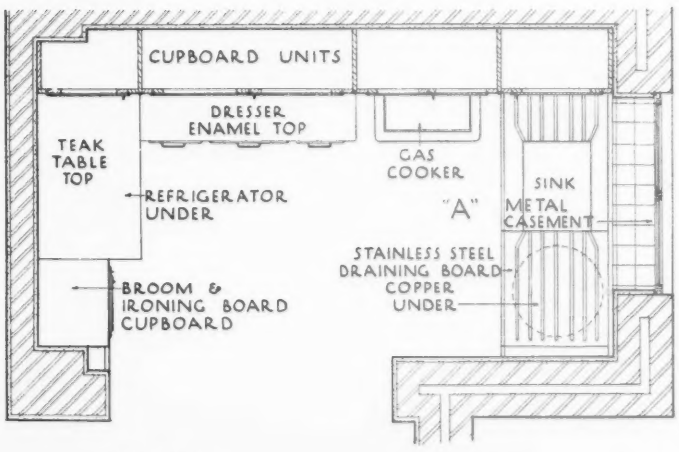
ELEVATION



PLAN



ELEVATION AT "A"

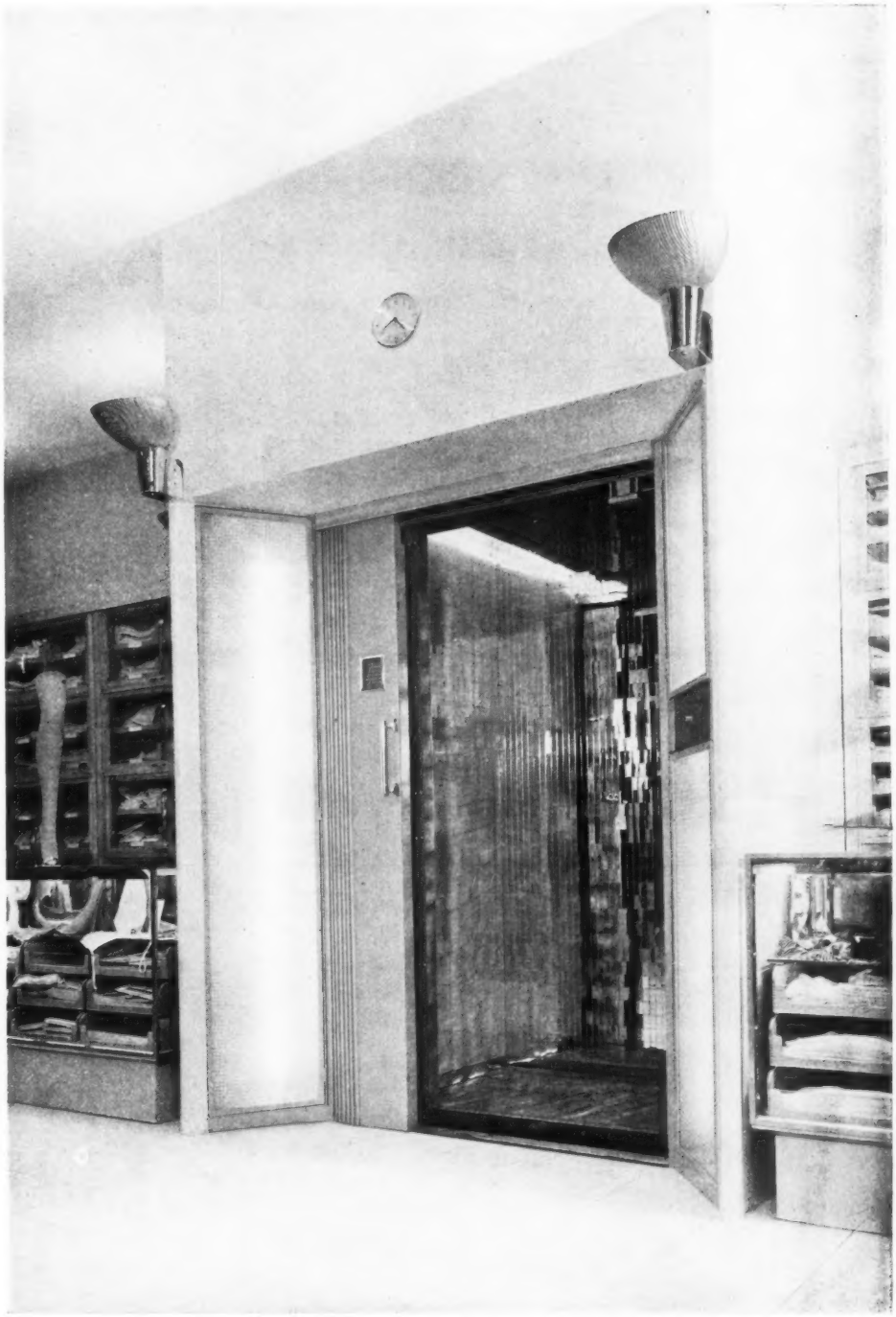


PLAN

An axonometric and details of the kitchen shown overleaf.

WORKING DETAILS : 525

LIFT • SHOP AT GOLDERS GREEN • ERNÖ GOLDFINGER

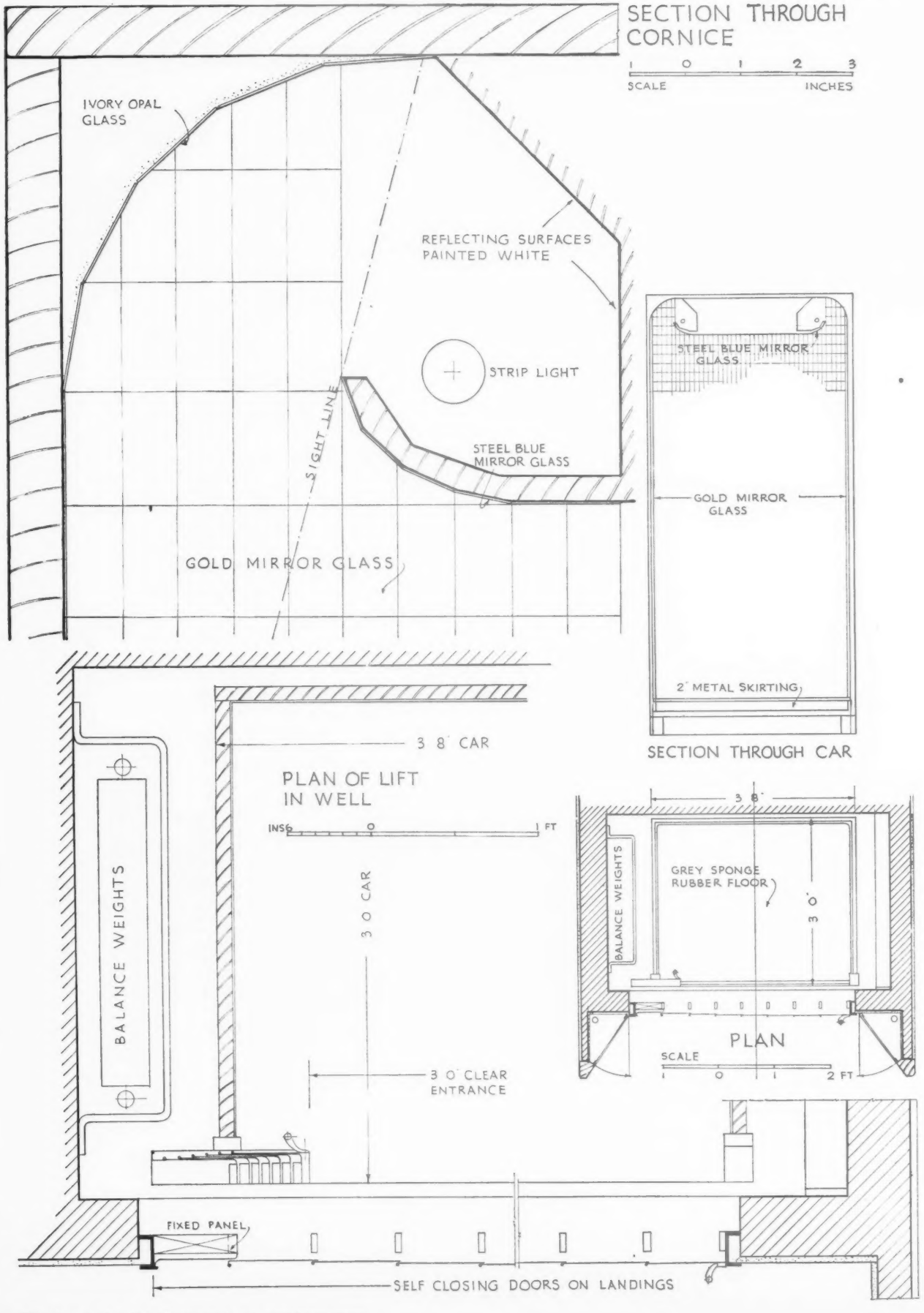


The lift car shown above is glass lined with gold mirror and ivory opal glass with steel blue mirror glass for the underside of the light fitting ; the floor is grey sponge rubber. The doors to the light enclosures in the splay at each side are of wired plate glass. Details are given overlea.

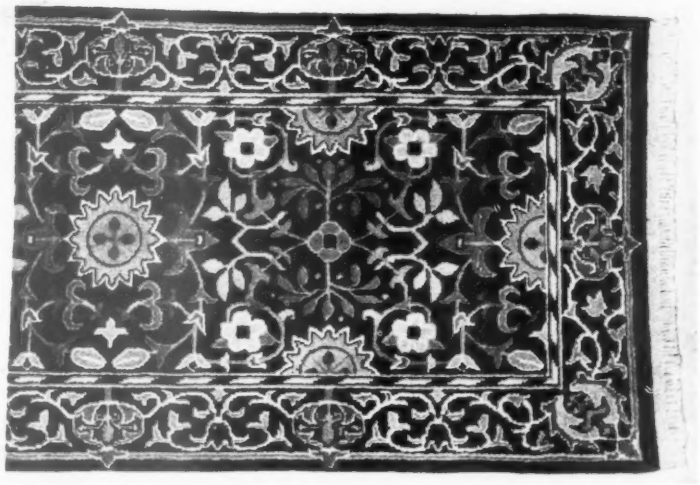
FILING REFERENCE:

WORKING DETAILS : 526

LIFT • SHOP AT GOLDERS GREEN • ERNÖ GOLDFINGER



Details of the lift illustrated on previous page.



". . . when Morris's style was firmly fixed, it had become heavier and had lost some of its adventurous charm. Not that his creative vein was less abundant. His very simplicity of approach led him to forms more traditional. When, for example, in 1878, he decided to make carpets, he saw that certain oriental patterns were almost exactly what he wanted. Hence his Hammersmith carpets are very much like oriental designs, though he emphasized that he wanted them 'obviously to be the outcome of modern and Western ideas.'"—From "Pioneers of the Modern Movement."

L I T E R A T U R E

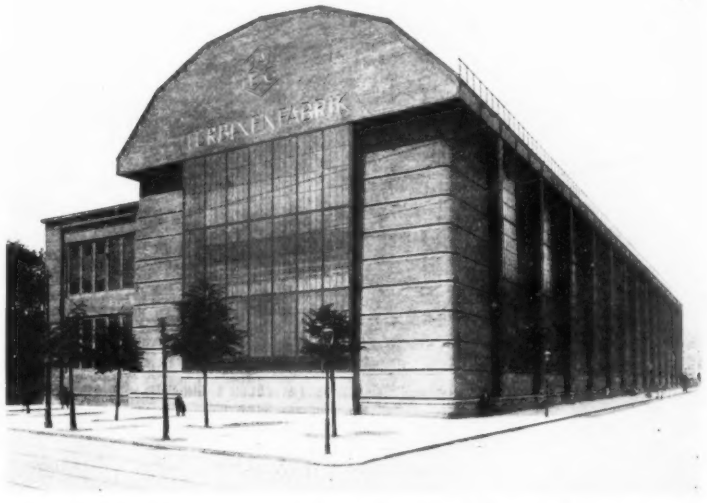
STOCKTAKING 1936

[By A. H. SPARROW]

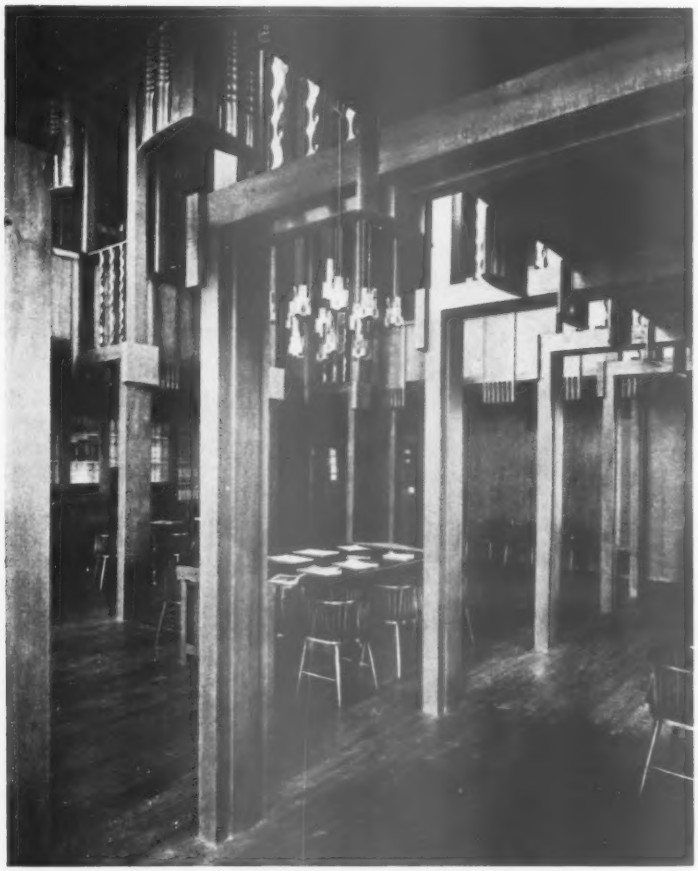
Pioneers of the Modern Movement: from William Morris to Walter Gropius. By Nikolaus Pevsner. London: Faber and Faber. Price 10s. 6d.

THIS is the first serious attempt to record the history of architecture since the breakdown of the classical tradition. Everybody who takes modern architecture for granted should read this history of its evolution, because, faced with this account of its parentage "By Morris out of Art Nouveau" one cannot help asking oneself the question which has been shelved for some time now: "What is Modern Architecture?" The author, typically, assumes that there is such a thing and that we know how to recognize it. Summing up in his introduction, he says: "Gropius regards himself as a follower of Ruskin and Morris, of Van der Velde and the Werkbund. So our circle is complete. The history of architectural theory between 1890 and the war proves the assertion on which the present book is based; namely, that the phase between Morris and Gropius is an historical unit understandable as such. Morris laid the foundation of the modern style, with Gropius its character was ultimately determined. Art historians speak of Transitional preceding the harmonious perfection of Early English. While Romanesque architecture was still lingering on all over England, Williams of Sens and the Masters of Wells and Lincoln created their immortal works, as pioneers of the style to come. What they did for England at the beginning of the 13th century was done for the whole of Europe late in the 19th century and at the beginning of this century, by Morris and his followers, Voysey, Van der Velde, Mackintosh, Wright, Loos, Behrens and Gropius." But the further one reads through the book the more one grows convinced that there is no true parallel here, and that the modern movement, even in 1936, is far from achieving the harmonious perfection that would allow it to call itself an architectural style. If Mr. Pevsner had started his book with Pugin and the architects of the Gothic revival, from whom Morris can only be divided by a cruel amputation, he would have more reason to call the period he covers an historical unit. But if he had done so he would probably have assessed its importance differently. Instead of concluding that during the period the prototype of a new architecture had been created, he might have said that the romanticism curiously coupled with respect for materials, which started with Pugin, 1812–52, had run full circle through Gothicism, Art Nouveau and functionalism, exhausting itself in the process and leaving us with nothing—nothing but a clear space for a new beginning. However, the book must be regarded as a valuable contribution to architectural theory whether we agree with its conclusions or not, because of the clear and sensitive manner in which it is written; by tracing the connection between these apparently dissimilar movements and showing how they followed one from the other, Mr. Pevsner illuminates the problem indirectly.

When I say that we are left with nothing, I mean nothing positive. The statement must be read in



1909: Factory, Huttenstrasse, Berlin. By Peter Behrens. From "Pioneers of the Modern Movement."



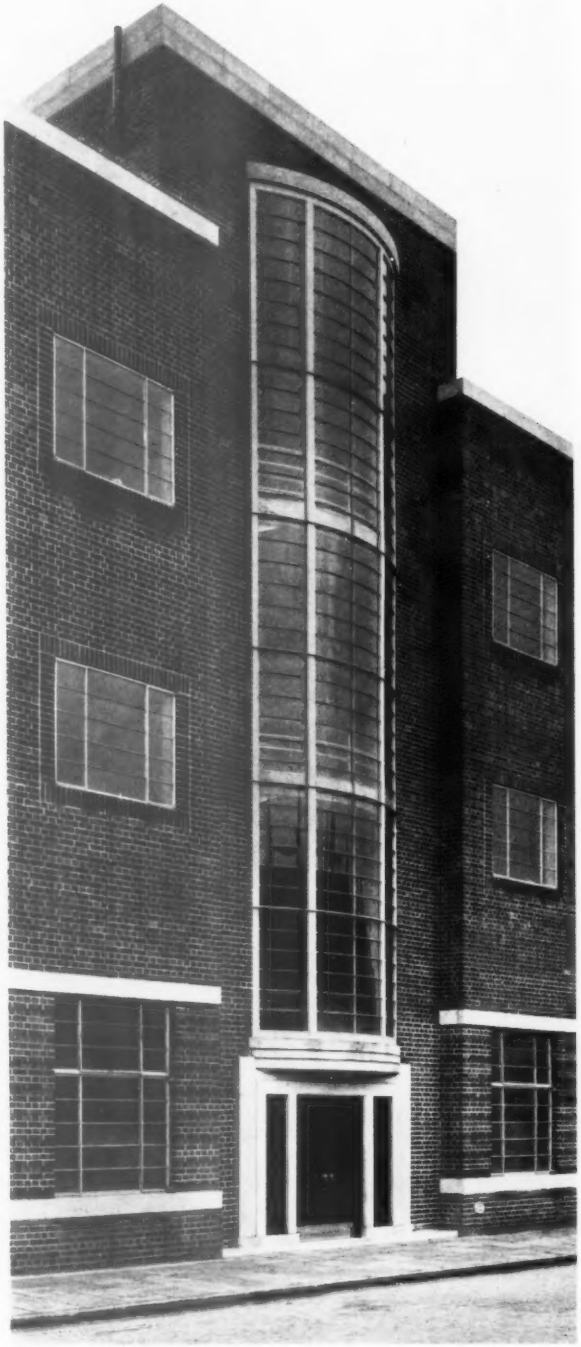
1907–1909 : Art School, Glasgow. By Charles Rennie MacKintosh. "The simple motif of a high room with aisles and galleries around three sides is so enriched that the resulting impression is an overwhelmingly full polyphony of abstract form."—From "Pioneers of the Modern Movement."

conjunction with Mr. Pevsner's assertion that the transitional period is over, and not understood as an attempt to belittle the work of the architects in question. What they have done in cleansing the Augean Stables of mid-Victorian taste has been no light task. Until it was done it was impossible to move in any direction. But the direction in which we are to move has never been determined. Pevsner does not anywhere attempt to tell us what the new style is, and the criteria by which he distinguishes it, in tracing its evolution, are heterogeneous. A building may be called modern because it has a flat roof or horizontal windows or unsubstantial corners, or because it has a framework that is clearly visible, glass walls or cantilevered floors. Or, more generally speaking, because it lacks ornament, and has a certain lightness. In short, the presence of any features which are peculiar to modern methods of construction entitle a building to be called an example of the new style. But these features can and do appear in buildings which have, from an æsthetic point of view, no relationship with each other. No recognizable style has emerged. The architecture of this period is a history of personalities — the county style of Voysey and the factories of Gropius; Frank Lloyd Wright's broad low-built houses and Perret's churches vaulted in concrete lace — what connection is there between them ? Admittedly the architects 1890 - 1914 had this in common—that they approached their problems "logically"; but ability to design in a manner that satisfies the requirements of the client and exploits to the full the types of construction available is not peculiar to this century. Architects have had it at every period; it is the least common denominator of all the architectural styles.

The argument that a logical use of materials will produce a different style of building is more plausible in relation to periods before 1900. We all know the old equation—post and lintol equal classical architecture, etc.; and it does seem fairly obvious until one tries to deduce one from the other oneself. But in our own century there is nowhere for the argument to start : our wants are so varied and featureless in their complexity and our means of satisfying them so flexible that between them they won't produce one finite architectural shape. It is obvious to anybody who considers the matter seriously that there is no easy "natural" solution. Logic, which is the contribution made to the modern movement by the pioneers between 1830 and 1914, cannot solve the problem, because the conditions under which we have to build are such that the architect must impose his own discipline and create his own incident.

The trouble with modern architecture is that it lacks unity. All styles prior to the one in the process of formation have been based on some kind of a unit. Greek architecture had the colonnade, Gothic the pointed vault, and Byzantine the dome. The architectural effects which were produced were a result of grouping and arranging these units in a way that was easily comprehensible. Approaching the problem of modern architecture from this point of view, it is necessary to take into consideration not only the changes in building technique which resulted from the inventions and discoveries of the 19th century, but also the sociological changes which accompanied them and which, from the architect's point of view, are much more important. If it is true that instead of the manufacturer we have the factory, it is also true that instead of the individual we have the mass and instead of the isolated building we have the town, as the architect's problem. The change in scale is not merely technical, it affects the whole problem of æsthetics. If there is to be any kind of unity in modern architecture, the architect will have to design in units which correspond in size to the proportions of the problem. Doors and windows in a modern town are no more significant architecturally than Gothic decorations. There is such a multitude of them that they only read as a pattern. The position of the modern movement in England today is comparable to that of renaissance architecture in the reign of Queen Elizabeth, when architects were familiar with the idiom of the new style, but continued to think in Gothic proportions; classical columns and capitals were frequently used, but usually as mullions, or chimney pots. Until modern architecture becomes a question of town planning, we will continue to be relatively in the same position. We may change the idiom, but we will be unable to produce either harmony or perfection.

RESEARCH LABORATORY, BIRMINGHAM



DESIGNED BY H. WILLIAMSON AND S. H. BECKETT

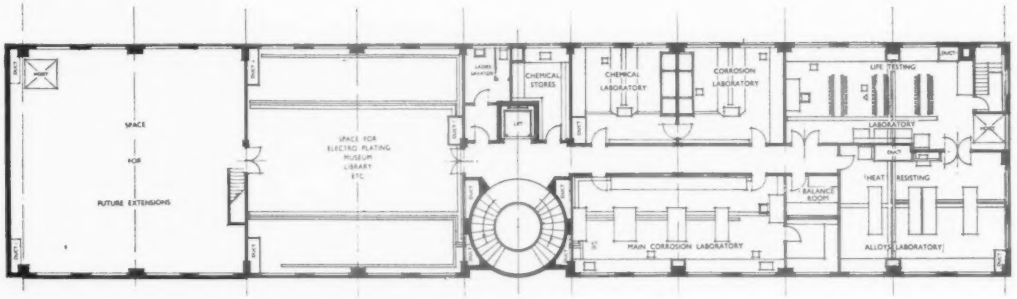
GENERAL PROBLEM—*Laboratory for the Research and Development Department of the Mond Nickel Company, Ltd. It has been built to replace previous accommodation, which was inadequate to meet the increasing demand for more exact data and for improved alloys, occasioned by the growing severity of engineering requirements.*

SITE—*Wiggin Street, Birmingham.*

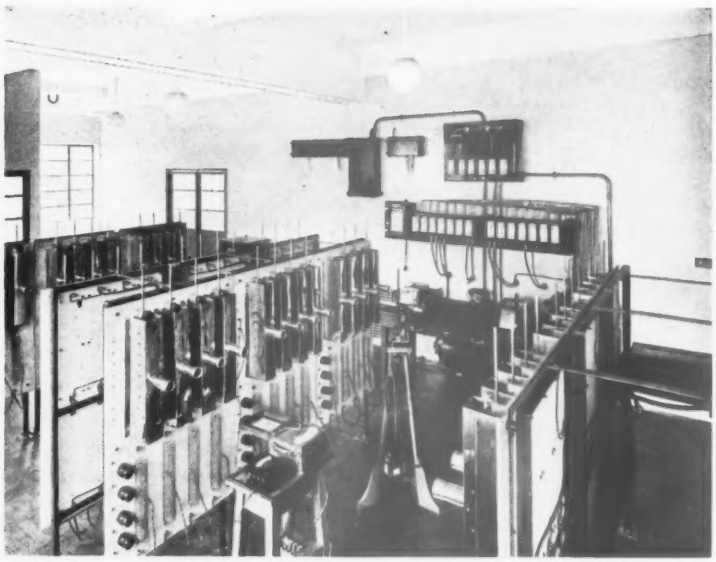
CONSTRUCTION—*Reinforced concrete, faced externally with red bricks. Internal columns have been avoided as far as practicable, but the floors are designed for factory loads. Partitions are steel where rearrangements of the accommodation are probable, elsewhere they are in brick or sound-insulating fireproof blocks. The ground floor, which contains the heavy machinery, is carried by the retaining walls and by thirty columns passing through the basement. To avoid the transmission of vibration, the machine shop floor and one-half of the mechanical testing laboratory floor are insulated from the main structure by a space filled with rubber mastic.*

The photographs show: above, the Wiggin Street front; left, the main entrance and staircase window facing Wiggin Street; below, the semi-technical laboratory showing the melting equipment and the staircase.

RESEARCH LABORATORY, BIRMINGHAM: BY



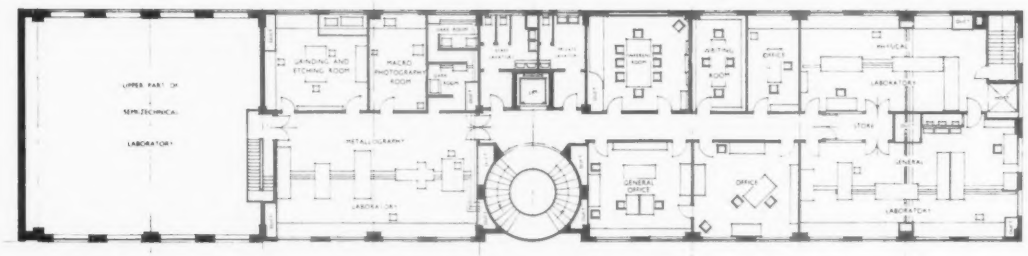
SECOND FLOOR PLAN



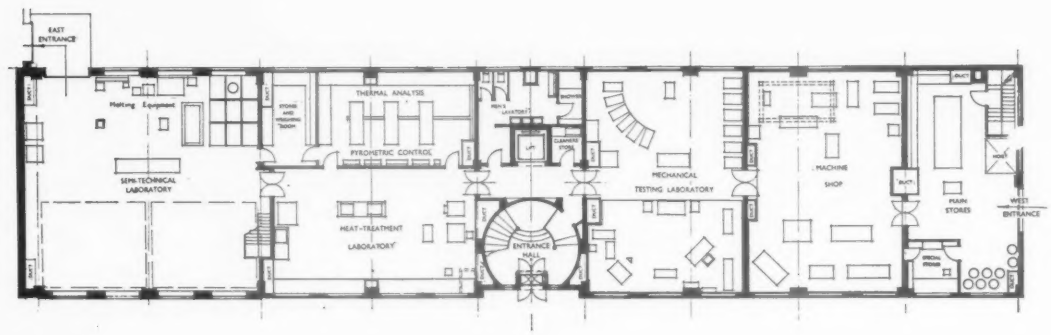
INTERNAL FINISH—*The use of wood has been largely restricted to block floors and the doors in the office section. Except on the ground floor, where granolithic is used, the floors are finished in hard wood. Doors to the offices are teak; all others are steel.*

SERVICES—*The laboratory is heated and ventilated by the introduction of air, drawn through a pre-heater battery, air washer and reheater battery by means of a fan, and distributed through the building by metal ducts. The inlet air ducts are paralleled by the extract ducts which lead to an exhaust fan. The lavatories are heated by hot-water radiators and are exhausted by a fan on the roof. This fan is also arranged to exhaust rooms liable to contain fumes. The temperature and humidity of the air are thermostatically controlled. The electric power, electric lighting, gas and water mains all enter the basement. Generous use is made throughout the laboratory of steel sections, embedded in the beams, ceilings and walls, into which T-headed bolts can be inserted for carrying equipment. These inserts permit equipment to be fastened quickly and removed without damage.*

The photograph shows the equipment for life tests on electrical resistance materials.



FIRST FLOOR PLAN

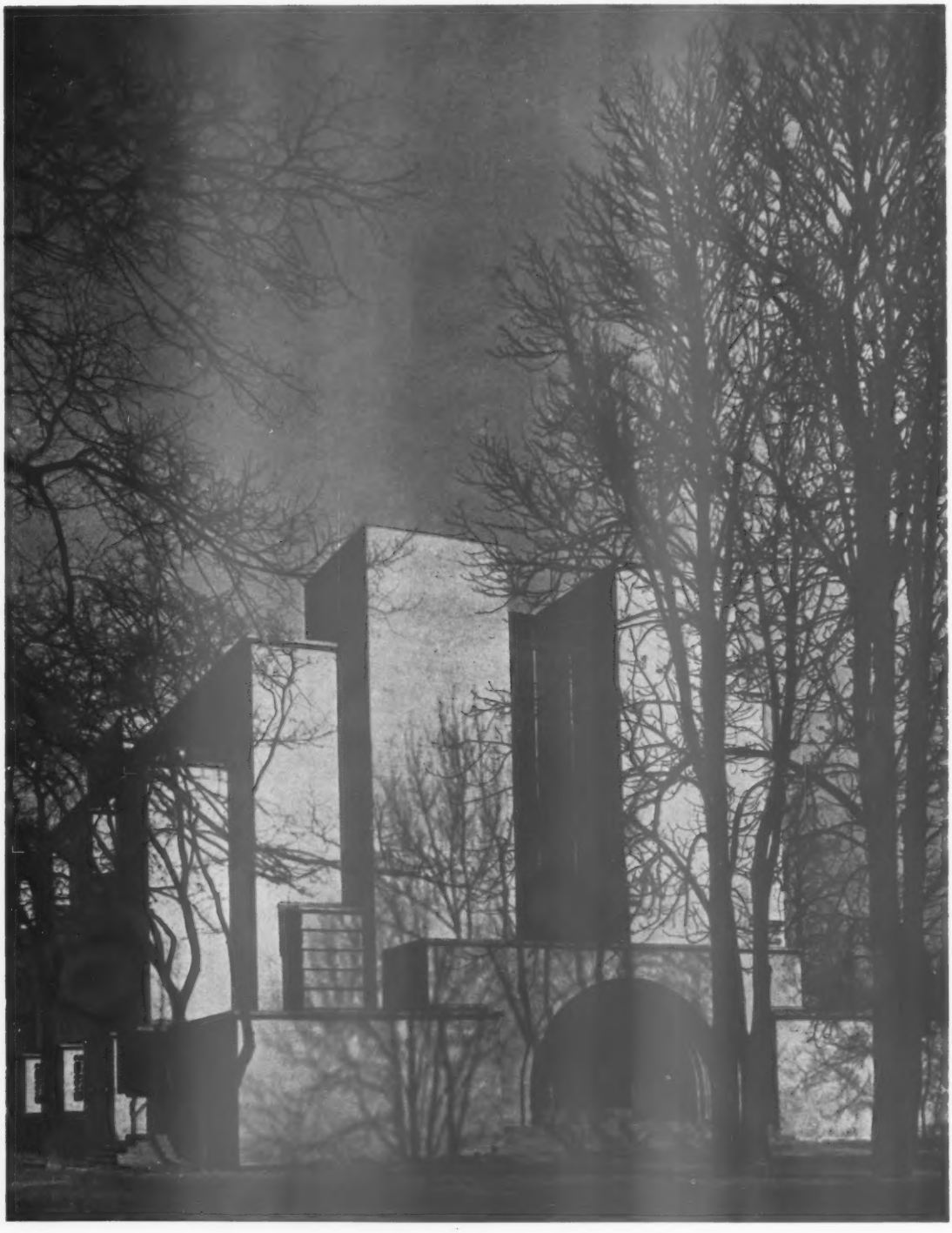


GROUND FLOOR PLAN

H. WILLIAMSON AND S. H. BECKETT

The main staircase is circular, 18 ft. in diameter, with a central well, 8 ft. 6 in. in diameter. The treads and risers are finished in ivory-coloured terrazzo, and the walls are lined in black terrazzo divided into panels by strips of nickel silver, embedded and ground flush. The balustrade has been constructed from 20 per cent. nickel silver extruded sections. The photograph was taken at first floor level. For list of general and sub-contractors see page 684.

CHURCH AT BUDAPEST:



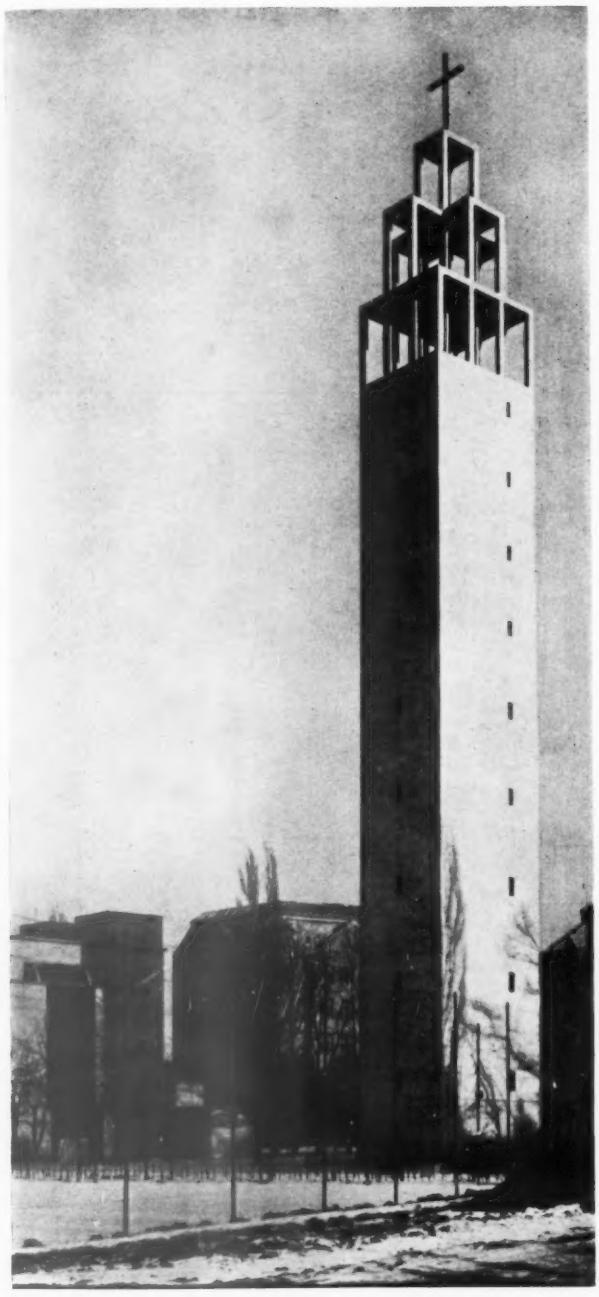
PROBLEM—*A Roman Catholic parish church for two thousand people on the outskirts of Budapest.*

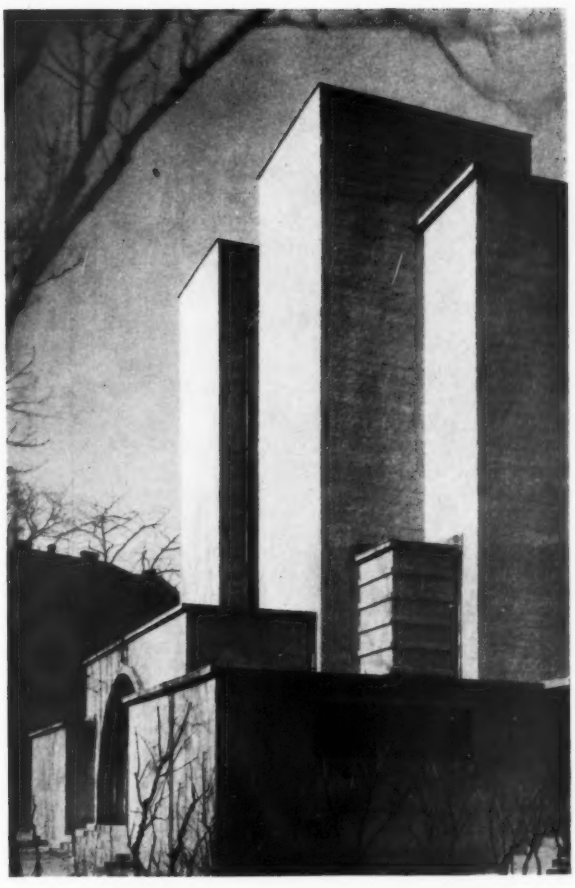
PLAN—*A variation of the normal basilican type with chapel recesses forming part of the structural system.*

STRUCTURE—*The building is reinforced-concrete framed, the main transverse beams being stabilized by the towers of the side chapels. The walls are of 11½-ins. concrete of a semi-porous type. All surfaces are of concrete, the floor being finished dark grey, the walls buff and the ceiling red, yellow and grey.*

Above is a detail of the west end of the church. The wall finish is natural coloured bush-hammered concrete.

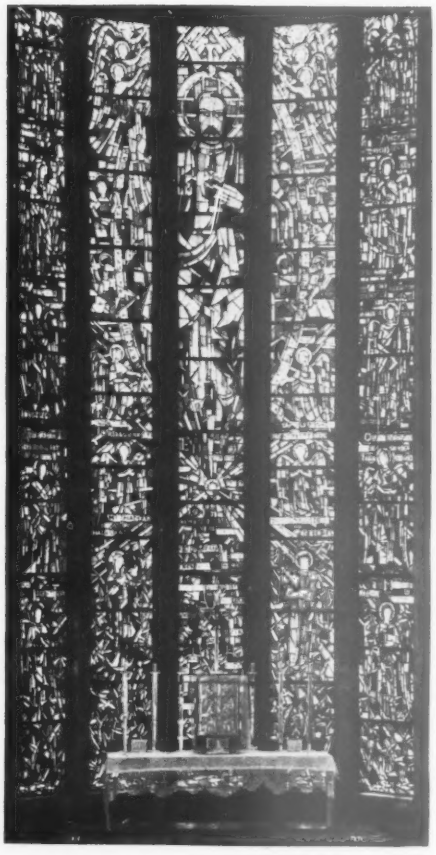
DESIGNED BY B. ARKAY

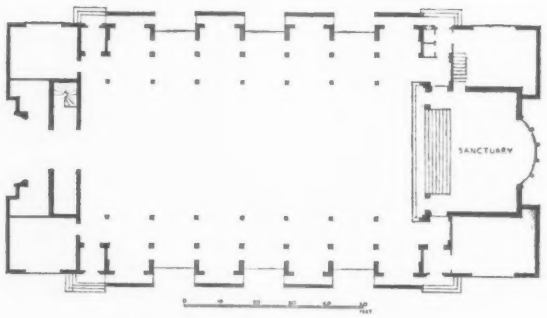




Above is the detached tower which is joined to the church by a cloister and contains five rooms used as church offices. Top right is a view of the east end with the sacristies flanking the sanctuary. Right, the west end.

CHURCH AT BUDAPEST : BY B. ARKAY





GROUND FLOOR PLAN

FURNISHINGS—*The altar is of red marble and the tabernacle cross and candelabra are of copper. Seating is of oak and doors of glass in bronze frames. The stained glass windows are in strong primary colours. Lighting is chiefly indirect, but lustres of tubular lamps hang between nave columns.*

The photographs show : top, the nave ; left, the east window and high altar.

LAW REPORTS

FATAL ACCIDENT TO A WORKMAN—JUDGE AND JURY

Madder v. *Stedman Bros.—King's Bench Division. Before Mr. Justice Swift and a special jury.*

IN this case his Lordship entered judgment for £125 and costs in favour of Mrs. Mary Jane Madder, aged 60, of Southern Drive, Loughton, Essex, against Stedman Brothers, builders and contractors, of New North Road, Barkingside, E., whom she sued for damages in respect of the death of her husband, Henry Madder.

Plaintiff's husband died from injuries he sustained through falling from a new building at Becontree in October, 1935.

A special jury found that the defendants, who were the main contractors, were negligent and assessed the damages at £125.

His Lordship in entering judgment, said he did so with very great reluctance. Proceeding, his lordship said: "If I saw a way of avoiding doing so I would not give judgment, but leave the parties to whatever rights they may have. To my mind the damages are quite inadequate for the wrong which the jury found had been done to a widow of 60 who had lost her husband—her sole support, a healthy man of 59—through what the jury found was the negligence of the defendants. The funeral expenses were agreed at £26, so that for the pecuniary loss which this widow suffered by the death of her husband, the jury has assessed the sum of £100. I think no reasonable people could have arrived at the verdict and I am strengthened in my view that in some way or other this verdict was a compromise, by the fact that before the jury retired they asked me whether, if they returned a verdict for the defendants, the plaintiff would secure any payment under the Workmen's Compensation Act. I told them they had nothing to do with that. Subsequently, the jury asked if a majority verdict would be accepted and I told them No. They eventually agreed on the verdict, but I think it was a most unsatisfactory method of dealing with the rights of the parties."

ALLEGED NUISANCE FROM NOISE AND VIBRATION

Scantlebury v. *Willment Bros. — Chancery Division. Before Mr. Justice Bennett.*

IN this case Mr. Gilbert Frederic Scantlebury moved against Willment Bros., contractors, of Baltic Wharf, Waterloo Bridge, seeking an injunction to restrain the defendants from injuring the plaintiff's property, 4 and 5 Adam Street, Adelphi, by causing great weights to be dropped on the foundations of the Adelphi from a great height or any other similar methods being used in their work of demolishing the site.

Plaintiff alleged that the defendants were using a large metal ball weighing half a ton, which was dropped from a height of 30 ft., to break concrete foundations.

Mr. Norman Daynes, K.C., said that the action had been begun by the plaintiff to restrain the defendants from injuring his property by causing great weights to be dropped on the foundations of the Adelphi site from a great height.

His lordship inquired when a weight became great.

Mr. Daynes: When it is half a ton and drops from a great height.

Mr. Andrew Clark, for the defendants, said he was ready to give an undertaking not to drop any weight. He suggested that the matter should stand over for the present as there was an allegation that damage had been caused. If his clients had caused damage they were willing to pay for it. In the meantime they might be able to dispose of the whole action. The undertaking might be in the terms of the notice of motion, the word "great" being omitted in both places.

His lordship said that the defendants would undertake not to injure the plaintiff's property till judgment, or further order. No order would be drawn up for 14 days. If the parties came to terms in the meantime, there would be liberty to mention the matter to the court.

DISPUTE OVER ERECTION OF JUBILEE STANDS

Jewson and Sons, Ltd. v. *The Steel Scaffolding Co. Ltd.—Official Referees Court. Before Mr. C. M. Pitman, K.C.*

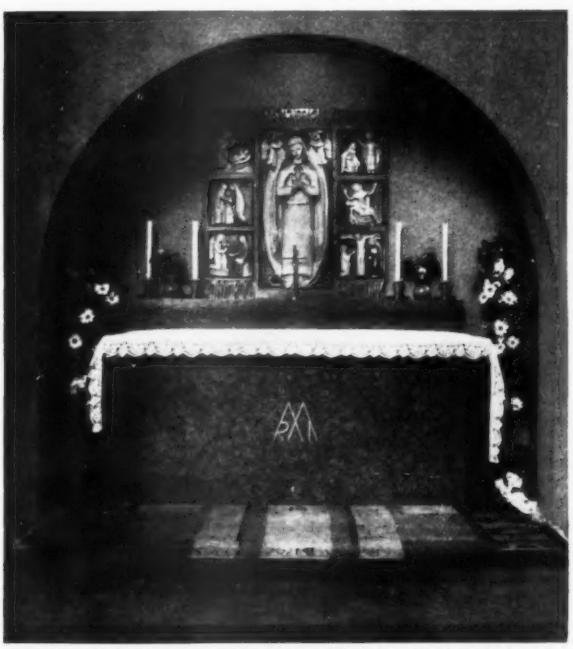
THIS action, which arose out of the erection of about two miles of stands along the Mall, Piccadilly and Constitution Hill for the late King's Jubilee, was brought by Messrs. Jewson and Sons, Ltd., of Queen Victoria Street, E.C., and Colgate, Norwich, against the Steel Scaffolding Co., Ltd., of Regent Street, W., to recover £3,750 as the balance of their charges, the defendants being the contractors for the stands.

The plaintiffs' case was that they contracted to supply on hire the whole of the timber required for the stands and to lay it on the sub-structures of steel erected by the defendants and, after the procession, to clear it away, for £3,550.

This work the plaintiffs carried out, besides variations and extras ordered by the defendants, which increased the claim to £6,082 1s. 2d. Of that sum the defendants had paid £2,331 3s. 9d. on account, leaving £3,750 odd, which plaintiffs now claimed.

The defence put forward was that the timber supplied by the plaintiffs for the decking of the stands was not of sound quality or fit for that purpose and not in the lengths agreed. Defendants also said that the timber work of the decking and seating was not reasonably fit for use and not safe and stable when fully occupied and subject to maximum loads and, as a result, on the instructions of the architect to the Office of Works, the plaintiffs were required to provide extra strapping and stiffening, but denied liability for that work. Defendants had paid money into Court and pleaded that there was a balance owing of only £520. To meet that they counterclaimed a like sum on the ground of the plaintiffs' failure to supply to the defendants 100 standards of 1½ ins. by 9-in. boards.

Mr. Le Quesne, K.C., representing the plaintiffs, said the question for consideration arose mostly out of the fact that the Office of Works required certain extra work to be done for the purpose of strengthening the structure. The defendants maintained that the plaintiffs were not entitled to be paid for that extra work, whereas the plaintiffs said that it was not their fault that extra work was required. The timber for decking would ordinarily be 3 ins. by 9 ins. The defendants considered that 1½ in. by 9 ins. would be sufficient, and although the plaintiffs thought that would be too light, the defendants' decision prevailed. The plaintiffs carried out the contract fully, and although the stands were subject to much greater loads than anticipated, they stood the strain well. The plaintiffs did not undertake to do the work in accordance with the Office of



Church at Budapest: the Lady Chapel. Designed by B. Arkay. Further illustrations of the building are given on pages 678-680.

Works requirements, nor did they warrant that the timber would stand the strain to be put upon it.

Evidence was called in support of the plaintiffs' case.

Mr. Chappell, K.C., representing the defendants, said that the supplying of wood on hire was novel and a new line of business for the plaintiffs. Counsel contended that the plaintiffs knew from the first that the contract in question was an Office of Works contract.

The Official Referee, after a hearing lasting sixteen days, gave a considered judgment. He said the Office of Works contract with the defendants originally provided that the decking of the stands should consist of 3 ins. by 9 ins. boards, but this was afterwards altered to 1½ in. by 9 ins. boards, so as to reduce the cost. Soon after the laying of the decking the architect said that 1½ in. boards were not strong enough for a 6-ft. span and ordered the decking to be strengthened. The question for decision was whether the cost of that work should be borne by the plaintiffs. That work was not necessitated by reason of any breach of contract on the part of the plaintiffs, but by a deplorable error on the part of the Office of Works in specifying 1½ in. boards, and as the head contract was not incorporated in the plaintiffs' contract, the defendants must bear the cost. With regard to the counterclaim, the defendants had not suffered any loss, and in the circumstances it would be dismissed.

He accordingly gave judgment for the plaintiffs for £1,662 16s. 5d., with costs, and interest on the sum owing.

The Referee granted the defendants a stay of execution pending a possible appeal by them to the Court of Appeal.

SOCIETIES AND INSTITUTIONS

ROYAL SOCIETY OF ARTS

Sir Henry McMahon presided at the dinner held at the Royal Society of Arts in John Street, Adelphi, last week, "to inaugurate the establishment of a high distinction to be conferred on Designers for Industry." Sir Henry, in the course of his speech, said: "Amongst all the many activities of the Society for the good of the community that of the encouragement of industrial design has from the first been in the forefront. In the eighteenth century the Society did much to improve design in the arts and crafts before the age of machinery. The Exhibition of 1851 was conceived in the interests of art and industry, and the Prince Consort—who was the active President of the Society for 18 years—was instrumental in that capacity in bringing it about. The success of that Exhibition was the direct source of the foundation of the Victoria and Albert Museum and other institutions bearing on this great object. Successive Presidents were King Edward VII when Prince of Wales, as also King George V, while our present President, the Duke of Connaught—the only surviving son of Prince Albert—provides a direct link with the work of his illustrious father.

"Again, in 1923 the Society initiated an annual competition of industrial designs to stimulate the cause of British design among art students and industrial artists. This continued for ten years. This competition did much to discover and find employment for designers who would otherwise have remained unknown. The success of this competition led the Society to entertain the idea of holding an exhibition which should be entirely disinterested—with the avowed object of bringing designers and manufacturers in this country into closer contact and sympathy, and of proving that British designers, if properly recognized and encouraged, could equal and even excel those of foreign countries. It was also meant to provide stimulation and encouragement to British designers in order that they might be brought more to the front, and that their true value and position in relation to industry should be recognized.

"With these objects in view the Society organized the Exhibition of British Art in Industry held at Burlington House in 1935, in which the Royal Academy gave us their co-operation and collaboration. It was financed entirely by Fellows of the Royal Society of Arts and was the first public industrial exhibition ever held in England where no payment for space was required from exhibitors, thus ensuring a free hand in the selection of designs without fear or favour.

"That that Exhibition has been a triumphant success in achieving the objects of its conception no one can deny. It brought designers and manufacturers into close collaboration and co-operation with untold benefit to the cause of industrial art in this country. To our Society itself it has brought home the fact that no recognition or distinction is available for designers, who through their great work for industry are deserving of a wide public recognition of their valuable services to their country.

"If we look to the fine art world we see that those who come to prominence there obtain their reward in the very coveted distinction of an R.A. Why should not some similar distinction be conferred on those who come to prominence in industrial art? And under what auspices should such a distinction be granted? Quite obviously the Royal Society of Arts, which stands in the same position to the Industrial Arts as the Royal Academy to the fine arts. Furthermore, the institution of an academic distinction of this kind can only serve to enhance the status of designers for industry and thus be of great benefit to a cause which has been too long neglected in this respect.

"This Society considers that the time has come for the institution of some such distinction, and has therefore decided to introduce the new distinction of D.I. (Designer for Industry) which we meet tonight to inaugurate. It is to be a distinction most carefully awarded and most zealously guarded. The number of holders of it at any one time is not to exceed 30, and in the first instance will be limited to ten. The names of the first recipients of this distinction are: Douglas Cockerell (bookbinder); Eric Gill (sculptor, typographer and wood engraver); J. H. Mason (art typographer); H. G. Murphy (goldsmith and silversmith); Keith Murray (designer of glass, pottery and silver); Tom Purvis (poster artist); George Sherringham (decorative painter, poster artist, etc.); Harold Stabler (designer and maker of silver, enamels and pottery); Fred Taylor (poster artist); C. F. A. Voysey (interior designer and decorator). In addition, under the terms of our Ordinance, we have selected as the first honorary recipient of the honour that eminent designer, Mr. E. McKnight Kauffer, for his outstanding work.

"Care has been taken in selecting these first names to include among them some who, while no longer active today, have been masters in their particular line and who have left their mark in the younger school of the present time—men who might be termed doyens of industrial art. In future selections those already appointed D.I. will be consulted and every effort will be made to ensure that no one shall be granted this high honour unless fully worthy to receive it."

CHARTERED SURVEYORS INSTITUTION

Following are some extracts from the presidential address by Mr. J. M. Theobald to the above Institution on November 9.

"I should like to offer a word of advice to architects, which I hope they will take in the spirit in which it is tendered. We are sometimes told that a building owner declines to incur the expense of employing a quantity surveyor. When I hear this, I know that, in nine cases out of ten, it is because it has never been explained to him that, if he does not employ a surveyor, quantities will have to be taken out nevertheless, and by the builder who, naturally, will include the cost of preparing them in his tender. The building owner will pay for the quantities just the same, though the payment will be hidden away in the contract sum. If building owners would realize that fact, and the obvious advantage to them of having quantities prepared by an expert who has devoted his whole life to this work, I think we should hear very little of this disinclination on their part. If, with the concurrence of the architect, the quantity surveyor were consulted in the earlier stages with a view to his giving a considered and expert forecast of the probable cost, and the benefit of his experience and advice regarding procedure, materials and the like, there would be a greater appreciation of the services which the professions and the trade can combine to render to a building owner. In particular, much would have been done to lay the dread bogy of "extras" and to conjure up a feeling of mutual confidence in its place.

"The vexed question as to whether quantities should, or should not, form part of the contract is still raised from time to time, but if they are properly prepared it does not matter, theoretically, which form of contract is adopted. The chief argument that can be advanced in favour of not making quantities part of the contract is that the building owner is aware of his total commitment. That is true, but I have yet to learn of a contract being carried through without variation, either by the architect or the building owner himself. I hold the view that in fairness to all parties quantities ought always to be made part of the contract.

"I turn now to a delicate question, and that is the desirability or otherwise of

combining the professions of architecture and quantity surveying in one and the same person or firm. In London and in most parts of the south of England it is rare to find an architect who practises as a quantity surveyor or *vice versa*, but it is otherwise in the Midlands and the north.

"I should have thought that no architect would have wished to practise in the dual capacity. I should have thought, too, that the mind of an artist, designer and creator would have recoiled from the mathematics of measurement, valuation and accountancy, and the other laborious exactitudes of our profession. But in a minority of cases it does not, and the fact surprises me. It surprises me even more that that minority should have failed to realize that if the functions of an architect and a quantity surveyor are performed by the same person, the judgment and decisions of that person on some of the matters which arise in the course of contract operations are, from a purely legal standpoint, open to objection on the ground of bias, for reasons upon which I need not enlarge.

"It is in the interests alike of the building owner, the contractor and the architect himself that the quantity surveyor should be an independent person."

INN SIGNS EXHIBITION

During the course of the Exhibition the following three lectures will be held :—

November 9 : "Ironwork in connection with Inn Signs." By Mr. J. Seymour Lindsay. Chairman : Mr. E. P. B. Musman, B.A., F.R.I.B.A.

November 16 : "The Painting of Inn Signs." By Mr. H. Warren Wilson. Chairman : Sir Edgar Sanders.

November 23 : "Lettering and Decoration in Relation to Inn Signs." By Mr. Percy J. Smith. Chairman : Mrs. Beatrice Ward.

The lectures will be held at 6 p.m. at The Building Centre, 158 New Bond Street. Admission will be free. Seats may be reserved on application.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

The King's Speech, with which the new Session of Parliament was opened on November 3, contained the following reference to housing matters :

"Vigorous action for the provision of housing accommodation to replace slum dwellings and abate overcrowding will be continued."

In the debate on the Address, the Prime Minister (Mr. Baldwin) stated, so far as he could see, the prospects were for a continuance of good trade. The house-building industry was still being maintained, industrial and commercial building was expanding, and there was no sign yet of the anticipated slackening in house-building. Three-and-a-half years had now elapsed out of the five-year period of slum clearance. It was satisfactory to find that, excluding a few towns where progress must necessarily be slower, 94 per cent. of the houses included in the original programme submitted by the local authorities had already been included in the clearance orders, but in the course of their work, the local authorities, as was to be expected, had found some enlargement of their programme necessary. This work would be tackled vigorously. There was much work to be done under the Act relating to overcrowding. Local authorities had found that about 340,000 houses out of a total of about 9,000,000 inspected were overcrowded. But this was well within the capacity of local authorities.

Mr. Ellis Smith, a Labour member, complained that vigorous action for the provision of housing accommodation to replace slums was not being carried on.

Re-development Schemes

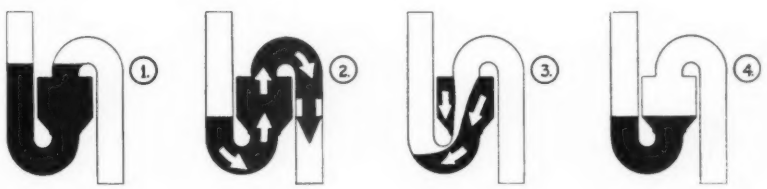
Mr. D. Adams asked the Minister of Health if he would give the names of any local authorities in England and Wales which had passed resolutions declaring areas to be proposed re-development areas under the provisions of Section 13 of the Housing Act, 1935; and whether any schemes for such areas were now going forward.

Sir Kingsley Wood said that resolutions declaring areas to be proposed re-development areas had been passed by the Borough Councils of Liverpool, Norwich, Lowestoft, Bangor and Croydon and by the Urban District Council of Brierley Hill. Inquiries had been held in the case of Liverpool and Norwich, and the reports of the Inspectors were under consideration. In the other cases procedure had not yet reached the stage at which an inquiry could be directed.

Overcrowding

Mr. Adams also asked the Minister how many local authorities in England and Wales had made application for Exchequer grants in aid of accommodation to be provided otherwise than in blocks of flats on expensive sites for the abatement of overcrowding under the terms of Section 28 of the Housing Act, 1935; and also the number and amount of the grants approved by him under that section up to the end of September, 1936.

Sir K. Wood said he assumed that the hon. Member had in mind Section 32 of the Housing Act, 1935. 116 local authorities had made preliminary inquiries about subsidy under that Section. The great majority of these inquiries had not yet been accompanied by specific details. Grants of £5 per annum had been approved in respect of 374 houses, of £4 per annum in respect of 330 houses, and of £2 in respect of 82 houses—all these grants being for 20 years. As soon as specific information was received on other cases he would be ready to deal with them.



TRADE NOTES

[EDITED BY PHILIP SCHOLBERG]

Re-Sealing Traps

LARGELY owing to the introduction of the one-pipe system of plumbing into this country, a good deal of attention has lately been focused on the problem of adequate water seal in traps. Or, rather, on the problem of keeping the water seal intact under the heavy pull of other fittings.

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The usual method of running puff pipes works well enough, but is liable to add quite considerably to plumbing costs, particularly in a multi-storied block of flats. One of the neatest types of resealing traps so far produced is made by McAlpines; these traps are hydraulically drawn lead, which gives a smooth and even bore, and the patent re-sealing action is fairly obvious from the drawings at the head of these notes, reproduced, incidentally, from an Information Sheet already published in this JOURNAL.

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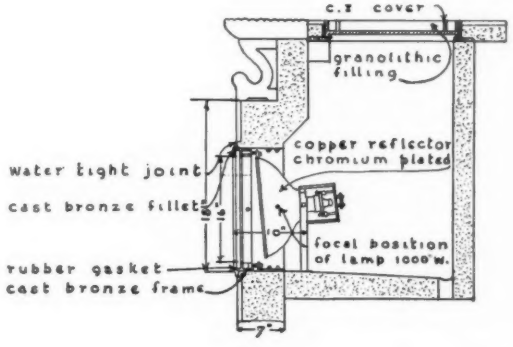
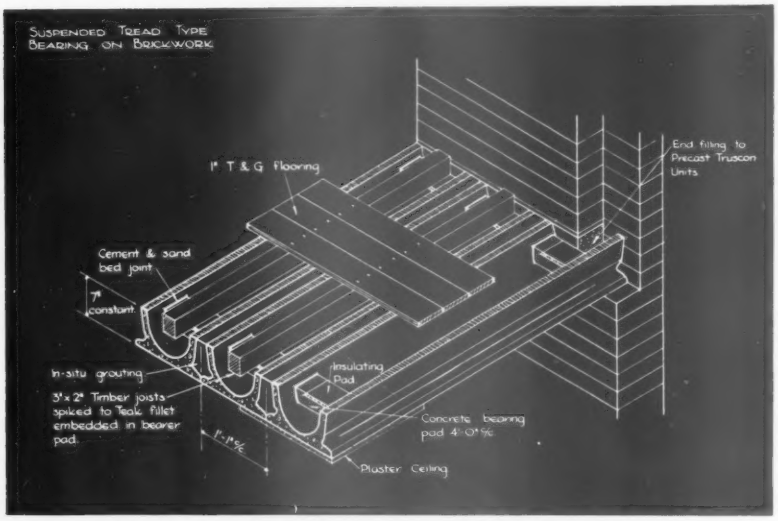
The essential factor is the formation of a large water chamber in the return leg of the trap, and this acts as a reservoir to retain the sealing water. Under normal conditions, with the trap and water chamber



Section through a Holophane under-water lighting unit for use in swimming pools. *(See note on page 684.)*



Truscon suspended tread type of pre-cast floor. See note below.

filled to the level of the outlet (1) a seal of $4\frac{3}{4}$-ins. is given, a good deal more than is required by any local authority. Under syphonic action the water is drawn over the bend of the trap (2) until an air-way is formed (3) destroying the partial vacuum and leaving a final seal (4) of $1\frac{1}{2}$ to $1\frac{3}{4}$-ins. If the syphonic action is repeated no further water is lost.

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Under tests carried out by the Building Research Station the trap gave excellent results: the conditions were a good deal more severe than would be met with in ordinary service, yet after repeated tests it was found impossible to reduce the seal to less than 1 to $1\frac{1}{2}$ ins.

Swimming Pool Lighting

A new booklet on swimming pool lighting has just been issued by Holophane: apart from the usual illustrations of actual jobs with underwater lighting, illuminated aerating fountains and general floodlighting, there are also some drawings and typical sections showing how the various fittings are used.

One of these sections is illustrated on the previous page, and shows a 1,000 watt projector in an underwater lighting unit. The front of the unit is armour plate glass $\frac{1}{2}$-in. thick, mounted in a bronze frame which is fitted flush with the side of the bath. The units are fitted in pits 1 ft. to 2 ft. below water level and spaced at 8 ft. to 12 ft. centres. Access is generally by trap doors flush with the bath surround, and the current consumption is about 2 watts per square foot of water surface.

Pre-Cast Floors

From Truscon comes a new booklet dealing with precast floors: there are numerous photographs of buildings where the floors have been used and also plenty of detail drawings showing how it all works. The drawing reproduced above shows the suspended tread type, which is designed for use in flats and domestic buildings where the resiliency and spring of the joist and board floor is still a desirable feature.

In this form of construction the precast channel-section floor units are inverted, and 3-in. by 2-in. wood joists are laid on concrete saddles in which are inserted insulating pads to disconnect the finish from the structural floor. Naturally enough, any of the usual boarded finishes can be used.

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Ordinary services can be easily accommodated within the depth of the floor, but if larger pipes than usual are necessary it is quite simple to increase the depth of the floor joists.

Guy Fawkes Day

A week ago to-day I was invited by Imperial Chemicals to a bonfire party: two guys, each sitting on a chicken house, one fire-proofed, the other not, The result was quite impressive, the normal guy and his house blazing away quite merrily, the proofed pair burning to a certain extent, but doing so far more slowly and to a considerably less extent.

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The proofing material is known as "Faspos" the basic constituent of which is monammonium phosphate. The liquid may be applied to timber, plywoods and wallboards, paper and other materials, including reeds, straw and cork. Three types are now on the market—No. 1 for general purposes and interior fireproofing, No. 2 for external treatment, No. 3 for brush or spray treatment of erected timber. All are applied as solutions in water, and the method of application recommended by the makers is impregnation under pressure, as in creosoting.

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A useful product which should come in very useful for the innumerable banners, streamers and similar whatnots which will no doubt be all over the place at next year's Coronation.

Addresses

McAlpine & Co., Ltd., Thistle Works, Dunsmuir Street, Govan, Glasgow, S.W.1.

Holophane, Ltd., Elverton Street, London, S.W.1.

The Trussed Concrete Steel Co., Ltd., Horseferry House, Westminster, London, S.W.1.

I.C.I., Ltd., Imperial Chemical House, Millbank, London, S.W.1.

Catalogues Received

Turner's Asbestos Cement Co. (Branch of Turner and Newall, Ltd.), of Trafford Park, Manchester, have just issued an extremely good descriptive list of their "Everite" asbestos-cement corrugated sheets, including "Big Six." Full details are given of all the many types of fitting available and the various methods of fixing, all of which are explained by means of a series of very clear diagrams, assisted by photographs where necessary. There are also clearly-worded draft specification clauses both for "Big Six" and standard sheets.

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A well-produced and profusely illustrated brochure entitled "Rubber Floors: Their Place and Purpose in the Architectural Plan" has just been issued by Messrs. Redfern's Rubber Works, Ltd., of Hyde, Cheshire.

One of the most important sections of the brochure is that devoted to sub-floors. "The success of a correctly laid rubber floor, like the success of any other finishing process in building is," it is stated, "largely dependant on preliminary constructional work. The sub-floor is the all-important consideration." It is pointed out that these floors must be perfectly level and free from subsequent movement; and it must also be completely and permanently dry. The firm states that, given these conditions, it can be generally assumed that rubber can be laid successfully. There are, however, exceptions, and the following notes are set forth by Redfern as a guide in considering the suitability of individual types of sub-floor.

"Concrete is a common type of floor on which rubber is laid. If it is suspended it is suitable, providing it is finished with a steel trowel screeded cement in recommended proportions of three to one (sand and cement). Suspended floors must be allowed to dry out thoroughly and a minimum three weeks is recommended unless a rapid hardening cement is used—the time may then be reasonably reduced. Comparatively even temperatures below and above floors are necessary to avoid any danger of atmospheric condensation between the surface of the concrete and the underside of the rubber.

"Unsuspended concrete floors should be finished off with a waterproofing screed of a minimum $\frac{1}{2}$-in. thickness of hard quality rock asphalt. This method gives a finish that is eminently suited to the laying of rubber flooring.

"Terrazzo and granolithic floors, if suspended, are suitable providing they are free from cracks and treated with a weak solution of hydrochloric acid, or alternatively sugar soap, to remove the glaze.

"Unsuspended floors of this type should be treated by the prior screeding with

rock asphalt as in the case of unsuspended concrete floors.

"With composition floors, the unsuspended types are considered unsuitable and the treatment recommended is the removing of the composition and the re-screeding with either rubber plastic or rock asphalt. Where ½-in. plastic screed is used it would be necessary to adjust the floor levels with concrete before the plastic is laid.

"Suspended floors of this type are suitable under certain conditions. The composition must be securely anchored to the sub-floor and free from manganese compound. A hard quality is necessary to withstand under-surface abrasion, while freedom from cracks is essential.

"All wooden floors must be suspended and have adequate under-surface ventilation. Where there is danger of subsequent warping, it is advisable that a minimum thickness of $\frac{3}{16}$-in. plywood should be laid before installing the flooring.

"With stone flag floors, it is important that there is rigidity in the foundations. Given this assurance, the use of rock asphalt overcomes any difficulties that otherwise might arise through surface irregularities and dampness.

"Owing to the nature of marble it is necessary, whether the sub-floor is suspended or otherwise, that it be treated with a screed of rubber plastic to ensure effective anchorage of the surface rubber.

"The presence of oil or grease will cause rubber to perish rapidly, while paint or varnish should always be removed before laying a rubber floor.

"From the information above, the immediate suitability, or otherwise, of any of the usual types of sub-floors can be determined. If, however, there are still doubts, Redfern's service bureau is always ready to express an opinion based on experience."

Redfern's rubber floors are claimed to be suitable for public buildings, hotels, cinemas, offices, etc., and photographs showing some of the buildings in which these floors are laid are reproduced in the booklet.

THE BUILDINGS ILLUSTRATED

GERMAN HOSPITAL EXTENSION, DALSTON E.8 (pages 661–666). The general contractors were Griggs and Son, Ltd., and the principal sub-contractors and suppliers included: Redpath Brown & Co., Ltd., constructional steelwork; R. J. Goddard & Co., Ltd., asphalte work; Diespeker & Co., Ltd., fire-resisting floors and terrazzo work; Brick Marketing Co., Ltd., "Askern" facing bricks; The Ryarsh Brick and Sand Co., sand lime bricks; Fenning & Co., Ltd., ebony black granite; Matthew Hall & Co., Ltd., sanitary and rainwater work; Ashwell and Nesbit, Ltd., mechanical services; Troughton and Young, Ltd., electrical installation; Marryat and Scott, Ltd., bed and food lift; Dent and Hellyer, Ltd., sanitary fittings, lotion bowls and bed-pan racks; Shanks & Co., Ltd., sanitary fittings generally; Janus Trading Co., Ltd., splash backs to wash-hand basins; Compton Bros., glass and glazing; James Clark and Son, Ltd., glass mirrors and shelves; James Slater & Co., Ltd. (Engineers), sterilizing equipment and water softener; Henry Hope and Sons, Ltd., windows and metal screens; Bromsgrove Guild, Ltd., ornamental metal work; Blunt and Wray, Ltd., metal covers; Fredk. Tibbenham, Ltd., cork insulated flush doors; James Gibbons, Ltd., hardware; George Parnall & Co., Ltd., joinery fitting; Benham and Sons, Ltd., kitchen equipment; W. B. Simpson, Ltd., floor and wall tiling; Christiani and Nielson, Ltd., Cellolit tiles; Cellulin Flooring Co., Ltd., linoleum flooring; Armstrong Cork Co., Ltd., cork tiling; Joseph Avery & Co., roller blinds (deliver room and dark room); Fortifex, Ltd., blue rubber mats; Piggott Bros., flag staff; Eric Munday and Wm. Pickford, Ltd., lettering; Decorative Specialists, Ltd., decorative work; H. and P. Badcock, Ltd., plastering; Christie (Decorators), Ltd., interior decorating.

MOND RESEARCH LABORATORY, BIRMINGHAM (pages 675–676). The general contractors were the Trussed Concrete Steel Co., Ltd., reinforced concrete engineers, and the principal sub-contractors and suppliers included: Conway & Co., terrazzo and wall tiling; Gloucester Stone Co., artificial stone dressings; Williams and Williams, Ltd., steel windows, partitions and doors; Hollis Bros. & Co., Ltd., wood block flooring; Wm. Wadsworth and Sons, Ltd., lift; Mather and Platt, Ltd., roller shutters; Midland Plastic and Granolithic Co., plastering and granolithic; J. Starkie Gardner, Ltd., nickel silver staircase balustrades; Wm. Bagnall, painting; London and Midland Steel Scaffolding Co., Ltd., scaffolding; Wm. Nicholson and Son, Ltd., joinery and special panelling; Parker, Winder and Achurch, nickel silver door furniture; Marley Bros., Ltd., locks; Shanks & Co., Ltd., nickel silver sanitary fittings; Limmer and Trinidad Lake Asphalt Co., Ltd., roof asphalting and special acid-resisting drain work; The Brightside Foundry and Engineering Co., Ltd., heating and air-conditioning plant; H. Pratt, Ltd., electric light and power, plumbing and drainage.

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICT (15 miles radius

FINCHLEY. *Flats, etc.* Plans passed by the Finchley Corporation: Seven houses, Edmunds Walk, Hampstead Garden Suburb, The Co-Partnership Tenants, Ltd.; 44 flats, North Circular Road Spur, Messrs. Hertells Estates, Ltd.

ILFORD. *Houses.* Mr. K. Feasey is to erect 23 houses on land forming the site of the old Buntingbridge Works, Horne Road, Ilford.

ILFORD. *Houses, etc.* Plans passed by Ilford Corporation: Six houses, Rushden Gardens, Messrs. Hilbery Chaplin, Ltd.; 18 houses, Stradbroke Grove, Messrs. E. Dover & Co.; six houses, South Park Drive, and 24 flats, Chadwell Heath Lane, Mr. J. T. Perrin; 31 houses, Waterloo Road, South Essex Property Co.

RAYNES PARK. *Technical College.* The Surrey Education Committee has purchased three acres in West Barnes Lane, Raynes Park, for the erection of a technical college.

TEDDINGTON. *Houses, etc,* Plans passed by Teddington U.D.C.: Three houses, Trowlock Avenue, for Messrs. Garner and Yates, Ltd.; alterations and additions, King's Head public house, High Street, for Brandons Brewery, Ltd.; six flats, Munster Road, for Mr. G. S. Deacon.

TOTTENHAM and Wood Green. *Crematorium.* The Tottenham and Wood Green Burial Board has applied for sanction to borrow £30,057, for the erection of a crematorium in Enfield.

SOUTHERN COUNTIES

BOURNEMOUTH. *Sports Centre.* The Bournemouth Corporation has obtained sanction to proceed with the scheme for the provision of a sports centre, with indoor bowling greens, at the Winter Gardens, at a cost of £26,279.

HAMPSHIRE, *School.* The Hampshire Education Committee is to erect an elementary school at Portchester for 1,000 children.

PLYMOUTH. *Flats.* The Plymouth Corporation has approved plans by the City architect for the erection of 12 single room flats, Sithney Street; 32 flats, Mount Street; and 39 flats, High Street and Palace Street.

PLYMOUTH. *Houses.* Plans passed by the Plymouth Corporation: 50 houses, Ponsonby Road, Mr. G. Holmes.

SOUTH-WESTERN COUNTIES

BRISTOL. *Wharves, etc.* The Bristol Corporation is to construct sheds and wharves at the docks at a cost of £78,500.

CHELTENHAM. *Houses.* Cheltenham Corporation is to obtain tenders for the erection of 162 houses on the Whaddon Farm Estate.

CHELTENHAM. *Houses.* Plans passed by Cheltenham Corporation: Six houses, Priors Road, Messrs. J. D. Bendall and Sons; cinema, High Street, Mr. A. Waters; six houses, Thorncliffe Estate, Lansdown Road, Mr. S. C. Morris.

HASTINGS. *Town Hall.* The Hastings Corporation recommends a site at Warrior Square Terrace for the new town hall.

HASTINGS. *Sun Lounge, etc.* The Hastings Corporation has approved a scheme for the front improvement, including the provision of a sun lounge, at a cost of £45,670.

HASTINGS. *Electricity Stores, etc.* The Hastings Corporation is to erect electricity stores and garages on the site of the old tramway station in Parker Road.

STROUD. *Swimming Pool,* The Stroud U.D.C. is to lay out Stratford Park and construct a swimming pool at a cost of £28,971.

SURREY. *Extensions.* The Surrey C.C. is to proceed with the extension of the nurses' home at the Epsom Hospital, at a cost of £66,780, to plans prepared by Mr. D. Danby Smith.

SWINDON. *Houses.* Plans passed by the Swindon Corporation: Four houses, Vicarage Road, for Messrs. E. H. Bradley and Sons; 13 houses, Harvey Grove, for Mr. T. Burrington.

SWINDON. *Clinic.* The Swindon Corporation is to erect a central clinic in Broad Street.

MIDLAND COUNTIES

BLURTON. *Houses.* Mr. R. Challinor is to erect 30 houses on the Hollybush Farm Estate, Blurton, Staffs.

COVENTRY. *Houses.* Coventry Corporation has approved a scheme for the erection of 202 houses to relieve overcrowding at a cost of £94,871.

DERBY. *Aerodrome.* Derby Corporation has purchased an estate at Burmaston at a cost of £22,112 for the provision of an aerodrome.

DROITWICH. *Extension.* The Droitwich, Bromsgrove and Redditch Joint Hospital Board is to enlarge the isolation hospital at a cost of £32,000.

DUDLEY. *Flats.* Dudley Corporation is to erect flats on the cleared Fitwell Row area and in this connection is to inspect latest types of flats erected.

DUDLEY. *Houses.* Plans passed by Dudley Corporation: Ten houses, Cawney Hill, for Mr. W. Lindley; six houses, Dudley Wood, for Messrs. Easthope and Auden; 23 houses, off Oakham Road, for Mr. C. P. Blewitt; eight houses, The Broadway, for Mr. T. D. Edwards.

RATES OF WAGES

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

			I s. d.	II s. d.
A_1	ABERDARE ...	S. Wales & M.	1 5½	1 1½
A	Aberdeen ...	Scotland	1 6½	1 2
A_1	Abergavenny ...	S. Wales & M.	1 6	1 1½
A_2	Abingdon ...	S. Counties	1 5	1 0½
A	Accrington ...	N.W. Counties	1 6½	1 2
A_2	Addlestone ...	S. Counties	1 5	1 0½
A	Adlington ...	N.W. Counties	1 6½	1 2
A	Airdrie ...	Scotland	*1 6½	1 2
C	Aldeburgh ...	E. Counties	1 2½	11
A	Altrincham ...	N.W. Counties	1 6½	1 2
B_3	Appleby ...	N.W. Counties	1 3	11½
A	Ashton-under-Lyne	N.W. Counties	1 6½	1 2
B_1	Aylesbury ...	S. Counties	1 4	1 0
B_1	BANBURY ...	S. Counties	1 4	1 0
B_1	Bangor ...	N.W. Counties	1 4	1 0
A_2	Barnard Castle ...	N.E. Coast	1 5	1 0½
A	Barnsley ...	Yorkshire	1 6½	1 2
B	Barnstaple ...	S.W. Counties	1 4½	1 0½
A	Barrow ...	N.W. Counties	1 6½	1 2
A	Barry	S. Wales & M.	1 6½	1 2
B_1	Basingstoke ...	S.W. Counties	1 4	1 0
A_2	Bath	S.W. Counties	1 5½	1 1½
A	Batley ...	Yorkshire	1 6½	1 2
A_2	Bedford ...	E. Counties	1 5½	1 1½
A_2	Berwick-on-Tweed	N.E. Coast	1 5½	1 1½
A_2	Bewdley ...	Mid. Counties	1 5½	1 1½
B_3	Bicester ...	S. Counties	1 3	11½
	Birkenhead ...	N.W. Counties	*1 7½	1 2½
A	Birmingham ...	Mid. Counties	1 6½	1 2
A_1	Bishop Auckland	N.E. Coast	1 6	1 1½
A	Blackburn ...	N.W. Counties	1 6½	1 2
A	Blackpool ...	N.W. Counties	1 6½	1 2
A	Blyth	N.E. Coast	1 6½	1 2
B_1	Bognor ...	S. Counties	1 4	1 0
A	Bolton ...	N.W. Counties	1 6½	1 2
A_2	Boston ...	Mid. Counties	1 5	1 0½
A_2	Bournemouth...	S. Counties	1 5½	1 1½
B_2	Bovey Tracey	S.W. Counties	1 5½	11½
A	Bradford ...	Yorkshire	1 6½	1 2
A_1	Brentwood ...	E. Counties	1 6	1 1½
A	Bridgend ...	S. Wales & M.	1 6½	1 2
B	Bridgwater ...	S.W. Counties	1 4½	1 0½
A_1	Bridlington ...	Yorkshire	1 6	1 1½
A	Brighouse ...	Yorkshire	1 6½	1 2
A_2	Brighton ...	S. Counties	1 5½	1 1½
A	Bristol ...	S.W. Counties	1 6½	1 2
B	Brixham ...	S.W. Counties	1 3½	11½
A	Bromsgrove ...	Mid. Counties	1 5½	1 1½
B	Bromyard ...	Mid. Counties	1 3	11½
A	Burnley ...	N.W. Counties	1 6½	1 2
A	Burslem ...	Mid. Counties	1 6½	1 2
A	Burton-on-Trent	Mid. Counties	1 6½	1 2
A	Bury	N.W. Counties	1 6½	1 2
A	Buxton ...	N.W. Counties	1 6	1 1½
A_1	CAMBRIDGE...	E. Counties	1 6	1 1½
B_1	Canterbury ...	S. Counties	1 4	1 0
A	Cardiff ...	S. Wales & M.	1 6½	1 2
A	Carlisle ...	N.W. Counties	1 6½	1 2
B	Carmarthen ...	S. Wales & M.	1 4½	1 0½
B	Carnarvon ...	N.W. Counties	1 4½	1 0½
A	Carnforth ...	N.W. Counties	1 6½	1 2
A	Castleford ...	Yorkshire	1 6½	1 2
A_3	Chatham ...	S. Counties	1 5	1 0½
A	Chelmsford ...	E. Counties	1 5	1 0½
A	Cheltenham ...	S.W. Counties	1 5	1 0½
A	Chester ...	N.W. Counties	1 6½	1 2
A	Chesterfield ...	Mid. Counties	1 6½	1 2
B_1	Chichester ...	S. Counties	1 4	1 0
A	Chorley ...	N.W. Counties	1 6½	1 2
B_1	Cirencester ...	S. Counties	1 4	1 0
A	Clitheroe ...	N.W. Counties	1 6½	1 2
A	Clydebank ...	Scotland	1 6½	1 2
A	Coalville ...	Mid. Counties	1 6½	1 2
A_3	Colchester ...	E. Counties	1 5½	1 1½
A	Colne	N.W. Counties	1 6	1 1½
A_3	Colwyn Bay ...	N.W. Counties	1 5½	1 1½
A_1	Consett ...	N.E. Coast	1 6	1 1½
A_2	Conway ...	N.W. Counties	1 5½	1 1½
A	Coventry ...	Mid. Counties	1 6½	1 2
A_2	Crewe	N.W. Counties	1 5½	1 1½
A	Cumberland ...	N.W. Counties	1 5	1 0½
A	DARLINGTON	N.E. Coast	1 6½	1 2
A	Darwen ...	N.W. Counties	1 6½	1 2
B	Deal	S. Counties	1 4	1 0
A_3	Denbigh ...	N.W. Counties	1 5	1 0½
A	Derby	Mid. Counties	1 6½	1 2
A	Dewsbury ...	Yorkshire	1 6½	1 2
B	Didcot ...	S. Counties	1 4½	1 0½
A	Doncaster ...	Yorkshire	1 6½	1 2
B_1	Dorchester ...	S.W. Counties	1 4	1 0
A	Driffield ...	Yorkshire	1 5	1 0½
A_2	Droitwich ...	Mid. Counties	1 5½	1 1½
A	Dudley ...	Mid. Counties	1 6½	1 2
A_2	Dumfries ...	Scotland	1 6	1 1½
A	Dundee ...	Scotland	1 6½	1 2
A	Durham ...	N.E. Coast	1 6½	1 2
A_2	EASTBOURNE	S. Counties	1 5½	1 1½
A_1	Ebbw Vale ...	S. Wales & M.	1 6	1 1½
A	Edinburgh ...	Scotland	1 6½	1 2
A_2	Exeter ...	S.W. Counties	*1 5½	1 1½
B	Exmouth ...	S.W. Counties	1 4½	1 0½
A_3	FELIXSTOWE	E. Counties	1 5	1 0½
A	Filey	Yorkshire	1 5	1 0½
A	Fleetwood ...	N.W. Counties	1 6½	1 2
B_1	Folkestone ...	S. Counties	1 4	1 0
A	Frodsham ...	N.W. Counties	1 6½	1 2
B_2	Frome ...	S.W. Counties	1 3½	11½
A	GATESHEAD	N.E. Coast	1 6½	1 2
B_2	Gillingham ...	S. Counties	1 4½	1 0½
A_1	Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 6	1 1½
A	Glasgow ...	Scotland	1 7	1 2½
A_2	Gloucester ...	S.W. Counties	1 5½	1 1½
A_2	Goole	Yorkshire	1 5½	1 1½
A_2	Gosport ...	S. Counties	1 5½	1 1½
A_3	Grantham ...	Mid. Counties	1 5	1 0½
A_1	Gravesend ...	S. Counties	1 6	1 1½
A	Greenock ...	Scotland	*1 6½	1 2
A	Grimsby ...	Mid. Counties	1 6½	1 2
B	Guildford ...	S. Counties	1 4½	1 0½
A	HALIFAX ...	Yorkshire	1 6½	1 2
A	Hanley ...	Mid. Counties	1 6½	1 2
A	Harrogate ...	Yorkshire	1 6½	1 2
A	Hartlepools ...	N.E. Coast	1 6½	1 2
B	Harwich ...	E. Counties	1 4½	1 0½
B_1	Hastings ...	S. Counties	1 4	1 0
A_2	Hatfield ...	S. Counties	1 5½	1 1½
B	Hereford ...	S.W. Counties	1 4½	1 0½
A_2	Hertford ...	E. Counties	1 5½	1 1½
A	Heysham ...	N.W. Counties	1 6½	1 2
A	Howden ...	N.E. Coast	1 6½	1 2
A	Huddersfield ...	Yorkshire	1 6½	1 2
A	Hull	Yorkshire	1 6½	1 2
A	ILKLEY ...	Yorkshire	1 6½	1 2
A	Immingham ...	Mid. Counties	1 6½	1 2
A_2	Ipswich ...	E. Counties	1 5½	1 1½
B_2	Isle of Wight ...	S. Counties	1 4½	1 0½
A	JARROW ...	N.E. Coast	1 6½	1 2
A	KEIGHLEY ...	Yorkshire	1 6½	1 2
A_3	Kendal ...	N.W. Counties	1 5	1 0½
A_3	Keswick ...	N.W. Counties	1 5	1 0½
A_1	Kettering ...	Mid. Counties	1 6	1 1½
A_2	Kidderminster	Mid. Counties	1 5½	1 1½
B_1	King's Lynn ...	E. Counties	1 4	1 0
A	LANCASTER ...	N.W. Counties	1 6½	1 2
A_1	Leamington ...	Mid. Counties	1 6	1 1½
A	Leeds	Yorkshire	1 6½	1 2
A	Leek	Mid. Counties	1 6½	1 2
A	Leicester ...	Mid. Counties	1 6½	1 2
A	Leigh	N.W. Counties	1 6½	1 2
B	Lewes	S. Counties	1 3	11½
A_2	Lichfield ...	Mid. Counties	1 5½	1 1½
A	Lincoln ...	Mid. Counties	1 6½	1 2
	Liverpool ...	N.W. Counties	*1 8	1 3
A_2	Llandudno ...	N.W. Counties	1 5½	1 1½
A	Llanelly ...	S. Wales & M.	1 6½	1 2
	London (12-miles radius)		1 8	1 3
	Do. (12-15 miles radius)		1 7½	1 2½
A	Long Eaton ...	Mid. Counties	1 6½	1 2
A	Loughborough ...	Mid. Counties	1 6½	1 2
A_1	Luton	E. Counties	1 6	1 1½
A	Lytham ...	N.W. Counties	1 6½	1 2
A_1	MACCLESFIELD	N.W. Counties	1 6	1 1½
A_3	Maidstone ...	S. Counties	1 5	1 0½
A_3	Malvern ...	Mid. Counties	1 5	1 0½
A	Manchester ...	N.W. Counties	1 6½	1 2
A	Mansfield ...	Mid. Counties	1 6½	1 2
B_1	Margate ...	S. Counties	1 4	1 0
A	Matlock ...	Mid. Counties	1 5	1 0½
A_1	Merthyr ...	S. Wales & M.	1 6	1 1½
A	Middlesbrough	N.E. Coast	1 6½	1 2
A_2	Middlewich ...	N.W. Counties	1 5½	1 1½
B_2	Minchead ...	S.W. Counties	1 3½	11½
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 3½	11½
A	Morecambe ...	N.W. Counties	1 6½	1 [illegible]
A_2	NANTWICH ...	N.W. Counties	1 5½	1 1½
A	Neath	S. Wales & M.	1 6½	1 2
A	Nelson ...	N.W. Counties	1 6½	1 2
A	Newcastle ...	N.E. Coast	1 6½	1 2
A	Newport ...	S. Wales & M.	1 6½	1 2
A	Normanton ...	Yorkshire	1 6½	1 2
A	Northampton...	Mid. Counties	1 6½	1 2
A	North Shields...	N.E. Coast	1 6½	1 2
A	North Staffs ...	Mid. Counties	1 6½	1 2
A_1	Norwich ...	E. Counties	1 6	1 1½
A	Nottingham ...	Mid. Counties	1 6½	1 2
A	Nuneaton ...	Mid. Counties	1 6½	1 2
A	OAKHAM ...	Mid. Counties	1 5	1 0½
A	Oldham ...	N.W. Counties	1 6½	1 2
A_2	Oswestry ...	N.W. Counties	1 5	1 0½
A_1	Oxford ...	S. Counties	1 6	1 1½
A	PAISLEY ...	Scotland	*1 6½	1 2
B_3	Pembroke ...	S. Wales & M.	1 3	11½
A	Perth	Scotland	*1 6½	1 2
A_1	Peterborough	E. Counties	1 6	1 1
A	Plymouth ...	S.W. Counties	*1 6½	1 2½
A	Pontefract ...	Yorkshire	1 6½	1 1
A_1	Pontypridd ...	S. Wales & M.	1 6	1 1½
A_2	Portsmouth ...	S. Counties	1 5½	1 2½
A	Preston ...	N.W. Counties	1 6½	1 2
A	QUEENSFERRY	N.W. Counties	1 6½	1 2
A_2	READING ...	S. Counties	1 5½	1 1½
B	Reigate ...	S. Counties	1 4½	1 0½
A	Retford ...	Mid. Counties	1 5	1 0½
A_1	Rhondda Valley	S. Wales & M.	1 6	1 1½
A	Ripon	Yorkshire	1 5	1 0½
A	Rochdale ...	N.W. Counties	1 6½	1 2
B	Rochester ...	S. Counties	1 4½	1 0½
A_1	Ruabon ...	N.W. Counties	1 6	1 1½
A	Rugby ...	Mid. Counties	1 6½	1 2
A_2	Rugeley ...	Mid. Counties	1 5½	1 1½
A	Runcorn ...	N.W. Counties	1 6½	1 2
A_1	ST. ALBANS ...	E. Counties	1 6	1 1½
A	St. Helens ...	N.W. Counties	1 6½	1 2
B_2	Salisbury ...	S.W. Counties	1 3½	11½
A_1	Scarborough ...	Yorkshire	1 6	1 1½
A	Scunthorpe ...	Mid. Counties	1 6½	1 2
A	Sheffield ...	Yorkshire	1 6½	1 2
A	Shipley ...	Yorkshire	1 6½	1 2
A_2	Shrewsbury ...	Mid. Counties	1 5½	1 1½
A_2	Skipton ...	Yorkshire	1 5½	1 1½
A_2	Slough ...	S. Counties	1 5½	1 1½
A_1	Solihull ...	Mid. Counties	1 6	1 1½
A_2	Southampton ...	S. Counties	1 5½	1 1½
A_1	Southend-on-Sea	E. Counties	1 6	1 1½
A	Southport ...	N.W. Counties	1 6½	1 2
A	S. Shields ...	N.E. Coast	1 6½	1 2
A_1	Stafford ...	Mid. Counties	1 6	1 1½
A	Stirling ...	Scotland	1 7	1 2½
A	Stockport ...	N.W. Counties	1 6½	1 2
A	Stockton-on-Tees	N.E. Coast	1 6½	1 2
A	Stoke-on-Trent	Mid. Counties	1 6½	1 2
B	Stroud ...	S.W. Counties	1 4½	1 0½
A	Sunderland ...	N.E. Coast	1 6½	1 2
A	Swansea ...	S. Wales & M.	1 6½	1 2
A	Swindon ...	S.W. Counties	1 5	1 0½
A_1	TAMWORTH ...	N.W. Counties	1 6	1 1½
B	Taunton ...	S.W. Counties	1 4½	1 0½
A	Teeside Dist. ...	N.E. Counties	1 6½	1 2
A_2	Teignmouth ...	S.W. Coast	1 5½	1 1½
A	Todmorden ...	Yorkshire	1 6½	1 2
A_1	Torquay ...	S.W. Counties	1 6	1 1½
B_2	Truro	S.W. Counties	1 3½	11½
A_2	Tunbridge Wells	S. Counties	1 5	1 0½
A	Tunstall ...	Mid. Counties	1 6½	1 2
A	Tyne District	N.E. Coast	1 6½	1 2
A	WAKEFIELD	Yorkshire	1 6½	1 2
A	Walsall ...	Mid. Counties	1 6½	1 2
A	Warrington ...	N.W. Counties	1 6½	1 2
A_1	Warwick ...	Mid. Counties	1 6	1 1½
A_1	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 6½	1 2
A_2	Weston-s.-Mare	W. Counties	1 5½	1 1½
A_2	Whitby ...	Yorkshire	1 5½	1 1½
A	Widnes ...	N.W. Counties	1 6½	1 2
A	Wigan ...	N.W. Counties	1 6½	1 2
B	Winchester ...	S. Counties	1 4½	1 0½
A_2	Windsor ...	S. Counties	1 5½	1 0½
A	Wolverhampton	Mid. Counties	1 6½	1 2
A_2	Worcester ...	Mid. Counties	1 5½	1 1½
A_3	Worksop ...	Yorkshire	1 5	1 0½
A_1	Wrexham ...	N.W. Counties	1 6	1 1½
A	Wycombe ...	S. Counties	1 5	1 0½
B	YARMOUTH ...	E. Counties	1 4½	1 0½
B	Yeovil ...	S.W. Counties	1 4½	1 0½
A	York	Yorkshire	1 6½	1 2

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

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

CURRENT PRICES

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

WAGES

		s.	d.
Bricklayer	per hour	1	8
Carpenter	,,	1	8
Joiner	,,	1	8
Machinist	,,	1	8
Mason (Banker)	,,	1	8
,, Fixer)	,,	1	9
Plumber	,,	1	8
Painter	,,	1	7
Paperhanger	,,	1	7
Glazier	,,	1	7
Slater	,,	1	8
Scaffolder	,,	1	4
Timberman	,,	1	4
Navvy	,,	1	3
General Labourer	,,	1	3
Lorryman	,,	1	5½
Crane Driver	,,	1	7
Watchman	per week	2 10	0

MATERIALS

EXCAVATOR AND CONCRETOR

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

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

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

BRICKLAYER

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

MASON

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

SLATER AND TILER

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

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

CARPENTER AND JOINER

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

Plywood, per ft. sup.

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

		d.
Scotch glue	lb.	8

SMITH AND FOUNDER

Tubes and Fittings

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

	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes, 2'–14' long per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"–23" long each	10	1/1	1/11	2/8	4/9		
,, 3'–11½" long ,,	7	9	1/3	1/8	3/–		
Long screws, 12"–23½" long,,	11	1/3	2/2	2/10	5/3		
,, ,, 3" M–½" long ,,	8	10	1/5	1/11	3/6		
Bends ,,	8	11	1/7½	2/7½	5/2		
Springs not socketed ,,	5	7	1/1½	1/11½	3/11		
Socket unions ,,	2/–	3/–	5/6	6/9	10/–		
Elbows, square ,,	10	1/1	1/6	2/2	4/3		
Tees ,,	1/–	1/3	1/10	2/6	5/1		
Crosses ,,	2/2	2/9	4/1	5/6	10/6		
Plain sockets and nipples ,,	3	4	6	8	1/3		
Diminished sockets ,,	4	6	9	1/–	2/–		
Flanges ,,	9	1/–	1/4	1/9	2/9		
Caps ,,	3½	5	8	1/–	2/–		
Backnuts ,,	2	3	5	6	1/1		
Iron main cocks ,,	1/6	2/3	4/2	5/4	11/6		
,, with brass plugs ,,	—	4/–	7/6	10/–	21/–		

Discounts	Per cent.		Per cent.
TUBES,			
Gas	65	Galvanized gas	52½
Water	61½	,, water	47½
Steam	57½	,, steam	42½
FITTINGS.			
Gas	57½	Galvanized gas	47½
Water	52½	,, water	42½
Steam	47½	,, steam	37½

		s.	d.
Rolled steel joists cut to length	cwt.	12	9
Mild steel reinforcing rods, ¼"	,,	10	6
,, ,, ⅜"	,,	10	3
,, ,, ½"	,,	10	0

SMITH AND FOUNDER—*continued*

		s.	d.
Mild steel reinforcing rods, ⅝"	cwt.	9	6
,, ,, ¾"	,,	9	6
,, ,, 1"	,,	9	6
,, ,, 1¼"	,,	9	6
,, ,, 1½"	,,	9	6
	4"		
Cast-iron rain-water pipes of ordinary thickness metal	F.R.	s. 8	d. 10
Shoes	each	2 0	3 0
Anti-splash shoes	,,	4 6	8 0
Boots	,,	3 0	4 0
Bends	,,	2 7	3 9
,, with access door	,,	—	6 3
Heads	,,	4 0	5 0
Swan-necks up to 9" offsets	,,	3 9	6 0
Plinth bends, 4½" to 6"	,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal	F.R.	5	6
Stop ends	each	6	6
Angles	,,	1 7	1 11
Obtuse angles	,,	2 0	2 6
Outlets	,,	1 9	2 3

PLUMBER

		£	s.	d.
Lead, milled sheets	cwt.	26	3	
,, drawn pipes	,,	25	9	
,, soil pipe	,,	28	9	
,, scrap	,,	16	9	
Solder, plumbers'	lb.		9½	
,, fine do.	,,		1	0
Copper, sheet	,,			8½
,, tubes	,,			11
	3"	4"		6"
L.C.C. soil and waste pipes: Plain cast	F.R. 1 0	1 2		2 6
Coated	,, 1 1	1 3		2 8
Galvanized	,, 2 0	2 6		4 6
Holderbats	each 3 10	4 0		4 9
Bends	,, 3 9	5 3		10 3
Shoes	,, 2 10	4 4		9 6
Heads	,, 4 8	8 5		12 9

PLASTERER

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

GLAZIER

		s.	d.	s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.				2½
,, ,, 26 oz. ,, ,,	,,				3
Flemish, Arctic, Figures (white)*	,,				7
Blazoned glasses	,,			2	6
Reeded: Cross Reeded	,,				11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite	,,				8
Crown sheet glass (n/e 12" × 10")	,,			2	0
Flashed opals (white and coloured)	,,	1 0	and	2	0
¼" rough cast; rolled plate	,,				5½
¼" wired cast; wired rolled	,,				9½
¼" Georgian wired cast	,,				11
¼" Polished plate, n/e 1 ft.	,,	†10	to ‡1	1	
,, ,, 2	,,	†1	2 ,, ‡1	4	
,, ,, 4	,,	†2	3 ,, ‡2	6	
,, ,, 8	,,	†2	9 ,, ‡3	2	
,, ,, 20	,,	†3	1 ,, ‡3	9	
,, ,, 45	,,	†3	3 ,, ‡4	0	
,, ,, 100	,,	†4	0 ,, ‡4	10	
Vita glass, sheet, n/e 1 ft.	,,			1	0
,, ,, 2 ft.	,,			1	3
,, ,, over 2 ft.	,,			1	9
,, ,, plate, n/e 1 ft.	,,			1	6
,, ,, 2 ft.	,,			3	0
,, ,, 5 ft.	,,			4	0
,, ,, 7 ft.	,,			5	0
,, ,, 15 ft.	,,			6	0
,, ,, over 15 ft.	,,			7	6
"Calorex" sheet 21 oz., and 32 oz.	,,	2	6 and	3	6
,, rough cast ¼" and ½"	,,		8¾ ,,	1	0
Putty, linseed oil	lb.				3

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

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

PAINTER

		£	s.	d.
White lead in 1 cwt. casks	cwt.	2	8	6
Linseed oil	gall.		2	3
Boiled oil	,,		2	9
Turpentine	,,		4	1½
Patent knotting	,,		14	0
Distemper washable	cwt.	2	6	0
,, ordinary	,,	2	0	0
Whitening	,,		4	0
Size, double	firkin		3	0
Copal varnish	gall.		13	0
Flat varnish	,,		14	0
Outside varnish	,,		16	0
White enamel	,,	1	15	0
Ready mixed paint	,,		13	6
Brunswick black	,,		7	6

CURRENT PRICES FOR MEASURED WORK

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

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

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

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	26 10 0
,, ,, in cement	,,	27 12 6
,, Stocks in cement	,,	34 0 0
,, Blues in cement	,,	50 0 0
Extra only for circular on plan	,,	2 0 0
,, backing to masonry	,,	1 10 0
,, raising on old walls	,,	2 0 0
,, underpinning	,,	5 10 0½
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	,,	8
,, ,, ,, red brick facings and pointing	,,	11
,, ,, ,, blue brick facings and pointing	,,	1 4
,, ,, ,, glazed brick facings and pointing	,,	3 6
Tuck pointing	,,	7½
Weather pointing in cement	,,	3
Slate dampcourse	,,	10
Vertical dampcourse	,,	1 1

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

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

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

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

CARPENTER AND JOINER—*continued*		s. d.
1¼″ deal moulded sashes of average size	F.S.	1 9½
2″ ,, ,, ,, ,,	,,	1 11½
1¼″ deal cased frames double hung, of 6″ × 3″ oak sills, 1½″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ¾″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3 7
2″ ,, ,, ,, ,,	,,	3 10
Extra only for moulded horns ,, ,, ,,	Each	6
1¼″ deal four-panel square, both sides, door	F.S.	2 0
2″ ,, ,, ,,	,,	2 8
1¼″ ,, but moulded both sides	,,	2 4
2″ ,, ,, ,,	,,	3 0
4″ × 3″ deal, rebated and moulded frames	F.R.	1 0
4½″ × 3½″ ,, ,, ,,	,,	1 4
1¼″ deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2 8
1¼″ deal moulded wall strings	,,	2 1
1¼″ ,, outer strings	,,	2 4
Ends of treads and risers housed to string	Each	1 9
3″ × 2″ deal moulded handrail	F.R.	1 3
1″ × 1″ deal balusters and housing each end	Each	2 0
1¼″ × 1¼″ ,, ,, ,,	,,	2 9
3″ × 3″ deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	,,	6 0

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

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	2 0 3
Do. in flashings	,,	2 3 9
Do. in covering to turrets	,,	2 9 3
Do. in soakers	,,	1 14 9
Labour to welted edge	F.R.	3½
Open copper nailing	,,	3
Close ,, ,,	,,	4

		½″ s. d.	¾″ s. d.	1″ s. d.	1¼″ s. d.	2″ s. d.	4″ s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	,,	—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	,,	6½	8	9	11	1 0	—
Boiler screws and unions	,,	3 3	3 9	5 0	8 0	—	—
Lead traps	,,	—	—	—	6 3	8 9	—
Screw down bib valves	,,	6 9	9 6	11 0	—	—	—
Do. stop cocks	,,	7 0	9 6	12 6	—	—	—

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

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

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

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

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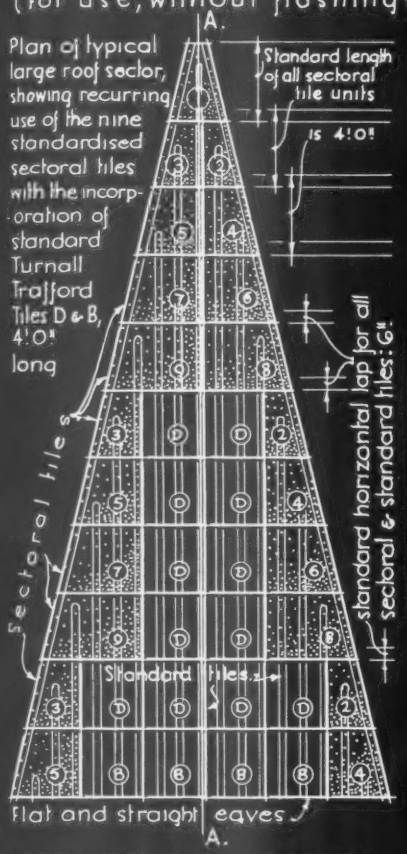
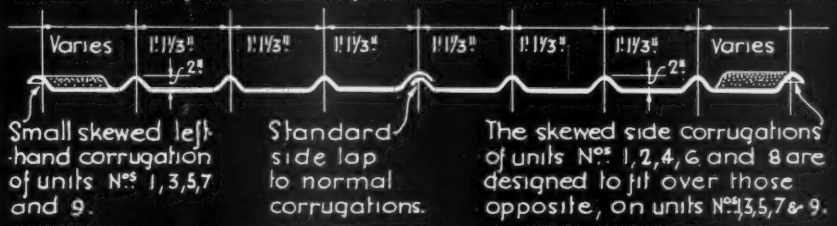
TURNALL ASBESTOS-CEMENT TRAFFORD ROOF TILES : SECTORAL.

(For use, without flashings, on circular structures of any diameter.)



SECTION THROUGH SECTORAL TILES : Nos 8 & 9. Scale: ½" = 1'0"

NOTE : The profile & spacing of normal corrugations is similar in all units.



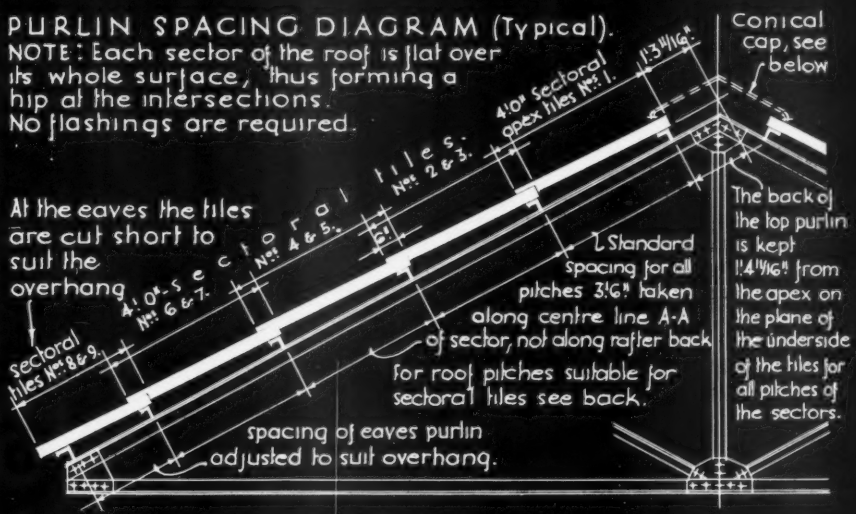
Small skewed left-hand corrugation of units Nos 1, 3, 5, 7 and 9.

Standard side lap to normal corrugations.

The skewed side corrugations of units Nos 1, 2, 4, 6 and 8 are designed to fit over those opposite, on units Nos 3, 5, 7 & 9.

PURLIN SPACING DIAGRAM (Typical).

NOTE : Each sector of the roof is flat over its whole surface, thus forming a hip at the intersections. No flashings are required.



At the eaves the tiles are cut short to suit the overhang

The back of the top purlin is kept 1'4 1/16" from the apex on the plane of the underside of the tiles for all pitches of the sectors.

METHOD OF LAYING :

The eaves course of each sector should be fixed first, using the standard Turnall Trafford tile accessories. Fixing is commenced at the right, and continued clockwise round the building. If eaves filler-pieces are required they should be fitted.

MITRING : Tiles should be mitred to give correct fit in the same way as standard Trafford tiles, see Information Sheet No 2. of this series.

NOTE : When laying, the tiles should not be pulled, and each sector should be positioned so that the centre of the finishing roll corresponds with the centre of the hip rafter back.

COLOURS : Sectoral tiles are obtainable in the standard Turnall Trafford tile colours of grey, red and russet brown.

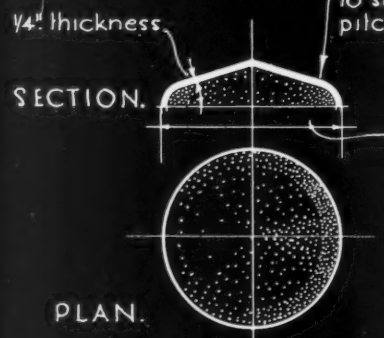
TRAFFORD TILE ROOF LIGHTS. These lights can only be inserted in large diam. roofs where standard pattern tiles are incorporated.

ASBESTOS-CEMENT CONE CAPS :

The finishing tiles (No 1.) of the sectoral roof are capped at the apex with a conical asbestos-cement cap.

The cap does not require to be flashed and may be close-fitting or ventilating type as required.

Cones are made in the standard tile colours.

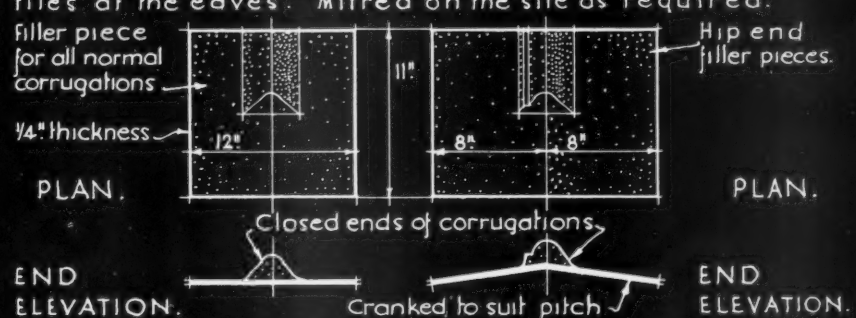


Cones are made to suit the roof pitches given on the back of this sheet.

Diameter decreases with an increase in pitch.

ASBESTOS-CEMENT EAVES FILLER PIECES :

For use with the sectoral and standard pattern tiles at the eaves. Mitred on the site as required.



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

INFORMATION SHEET : ASBESTOS-CEMENT ROOFING TILES - No 6.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 - Oscar & Peter Faber

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INFORMATION SHEET

• 430 •

ASBESTOS-CEMENT ROOFING TILES—SECTORAL

Sectoral Tiles :

The tiles are manufactured in a range of nine standardised units as shown on this Sheet, for assembling on the site into flat, triangular sectors of any length. Circular roofs of almost any diameter can be covered by these sectors without flashings at any point, by using them in conjunction with the ordinary standard pattern Turnall Trafford tiles 4 ft. long. The greater the number of built-up roof sectors used, the lower becomes the roof pitch.

Corrugations :

Each of the sectoral units has a skewed corrugation along one side, and this, when the tiles are assembled, forms a lapped roll between roof sectors similar to the ordinary lapped corrugations between standard Trafford tiles. At the apex, these converging corrugations are covered with an asbestos cement cone cap, fixed, as are all the sectoral and standard pattern tiles, with ordinary roof accessories, as shown in previous Sheets of this series.

Eaves :

The length of the eaves tiles is governed by the position of the second to last purlin, and by the overhang required, the bottom purlin being adjusted to suit. On flat pitches containing twelve or thirteen sectors, the eaves tiles may be cut to give an eaves circular on plan, but on pitches with fewer sectors this is not possible, and the eaves tiles must be left cut square to the purlin line. It should be noted that the purlins are straight, *not* curved.

Length of Roof Slope :

The table below sets out the length of the slope in relation to the roof pitch given and the diameter of the structure.

The diameter is taken as the distance from the lower edge of the eaves tile to the lower edge of the tile on the opposite side.

Only the pitches shown are suitable for sectoral tile roofs.

Number of Tiles :

The following table sets out the number and description of the sectoral and standard pattern tiles required for various lengths of slope *for one sector.*

Previous Sheets :

Previous Sheets of the series, Nos. 394, 397, 400, 426, and 427, dealt with the properties, laying and roof accessories of the standard pattern Turnall Trafford tiles.

Length of Slope on plans of underside of Tiles in feet (to apex of Roof)

5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	Tile No.
1*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1*	1*	1	1	1	1	1	1 & 1*	2	2	2	2	2	2	2 & 1*	3	3	2
	1*	1	1	1	1	1	1	1 & 1*	2	2	2	2	2	2	2 & 1*	3	3	3
		1*	1*	1	1	1	1	1	1 & 1*	1 & 1*	2	2	2	2	2	2 & 1*	2 & 1*	4
		1*	1*	1	1	1	1	1	1 & 1*	1 & 1*	2	2	2	2	2	2 & 1*	2 & 1*	5
				1*	1*	1	1	1	1	1	1 & 1*	1 & 1*	2	2	2	2	2	6
				1*	1*	1	1	1	1	1	1 & 1*	1 & 1*	2	2	2	2	2	7
						1*	1*	1	1	1	1	1	1 & 1*	1 & 1*	2	2	2	8
						1*	1*	1	1	1	1	1	1 & 1*	1 & 1*	2	2	2	9
								2*	2*	2*	2*	2*	2*	2	4*	4*	4*	B
									2	2	4	4	6	6	8	12	12	D

Note : * denotes a cut tile, see numbering overleaf.

Lengths of Slope in Relation to Pitch of Roof and Diameter

No. of Sectors forming Roof and Corresponding Pitch

		13	12	11	10	9	8	7	6	5	4	3
	Pitch Angle	13° 17′	26° 25′	35° 13′	42° 24′	48° 45′	54° 34′	60° 9′	65° 27′	70° 43′	76° 7′	82° 21′
Diameter in Feet	5′ 0″	2′ 6 15/16″	2′ 9 1/2″	3′ 0 3/16″	3′ 4 5/8″	3′ 9 1/2″	4′ 3 3/4″	5′ 1″	6′ 0 3/16″	7′ 6 9/16″	10′ 8 5/8″	18′ 9 3/4″
	10′ 0″	5′ 1 7/8″	5′ 7″	6′ 1 7/16″	6′ 9 1/4″	7′ 7″	8′ 7 1/2″	10′ 1 15/16″	12′ 0 7/16″	15′ 1 3/16″	21′ 5 3/16″	37′ 6 3/4″
	15′ 0″	7′ 8 7/16″	8′ 4 1/2″	9′ 2 5/16″	10′ 1 7/8″	11′ 4 1/2″	12′ 11 1/4″	15′ 2 7/8″	18′ 0 3/8″	22′ 7 3/4″	32′ 1 13/16″	56′ 4 1/8″
	20′ 0″	10′ 3 1/4″	11′ 2″	12′ 2 7/8″	13′ 6 1/2″	15′ 2″	17′ 3″	20′ 2 13/16″	24′ 0 13/16″	30′ 2 5/16″	42′ 10 7/16″	
	25′ 0″	12′ 10 1/16″	13′ 11 1/2″	15′ 3 5/8″	16′ 11 1/4″	18′ 11 1/2″	21′ 6 1/4″	25′ 4 1/4″	30′ 1″	37′ 8 15/16″		
	30′ 0″	15′ 4 7/8″	16′ 9″	18′ 4 5/16″	20′ 3 3/4″	22′ 9″	25′ 10 1/2″	30′ 5 3/4″	36′ 1 1/4″			
	35′ 0″	17′ 11 11/16″	19′ 6 1/2″	21′ 5 1/16″	23′ 8 3/4″	26′ 6 1/2″	30′ 2 1/2″	35′ 6 11/16″				
	40′ 0″	20′ 6 1/2″	22′ 4″	24′ 5 3/4″	27′ 1″	30′ 4″	34′ 5 13/16″					
	45′ 0″	23′ 1 5/16″	25′ 1 1/2″	27′ 6 1/2″	30′ 5 5/8″	34′ 1 1/2″						
	50′ 0″	25′ 8 1/4″	27′ 11″	30′ 7 1/16″	33′ 10 1/4″							
	55′ 0″	28′ 2 15/16″	30′ 8 1/2″	33′ 8 11/16″								
	60′ 0″	30′ 9 3/4″	33′ 6″									
	65′ 0″	33′ 4 9/16″	36′ 3 1/2″									
	70′ 0″	35′ 11 3/8″	39′ 1 1/16″									
	B = A/C	c=1·9465	c=1·7910	c=1·6339	c=1·4769	c=1·3185	c=1·1595	c= ·9955	c= ·8309	c= ·6624	c= ·4666	c= ·2662

To find length of Slope for any Diameter of Roof :—

B = Length of Slope in feet.

A = Diameter of Roof in feet.

C = Constant (see Table "A").

Then B = A/C

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

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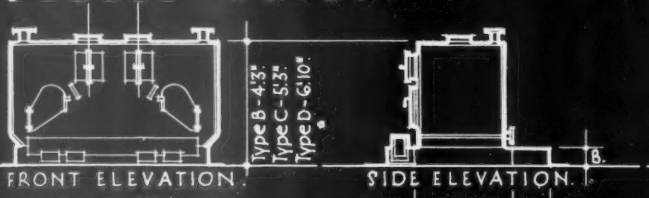
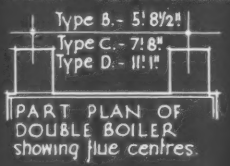
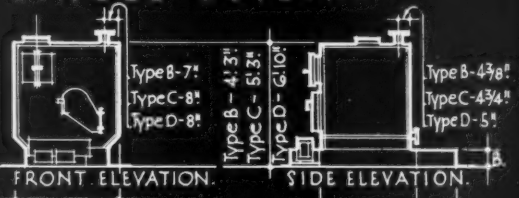
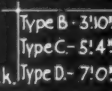
DOUBLE BOILERS.





SINGLE BOILERS.





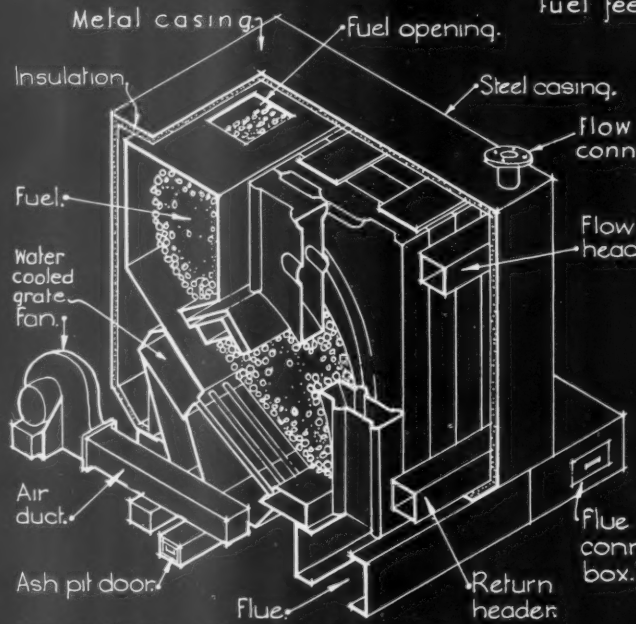
Selfstoke boilers are made in three types: B, C & D: For various models of each type see back.

For general table of boiler ratings & sizes see back.

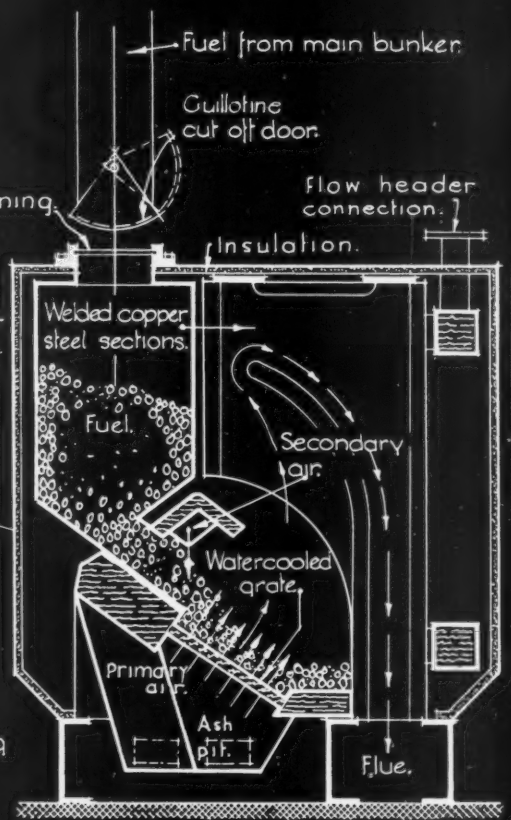
SIZES OF VARIOUS MODELS OF SELFSTOKE GRAVITY FEED HOT WATER BOILERS.

FUEL FEED: Where no overhead bunker is available fuel is fed through a door in the front of the boiler.

THERMOSTAT CONTROL: The blower is controlled by a thermostat, which switches on the motor when the water temperature drops to a predetermined minimum.

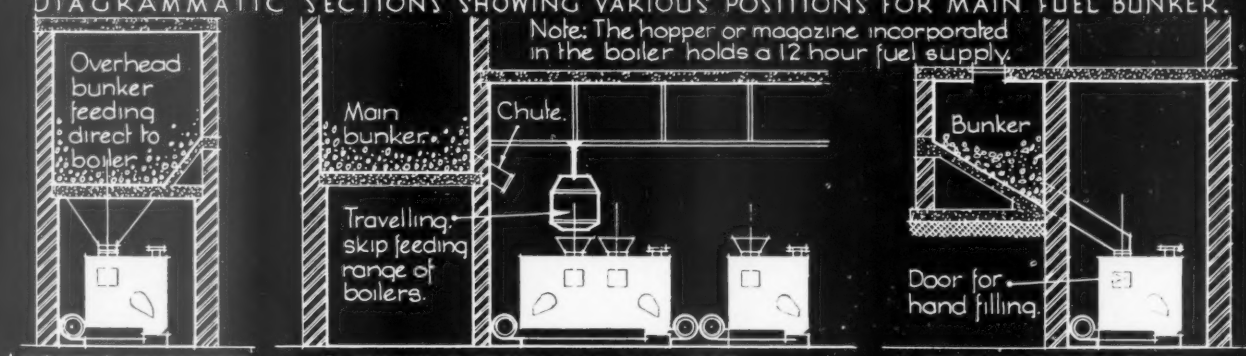


ISOMETRIC SECTION THROUGH BOILER.



CROSS SECTION THROUGH BOILER.

DIAGRAMMATIC SECTIONS SHOWING VARIOUS POSITIONS FOR MAIN FUEL BUNKER.



1. DIRECT OVERHEAD FEED. 2. OVERHEAD TRAVELLING SKIP FEED. 3. OVERHEAD SIDE FEED.

Information from the Brockhouse Heater Co. Ltd.

INFORMATION SHEET: SELFSTOKE GRAVITY FEED SOLID FUEL BOILERS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Dora A. Bayne.

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INFORMATION SHEET

• 431 •

AUTOMATIC BOILERS

Product : The Selfstoke Gravity Feed Boilers

The Selfstoke boiler is designed for domestic hot water supply and for hot water or low pressure steam central heating systems. It is a low head room boiler with a gravity feed fuel hopper or magazine fitted above the sloping grate.

Construction :

The boiler is built in sections of electrically welded copper-steel plate. The sections are shaped during manufacture by hydraulic pressure and welded together so that each section becomes a waterway with the flue gases travelling on each side of each section in the flues or channels formed.

The Fuel Feed :

The fuel hopper is fitted throughout the full length, and to the side of, the sloping water-cooled grate.

It is of mild steel plate construction and holds approximately twelve hours supply of anthracite or eight hours of coke. Larger hoppers or magazines to give longer supplies can be fitted at a slightly extra cost. The loading door (or doors) are fitted on the top of the boiler, although on two ranges an additional door for hand filling is provided at the front.

The gravity feed system, working in conjunction with the sloping grate, ensures automatic stoking with an even flow of fuel. The even flow maintains a constant depth of fuel in the fire-bed thereby greatly increasing the thermal efficiency of the boiler and the economy in fuel consumption.

The Grate :

This is water cooled to ensure instantaneous removal of clinker.

The Blower Unit :

The blower unit consists of a fan driven by an electric motor of fractional horse-power controlled by a thermostat.

The blower operates a main air supply introduced under the firebars. A secondary air supply, pre-heated, is introduced over the fire in a series of jets. The introduction of this secondary air ensures that the gases are ignited to produce perfect combustion.

A thermal efficiency of 83 per cent. under practical conditions has been obtained.

Main Fuel Storage :

The position of the main fuel bunkers should be carefully considered in relation to the position of the boilers.

The diagrams given on this Sheet show three types of arrangement.

(1) Where the bunker can be arranged overhead to discharge fuel through a guillotine cut-off door directly into the boiler magazine or hopper.

(2) Where there are a number of boilers and a travelling hopper can be arranged which can be filled by gravity from the main bunker and in turn can fill by gravity the hopper in each boiler.

(3) Where the bunker can be arranged at the side of and on a level above the boiler, the fuel feeding to the hopper in the boiler by a short chute.

Fuel :

Either coke nuts, 1¼ in. screened, anthracite on semi-anthracite ⅜ in. to ⅝ in. can be used with these boilers.

Cost and capacities, Single boilers :

"B" series—54,000 B.T.U. to 336,000 B.T.U., £96 to £187.

"C" series—340,000 B.T.U. to 1,000,000 B.T.U., £185 to £343.

"D" series—944,000 B.T.U. to 2,000,000 B.T.U., £340 to £560.

For **Double Boilers,** double the above capacities and prices.

Definite estimates should be obtained from the manufacturers or their agents for particular jobs, but the prices given above may be taken as a general guide for estimating purposes.

Information from : Brackhouse Heater Co., Ltd.
Address : Cobbold Road, London, N.W.10
Telephone : Willesden 2461
Telegrams : Selfstoke, Willroad, London

TABLE OF SIZES

Type No.	L.P.S. Output B.T.U. per hour	H.W. Output B.T.U. per hour	Heating Surface Sq. ft.	Number of Elements	Width W	Length L	Height H	Flue Outlet	Steam Connections Flow	Steam Connections Ret.	Water Connections Flow	Water Connections Ret.	Weights Heaviest Piece	Weights Total	Total Hot Water	Total L.P. Steam	Type No.
					Ft. Ins.	Ft. Ins.	Ft. Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Cwts.	Cwts.	Cwts.	Cwts.	
Note.—To obtain corresponding figures for Double Boilers, multiply Columns marked * by 2.	*	*	*	*	*			A B							*	*	
BS. 3 ...	56,000	64,000	16	3	3–10	1–3	4–3	15¾×7¾	2	1	2	2	3	12½	12¾		BS. 3
Do. 4 ...	84,000	96,000	24	4	3–10	1–7	4–3	15¾×7¾	2½	1½	2½	2½	2½	13½	13½		Do. 4
Do. 5 ...	112,000	128,000	32	5	3–10	1–11	4–3	15¾×7¾	3	1½	3	3	3	14½	14¾		Do. 5
Do. 6 ...	140,000	160,000	40	6	3–10	2–3	4–3	15¾×7¾	3	1½	3	3	3	15¾	16½		Do. 6
Do. 7 ...	168,000	192,000	48	7	3–10	2–7	4–3	15¾×7¾	3	1½	3	3	3¾	17	17½		Do. 7
Do. 8 ...	196,000	224,000	56	8	3–10	2–11	4–3	15¾×7¾	3	1½	3	3	3¾	18¼	19		Do. 8
Do. 9 ...	224,000	256,000	64	9	3–10	3–3	4–3	15¾×7¾	4	2	4	4	3	19½	20½		Do. 9
Do. 10 ...	252,000	288,000	72	10	3–10	3–7	4–3	15¾×7¾	4	2	4	4	3¾	21	21½		Do. 10
Do. 11 ...	280,000	320,000	80	11	3–10	3–11	4–3	15¾×7¾	4	2	4	4	3¾	22¼	23		Do. 11
Do. 12 ...	308,000	356,000	88	12	3–10	4–3	4–3	15¾×7¾	4	2	4	4	3¾	23½	24½		Do. 12
CS. 6 ...	297,500	340,000	85	6	5–4	2–3	5–3	19¾×9¾	4	2	5	5	5½	20½	23¾		CS. 6
Do. 7 ...	350,000	400,000	100	7	5–4	2–7	5–3	19¾×9¾	4	2	5	5	6½	23	24		Do. 7
Do. 8 ...	402,500	460,000	115	8	5–4	2–11	5–3	19¾×9¾	4	2	5	5	6½	25¾	26½		Do. 8
Do. 9 ...	455,000	520,000	130	9	5–4	3–3	5–3	19¾×9¾	4	2	5	5	5¾	28½	28		Do. 9
Do. 10 ...	507,500	580,000	145	10	5–4	3–7	5–3	19¾×9¾	4	2	5	5	6½	31	32		Do. 10
Do. 11 ...	560,000	640,000	160	11	5–4	3–11	5–3	19¾×9¾	4	2½	5	5	6½	33½	34¾		Do. 11
Do. 12 ...	612,500	700,000	175	12	5–4	4–3	5–3	19¾×9¾	4	2½	5	5	6½	36½	37½		Do. 12
Do. 13 ...	665,000	760,000	190	13	5–4	4–7	5–3	19¾×9¾	5	2½	5	5	6½	39	40		Do. 13
Do. 14 ...	717,500	820,000	205	14	5–4	4–11	5–3	19¾×9¾	5	2½	5	5	6¼	41½	42¾		Do. 14
Do. 15 ...	770,000	880,000	220	15	5–4	5–3	5–3	19¾×9¾	5	2½	5	5	6¼	44	45		Do. 15
Do. 16 ...	822,500	940,000	235	16	5–4	5–7	5–3	19¾×9¾	5	2½	5	5	7½	46½	48		Do. 16
Do. 17 ...	875,000	1,000,000	250	17	5–4	5–11	5–3	19¾×9¾	5	2½	5	5	7½	49	51		Do. 17
DS. 9 ...	826,000	944,000	236	9	7–0	3–3	6–10	23½×9¾	5	3	6	6	10	47¾	48¾		DS. 9
Do. 10 ...	931,000	1,064,000	266	10	7–0	3–7	6–10	23½×9¾	5	3	6	6	11¾	53½	55		Do. 10
Do. 11 ...	1,036,000	1,184,000	296	11	7–0	3–11	6–10	23½×9¾	5	3	6	6	11¾	60	61		Do 11
Do. 12 ...	1,141,000	1,304,000	326	12	7–0	4–3	6–10	23½×9¾	5	3	6	6	10	65½	67		Do. 12
Do. 13 ...	1,246,000	1,424,000	356	13	7–0	4–7	6–10	23½×9¾	6	3	6	6	11¾	71½	73		Do. 13
Do. 14 ...	1,351,000	1,544,000	386	14	7–0	4–11	6–10	23½×9¾	6	3	6	6	11¾	77½	79		Do. 14
Do. 15 ...	1,456,000	1,664,000	416	15	7–0	5–3	6–10	23½×9¾	6	3½	6	6	11¾	83¼	85		Do. 15
Do. 16 ...	1,561,000	1,784,000	446	16	7–0	5–7	6–10	23½×9¾	6	3½	6	6	11¾	89¼	91		Do. 16
Do. 17 ...	1,666,000	1,904,000	476	17	7–0	5–11	6–10	23½×9¾	6	3½	6	6	11¾	95	97		Do. 17
Do. 18 ...	1,771,000	2,024,000	506	18	7–0	6–3	6–10	23½×9¾	6	3½	6	6	11¾	101	103		Do. 18

Double boilers are designated B.D.—C.D.—D.D.—for instance C.D. 6 is twice the size of C.S.6 as *

Dimensions are approximate and subject to alteration.

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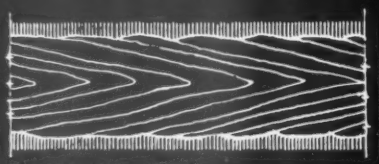
FULL-SIZE DETAILS OF TYPES OF LEADBURNED JOINTS FOR SHEET LEAD WORK.

(1) HORIZONTAL BUTT JOINT :

SECTION THROUGH JOINT.

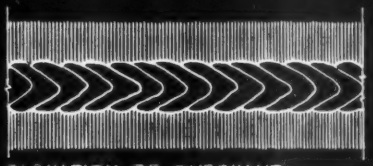


PLAN OF JOINT.

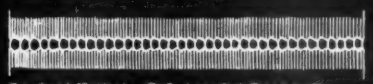
Edges of each sheet should be trimmed to fit, & shaved from 3/8" to 1/2" wide according to thickness of sheet. A lead filler rod should be used.

(2) LAPPED JOINT :

SECTION THROUGH JOINT.



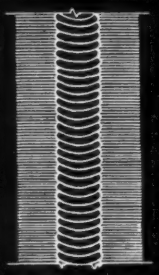
ELEVATION OF OVERHAND HORIZONTAL JOINT.



ELEVATION OF UNDERHAND HORIZONTAL JOINT.

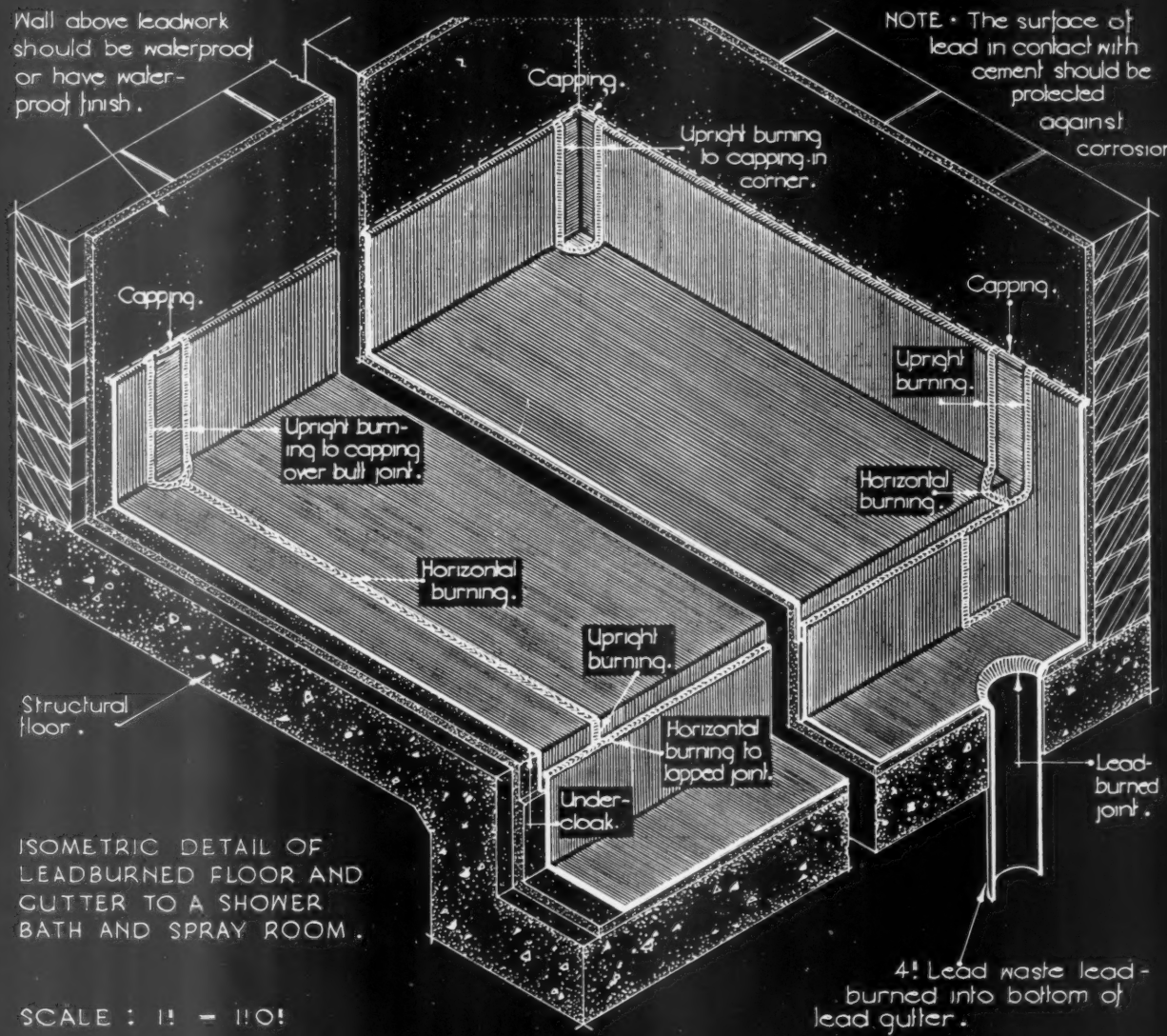
(3) BUTT JOINT WITH COVER STRIP

SECTION THROUGH JOINT.



ELEVATION OF UPRIGHT JOINT.

Underlap and overlap should be shaved clean. No filling rod is needed, as the overlap is used instead. The burning is commenced at the bottom and each bead is built up on the one below.



ISOMETRIC DETAIL OF LEADBURNED FLOOR AND GUTTER TO A SHOWER BATH AND SPRAY ROOM.

SCALE : 1" = 1'0"

Information from W.L. Kilburn, M.I.W.E., R.P. Issued by The British Oxygen Co. Ltd.

INFORMATION SHEET : TYPES AND APPLICATION OF LEADBURNED JOINTS N° 1.

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

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET
• 432 •
PLUMBING

Subject : Lead Burning

This Sheet, the first of two devoted to the types of lead burned joints and their application in building work, shows the various types of joint and an example of lead burning practice applied to a floor covered in sheet lead.

Lead Burned Joints :

Lead burned joints are joints in which the metal of the two members to be joined is fused together, some additional metal of the same composition being added to give additional strength to the joint. The joint, therefore, differs radically from a soldered joint in which an alloy of low melting point is applied over the joint, the material of the two members to be joined not being brought up to melting point nor fused together.

The Method :

The edges of the metal to be joined should first be cleaned either by shaving or brushing with a stiff wire brush to remove any dirt or oxide which may be on the surface of the lead.

The edges of the lead are then fused together with a fine, carefully controlled welding flame. The flame is applied so that a molten bath of fused lead is formed from $\frac{3}{4}$" to 2" long, according to the thickness of the lead being joined ; into this a filling rod of lead is fused.

The flame and filling rod are then worked together along the seam in a continuous operation, the flame fusing the lead progressively along the joint while the part already joined solidifies and hardens. Thus the operation is one in which the bath (or pool) of molten lead is worked from one end of the joint to the other, the bath always being of the same size. The fish-scale markings on the finished seam are the natural result of the lead solidifying as the welding flame is moved along the weld. The shape of the fish tail varies in different joints according to the way in which the burning is done (overhand or underhand) and upon the movement of the welding flame.

The Composition of the Joint :

In the process of lead burning a joint in milled sheet lead, the edges of the sheet are raised to melting point and then allowed to solidify—this therefore changes the character of the lead in the seam from milled lead to cast lead. Since cast lead has a lower tensile strength than milled sheet lead, it is necessary to build up the joint with additional metal to ensure that the seam is equal in strength to the body of the milled sheet being joined. Hence the use of the filler rod.

The Welding Flame :

The welding flame used may be of :—

Aero-Hydrogen.
Oxy-Hydrogen.
Oxy-coal gas.
Air-acetylene.
Oxy-acetylene.

The oxy-acetylene equipment has now been brought to a high level of efficiency and the oxy-acetylene is now generally recommended as the best for lead burning work.

Butt Joints :

Butt joints should be cut to a good true joint before burning. If ragged edges are butted together an uneven seam may result, and the flame may reach the woodwork below during the burning of the seam.

Lapped Joints :

The lapped joint is made by lapping the sheets to be joined before burning—it is most used in tank and chamber work in chemical works. The lap makes a very good joint, and is an advantage while burning as it prevents the welding flame reaching the woodwork below.

Position of Joints :

Joints may be made in horizontal, vertical or overhead positions, the technique of burning being varied to suit the conditions.

Thickness of Lead and Width of Seam :

Since the amount of lead which must be melted through in burning the joint controls to some extent the size (area) of the bath of lead used in making the joint, it follows that the width of the finished seam also varies with the thickness of the lead to be joined.

The lighter the lead sheet the narrower the lead burned seam.

With 3 lbs. lead the seam would normally be approximately $\frac{3}{8}$" wide, and with 10 lbs. lead approximately $\frac{3}{4}$" wide. The width of the seam can be varied to some extent, the variation depending upon the skill of the operative.

Number of Burnings :

One burning is usually sufficient to make a thoroughly efficient joint when using lead up to 5 lbs. per square foot ; with lead of heavier weight, the greater the weight the greater the number of burnings required. 10 lbs. lead should be burned two or perhaps three times, and 30 lbs. lead ($\frac{1}{2}$" thick) requires five separate burnings.

Previous Sheets :

Sheets already published are :—

No. 225 Details of joints.
,, 234 ,, ,,
,, 243 ,, ,,
,, 251 ,, ,,
,, 259 Weldable fittings.
,, 268 ,, ,,
,, 321 ,, ,,
,, 413 ,, ,,
,, 418 ,, ,,
,, 422 Sheet copper work (1)
,, 428 ,, ,, ,, (2)

Issued by : The British Oxygen Co., Ltd.
Address : Thames House, Millbank, London, S.W.1
Telephone : Victoria 9225